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Principles and Powers: How to Interpret Renaissance Philosophy of Nature Philosophically?

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Abstract

The history of philosophy has to understand the problems to which past theories are intended as answers, rather than taking the latter as sets of doctrines, which may be correct or mistaken. Examples from the Renaissance are Nicholas of Cusa, Marsilio Ficino, Bernardino Telesio, Girolamo Cardano, and Benedictus Pererius: they show that Renaissance thinkers sought for principles of nature in terms of active powers. Whoever denies the validity of such ideas has the burden of proof that alternative theories solve the same problems.

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The title of this paper was inspired by a book by Jorge E. Gracia in which he demands that history of philosophy should be studied philosophically.[1] Underlying this demand is a polemical tone: it seems that at least some people deal with topics in the history of philosophy in a non-philosophical way—and I may add frankly, most of the philosophers who consider themselves such, think that this is right. What I want to show is that early modern philosophy can be read in a presentist way as a burden of proof theory, i.e. as a way of generating theories which demand serious alternatives from those who deny their validity, calling thus upon the historian to philosophize about them.

However, then we presuppose that there was such a thing as a philosophy of nature in Early Modern times. But if we dare to ask: 'Is there such a thing as Nature, is there

[1] Jorge E. Gracia, *Philosophy and Its History. Issues in Philosophical Historiography* (New York: State University of New York Press, 1992), see p. xvi. However, it will be evident in what follows that I disagree on major points with Gracia, because his view of history of philosophy is contaminated by the positivistic approach in that he regards philosophical historiography as a bastard of history and philosophy (see esp. his Chapter One III).

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Philosophy in the Renaissance?' we start philosophizing—philosophizing, however, in the form of history. Doing history of philosophy, consequently, is philosophizing under severe conditions. For the subject matter is not only to be debated remaining within its questions and terminology but it has to be established at the same time. R.G. Collingwood once gave the following advice: If a philosophical doctrine doesn't seem to make sense, it is probably a good answer to a question we don't know. [2] I have argued elsewhere [3] that philosophy of the past is the 'philosophy of the other', in the sense that the strangeness of someone's thought builds up and confirms one's selfperception as a philosopher, and that this very attitude towards alien philosophy creates the ideal of the modern philosopher. But when dealing with Renaissance thought the philosopher has to detect the problems, which the other philosopher was trying to solve. Philosophy may not be taken as a set of ideas—in Gracia's terms—which are treated like entities that happen to make interpretation obscure because they are nastily "nonobservable". [4]

Cusanus and Ficino: reasonable questions behind obscure answers

Nicholas Cusanus is perhaps the most difficult example, because on the surface he seems to give answers to modern questions if we present his *Learned Ignorance* as a critique of pure reason and as a dialectic of reasoning and reality. But then the effect is that we meet this pattern throughout in his writings. What we can find in Cusanus is a coherence in

2 R.G. Collingwood, *An Autobiography* (Oxford, 1978), p. 31: "In order to find out his meaning you must also know what the question was (a question in his own mind, and presumed by him to be in yours) to which the thing he has said or written was meant as an answer." Idem, *The Idea of History* (Oxford, 1994), p. 283: The historian of philosophy "must see what the philosophical problem was, of which his author is here stating his solution. (…) This means re-thinking for himself the thought of his author".

3 Paul Richard Blum, *Philosophenphilosophie und Schulphilosophie - Typen des Philosophierens in der Neuzeit* (Wiesbaden: Steiner, 1998, Studia Leibnitiana Sonderheft 27); and: Idem, "Istoriar la figura: Theoriensynkretismus bei Frances A. Yates und Giordano Bruno als philosophisches Modell", *Zeitsprünge - Forschungen zur Frühen Neuzeit*, 3 (1999), 130-154.

4 Gracia p. 65.

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putting questions, expounding problems. Is it, however, possible that all his writings are various answers to one and the same question? This is hard to tell, but if it is the case, then it is only on a level, which is genuinely theological, which does not exclude biblical theology but is also not identical with it. If I may adapt the simile of *De visione Dei* (an image of Christ is watching the worshipper wherever he stands): a divine entity watches the reader from all of Cusanus's writings, and now it is up to the philosopher to tell what it means to be watched by the Divine. This is certainly a philosophical and not 'just a theological' problem since this being watched is a source of the modern self, and it might be sufficient to mention Jean-Paul Sartre and Emmanuel Lévinas in this context. Those philosophers less historical than Cusanus proved that his idea was an answer to a quite understandable question.

To take the next example: Marsilio Ficino is constantly striving to leave the earthly realm. Unification with the One, ascent to the divine, deification of the human, are themes that make up the bulk of his writings. There is nothing more beautiful than his philosophy of love, which despises carnal lust and ascends to the fruition of the divine. Well done, but why did he write a book on prolonging the philosopher's life? Why a theory of astrology? Why did he still talk of human love? And of course, we all know that there are no bonds between stones and stars. Don't we all know that love is controlled by hormones and sense perceptions? Ficinian 'love' is a burden of proof theory: whoever attacks it has to explain phenomena, which according to Ficino are of a spiritual nature. This does not necessarily entail that Ficino is right in his spiritualism. But it means that he is struggling with a problem beyond or in the background of this: with the bond as such. Suppose there is more than one entity, how are they related? The famous Renaissance idea of man as *nodus mundi,* then, is not just a holiday decoration of the

everyday misery of human life, but the burden of proof that there is such a thing as a world and a linkage within the world.

The question of linkage is a philosophical problem because it is a question, which has not yet been answered adequately. Ficino gives an answer to it, and—given that his answers do not match present day philosophical answers—it is up to the philosopher who considers himself such to understand the question.

Telesio: is there any order in nature?

A further example is the importance of humanist and Renaissance scholarship for the development of modern science, an allegation mostly infected by "whiggishness".[5] But this suspicion holds for any interpretation of Renaissance philosophy when it aims at being philosophical.[6] For obvious reasons—which one could probably again define as "whiggish"—the humanists' and Renaissance philosophers' attitude towards natural sciences and natural phenomena has been studied carefully, and we enjoy a large discussion concerning the differences between them and contrasting them with later stages of science. But in terms of philosophy, including philosophy of nature, we have not gone really far. Most studies on Renaissance philosophy either appropriate it into a Neoplatonist interpretation of philosophy or wrestle with the concepts, methods and terminologies that are not very consistent even within the same philosopher and not in comparison with his contemporaries. Cusanus and Ficino, in the example mentioned

[5] Cynthia M. Pyle, "Renaissance Humanism and Science", *Studi umanistici Piceni* 11 (1991), 197-202.

[6] Cf. Herbert Butterfield, *The Whig Interpretation of History* ([1931] New York 1965). The circularity of progressivist historiography has been mentioned in passing by A. Rupert Hall, "On Whiggism", *History of Science* 21 (1983), 45-59, p. 47; I will not confront the possibility and legitimacy of 'presentist' historiography now, cf. the two articles by Adrian Wilson and T. G. Ashplant, "Whig History and Present-Centered History", and: "Present-Centered History and the Problem of Historical Knowledge", *The Historical Journal* 31 (1988), 1-61, and 253-274.

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above, even though in part contemporaries and Platonists in some way, have less in common than the label indicates, unless we try and look at their way of thinking and their basic questions. Part of the seeming inconsistencies between all these thinkers is that there is no clear dividing line between philosophy of nature and philosophy in general, in the same way as there is no dividing line between philosophy and theology. Thus it is in no way clear where one has to draw the dividing line between natural philosophy and natural history in the Renaissance. So let me study two cases of Renaissance philosophy of nature, Bernardino Telesio and Girolamo Cardano.

If we look at the Renaissance from the history of scientific progress perspective there is no doubt that Bernardino Telesio merits an honorable mention because Francis Bacon referred to him, calling him "the first of the moderns" [7] Bacon understood that Telesio had split Aristotle's teaching into purely metaphysical and more experiential sciences, opting for a mere physics of natural experience. But neither assumption stands up to investigation, they rather describe Bacon's project than that of Telesio: When Telesio conceives something similar to the later Newtonian absolute space and likewise a totality of time which does not depend on motion, he proceeds in a merely speculative way, as Aristotle had done, and strives for a philosophy which encompasses the whole of nature. Telesio did not give priority to sense perception over general principles. Thus he introduces the first edition of his *De rerum natura juxta propria principia* with the statement:

> Those who examined before us the construction of this world and the nature of things seem to have researched daily and with much labor but in no way gained

[7] Francis Bacon, *Works,* ed. Ellis, Spedding and Heath, (Stuttgart - Bad Canstatt: Frommann, 1963 [London 1857 ff.]), vol. 3, 114; vol. 5, 495.

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> insight into it ... This happened to them because they had too much trust in themselves and they did not—as they should have done—look at the things themselves and their powers [vires], and consequently attribute an intellect to things and such faculties, as they apparently are endowed with: rather as though they were competing and fighting with God in terms of wisdom they dared to inquire into the principles and causes of the world itself by reasoning, and while they believed themselves and wished to have found what they didn't find, they feigned the world quasi at their will and attributed to the bodies, which constitute it, not that magnitude and that nobility [dignitas] and those powers which they actually have, but only that, which their own reasoning inspired them with. [8]

Looking at things themselves must yield 'nobility' and power within the world instead of logical principles and causes. [9] If this is an empiricist's program, something must be wrong with the concept of empiricism. Actually Bacon's praise goes along with Giordano Bruno's criticism: Telesio made "onorata guerra" against Aristotle but his principles of nature, and specifically his connection of humidity and fire lacks any warrant, they are only derived from the general setting of Aristotle's theory. [10] Let me follow up this thread.

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[8] Bernardino Telesio, *De rerum natura iuxta propria principia*, (Neapoli: Cachius,1570); Reprint ed. Maurizio Torrini (Napoli: Istituto Suor Orsola Benincasa, 1989), p. 2r.

[9] Bernardino Telesio, *De rerum natura / Intorno alla natura*, ed. Luigi De Franco, vol. 1 and 2, (Cosenza 1965-1974), vol. 3, (Firenze 1976); here: vol. 1, lib. 1, proem., p. 26: "Qui ante nos mundi huius constructionem rerumque in eo contentarum naturam perscrutati sunt, (...) illam (...) nequaquam inspexisse videntur. (...) nimis forte sibi ipsis confisi, nequaquam, quod oportebat, res ipsas earumque vires intuiti, eam rebus magnitudinem ingeniumque et facultates quibus donatae videntur, indidere; sed veluti cum Deo de sapientia contendentes decertantesque, mundi ipsius principia et caussas ratione inquirere ausi, et, quae non invenerant (...) effinxere." Cf. Francesco Patrizi's objections: Bernardino Telesio: *Varii de naturalibus rebus libelli*, ed. Luigi De Franco (Firenze 1981), p. 453-495, here: p. 453, 463, 475 f.

[10] Giordano Bruno*, Opera latine conscripta*, ed. Francesco Fiorentio et. al. (Napoli/Firenze 1889-1891), vol. I 1, p. 289: "Nullis rationibus usus, Naturam humentem asseruitque Thelesius ignem." Similarly vol. I 2, p. 395.

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Telesio's approach to nature must have something to do with Aristotelian science. Indeed, Telesio not only studied in Padua, the stronghold of humanist Aristotelianism, he even submitted the first draft of his book on the principles of nature to his Paduan friend Vincenzo Maggi for critical revision. Hence his attack on contemporary philosophers and his theory of heat and cold, of a quasi material spirit which controls all beings, including humans, must be meant and even must have been perceived as a due response to Aristotelian problems. One of the best known debates in Paduan Aristotelianism was, of course, that on scientific knowledge in general and in nature specifically, the other important bone of contention being the nature of the soul. It was Jacopo Zabarella who insisted against Francesco Piccolomini on the independent order of nature, while his opponent demanded that scientific order and natural order should convene in the order of divine causation. Thus we have three structures, each of them conceived of as orders: the *logical,* the *natural,* and the *spiritual*.[11] And we have to make up our minds as philosophers, as believers, as rational beings whether there is or is not or should be any concordance among them. But why bother at all? Because it is a philosophical question: is there any order at all, and if so, which, and if there is more than one option, should we choose one, or two, and which couple, or all three of them? This is an easy logical calculus.

Zabarella distinguished between the object of a science and the way of studying it (*res considerata* and *modus considerationis*), a genuine peripatetic distinction. The basis for this distinction is the existence in extramental reality of the object considered. Method,

[11] The number of orders is a question of interpretation; the debate is expounded in the context of Padua university by Nicholas Jardine, "Keeping Order in the School of Padua: Jacopo Zabarella and Francesco Piccolomini on the Offices of Philosophy", *Method and Order in Renaissance Philosophy of Nature, The Aristotle Commentary Tradition*, ed. Daniel A. Di Liscia et al., (Aldershot etc.: Ashgate, 1997), 183-209: p. 191-196.

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the *modus considerationis*, however, isolates mentally properties from the object studied; consequently the object has a larger extension in reality than the science of it. Nevertheless, the *modus considerationis* matches reality, otherwise it would not be science at all. The effect is that the following proposition: "Natural science studies nature" is turned around to become: "Nature is what natural science deals with", or more exactly: "Nature is to be defined as that which is studied by natural science." A host of problems arises from this reversal which we don't find expressly in Zabarella but which explain the inspiring role of Paduan Aristotelianism for modern science. Nature becomes a 'Ding an sich', a Kantian virtual nature as the condition of the possibility of talking about nature: the main feature being that a deep gap has opened between Nature and Theory of Nature. In attempting to unite only the logical and the natural order, of which his famous 'regressus method' is the perfect expression, Zabarella prepares the moment when both orders fall apart.

When Eckhard Keßler recently pointed out that even Telesio's theory of soul has its origin in a passage in Aristotle where the ancient empiricist claims "that the soul is not entirely natural and therefore not entirely the subject matter of natural science",[12] this means in the first place that Telesio's effort in distancing himself from Aristotle does not head in the direction of a naturalist acceptance of natural science: he rather takes that doctrine as a license to call a super-empirical essence the governing force of natural beings. Furthermore Keßler draws our attention to a passage in which the Renaissance philosopher demands not to study *how* the world is constructed but *why* (*Rer. Nat*. I 9, vol. I, 88-103, 88, 94; Keßler 141). The difference between Aristotle and Telesio, however, is that Aristotle refers to the four causes, controlled by the final cause, while

[12] Eckhard Keßler, "Method in the Aristotelian Tradition: Taking a Second Look", ibid. pp. 113-142: 142. Cf. Aristotle, *De partibus animalium* I 1, 640a10-641a14.

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Telesio seeks for something like a 'real cause'. And that is what Renaissance philosophy of nature is about. Telesio constantly calls the world 'a construction', a construction that merits a constructor and a means of construction. The job of the philosopher is to rebuild this construction. [13]

In terms of the debate over the orders, the best option can only be to combine all three, the logical, the natural and the spiritual order, and—believe it or not—the best of way doing so is to identify divine creation with the order of nature and of knowledge, or at least some basic features of divine creation, such as spiritual nature, dynamism, constancy: attributes to be spelled out with respect to logic, to material features and to pantheism.

Cardano: the unity of nature and of its explanation

Let me take Girolamo Cardano as a further example. He opens his master work *De subtilitate* with the following definition: "Subtlety is some feature [ratio] through which one hardly perceives sensible things by the senses and intellectual things by the intellect."[14] So the main tool of physical explanation is defined as the subtlety of them, taken literally as thinness and metaphorically as ontologically/epistemologically distinct, that is to say—to put it polemically—"natural science is why things are so difficult to understand". In the body of his book Cardano again puts forward a group of principles and powers, which bundle together the "Variety of Things"—such is the title of another

[13] Telesio, *De rerum natura* I 9, (as in note 9) vol. 1, p. 90: “Dei porro opus caelum cum sit, utique, si quis modum, quo constructum sit humanis inquirere audeat rationibus (...)”; I 10, p. 96: “Deo caelum terramque constituenti (...): Id vero (...) constructio motusque manifestat.”

[14] Ingo Schütze, *Die Naturphilosophie in Girolamo Cardanos 'De subtilitate'*, München 2000, p. 29: "Die Definition des Subtilen als schwer Faßbares ist also nur die Angabe einer notwendigen Bedingung des Subtilen (...) aber keine hinreichende Bedingung (...)."

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of his books—into a unity of science. Narration—even though his works are full of stories which resemble much more Baconian induction than any mere theoretical disputation—narration is for him the worse form of theory: "Narrating the difference between privation and matter is like telling the difference between a sphinx and a chimera: the former is outright nothing the latter is fiction." (*De natura* 285 b). Consequently heat and humidity are again principles of nature, and the soul takes the place of Aristotle's general principle of motion, which of course works according to final causes and necessarily with intellect. If we—anachronistically—bear in mind Heidegger's polemics against narrative metaphysics which tells ontological stories instead of inquiring into "the meaning of being as a whole as such", and suppose Cardano is not making up stories about occult forces, his 'heat and moist and soul' must denote something philosophical. They answer a philosophical question, and it is not so very hard to find out which one.

In close connection with Aristotle's first book on Physics, where all these substantialist theories, the whole set of cosmological stories of the Presocratics, aimed at recovering unity and multiplicity in the sensible world, were refuted and reduced to the principles of form, matter, privation and motion, which both Telesio and Cardano take again for 'narratives', Cardano states that "everything is one, such as man and horse, because they all underlie one order; while the single parts are in appropriate movement, all aspire at one." Probably Cardano has never been at the same time closer to and farther away from a mathematical structure of the world.

Descartes wrote in his *Discourse on Method*: "The power of nature is so ample and so vast, and these [Descartes'] principles so simple and so general, that I almost never notice

any particular effect such that I do not see right away that it can be derived from these principles in many different ways." [15] Descartes clearly notices the problem that no theory of nature can ever hope to give an account of all forces active in nature, as long as this is taken as an entity on its own. There always remains a gap between theory and nature, between explanation of phenomena and real causation, or in terms of Aristotelianism between the demonstration *quia* and the demonstration *propter quid*.

If we wish to avoid taking Renaissance philosophers' theories of nature as naïve narratives about spirits and ghosts, about occult qualities and insufficient mathematical skills, we have to read them as struggling with a problem they had themselves, which, I think, is an honorable philosophical one: *the unity of explanation and what it explains through a reality which is able to produce what it looks like and even to communicate itself to human understanding*. Just as Renaissance philosophy of love, which might seem ridiculous to empirical psychology, and at best an inexhaustible source for art historians, casts the blame on those who deny it, Renaissance philosophy of nature is a burden of proof theory: whoever denies the unity of nature and natural science has to prove its insufficiency and to provide a valid replacement which is more than a surrogate.

Strategical uniformity in creating theories

Trying to prove the insufficiency of a theory includes a number of strategical steps. One has to understand why this theory has arisen, what it has intended to explain, and to prove that another theory offers the same and even more than the old one. One cannot be

[15] René Descartes, *Discours de la méthode, Oeuvres* (Adam/Tannery), vol. 6, pp. 64-65: "que la nature est si ample et si vaste, et que les Principes sont si simples et si generaux, que ie ne remarque quasi plus auacun effect particulier, que d'abord ie ne connoisse que il peut en estre deduit en plusieurs façons." English quotation from Ernan McMullin, "The Goals of Natural Science", *Proceedings and Addresses of the American Philosophical Association* 58 (1984), 37-64, p 49.

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content with waving away the old problem. One has to take the old problem as a serious problem and thus to find out what Renaissance philosophy of nature is talking about, and how it came to be a much debated field in intellectual history. Having achieved this, it may be hard to return to modern theory, since, as I said, doing philosophy historically is harder than simply philosophizing.

The task in question also implies not taking Renaissance philosophy as a set of propositions which can be falsified one by one, but as a set of propositions which form a corpus of theory in connection with one another. The ratio of plausibility has to be discovered: Plausibility lies in uniformity of usage and argumentative strategy.

As for uniformity of usage: when Ficino is teaching about the soul, he has to be and actually is consistent in what he refers to. His whole effort in refuting Averroism aims at excluding an acceptance of 'soul', which is incompatible with his metaphysics. We are not philosophers if we either say that there is no such thing as soul, or if we seem to discover a flaw in one of his proofs of the immortality of the human soul, and leave it at that.

As for argumentative strategy, it is still not sufficient to take a philosophy as a theory which, admittedly, is consistent in its own reasoning. This would be similar to relativism, which is rather acceptable in present day culture: One is materialist, others are realists or analytics etc. In the same way as tolerance is only possible if we know what we tolerate, an understanding of historical philosophy demands an understanding of its driving powers and virtues. I have mentioned some of the basic philosophical questions of Renaissance philosophers of nature: The constitution of the self, the presence of transcendence in the finite, the unity of science and its object. The argumentative strategy

aims at strengthening the answers to the basic questions and at achieving a satisfying answer.

This is the basic reason for the burden of proof character of Renaissance philosophy of nature: It is never content with a partial answer, but wants it all. The theory is by nature recurrent to the problem of which it is a theory. Philosophy is an answer, then, which includes its own question. All Renaissance philosophies of nature tend to give universal, all encompassing theories of what there is. They never put up with regional ontologies (even though Cardano sometimes looks like that), with partial explanations and, of course, never with working hypotheses. This marks the difference with modern science and philosophy.

From universality to specialization

A standard example is Renaissance magic, which has aroused scholars' curiosity since Frances Yates' rehabilitation of Hermeticism.[16] Yates was right in searching for the one unifying pattern of thought in the Renaissance. And this can be proven by the highest authority of Renaissance and modern science, namely Francis Bacon. The latter wrote: By the time philosophers have given up the Aristotelian doctrine of substance which accounted for a rather small empirical base, they drew premature and hasty conclusions and came up with universal and general principles—instead of relying on experience.[17]

16 Frances A.Yates, *Giordano Bruno and the Hermetic Tradition* (London etc., 1964).

17 Francis Bacon: *Neues Organon*, lat.-dt., ed. Wolfgang Krohn (Hamburg: Meiner, 1990, Philosophische Bibliothek 400 a/b), I aphor. 64, p. 132: “si quando homines, nostris monitis excitati, ad experientiam se

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Bacon's conclusion is the program of organized empiricism, but his analysis is valid: Renaissance philosophers sought for general principles.

Thus what for modern philosophy makes early modern science problematic, for Renaissance thinkers was an advantage: Departing from scholastic Aristotelianism, they abolished the distinction of the 'orders', the divisions between logic and ontology, theology and natural philosophy for the sake of a theory which really explains what it is said to explain.

Theoretical radical realism, however, is not so very remote from medieval Aristotelianism. First, medieval Christian philosophy had no specific concept of nature, because all being was God's creation and the powers that shaped finite being were identical with God's interference in his world. From this point of view Renaissance nature was but a substitute for God as thought in the framework of scholasticism, which was bound to yield as much as this and still allow for Christian worship. Second: it was only by the end of Renaissance philosophy and at the outset of post-renaissance scholasticism that the idea of a unified ontology was weakened by scholastics themselves.

As an example from the revival of scholasticism in the 16th century I may just mention Benedictus Pererius who opposed to Christophorus Clavius' claim for mathematics the argument that mathematical entities are lacking the status of causes, because they do not fit into the scheme of *causa finalis* and *causa efficiens*.[18] He says: since these basic

serio contulerint (valere jussis doctrinis sophisticis), tum demum propter praematuram et praeproperam intellectus festinationem, et saltum sive volatum ad generalia et rerum principia, fore ut magnum ad hujusmodi philosophiis periculum immineat."

18 Benedictus Pererius, *De communibus omnium rerum naturalius principiis et affectionibus*, (Roma: Venturinus Franciscus, 1576 [Microfiche edition by IDC, Leiden 1987]), lib. 3, cap. 3, p. 69: "Res mathematicae ea ratione ut sunt mathematicae et in doctrina mathematica tractantur, (si de causis proprie

premises have no ontological and no causal ground, the whole building of mathematical science must collapse.[19] Sometimes one can tell a book from its cover: "On the principles and properties common to all natural things", which tells the reader of the late 16th century, that Pererius is considering himself in competition with Renaissance natural philosophers—such as Bernardino Telesio—in accounting for the common, universal principles of everything within nature which are causal to their properties. He does not oppose substantial forms to mathematical science, as a progressivist view might guess, but realist quiddities to quantitative chimeras. The 'causal' power of mathematical demonstrations cannot reach the ontological causation of things, to which quantity is but an *accidens*.

It was Pererius who—to the benefit of an independent philosophy of nature—distinguished a general ontology from the special ontology which later was to split into the science of spirits (pneumatologia) and the science of finite corporal beings, i.e. physics. Up to then metaphysics was Janus-faced: It dealt with being as such and hence included the abstract concept of being and the Supreme Being. Philosophy was natural theology and not separate from it. Being as such (the realm of epistemology and ontology) and the Supreme Being formed one unified discipline. Renaissance philosophers tried to spell this out in the role of nature. One answer to the metaphysical question of late scholasticism was the separation of labor between epistemology, natural theology, ontology and physics. This is the basic outlook of modern philosophy. The

loqui volumus) nullum habent genus caussae. Nam eas carere fine ac efficiente, auctor est Arist. in 3. Metaphys. tex. 3. (...) quantitas quae tractatur a Mathematico, non est forma quidditativa rei (...) nec mathematicus speculatur essentiam quantitatis (...)."

19 Ibid. p. 70: "(...) in rebus mathematicis, vere ac proprie non inveniri causas vel principia, sed tantum ratione quadam et similitudine; quia sicut ex causa manat effectus, et remota causa necessario tollitur effectus, sic apud Mathematicos, initio scientiae ponuntur quaedam generales propositiones, ex quibus postea deducuntur demonstrationes, et illis sublatis necesse est omnes demonstrationes convelli et penitus everti.

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other answer was that of Renaissance philosophy of nature. And so in the end they converge in the question and consequently are not so hostile to one another as one might think.

In conclusion: By means of the examples I have given (and which could be indefinitely extended) I hope to have shown that there is a genuine philosophy of nature in the Renaissance. It searched for principles, accepted as real powers, in a unified theory, which virtually mirrors a unified nature. It does not seem to me outrageous to try and understand this theory as philosophical. If philosophy has anything to do with coherent theories about beings and understandings, then an understanding of these theories is not impossible, now. And that is what I should like to call 'presentist'. For it is not about any hypothetical 'contribution' by an early thinker to modern science, but rather about a modern philosopher's understanding of past thought. This includes acknowledgement of the strangeness of historical thought as a challenge to present theory. The strangeness taken seriously relativizes modern theory, but not in the sense of plain relativism ("Well, they believed that, we prefer this"), but rather in a way of looking at our own theories as plausibilities which might not be without an alternative.

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