

The Virtues of New Philosophies

Or: How the Leiden philosophical faculty survived the crisis of 1676

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The introduction of a new science into the teaching syllabus of a university certainly constitutes a transformation, even more if this transformation includes a major revision of the existing order of knowledge and, consequently, of faculty structures. Yet, such a process should not be thought of as a change inside the university only, as the transformation affects that particular science as much as the institution. In my talk, I wish to pursue one example of such a process, the restructuring of philosophy teaching at Leiden University in the 1670's. In this restructuring two new sciences played a crucial role. Firstly, Cartesianism, although not that new a philosophy at Leiden, was regarded as the cause of renewed quarrels within the university, which seemed to threaten the functioning of the academy. On the other hand, experimental philosophy was introduced as a means to overcome the deadlock that these quarrels had produced. For all parties participating in this controversy on the future development of philosophy the notion of academic tradition played a prominent role, emphasising thus the importance of continuity, be it a continuity of reform. In this paper, I want to analyse the complex relationship between academic traditions, rivalling forms of philosophy and transformation processes that acted within this debate. In particular, I want to argue that an historical analysis in terms of an antagonism between conservatives and modernists is not particularly helpful in understanding this development. Consequently, the concept of "New Science" cannot be regarded as as obvious as traditionally done by historians of science.

In the first part of this paper, I will give a short sketch of the debate at Leiden university that ultimately lead to the rejection of Cartesianism and the widespread acceptance of experimental philosophy. In the second part I want to study how the new philosophies related to academic traditions, i. e. in which ways might they be regarded as elements of continuous development rather than transformation. I want to do this in regard to three different topics: the role of the philosophical faculty within the university, the teaching practices, and, finally, the relationship between old knowledge and new learning.

I

While differing opinions about Descartes and his philosophy had caused serious troubles within Dutch universities, especially at Leiden and Utrecht, in the 1640's and 50's, by 1670 the worst seemed to have been over.¹ This had partly been the result of a carefully negotiated "Order against the mixture of Theology with Philosophy" decreed by the States General in 1656.² This order resolved that "the Freedom of Philosophising" should not be misused to the "disadvantage of the Scripture". Consequently philosophers had to refrain from dis-

¹On the early history of Dutch Cartesianism see Verbeek, Theo, *Descartes and the Dutch*. Early Reactions to Cartesian Philosophy, 1637–1650. Carbondale and Edwardsville 1992; van Berkel, Klaas, Descartes in debat met Voetius. De mislukte introductie van het cartesianisme aan de Utrechtse universiteit. In: *Tijdschrift voor Geschiedenis van de Geneeskunde, Natuurwetenschappen, Wiskunde en Techniek*, 7 (1984), S. 4–18.

²*Ordre jegens de vermenginge van de Theologie met de Philosophie ende het misbruyck van de vryheid int filosofieren tot nadeel van de Schrifture*. Reprinted in: Molhuysen, Philip C. *Bronnen tot de geschiedenis der Leidsche Universiteit*. Den Haag 1913–24, Vol. 3, pp. 55*–58*.

cussing theological matters, while on the other hand, theologians should not discuss questions that “could be understood and solved by the use of the Natural Reason”. Furthermore, the philosophers should abstain from taunting and violating the feelings of others. For the sake of peace, the order finally confirmed a resolution of the university curators that Cartesian philosophy should not be dealt with in the lessons, neither favourably nor rejective. Although this last directive was by and large ignored by all the order had an appeasing effect on the university. This was matched by the policy of the curators, who sought to balance the antagonism between the followers of the orthodox Calvinist Gisbert Voetius and more liberally minded university members by appointing candidates from both camps to new professorships, so that no party could claim to be under-represented at Leiden. Things became a bit more complicated as the debate over Cartesianism coincided with a controversy over the teachings of the Leiden theologian Johannes Cocceius. Cocceius argued for the necessity of a philological analysis of the Holy Scripture prior to theological interpretation, thus challenging essential principles of Voetian theology. Although this mixture of Cocceians and Cartesians did not help to keep theology and philosophy separate, Leiden university experienced a period of relative peace after 1656.

The situation changed dramatically in 1672 when in the wake of the Dutch war against France and England William III and the conservative Orangist party was swept into power. Members of the Calvinist orthodoxy hoped that the new regime would bring a chance to improve their position within the university. This brought the curators into an awkward position, as they tried to maintain the independence of the university from church and state while at the same time agreeing to take some measures against the too liberally minded. Yet, some Cartesians made clear that they would continue to advocate their philosophy in public. As unrest inside and outside the university grew and some very clear warnings issued by the curators did not show any effect, they finally decided to transfer the Cartesian philosopher Theodor Craanen to the Medical Faculty and to forbid him to hold any philosophical lectures. This decision, however, only strengthened the discord.

By early 1674, both sides were engaged in fierce polemic, while the more conservative philosophers and theologians suffered from frequent disruptions of their lectures, sometimes ending in fighting among students and even among lecturers. After the philosopher Gerard de Vries had given up his chair and took refuge at the more orthodox university of Utrecht and church synods had begun to ask for urgent actions to stop the uproars, the curators at last decided to take anti-Cartesian action. They appointed Wilhelm Wilhelmius and Wolferd Senguerd to professorships for “peripatetic philosophy” and tried to persuade the conservative theologian Stephen Lemoine to accept a chair at Leiden, while at the same time threatening all those with dismissal from the university, who would continue to attack orthodox philosophers and theologians.

Worried by the new policy of the curators a group of moderate Cartesians and Cocceians, including the theologians Abraham Heidanus and Christoph Wittichius and the philosopher Burchard de Volder, attempted to save their position at Leiden and maintain the philosophical freedom. At least part of their motivation derived from their own discontent with the methods other Cartesians employed in this controversy. Their main objective was thus to separate Cartesian philosophy from the violent clashes it had been more and more associated with. They argued that Cartesianism would not endanger the necessary separation of theology and

philosophy; the contrary was the case as the Cartesian distinction between mind and body would in effect guarantee this separation. As to the disturbances, they could not be blamed on the philosophy but on some people who had to be punished accordingly. Yet Cartesian philosophy could be tolerated under all forms of government, which could be seen in the United Provinces, in France and even in England, where the Royal Society had been established on Cartesian fundamentals.³

The surprising reference to the Royal Society might relate to the fact that de Volder travelled to England in the summer of 1674 in order to inform himself of philosophical developments there. At least the results of his journey indicate that he undertook it to look for ways to overcome the deadlock within the university. After having met Isaac Newton in Cambridge and probably Robert Boyle in London, de Volder presented to the curators “the utility and advantages for this university, if, following the example of foreign academies and illustrious schools, the truth and certainty of the doctrines and principles which are impress upon the students in the *Physica theoretica* will be taught and shown by way of experiment”⁴.

The curators reacted enthusiastically on de Volders proposal and decided to buy a house neighbouring the main academy building as accommodation for the new *Theatrum physicum*. Furthermore, they granted de Volder the right to buy the necessary instruments so that in 1675 the university spend nearly 3500 guilders, about one eighth of its usual annual budget, for the new experimental teaching. Although not explicit mentioned, it was clear that both de Volder and the curators saw the new philosophy and the lecture theatre as one way of calming the debate. And indeed did the experimental philosophy at no point provoke any fundamental controversy let alone violent clashes like Cartesianism had done.⁵

Instead, de Volder’s experimental teaching received competition from lectures held by his newly appointed and supposedly peripatetic colleague, Wolfert Senguerd. Working as lecturer in Leiden since 1669, Senguerd had become known for his defence of Aristotelian philosophy and was generally regarded as a modestly conservative scholar and pious Calvinist, who would be inclined to put anti-Cartesian resolutions into practice. It was thus hardly surprising that he and his lectures became one target of anti-peripatetic activists. His treatment of philosophical matters, however, was not so much anti-Cartesian as eclectic and anti-dogmatic. Consequently, he found experimental teaching one means of proving that his philosophy was not as outdated as his adversaries suggested and that he would not “teach the silly dogmas of Scholasticism”.⁶

While Senguerd and de Volder still differed on many important philosophical issues, they both grounded their lectures on the experiments described in Robert Boyle’s “New Experiments physico-mechanicall”, they both were in possession of their own air-pumps, and they both emphasised the advantage of experiments of not giving cause to those quarrels other kinds of philosophy would. By the late 1680’s, they had even developed a programme of publicly presenting their different views and – most of all – presenting the fact that their dissent

³Cf. a manuscript by de Volder on a meeting with the Dutch pensionary Caspar Fagel from June 1674, quoted in Le Clerc, Jean, *Éloge de feu Mr. de Volder Professeur en Philosophie & aux Mathématiques, dans l’Académie de Leide*. In: *Bibliothèque choisie*, 18 (1709), pp. 346–401, here p. 357.

⁴Molhuysen (note 2), vol. 3, p. 298.

⁵On a similar role of experimental philosophy at the Royal Society see Shapin, Steven and Simon Schaffer, *Leviathan and the Air-Pump*. Hobbes, Boyle, and the Experimental Life, Princeton 1985.

⁶Cf. his apologetic preface in: Senguerd, Wolfert, *Philosophia naturalis*, Leiden 1680, here p. iv.

would not lead to any trouble within the university.

But what happened to Cartesianism? At the same time that de Volder was busy setting up the *Theatrum physicum*, a number of church *classes* and the synod of North Holland pressured for stronger action against the Cartesians at Leiden, and openly attacked the theologian Wittichius for his Cocceian and anti-orthodox views. Determined to keep the matter within the bounds of the university, the curators reacted by commissioning the Voetian theologians Spanheim and Hulsius to draft a resolution against Cartesianism, the first time the curators had openly taken sides against the Cartesian faction. In January 1676, after much debate and repeated advice from the Dutch pensionary, the curators finally put the, slightly revised, resolution into effect. It prohibited the treatment of 20 explicitly named theses in any form at the university and further disallowed the teaching of the “*Metaphysica of Renatus Descartes*”.⁷

The incriminated theses, however, stemmed by no means all from Cartesian philosophy. Instead, they contained Cocceian and even Spinozist positions, as well as current anti-orthodox ideas that could hardly be assigned to one specific philosophical school. Those theses that could indeed be traced back to Descartes were nearly all confined to metaphysical questions. This corresponded with the restriction of the prohibition of teaching Cartesianism to Cartesian metaphysics. Natural philosophy had thus implicitly been declared unproblematic, which related to the fact that the only Cartesian natural philosopher at Leiden had just started his experimental lectures. Yet despite such concessions the Cartesians could not comply with the resolution. Heidanus, Wittichius and de Volder wrote a fierce polemic against the new policy of the curators, which was published under the name of Heidanus only. After he refused to dissociate himself from the book, the curators saw no other way than to dismiss the 79 year old theologian. This development came much to the surprise to everyone involved, but it did turn out effective to bring peace to the university. The Cartesians refrained from further polemics in public, while the Voetians found no way to enforce even stronger actions, especially after they also had been called for moderation by the curators.

Ironically, it was not Cartesian metaphysics but Cartesian natural philosophy that suffered most from the resolution. In fact, de Volder continued to lecture publicly on metaphysics, usually starting with a disclaimer stating that theology and philosophy were grounded on quite distinct principles, which could best be seen in the method proposed by Descartes. But for his natural philosophy, de Volder found less and less room in his lectures, as Descartes and his followers did not seem to have been able to contribute much to the explanations of the experiments de Volder performed weekly in the *theatrum physicum*. Somewhat later, de Volder even noted that the main problem of Descartes’ philosophy was that his method of clear and distinct principles was not applicable outside the realm of metaphysics and mathematics. Attempts to do this nonetheless, had only produced “numerous controversies”.⁸ So, if the curators and the States General had tried to reach a separation between theology and philosophy during the long debate, they at least induced something different – the separation between metaphysics and natural philosophy.

⁷Molhuysen (note 2), vol. 3, p. 317–8.

⁸De Volder, Burchard, *Oratio de rationis viribus, et usu in scientiis*, Leiden 1698, p. 8–11.

II

Both Cartesianism and experimental philosophy required at substantial amount of change within the existing framework of Leiden university. Cartesian philosophy asked for an independent role of philosophy, which should not be subordinate to the judgement of the theological faculty and church synods. Experimental philosophy did just the same, even if on a more limited ground, and considerable financial and material resources. Yet in the case of experimental philosophy, all necessary changes were willingly granted while Cartesian philosophers found times increasingly tough. While a satisfying explanation requires more room than available here, I want to indicate some aspects which were crucial to the debate about the changes which were supposed to be made.

The philosophical faculty and the structure of the university

From the foundation of Leiden university in 1575, its philosophical faculty had a higher standing than in the traditional academic hierarchy. And from the outset its members tried to achieve parity with the other faculties, which was formally granted in the new statutes of 1631. Yet, the faculty itself was dominated not by philosophers but by philologists, as scholars like Lipsius, Scaliger and Heinsius became models of the learning Leiden was supposed to represent. Consequently, philosophers in Leiden had to strive for autonomy both in the university at large and within their own faculty. Indeed, all major intellectual changes of the philosophy teaching can be interpreted in this framework. Neo-Aristotelianism, brought to Leiden by Franco Burgersdijk in the 1620's, first gave philosophy, especially natural philosophy and metaphysics, some importance outside the propaedeutic curriculum. This directive had been further emphasised during the introduction of Cartesianism, where the independence of philosophy from other faculties, especially that of theology, and the supremacy of metaphysics with respect to logic had been two central points of debate, which were finally accepted by both Cartesian and anti-Cartesian philosophers. In 1671, a philosophical core faculty had been established consisting of the professors of philosophy and mathematics, who from then on held the sole responsibility in all matters of faculty examinations and degrees. The installation of the *theatrum physicum* had been the final point in this development. Modelled after the example of the Leiden anatomical theatre, it gave philosophy a place at the university exempt from the needs of other faculties.

While the role of philosophy at Leiden certainly changed it is remarkable how much continuity was to be found within that change, despite different philosophical view and different political agendas. It is rather the case of a gradual development of ideas about the formerly lower faculty which had been present at the foundation of the university. The strength and quality of the philosophical faculty could so be maintained as necessary prerequisite for the advancement of learning in the university and in the Dutch Republic.

Teaching practices

Comparing the teaching of Cartesian and experimental philosophy, it is remarkable how little Cartesianism had on the way most of the lectures were held. While at the same time the form of teaching *collegia* changed drastically the didactic methods used in the faculty of law and later on in other studies, Cartesianism was more or less taught in the same framework as Neo-Aristotelian philosophy. The major exceptions were ironically disputations. Although

despised and even ridiculed by Descartes himself they became the teaching method in which the debate about his philosophy took place, both for Cartesians and for their opponents and especially for eclectics like Adriaan Heereboord, who in the 1650's and 60's held hundreds of disputations for and against Descartes, sometimes immediately consecutive. Yet, although their importance increased, the manner disputations were held did not seem to change under the influence of Cartesianism.

In contrast, experimental lectures had been a new form of teaching in the philosophical faculty in the first place. A new lecture theatre had to be built, where for the first time the students were required to sit during the lecture, which certainly was a reaction to the disciplinary problems in the years prior. Even more remarkable is the way, Wolfert Senguerd used experiments to develop new forms of teaching. For disputations, he tried to reform the traditional procedure by incorporating an experimental demonstration into the course of the events; in his *collegia experimentale*, he began to introduce more and more specialist topics to university teaching where he produced new experiments with participation of his students. Experiments had not only been a new way of philosophising, they became a new pedagogical tool as well.

So with respect to the teaching practices, we have a clear case that the necessity of changes to be made for the incorporation of a new science into the university did not play a significant role for the acceptance of that particular science, at least not a negative one.

One should bear in mind, however, that de Volder and Senguerd could draw upon one highly successful branch of Leiden university, its medical faculty. Empirical, clinical, and experimental teaching had helped shaping Leiden's fame as a centre of excellent scholarship. Its anatomical theatre and its botanical garden represented both the reputation of the university and the importance of the new sciences of nature. In a way, the establishment of the *theatrum physicum* indicated the reshaping of the philosophical faculty after the medical model, including its manners of teaching.

Old Knowledge and New Learning

Traditionally the debate about Cartesianism at Dutch universities has been regarded as a conflict between old and new science, in which the Voetian camp played the villains who vainly tried to stop the Cartesian heroes of the New Science. While there might be some justification for such a story, it does not account for the most crucial change that took place in the Leiden philosophical faculty around 1676: the collapse of the opposition between old and new philosophy. The 'progressive' de Volder remained the scholar who might show more inclination to discuss new ideas, yet the 'conservative' Senguerd was the one who was more open to new experiments and to new interpretations of them. The difference between "progressiveness" and "backwardness" became merely gradual. Most of all, de Volder and Senguerd themselves now rejected the distinction between old and new science, as they claimed that in philosophy an idea should not be judged in terms of age but in terms of truth. However, they both did not conceal that this means for natural philosophy that most older ideas – including the by now considerably aged Cartesian ones – had to be revised to comply with the newly found experimental truths.

So one reason, why experimental philosophy did not cause the troubles Cartesianism seemed to have done, lies exactly in the fact that no one of its proponents at Leiden ever claimed it to be a New Science, i. e. it was never supposed to replace an old form of learn-

ing, instead it should supplement the existing philosophies and the more traditional teaching methods. In this respect the factual change experimental philosophy made was facilitated by a abstention from the comprehensive changes proposed earlier.

III

The case of Cartesianism and experimental philosophy at Leiden university shows that any analysis of the relation between the new science of the 17th century and early modern universities has to distinguish between different kinds of science. While Cartesianism, although for some time widely embraced, was finally rejected, experimental philosophy has been almost immediately accepted and strongly supported after Burchard de Volder expressed the idea to introduce it. This different treatment of the two philosophies related to specific circumstances in Leiden and the Dutch Republic as well as to certain theological, philosophical, and social implications of both philosophies, all of which had been more complex and subtle than I could sketch here. One central factor was that Cartesianism had been regarded responsible for the disturbances its advent at Leiden had provoked and that its proponents had never been able to counter these accusation. Experimental philosophy was never subject to such charges, on the contrary, it was introduced precisely because it would not provoke “empty bickering about words” as one university professor put it. Historians of science have tended to subsume both kinds of philosophy under the category of ‘new science’ or as part of the ‘Scientific Revolution’. Yet within the framework of early modern university such a subsumption is only misleading as their adaptability to the traditional university structures were essentially different. Experimental philosophy, as most empirical sciences, seemed comparatively unproblematic and was broadly accepted in universities at the end of the 17th century, while other sciences found considerably more difficulties.