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Henricus Reneri (1593-1639)  
Descartes' Quartermaster in Aristotelian Territory

*Henricus Reneri (1593-1639)*  
*Descartes' kwartiermaker in aristotelisch territorium*

*(met een samenvatting in het Nederlands)*

Proefschrift

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Robin Onno Buning

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Promotor: Prof. dr. Th.H.M. Verbeek

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# Abbreviations

AM	René Descartes, <i>Correspondance de Descartes</i> , ed. Ch. Adam and G. Milhaud, 8 vols. (Paris, 1936-63).
ASF	Archieven van Senaat en Faculteiten, Universiteitsbibliotheek Leiden
AT	René Descartes, <i>Oeuvres de Descartes</i> , ed. Charles Adam and Paul Tannery, 11 vols. (new ed.; Paris, 1964-71).
AW	Archives Wallonnes, Bibliothèque Wallonne, Universiteitsbibliotheek Leiden
BL	British Library, London
BLGNP	<i>Biografisch lexicon voor de geschiedenis van het Nederlandse protestantisme</i> , ed. D. Nauta et al., 6 vols. (Kampen, 1978-2006).
BN	<i>Biographie nationale</i> , 28 vols. (Brussels, 1866-1944).
BnF	Bibliothèque nationale de France, Paris
Bodl	Bodleian Library, Oxford
BS	Bibliothèque de la Sorbonne, Paris
CM	Marin Mersenne, <i>Correspondance du P. Marin Mersenne religieux minime</i> , ed. Cornelis de Waard et al., 17 vols. (Paris, 1932-88).
DDP	<i>The Dictionary of Seventeenth and Eighteenth-Century Dutch Philosophers</i> , ed. W. van Bunge et al., 2 vols. (Bristol, 2003).
DTB	Doop-, trouw- en begraafboeken
EUL	Edinburgh University Library
GA	Gelders Archief, Arnhem
Herb	Bibliothek des Evangelischen Theologischen Seminars, Herborn
HP	<i>The Hartlib Papers: A Complete Text and Image Database of the Papers of Samuel Hartlib (c.1600-1662)</i> , ed. M. Greengrass, CD-ROM (2nd ed.; Sheffield, 2002).
HUA	Het Utrechts Archief
KB	Koninklijke Bibliotheek, The Hague
LMAB	Lietuvos Mokslų Akademijos Biblioteka, Vilnius

NNBW	<i>Nieuw Nederlandsch Biografisch Woordenboek</i> , ed. P.C. Molhuysen, P.J. Blok, and F.K.H. Kossmann, 10 vols. (Leiden, 1911-37).
NRK	Nagykönyvtár Reformatús Kollégium Tudományos Gyűjteményei, Debrecen
Pitts	Pitts Theology Library, Atlanta
RAL	Regionaal Archief Leiden
RL	Rijksarchief Leuven
SAA	Stadsarchief Amsterdam
SAB	Stadsarchief en Athenaeumbibliotheek, Deventer
SBB	Staatsbibliothek zu Berlin-Preußischer Kulturbesitz
SUH	Staats- und Universitätsbibliothek Carl von Ossietzky, Hamburg
Tres	Tresoar, Fries Historisch en Letterkundig Centrum, Leeuwarden
UBA	Universiteitsbibliotheek Amsterdam
UBL	Universiteitsbibliotheek Leiden
UBU	Universiteitsbibliotheek Utrecht
UUB	Uppsala Universitetsbibliotek



# Introduction

Henricus Reneri is primarily remembered as a friend and follower of René Descartes (1596-1650). He met the French philosopher during the winter of 1628/29. At that time Reneri was 32 years old and worked as a tutor in Amsterdam. Thirteen years earlier, he had fled the Prince-Bishopric of Liège as a Calvinist convert and come to the Dutch Republic, where he enrolled in theology at Leiden University. After he broke off his studies he found work tutoring children of patrician families, but Reneri had higher ambitions. He wanted to teach philosophy, which he had studied at Leuven before his conversion. Moreover, in his free time Reneri carried out experiments and constructed instruments for the investigation of nature. Furthermore, discontented with traditional philosophy, he participated in the search for a method to advance science. At that stage he met Descartes, who had just arrived in the Republic to stay there for twenty years. In Descartes Reneri immediately recognized a genius who would change the face of philosophy. They became best friends and, when Reneri was appointed as professor of philosophy at the Deventer Illustre Gymnasium in 1631, followed by an appointment at the Utrecht Illustrious School three years later, Descartes joined him in both towns. Reneri was much appreciated by his students and colleagues, who valued him as a competent professor and an amiable man, but also as an innovator. Reneri taught Aristotelian philosophy, but he reformed parts of Aristotelian doctrine, developed an empirical and inductive method of science as well as a method of logic that built on humanist educational reform, carried out experiments, and produced chemical drugs. Nevertheless, it is the general impression of Reneri as a disciple of Descartes that prevails in the literature. This is primarily due to the funeral oration on Reneri's death held by his colleague Antonius Aemilius (1589-1660) in 1639.

## **Previous Studies**

Aemilius' funeral oration is an important source for Reneri's life—and for some data, especially concerning his younger years, even the only one. Aemilius had known Reneri closely during the last five years of his life and he had had access to firsthand information from Reneri and their common friends. Aemilius primarily portrays Reneri as an advocate of the independent investigation of nature and a follower of Descartes. According to him, Reneri rejected the

authority of the ancients and started investigating the hidden causes of nature under the guidance, and with the help and encouragement, of Descartes. What he discovered in this way he shared with his students, friends, and acquaintances. Surprisingly enough, a large part of the oration was not about the deceased himself, but about his ‘mentor’ Descartes, whom Aemilius calls “the Archimedes of our time.” Aemilius’ focus on Descartes may have been partly caused by his own admiration for the French philosopher, but Reneri would have contributed greatly to this due to his tireless promotion of Descartes’ philosophy. This image would dominate the literature on Reneri for centuries to come. The fact that only an inaugural address of Reneri and a small number of academic disputations were published, most of which were not retrieved until the middle of the twentieth century, also contributed to this.

Descartes’ first biographer, the priest Adrien Baillet (1649-1706), pays much attention to Reneri in his *La vie de Monsieur Des-Cartes* (1691). Baillet had access to many letters and manuscripts of Descartes (many of which are now lost),<sup>2</sup> as well as to testimonies of contemporaries, but with regard to Reneri and his relation to Descartes and his philosophy, Aemilius’ oration was one of Baillet’s most important sources. In addition he used Descartes’ correspondence with others as well as letters from Reneri’s correspondences with Pierre Gassendi (1592-1655) and Marin Mersenne (1588-1648). This suggests that already then few of the letters exchanged between Reneri and Descartes still survived (although Baillet does not use the two letters published in Clerselier’s edition of Descartes’ correspondence,<sup>3</sup> which are still the only two we have).<sup>4</sup> On the basis of these sources Baillet put Reneri’s friendship with Descartes in a broader context. He wrote that Reneri was an intermediary between Gassendi and Ferrier; that he inspired Descartes to write the *Météores*; and that thanks to him Henricus Regius (1598-1679) was appointed at Utrecht as professor of medicine. Aemilius’ influence shows in Baillet’s presentation of Descartes as Reneri’s mentor (“le conseiller et le directeur”)<sup>5</sup> in his private philosophical studies. He also interpreted Aemilius’ claim that Reneri communicated some of the discoveries he had made during these private

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<sup>1</sup> Aemilius, *Oratio in obitum Renerii*, 10.

<sup>2</sup> Sassen, *Henricus Renerius*, 2-3.

<sup>3</sup> Descartes to Reneri, 2 July 1634, in Descartes, *Lettres*, 2:362-63; Descartes to Reneri, 2 June 1631, in Descartes, *Lettres*, 3:602-4.

<sup>4</sup> See Appendix 1. See also below, p. 232 n. 1000.

<sup>5</sup> Baillet, *Vie de Descartes*, 1:201.

studies to his students, in a very specific way. Aemilius does not say how exactly Descartes was involved in Reneri's investigation of nature or what these discoveries were, but Baillet makes it seem as if Reneri, albeit discreetly, publicly taught Cartesian physics:

Mr. Reneri, who had drawn the philosophy of Mr. Descartes from the source at leisure when he enjoyed his presence in Deventer, had no scruples about communicating this to his students. But he did this with a discretion, which alone would have been able to persuade us that wisdom was the core of that new philosophy. He did not at all have his students believe that what he had expounded to them was the philosophy of Plato, Aristotle, or Descartes, but following the rules of the latter's method, he established in their minds the principles of nature, which to him seemed to be most in conformity with truth.<sup>6</sup>

He saw this confirmed in Reneri's only surviving letter to Mersenne, in which Reneri writes that he taught something new and better at Utrecht.<sup>7</sup> Accordingly, Baillet is also the reason that Utrecht University was long believed to be "born Cartesian," since Reneri would have taught Descartes' philosophy there even during the years 1634-36, when Utrecht University was still an illustrious school.<sup>8</sup>

Well into the twentieth century, the image of Reneri was for a large part based on the accounts of Aemilius and Baillet. Although increasingly more sources were found, the general image was that of Reneri as a friend and follower of Descartes. What became a subject of discussion, however, was the question of Reneri's Cartesianism, that is, if and how he taught Descartes' philosophy. The Utrecht public administrator and amateur historian Caspar Burman (1696-1755), in *Trajectum eruditum* (1738), simply copied Baillet by saying that Reneri taught the principles of nature according to Descartes' method with caution and restraint.<sup>9</sup> In his *Historia critica philosophiae* (1766)

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<sup>6</sup> *Ibid.*, 1:264: "M. Reneri qui avoit puisé tout à loisir la Philosophie de M. Descartes dans sa source lors qu'il jouissoit de sa présence à Déventer, ne fit point difficulté de la communiquer à ses disciples. Mais il le fit avec une discrétion qui auroit été capable seule de nous persuader que la sagesse étoit l'ame de cette nouvelle Philosophie. Il étoit fort éloigné de faire croire à ses écoliers que ce qu'il avoit à leur debiter fût la Philosophie de Platon, d'Aristote, ou de Descartes: mais suivant les règles de la méthode de ce dernier, il établissoit dans leur esprit les principes de la Nature, qu'elle lui faisoit paroître les plus conformes à la Vérité."

<sup>7</sup> *Ibid.*, 2:12.

<sup>8</sup> *Ibid.*, 2:2.

<sup>9</sup> Burman, *Trajectum eruditum*, 301-4.

the German historian of philosophy Johann Jakob Brucker (1696-1770) even adds that Reneri followed the principles of Cartesian method in his public lessons at Deventer as well, but he provides no source.<sup>10</sup>

The Lutheran minister Ferdinand Jacob Domela Nieuwenhuis (1808-1869) was the first to consult Reneri's inaugural address of 1634. In his *Commentatio de Renati Cartesii commercio cum philosophis Belgicis deque philosophiae illius temporis in nostra patria ratione* (1827) he tries to reconcile the Aristotelian character of the address with Reneri's alleged Cartesianism. He claims that Reneri widely propagated Descartes' philosophy, but that he used an Aristotelian cover in his classes. Reneri taught a free method of philosophizing and gradually prepared the way for Cartesianism by imbuing the minds of his students with true ideas and by removing prejudices. For this purpose, he followed Descartes' method and defended his principles, but without mentioning his name. The students, ignorant of the fact that they were learning the new philosophy, thus thought that they learned Aristotelian philosophy.<sup>11</sup>

The Reformed minister Arnoldus Cornelis Duker (1837-1915), in his dissertation *School-gezag en eigen-onderzoek* (1861) about the conflict between Voetius and Descartes,<sup>12</sup> and the historian of science Cornelis de Waard (1879-1963), in his article on Reneri in the *Nieuw Nederlandsch Biografisch Woordenboek*,<sup>13</sup> still accepted the idea of Reneri as a discrete Cartesian, but the image slowly changed. First towards that of a more explicit Cartesianism. In his dissertation *Henricus Regius* (1917), the Reformed minister Marinus de Vrijer (1881-1969), removes the contradiction, created by previous historians, between the modest Reneri who merely pointed out a few mistakes of Aristotle, and the aggressive Regius who openly derided traditional philosophy, which brought him into conflict with Voetius. De Vrijer argues that too little is known about Reneri to draw definitive conclusions, but he believes that Reneri, too, would eventually have clashed with the Utrecht theologians, if he had only lived longer.<sup>14</sup> The French historian Gustave Cohen (1879-1958) perhaps got a little carried away when he wrote in his *Écrivains français en Hollande dans la première moitié du XVIIe siècle* (1920) that Reneri defended "the revolutionary

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<sup>10</sup> Brucker, *Historia critica philosophiae*, 5:218. Monchamp, in *Cartésianisme en Belgique*, 39-40, 122, and Van Slee, in *Illustre School*, 109, follow Brucker in this and also adopt the image of Reneri as the discrete Cartesian.

<sup>11</sup> Domela Nieuwenhuis, *Commentatio de Renati Cartesii commercio*, 19, 77.

<sup>12</sup> Duker, *School-gezag en eigen-onderzoek*, 54-65.

<sup>13</sup> NNBW, 2:1191-93.

<sup>14</sup> De Vrijer, *Henricus Regius*, 22-25.

theory of incipient Cartesianism” at Utrecht,<sup>15</sup> but his claim is supported by a letter, uncovered by Paul Tannery in 1899,<sup>16</sup> from Claude Saumaise (1588-1653) to Ismael Boulliaud (1605-1694). In this letter Saumaise says that Reneri publicly taught the *Discours de la méthode*.<sup>17</sup>

Joseph Bastin (1870-1939), a Belgian priest from the region of Liège, was the first to write an article entirely dedicated to Reneri under the title of “Henri Reneri, de Huy. L’ami et le premier disciple de Descartes” (1924/26). This article is not widely known, since it was published in the journal of the local scientific society, the *Annales du Cercle Hutois des Sciences et Beaux-Arts*. Bastin still characterizes Reneri as a half-hearted Aristotelian who was reluctant to openly teach Cartesianism. He also refers to an unknown source, namely, a letter from Johann Heinrich Bisterfeld (1605-1655) to Reneri.<sup>18</sup> It came from a manuscript collection of a Huy priest he knew,<sup>19</sup> but this letter is now lost. There is hence a possibility that this collection contained more letters now lost.

In his *Henricus Renerius, de eerste ‘Cartesiaansche’ hoogleraar te Utrecht* (1941), the historian of philosophy Ferdinand Sassen (1894-1971) did away with the image of Reneri as a Cartesian. For him, the Aristotelian character of the inaugural address was no facade, but reason to conclude that Reneri was in fact an Aristotelian. Reneri’s orientation towards practical use and his call for the independent investigation of nature could be Descartes’ influence, but these ideas were common at that time, as Sassen continues. With respect to this, Sassen observed that all Aemilius says in his funeral oration is that Reneri did independent research with the encouragement of Descartes, which, according to him, does not entail any methodical or doctrinal influence from Descartes. Furthermore, the address shows no specific Cartesian influences nor would there be any evidence to assume that Reneri taught Cartesian physics or followed Descartes’ method in his classes at Utrecht—or at Deventer, for that matter. Since, apart from the inaugural address, Sassen had no other writings, he assumed that Reneri taught what he proposed in the address. Sassen even wondered if Reneri knew any of the works Descartes had worked on before 1634, that is, the *Regulae*, *Le Monde*, and the *Méditationes*. According to him, Reneri only later became aware of Descartes’ method and, under the latter’s

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<sup>15</sup> Cohen, *Écrivains français*, 498: “[...] les théories révolutionnaires du Cartésianisme naissant [...]”

<sup>16</sup> AT, 10:556.

<sup>17</sup> Saumaise to Boulliaud, 7 March 1638, in AT, 10:557: “[...] son livre se lit publiquement en l’Academie d’Utrecht par un professeur en philosophie nommé Reyneri.”

<sup>18</sup> Bisterfeld to Reneri, 4 April 1628. See Bastin, “Henri Reneri,” 255.

<sup>19</sup> See Appendix 1, p. 241 n. 1007.

influence, applied himself to mathematics, but then still Reneri's interest would have concerned Descartes' natural philosophy, unconnected to any interest in his method or metaphysics. Reneri's reading from the *Discours* would have involved the three accompanying *Essais*, but not the *Discours* itself. By getting Regius appointed at Utrecht, Reneri aided the development of Cartesianism, without himself being a supporter of Cartesian philosophy. According to Sassen, therefore, the history of Cartesianism begins with Regius—Reneri must not be called a Cartesian.

The French historian of philosophy Paul Dibon (1915-1995), in his Leiden dissertation *L'enseignement philosophique dans les universités néerlandaises à l'époque pré-cartésienne (1575-1650)* (1954), concurs with Sassen that the only potentially Cartesian element in Reneri's address is the call for free philosophizing, but that it does not contain any elements that are unmistakably Cartesian. Due to humanist influences Reneri's address would be eclectic, but in no way Cartesian. According to Dibon, therefore, Reneri was not even an early representative of the eclectic Cartesianism that would emerge later during that century, the *philosophia novantiqua*. His address rather shows Baconian influences. Furthermore, Reneri apparently had wanted to draw the students' attention to the *Essais*, but this is not irreconcilable with an Aristotelian worldview. Dibon concludes that Reneri evidently admired Descartes and had a sincere affection for him, but that their relation was not that of a student and his master, but that of two searchers for truth.<sup>20</sup>

In his *Cartesianism in the Netherlands, 1639-1676* (1976) Thomas McGahagan further qualifies this. He agrees that there is no reason to assume that Reneri's praise of Aristotle in his address was insincere. However, his Aristotelianism was not that of the scholastics, but that of the humanists. Although Reneri never challenged the position of Aristotle, he would have wanted to break with scholasticism. McGahagan, furthermore, characterizes Reneri as a representative of the "empiricist, eclectic 'New Science' interpretation of Cartesianism," which saw Descartes as yet another representative of the tradition of the free investigation of nature.<sup>21</sup>

In the second half of the 1950s, Dibon uncovered in the Bibliothek des Evangelischen Theologischen Seminars in Herborn seven disputations defended under Reneri in 1635.<sup>22</sup> These disputations led Theo Verbeek to conclude, in various articles he wrote about Reneri, that Reneri problematized

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<sup>20</sup> Dibon, *L'enseignement philosophique*, 197-203.

<sup>21</sup> McGahagan, *Cartesianism in the Netherlands*, 10-11, 130-32.

<sup>22</sup> Dibon, *Le fonds néerlandais*, 106.

Aristotelian concepts, but nevertheless maintained them. Reneri introduced some innovations within the Aristotelian system, the result of which is neither fully Aristotelian nor specifically Cartesian. Whilst Descartes was a revolutionary, Reneri was a reformist. Moreover, apart from Baconian influences, Verbeek distinguishes Ramist influences. The influence of Descartes is only “insignificant and confused.” Verbeek concurs with Sassen and Dibon that Reneri, although he read from the *Discours*, did no effort to defend Descartes’ metaphysics. Verbeek instead stresses the friendship between the two men. Reneri would have prompted Descartes to work by asking him for explanations of various natural phenomena, providing him with a quiet environment to write, and encouraging him to publish. Furthermore, Descartes would have met influential friends through Reneri’s extensive network among aristocrats and intellectuals.<sup>23</sup>

### Unresolved Questions

It is evident that Reneri played an important role in the early history of Cartesianism, more particularly in the spread of Descartes’ ideas, but it is far from clear what this role was exactly. First, as to what Reneri taught at Utrecht, Verbeek seems to have the last word, but his conclusion is not completely satisfactory either. It is hard to believe that the lessons of such a staunch supporter of Descartes’ philosophy would not show any Cartesian influences at all. And it is equally difficult to understand that someone who admired Descartes so much would have had no interest in his method and metaphysics. What is the significance of Reneri’s teaching of the *Discours* in his public lessons? Was it really limited to the *Essais*? Was it incidental? Or would the content of Reneri’s classes have fundamentally changed over the years? After all, the disputations Verbeek knew are all from 1635, whereas the *Discours* was published two years later.

Second, the personal relationship between Reneri and Descartes calls for further research. What made Descartes follow Reneri to Deventer and Utrecht? Would the early publication history of Descartes’ works have been different if Reneri had not been there as an encouraging factor and, vice versa, would Reneri’s academic publications have been any different from what they are now? And did Reneri indeed play an important role in the formation of Descartes’ network in the Republic, as Verbeek claims? Fact is that Reneri and

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<sup>23</sup> Verbeek, *Descartes and the Dutch*, 96-97; id., *Henricus Reneri*; id., *Une université pas encore corrompue*, 8-11/26-29; DDP, 2:824-26.

Descartes knew many of the same people, but in most cases it is not known who introduced whom.

Third, no complete picture of Reneri exists. It is not known, for instance, who constituted Reneri's network and what his relation to these people was exactly. Nor had Reneri's ideas on method and science, if not Cartesian, and the role he attributed to experiments ever been analyzed in detail. The existing studies only single out certain aspects and they do not make use of all the sources available.

### **New Source Material**

Admittedly, so far the sources on Reneri are relatively scarce and for certain questions plainly insufficient. However, new material I uncovered over the past years allows for a more thorough investigation of Reneri's life and work. This new material concerns, first of all, five previously unknown disputations from the years 1635-38.<sup>24</sup> This discovery not only brings the total of Utrecht disputations to twelve—no disputations survive from the three years Reneri taught at Deventer—but also gives an insight into what Reneri taught during the later years of his professorship. The subject matter of some of these later disputations is especially interesting with regard to Reneri's possible role in the teaching of Descartes' views at Utrecht as well as that of Regius, given the fact that they cover meteors and physiology. A disputation on the vacuum defended by a pupil of Reneri under the Leiden professor of philosophy Franco Burgersdijk (1590-1635) at Leiden in 1631, but which suggests Reneri's involvement, allows us an insight into Reneri's early philosophical ideas, when he did not yet know Descartes that long.

The search for unknown letters on the whole proved somewhat disappointing, but I still uncovered four, among which three letters exchanged between Reneri and the municipality of Deventer. To Erik-Jan Bos I owe knowledge of a letter from Reneri to Huygens kept in the university library of Uppsala. He also brought the existence of the auction catalogue of Reneri's library to my attention.<sup>25</sup>

Extensive research in the archives of Leuven University and the town and church archives of Leiden, Amsterdam, Deventer, and Utrecht yielded new sources and data, which enabled me to fill in important gaps in Reneri's life.

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<sup>24</sup> See Appendix 2.

<sup>25</sup> The auction catalogue mentions various manuscripts ("verscheyde geschreven Boecken"), but these are lost. See *Catalogus librorum Reneri*, [38].



Finally, Reneri's name was already mentioned in connection with the Hartlib circle, the European network around the 'pansophist' Samuel Hartlib (ca. 1600-1662), in George Turnbull's *Hartlib, Dury and Comenius* (1947). The Hartlib Papers were, however, never systematically scanned for Reneri. This has been facilitated by the digitalisation of this manuscript collection in 1995. The Hartlib Papers not only provide many details about Reneri's contacts with several members of this circle, but also include two manuscript copies of an unknown letter from Reneri to an unidentified correspondent.<sup>26</sup>

### **Reneri and the Study of Descartes and Cartesianism**

Reneri's relationship with Descartes and the way he promoted Cartesian philosophy at Utrecht—and perhaps even earlier—are blind spots in Descartes scholarship. By obtaining a clearer and more complete picture of Reneri as a person, his ideas, and his relation to Descartes, we better understand some of the choices Descartes made during the first ten years of his stay in the Republic concerning his place of residence, his friends, and the subjects he wrote about. Furthermore, it shows how, through Reneri, Cartesianism spread among its first followers.

On the basis of newly uncovered sources I claim that Reneri tried out Cartesian explanations in his classes on natural philosophy; that initially he mixed them with Aristotelian doctrine, but grew increasingly confident; and that after the publication of the *Discours* he started to teach more outspoken Cartesian views. Furthermore, thanks to the way he encouraged his friend Descartes and to his large network, Reneri made a small but important contribution to Descartes' stay in the Republic and the spread of his philosophy. My project is part of the larger NWO-project "Descartes and his Network," which further involves a new critical edition of Descartes' correspondence produced by Verbeek and Bos. Through Descartes' voluminous correspondence the size and composition of Descartes' network become clear. My dissertation provides insight into the initial formation stage of the Dutch part of this network and also into Reneri, during the 1630s one of its most important members.

### **Dissertation Structure**

This study brings together all the available source material on Reneri. On the basis of this, I provide a survey of his life and work, focusing more particularly on his relation to Descartes. I concentrate on four topics: Reneri's life, his

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<sup>26</sup> See Appendix 4.

philosophical and scientific views, his social and intellectual network, and his personal relationship with Descartes. My dissertation is organized as follows:

Chapters 1 and 2 are strictly biographical. They provide an overview of Reneri's life, but also function as a framework for the other chapters. To this purpose, I briefly indicate when Reneri met certain persons and what experiments and inventions he was working on during certain periods. This is further elaborated in the following chapters. Chapter 1 covers Reneri's formative years as a student of philosophy, theology, and medicine, his life-determining conversion to Calvinism and flight to the Republic, his work as a tutor in prominent patrician families, and his various unsuccessful attempts to become appointed as professor of philosophy. Chapter 2 covers the last eight years of his life, when he worked as a professor of philosophy at Deventer and Utrecht. This was what he had attempted for so long and what allowed him to try out his reformist philosophical ideas. This period also includes the years of close contact with Descartes.

In Chapter 3 I investigate how Reneri built a network of relations which helped him to settle down. He arrived in the Republic as an impoverished foreigner without any connections, but he died as a professor of philosophy at a prestigious university, leaving a wife taken from the Utrecht regent patriciate. The group of friends and patrons Reneri gathered around him was his social capital. They financially supported him, helped him to find a position, and gave him access to higher social circles. I show who constituted this network, how Reneri met them, and how they helped Reneri.

With Chapter 4 we enter the domain of philosophy. This chapter deals with Reneri's views on the use of observation and experiment. In the first part I discuss the nature and purpose of the experiments Reneri carried out and the instruments he constructed. The second part provides an analysis of Reneri's inaugural address, which presents a programme for the renovation of philosophy, and of a disputation about the nature and constitution of physics. In both publications Reneri discusses an empirical method. I examine the roles observation and experiment have according to Reneri in the investigation of nature and how this relates to Bacon's method of science and that of Descartes.

In Chapter 5 I look into the eleven other disputations defended under Reneri's supervision, which must have been representative of his general teaching. Some of these disputations correct traditional doctrine in a way which seems to point in the direction of Descartes. In this chapter, I try to explain why Reneri specifically chose to correct those elements, identify his sources, reconstruct his own natural philosophy, and answer the question if

Reneri can be called a crypto-Cartesian. I also discuss the disputation defended under Burgersdijk, which shows some of the same features.

In Chapter 6 Reneri's international scholarly network is examined. Reneri was not only in contact with 'amateur' scholars and academics in the Republic, but also with members of the Republic of Letters throughout Europe: the Hartlib circle, Gassendi, and Mersenne. In this chapter, I investigate Reneri's scholarly contacts, what knowledge Reneri exchanged with them, and why the Hartlib circle was so interested in his method of logic.

In Chapter 7, the final chapter, many of the lines set out in the previous chapters come together. This chapter is about Reneri's relation to Descartes. I first try to answer what they had to offer each other and what made their friendship work. Furthermore, I investigate what role Reneri had in the formation of Descartes' network in the Republic and whether Reneri, for his part, benefited from Descartes' network as well. Finally, Reneri's role in spreading Descartes' ideas among his students and friends is examined.

In the Conclusion I try to assess Reneri's relation to Descartes as well as his own place in the history of philosophy. Is Reneri rightly primarily remembered in relation to Descartes or does he deserve a more prominent place of his own?

### **Spelling, References, and Dates**

In the early modern period the spelling of names was not consistent. One finds not only spelling variants, such as "Reneri" besides "Reyneri," and "van der Nypoort" besides "van Nipoort," but also the vernacular besides the Latinised form of names, for instance, "Descartes" besides "Cartesius" and "Dury" besides "Duraeus." I use the form by which they are known in literature. Only in translations of quotes I keep the variant used in the original.

As to manuscripts, I remained as close to the manuscript text as possible, but to enhance legibility I made the use of initial capital letters consistent, added punctuation where necessary, and tacitly corrected obvious spelling and grammatical errors. In French texts I normalized ij/y according to contemporary French orthography. In both Latin and French texts I normalized u/v according to their phonetic value.

In Appendix 1 I provide a complete overview of Reneri's correspondence and contributions to *alba amicorum* (with their shelf marks and, if relevant, publication details). In the text letters sent by or to Reneri are referred to by date and correspondent; his contributions to the albums are referred to by album owner. In the one case that there are two letters by the same author to the same addressee of the same date, they are distinguished by (a) and (b).

From 1631 to 1639 Reneri lived in Deventer and Utrecht. Both towns were located in parts of the Republic that had not yet adopted the Gregorian calendar (which was ten days ahead of the Julian calendar previously in use). As a result, letters and documents from these towns were dated according to the Julian calendar. I follow the dates given in these letters and documents and do not convert them into their Gregorian equivalents. Sometimes both dates are given, for instance, 4/14 April; or OS (i.e., Old Style, or according to the Julian calendar) and NS (i.e., New Style, or according to the Gregorian calendar) are added. I keep these ways of notation.

For letters sent by or to Descartes I follow, in the absence of a dependable critical edition of Descartes' correspondence, the dates given in AT, except for the letters exchanged with Regius and one letter from Aemilius to Descartes. For these letters I follow Bos' *The Correspondence between Descartes and Henricus Regius* (2002).

# Chapter 1

## Biography I: A Promising Philosopher

### 1.1. Birth and Early Youth (1593-1611)

Reneri was born as Henri Renier<sup>27</sup> between 1 January and 15 March 1593<sup>28</sup> in the Walloon town of Huy, which at that time was part of the Prince-Bishopric of Liège. Reneri's father, a merchant, was treasurer of the chapter of the collegiate church of Notre-Dame at Huy. His grandfather had been tutor to Alexander Farnese (1545-1592), son of Margaret of Parma (1522-1586), at the court of Brussels.<sup>29</sup>

After his primary education at Huy, Reneri went to Liège for a secondary education,<sup>30</sup> probably at the Jesuit College.<sup>31</sup>

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<sup>27</sup> This is how his name is written in the membership records of the Walloon church in Leiden, RAL, 535, inv. no. 16, fol. 30v. Other variants are: Regneri, Reignerij, Regnerij, Renerius, Reinerius, Reijnerius, Renerus, Regnerius, Reinerus, Reignerus, Reineri, Rénery, Reyner, Reyneri, Renery, Regnier, Régnier, Reijnery, Reinerie, Reiniersz, Reynierszn, Reinier, Renner, Rener.

<sup>28</sup> The date of birth must be deduced from Reneri's enrolment at Leiden University on 15 March 1616, at which time he was 23 years old. See *Album stud. Acad. Lugd.-Bat.*, col. 123.

<sup>29</sup> Aemilius, *Oratio in obitum Renerii*, 5. Aemilius does not mention the name of Reneri's grandfather—which is not necessarily Renier, given the fact that this is most likely a patronymic. Sources on life at the court of Brussels do not reveal much about Alexander's educators either. In his extended biography on Alexander, Léon van der Essen mentions several tutors by name. These were Italian noblemen, but their names do not give any further clues. See Van der Essen, *Alexandre Farnèse*, 1:21-26.

<sup>30</sup> Aemilius, *Oratio in obitum Renerii*, 3.

<sup>31</sup> Bastin, "Henri Reneri," 251. See also Daris, "Séminaires," 308. On Jesuit secondary education, see Poncelet, *Compagnie de Jésus*, 2:3-113.

## 1.2. Liberal Arts Studies at Leuven (1611-1613)

### 1.2.1. *The College of the Falcon*

The matriculation records of Leuven University from the period Reneri studied at its faculty of arts do not survive,<sup>32</sup> but from the dates Reneri took his examinations we can infer that Reneri matriculated in September 1611.

To be admitted to the higher faculties (that is, the faculties of theology, medicine, and law) Leuven students were required to complete the two-year arts course and obtain a master's degree. Dispensation was given only very exceptionally.<sup>33</sup> All arts students were spread over four *paedagogia* (colleges). They were known as the Pig, the Falcon, the Lily, and the Castle, named after the buildings in which they were accommodated. In these colleges students not only received board and lodging, as was usual in all Leuven colleges, but also attended classes—and their professors lived there too. Each college had several classrooms and a library, mostly built from gifts by professors and alumni. Reneri attended the College of the Falcon (*Paedagogium Falconis*) on the Hoelstraat (now Tiensestraat). Antonius Vossius (d. 1629) was regent of the Falcon when Reneri studied there.<sup>34</sup>

The reason why Reneri went to the Falcon is not known. Maybe he obtained one of the four scholarships founded by Otto Posthouwer (d. 1610), canon of the collegiate church of Notre-Dame in Huy.<sup>35</sup>

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<sup>32</sup> The archives of the so-called Old University (1425-1797) show many lacunae. For the period 1611-16, essential documents, like the *Liber intitulatorum* (the matriculation records), the treasurer's accounts of the revenues from matriculations, academic examinations and master's graduations, and the lists of students of the College of the Falcon are lacking. See De Vocht, *Inventaire*.

<sup>33</sup> Van der Essen, *Université de Louvain*, 232.

<sup>34</sup> Reusens, *Documents*, 4:373.

<sup>35</sup> Each college had a number of scholarships, the founders of which were often former professors. This was also the case with Posthouwer, who had been professor at the Falcon from 1554 to 1571. In his will he stated that out of his fortune four scholarships had to be founded, two of which were reserved to close relatives, "the other, however, for choir boys of the collegiate church of Huy or assistants to the priest of that church who are known as such and have not feigned or pretended, and have meritoriously served in it for at least 3 years." ("[...] alia vero pro choralibus ecclesiae collegiatae Huensis, vel notorijs, et non fictis aut ementitis dictae ecclesiae ministris, qui in ea ad minus 3 annis laudabiliter ministraverunt.") The scholarship covered the costs of the arts studies up to the licentiate, which had to be taken at the Falcon, as well as the baccalaureate in theology. Reneri's name cannot be found in the archives of the Posthouwer scholarship foundation, but it only mentions few bursars anyway. See

### 1.2.2. *The Philosophy Curriculum at Leuven*

The two-year study programme included a complete philosophy course. It started with nine months of logic, continued with eight months of physics, and finished with four months of metaphysics. Apart from these subjects, there were lessons in rhetoric, ethics, and mathematics (mainly arithmetic and astronomy—geometry and music were not a regular part of the curriculum). To be admitted, students were required to have basic knowledge of dialectics.<sup>36</sup>

The texts on which teaching was based were primarily Aristotle's. According to the statutes of 1567-68, "Masters and students are bound to defend Aristotle's doctrine except where it is contrary to our faith."<sup>37</sup> Among the required books figure Porphyry's *Isagoge* (3rd century), which was an introduction to Aristotle's *Categoriae*, Peter of Spain's *Summulae logicales* (13th century), Boethius' *De Arithmetica* (6th century), and Johannes de Sacrobosco's *De sphaera* (13th century).<sup>38</sup> Modern compendia, mostly written by Leuven professors, were also used. Very popular during the second half of the sixteenth century and shortly after the turn of the century were the *Tabulae totius dialectices* (1545) by Cornelius Valerius (1512-1578). Valerius was influenced by the rhetorical dialectic of Rudolphus Agricola (1443-1485) and sympathized with Peter Ramus (1515-1572).<sup>39</sup> Another popular commentary on Aristotle's *Organon* was Augustinus Hunnaeus' (1522-1578) *Dialectica, seu generalia logices praecepta omnia* (1551). A commentary on Aristotle's *libri naturales* used in the faculty of arts was Joannes Beverus' (1515-1563) *In Aristotelis de rebus naturalibus libros brevis ac dilucidus commentarius* (1567). It was published by his students on the basis of their lecture notes. Use of compendia was promoted in order to assure uniformity of doctrine and purity of language, as well as to relieve students from copying. Teaching in the four colleges thus showed great similarities, although differences could occur because of differences in the professors' interests.<sup>40</sup> The Aristotle commentaries kept in

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Archives of the Posthouwer scholarship foundation, RL 682, inv. no. 1399; Tarlier, *Bourses d'études*, 220-21; Reusens, *Documents*, 4:401-2, 439.

<sup>36</sup> Paquet, "Statuts," 233.

<sup>37</sup> Ibid., 234: "Magistri et scolares defendere teneantur doctrinam Aristotelis nisi ubi ea fidei nostre repugnaverit."

<sup>38</sup> Ibid., 233-34. See also Vandeborgh, *Paedagogium Falconis*, 121-24; Vanpaemel, *Echo's van een wetenschappelijke revolutie*, 39-43.

<sup>39</sup> Kuiper, *Cornelius Valerius*, 47-50.

<sup>40</sup> Hinderyckx, *Van vicus artium tot nieuwbouw*, 60-65.

the small Falcon library were for the most part written by Jesuit scholastic authors like Franciscus Toletus (1532-1596), Francisco Suárez (1548-1617), and the *Conimbricenses*.<sup>41</sup>

The colleges often recruited their professors from their own graduates. This could give rise to a particular educational tradition. The Falcon became renowned for its scientific tradition, which began with Libertus Fromondus (1587-1653). Fromondus graduated from the Falcon in 1606. From 1609 to 1614 he taught rhetoric, and thereafter philosophy, at the Falcon, where he met Reneri.<sup>42</sup> Fromondus was very interested in astronomy and telescopic observations. In his younger years he sympathized with Copernicanism, but this changed after the papal decree of 1616 condemning the heliocentric theory.<sup>43</sup> The Falcon also produced Willem van Gutschoven (1618?-1667), one of the first defenders of Cartesianism at Leuven.<sup>44</sup>

The Leuven arts programme was very intensive and competitive. Two resident professors, who were assigned to a class for the full duration of the course, the *primarius* and the *secundarius*, gave instruction in logic, physics, and metaphysics. The *primarius* of Reneri's class was Nicolaus Bardoul (d. 1645).<sup>45</sup> The *secundarius* was either Guilielmus Bolognino (1590-1669)<sup>46</sup> or Joannes van der Gauwen (d. 1626/27).<sup>47</sup> Ethics, rhetoric, and mathematics were taught in the *Vicus Artium* (Arts Quarter), the main building of the faculty of arts on the Nieuwstraat, now Leopold Vanderkelenstraat. Disputations, examinations, and graduations also took place there.<sup>48</sup>

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<sup>41</sup> According to an inventory of 29 September 1609, the Falcon library contained no more than eighteen titles on theology, philosophy, language and literature, law, and ecclesiastical history. See Wauters, *Bibliotheken*, 29-32, 146.

<sup>42</sup> Fromondus to Plemp, 13 September 1637, in AT, 1:408-9. See below, p. 210.

<sup>43</sup> On Fromondus, see Reusens, *Documents*, 4:407-8; Monchamp, *Cartésianisme en Belgique*, passim; BN, 17:312-17.

<sup>44</sup> On Van Gutschoven, see Monchamp, *Cartésianisme en Belgique*, 295-97. Willem van Gutschoven is not to be confused with his more famous Cartesian brother Gerard van Gutschoven (1615-1668). See also Vanpaemel, "Cartesianism in the Southern Netherlands," esp. 222.

<sup>45</sup> On Bardoul, see Reusens, *Documents*, 4:407; Bots, Matthey, and Meyer, *Noordbrabantse studenten*, 167.

<sup>46</sup> On Bolognino, see BN, 2:655-56; Reusens, *Documents*, 4:408.

<sup>47</sup> On Van der Gauwen, see Reusens, *Documents*, 4:408; NNBW, 6:544-45.

<sup>48</sup> Van der Essen, *Université de Louvain*, 231-41; Vanpaemel, *Echo's van een wetenschappelijke revolutie*, 19-23.



Within four months after they began their studies students took their first examination, the *actus determinantiae*. Reneri took it on 27 January 1612.<sup>49</sup> The examination involved answering questions from their professors regarding philosophical theses.<sup>50</sup> At the beginning of the second year the students had to take an examination to obtain the baccalaureate, which involved an oral examination on the subject matter of the first year. The actual baccalaureate graduation took place in the third trimester of the second year, after a formal examination and a disputation.<sup>51</sup>

The arts studies were completed with the licentiate, which took the form of a contest. For the duration of three months, from July to September, students were prepared for the examination by the *secundarius* through individual revision sessions and practical exercises, and by defending theses under the *primarius*. Next, they were subjected to a double written examination, the *calamus*, which began on 17 September. After the first examination, the best three students of each college were selected. Together they formed the *prima linea*: the twelve best students of the faculty of arts. Likewise a second and a third line were formed. Finally, within each line the final ranking order was determined by a second examination (which the rest of the students took as well). The student who occupied the first position of the *prima linea* was publicly honoured as *primus*—this distinction reflected well on his college. Reneri, who obtained his licentiate on 14 November 1613, became third of the *prima linea* out of a total of 158 students.<sup>52</sup>

On 2 October 1613 Reneri took the *actus birretationis*,<sup>53</sup> the examination to obtain his master's degree. This examination also involved defending theses. The actual graduation was a mere formality.<sup>54</sup>

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<sup>49</sup> Proceedings of the faculty of arts, RL 682, inv. no. 714, fol. 510r.

<sup>50</sup> Paquet, "Statuts," 239.

<sup>51</sup> Vanpaemel, *Echo's van een wetenschappelijke revolutie*, 33.

<sup>52</sup> Proceedings of the faculty of arts, RL 682, inv. no. 715, fol. 3v; list of graduates of the faculty of arts 1500-1659, RL 682, inv. no. 811/1. In *Oratio in obitum Renerii*, 3-4, Aemilius not only (erroneously) writes that Reneri held the second position, but he also claims Reneri could have been first if there had not been a student who had been given preference due to his nobility. There could be some truth in this latter claim, since students of noble birth were indeed shown favour above others. See Lamberts and Roegiers, *Universiteit te Leuven*, 73. Furthermore, the second position was held by the English nobleman Edward Butler, a student of the Pig. Reneri must have told Aemilius about this course of events, but the latter may not have remembered it correctly—or Reneri had lied to Aemilius.

<sup>53</sup> Proceedings of the faculty of arts, RL 682, inv. no. 715, fol. 5v.

### 1.3. The Great Seminary in Liège (1613-1615/16)

On 26 September 1613, even before he obtained his licentiate, Reneri enrolled at the Great Seminary in Liège.<sup>55</sup> He took an oath to obey the rules of the seminary, not to leave the bishopric without permission of the bishop and the administrators, and to be ordained and eventually to serve in the parish to which he was assigned. The penalty for breaking this oath consisted in repaying the money the seminary had spent on him.<sup>56</sup>

Given his excellent study results, it is remarkable that Reneri went to Liège to study theology. If he wanted to become a priest he could as well have continued his studies at Leuven. Moreover, as third of the *prima linea* of 1613, it would not have been difficult for Reneri to obtain a scholarship. On the other hand, many parents sent their children to Liège to protect them from the, in their view, immoral environment of student life at university.<sup>57</sup>

The regime at the Great Seminary was very strict.<sup>58</sup> The new seminarists' books were examined and approval was needed to bring a new book into the seminary. Books figuring on the Index were burnt immediately.<sup>59</sup> The seminarists had little time for diversion. On a daily basis they were instructed in Biblical exegesis, and dogmatic and moral theology. In addition to this, they received practical instruction in the use of the church calendar, the liturgical rites and ceremonies, and singing. During lunch and supper there were readings in ecclesiastical history, and every week there were disputations. On top of all this, they had to practise preaching. The complete course took four years.<sup>60</sup> Assuming that Reneri made normal progress, he must have received minor orders and become subdeacon during his first year.<sup>61</sup>

According to Aemilius, who delivered the funeral oration when Reneri died, at a certain moment Reneri “stumbled upon” a copy of Calvin’s *Institutes*—one wonders where and how Reneri obtained this work, given the

<sup>54</sup> Paquet, “Statuts,” 255-56.

<sup>55</sup> Delville, *Grand Séminaire de Liège*, 51. For a list of seminarists from 1592 to 1620, see *ibid.*, 43-57.

<sup>56</sup> Grandsard, “Grand Séminaire de Liège,” 113.

<sup>57</sup> *Ibid.*, 154.

<sup>58</sup> On daily life at the Great Seminary, see Grandsard, “Grand Séminaire de Liège,” 164-77.

<sup>59</sup> *Ibid.*, 170.

<sup>60</sup> Delville, *Grand Séminaire de Liège*, 29-32.

<sup>61</sup> *Ibid.*, 38.

seminary's strict regime. Reneri read it and became a Calvinist.<sup>62</sup> During the winter of 1615/16,<sup>63</sup> after more than two years at the seminary, Reneri broke off his studies and went to Leiden in the Republic, reportedly to avoid his father's anger.<sup>64</sup> A more likely reason is that he fled for persecution. In the Prince-Bishopric of Liège heresy was forcefully and systematically repressed.<sup>65</sup>

#### 1.4. The Walloon College in Leiden (1616-1621)

##### 1.4.1. Application

On 15 March 1616, at the age of 23, Reneri matriculated in theology at Leiden University. Deprived of any financial means, he was exempted from paying the matriculation fee (the *album studiosorum* says he was "gratis inscriptus").<sup>66</sup> At first Reneri lived in Cameryck on the Nonnensteeg, probably a boarding house. Half a year later, in September, he became bursar at the Walloon College (*Collegium Gallo-Belgicum*) on the Groenhazengracht. The Walloon College accommodated students planning to become a minister in the Walloon Church, the collective of francophone Calvinist churches in the Republic. The Walloon Church not only provided services and pastoral care for people who had come from the Spanish Low Countries and France, but it also sent ministers to the clandestine Protestant congregations in Antwerp, Southern Flanders, and Cologne. In 1606 it founded the Walloon College after the example of the Leiden States College. A college not only reduced the costs of living, but also allowed the Church to keep an eye on the students. It was further believed to strengthen the bond between the Walloon Church and the bursars, and to prevent these from going over to the Dutch Reformed Church.<sup>67</sup>

In May 1616, two months after his matriculation, the Synod of the Walloon Church granted Reneri a single payment of 60 guilders to support him during

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<sup>62</sup> Aemilius, *Oratio in obitum Renerii*, 4.

<sup>63</sup> Reneri was still present at the seminary on 9 November 1615. See Delville, *Grand Séminaire de Liège*, 51. His name appears in the matriculation records of Leiden University of 15 February 1616. See *Album stud. Acad. Lugd.-Bat.*, col. 123.

<sup>64</sup> Aemilius, *Oratio in obitum Renerii*, 4.

<sup>65</sup> Briels, *Zuid-Nederlanders*, 95.

<sup>66</sup> Matriculation records, UBL, ASF 7, 328/*Album stud. Acad. Lugd.-Bat.*, col. 123. (Unlike the printed *album studiosorum*, the matriculation records (*Volumina inscriptionum*) in the archives of Leiden University provide the addresses of the students at the moment of enrolment.) The resolutions of the faculty of theology only begin in the year 1751. See Hardenberg, *Archieven*, 18.

<sup>67</sup> Posthumus Meyjes, *Waalse College*, 9-23.

his further studies.<sup>68</sup> Reneri then applied for a full scholarship as bursar at the Walloon College. To qualify for a scholarship the applicant was examined on his intellectual qualities, morality, knowledge of languages, and his usefulness for the Walloon Church.<sup>69</sup> In September 1616 Reneri appeared before the Walloon Synod held in Amsterdam, where he was examined and delivered a test sermon (*proposition*). The assembly was satisfied with the progress he had made and Reneri was admitted to the Walloon College for the usual probationary half-year. He received a single payment of 15 Flemish pounds (which had the value of 90 guilders), which he would have to repay in case of dismissal.<sup>70</sup> John Dury (1596-1680), who became Reneri's friend, was admitted during the same meeting.

#### ***1.4.2. The Curriculum at the Walloon College***

The course had to be completed within five years, beginning after the half-year's probation. The study programme does not survive, but a brief entry in the *Livre des actes* of 1610 provides a general idea. In their first year students took introductory classes in logic, rhetoric, ethics, and Greek. The year was closed with an examination before the Synod. The second year was devoted to the study of Hebrew and the Genevan Catechism, as well as to advanced classes in philosophy, which were taken at university. The second year was closed with an examination as well. It was not until the third and fourth years

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<sup>68</sup> Resolutions of the Walloon Synod held in Middelburg, 11-15 May 1616, *Livre des actes*, 145; expense accounts for the Walloon bursars, UBL, AW 435, May 1616. Reneri was registered as a member of the Walloon church in Leiden in June 1616. See the membership records of the Walloon church in Leiden, RAL, 535, inv. no. 16, fol. 30v.

<sup>69</sup> The statutes of the Walloon College, which contain regulations concerning the office of regent, the lodging and care for the students, the inspection of the college, and the rules to which the students were subjected, do not mention any admission requirements. Because the Walloon Church had awarded scholarships from the beginning, the admission requirements were already made up in various synod meetings and laid down in the *Livre des actes*. A recapitulation can be found in the resolutions of the Walloon *classe* meeting held in Leiden, 6 July 1622, *Livre des actes*, 217-19.

<sup>70</sup> Resolutions of the Walloon Synod held in Amsterdam, 7-10 September 1616, *Livre synodal*, 1:252; expense accounts for the Walloon bursars, UBL, AW 435, September 1616. To meet travel expenses Reneri received 8 guilders. See the resolutions of the Walloon Synod held in Amsterdam, 7-10 September 1616, *Livre des actes*, 150; expense accounts for the Walloon bursars, UBL, AW 435, September 1616.

that students took lessons in theology proper at university.<sup>71</sup> The languages spoken at the Walloon College were Latin and French. All classes were taught in Latin, whereas Bible reading was in French, as were the practical classes, which were given in the Vrouwekerk on the Haarlemmerstraat, the church used by the Walloons. In the entire course of their studies students had to hold two disputations, one in philosophy and the other in theology. After at least four years they took the preparatory examination before the Synod. The examination for admittance to the ministry completed their studies. In between these two examinations, many students went to France for a longer period of time to practise their French.<sup>72</sup>

The regent devised an individual study programme for each student. He himself taught the introductory classes in philosophy and made the students thoroughly familiar with the confession of faith and the catechism. Regent of the Walloon College while Reneri studied there was Daniel Colonius (1566-1635), who also served as a minister in one of the Dutch Reformed churches in Leiden. He was described as calm, averse from extremism, conciliatory, and practical. He introduced his students to a humanist type of Calvinism, which was above all directed at everyday church practice.<sup>73</sup>

Given the fact that Reneri already completed a philosophical course at Leuven, he may have been exempted from some of the classes in philosophy—as at Leuven, the basis of the curriculum at Leiden was a purified and simplified Aristotelianism, in the tradition of humanism and late scholasticism. If so, this gave Reneri more time for the classes in theology, which would explain why Reneri held his mandatory theological disputation a year ahead.<sup>74</sup>

Advanced classes in philosophy Reneri would have taken at university.<sup>75</sup> Until the end of the academic year 1611/17 logic was taught by the Scotsman Gilbertus Jacchaeus (ca. 1578-1628).<sup>76</sup> On 8 August 1617 Jacchaeus obtained the chair of physics.<sup>77</sup> Caspar Barlaeus (1584-1648) was appointed as his successor.

<sup>71</sup> Resolutions of the *classe* meeting held in Leiden, 28 April 1610, *Livre des actes*, 74.

<sup>72</sup> Posthumus Meyjes, *Waalse College*, 40-41.

<sup>73</sup> On Colonius, see Posthumus Meyjes, *Waalse College*, 50-56; Hoek, *Daniël Colonius*; BLGNP, 1:59-60.

<sup>74</sup> Reneri's reference to this disputation as his "first fruits" (*primitiae*) in theology shows that it indeed was his first theological disputation. See Polyander, *De precatone*, [2]. See also below, pp. 23-25.

<sup>75</sup> On philosophy at Leiden University in general, see Otterspeer, *Bolwerk van de vrijheid*, 339-43, 389-94.

<sup>76</sup> On Jacchaeus, see DDP 1:487-92.

<sup>77</sup> Molhuysen, *Bronnen*, 2:78.

Among the wide variety of logical compendia that were used at Leiden we find, besides that of Porphyry, most notably, those of the Aristotelian Jacopo Zabarella (1532-1589), the Calvinist Fortunatus Crellius (1565-1605), who wrote the Zabarellian logical textbook *Isagoge Logica* (1581), Toletus, and the Calvinist Bartholomäus Keckermann (ca. 1572-1609), whose systematic method of exposition was very influential in the Dutch Republic. Keckermann presented Aristotelian doctrine in a quasi-Ramist form with its use of tables and its typical dichotomous divisions. His pedagogical aim was to give students an encyclopaedic education. Furthermore, there were two logical compendia written by Leiden professors, which closely followed Aristotle's *Organon*. Especially the concise, clear, and systematically arranged *Elementa logices* (1598) by the Huguenot Pierre du Moulin (1568-1658) was highly popular. The other, more traditional compendium was Petrus Bertius' (1565-1629) *Logicae peripateticae libri sex* (1604).<sup>78</sup> After the death of Rudolph Snellius (1546-1613), who was one of the most famous Ramists in Europe, none of the Leiden teaching was purely Ramist.<sup>79</sup>

In 1617 Jacchaeus was appointed professor of physics. Previously, the classes in physics had been taught by the extraordinary professor of medicine Regnerus Bontius (1576-1623). With the appointment of Jacchaeus natural philosophy assumed a more prominent position in the curriculum. Two years earlier, Jacchaeus had published his own textbook, *Institutiones physicae*, which was a systematic treatment of Aristotelian physics. Other names that we often encounter are Zabarella; Benedict Pereira (1535-1610) from the Jesuit *Collegio Romano*; Julius Caesar Scaliger (1484-1558), who wrote the influential *Exotericarum exercitationum liber XV de subtilitate, ad Hieronymum Cardanum* (1557); Johannes Magirus (ca. 1560-1596), whose widely-used *Physiologiae peripateticae libri sex* (1597) is one of the rare works Reneri refers to in his disputations;<sup>80</sup> and the *Conimbricenses*.<sup>81</sup>

Petrus Bertius (1565-1629) taught ethics. Metaphysics was not taught in public at Leiden University, although there was a growing need among Reformed theologians for a specifically Protestant metaphysics to strengthen the foundation of their doctrinal beliefs. Jacchaeus repeatedly asked the

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<sup>78</sup> Sassen, *Wijsgeerig onderwijs te Leiden*, 29-31; Dibon, *L'enseignement philosophique*, 50-57.

<sup>79</sup> Dibon, "Influence de Ramus"; Verbeek, "Ramism in the Netherlands."

<sup>80</sup> Reneri, *De natura et constitutione physicae*, th. 2; Reneri, *De elementis*, th. 5. On the *Physiologia peripatetica*, see Kusukawa, "Natural Philosophy Textbooks," 117-20.

<sup>81</sup> Sassen, *Wijsgeerig onderwijs te Leiden*, 31-32; Dibon, *L'enseignement philosophique*, 57-59.

administrators permission to teach metaphysics, but he was only allowed to give *collegia privata*, or private seminars for advanced students, in this subject. As a result of the theological controversies between Arminians and Gomarists, metaphysics had become a delicate subject.<sup>82</sup>

After the National Synod of Dordrecht (1618-1619), which led to the condemnation of Arminianism, the university was purged. Professors of philosophy Barlaeus and Bertius were dismissed, whereas Jacchaeus was suspended for a year. The Arminian theologian Simon Episcopius (1583-1643) was dismissed and exiled. The other theologian, the professor of New Testament Johannes Polyander van Kerckhoven (1568-1646), was orthodox, so he could stay. Newly appointed as professor of dogmatic theology was Antonius Walaeus (1573-1639). Antonius Thysius (1565-1640) and, a year later, André Rivet (1572-1651) were appointed professors of Old Testament exegesis. They all were orthodox but moderate. Their instruction was primarily practical, equipping the student with the knowledge and skills to successfully engage in polemics and deliver sermons.<sup>83</sup>

At the Walloon College the regent saw to it that the students rehearsed. He also supervised their practical exercises, which involved preaching and disputing. These exercises were held twice a week. Furthermore, he was responsible for their conduct and progress. Just as the seminarists at Liège, the students of the Walloon College were watched closely. The regent inspected their rooms and examined what they read. He reported on their progress to the Walloon Synod. In April 1617, after his half-year probationary period, Reneri had to appear before the Synod, where Colonius gave a good report of his progress.

About a month earlier, on 11 March, Reneri had defended a disputation on prayer, printed under the title of *Theses theologicae de precatione*. It was presided over by Polyander.<sup>84</sup> After Franciscus Gomarus (1563-1641) had resigned from Leiden University in 1611 to take a post at Groningen, Polyander, who at that time served as a minister in the Walloon church in Dordrecht, was appointed in order to restore peace and quiet in the faculty of theology, which

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<sup>82</sup> Sassen, *Wijsgeerig onderwijs te Leiden*, 26-29; Dibon, *L'enseignement philosophique*, 64-79.

<sup>83</sup> Otterspeer, *Botwerk van de vrijheid*, 361-30, 416-24.

<sup>84</sup> The Walloon Synod awarded Reneri 30 guilders for the dedication of his disputation. See the expense accounts for the Walloon bursars, UBL, AW 435, April 1617. Since each student had to defend philosophical theses once as well, Reneri presumably had disputed under Colonius or one of the professors of philosophy before he held this theological disputation.



was divided into Arminians and Gomarists. The administrators of Leiden University preferred Polyander to the other candidates because of his tolerant and conciliatory disposition, mediatory capacities, and administrative qualities—even more than his purely academic qualities. Polyander was not a doctrinal quibbler, but more concerned with practical piety. He was, moreover, fiercely anti-Catholic and had written several polemics on Roman Catholicism, in which the invocation of saints was a central point of criticism.<sup>85</sup>

This image is supported by Reneri's disputation on prayer, which is uncontroversial (as all disputations defended under Polyander).<sup>86</sup> It denounces the Roman Catholic practice of invoking Saints and the Virgin Mary in prayer as a form of idolatry and paganism. An unidentified "T.P.A."<sup>87</sup> wrote a laudatory poem in dactylic hexameters—the proper metre for this formal event—about Reneri's conversion to Calvinism. Reneri is portrayed as a deserter from the Papal army:

Comrade to comrade

Just after the dreadful night had wrapped you in shadows,  
 The divine sun shone around. With its light it restored  
 Daylight to you, and its brightness dispelled the black darkness.  
 You happened to see this daylight from afar  
 In the midst of the night, Renerus, and you left your worship  
 And the Roman army, in order to enjoy so much light.  
 And while you flee, you parry like a Parthian the quivering  
 Spears and, fleeing undefeated, you win victories for yourself.<sup>88</sup>

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<sup>85</sup> On Polyander, see Lamping, *Johannes Polyander*; BLGNP, 2:366-68.

<sup>86</sup> Lamping, *Johannes Polyander*, 63.

<sup>87</sup> Considering the opening words "Socius Socio," the author is probably another student of theology or another convert. However, neither the Leiden *album studiosorum* nor the list of Walloon bursars and the list of bursars of the Hallet Fund (because the number of Walloon bursars fell short of expectations also non-Walloon bursars were admitted, such as the bursars of the Hallet Fund, or even students who did not study theology), in Posthumus Meyjes, *Waalse College*, 188-205, provide a name that matches the initials.

<sup>88</sup> Polyander, *De precatone*, [12]: "Socius Socio./Quem modo nox horrenda suis involverat umbris,/Sol circumfulsit divinus; eique reduxit/Luce diem, pepulitque atras fulgore tenebras./Hunc è longinquo tibi cernere contigit ipsâ/Nocte diem Renere, tuosque relinquere cultus/Romanasque acies, ut tanta luce fruaris./Dumque fugis, tanquam Parthus vibrata retorques/Tela, tibique paris fugiendo invicte triumphos."



The fact that Reneri held a theological disputation already a year after he matriculated shows that he progressed rapidly. Usually the students of the Walloon College did not dispute until two or three years after they began their studies. Moreover, their first disputation was on philosophical theses to conclude the course in philosophy. Only after two more years did they have to defend theological theses. Reneri's early engaging in disputations, although he was no doubt a good student, can probably best be ascribed to the fact that he had already received philosophical and theological training at Leuven and Liège. He had also gained a lot of experience in disputing there. During the synod of April 1617 Reneri was examined by Colonius, Polyander, Daniël Castel, minister of the Walloon church in Leiden,<sup>89</sup> and Arnoult de Lannoy, minister of the "Église de l'Olive" (a code name for the widely dispersed Calvinist communities in Southern Flanders).<sup>90</sup> Colonius testified of Reneri's "piety, modesty and solid mind" ("piété, modestie et bon esprit").<sup>91</sup> The assembly consented to Reneri's admittance to the Walloon College as a regular student.<sup>92</sup>

Aemilius gives a lengthy account of how Reneri's father once visited him at the Walloon College to persuade him to return to Roman Catholicism. At first his father tried to coax Reneri, but when this was unsuccessful, he used threats. Reneri, however, stood firm. He declared he had seen the light of truth and had to obey God instead of his father. Finally, his father, realizing that he could not persuade Reneri, left and disinherited his son.<sup>93</sup> The veracity of this highly dramatic account remains to be proven, given the fact that in later years Reneri, for his part, financially supported his parents, who were "afflicted by old age and unfairness of fortune at the end of their days."<sup>94</sup> Perhaps Reneri had told this story to stress his orthodoxy. In any case, Reneri's father would surely have been angry with him, but later they apparently were reconciled.

During the following years Reneri's studies progressed well. In September 1619, at the beginning of his fourth year at the Walloon College, he delivered a test sermon before the *classe*, a committee that was charged by the Walloon

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<sup>89</sup> *Livre des actes*, 961; Lamping, *Johannes Polyander*, 66.

<sup>90</sup> *Livre des actes*, 971.

<sup>91</sup> The French word *esprit* is difficult to translate. In the seventeenth century the expression *bon esprit* generally referred to the ability to judge properly. See Rey, *Dictionnaire historique* 1:1306.

<sup>92</sup> Resolutions of the Walloon Synod held in Leiden, 19-22 April 1617, *Livre synodal*, 1:254; resolutions of the *classe* meeting held in Leiden, 25 April 1617, *Livre des actes*, 157.

<sup>93</sup> Aemilius, *Oratio in obitum Renerii*, 5-6.

<sup>94</sup> Reneri to De Wilhem, 10 September 1631(a): "[...] senio et fortunae sub dierum finem iniquitate afflictos [...]."

Synod to see to it that their resolutions were carried out,<sup>95</sup> and took a preparatory examination on the main topics of theology. Reneri now was found capable of delivering test sermons in public and became a candidate for the ministry.<sup>96</sup>

### 1.4.3. *Dismissed*

Nearing the end of his studies, the prospect of working as a minister seems to have distressed Reneri. According to the proceedings of the *classe* meeting of 7 July 1620, Reneri first made an oral request, presumably to Colonius, and then wrote a letter in which he expressed his doubts about the ministry—doubts he must have felt earlier—and asked to be relieved from his obligations to the Walloon Church. Reneri explained that he believed to be unfit for the ministry and even felt “a natural aversion” (“une repugnance naturelle”) to it. The *classe* interrogated him to know whether his doubts concerned Reformed doctrine. Reneri declared he had no doubts whatsoever on that score. Reneri’s request was nevertheless taken very badly. A decision was adjourned to the synod of September.<sup>97</sup>

The Walloon Synod refused to accept his explanation, given that it had supported Reneri for four years (with a sum of 230 guilders per year).<sup>98</sup> They wanted to find out the reason for his doubts. Was it his orthodoxy, did Reneri have doubts about the practice of the ministry, or had he lost interest in theology altogether? The *classe*, which was to visit the college in the fall of 1620, was also charged with the examination of Reneri’s motives. On that occasion the *classe* consisted of Polyander, Castel, Lannoy (who in 1619 was appointed second minister of the Walloon church in Leiden),<sup>99</sup> and the delegates of the Walloon churches of Amsterdam and The Hague. They were to severely

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<sup>95</sup> This committee is not to be confused with a *classis*, the council of ministers and elders with jurisdiction over several churches in a region. The Walloon Church had no *classes*, because this was not necessary due to the small number of churches. The *classe* of the Walloon Synod often held their meetings in Leiden, because there they could combine their meeting with the visitation of the Walloon College and the examination of the bursars. See *Livre des actes*, IX-X.

<sup>96</sup> Resolutions of the *classe* meeting held in Leiden, 10-11 September 1619, *Livre des actes*, 201; resolutions of the Walloon Synod held in Haarlem, 1-4 April 1620, *Livre synodal*, 1:286.

<sup>97</sup> Resolutions of the *classe* meeting held in Leiden, 7 July 1620, *Livre des actes*, 205.

<sup>98</sup> Expense accounts for the Walloon bursars, UBL, AW 435.

<sup>99</sup> Lamping, *Johannes Polyander*, 66.

reprimand Reneri, examine his request, probe his conscience, find out how firm his faith was, have Reneri justify himself before God (“le citer devant le throne de Dieu”), and present him with the discontent of the Walloon Church about his explanation. In case he persisted in his decision, Reneri should be sent away to Amsterdam or another town at their discretion to await the next synod. This examination took place sometime between 19 September and 24 March 1621.<sup>100</sup>

Reneri had to justify himself before the Walloon Synod held in Rotterdam in March 1621. What explanation he had given the *classe* is not known, but he persisted in his “obstinacy” (“opiniastreté,” as it is called in the synod records) and was finally dismissed.<sup>101</sup> He had to sign the following declaration:

I, the undersigned, declare to have been supported by the synod of the Walloon churches of the United Provinces and their college for several years with the intention of one day serving these churches as a minister of the word of the Lord. But, to my great regret, for some time I do not feel fit to act upon this intention, and for this reason the synod dismissed me and ordered me to leave the college at once under the following conditions: that I remain obliged to these churches not to accept any ecclesiastical call without their approval, or that, if I accept another call and God gives me the means to repay the money spent on my support, I sincerely promise before God to pay it off. In confirmation of the above I signed this, 26 March 1621.

Henri Reneri<sup>102</sup>

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<sup>100</sup> Resolutions of the Walloon Synod held in Vlissingen, 16-19 September 1620, *Livre des actes*, 207; resolutions of the *classe* meeting held in Leiden, undated, *Livre des actes*, 208.

<sup>101</sup> Resolutions of the Walloon Synod held in Rotterdam, 24-27 March 1621, *Livre synodal*, 1:292.

<sup>102</sup> Resolutions of the Walloon Synod held in Rotterdam, 24-27 March 1621, *Livre des actes*, 209: “Je subsigné confesse avoir esté plusieurs années entretenu du synode des eglises wallonnes des Provinces Unies en leur college, avec intention que quelque jour je serviroy ausdites eglises au ministere de la parole du Seigneur. Mais comme depuis quelque espace de temps je ne me sens à mon grand regret disposé pour satisfaire à ladite intention et que pour ceste cause ledit synode m’eust congedié et enchargé de me retirer dès à present du college sous ces conditions: que je demeure obligé auxdites eglises pour n’embrasser aucune vocation ecclesiastique sans leur congé, ou, en embrassant quelque autre et que Dieu m’en donne les moyens, de rembourser les deniers qui ont esté employez pour mon entretenement, je promets m’en acquiter sincerement et devant Dieu. En approbation de ce que dessus j’ai signé la presente le

His request came at a bad moment. The year before, the Synod of Dort had put an end to the political and theological conflict between Arminians and Gomarists, which had brought the Dutch Republic to the verge of civil war. Arminians were expelled from the Reformed Church and at Leiden University the Arminian professors were fired, suspended, or received a warning. Although there is no particular reason to think that Reneri had Arminian sympathies, it is possible that the Walloon Synod suspected him of it. In the end they must have realised that this was not the case, since Reneri's orthodoxy has always been beyond doubt. The professor of theology Rivet, for instance, who was an orthodox theologian, vouched for it when Reneri applied for the professorship of philosophy at Deventer.<sup>103</sup>

Not surprisingly, the Walloon Synod wondered what had got into Reneri. On the face of it, he had always wanted to be a clergyman. He had studied theology at the seminary for more than two years before he enrolled in theology at Leiden. And at the Walloon College his studies progressed smoothly. It is possible, of course, that Reneri primarily matriculated in theology because this would most likely get him a scholarship, which would guarantee food and shelter for the time being. Nevertheless, the underlying reason was that he was no longer, or perhaps never really had been, interested in becoming a minister. Indeed, in his later life Reneri showed no interest in theological matters whatsoever. As graduation came closer, the prospect of serving as a minister would have filled him with aversion.<sup>104</sup>

### 1.5. Private Tutor in Amsterdam (1621-1625)

Breaking off his theological studies was a decisive step in Reneri's life. For the next two and a half years there are virtually no sources for what he did or where he lived, except two second-hand sources from years later.<sup>105</sup> According to Aemilius, referring to the entire period from 1621 to 1631, Reneri took up

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26 de Mars 1621. Henri Reneri.”

<sup>103</sup> See below, p. 42.

<sup>104</sup> In *Cartesianism in the Netherlands*, 129, McGahagan speculates that the purge that followed the Synod of Dort functioned as a catalyst. Reneri indeed seems to have been orthodox but moderate. On the other hand, in order to maintain unity, the Walloon Church was more tolerant, albeit that in the end the Arminians were expelled from the Church just as well. See Van Rooden, “Beleid van de Waalse Synode.”

<sup>105</sup> Resolutions of the Walloon Synod held in Vlissingen, 16-19 September 1620, *Livre des actes*, 207.

private instruction.<sup>106</sup> And the Franeker professor of theology Meinardus Schotanus (1593-1644) wrote in a letter to Johannes Saeckma (1572-1636), councillor at the Court of Friesland and administrator of Franeker University, of 30 November 1630, in relation to a vacancy for a professor of logic there, that Reneri “has been engaged in philosophy for more than ten years.”<sup>107</sup> Reneri probably made a living by tutoring the children of wealthy citizens, while devoting his spare time to philosophy—a pattern similar to that in the second half of the decade. On 6 October 1623 Reneri was registered as a member of the Walloon church in Amsterdam with *tesmoignage*, a certificate of good behaviour and an attestation of his membership, from the Walloon church in Leiden.<sup>108</sup> To provide for himself he presumably tutored Nicolaes Seys Pauw (1607-1640). Nicolaes was the only son of the first marriage of Adriaan Pauw (1585-1653), Lord of Heemstede and Pensionary (town clerk) of Amsterdam, with Anna Seys (1583-1607). They lived on Dam Square.<sup>109</sup> During the two and a half years between his dismissal from the Walloon College and his reappearance in Amsterdam, Reneri probably also earned a living by tutoring—perhaps even already Nicolaes. If Reneri was indeed sent to Amsterdam by the *classe* of the Walloon Synod to await the next synod, which would decide on his fate, he may have stayed there after his dismissal and lived in Amsterdam since 1621, only to become an active member of the Church again after a period of reflection.

## 1.6. Leiden (1625-1626)

### 1.6.1. Continuation of Reneri's Tutoring Job

When Nicolaes went to Leiden to study law in 1625, Reneri went with him as his tutor. They boarded in the house of the professor of theology Rivet on the

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<sup>106</sup> Aemilius, *Oratio in obitum Renerii*, 6. In *Vie de Descartes*, 1:189, Baillet writes that Reneri opened a private school in Leiden, in which he especially taught philosophy.

<sup>107</sup> Schotanus to Saeckma, 30 November 1630, in Engels, *Brieven aan Saeckma*, 1:195: “[...] per decem annos et ultra philosophiae operam dedit [...]” According to Aemilius in *Oratio in obitum Renerii*, 6-7, sometime during this period Reneri engaged in a public disputation, which drew a lot of attention and led to Reneri's appointment as professor of philosophy at Deventer. It is not clear, however, what kind of disputation this would have been. Perhaps Reneri intervened when his pupil Eremita held the disputation Reneri had helped him with. See below, pp. 151-152.

<sup>108</sup> Membership records of the Walloon Church in Amsterdam, SAA, 201, inv. no. 269.

<sup>109</sup> On Pauw, see below, pp. 76-78.

Rapenburg.<sup>110</sup> The contact with Rivet would prove very valuable for Reneri. Rivet introduced him to men of wealth or learning, such as the diplomat Constantijn Huygens (1596-1687) and the philosopher and mathematician Gassendi. Furthermore, Rivet recommended him when he applied for the chair of philosophy at Deventer—and with success.

### 1.6.2. *Medical Studies*

Reneri enrolled as a student of medicine on 21 November 1625 (the same day as Nicolaes enrolled in law).<sup>111</sup> Little is known about his progress,<sup>112</sup> except that he must have interrupted his studies from 1626 to 1629 to work as a tutor in Amsterdam again and that he had made so much progress by 1631 that he expected to complete his studies before long. Actually, he never took his degree in medicine. As to his motives the image is ambiguous. Reneri showed a genuine interest in medical matters. Not only did he, at the end of his life, have more than 300 books on medical and pharmaceutical subjects,<sup>113</sup> he also produced chemical drugs.<sup>114</sup> Moreover, his plans of 1628 to study astrology may also have been related to this interest,<sup>115</sup> given the strong connection between medicine and natural astrology (explaining the influence celestial bodies were believed to have on, among other things, the humours—to be distinguished from judicial astrology, which purports to predict future events).<sup>116</sup> Astrology was widely accepted, also among reputed physicians, as a diagnostic tool. In his disputations, Reneri indeed defends natural astrology, which only considers the motion of celestial bodies and the light they emit. Judicial astrology he rejects, because the fact that it depends on occult influences disqualifies it in the eyes of Reneri.<sup>117</sup>

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<sup>110</sup> Matriculation records, UBL, ASF 8, 191/*Album stud. Acad. Lugd.-Bat.*, col. 189.

<sup>111</sup> *Ibid.*

<sup>112</sup> The archives of the faculty of medicine are far from complete. The resolutions and the lists of examinations and graduations, for instance, all date from after the first half of the seventeenth century. See Hardenberg, *Archieven*, 22-23.

<sup>113</sup> *Catalogus librorum Reneri*, [6-17].

<sup>114</sup> Reneri to De Wilhem, 23 December 1634; Reneri to Huygens, 4/14 April 1635; declaration of adherence to Reformed doctrine, with biographical data of the professors, SAB, 806, inv. no. 24; Reneri to Jonston, around 1634.

<sup>115</sup> Bisterfeld to Reneri, 4 April 1628 (now lost). See Bastin, "Henri Reneri," 255-56.

<sup>116</sup> Chapman, "Astrological medicine"; Curth, *English Almanacs*.

<sup>117</sup> Reneri, *Decas quaestionum*, th. 5; Reneri, *Theses phil. misc.*, th. 15.

Under the influence of Francis Bacon (1561-1626), Reneri believed that the empirical investigation of nature is an essential part of natural philosophy. It is only in the study of medicine, including subjects such as anatomy and botany (medicinal herbs), that one could pursue such an interest on an academic level—and not in speculative Aristotelian philosophy (which, nevertheless, provided the philosophical basis of Galenic medicine). Under the influence of humanism, the second half of the sixteenth century saw a revival of Hippocratic empiricism. This new Hippocratism encouraged the development of natural history, that is, the description of nature based upon investigation through observation, as part of the curriculum. Furthermore, a botanical garden, which also housed a cabinet of curiosities, and an anatomical theatre were established at Leiden in 1590 and 1597, respectively. They facilitated illustrative teaching in the form of anatomical dissections and demonstrations of preparations, skeletons, plants, minerals (the medical use of which was popularized by the sixteenth century alchemist Paracelsus), and other *naturalia*.<sup>118</sup> Finally, Reneri's remark that medicine "is hardly less necessary for philosophy than mathematics" seems to confirm that his interest in medicine was, at least partially, motivated by his passion for philosophy—he probably had physiology in mind.<sup>119</sup> Admittedly, this image of Reneri as an empiricist is based on sources dating from after he matriculated in medicine. It is also possible, therefore, that his interest in empiricism was aroused by his study in medicine.

Another motive was certainly money: a medical practise gave financial security.<sup>120</sup> This financial motive, then, disappeared as soon as he was appointed at Deventer in 1631, even though he would have earned more in medicine. To be sure, during the first months of his professorship Reneri still intended to finish his studies, even before Easter 1632. The Deventer municipality also urged him to do so.<sup>121</sup> By December 1633 he had not given up this intention. His wife Anna Vivien (d. 1636), whom he married in July 1632, kept pressing him and Reneri asked her to keep patient for another year.<sup>122</sup>

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<sup>118</sup> Cook, "New Philosophy," 120-26; Cook, *Matters of Exchange*, 110-20.

<sup>119</sup> Reneri to De Wilhem, 12/22 December 1633: "[...] n'est gueres moins necessaire au philosophie que les mathematicques."

<sup>120</sup> Reneri to De Wilhem, 31 August 1631; Reneri to De Wilhem, 12/22 December 1633.

<sup>121</sup> Reneri to De Wilhem, 10/20 December 1631.

<sup>122</sup> Reneri to De Wilhem, 12/22 December 1633. Cf. Reneri to De Wilhem, 31 August 1631: "In the meantime I will do my utmost to reach the medical harbour, and under, I hope, favourable winds I will arrive there shortly. There I will have rest from so much agitation, which is the safest way to spend one's life and in any case suitable for

After 1633, however, nothing is heard of these plans again. In that year, under the influence of Descartes, Reneri's interest in mathematics gained the upper hand.<sup>123</sup> Furthermore, after his appointment at Utrecht, where he earned nearly a third more than in his previous job, the financial necessity became even less urgent.

The medicine curriculum consisted of physiology, diagnosis, prognosis, hygiene, and therapy, which subjects formed the basis of the course, founded on the Hippocratic-Galenic tradition. And further theoretical and practical anatomy, botany, medical practice, and, in order to be able to read the ancient sources, Greek. Reneri's professors continued along the same lines as their predecessors. The professor of anatomy and surgery Otto Heurnius (1577-1652), in 1636, promoted the introduction of clinical instruction at Leiden, to be sure. But this was on competitive grounds, in reaction to plans for clinical instruction at Utrecht. In that same year a number of beds were reserved for bedside teaching in the Cecilia hospital in Leiden. The institutes and botany were taught by Adolphus Vorstius (1597-1663), who was also director of the botanical garden. Ewaldus Schrevelius (1575-1647) taught medical practise. The anatomy lessons were divided between Heurnius and Adrianus Falcoburgius (1581-1650), who held an extraordinary professorship of surgery and anatomy. The medical application of chemistry did not become part of the curriculum until the 1660s.

Because in medicine the authority of the ancients was still great, primarily ancient authors were used, such as Hippocrates, Galen, the Galen commentator Alexander of Tralles (6th century), Pedanius Dioscorides' influential herbal book *De materia medica* (1st century), and Pliny' *Naturalis historia* (1st century)—with their modern commentators. Only for the classes in anatomy books of modern authors were used, such as Andreas Vesalius' (1514-1564) *Epitome anatomica* with commentary and notes by Pieter Pauw (1564-1617), professor of botany and anatomy at Leiden, which was published in 1616.<sup>124</sup>

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philosophizing (which, after piety, brings the greatest pleasure and happiness on this earth to our mind)." ("Interea magno animo enitar ad portum medicum, eumque secundis, ut spero, velis brevi attingam. Illic mihi à tot jactationibus quies, et ad vitae praesidium tutissima, et ad philosophandum (in quo post pietatem summa animi nostri in his terris voluptas ac felicitas consistit) utcunque idonea.")

<sup>123</sup> Reneri to De Wilhem, 12/22 December 1633.

<sup>124</sup> Suringar, *Geneeskundig onderwijs*, pts. II-IV; Kroon, *Geneeskundig onderwijs*; Barge, *Klinisch onderwijs te Leiden*; Otterspeer, *Botwerk van de vrijheid*, 348-55, 402-9.



## 1.7. Amsterdam (1626-1629)

### 1.7.1. Tutor Again

In the summer of 1626 Reneri broke off his medical studies and moved back to Amsterdam to tutor some of the other six children of Adriaan Pauw—all from his second marriage, with Anna van Ruytenburgh (1589-1648).<sup>125</sup>

Sometime between late 1627 and early 1628 Reneri moved in with the merchant Hans l’Hermite, who lived on the Herengracht (“on the Heeregraft at the sponce next to the White Horse”)<sup>126</sup> in Amsterdam.<sup>127</sup> On 7 July 1627 Pauw was appointed member of the Court of Audit (*raad en rekenmeester*) of Holland and West Friesland, which administered the domains of the States of Holland and West Friesland.<sup>128</sup> This forced the Pauw family to move to The Hague and put Reneri out of work. Reneri then found a new job as tutor to a son of L’Hermite or to his Hamburg relative Petrus Eremita. Reneri would tutor the latter at Leiden for two years, but he may have begun tutoring him at Amsterdam already.<sup>129</sup>

From Reneri’s Amsterdam period also come the earliest reports of his experiments and inventions. In a letter to Huygens of 28 March 1629 he lists five of his inventions in the broad field of optics, including different ways of projecting images in the camera obscura. The fact that some of his optical instruments were displayed in the house of the Flemish merchant and patron of the arts and sciences Matthijs van Overbeke (1584-1638) in Leiden seems to indicate that Reneri had been engaged in optics before he moved to

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<sup>125</sup> In notes written between 30 September and 19 November 1626, in Beekman, *Journal*, 2:371-72, Beekman refers to Reneri as the tutor to Pauw’s children. Reneri probably first completed the academic year 1625/26 as tutor to Nicolaes Pauw, before he moved to Amsterdam in the summer vacation.

<sup>126</sup> “[...] op de Heeregraft bij de schans naest het Witte paerdt.” The house called Het Witte Paert (The White Horse) was located at what is now no. 376. The sponce referred to must be situated close to what is now the Leidsegracht, where the Herengracht ended after the third expansion of the town in 1612. See De la Fontaine Verwey et al., *Vier eeuwen Herengracht*, 524-25.

<sup>127</sup> Reneri to Cunaeus, 12 August 1629; Rivet to Reneri, 20 August 1629. According to Bisterfeld’s letter to Reneri of 4 April 1628 (now lost), Reneri at that moment already lived in the house of L’Hermite. See Bastin, “Henri Reneri,” 255.

<sup>128</sup> Stellingwerff and Schot, *Particuliere notulen*, 348.

<sup>129</sup> In a letter to Reneri of 20 August 1629 Rivet refers to one pupil only (“discipulum tuum”). Gerardus Joannes Vossius is mistaken, when he still in June 1629, in a letter to his son Joannes (1605-1636) of the 30th of that month (*Epistolae*, pt. 1, 153), refers to Reneri as the tutor to Pauw’s children. See also below, p. 34 n. 134.

Amsterdam for the second time.<sup>130</sup> When living with the Pauw family he kept a thermoscope (an instrument indicating temperature changes without measuring them) of his own invention.<sup>131</sup>

### 1.7.2. *Candidate for a Chair of Philosophy at Leiden*

In 1628/29 Reneri was nominated for the chair of ethics at Leiden University in succession to Franco Burgersdijk.<sup>132</sup> On 18 April 1628 the Leiden professor of philosophy Jacchaeus, who held the chair of physics, died. A month later, on 9 May, Burgersdijk, ordinary professor of ethics and extraordinary professor of logic, was appointed in his place on the condition that he gave up his chair of ethics.<sup>133</sup> Reneri was one of the candidates for succession to this chair, together with Daniel Sinapius (1589-1638), subregent of the States College, and Johannes Bodecher Benning (1606-1642).<sup>134</sup> It concerned an extraordinary professorship with a salary of a few hundred guilders a year.<sup>135</sup>

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<sup>130</sup> Reneri to Huygens, 28 March 1629.

<sup>131</sup> Beeckman in notes written between 30 September and 19 November 1626, in Beeckman, *Journal*, 2:371, 372.

<sup>132</sup> In *Vie de Descartes*, 1:200-201, Baillet writes that Reneri was nominated in 1629 when the chair became vacant after the death of Burgersdijk. Burgersdijk, however, did not die until 1635. In 1635, after Burgersdijk's death, Reneri was, again, a nominee for his chair. It is possible that Baillet confused these two occasions—if he knew of the second time at all. The only source I found for Reneri's second nomination is a letter from an unknown author to Hartlib of 26 February 1635, HP 11/1/51A. See below, p. 36 n. 142.

<sup>133</sup> Molhuysen, *Bronnen*, 2:140.

<sup>134</sup> Gerardus Joannes Vossius to Joannes Vossius, 30 June 1629, in Vossius, *Epistolae*, pt. 1, 153: "And no one is yet substituted for Jacchaeus. *Magister* Reinerius, the tutor to Pauw's children, the subregent Sinapius, and *magister* Bodecherius aspire it. The administrator Arsenius [François van Aerssen (1572-1641)] favours Renerius, the administrator Cromhautius [Nicolaes Cromhout (1561-1641)] Sinapius, the burgomaster Brocchovius [Jacob van Brouchoven (1577-1642)] Bodecherius." ("Nec-dum surrogatus quisquam in locum Jacchaei. Expetunt eum M. Reinerius, Pauwii liberorum praefectus, Sinapius subregens, & M. Bodecherius. Reinerio favet Curator Arsenius: Sinapio Curator Cromhautius, Bodecherio consul Brocchovius.") See also Rivet to Reneri, 20 August 1629, in which he reports having met Van Aerssen, who had good hopes of Reneri being appointed. For this letter, see below, p. 78.

<sup>135</sup> Bodecher Benning, who was appointed in the end, earned 300 guilders a year. See Molhuysen, *Bronnen*, 2:147. This could explain Descartes' remark in his letter to Mersenne about the salaries at the universities of Franeker and Leiden. See Verbeek, "Henricus Reneri," 123. See also below, pp. 48-49.

In the end Reneri withdrew his application, as he wrote to Gassendi in a letter of 6 January 1630.<sup>136</sup> In the letter Reneri explains why he was no longer interested in the professorship: Even before a decision was taken on who to appoint, Reneri was offered a job as tutor in Leiden. He believed he had a good chance of being appointed at Leiden, but yet accepted the offer because he preferred job security. While awaiting the decision, Reneri had already declined several good offers (no specific references can be found in Reneri's correspondence) and he feared he would not receive another one if he also rejected this one. Furthermore, the pupils' parents made him a generous offer.<sup>137</sup> The fact that Reneri never showed much interest in ethics could also have played a role. Gassendi applauded Reneri's choice for several reasons. First, a professorship was more prestigious, but it also cost more time than tutoring. Furthermore, according to Gassendi, academic philosophy resembled the theatre and did not deserve the name philosophy. And finally, Reneri's tutorship provided a steady income.<sup>138</sup> That Reneri was no longer interested in the Leiden chair of ethics is supported by a letter from Descartes to the French Minim monk Marin Mersenne of October or November 1631, according to which Reneri even refused it,<sup>139</sup> as well as by a poem written by Reneri's pupil Adam van Lockhorst (1616-1699) on the occasion of Reneri's departure for Deventer in 1631:

His [i.e., Reneri's] fame was to my [i.e., the city of Leiden's] detriment, I witness  
[his praise being celebrated:

This is my only merit.

When the School did not give him due honours,

He himself did not tolerate any further delay of that decision.

And it would not have scorned him as professor:

He was worth this title, at least in the opinion of the School.<sup>140</sup>

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<sup>136</sup> They had met half a year before, in July 1629, when Gassendi, on a tour in the Spanish Low Countries and the Republic, visited Amsterdam. See below, pp. 173-74.

<sup>137</sup> Reneri to Gassendi, 6 January 1630.

<sup>138</sup> Gassendi to Reneri, 8 February 1630.

<sup>139</sup> Descartes to Mersenne, [October or November 1631], in AT, 1:228/CM, 3:213.

<sup>140</sup> Revius, *Daventria illustrata*, 693: "Fama mihi nocuit, celebratae sum rea laudis:/Hoc solum potui demeruisse modo./Si schola promeritos non designavit honores,/Iudicii longas non tulit ipse moras./Nec Professorem dedignatura fuisset:/Hoc titulo, vel eâ iudice, dignus erat."

From the fact that it took more than a year to appoint a new professor of ethics we can conclude that it was a difficult decision. The chair eventually went to Bodecher Benning, who on 21 November 1629 was appointed extraordinary professor of ethics for a one-year probationary period.<sup>141</sup> Seven years later, after Burgersdijk died on 19 February 1635, Reneri was again considered as his successor.<sup>142</sup> On 21 August 1635, however, Bodecher Benning was appointed professor of physics, and the French philosopher and former Jesuit Franciscus du Ban (ca. 1592-1643) was appointed for logic.<sup>143</sup>

But the year 1629 also brought Reneri good fortune. That year he not only met Gassendi, but also Descartes. Both became valuable connections for Reneri.

## 1.8. Leiden (1629-1631)

### 1.8.1. Tutor Once Again

While his application for the professorship of ethics at Leiden was still in process, Reneri accepted a new tutoring job. In September 1629 he moved to Leiden to live with a landlady, Miss De Haes, on the Nieuwsteeg. On 13 October, 36 years old by now, he again matriculated at Leiden University to continue his medical studies<sup>144</sup> (students who left Leiden for more than six months had to re-enrol).<sup>145</sup> Sometime during the following two years, he moved in with the church minister and Orientalist Louis de Dieu (1590-1642).<sup>146</sup>

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<sup>141</sup> Molhuysen, *Bronnen*, 2:147.

<sup>142</sup> An unknown author to Hartlib, 26 February 1635, HP 11/1/51A: "This week our Burgersdicius was buried with great and due sorrow of good men, for he was a man with a talent to teach the youth. They consider appointing Bisterfeldius as his successor, as they say, or Reinerus." ("Sepultus est hac hebdomade noster Burgersdicius magno bonorum luctu et merito, vir enim erat docendae juventuti aptissimus. Deliberatur de Bisterfeldio, ut ajunt, vel Reineri successore vocando.")

<sup>143</sup> Molhuysen, *Bronnen*, 2:197.

<sup>144</sup> Matriculation records, UBL, ASF 8, 314/*Album stud. Acad. Lugd.-Bat.*, col. 221. Reneri's letter to Rivet of 20 August 1629 shows that he still lived in Amsterdam at that moment. Sassen, in *Henricus Renenius*, 14, and, probably following him, Dibon, in *L'enseignement philosophique*, 198, erroneously claim that Reneri matriculated in mathematics. Sassen refers to Cohen, *Écrivains français*, 373, for this claim, but the page he refers to does not contain such a claim, nor does Cohen make it elsewhere.

<sup>145</sup> Zoeteman, *Studentenpopulatie*, 53, 79.

<sup>146</sup> Polyander to the Deventer professor of theology Caspar Sibelius (1590-1658), 14 September 1631, manuscript copy in *Historica narratio Caspari Sibelii de curriculo totius vitae et peregrinationis suae*, vol. 2, SAB, 101 H 17 KL, 93. See below, p. 42. On De Dieu,

Reneri earned a living by tutoring several pupils, who boarded together with him on the Nieuwsteeg. Two of them were the brothers Adam and Cornelis van Lockhorst (1618-1639) from Amsterdam, who both studied literature. They were sons of the paper merchant Cornelis van Lockhorst (1592-1629), Lord of De Lier and Alkemade, who had died that year. Van Lockhorst had made an immense fortune as the largest importer of paper in the Republic. Reneri's third pupil was Petrus Eremita (L'Hermite) from Hamburg, fourteen years old, who studied philosophy and literature.<sup>147</sup>

Much to Reneri's regret, however, this job consumed much of his time: "my tutorship of three boys is so hard and demanding that in the beginning it absorbed me completely," as he writes to Gassendi in his letter of 6 January 1630.<sup>148</sup> Half a year later Reneri reconsidered his choice for job security over everything else. To De Wilhem he confided that, even though this was the best tutoring job he had ever had, he felt tutoring was beneath him:

To be sure, the Almighty God, in His mercy, through tutoring jobs of various levels gradually raised me to this latest tutorship, which is truly very splendid, but to do it I have to become a boy again myself and discuss subjects unworthy for a man born for higher thoughts. [...] I would prefer to be master of my own time in order to develop my mental and intellectual capacities, however small, and to dedicate their fruits to public use, than be fabulously rich but without the possibility of cultivating my mind at my own discretion.<sup>149</sup>

In June 1630 Descartes moved to Leiden, possibly to study mathematics under the professor of Arabic and mathematics Jacobus Golius (1596-1667).<sup>150</sup> He

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see Juynboll, *Beoefenaars*, 200-204; BLGNP, 2:167-69.

<sup>147</sup> They all matriculated on 7 November 1629. See the matriculation records, UBL, ASF 8, 318/*Album stud. Acad. Lugd.-Bat.*, col. 222.

<sup>148</sup> Reneri to Gassendi, 6 January 1630: "[...] ita postulat gravissima trium adolescentum paedagogia, quae initio totum me occupat."

<sup>149</sup> Reneri to De Wilhem, 7 June 1630: "Deus quidem Opt. Maximus mei misertus evexit me paulatim et per varios paedagogicae functionis gradus ad hanc tandem paedagogiam, lautissimam sane, sed in qua tamen mihi repuerascendum est, et ea studia tractanda, quae viro ad meliores curas nato indigna sunt. [...] Malim equidem temporis mei dominus esse ad excolendas animi ac ingenij quantulasunque dotes, ac publico usui earumdem fructus consecrandos, quam ingentium divitiarum, sine facultate animum pro arbitrio colendi."

<sup>150</sup> Verbeek, "Philosopher's Life," 58. The fact that Reneri had moved to Leiden the year before could have helped, as also Cohen in *Écrivains français*, 453, suggests.

enrolled on 27 June 1630, but stayed in Leiden only for a short period of time.<sup>151</sup> Reneri must nevertheless have welcomed his presence, since he had been deeply impressed by Descartes.<sup>152</sup>

### ***1.8.2. Candidate for a Chair of Philosophy at Franeker***

In the autumn of 1630 Reneri was nominated for a professorship of philosophy at Franeker University. On 23 September 1630 the chair of logic had become vacant with the death of professor Johannes Hachting (1594-1630). Hachting was reputed to be a Ramist, though moderate, and his publications express a wish for reform—in fact he combined Ramus' dialectic with Aristotle's logic.<sup>153</sup> Reneri was recommended by the professor of theology William Ames (1576-1633), as is mentioned in a letter from Schotanus to Saeckma of 30 November 1630: "At Leiden lives a *magister* by the name of Reignerus, an Englishman,<sup>154</sup> who has been engaged in philosophy for more than ten years, and with the greatest success, so that he has a high reputation there and is recommended by learned men. Recently he was even recommended to us by Doctor of Divinity Amesius."<sup>155</sup> Ames, too, was a great admirer of Ramus' works. He admired them for their anti-Aristotelianism, method, and emphasis upon a practice-oriented approach of the liberal arts. As a Puritan, he was a fierce opponent of scholastic theology and philosophy. In his classes he taught Ramism, and his students even openly criticized Aristotelian metaphysics and ethics. Not surprisingly, his Ramist sympathies did not find much favour with the Aristotelian professors at Franeker. Reneri, however, shared Ames' criticism of academic philosophy and at that time worked on a method of his own that built on the

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<sup>151</sup> *Album stud. Acad. Lugd.-Bat.*, col. 228.

<sup>152</sup> Reneri to De Wilhem, 10 September 1631(a).

<sup>153</sup> Boeles, *Frieslands Hoogeschool*, 2-1:119-21; Galama, *Wijsgerig onderwijs te Franeker*, 86-91, 290-92.

<sup>154</sup> That Reneri was mistaken for an Englishman is probably caused by the fact that Ames was of English origin himself. In Leiden they could hardly have thought that he was an Englishman. See Sassen, *Henricus Renerius*, 15.

<sup>155</sup> Schotanus to Saeckma, 30 November 1630, in Engels, *Brieven aan Saeckma*, 1:195: "Leidae est Magister Reignerus nomine, Anglus, qui per decem annos et ultra philosophiae operam dedit, et summo cum profectu, ut magni ibi sit nominis et commendetur a viris doctis. Ille etiam nobis a D.D. Amesio commendatus est his diebus."

reform of logic by Ramus. In Ames' eyes, Reneri, therefore, must have been a most appropriate candidate in succession to Hachting.<sup>156</sup>

Reneri, however, did not get the job. For this period there are no records of Franeker University which could shed light on the progress of the application.<sup>157</sup> In his letter to Mersenne of October or November 1631, Descartes suggests that Reneri did not try hard enough.<sup>158</sup> But Reneri could have given him a false impression of things, not willing to admit that he was rejected. Daniel van Dam (1594-1641),<sup>159</sup> who was chosen in the end, was a Frisian, and in cases of equal suitability Saeckma always showed a preference for Frisians.<sup>160</sup> Moreover, the fact that Van Dam was a church minister could also have played a part. The administrators possibly preferred the minister Van Dam to the former Roman Catholic and dropout student of theology Reneri. Inversely, the prospect of a secondary position to the Aristotelian professor of philosophy Arnoldus Verhel (1583-1664) might not have particularly appealed to Reneri.<sup>161</sup>

### 1.8.3. *Alternative Career Plans*

Even though he realized he was fortunate to be tutor to the Van Lockhorst brothers and Eremita, Reneri had enough of tutoring. During the years 1630-31 one plan succeeded another, but to no avail. In the short term, he wanted to go abroad for a while. In January 1630 Reneri toyed with the idea of going to Paris at the beginning of spring to visit Gassendi—and no doubt also Mersenne and other Parisian philosophers.<sup>162</sup> That same year there were plans to make a tour among members of the Hartlib circle in England towards the end of summer,

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<sup>156</sup> On Ames, see Boeles, *Frieslands Hoogeschool*, 2-1:116-19; Sprunger, *William Ames*; BLGNP, 1:27-31. During the first half of the seventeenth century Franeker became the centre of Dutch Ramism. See Van Berkel, "Franeker als centrum van ramisme."

<sup>157</sup> Nienes, *Archieven*.

<sup>158</sup> Descartes to Mersenne, [October or November 1631], in AT, 1:228/CM, 3:213.

<sup>159</sup> On Van Dam, see Boeles, *Frieslands Hoogeschool*, 2-1:138-39; NNBW, 4:491-92; Galama, *Wijzgerig onderwijs te Franeker*, 61-62, 285.

<sup>160</sup> Engels, *Saeckma*, 100. In *Frieslands Hoogeschool*, 2-1:138, Boeles, too, supposes that this is the reason that Reneri was rejected.

<sup>161</sup> Verbeek, "Henricus Reneri," 124.

<sup>162</sup> Reneri to Gassendi, 6 January 1630: "I hope there will be a more illustrious occasion with more time at hand, especially around the beginning of spring, to show my well-known respect to you, which honours your virtues and great learning" ("[...] spero fore, ut illustrior ac liberior detur occasio praesertim sub Veris initium tibi testatam faciendi observantiam, quâ virtutes tuas, & eruditionem summam prosequor.")

possibly even in relation to a post at the school Hartlib founded in Chichester in 1630.<sup>163</sup> Dury, Reneri's friend from the Walloon College, was a prominent member of this circle and probably introduced Reneri to some of its members that year. It is not unlikely that Reneri and Descartes had plans to visit England together, since Descartes, too, had plans to visit England in August or September 1630.<sup>164</sup> Neither Reneri nor Descartes seem to have ever visited England though.

A visit to France, on the other hand, remained part of Reneri's plans a year later still. In a letter to De Wilhem of 31 August 1631, he wrote that he was examining the possibility of staying at Paris for several months, starting as of the beginning of spring 1632.<sup>165</sup> A week later he changed his plans into taking a whole year off—at some time he even considered a period of two years—to receive instruction in medical chemistry from his friend the physician Johann Elichmann (ca. 1601-1639) and then go to Paris for a short period of time, in any case leave Leiden, if this would be useful. He even had hopes that this year off would start as soon as 1 January 1632, since he could stop tutoring Eremita at the end of 1631—Reneri's tutorship of the Van Lockhorst brothers must have already stopped that summer.<sup>166</sup> Until then Reneri would do his utmost best to complete his medical studies at Leiden. To pay for this, he hoped to assist Elichmann, who made a good living by treating the Holland and Zeeland upper classes. Chemical medicine was fashionable among the European elites and seems to have been very lucrative.<sup>167</sup> Elichmann had made 100 thalers (that is, 150 guilders) in eight days.<sup>168</sup> In the longer term Reneri saw two options: either to practise medicine or to teach philosophy.<sup>169</sup> A vacancy for professor of philosophy at the Deventer Illustre Gymnasium pushed his plans to go abroad into the background once and for all.

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<sup>163</sup> Hartlib to Dury, 13 September 1630, HP 7/12/3A-3B.

<sup>164</sup> Descartes to Mersenne, [4 March 1630], in AT, 1:125/CM, 2:407; Descartes to Mersenne, [18 March 1630], in AT, 1:130/CM, 2:414. See also below, p. 188.

<sup>165</sup> Reneri to De Wilhem, 31 August 1631.

<sup>166</sup> Reneri to De Wilhem, 10 September 1631(a); Reneri to De Wilhem, 18 October 1631.

<sup>167</sup> Principe and DeWitt, *Transmutations*, 4-5.

<sup>168</sup> See also Bisterfeld's letter to Rivet of 1 January 1631 below, pp. 192-93, in which he writes that by practising chemical medicine Reneri could have grown rich quickly in Transylvania.

<sup>169</sup> Reneri to De Wilhem, 10 September 1631(a).



## Chapter 2

### Biography II: Professor of Philosophy

#### 2.1. Deventer (1631-1634)

##### 2.1.1. *The Selection Procedure*

In October 1631 Reneri finally obtained a professorship of philosophy. On 25 August 1631 David Scanderus (1601-1631), professor of physics and metaphysics at the Deventer Illustre Gymnasium, the illustrious school which was founded only one and a half year earlier, died. This forced the administration to look for a new professor of philosophy—and Reneri was one of the candidates.<sup>170</sup>

The resolutions of the school board (*schoolraad*), which was charged with the supervision of all schools in Deventer, allow us to follow Reneri's application in detail. The school board consisted of two burgomasters, two ministers, two representatives of the *gezworen gemeente* (the representative body of the eight districts of Deventer), and the professors.<sup>171</sup> In the school board meeting of 16 September 1631, Reneri as well as the physician Gisbertus van Isendoorn (1601-1657) were mentioned as possible successors of Scanderus.<sup>172</sup> The minister and professor of theology Caspar Sibelius (1590-1658) and the professor of logic and ethics Henricus Gutberleth (1572-1635) were charged with collecting information on the applicants' "quality, conduct and behaviour," and report their results.<sup>173</sup>

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<sup>170</sup> Revius, *Daventria illustrata*, 690-91.

<sup>171</sup> On 12 June 1633 Reneri inspected the Deventer schools together with burgomaster Hendrick Nijlant. See the resolutions of the school board, SAB, 804, inv. no. 1, 85.

<sup>172</sup> I have found no evidence for the claim of, among others, Bilikiewicz, in "Johann Jonston," 362, and Fischer, in *Scots in Germany*, 224, that the Polish-Lithuanian John Jonston was offered the professorship of philosophy at Deventer by Vedelius in 1631, that is, as a rival candidate to Reneri and Van Isendoorn. He would have declined because he preferred a tutoring job in the Leszczyński family. See also below, p. 189.

<sup>173</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 79; Revius, *Daventria illustrata*, 691.

Reneri's friend Rivet had recommended him to Sibelius, Gutberleth, and the professor of theology and Hebrew Nicolaus Vedelius (1596-1642),<sup>174</sup> while Reneri was also recommended to Sibelius by his former professor Polyander. In a letter of 14 September 1631, Polyander wrote:

I do not doubt that a very learned man will be appointed in his [i.e., Scanderus'] place. Such a man is *magister* Henricus Reneri, who lives in the house of the Reverend Mr. Ludovicus de Dieu. This *magister* is renowned for his piety<sup>175</sup> and endowed with moral integrity. He is also a very acute disputer and a very diligent man, who knows how to link praxis with theory.<sup>176</sup>

The result of the enquiry was apparently in favour of Reneri,<sup>177</sup> because, on 3 October, Reneri was proposed by Sibelius and Gutberleth, and elected by the school board. A day later, on 4 October, his election was confirmed by the municipality.<sup>178</sup> On 7 October he was appointed on the same salary and emoluments as Scanderus.<sup>179</sup> These were 600 guilders a year with free housing,

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<sup>174</sup> Polyander to Sibelius, 14 September 1631, manuscript copy in *Historica narratio Caspari Sibelii de curriculo totius vitae et peregrinationis suae*, vol. 2, SAB, 101 H 17 KL, 94; Reneri to Rivet, 2 June 1632.

<sup>175</sup> *Insignis pietate* was the epithet of Aeneas. E.g., Virgil, *Aeneid*, 1.10.

<sup>176</sup> Polyander to Sibelius, 14 September 1631, manuscript copy *Historica narratio Caspari Sibelii de curriculo totius vitae et peregrinationis suae*, vol. 2, SAB, 101 H 17 KL, 93: "Non dubito quin in ejus locum Philosophum pereruditum vocatum iri. Talis est Magister Henricus Reneri, qui mensâ utitur in domo Rev. D. Ludovici de Dieu. Hic Magister est insigni pietate morumque integritate praeditus. Acutissimus quoque est disputator et valde industrius, qui praxim novit conjungere cum Θεωρία." In *Écrivains français*, 473-74, (which refers to the former shelf mark: MS 1716) Cohen provides a French translation of this passage. Cohen erroneously writes that the addressee was Caspar van Goor; the church minister Caspar Sibelius van Goor (1646-1696) was the grandson of professor Sibelius.

<sup>177</sup> According to Scanderus' biography in Revius' *Daventria illustrata*, based on a letter from Scanderus to Rivet of 30 May 1649, he withdrew from application. See Revius, *Daventria illustrata*, 696. The resolutions of the school board, SAB, 804, inv. no. 1, 80, however, indeed suggest election: "the vote was unanimous in favour of *magister* Henricus Reyneri" ("[...] zijn de stemmen eenparich gevallen op D. Magistrum Henricum Reyneri").

<sup>178</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 80; Revius, *Daventria illustrata*, 691.

<sup>179</sup> Revius, *Daventria illustrata*, 691. I have found three copies of his appointment: in the documents concerning the negotiations over the appointment and salary of the professors, SAB, 691, inv. no. 338; in the resolutions of the school board, SAB, 804, inv.

or 700 without.<sup>180</sup> On 8 October the municipality sent Reneri a letter of appointment.<sup>181</sup>

Reneri responded in a letter of 10/20 October, which was read to the school board ten days later, after it had been read in a meeting of the town council first.<sup>182</sup> Reneri informed the municipality that he took pleasure in accepting his appointment, and he promised to arrange his domestic affairs and move to Deventer as soon as possible, in any case within a month, so that the students would no longer be deprived of philosophical instruction.<sup>183</sup> He moved to Deventer between 1 and 20 November.<sup>184</sup> First he lived in the house of a certain Mr. Capelle on the Lange Bisschopstraat called “in de Wijndruyve” (“in the Wine Grape”).<sup>185</sup> On 19 August 1632, after his marriage to Anna Vivien, the couple moved into a house on the Brink,<sup>186</sup> and on 17 October 1633 they moved again, but to which address is not known.<sup>187</sup>

Reneri’s departure for Deventer was commemorated in a poem by “J.A.D.L.,” his former pupil Adam van Lockhorst (J[uvenis] A[dam] d[e] L[ockhorst]). In the 84-line poem, “Lachrymae Leydenses” (“Leiden’s tears”), Reneri’s leaving Leiden is described as a sad loss to the city of one of its two pearls of wisdom, the other one being Burgersdijk.<sup>188</sup>

no. 1, 82; and among copies of the letters of appointment, SAB, 806, inv. no. 24.

<sup>180</sup> Van Slee, *Illustre School*, 16, 33-34.

<sup>181</sup> Burgomasters, aldermen, and town council of Deventer to Reneri, 8 October 1631.

<sup>182</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 80; Revius, *Daventria illustrata*, 691.

<sup>183</sup> Reneri to the burgomasters, aldermen, and town council of Deventer, 10/20 October 1631.

<sup>184</sup> Reneri to De Wilhem, 29 October 1631; Descartes to Mersenne, [October or November 1631], in AT, 1:228/CM, 3:213; Mersenne to Rivet, 20 November 1631, in CM, 3:226. Reneri became a member of the Dutch reformed church in Deventer (there was no Walloon church in Deventer until the beginning of the eighteenth century), but the membership records for 1631 do not survive.

<sup>185</sup> According to a letter from Reneri to De Wilhem of 10/20 December 1631, he lived in the house of Capelle, while his marriage confirmation of 9 July 1632 mentions the Lange Bisschopstraat as his address. Presumably this was the same address. There indeed lived a Marten van der Capelle on the Lange Bisschopstraat, who sold his house in 1647. See the register of real estate transfers, SAB, 722, inv. no. 134f, 225. I have not found a specific house with the name Wijndruyve.

<sup>186</sup> Reneri to De Wilhem, 17 August 1632; membership records of the Dutch Reformed church in Deventer, SAB, 1058, inv. no. 116, 8.

<sup>187</sup> Reneri to Booth, 25 October 1633.

<sup>188</sup> Revius, *Daventria illustrata*, 691-93. A copy of the original poem is kept in the

### 2.1.2. *Appointment to the Chair*

On 16 November Reneri appeared in person before the school board and signed a declaration of adherence to Reformed doctrine (“acte van eendracht ende suiverheit in de leere”).<sup>189</sup> By signing this Reneri subscribed to the Three Forms of Unity (that is, the Dutch Confession, the Heidelberg Catechism, and the Canons of Dort) and declared that he would not teach anything that was in conflict with it, under penalty of dismissal.<sup>190</sup> In the meeting it was decided that Reneri would deliver his inaugural address on 22 November, but for unknown reasons this was later postponed to 28 November.<sup>191</sup>

On 23 November the teaching of metaphysics was temporarily suspended and substituted by that of rhetoric.<sup>192</sup> The reason for this is not known, but the fact that this issue was not raised until Reneri’s first meeting with the school board suggests that it was at Reneri’s request. Moreover, Reneri’s successor Van Isendoorn did not teach rhetoric.<sup>193</sup> Metaphysics does not seem to have interested Reneri much. On the other hand, it could also have been a question of priorities since Reneri expressed his “willingness to give private instruction in metaphysics to those who request it.”<sup>194</sup>

Reneri’s inaugural address, which was delivered on 28 November 1631,<sup>195</sup> does not survive, but we can learn its tenor from Reneri’s summary of it in his Utrecht inaugural address. The subject was the decline of philosophy in his age, or in his own words: “why the disciplines that flourished in ancient Greece are generally neglected in our time and even despised by most.”<sup>196</sup> On the occasion

archives of the Van Rhemen family, GA, 0993, inv. no. 380.

<sup>189</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 81; Revius, *Daventria illustrata*, 693.

<sup>190</sup> Declaration of adherence to Reformed doctrine, with biographical data of the professors, SAB, 806, inv. no. 24.

<sup>191</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 82.

<sup>192</sup> *Ibid.*; Revius, *Daventria illustrata*, 694.

<sup>193</sup> De Haan, “Wijsgerig onderwijs te Deventer,” 63.

<sup>194</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 82: “[...] bereidt privatim in Metaphysicis te instrueeren degheene die sulx sullen versoeken.” De Haan, in “Wijsgerig onderwijs te Deventer,” 48, is thus mistaken when he claims that it was Revius who proposed to give *collegia privata* in metaphysics.

<sup>195</sup> Revius, *Daventria illustrata*, 694. See also the expense accounts of treasurer Johan Luelof over 1631, SAB, 698, inv. no. 46, fol. 17.

<sup>196</sup> Reneri, “Oratio inauguralis,” [174]: “[...] cur hae disciplinae olim in Graecia adeò

of Reneri's inauguration, the minister and poet Jacobus Revius (1568-1658), who was one of the founders of the Illustre Gymnasium, composed a poem, "Laurus rediviva." In this poem, in Greek, Latin, French, and Dutch, Revius compares the Gymnasium to a laurel tree that has been revived by Reneri's appointment, thus completing the number of professors again. Reneri seems to have thought it was composed in honour of him,<sup>197</sup> but although the poem certainly celebrates Reneri as a man of great learning, it was in fact a panegyric on the Gymnasium.<sup>198</sup>

### 2.1.3. *The Teaching of Philosophy at Deventer*

Although first-year students were formally required to study philosophy for two years, few would have actually done so—all the more since the Gymnasium, being an illustrious school, did not have the *ius promovendi* (that is, the right to confer academic degrees). The public lectures (*lectiones publicae*) were given every day, except Wednesday and Saturday, which were reserved for disputations. The public lectures were given in the Lamme van Diese convent on the Pontsteeg, which was equipped as philosophical auditorium. Because the *ordines lectionum* (the syllabi of the lectures) from the years Reneri taught at Deventer do not survive, we do not know for certain how many classes he gave. In the year the Gymnasium was founded, however, it was decided that Gutberleth would daily teach from 8:00 to 9:00 in the morning, while Scanderus would teach from 11:00 to 12:00 in the morning and from 2:00 to 3:00 in the afternoon. This means that Scanderus taught eight classes a week,

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florent, quae nunc apud nos squalidae sunt, & apud plerosque omnes despiciantur."

<sup>197</sup> Reneri to De Wilhem, 10/20 December 1631.

<sup>198</sup> "Laurus rediviva. In felicem inaugurationem Cl. & Doctiss. V.D. Henrici Reneri artium libb. M. & designati Philosophiae Professoris in illustri Gymnasio Daventriensi anno MDCXXXI XXVIII D. Nov." A copy of the original poem is kept in the archives of the Van Rhemen family, GA, 0993, inv. no. 380. The reprint in Revius, *Over-ysselsche sangen en dichten*, 327-30, lacks the 6-line Latin poem about the death of one of Revius' daughters, which inspired him to write the poem. In a letter to De Wilhem of 10/20 December 1631 Reneri explains the metaphor: After the severe winter of 1630 the laurel tree in Revius' garden, against all expectations, revived. This gave new strength to Revius after his recent loss. See also Verbeek, "Henricus Reneri," 124-25 n. 4. Revius' poem "Danckbaerheit op de veroveringe der Stadt Rijnberck, ende andere Overwinningen inden aenvanc des jaers 1633" was dedicated to Reneri. The archives of the Van Rhemen family keep a copy of the original of this poem as well (GA, 0993, inv. no. 380). It was reprinted in Revius, *Over-ysselsche sangen en dichten*, 355-61.

the double of Gutberleth—which is not unlikely, given that Gutberleth was also headmaster of the Latin School of Deventer. Since Reneri would have had the same teaching load as his predecessor, he most likely, too, taught eight classes a week. This was a heavy teaching load and already from the beginning of his professorship Reneri complained about the burden of his “double professorship” (“duplex professio”), having to teach both physics and rhetoric.<sup>199</sup> Reneri resumed teaching physics where Scanderus had stopped.<sup>200</sup>

In addition to the public lectures the professors gave *collegia privata*. A *collegium* was a group of students of the same level that frequently met during a period of time to further discuss the subject matter of the public lectures, prepare for an examination, or practise disputations on a specific subject. At Deventer professors were not allowed to charge the students for these *collegia*—unlike professors at other illustrious schools and universities, for whom the revenues from *collegia privata* were a welcome addition to their basic salaries. Reneri offered to give *collegia privata* in metaphysics. Whether he actually did this is not known, but he presumably gave *collegia privata* in physics.<sup>201</sup> The *collegia privata*, or *collegia domestica* as Reneri calls them (they were usually given at home), proved much more fruitful than the public lectures, because they were pre-eminently suited for an individual approach of each student at his own level and it was only in these classes that textbooks were allowed.<sup>202</sup>

The *collegia privata* generally provided the subject matter of disputations. Since the Illustre Gymnasium as an illustrious school did not have the right to confer degrees, the disputations were only *exercitii gratia* (“for the sake of practise”) and not *pro gradu* (“to obtain a degree”). Deventer students nevertheless regularly defended theses in public at the end of their studies as was common at universities. Twenty copies were distributed to the members of the municipality, the school board, the ministers, the professors, and the town library. The rest were distributed among the students in order for them to prepare themselves in case they wanted to oppose. No Deventer disputations that were defended under Reneri survive—we do not even know if any of them were printed.<sup>203</sup>

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<sup>199</sup> Reneri to De Wilhem, 10/20 December 1631.

<sup>200</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 82.

<sup>201</sup> See below, pp. 126-27.

<sup>202</sup> On private instruction and *collegia* in general, see Ahsmann, *Collegia en colleges*, 324-36; Van Miert, *Humanism*, 115-26.

<sup>203</sup> For the years 1631-34 no Deventer disputations have survived at all. See Van Sluis, “Bibliografie van Deventer disputaties.”

This is also the reason why little is known about Reneri's classes at Deventer, except that, according to Reneri, he taught physics in an unusual way.<sup>204</sup> Reportedly, he also tried out his Ramist-like method of logic there.<sup>205</sup> The school regulations prescribe a pure Aristotelianism: "One must uphold only Peripatetic philosophy. One must explain Aristotle's text from the lectern."<sup>206</sup> But as in other places this left much room for individual variation. Much 'heterodoxy' was possible, especially in the *collegia privata*, as long as Aristotle was not overtly or expressly attacked. This experienced the Ramist Gutberleth, Reneri's colleague in philosophy. In 1619 he was appointed headmaster of the Deventer Latin School, where the instruction in logic was organized along Philippo-Ramist lines.<sup>207</sup> In 1630 he became professor of logic and ethics at the newly founded Illustre Gymnasium. The instruction in logic at the Gymnasium probably contained Ramist elements as well, but when a disputation, which was to be defended under him, was printed containing a "corollary about the perfection of Ramist logic and the imperfection of Aristotle's *Organon*,"<sup>208</sup> he was reprimanded by the school council.<sup>209</sup>

#### **2.1.4. Settling in Deventer**

Now that Reneri had a proper job, he married Anna Vivien. Born in Cologne, she lived on the Steenschuur in Leiden. Reneri, while living in Deventer, seems to have regularly stayed on the Steenschuur as well.<sup>210</sup> On 1 July 1632 the couple had the banns proclaimed in Leiden, which legally contracted the marriage. Vivien's witnesses were her two nieces, Catharina and Maria Vivien, whilst Reneri's witnesses were his friend Marcus Mamuchet (b. ca. 1606) and De Dieu,

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<sup>204</sup> Reneri to De Wilhem, 20 February 1632 (OS).

<sup>205</sup> Jonston to Hartlib, August 1633, HP 44/1/2A. See below, p. 190.

<sup>206</sup> "Sola Philosophia Peripatetica obtineto. Textus Aristotelis in cathedrâ explicator." See Van Slee, *Illustre School*, 19-20 n. 3.

<sup>207</sup> De Haan, "Wijsgerig onderwijs te Deventer," 32.

<sup>208</sup> "[...] corollarium de perfectione logicae Rameae et imperfectione organi Aristotelis." See Van Slee, *Illustre School*, 64.

<sup>209</sup> On Gutberleth, see Menk, "Heinrich Gutberleth"; De Haan, "Wijsgerig onderwijs te Deventer," 39-45; DDP 1:376-77.

<sup>210</sup> All of Reneri's letters of between 20 February (OS) and the late summer of 1632 are sent from Leiden. His letter to Booth of between 1 July NS and 5/15 September 1632 was written from the house of Anna's niece Maria Vivien on the Steenschuur. See below, p.

at whose house Reneri had lived before he went to Deventer.<sup>211</sup> On 9 July the marriage was, in the absence of Anna, confirmed in Deventer.<sup>212</sup> The reason for Anna's absence seems to have been the difficulties Reneri had in finding suitable housing in Deventer. Anna did not move to Deventer until August. They never had any children.

Two months before, in May 1632, Descartes had moved from Amsterdam to Deventer to work on the *Dioptrique* and above all on *Le Monde*.<sup>213</sup> The prospect of Descartes' company made Reneri very happy: "Add to all this [i.e., the stimulating environment of Deventer] the company of Mr. de Cartes, the first among the philosophers and mathematicians, which I greatly long for (as there is a glimmer of hope) [...] and nobody can tear me away from here, not even on Attalian<sup>214</sup> terms."<sup>215</sup>

By that time Descartes might have noticed that the conditions of employment at Deventer were not so ideal as Reneri had him believe the year before: "Mr. Renery moved to Deventer five or six days ago, and he is now professor of philosophy there. The academy has no great reputation, but the professors earn more and live more comfortably than at Leiden or Franeker, where Mr. Renery would have been employed before this, if he had not refused or been negligent."<sup>216</sup> Apart from the fact that the professors at Deventer were

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<sup>211</sup> Leiden marriage register, RAL, 1004-10, K-289v. The marriage seems to have been arranged at the end of 1630. See Reneri to De Wilhem, 10/20 December 1631.

<sup>212</sup> Deventer banns and marriage register, SAB, 723, inv. no. 156, 213.

<sup>213</sup> Descartes to De Wilhem, 23 May 1632, in AT, 1:253; Descartes to Mersenne, [June 1632], in AT, 1:254-55/CM, 3:314-15; Golius to Huygens, 1 November 1632, in Huygens, *Briefwisseling*, 1:375. I have found no evidence for Cohen's claim in *Écrivains français*, 475, that Descartes lived there with Reneri.

<sup>214</sup> "Pertaining to Attalus." Attalus was the name of a number of kings of the Anatolian city of Pergamon, renowned for its wealth. These words are a reference to Horace, *Odes*, 1.1.12.

<sup>215</sup> Reneri to De Wilhem, 20 February 1632 (OS): "Quod si his omnibus accedat desideratissimum D. de Cartes, philosophorum et mathematicorum principis consortium (ut spes nonnulla affulget) [...], nemo me huic vel Attalicis conditionibus avellat."

<sup>216</sup> Descartes to Mersenne, [October or November 1631], in AT, 1:228-29/CM, 3:213: "M. Renery est allé demeurer à Deventer depuis cinq ou six iours, & il est maintenant là Professeur en Philosophie. C'est une Academie peu renommée, mais où les Professeurs ont plus de gages, & vivent plus commodément qu'à Leyde ny Fr(aneker), où M R(enery) eust pû avoir place par cy-devant, s'il ne l'eust point refusée ou negligée." It rather would have been November than October, as it would have taken Reneri some time to move, and, according to his letter to De Wilhem of 29 October 1631, Reneri at



not allowed to charge for the *collegia privata* and that they had no *ius promovendi*, which made them miss the revenues from graduation fees, Reneri's salary was in fact not so high. A salary of 600 guilders and another 100 for housing was not uncommon at the Gymnasium, but it certainly was not more than he would have earned when he would have been appointed at Franeker. Van Dam received 700 guilders for the professorship Reneri had aspired and he only taught four public lectures a week.<sup>217</sup> The average salary at Leiden ranged from 300 to 1,100 guilders depending on whether one was appointed lector, or extraordinary or ordinary professor.<sup>218</sup>

At first Reneri was content with the conditions of his professorship, judging from a letter to De Wilhem of 22 October 1631: "I was appointed at Deventer on most honourable and, for someone in my position, most favourable terms."<sup>219</sup> And four months later, in another letter to De Wilhem, Reneri wrote that the atmosphere of Deventer gave him subtle ideas, that the students were all ears, and that for such an obscure town his classes were attended by a lot of students.<sup>220</sup> Reneri even liked Deventer so much that he was not sure whether he would accept an appointment at Leiden if it was offered to him.<sup>221</sup> But at a certain moment the marginal position of the Gymnasium, the isolation of Deventer, and probably also the salary dampened Reneri's initial enthusiasm.

### 2.1.5. *Financial Problems*

Reneri was always short on money. He spent large sums on building a collection of books (eventually consisting of more than 1,000 titles) and he also financially supported his parents. As a merchant his father would have suffered severely from the economic crisis during the 1620s as well as from the Thirty Years' War.<sup>222</sup> Reneri even claimed that, in 1631, he spent on his parents all that was left after expenses for food and clothing.<sup>223</sup> Furthermore, he must have spent considerable sums on materials for experiments and instruments. The

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that time still lived in Leiden.

<sup>217</sup> Boeles, *Frieslands Hoogeschool*, 1:18.

<sup>218</sup> Sluijter, *Tot circaet'*, 123-25.

<sup>219</sup> Reneri to De Wilhem, 22 October 1631: "[...] Daventriam sum evocatus, honestissimis, et pro conditione meâ, lautissimis conditionibus."

<sup>220</sup> Cf. below, p. 54 n. 251.

<sup>221</sup> Reneri to De Wilhem, 20 February 1632 (OS).

<sup>222</sup> See Gutmann, *War and Rural Life*, 114-15; Israel, *Dutch Primacy*, 121.

<sup>223</sup> Reneri to De Wilhem, 10 September 1631(a).

money he earned as a tutor and later as a professor was not sufficient to pay for all this.

This forced Reneri to borrow money from his friends. Before he went to Deventer, Reneri, with the help of “old friends with whom I had lived in the past” had paid all his debts.<sup>224</sup> These old friends presumably were Rivet and his wife.<sup>225</sup> In his new hometown, however, new expenses were added in the form of philosophy books. When he was to be appointed at the *Illustre Gymnasium* he wrote to De Wilhem that he would have to become thrifty, for this new job made it necessary to buy books on philosophy.<sup>226</sup> Two weeks later, Reneri asked De Wilhem to lend him 200 guilders for this purpose: “Especially the task of collecting a philosophical library troubles me; although I am splendidly equipped with enough medical and miscellaneous books, I have virtually none on philosophy.”<sup>227</sup> He promised repayment within three or at most four years, but without interest. De Wilhem lent him the money, although it is not known whether he accepted the loss of interest.<sup>228</sup> Over the years Reneri collected an up-to-date philosophical library containing more than 200 titles—which was nevertheless still less than the number of medical books he had.

After his marriage to Anna Reneri’s financial situation did not improve,<sup>229</sup> although the financial position of her family had been one of the reasons to marry her. The first year of their marriage had cost a lot. Even though Anna had spent part of her own capital to cover the expenses of the wedding and the furnishing of their house, Reneri had to pay for the new house they moved into. On top of this, the financial support of his parents and a debt to a bookseller burdened him.<sup>230</sup>

To meet his expenses Reneri, in 1632, purchased a prebend in the chapter of Oudmunster from the Utrecht physician and alderman Cornelis Booth (1605-1678), which would yield 350 guilders a year. Reneri made a bid of 2,000 to 2,500

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<sup>224</sup> Reneri to De Wilhem, 8 October 1631: “[...] veteres amici quibus olim cohabitavi [...]”

<sup>225</sup> Reneri to Rivet, 12/22 December 1633.

<sup>226</sup> Reneri to De Wilhem, 8 October 1631.

<sup>227</sup> Reneri to De Wilhem, 22 October 1631: “Praecipuè me bibliothecae philosophicae cura angit, qui cum luculentam satis medicorum ac miscellaneorum librorum supellectilem habeam, nullos penè omninò philosophos.” According to his letter to the Deventer town council of 1 July 1633, Reneri spent more than 300 guilders on philosophy books after his appointment.

<sup>228</sup> Reneri to De Wilhem, 29 October 1631.

<sup>229</sup> Reneri to De Wilhem, 17 Augustus 1632.

<sup>230</sup> Reneri to Booth, 26 September 1633.

guilders.<sup>231</sup> The purchase was also financed out of Anna's capital.<sup>232</sup> By the end of 1632 Reneri acquired the prebend, but at what price is not known.<sup>233</sup> Since Reneri did not live in Utrecht, Booth himself administered it.<sup>234</sup>

The revenues from his prebend covered at least the growing costs of Reneri's support of his parents, who continued to be a financial burden, but he still did not earn enough to meet all his costs.<sup>235</sup> In July 1633 Reneri even sent a letter to the Deventer municipality in which he asked for a salary equal to that of his colleagues. In contrast to them, Reneri had not received a payment of 35 guilders for heating expenses. For this he sought compensation, with retroactive effect, on the argument that, although he did not have a large family, he nevertheless had a large house. Furthermore, on top of the many additional expenses which resulted from his new position, his move to Deventer, and his marriage, he had been forced to enter the private housing market, which cost him more than he could afford, whereas the other professors and the ministers, to their advantage, were allotted one by the municipality— apparently opposed to what Reneri expected since he had the choice when appointed. And the necessary living expenses nearly doubled as well, Reneri complained.<sup>236</sup>

That he was in dire straits financially, is shown by two letters from fall 1633. In a letter to Rivet of 12/22 December Reneri asks postponement of a repayment of 100 guilders he had borrowed shortly before he left for Deventer. He even asked Booth for another loan of about 250 guilders.<sup>237</sup> Moreover, Reneri urged both to keep it secret from Anna. He had not told her about his financial worries, so she was still waiting for the first revenues from his

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<sup>231</sup> Reneri to Booth, between 1 July NS and 5 September 1632.

<sup>232</sup> Reneri to Booth, 26 September 1633. The wedding, furnishing of their house, and the prebend in total cost more than the enormous sum of 5000 guilders, which Anna paid for.

<sup>233</sup> In an undated letter to Booth Reneri announces his arrival in Utrecht "loaded with money" ("sarcina nummaria gravis"), which no doubt must be understood in relation to this purchase. Therefore, this letter can be dated between 10 October and 20 December 1632.

<sup>234</sup> Reneri to Booth, 20 December 1632; Reneri to Booth, 8/18 July 1633; Reneri to Booth, 25 October 1633.

<sup>235</sup> Reneri to Booth, 26 September 1633.

<sup>236</sup> Reneri to the Deventer town council, 1 July 1633. Could the 25 guilders the town paid him on 5 August have been a compromise compensation for this? See the expense accounts of treasurer Johan Luelof over 1634, SAB, 698, inv. no. 49, fol. 13v.

<sup>237</sup> Reneri to Booth, 26 September 1633.

prebend, while Reneri had spent it already on his parents and the bookseller's bill. So he lied to his wife and had Booth send him a letter in Dutch saying that payment could take a while. Meanwhile, Reneri would try to find money elsewhere.<sup>238</sup>

Now we understand why Anna pressed Reneri to finish his medical studies, since he would earn more by practising medicine. Most of his life Reneri was in a financially unstable position and had to live on loans. In 1638, in spite of his increased income as a professor of philosophy at Utrecht, Reneri still had debts with De Wilhem.<sup>239</sup>

### **2.1.6. Growing Discontent**

The fact that Reneri did not primarily take an interest in academic philosophy but in experiments and inventions added to his growing discontent about Deventer. During his Deventer years Reneri was particularly busy with various types of water clocks and camera obscura's furnished with lenses.<sup>240</sup> Furthermore, Descartes' company had stimulated Reneri to throw himself into the study of mathematics and neglect medicine.<sup>241</sup> Although Reneri had not shown any interest in mathematics before 1633, in a letter to De Wilhem of that year Reneri claims that he had always wanted to study mathematics, but that there had never been an opportunity.<sup>242</sup> Although it is difficult to pinpoint what Reneri's interest in mathematics exactly consisted of, it is safe to say that he first of all wanted to be able to understand what Descartes told him about his mathematics.<sup>243</sup> To receive proper instruction and not to bother Descartes too much, Reneri had the Leiden student of mathematics Jean Gillot (1613/14-1657) come to Deventer in the fall of 1633. Reneri knew Gillot from Leiden. In 1627 the Gillot family had moved to Rapenburg no. 21, the house next to Rivet's, where Reneri lived at that time.<sup>244</sup> It appears that Gillot was enticed to Deventer with the prospect that Descartes' presence would be fruitful for his

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<sup>238</sup> Reneri to Booth, 26 September 1633; Reneri to Booth, 25 October 1633.

<sup>239</sup> Reneri to De Wilhem, 28 February 1638.

<sup>240</sup> Reneri to De Wilhem, 20 February 1632 (OS); Reneri to Booth, 5 June 1633; Reneri to Booth, 8/18 July 1633; Reneri to De Wilhem, 12/22 December 1633.

<sup>241</sup> Reneri to Booth, 26 September 1633; Reneri to Booth, 25 October 1633; Reneri to Booth, 2 December 1633. Reneri to De Wilhem, 12/22 December 1633.

<sup>242</sup> Reneri to De Wilhem, 12/22 December 1633.

<sup>243</sup> See below, pp. 203-6.

<sup>244</sup> Matriculation records, UBL, ASF 8, 237; NNBW, 7:471.

own progress as well.<sup>245</sup> Gillot instructed Reneri in the basics of Euclidean geometry and algebra (“l’Euclide et l’Algebre vulgaire”), although Reneri was not completely unfamiliar with mathematics as he assured Booth.<sup>246</sup> He had also told Aemilius that he had studied mathematics in his youth.<sup>247</sup> This probably was not true, since Reneri seems to have had no basic knowledge of mathematics whatsoever.

Another reason for Reneri to study mathematics was a job opportunity at the illustrious school that was to be founded at Utrecht.<sup>248</sup> Reneri not only believed that mathematics was necessary for philosophy, but he must also have thought that these additional skills would increase his chances of appointment. Gradually Reneri became dissatisfied with his academic environment. In a letter to Booth of 26 September 1633 he still seems rather indifferent to the rumour that his name was mentioned in relation to the professorship of philosophy at Utrecht. Two months later, however, Reneri excitedly enquired of Booth whether the latter could confirm the rumour that at Utrecht they agreed on appointing him. To emphasize his enthusiasm, he praised the city of Utrecht, rising above Deventer as high “as cypresses usually do among the bending osiers.”<sup>249</sup> On the other hand, although Utrecht was to be preferred above Deventer in every respect, the provincial town of Deventer allowed him to live pleasantly, free from envy and hostility, “so that I, in this desert as it were, can enjoy the great pleasure provided by the delights of mathematics and philosophical meditations.” But since more learned men or men with an interest in learning could be found in Utrecht, he asked Booth to make an effort to further his appointment.<sup>250</sup> In a letter to Rivet of 12/22 December Reneri specifies his objections to Deventer’s academic environment. Besides the lack of learned men, Reneri was discontent with the small number of students. He was under the impression that the municipality did not make any effort to let the Gymnasium flourish. There were no colleges (“table

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<sup>245</sup> Reneri to De Wilhem, 12/22 December 1633.

<sup>246</sup> Reneri to Booth, 26 September 1633.

<sup>247</sup> Aemilius, *Oratio in obitum Renerii*, 12.

<sup>248</sup> Reneri to Booth, 26 September 1633.

<sup>249</sup> “Quantum lenta solent inter Viburna Cupressi.” As Virgil says of Rome in *Ecloques*, 1.24-25.

<sup>250</sup> Reneri to Booth, 2 December 1633: “[...] ut possim in hac veluti solitudine voluptate magna frui, quam dulcedo matheseos ac philosophicarum meditationum conciliat.” A week later Reneri again heard the rumour that they wanted to appoint him at Utrecht, now from the mouth of a Deventer merchant who had returned from Utrecht. See Reneri to Rivet, 12/22 December 1633; Reneri to De Wilhem, 12/22 December 1633.

commune”) for the students from outside Deventer, as Harderwijk, Franeker, and Groningen had. As a result, the high living expenses in Deventer chased away the less wealthy students, whilst the rich went to towns that were frequented by large numbers of professors and students.<sup>251</sup> Reneri’s name was indeed mentioned at Utrecht as a possible candidate, but the decision to appoint him was not taken before January 1634.

## 2.2. Utrecht (1634-1639)

### 2.2.1. *The Selection Procedure*

The Utrecht town council had for a long time toyed with the idea of founding an illustrious school, but the foundation of the Athenaeum Illustre in Amsterdam in 1632 created a sense of urgency—more so since Utrecht was economically behind the other Dutch towns as a result of its suffering from incursions by the Spanish army three years earlier. Therefore, when in that same year resources became available, the founding was carried through.

The Utrecht town council wanted an illustrious school within the town “to have their youth study and prepare for university at lesser costs and without the danger of debauchery because of better supervision.”<sup>252</sup> Initially, the Utrecht Illustre Gymnasium (hereafter called Illustrious School to prevent confusion with the Deventer Illustre Gymnasium) had faculties of arts, theology, and law. A faculty of medicine was not established until 1636, when

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<sup>251</sup> The towns of Harderwijk, Franeker, and Groningen tried to attract foreign students with, among other things, colleges which provided free board and lodging, the so-called *genot van vrije tafel* (“benefit of commons”), or at a reduced price. See Aerts and Hoogkamp, *De Gelderse Pallas*, 59; Van der Meulen, “Burse van de Franeker universiteit”; and Jonckbloet, *Gedenkboek*, 406-14, respectively. Deventer indeed lacked this. In 1631 there were plans to establish a college, but nothing was heard of them again until the 1660s. On the other hand, students were granted privileges, such as special jurisdiction and tax exemption on beer. See Van Slee, *Illustre School*, 41-43. During the years 1630-34 only 69 students matriculated at the Illustre Gymnasium, who stayed an average of three years (see Van Slee, *Illustre School*, 199-201), whereas in the year 1630, for instance, 435 students matriculated at Leiden University (see *Album stud. Acad. Lugd.-Bat.*, cols. 224-32) and 80 at Franeker University (see *Album stud. Acad. Fran.*, nos. 2613-92). Cf. Van Slee, *Illustre School*, 67-68.

<sup>252</sup> Wijnne, *Resolutiën*, 14: “[...] omme hare kinderen met minder costen, oock minder pericule van debauchee ende beter opsicht te doen studeren ende bequam worden om ad Academiam gesonden te worden.”

the physician Willem Stratenus (1593-1681) was appointed professor of medicine.<sup>253</sup>

Reneri was first mentioned as a candidate professor in the minutes of the committee charged with preparing the foundation of the Illustrious School of 24 June 1633. He was mentioned as a possible professor of the whole philosophy curriculum, including political science. The committee also, for a short time, considered establishing two chairs of philosophy, namely, one which combined practical philosophy (ethics and politics) with history, the other in theoretical philosophy (physics and metaphysics) and logic.<sup>254</sup> Instead, one chair of philosophy was established, while political science would be taught by the professor of history Aemilius.<sup>255</sup> The resolutions of 21 September 1633 also mention another candidate, Nicolaus Hasius (b. ca. 1593), who had taught logic and moral philosophy at Leiden for some time in assistance to Jacchaes.<sup>256</sup> According to Booth, the German theologian and philosopher Johann Heinrich Bisterfeld, a friend of Reneri, was a candidate as well. Reneri and Bisterfeld would have been the preferred candidates.<sup>257</sup> In addition, Gerardus Joannes Vossius (1577-1649) as well as Barlaeus recommended Du Ban to town secretary Johan van der Nypoort (1602-1662).<sup>258</sup> In the town council meeting of 4 November 1633 a committee, consisting of Van der Nypoort, former burgomasters Peter Cornelisz. van der Lingen (ca. 1572-1638) and Aernt Foeyt (d. 1643), aldermen Gillis van der Eggen (d. 1656) and Gijsbert van der Hoolck (1598-1680), and town council member Paulus Moreelse (1571-1638), were charged with collecting information on the candidates.<sup>259</sup>

In a town council meeting of 15 January 1634 the committee reported on their findings and it was decided that Reneri would be appointed professor of philosophy. The burgomasters together with the preparatory committee fixed his salary at 1,000 guilders a year, rent included. On 18 January Nypoort and Van

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<sup>253</sup> Kernkamp, *Acta et decreta*, 89-90.

<sup>254</sup> *Ibid.*, 23-24.

<sup>255</sup> *Ibid.*, 542 n. 1.

<sup>256</sup> *Ibid.*, 26. Little is known about Hasius, except for the fact that at that time he lived in Amsterdam. See Molhuysen, *Bronnen*, 2:51, 55, 58; DDP 1:487.

<sup>257</sup> Booth to Reneri, 2 January 1634. Furthermore, according to an unknown author in a letter to Hartlib of 26 February 1635, HP 11/1/51A, when Reneri (for the second time) was considered as Burgersdijk's successor in 1635, Bisterfeld, too, was nominated. See above, pp. 34-36.

<sup>258</sup> Vossius to Van der Nypoort, [1633], in Vossius, *Epistolae*, pt. 1, 267-68.

<sup>259</sup> Wijnne, *Resolutiën*, 3; Kernkamp, *Acta et decreta*, 31-32.

der Hoolck visited Reneri at Deventer, and Reneri accepted the offer.<sup>260</sup> On 20 January Reneri, at his own request, was dismissed from the Gymnasium toward Easter (which fell on 6 April (OS)).<sup>261</sup> Until Reneri's successor was appointed, the chair of physics would be temporarily held by Vedelius. On 20 March Van Isendoorn was appointed, but he did not arrive at Deventer until 9 May. He signed the declaration of adherence to Reformed doctrine on 13 August 1634.<sup>262</sup> Reneri moved to Utrecht in April to live in the Oude Munstertrans, now Trans. Shortly before, the town physician Henricus Regius had moved to the same street.<sup>263</sup> They became friends and at some moment Reneri introduced him to Descartes' philosophy. On 9 July Reneri was inscribed as a member of the Dutch Reformed Church in Utrecht, together with Anna and their maid Webbeken Swiersen.<sup>264</sup>

### 2.2.2. *The Inauguration*

On 17 and 18 June 1634 the Utrecht Illustrious School was festively inaugurated. The professors, dressed in the black robe they would wear during class,<sup>265</sup> were brought from their homes to the town hall, where members of the municipality waited for them. Next, they walked in procession to the school building. Reneri was last in the line of professors due to the status of philosophy and the fact that he was the youngest of the arts professors. The Illustrious School was accommodated in the large chapter house of the Dom church, which, before the Reformation, was used for the meetings of the five Utrecht chapters and thereafter by the States of Utrecht. The building was converted into two auditoria—the smallest served as philosophical auditorium—with the entrance on the Oudmunsterkerkhof, now Domplein, which was connected

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<sup>260</sup> Kernkamp, *Acta et decreta*, 35-37.

<sup>261</sup> Wijnne, *Resolutiën*, 5; Kernkamp, *Acta et decreta*, 28, 35, 37.

<sup>262</sup> Resolutions of the school board, SAB, 804, inv. no. 1, 86-87; declaration of adherence to Reformed doctrine, with biographical data of the professors, SAB, 806, inv. no. 24; Revius, *Daventria illustrata*, 694-95. See also De Haan, "Wijzgerig onderwijs te Deventer," 58-60.

<sup>263</sup> De Vrijer, *Henricus Regius*, 17.

<sup>264</sup> Membership records of the Dutch Reformed Church in Utrecht, HUA, 746, inv. no. 407, 6v. On 14 April they were deregistered as church members in Deventer. See the membership records of the Dutch Reformed Church in Deventer, SAB, 1058, inv. no. 116, 521. Their attestation from Deventer was received on 3 July. See De Vrijer, *Henricus Regius*, 17.

<sup>265</sup> Wijnne, *Resolutiën*, 16; Kernkamp, *Acta et decreta*, 55.



through an ambulatory with the auditoria. In one of the houses on the south side of this ambulatory the senate chamber was located.<sup>266</sup> Together, the professors formed the academic senate.



*Fig. 1: No portrait of Reneri is known. Therefore, when Utrecht University celebrated its 200th anniversary in 1836 and an engraving was made in gratitude of the first five professors, only the top of Reneri's (imaginary) head was depicted—as was that of Liraeus, probably for the same reason. Portrayed on the front row, from left to right, are Aemilius, Voetius, and Matthaëus. Behind them are Liraeus and Reneri. (The illustration is taken from Jamin, Kennis als opdracht, 109.)*

<sup>266</sup> Kernkamp, *Acta et decreta*, 47, 54-55, 73-74.

The largest auditorium, the theological auditorium, was specially equipped for the inauguration. Van der Nypoort, as town secretary, opened the ceremony. He was followed by the professor of law Antonius Matthaeus (1601-1654), who delivered his inaugural address. In the afternoon Aemilius delivered his. The next day the professor of literature Justus Liraeus (ca. 1578-1646) and Reneri delivered their inaugural addresses. Gisbertus Voetius (1589-1676), who was appointed professor of theology, would not deliver his inaugural address until 21 August 1634, because he could not immediately leave his ministry in Heusden. In his address *De lectionibus ac exercitiis philosophicis* (“On philosophical lectures and exercises”), Reneri expounded his plans for the reform of the instruction in logic and physics in order to stop the decline of philosophy.<sup>267</sup> The inauguration was completed with a festive meal in the Agnieten convent, which was attended by 89 guests, where the wine must have flowed copiously.<sup>268</sup> The following Tuesday, 24 June, the regular classes began.<sup>269</sup>

### 2.2.3. *The Teaching of Philosophy at Utrecht*

The *series lectionum*, the course schedules, from the years Reneri taught at Utrecht do not survive,<sup>270</sup> but we do know that Reneri gave two public lectures a day, from 9:00 to 10:00 in the morning on logic, and from 3:00 to 4:00 in the afternoon on physics. This meant he gave eight classes a week, on Monday, Tuesday, Thursday, and Friday. Wednesdays and Saturdays were kept for disputations, as was common at other illustrious schools and universities. In addition to this, he gave *collegia privata*.<sup>271</sup>

As early as two weeks after the first classes began, Reneri presided over the first public disputation at the Illustrious School. On 9 July 1634 Martinus Schoock (1614-1669) defended theses from across the whole philosophy curriculum (“ex omni philosophia”).<sup>272</sup> The next year, from February through

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<sup>267</sup> See below, 4.3.1. and 4.3.2.

<sup>268</sup> Buchelius, *Notae quotidianae*, 21.

<sup>269</sup> An account of the inaugural festivities, “Historijsch verhael van de inleydinge van de Illustre Schole der stadt Utrecht,” is printed in Kernkamp, *Acta et decreta*, 59-63. Nypoort et al., *Illustris Gymnasii Ultrajectini inauguratio*, [2-6], provides a Latin translation.

<sup>270</sup> Kernkamp, *Acta et decreta*, 64 n. 1.

<sup>271</sup> *Ibid.*, 37; Buchelius, *Notae quotidianae*, 22. See also below, p. 61.

<sup>272</sup> Buchelius, *Notae quotidianae*, 23. Because it was the first disputation held at the

September, Reneri supervised over a series of seven disputations on physics. They were all *exercitii gratia*, because Utrecht was as yet not a university and therefore did not have the *ius promovendi*. These disputations allow a good understanding of the kind of instruction Reneri gave. It is characterized by eclecticism and empiricism.<sup>273</sup> Apparently, it had been Reneri's intention to provide a complete and coherent treatise on physics. However, if this was his intention, he does not seem to have completed it, possibly due to his full teaching load. In a letter to Huygens of 4/14 April 1635 Reneri complains about how busy he was teaching, leaving him little time for his inventions. This may have also been the reason why, on 11 May 1635, it was decided that for the time being Reneri would teach no more than two afternoon classes a week, which reduced the total number of his public lectures to six a week.<sup>274</sup> In September 1635 two junior lecturers were appointed to take over the classes in ethics and metaphysics, leaving Reneri with his two favourite disciplines logic and physics. On 7 September Arnoldus van Goor (ca. 1607-after 1665) was appointed to give weekly two public lectures in practical philosophy.<sup>275</sup> On 24 September Arnoldus Senguerdius (1610-1668) was appointed to lecture in metaphysics twice a week.<sup>276</sup>

That his teaching load began to take its toll is supported by Reneri's letter to Huygens of 4/14 April. With this letter Reneri enclosed some pills made from distilled Spa water. According to Reneri, they were particularly beneficial for people suffering from "obstructions in the lower part of the body and the spleen in particular, which are well known to men of intellect, especially when the mind is strongly occupied and the body remains at rest without getting enough exercise."<sup>277</sup> The complaints Reneri describes here are the classical

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Illustrious School and was dedicated to the town council, the town council awarded Schoock with two Dutch riders (which had a total value of 24 guilders). See Dodt van Flensburg, *Archief*, 3:285.

<sup>273</sup> See below, 5.2. and 5.3.

<sup>274</sup> Kernkamp, *Acta et decreta*, 75.

<sup>275</sup> *Ibid.*, 79.

<sup>276</sup> *Ibid.*, 80-81.

<sup>277</sup> Reneri to Huygens, 4/14 April 1635: "[...] obstructions en la première region du corps et notamment à la ratte, lesquelles sont familiaires aux gens d'esprit, surtout si avec les grandes occupations de l'esprit, le corps se repose sans faire grands exercices." See also Ole Worm (1588-1654) to Thomas Bartholin, 7 January 1639, in Bartholin, *Epistolae*, 2. In this letter Worm, who had learned about these pills from Elichmann himself, writes that their basic ingredient was a thick juice collected from mineral water through distillation. Furthermore, he believed they could cure melancholy, but he rejected

syndrome of hypochondriacal melancholy. Since this type of melancholy was associated with the studious and solitary life of scholars, which goes back to the Aristotelian idea that all great philosophers and other men of genius are melancholics, it was referred to as “scholars’ disease.”<sup>278</sup> The fact that Reneri, too, had used these pills indicates that he suffered from mental strain himself.

Not long before, in March or April 1635, Descartes had moved to Utrecht.<sup>279</sup> He only stayed there for less than a year, for he left for Leiden in the beginning of 1636.<sup>280</sup>

Despite the reduction of his teaching load, Reneri was still very busy. On 29 October 1635 Huygens sent him a letter, in which he complains: “There was a time you regularly sent me a letter with something new, either heard from other people or discovered yourself. It has been too long since this last happened.”<sup>281</sup> Reneri could not find the time to update Huygens on his inventions, but he was hard at work on his method of logic (on which he had steadily worked since 1630), the camera obscura, and the thermometer.<sup>282</sup>

On 16 February 1636 the States of Utrecht raised the Illustrious School to the status of university. This granted the professors the right to confer

Elichmann’s claim that they were a universal remedy for all diseases. Cf. the enquires about the beneficial properties of Spa water and Elichmann’s pills Henry Oldenburg enclosed on behalf of Sir Joseph Williamson (1633-1701) in a letter to René Sluse of 26 April 1673, in Oldenburg, *Correspondence*, 9:628-29, and Sluse’s answer of 29 January 1674, in Oldenburg, *Correspondence*, 10:448-49.

<sup>278</sup> Hypochondriacal melancholy was one of the three types of melancholy that were distinguished in the seventeenth century. This diagnosis goes back to the Galenic doctrine of the four humours, or body fluids: blood, phlegm, yellow bile, and black bile. According to this doctrine, both mental and physical health depend on a proper balance between the four humours. Hypochondriacal melancholy originates from the spleen. An abundance of black bile, which is secreted by the spleen, causes this type of melancholy. See Burton, *Anatomy of Melancholy*; Blok, *Caspar Barlaeus*, 21-28.

<sup>279</sup> Descartes’ letter to Golius of 16 April 1635, in AT, 1:314-16, provides the date *ante quem*. Van Schurman’s letter to Rivet of 18 March 1635 (UBU, Hs. 8\*.F.19), in which she writes that she visited Descartes, suggests that he already lived in Utrecht at that moment, since Van Schurman would not have gone to Amsterdam to see Descartes. Another possibility is that Descartes was in town to prepare his move.

<sup>280</sup> Descartes to Mersenne, [March 1636], in AT, 1:338/CM, 6:42.

<sup>281</sup> Huygens to Reneri, 29 October 1635: “Fuit autem cum epistolio me subinde compellares, ubi quid rei novae, vel aliunde accepisses, vel ipse repperisses. Nunc hoc cessatum est nimis diu.”

<sup>282</sup> Reneri to Huygens, 4/14 April 1635; Reneri to Huygens, 22 October 1635.

academic degrees.<sup>283</sup> On 16 March the inaugural ceremony of two years earlier was rehashed for the inauguration of the university. Van der Nypoort, the second professor of law Bernardus Schotanus (1598-1652), who was appointed on 27 August 1635 and since 21 September also lectured on mathematics,<sup>284</sup> and Aemilius delivered addresses in the Dom church, in the presence of distinguished guests. The day was, again, concluded with a festive meal in the Agnieten convent, which was this time even attended by 102 guests.<sup>285</sup>

Shortly thereafter, Reneri conferred the first master's degree of Utrecht University on Schoock. On 14 and 15 March 1636 Schoock was examined before a committee of professors and four members of the town council. On 29 March, after he had delivered a disputation *pro gradu* on miscellaneous theses, Schoock was publicly promoted to doctor of philosophy and master of arts by Reneri in the Dom church.<sup>286</sup>

That same year great misfortune befell Reneri. On 13 June his wife Anna died.<sup>287</sup> She was buried in St. Catharine's church.<sup>288</sup>

#### 2.2.4. *Overworked*

Reneri's heavy teaching load, his own philosophical endeavours, and probably also the loss of his wife eventually caused him to be overworked. In 1638 he gave six public lectures and twelve private lessons as part of *collegia privata* a week,<sup>289</sup> and also supervised disputations. On top of this, he experimented, in

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<sup>283</sup> Kernkamp, *Acta et decreta*, 84-88.

<sup>284</sup> *Ibid.*, 77-78, 80.

<sup>285</sup> An account of the inaugural festivities, "Historisch verhael van de inauguratie van de Academie te Utrecht," is printed in Kernkamp, *Acta et decreta*, 92-101. A Latin translation can be found in Nypoort et al., *Academiae Ultrajectinae inauguratio*, [iii-viii].

<sup>286</sup> *Album prom. Rheno-Traj.*, 1. Because Schoock was the first to obtain his master's degree in liberal arts at Utrecht, the town council decided to award Schoock with 10 or 12 Flemish pounds (which had the value of 60 and 72 guilders, respectively). See Wijnne, *Resolutiën*, 22-23; Kernkamp, *Acta et decreta*, 91, 103-4. The States of Utrecht awarded him with 50 guilders for his dedication. See the resolutions of the States of Utrecht, 24 March 1636, HUA, 233, inv. no. 264-41. The disputation itself does not survive.

<sup>287</sup> On 11 October 1634 Reneri and Anna had been given permission by the Court of Utrecht to make their will before the notary public Willem Hendrickszn Nijpoort. See Putman, *Index*, 228 and 287, respectively.

<sup>288</sup> Utrecht burial register, HUA, DTB 122, 191.

<sup>289</sup> Reneri to De Wilhem, 28 February 1638; Reneri to Mersenne, early March 1638.



his free time, with plants and animals, made inventions in optics, and studied mathematics, in particular Descartes' *Géométrie*. During the winter vacation of 1637/38,<sup>290</sup> Reneri spent five weeks with Descartes in Santpoort.<sup>291</sup>

Reneri had to spare himself: "If I had more leisure, I would invent even more very great things, but everyone cannot but be content with the vocation God has given us, and 'who goes slowly goes far.'"<sup>292</sup> On 26 February 1638 the number of his public lectures was further reduced to four a week.<sup>293</sup> On 11 July Van Goor and Senguerdus were appointed extraordinary professors of philosophy. The fact that this was "on the express understanding and with the intention that the number of professors of philosophy will be two when death occurs" no doubt meant that there was a general expectation that Reneri would die soon.<sup>294</sup> After intensive lobbying by Reneri, Regius was appointed extraordinary professor of theoretical medicine and botany.<sup>295</sup>

In a letter to Mersenne of early March 1638 Reneri hints at his poor health when he writes he was so busy making observations that he not only forgot his friends, but often also himself.<sup>296</sup> From the fall of 1638 Reneri's health deteriorated and he decided to slow down.<sup>297</sup> According to Aemilius, Reneri fell ill from exhaustion, which was caused by continuous work and frequently staying awake and meditating overnight. He was never to recover again. Aemilius further claims that Reneri suffered from a fever for more than six months before he died, that is, since September.<sup>298</sup> According to the Utrecht antiquarian Arnoldus Buchelius (1565-1641), who kept a diary about what

<sup>290</sup> At Utrecht University the winter holidays lasted from 24 December to 1 February. On the academic holidays of Utrecht University, see Bos, *Correspondence*, lii-liii.

<sup>291</sup> Reneri to De Wilhem, 28 February 1638; Reneri to Mersenne, early March 1638. Since Reneri was still in Utrecht on 1 January 1638, he probably spent January and the first week of February at Descartes'. See Reneri to Huygens, 1 January 1638 (NS).

<sup>292</sup> Reneri to De Wilhem, 28 February 1638: "Que si j'avoy plus de loisir je conceveroy encore des bien grandes choses, mais chacun se doit contenter de la vocation ou Dieu nous a mis: et qui va piano va lontano." *Qui va piano va lontano* is a common Italian proverb.

<sup>293</sup> Kernkamp, *Acta et decreta*, 124. In a note of February 1639 Buchelius (*Notae quotidianae*, 83) calls Reneri "professor of logic," which could indicate that Reneri by that time only gave logic. See also below, p. 63 n. 299.

<sup>294</sup> Kernkamp, *Acta et decreta*, 127: "[...] met expressen verstande ende intentie, dat men 't getal der professores philosophiae bij versterff sal laten comen op twee."

<sup>295</sup> See below, pp. 231-32.

<sup>296</sup> Reneri to Mersenne, early March 1638.

<sup>297</sup> Reneri to Vossius, 9/19 September 1638.

<sup>298</sup> Aemilius, *Oratio in obitum Renerii*, 13.

happened in Utrecht, on the other hand, Reneri did not fall ill until he married.<sup>299</sup> Reneri married in second wedlock to Anna van Velthuysen, a cousin of burgomaster Dirck van Velthuysen, on 21 October 1638 in the Buurkerk on the Steenweg.<sup>300</sup> Within a month after their wedding they moved.<sup>301</sup>

In the beginning of 1639 Reneri's poor health rapidly grew worse.<sup>302</sup> To diagnose the condition he suffered from is virtually impossible, not to mention

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<sup>299</sup> Buchelius, *Notae quotidianae*, 83, in a note of February 1639: "Reinerius, the professor of logic at the Utrecht Academy, is ill from the moment he married and now and then has attacks of delirium." ("Reinerius professor logices in Academia Traiectina ab illo tempore, quo duxit uxorem, male habuit et aliquando delirio tentatur [...].") In *Vie de Descartes*, 2:19, Baillet claims that for Reneri his illness was the reason to engage in second wedlock, since his friends convinced him that a marriage would be beneficial for his health. See also below, p. 96.

<sup>300</sup> Utrecht marriage register, HUA, DTB 96, 197.

<sup>301</sup> Reneri to De Wilhem, 28 February 1638; Reneri to Rivet, 17 November 1638.

<sup>302</sup> In his letter to Descartes of [early February 1639], in AT, 2:527/Bos, *Correspondence*, 12, Regius asks Descartes if he could visit him without Reneri's company because of the latter's "frequent indispositions." To show that Reneri already was ill at the beginning of 1639, Bastin in "Henri Reneri," 283, quotes from an unspecified letter from Descartes to Reneri of January 1639, in which Descartes expresses his concern about the health of his correspondent. What is puzzling is that this letter proves to be AT, 2:600-611, which provides no correspondent or date. The only clue is that Descartes had just visited his correspondent and when leaving received a sheet of paper with the two mathematical problems involving equations of the third degree which Johan Stampioen Jr. (under the alias of Johannes Baptista of Antwerp) had posed as a public challenge in 1638. Descartes read it on his way back on the boat from Haarlem. The present letter contains Descartes' solution. According to a handwritten note in the Insitut de France's copy (shelf mark MS 4471) of Clerselier's edition of Descartes' correspondence (Descartes, *Lettres*, vol. 3, appendix, 66), the addressee was either Huygens or Frans van Schooten Jr. According to Adam and Tannery (AT, 2:600), it was sent to Huygens in October 1639. According to Adam and Milhaud (AM, 3:142), on the other hand, it was sent to Van Schooten at the end of 1638 or at the beginning of 1639, but this edition had not been published yet when Bastin wrote his article. In "Sur une lettre de Descartes," 206-8, Maronne convincingly argues that it was written to Van Schooten between the fall of 1638 and March 1639. Bastin does not mention his source, but the specific and variant correspondent and date are at least remarkable. Could the fact that the correspondent is ill, be the argument for Bastin to think the letter was addressed to Reneri and that it must have been written before Reneri was dangerously ill? Then still, it is striking Bastin dates it January and not, for instance, February. There is a possibility he saw the original letter. Although Reneri was no mathematician, he certainly was interested in the subject and he had spent the previous summer studying

the causes. A short biography of Reneri in the archives of the Deventer Illustre Gymnasium (which erroneously says that he died in February 1639) claims that he suffered from tertian fever.<sup>303</sup> On 25 February his condition was so bad that the administrators were allowed to negotiate with Senguerdius about raising his salary on the condition that he would bind himself for several years.<sup>304</sup> On 4 March Buchelius made a note that Stratenus and Timan Gesselius (b. 1591), the doctors attending Reneri, had lost all hope: “Dr. Reijnerius is dangerously ill and sometimes he appears to be delirious, so much so that there is little hope of his recovery; the physicians Stratenus and Gesselius are treating him in vain.”<sup>305</sup>

Reneri finally died on 10 March 1639,<sup>306</sup> 46 years old. According to Aemilius, Reneri’s immediate cause of death were hypochondriacal obstructions, also known as “scholars’ disease.” Reneri already wrote about this illness in his letter to Huygens of 4/14 April 1635.<sup>307</sup> He died in the arms of his friend, the Dutch Reformed minister Bernardus Busschoff (1592/93-1639),<sup>308</sup> who encouraged him and talked to him about life after death.<sup>309</sup>

the *Géométrie*. Moreover, he seems to have known Jacobus van Waesenaer, who is mentioned in the letter. Furthermore, Descartes seems to have been in Utrecht in December 1638 to meet both Reneri and Christian Otter. See below, pp. 222-23. It should be taken into account, however, that Bastin in the whole article tends to exaggerate Reneri’s significance, probably out of regionalist inclinations.

<sup>303</sup> Declaration of adherence to Reformed doctrine, with biographical data of the professors, SAB, 806, inv. no. 24. Bastin, “Henri Reneri,” 282, for some reason, thinks Reneri suffered from pulmonary tuberculosis.

<sup>304</sup> Kernkamp, *Acta et decreta*, 131; Buchelius, *Notae quotidianae*, 83.

<sup>305</sup> Buchelius, *Notae quotidianae*, 86: “Doctor Reijnerius periculose laborat et interdum delirare videtur, adeo ut exigua de eius reconvalescentia spes sit, Stratenus et Gesselio medicis eius curam frustra habentibus.”

<sup>306</sup> Van Meurs, “Utrecht. Overluidingen,” 146.

<sup>307</sup> See above, pp. 59-60.

<sup>308</sup> Monchamp, in *Cartésianisme en Belgique*, 123-24, erroneously assumes that by Busschovius Gerard van Gutschoven (Gutschovius) is meant. On Busschoff, see NNBW, 6:242.

<sup>309</sup> Aemilius, *Oratio in obitum Renerii*, 13. According to an editor’s note in Gassendi, *Opera*, 6:31, Reneri died on the day of his marriage: “On the very day he married his wife in Utrecht, this Reneri became unwell during the feast and, after being carried away, he died a few hours later, and thus he did not find the marriage bed, but the bier. Bornius tells this, who just finished his philosophical studies under him.” (“Is Reneri eo ipso die, quo uxorem duxit Ultraiecti, coepit per convivium malè habere, & ex eo eductus paucis post horis interijt, sicque non thalamum, sed feretrum invenit. Narravit



With regard to Reneri's mental strain, Rivet ascribed Reneri's death to Descartes' philosophy.<sup>310</sup> Supposedly, Rivet meant that Reneri's interest in Descartes' philosophy had caused him to be overworked. He could have gotten this idea from the funeral oration, which was delivered by Reneri's colleague and friend Aemilius. In the oration Aemilius says that Reneri was inspired in his study of nature by Descartes, and that Reneri not only suffered from a heavy teaching load, but also regularly stayed up overnight.<sup>311</sup> In one of his letters to De Wilhem he speaks of "nocturnal meditations, with which I, awake in the early morning, feed my mind."<sup>312</sup> Irregular sleep was considered to be highly unhealthy and a cause of melancholy.

### 2.2.5. *The Funeral*

Reneri was buried in St Catharine's church, where his first wife Anna Vivien was buried too.<sup>313</sup> The funeral took place on 17 March in the presence of the municipality, Reneri's fellow professors, students and, according to Regius, a great mass of people.<sup>314</sup>

The next day, on 18 March, everybody gathered again in the Dom church to listen to the funeral oration.<sup>315</sup> According to Regius, Aemilius' oration was widely praised for its beauty and impact. Aemilius recalled Reneri's life and characterized him as generous, frank, simple, pleasantly mannered, modest, honest, devout, inquisitive, diligent, and learned. Furthermore, quoting the

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Bornius, qui sub ipso suum Philosophiae curriculum iam absolverat.") This evidently false claim was copied by Baillet, in *Vie de Descartes*, 2:19, but already refuted by Burman, *Trajectum eruditum*, 303. See Bos, *Correspondence*, 15 n. 1. Henricus Bornius, who indeed had been a student of Reneri, may have been misinformed himself. On Bornius, see below, pp. 226-28.

<sup>310</sup> Descartes to Mersenne, 16 October 1639, in AT, 2:593/CM, 8:545; Descartes to Huygens, 3 January 1640, in AT, 3:741. Mersenne was surprised to learn this story from Rivet. See Mersenne to Rivet, [middle August 1642], in CM, 11:233-34. Cf. Descartes to Mersenne, 13 October 1642, in AT, 3:582-83/CM, 11:299-300.

<sup>311</sup> Aemilius, *Oratio in obitum Renerii*, 13.

<sup>312</sup> Reneri to De Wilhem, 20 February 1632 (OS): "[...] nocturnas meas meditationes, quibus summo mane excitatus animus pasco."

<sup>313</sup> Utrecht burial register, HUA, DTB 122, 447; Des Tombe, "Lijste," 365.

<sup>314</sup> Regius to Descartes, 19/29 March 1639, in AT, 2:528/Bos, *Correspondence*, 15.

<sup>315</sup> The oration, together with a funeral poem by Aemilius, was printed, probably towards the end of 1639 (see Bos, *Correspondence*, 33 n. 6), under the title of *Oratio in obitum clariss. & praestantissimi viri, Henrici Renerii, liberalium artium magistri, & philosophiae in academiâ Ultrajectinâ professoris. [...] Accedit ejusdem carmen funebre.*

famous proverb “Plato is a friend, but a greater friend is truth,”<sup>316</sup> Aemilius defended academic freedom and praised Reneri for withstanding the authority of traditional philosophy in his search for truth and for breaking new ground. But then, halfway, the oration changes into an eulogy on Descartes: “Our [Reneri] wanted his guide and patron, the French nobleman, the Archimedes of our time, Renatus de Cartes, together with a few others, to be part of this new expeditionary force, as in the Trojan horse.”<sup>317</sup> These introductory words were followed by lavish praise of Descartes,<sup>318</sup> much to the surprise of those present, among whom was Matthaëus:

Dr. Matheus said about the funeral oration Antonius Aemylius delivered on the death of Mr. Renerius, that, although it mentioned his virtues, it left his faults unmentioned. Moreover, that it exceedingly praised a certain Frenchman du Chartres, a man of very great subtlety, who is in the habit of attributing everything to himself whilst disapproving of others.<sup>319</sup>

The majority of the audience probably had never even heard of Descartes. He was a Catholic foreigner, who did not work at the university and so far had only

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<sup>316</sup> From Aristotle: “ἀμφοῖν γὰρ ὄντοι φίλοι ὄσιον προτιμᾶν τὴν ἀλήθειαν.” See Aristotle, *Nicomachean ethics*, 1096a 16.

<sup>317</sup> Aemilius, *Oratio in obitum Renerii*, 9-10: “In cujus novae expeditionis societatem, tanquam in equum Trojanum, unà cum paucis aliis noster includi voluit, duce & auspice nobili viro, nostrae aetatis Archimede, Renato de Cartes [...]”

<sup>318</sup> Aemilius would have been commissioned to do so by burgomaster Van der Hoolck, as Aemilius claims in a letter to Descartes of [late March or early April 1639], in AT, 3:2/Bos, *Correspondence*, 16: “the first magistrate of the town sent him an express order to include an eulogy on Mr. Descartes and the new philosophy in the funeral oration on Mr. Reneri.” (“[...] le premier Magistrat de la ville lui envoya ordre exprès de faire *les éloges de M. Descartes et de la nouvelle philosophie* [the italics are Baillet’s, RB] dans l’oraison funèbre de M. Reneri.” That Aemilius was commissioned to do so is probably an exaggeration, but Van der Hoolck must have approved of the oration’s content. See Bos, *Correspondence*, 16 n. 5.

<sup>319</sup> Buchelius, *Notae quotidianae*, 70: “Dicebat Doctor Matheus de oratione fun(ebri) [conjecture by Erik-Jan Bos; Buchelius has “funeraria,” which is a transcription error], in Mortem Domini Renerij habita ab Antonio Aemylio, quod virtutes in eo quidem enarrasset, vitia tamen dissimulasset, tum quod nimis aestimasset quendam Gallum du Chartres, nimiae subtilitatis virum, qui sibi omnia tribuere solet cum deprecatione aliorum.” This entry in Buchelius’ *Notae quotidianae* is erroneously placed between notes dated July 1638. See Bos, *Correspondence*, 19 n. 11. Cf. Regius to Descartes, [early 1640], in AT, 3:1-2/Bos, *Correspondence*, 32.

published the *Discours*, anonymously and in a language most academics did not understand.<sup>320</sup>

Descartes himself was not present at the funeral though. He had visited Reneri as soon as he had heard of Reneri's critical condition, but he had been too late: "I feel great sorrow for Mr. Renery. I went to see him as soon as I learned that his complaint had gone beyond a simple fever, but I was warned so late that I found him no longer in a condition to receive the assistance of his friends at all."<sup>321</sup> In a letter of 19/29 March, Regius informed Descartes about the funeral and Aemilius' curious funeral oration.<sup>322</sup> Because Regius was under the impression that his letter had never reached Descartes, he wrote him another letter with the same content on 17 May.<sup>323</sup> Aemilius, too, wrote Descartes in late March or early April about Reneri's death and his funeral oration, enclosing a manuscript copy of it and several laudatory poems,<sup>324</sup> including one with the telling title "To the spirit of the departed, who lived in great intimacy with the most noble man, Renatus de Cartes, the one and only Atlas and Archimedes of our age, and was instructed by the same to penetrate the secrets of nature and the outermost parts of heaven."<sup>325</sup> Like the oration, this poem gave the impression that Reneri's greatest virtue had been his friendship with Descartes. Aemilius considered Reneri lucky to dwell amid the stars and suggested that the perfect knowledge Reneri now possessed was not different from the things Descartes taught:

The new things he taught are now disclosed to you and certain,  
And they are all manifest in clear daylight.  
So that you justly doubt whether you owe this to his art,  
Or that they are now clear to you due to a deity.<sup>326</sup>

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<sup>320</sup> Verbeek, "Henricus Reneri," 127-28. See also Bos, *Correspondence*, 18-19.

<sup>321</sup> Descartes to Pollot, 6 May 1639, in AT, 2:545-46: "J'ay fort plaint la mort de M<sup>r</sup> Renery. J'allay pour le voir, si tost que j'euy appris son mal avoit passé les bornes d'une simple fièvre; mais j'en avois esté averti si tard, que ie ne le trouvoy plus en estat de recevoir aucune assistance de ses amis [...]."

<sup>322</sup> Regius to Descartes, 19/29 March 1639, in AT, 2:528/Bos, *Correspondence*, 15.

<sup>323</sup> Regius to Descartes, 17 May 1639, in AT, 2:548/Bos, *Correspondence*, 20.

<sup>324</sup> Aemilius to Descartes, [late March or early April 1639], in AT, 3:2/Bos, *Correspondence*, 16-17.

<sup>325</sup> "Ad manes defuncti, qui cum nobilissimo viro, Renato de Cartes, nostri seculi Atlante & Archimede unico, vixit conjunctissimè, abdita naturae, et coeli extima penetrare, ab eodem edoctus." See Aemilius, *Oratio in obitum Renerii*, [20].

<sup>326</sup> Aemilius, *Oratio in obitum Renerii*, [21]: "Et nova quae docuit, tibi nunc comperta patescunt,/Omniaque in liquido sunt manifesta die./Ut meritò dubites, utrùm magis

Afterwards, in his *Lettre apologetique* of April or May 1647, Descartes declared that he was not at all pleased, because he feared it would draw the wrong kind of attention. When Aemilius asked the poem back to have it printed, Descartes found an excuse not to return it. He said that the admiration it displayed was disproportionate.<sup>327</sup>

Descartes also informed Mersenne of Reneri's death.<sup>328</sup> Mersenne expressed his sympathy in a letter to Rivet: "Besides, I was sorry to hear of poor Reyneri, for I found him an excellent mind."<sup>329</sup>

### 2.2.6. *The Aftermath*

The very day after Reneri died, Senguerdus was appointed ordinary professor of philosophy—Van Goor had already resigned in 1638.<sup>330</sup> On 10 April, 500 guilders, that is, Reneri's salary for the first half of 1639, was paid to his widow Anna.<sup>331</sup> Moreover, she received a single payment of a fourth of Reneri's yearly salary on the condition that she would not request another extraordinary payment or an annual pension.<sup>332</sup> This could mean that Reneri left debts, since Anna, who came from a wealthy family, would normally not have needed this. Besides, the proceeds of the auction of Reneri's collection of books probably went to her. In 1646 Anna married in second wedlock to the widower Abraham van Tiel,<sup>333</sup> a captain in the militia of Gorinchem.<sup>334</sup>

Reneri's books were put up for auction on 26 June 1639 at the house of his father-in-law Huybert Wernardsz. van Velthuysen (1588-1645) in Utrecht.<sup>335</sup> According to the German natural philosopher and alchemist Johann Moriaen

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illius arti,/An nunc indigeti sint mage clara tibi."

<sup>327</sup> Descartes, *Verantwoordingh van Renatus Descartes*, 76-77/id., *Lettre apologetique*, in AT, 8-2:203-4.

<sup>328</sup> Descartes to Mersenne, 29 August 1639, in AT, 2:570/CM, 8:495.

<sup>329</sup> Mersenne to Rivet, 15 September 1639, in CM, 8:509: "Au reste c'est dommage du pauvre Reyneri, car je le trouvois de bon esprit."

<sup>330</sup> Kernkamp, *Acta et decreta*, 131.

<sup>331</sup> Extracts from the expense accounts of the treasurers by G. Serton, HUA, 820, inv. no. 371, fol. 2r.

<sup>332</sup> Kernkamp, *Acta et decreta*, 133.

<sup>333</sup> Utrecht marriage register, HUA, DTB 97, 237.

<sup>334</sup> Wijnaendts van Resandt, "Losse aantekeningen," col. 477.

<sup>335</sup> *Catalogus librorum Reneri*, [1].

(ca. 1591-1668), who attended the auction,<sup>336</sup> Reneri's books commanded a high price.<sup>337</sup> Apart from his books, a great amount of lenses, optical and other instruments, and manuscripts—all unspecified—were auctioned.

According to Buchelius, Reneri's brother, a Catholic monk,<sup>338</sup> visited Utrecht in March 1639, undoubtedly to attend the funeral. He may very well have collected some of Reneri's personal belongings, such as letters, and taken them with him—together with the Catholic boys he took along to the Spanish Low Countries “to give them a popish education” (“in papismo educandos”), as Buchelius noted.<sup>339</sup>

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<sup>336</sup> Moriaen to Hartlib, 30 June 1639, HP 37/31A-B.

<sup>337</sup> Moriaen to Hartlib, 12 August 1639, HP 37/37A. See also below, p. 196.

<sup>338</sup> Perhaps this was the Augustinian monk Bonaventura Reneri (d. 1653), who took his monastic vows at Liège on 26 November 1612. See the index of Augustinian monks, [http://members.multimania.nl/danielverkerken/pubwww/augustijnen/kloosterlingen/R\\_rep.htm](http://members.multimania.nl/danielverkerken/pubwww/augustijnen/kloosterlingen/R_rep.htm) (accessed 6 March 2013).

<sup>339</sup> Buchelius, *Notae quotidianae*, 89.



## Chapter 3

### Network I: Social Capital

#### 3.1. Introduction

In the early modern period, to get ahead in life one needed connections. Support in times of need was the concern of one's immediate social environment, since poor relief was reserved for the very poorest and was not enough to live on—and even then having connections helped.<sup>340</sup> But also if subsistence was provided, one was dependent on relations to have access to good jobs (having the right qualifications simply was not enough), housing, public offices, and credit.

One's immediate social environment consisted of one's family, neighbours, parish and, when one was a craftsman, guild, among which existed a natural solidarity. Among family, including in-laws, solidarity was not only seen as natural, it was a moral duty. As the genealogical distance was larger, the obligations were less, although distant but wealthy and influential relatives were, of course, cultivated.<sup>341</sup>

Furthermore, in addition to this immediate social environment, a network of friends and patrons was helpful. Friendship was a system of exchanging services. Granting a favour imposed an obligation on the recipient. This obligation would of course not have to be satisfied instantly, but in the long term the scales had to be in balance. Anyone with whom one had a relationship of this kind was a friend—as such also family were called “friends.” Friends in the broadest sense of the word constituted one's social capital. Using the affectionate terms related to friendship brought about an equal relationship with shared values, which functioned as a moral contract in this gift economy.

This does not deny the existence of friendship as an affectionate, unselfish relationship, not to mention that such feelings could coexist with a friendship based on reciprocity, but this was not the main purpose. Also a friendship

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<sup>340</sup> On poor relief, see Prak, “Armenzorg”; Spaans, “Weduwen, wezen en vreemdelingen.”

<sup>341</sup> Van der Vlis, *Leven in armoede*, 215-48.

based on affection imposes obligations. Evidently, one helps a friend in need. But the equality between friends also involved reciprocity. For a friendship to be in balance favours must be returned. ‘True’ friendship, that is, friendship solely based on shared values, was considered an unrealistic ideal, something for artists and students.<sup>342</sup>

The difference between friendship and patronage is that although both involve an exchange of services, the second is essentially asymmetrical in the sense that patron and client are socially unequal. Also the nature of the services differs. In exchange for granted favours the client has to show his dependence on his patron. Patronage is an unequal, long-term, and voluntary relationship. However, since the value of the goods exchanged and the degree of intimacy in patronage relationships could differ, patronage sometimes was close to friendship. The boundaries are vague. Kinship and friendship played a role comparable to patronage.<sup>343</sup>

It thus was important to marry a good party, make useful friends, and gain the support of people higher up the social ladder. It was even possible to climb up the social ladder. There was much social mobility in the Republic—in the beginning of the seventeenth century even the regent class was still in the process of being formed and therefore open to newcomers. One’s social position depended on capital and income, birth and marriage, education and occupation, and religion (it was impossible to hold a public office if one was not a Calvinist) and political association. Especially property was highly valued. Social ascent could be realized by improving one’s position in one of these fields, which are, of course, closely connected.<sup>344</sup>

When he arrived in the Republic, Reneri, being a refugee, was in an awkward position. Because he had left his homeland and become a Calvinist against his father’s will, he had no financial recourses and could not fall back on family or friends. He had to start from the beginning. At the end of his life, however, Reneri occupied an excellent social position as a university professor with an additional income from his prebend, and he had married into the local regent patriciate. How did he accomplish this? The answer to this question seems to be that Reneri had been successful in building a high-quality network. In this chapter I will examine who composed Reneri’s network, how he met

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<sup>342</sup> On friendship in the early modern period, see Kooijmans, “Andries & Daniel”; Van Ruler, “Theorieën over vriendschap”; Kooijmans, *Vriendschap*.

<sup>343</sup> On the patronage system, see Kettering, *Patrons, Brokers, and Clients*, 12-39; Pollmann, “Dienst en wederdienst,” 216-18, 229-36.

<sup>344</sup> On social stratification in the Republic, see Groenhuis, *De predikanten*, 44-76; Slicher van Bath, “Sociale stratificatie”; Frijhoff and Spies, *Hard-Won Unity*, 190-92.



these people, how they helped him to climb up socially and economically, and what he had to offer them in return.

The main source for mapping out Reneri's network is his correspondence. However, a total number of 62 surviving letters plus 9 of which I was able to reconstruct the date and the general content, exchanged with 14 different correspondents, is small and must be a fraction of his entire correspondence.<sup>345</sup> In any case, these numbers do no justice to the size and character of his network as a whole. The disproportionate representation of some of his correspondents, moreover, may distort the picture. More than half of Reneri's correspondence is exchanged with his top three correspondents (as far as the number of letters is concerned), namely, De Wilhem, Booth, and Rivet.

### **3.2. The Roots of Reneri's Network**

#### ***3.2.1. The Walloon College***

The reason why Reneri chose to go to Leiden is not known. Several factors may have played a role. First, Leiden was one of the intellectual centres of Protestant Europe and relatively close to Liège. Second, Reneri may have been attracted by the presence of the large Walloon community. Or, third, he may have intended from the beginning to continue his theological studies but now as a student of Reformed theology. In the last case Leiden was an obvious choice since the Walloon Church had established the training of Francophone ministers there.<sup>346</sup> But also if this had not been Reneri's initial plan, for a refugee with his intellectual capacities but without means or connections it was one of the few possibilities. A scholarship from the Walloon Church would guarantee food and shelter in the Walloon College for the duration of his studies and, thereafter, a job as minister.

Reneri lived in the Walloon College with about fifteen other students. The first he met must have been John Dury, who was admitted the same day as Reneri. Both stayed at the college until the spring of 1621, when Reneri was suspended and Dury left for France to accompany Pieter van Panhuys (b. 1604) as a tutor.<sup>347</sup> Pieter's father, Bartholomeus van Panhuys (1570-1626), treasurer-general and councillor of Stadholder Prince Maurice (1567-1625), was one of the

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<sup>345</sup> See Appendix 1.

<sup>346</sup> Leiden was a popular place of refuge for people from Liège. In the period 1615-19, more than six percent of the immigrants who settled in Leiden were from the regions of Hainaut and Liège. See Briels, *Zuid-Nederlanders*, 95, 133.

<sup>347</sup> Posthumus Meyjes, *Waalse College*, 191.

administrators of the Hallet Fund. This fund, which was established in 1612, had an agreement with the Walloon College that their bursars, too, were trained for the ministry there. Because the Hallet bursars soon outnumbered the Walloon bursars, while the financial resources that the Walloon Synod was able to collect from the parishes were limited, the Hallet Fund extended its influence within the college. Even to the extent that, after the regent of the Walloon College, Daniel Colonius, died from the plague in 1635, the administrators of the Hallet Fund could impose their own candidate Louis de Dieu (a cousin of Colonius) as his successor.<sup>348</sup> The circle around the Hallet Fund administrators was to play an important role in Reneri's life. Besides, it is not unlikely that they helped Reneri to obtain his first tutoring job, with Adriaan Pauw, given the fact that they had good contacts within the board of administrators of Leiden University, one of whom was Pauw.

Through Dury Reneri got involved in the Hartlib circle. More members of this circle came from the Walloon College. One of them was Petrus Serrarius (1600-1669). He entered the college in April 1620, half a year before Reneri was temporarily sent away. In 1626, Serrarius became a minister of the "Église du Verger" (the code name for the clandestine Walloon church in Cologne), in succession to Dury, who had been working there since 1625.<sup>349</sup>

Other friends included Johannes Montanus (1594-after 1657), in whose *album amicorum* Reneri wrote a contribution,<sup>350</sup> and Abraham Heidanus (1597-1678), who would later be known as a Cartesian theologian.<sup>351</sup> Both were Hallet bursars. Most contacts Reneri made among his fellow students, however, would not have suited his ambitions. They had a low social position and mostly became ministers. Heidanus, too, became a minister first and did not become professor of theology at Leiden University until 1648. Montanus was one of the few to take a different career path and became a school teacher.<sup>352</sup>

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<sup>348</sup> *Ibid.*, 78-90.

<sup>349</sup> *Ibid.*, 191.

<sup>350</sup> *Album amicorum* of Johannes Montanus, KB, 76H6, fol. 123r. Reneri's contribution is dated 14 July 1618. That same day Dury wrote a contribution on the verso of the leaf.

<sup>351</sup> See below, p. 135 n. 578.

<sup>352</sup> Reneri apparently signed his *album* on the occasion of Montanus' leaving the college after he had taken the preparatory examination on 30 June 1630. He became a teacher at the Latin School of Middelburg. See Posthumus Meyjes, *Waalse College*, 196.

### 3.2.2. *André Rivet*

Rivet arrived in Leiden to work as a professor of theology at the end of September 1620.<sup>353</sup> By that time, Reneri had effectively broken off his theological studies and there is little chance he met Rivet before he was sent away from Leiden that fall. Therefore, Reneri probably did not meet Rivet until 1625, when he moved back from Amsterdam, accompanying Nicolaes Pauw, and went to lodge with Rivet.

Rivet came from a prominent Huguenot family in Saint-Maixent, near Poitiers. In 1595, after his theological studies at the Huguenot academies of Orthez and La Rochelle, he started working as a minister in Thouars and as chaplain at the court of Claude de La Trémoille (1566-1604), 2nd Duke of Thouars. Rivet was conciliatory, prudent and tactful. He had pleasant manners, but above all he was renowned for his eloquence and erudition. By order of the Reformed Church of France he wrote several polemical books and held positions in provincial and national synods. After the murder of Henry IV in 1610, he was a member of a deputation of three to the court of queen mother Marie de' Medici to pledge the loyalty of the French Calvinists. By the end of the 1610s Rivet was an internationally renowned theologian. This is why after the purge of 1619, which led to the dismissal of the Arminian professors, Leiden University spotted him as one of the three new professors of theology. By appointing an orthodox Frenchman Leiden University wanted to restore the international reputation of its faculty of theology, in particular with foreign students. Neither the Reformed Church of France nor Henri de La Trémoille (1598-1674), who had succeeded his father in 1606 (his mother Charlotte Brabantina (1580-1631) having acted as his regent for two years), were willing to let Rivet go. But after pressure from the side of the administrators and Prince Maurice, who was Charlotte Brabantina's half-brother, Leiden University succeeded in taking on this scholar of international stature.<sup>354</sup>

Renieri developed a close friendship with Rivet and was on intimate terms with his family too, being particularly fond of Rivet's youngest son Frédéric (1617-1666). Renieri invited Frédéric, through his father, to Deventer in 1632, while Rivet informed Renieri in particular about Frédéric's whereabouts.<sup>355</sup> The fact that Renieri even borrowed money from Rivet's wife, Marie du Moulin (1573-1655), is also telling in this respect.<sup>356</sup>

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<sup>353</sup> Molhuysen, *Bronnen*, 2:90.

<sup>354</sup> On Rivet, see Honders, *Andreas Rivetus*; Van Opstal, *André Rivet*.

<sup>355</sup> Renieri to Rivet, 2 June 1632; Rivet to Renieri, 13 May 1638.

<sup>356</sup> Renieri to Rivet, 12/22 December 1633.

Rivet was a great benefactor of Reneri. He not only lent Reneri money, but also used his many influential connections for his benefit.<sup>357</sup> Moreover, Reneri enjoyed much goodwill among the Leiden professors, which he must have owed largely to Rivet. This proved to be an important factor in his further career, since Rivet and a number of other Leiden professors helped him to obtain a professorship of philosophy.

When Reneri, in 1630, applied at Franeker, some “learned men” recommended him to the professor of theology Schotanus.<sup>358</sup> This no doubt refers to Leiden academics. Furthermore, the Leiden theologians probably were behind the support of the Franeker professor of theology Ames. This time their efforts led to nothing, but when Reneri applied at Deventer a year later, the recommendations of Rivet and Polyander had more success. The fact that Thysius as well as Daniel Heinsius (1580-1655), professor of Greek and history, and university librarian, were informed of his appointment indicates that they, too, had recommended him.<sup>359</sup> When Reneri applied for the chair of philosophy at Utrecht, he asked for Rivet’s help again.<sup>360</sup>

Rivet was a central figure in the Republic of Letters, nationally as well as internationally. Between 1626 and 1629, he introduced Reneri to Isaac Beeckman (1588-1637), Bisterfeld, Descartes, Huygens, and Gassendi.

In 1632 Stadholder Frederick Henry (1584-1647) appointed Rivet governor of his son William II and court chaplain. Despite the fact that Rivet left the university, he and Reneri kept in touch. Because of this, in 1634, the Walloon church in Utrecht called in Reneri, who was not a member himself, to enquire of Rivet more information about the candidates for the ministry in succession to Pierre Agache. Agache had died shortly before, on 28 July of that year.<sup>361</sup>

### 3.3. Tutor to the Children of the Amsterdam Patriciate

#### 3.3.1. Pauw

Some time after his dismissal from the Walloon College in March 1621, Reneri found employment in Amsterdam as a tutor to Nicolaes Pauw. Reneri would

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<sup>357</sup> See Bots, “André Rivet.” For an inventory of Rivet’s correspondence (from which about 4350 letters survive), see Dibon, *Inventaire*; Bots, “Supplément.”

<sup>358</sup> See above, p. 38.

<sup>359</sup> Reneri to De Wilhem, 18 October 1631. In his letter of 2 June 1632, Reneri thanks Rivet for his recommendation.

<sup>360</sup> Reneri to Rivet, 12/22 December 1633.

<sup>361</sup> Reneri to Rivet, between 28 July and 10 August 1634; Reneri to Rivet, 9 August 1634; Rivet to Reneri, 10 August 1634; Reneri to Rivet, August 1634.

never have had access to the Pauw family without the right connections and recommendations. Adriaan Pauw, Nicolaes' father, was one of the most powerful and richest men in the Republic.<sup>362</sup> He came from a family of merchant-regents, which originally belonged to the Gouda patriciate. Adriaan's grandfather Adriaan Pauw Sr. (1516-1578) had moved from Gouda to Amsterdam and grew wealthy as a wheat merchant in the Baltic, business agent for King Frederick II of Denmark, and ship owner. His son Reinier Pauw (1564-1636), Adriaan Jr.'s father, was involved in commercial activities with Guyana, Brazil, and the East Indies. He was director of the East India Company and founder of its predecessor, the *Compagnie van Verre* ("company of distant lands"). Both Adriaan Sr. and Reinier held public offices in Amsterdam. Reinier, most notably, was eight times elected burgomaster and he was Pensionary of Amsterdam. Furthermore, the Pauws were Counter-Remonstrant hardliners and ardent supporters of the Stadholder.<sup>363</sup>

After he completed his law studies, Adriaan Jr., too, started as a merchant, but he soon embarked on a public career. In 1611 he succeeded his father as Pensionary of Amsterdam. Unlike all the other, rotating offices, this was a permanent position, which, consequently, gave him considerable political power. Further, Pauw was a director of the East India Company, he participated in several embassies, and he received English and French knighthoods. After he was appointed member of the Court of Audit of Holland and West Friesland in 1627, his career took off. In 1631, he became Grand Pensionary (*Raadpensionaris*) of Holland, the highest office in the Republic.<sup>364</sup> The Grand Pensionary functioned as foreign minister and head of diplomacy. Since Pauw was also administrator of Leiden University, it was probably someone within the university, more particular someone from the Hallet Fund circle, who interceded for Reneri and got him this job with Pauw.

In the autumn of 1625 Reneri accompanied Nicolaes to Leiden. They boarded in the house of Rivet, who lived on what is now Rapenburg 23.<sup>365</sup> Apparently Adriaan Pauw was content about Reneri's services, because, after somewhat less than a year, Reneri returned to Amsterdam to tutor Pauw's

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<sup>362</sup> In *De 250 rijksten*, 117, Zandvliet ranks him number 57 of the 250 richest men in the Republic of the seventeenth century with an estimated fortune of 500,000 guilders.

<sup>363</sup> On the Pauw family in general, see Koenen, *Het geslacht Pauw*; Elias, *Vroedschap van Amsterdam*, 1191-202.

<sup>364</sup> On Adriaan Pauw, see Koenen, *Het geslacht Pauw*, 73-82; De Fouw, *Onbekende raadpensionarissen*, 45-90; Van Nierop, *Nobility of Holland*, 213-14; Zandvliet, *De 250 rijksten*, 117-19.

<sup>365</sup> Witkam, "Jean Gillot," 31.

other children until Pauw left Amsterdam for The Hague during the winter of 1627/28.

Apart from being his employer, Pauw's relationship with Reneri also shows elements of patronage. Pauw must have had a hand in François van Aerssen's preference for Reneri when the latter, in 1628/29, applied for the chair of ethics at Leiden University.<sup>366</sup> Van Aerssen, Lord of Sommelsdijck, was very powerful. He was a member of the States of Holland and the States General, he took part in numerous embassies to England and France, and he was one of the chief advisers of Prince Maurice and of his successor Prince Frederick Henry. From 1624 to 1633 he was an administrator of Leiden University. Adriaan Pauw had been himself an administrator of Leiden University from 1619 to 1627, so he served on the board of administrators together with Van Aerssen for three years. Furthermore, Van Aerssen and Adriaan's father, Reinier Pauw, were friends and political allies. They belonged to the Stadholder's party and had been two of the closest supporters of Prince Maurice—Adriaan, for that matter, was not in the Orangist camp.<sup>367</sup> According to Reneri, the administrators informed him that his chances of being appointed were high. Furthermore, Reneri was confident that his application was supported by the most important professors.<sup>368</sup> Most likely Reneri based this on a letter he received from Rivet, who had run into Van Aerssen in The Hague on 19 August 1629:

He [i.e., Van Aerssen] told me to be hopeful about your cause and he openly declared to whom he was inclined. We must also be hopeful about the outcome because he told me that they decided to summon the professors separately and appeal to the conscience of each of them, so that they would declare without being influenced which of the applicants they judge most suitable for this position and most agreeable to the progress of the students.<sup>369</sup>

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<sup>366</sup> See above, p. 34 n. 134.

<sup>367</sup> NNBW, 3:10-12.

<sup>368</sup> Reneri to Gassendi, 6 January 1630: "I preferred this [tutorage], which was offered to me during that period in which the matter of the professorship of philosophy was still uncertain, to hope, no matter how high. Indeed, the most honourable administrators of the university told me this, as did the goodwill and the favourable inclination towards me of most of the distinguished professors." ("Eam eo tempore oblatam quo adhuc pendebat Professionis Philosophicae negotium praetuli spei quàm alioqui summam, imò certam fecerant amplissimi Academiae Curatores, & plaerorumque ac praecipuorum Professorum favor ac benevola in me propensio.")

<sup>369</sup> Rivet to Reneri, 20 August 1629: "De re tua jussit me benè sperare, et sine ambagibus professus est quo inclinaret. De eventu, etiam est quod benè speremus, quia dixit mihi,

In spite of Van Aerssen's efforts, however, Reneri was not appointed. Indeed, the decision was postponed so long that Reneri, when he, in the summer of 1629, received a lucrative job offer as tutor, accepted it and withdrew his application.

### 3.3.2. *L'Hermitte*

Pauw introduced Reneri to other employers. He no doubt mediated between Reneri and Hans l'Hermitte in 1627 to get him a new job, all the more because he had to leave for The Hague on short notice. This L'Hermitte presumably was the Amsterdam pearl seller Hans L'Hermitte, who exported pearls to Russia.<sup>370</sup> If so, Pauw and L'Hermitte knew each other from the circles of Amsterdam merchants. The Pauw family, moreover, also participated in the Russia grain trade.<sup>371</sup>

The L'Hermites originally came from Antwerp. The family broke up after the fall of the city in 1585. Part of the family stayed in Antwerp, whereas the rest eventually ended up in Cologne (which was Catholic, but pursued a policy of neutrality), Hamburg, and the cities of Holland. Reneri's pupil Petrus Eremita (Latin for L'Hermitte), whom Reneri tutored in Leiden when he returned to the town for the second time in September 1629, must have been a relative of Hans from Hamburg.<sup>372</sup> About Eremita little is known. On 16 July 1631 he defended a disputation on miscellaneous philosophical theses under Burgersdijk, which shows the hand of Reneri.<sup>373</sup> Two years later he graduated in law.<sup>374</sup>

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constitutum esse advocare seorsim professores, et uniuscujusque conscientiam appellare, ut sine affectu privato profiteantur, quem ex ambientibus judicent huic muneri aptissimum, et studiosorum profectui convenientissimum."

<sup>370</sup> Wijnroks, *Handel*, 318 n. 29.

<sup>371</sup> On Dutch-Russian trade in the seventeenth century, see Schade, *Die Niederlande und Rußland*; Kotilaine, *Russia's Foreign Trade*, 64-93; Wijnroks, *Handel*.

<sup>372</sup> Wijnroks, *Handel*, 239-79. On the Hamburg L'Hermitte family, see Kellenbenz, *Unternehmerkräfte*, 214-15.

<sup>373</sup> See below, pp. 151-52. Eremita dedicated his disputation to the Scottish diplomat Sir Robert Anstruther (1578-1645), member of the privy council and gentleman of the bedchamber to King Charles I. Anstruther was a Stuart ambassador to Denmark-Norway and Germany. Since 1627 he frequently used Hamburg as a diplomatic base, where he also promoted the English commercial interests. See Zickermann, "Briteannia ist mein patria," 254-56; Murdoch, *Network North*, passim.

<sup>374</sup> Molhuysen, *Bronnen*, 2:180.

### 3.3.3. *Van Lockhorst*

The tutoring job Reneri accepted in 1629 involved not only tutoring Eremita during his studies at Leiden, but also the brothers Adam and Cornelis van Lockhorst (III). The Van Lockhorst brothers were the sons of paper merchant Cornelis van Lockhorst (II). The family claimed to descend from old Utrecht nobility. Although this was informally recognized, this particular branch of the family was seen as derogated (i.e., that it lost its noble status).<sup>375</sup> Cornelis van Lockhorst (I) (1547-1617), the grandfather of Reneri's pupils, was a Mennonite merchant from Utrecht. In the early 1590s he moved to Amsterdam and founded the Company of German Paper (*Compagnie der Duytse Papieren*). The firm imported paper, mainly from Switzerland, Baden, Alsace, and Lorraine, and had agents in Basle and Strasbourg. His son Cornelis (II) joined the firm in 1611. The paper trade made him one of the richest men of the Republic—albeit through dubious financial practises.<sup>376</sup> He purchased the villages of De Lier and Oud-Poelgeest (also called Alkemade). On 23 April 1629 he died. Shortly thereafter his widow, Catharina Adriaensdr. Hardebol (1596-1635), offered Reneri the tutorship of her sons.<sup>377</sup>

Reneri no doubt owed his job with the Van Lockhorsts, again, to Pauw. The two families were close. On 30 July 1630, Nicolaes Pauw married Anna van Lockhorst (1614-1660), a sister of Adam and Cornelis.<sup>378</sup> Reneri, for his part, may

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<sup>375</sup> In 1545 Gerrit van Lockhorst (d. 1548), Lord of Oud-Teylingen (also called Lockhorst), Lievendaal, and Slydrecht, and a member of the *Ridderschap* (college of nobles) of Holland, acknowledged in a private meeting Adam Henricksz van Lockhorst (d. 1556), the father of Cornelis (I), as his closest male relative and a lawful descendant of their shared ancestor Adam van Lockhorst (d. 1103). In 1580, Gerrit's son Vincent van Lockhorst (1528-1595) told this to Cornelis (I). See Bijleveld, "Oud-Poelgeest," 80-89; *Nederland's Adelsboek* 13 (1915), 164-70; Voorn, "Lombards en Troys," 323; Koopmans, *Staten van Holland*, 242; Van Nierop, *Nobility of Holland*, 34.

<sup>376</sup> The fortune of his widow is estimated at 310,000 guilders. See Zandvliet, *De 250 rijksten*, 233. On Cornelis' financial affairs, see Voorn, *Compagnie der Duytse papieren*, 15-28.

<sup>377</sup> On the Van Lockhorsts, see Voorn, *Compagnie der Duytse papieren*; Voorn, "Lombards en Troys," 323-27; Marshall, *Dutch Gentry*, passim; Zandvliet, *De 250 rijksten*, 233-36.

<sup>378</sup> Koenen, *Het geslacht Pauw*, 93; Elias, *Vroedschap van Amsterdam*, 1:193. In 1639 Adam married a niece of Adriaan Pauw, Cornelia Pauw (1617-1641). See Vondel, *Volledige dichtwerken*, 853-54; Koenen, *Het geslacht Pauw*, 84; Elias, *Vroedschap van Amsterdam*, 1:196.



have arranged that Van Isendoorn took on tutoring the Van Lockhorst brothers after Van Isendoorn withdrew his application for the professorship of philosophy at Deventer.<sup>379</sup>

Reneri also helped a cousin of the Van Lockhorsts, Petrus Joannis Brugman (b. ca. 1617) from Amsterdam, to enlist the help of the professor of law Petrus Cunaeus (1596-1639). On 18 December 1626 Brugman had enrolled at the University of Groningen to study philosophy,<sup>380</sup> and now he studied law. At the request of Brugman's aunt Catharina Hardebol,<sup>381</sup> Reneri asked Cunaeus to help Brugman complete his law studies within half a year by not only boarding and lodging him—as professors often did to supplement their income—but also coaching him. Reneri visited Cunaeus personally in Leiden to discuss the matter, but Cunaeus declined because of the inconvenience this would cause. Maybe because Cunaeus was offered the considerable sum of 600 guilders, a second attempt to persuade him, through a letter of 12 August 1629, was more successful. Brugman enrolled as a student on 22 August 1629.<sup>382</sup> Half a year later, on 19 March 1630, he graduated in law. Soon thereafter he became a barrister at the Court of Holland.<sup>383</sup>

### ***3.3.4. One Step Up the Social Ladder***

Being employed by Pauw opened up a world of opportunities for Reneri. Not only did Reneri obtain a, no doubt, well-paid job with a prominent family, but Pauw also mediated with families of similar standing. As a result Reneri had work as a tutor for six years—or even more if he already worked for Pauw before 1625. Furthermore, Reneri's lodging with Rivet, when he went to Leiden with Nicolaes Pauw, turned out to be fortunate. Reneri expressed his gratitude by dedicating an (unidentified) work to Pauw in 1631, long after he stopped working for him.<sup>384</sup> By employing Reneri, on the other hand, these families

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<sup>379</sup> Revius, *Daventria illustrata*, 696.

<sup>380</sup> *Album stud. Acad. Gron.*, 17.

<sup>381</sup> He must have been a son of the Amsterdam cloth merchant Jan Pietersz. Brugman and Maria Adriaensdr. van Hardebol, Catharina's sister. See Slive, *Frans Hals*, 54.

<sup>382</sup> Matriculation records, UBL, ASF 8, 309/*Album stud. Acad. Lugd.-Bat.*, col. 22.

<sup>383</sup> Brugman disputed under Cunaeus on 31 October 1629. Four days before his graduation, on 15 March, he held his disputation *pro gradu*. See Ahsmann, *Collegia en colleges*, 483. Cf. Molhuysen, *Bronnen*, 2:148. Cunaeus delivered a congratulatory speech (see UBL, CUN 8, no. 6), while Barlaeus (*Poemata*, pt. 2, 117) wrote a laudatory poem for the occasion.

<sup>384</sup> Reneri to De Wilhem, 31 August 1631. See also below, p. 87.

obtained a competent tutor, who, moreover, was francophone—the higher ranks of society preferred francophone governors and tutors.

The common denominator of these employers is that they were all successful merchants, who were rapidly climbing the social ladder. In the seventeenth century Amsterdam became an international centre of commerce, which gave rise to the development in the province of Holland of a ‘money aristocracy’ that had made their fortunes through trade—the nobility, the ‘old’ aristocracy, mainly played a role in the eastern provinces. To be sure, Pauw and Van Lockhorst originally belonged to high social classes already—the Pauws had been part of the Gouda patriciate, while the Van Lockhorsts were impoverished nobility—but with their (renewed) wealth came a desire for acquiring the outward characteristics of a higher social status befitting this wealth. To this end, they held public offices and they purchased estates, along with the titles that came with them. Adriaan Pauw overdid it a bit: his collection of foreign and purchased titles was mocked as “a peacock’s tail” (the Dutch word *pauw* literally means “peacock”). Besides, this purchase of landed estates also made them less dependent of the economic situation. For this same reason they spread their risks by investing money in other enterprises, such as government loans, the East Indies Company, and land reclamation.<sup>385</sup>

In a few generations these newcomers became accepted among the aristocracy. Reneri’s pupils, belonging to the younger generation, already did not engage in trade at all, but pursued more honourable careers in public office from the start. Nicolaes Pauw, in 1632, became a chief assistant (*meesterknaap*) in the Forestry Office of Holland and West Friesland. Cornelis van Lockhorst, in 1635, was appointed dean of the chapter of the Dom church. He died young in 1639, leaving his estate Oud-Poelgeest to his brother Adam. Adam became an officer in the States’ army and, in the 1640s, a member of the States of Utrecht and of the Generality’s Court of Audit. He was admitted to the *Ridderschap* of Utrecht in 1643, and he exchanged his estates in Holland for the Utrecht estates of Maarsse and Ter Meer, and Schonauwen.

What does Reneri’s employment in this social group say about his own social position? Reneri was employed by prominent families and earned a good salary, which were both status-enhancing factors. Tutorage itself, however, was not. A distinction was made between governors and tutors. Governors were involved in the upbringing of children and, therefore, had to share the same background. This did not apply to tutors, who merely had to instruct children in the basic curriculum. The status of tutors was like that of school teachers,

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<sup>385</sup> Kooijmans, “Patriciaat en aristocratisering”; Prak, *Dutch Republic*, 131-34.

which was not very high, comparable to lower officers and village ministers. A professorship was indeed more prestigious, as Gassendi remarked to Reneri,<sup>386</sup> although the status of a professorship of philosophy should not be exaggerated either. Being a high servant of the state carried some prestige, but the modest salary lowered this. Furthermore, one's status as a professor was dependent on local and personal circumstances. Working at a university was more prestigious than working at an illustrious school—and then still, one university had a better reputation than another. Finally, also the social and financial position of one's family counted.<sup>387</sup>

### 3.4. Patrons among the Patriciate

#### 3.4.1. *The Liefhebber*

From roughly the same social stratum came a group of patricians who took an interest in Reneri's experiments and inventions. These *liefhebbbers* ("amateurs" in the literal sense of the word) were engaged in learning and the arts as a gentlemanly pastime. They pursued an ideal of civility, which was adopted from Italian and French aristocracy—Baldassare Castiglione's manual of civility *Il Cortegiano* (1527), for instance, was the model for many of them. The *liefhebber*, thus, is to be compared with the Italian *virtuoso* and the French *honnête homme*.

One of the ways to express their refinement, alongside things such as dress, manners, and conversation, was to show their taste by activities such as collecting art, literary composition, and antiquarianism. Especially collecting was popular. The *liefhebber* not only found delight in the rare, the novel, the marvellous, and the exotic, but also in ingenious artefacts and entertaining experiments. Driven by curiosity, he collected natural and artificial objects of curiosity, such as shells, coins, antiquities, artefacts from distant lands, exotic animals and plants, and so on. With a cabinet of curiosities one could present oneself as a connoisseur and enhance one's status. That is to say, more important than owing an art collection or a cabinet was to show one had knowledge of the pieces and curiosities in it. A well-stocked library on a wide variety of topics completed the image of the gentleman-scholar who was versed in all arts and sciences. It suited the *liefhebber*, who himself was above all a disinterested amateur, to support professional artists, artisans, and scholars.

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<sup>386</sup> Gassendi to Reneri, 28 February 1630.

<sup>387</sup> Roberts, *Through the Keyhole*, 107-22; Frijhoff and Spies, *Hard-Won Unity*, 192.

In the Republic *liefhebbers* could be found among the nobility, patriciate, and particularly among rich merchants, a fast growing group that owed their wealth to the economic growth resulting from the dominating position of the Dutch in world trade. Not only did they have the wealth and leisure to pursue such refined pastimes, but in a mobile society like the Republic it was also a way to distinguish themselves from others. Their cultured taste showed that they had risen above the vulgarity of wealth.<sup>388</sup>

An example of such a *liefhebber* is Pauw. As we have seen, he assumed an aristocratic lifestyle by running for public offices and purchasing estates. But he also was a collector. Apart from books—he had the largest library in the Republic consisting of 16,000 titles—he collected arms, tapestries, and curiosities, which were on display in his country house.<sup>389</sup> David de Wilhem, who was particularly interested in Oriental antiquities, is another example of someone who acquired his wealth through trade. Huygens, on the other hand, came from an older patrician family. That he was conscious of his class (Huygens was frustrated that he was not of noble birth) and that collecting alone was not enough to be accepted is nicely illustrated by the fact that when Huygens was invited, in 1625, to see the remarkable collection of paintings of Matthijs van Overbeke, he refused. Van Overbeke was rich, but Huygens found him unrefined.<sup>390</sup> Five years later he judged less harshly, and he was now willing to meet Van Overbeke, who, by the way, by then was another patron of Reneri.<sup>391</sup>

With his experiments and inventions Reneri appealed to the tastes of these men. That is to say, he did not make a living as an artisan nor did his patrons directly sponsor his experimentations. Reneri was like these *liefhebbers* in this respect that he wanted to be a cultured man and made his instruments in his leisure time. However, to maintain his lifestyle he was dependent on the financial support of his friends—especially the cost of his library of more than 1,000 books exceeded his income. His inventions were favours in return.

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<sup>388</sup> Houghton, “English Virtuoso Part I”; Houghton, “English Virtuoso Part II”; Van der Veen, “Dit klain Vertrek,” 252-56; Eamon, *Secrets of Nature*, 301-18; Roodenburg, “Elegant Dutch?”

<sup>389</sup> Krol, “Adriaan Pauw als verzamelaar”; De la Fontaine Verwey, “Adriaan Pauw.”

<sup>390</sup> Huygens to Jacob van der Burgh and Brosterhuysen, 11 May 1625, in Huygens, *Briefwisseling*, 1:181.

<sup>391</sup> Huygens to Barlaeus, 1 January 1630, in Huygens, *Briefwisseling*, 1:272-73.

### 3.4.2. *David de Wilhem*

One of Reneri's earliest patrons was David de Wilhem.<sup>392</sup> Reneri met him, according to his own recollection, in 1618 or 1620.<sup>393</sup> His father George de Wilhem (ca. 1550-1596) was a Calvinist refugee from Tournai. He went to Hamburg, where David was born. In 1608, after studying at the Hanau Gymnasium Illustre, David matriculated in theology at the University of Franeker.<sup>394</sup> Two and a half years later, in 1611, he enrolled at Leiden University to study philosophy.<sup>395</sup> In 1613-1614 he studied at the Huguenot Academy of Saumur. In his first year he travelled to Thouars, where he met Rivet, who worked there as a minister. After his return from Saumur he continued his theological studies at Leiden.<sup>396</sup>

In 1617 he broke off his studies to go to Sidon in Syria as a business agent for his brother Paul de Wilhem (1581-1648).<sup>397</sup> In 1619 David visited Egypt. That same year he returned to the Republic, where he probably stayed with his brother Paul, to leave again for the Syrian town of Aleppo in 1623. It must have been during this leave in Amsterdam that Reneri met David.

The connection may have been, again, Adriaan Pauw.<sup>398</sup> David knew Adriaan's brother Cornelis Pauw (1593-1668), who was the Dutch consul in Aleppo (where there was a large Dutch merchant colony) from 1613 to 1621.<sup>399</sup> Furthermore, they shared an interest in Oriental books, manuscripts, and antiquities. De Wilhem was himself a collector of manuscripts from the Near East. He donated, moreover, an Egyptian mummy, mummy cases, and other objects, which he had brought from his journey to Egypt in 1619, to the anatomical theatre of Leiden University.<sup>400</sup> Adriaan, too, collected, among

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<sup>392</sup> Sometimes the variant "Le Leu de Wilhem" is found. The prefix "Le Leu" was added by David de Wilhem's son Maurits (1643-1724) on the basis of a fictitious descent from a family Le Leu. See Van Valkenburg, "Regentengeslacht de Wilhem," 133.

<sup>393</sup> Reneri to De Wilhem, 28 February 1638.

<sup>394</sup> *Album stud. Acad. Fran.*, no. 1058.

<sup>395</sup> *Album stud. Acad. Lugd.-Bat.*, col. 104.

<sup>396</sup> *Ibid.*, col. 117.

<sup>397</sup> Paul de Wilhem was an Amsterdam merchant and banker, who traded in silk with Italy and the Levant, and acted as a business agent for King Christian IV of Denmark. See Van Valkenburg, "Regentengeslacht de Wilhem," 148-49.

<sup>398</sup> Dibon, "Bacon en Hollande," 207, thinks that Reneri met De Wilhem through Rivet, but when Reneri met De Wilhem he did not know Rivet yet.

<sup>399</sup> NNBW, 9:762-63.

<sup>400</sup> Stricker, "Correspondentie"; Halbertsma, *Scholars, Travellers and Trade*, 32. Today these Egyptian objects are still part of the collection of the National Museum of

other things, Eastern curiosities. He had a room in his country house Heemstede called “Constantinopelen,” where he also displayed Cornelis’ collection once.<sup>401</sup>

In 1629 De Wilhem returned to the Republic for good. The next year the correspondence between him and Reneri began. In 1631 De Wilhem was appointed adviser to Frederick Henry. Two and a half years later, on 1 July 1634, he became a member of the Council of Brabant in the Hague. The fact that the year before he had married Constantia Huygens (1602-1667), Constantijn Huygens’ sister, helped his career.<sup>402</sup>

Between his return and his employment by Frederick Henry, De Wilhem graduated in law under Cunaeus, a study which was more suitable for the political career he was about to pursue and necessary for admittance to governing bodies.<sup>403</sup> Furthermore, together with the church minister Louis de Dieu, he studied Arabic under the Leiden professor of Arabic and mathematics Jacobus Golius, who was appointed professor in 1625, in succession to Erpenius. De Wilhem had met Golius when the latter was in Aleppo as part of a tour in the Ottoman empire made to expand his knowledge of Oriental languages and to collect manuscripts. Golius stayed in Aleppo from 1626 to 1627, where he combined his study tour with a job at the Dutch consulate, which he obtained through Pauw.<sup>404</sup>

De Wilhem and Reneri had a typical patron-client relationship, which is reflected by the language in Reneri’s letters. Reneri positions himself as De Wilhem’s protégé by explicitly calling himself his client (*cliens*).<sup>405</sup> Moreover, he praises him for his virtue, erudition, refinement (*humanitas*),<sup>406</sup> benevolence, and so on—all the typical terms used in patronage relationships.

De Wilhem, indeed, had been very beneficent to Reneri. He helped him by lending him money to buy books and he was willing to finance a journey to Paris (which Reneri, in the end, did not make).<sup>407</sup> At first sight, it may seem odd

Antiquities in Leiden.

<sup>401</sup> De Groot, *Ottoman Empire*, 223-24; Israel, “Dutch Merchant Colonies,” 97.

<sup>402</sup> On De Wilhem, see Elias, *Vroedschap van Amsterdam*, 1:602-5; Juynboll, *Beoefenaars*, 185-86; Van Valkenburg, “Regentengeslacht de Wilhem,” 132-80, esp. 157-61.

<sup>403</sup> Molhuysen, *Bronnen*, 2:159.

<sup>404</sup> Molhuysen, *Bronnen*, 2:123; Juynboll, *Beoefenaars*, 128-32.

<sup>405</sup> Reneri to De Wilhem, 31 August 1631; Reneri to De Wilhem, 29 October 1631.

<sup>406</sup> The word *humanitas* has a double meaning. It refers to an attitude both of striving for knowledge and of respect, understanding, and kindness towards others. See Bots, “André Rivet,” 27.

<sup>407</sup> Reneri to De Wilhem, 8 October 1631; Reneri to De Wilhem, 18 October 1631.

for a benefactor to lend money instead of just giving it. In practice, however, loans could eventually become gifts depending on the ability of the protégé to repay. Indeed, as far as we know, Reneri never paid back his debt to De Wilhem.<sup>408</sup>

In return, Reneri regularly gave De Wilhem presents that would have been to the taste of a *liefhebber*, such as optical instruments and a painting which was probably made with the use of a camera obscura.<sup>409</sup> These presents not only involved objects, but also drawings and notes on his experiments and inventions.<sup>410</sup> Indeed, in his letter to De Wilhem of 22 October 1631 he presents his sharing of arcana with De Wilhem as a form of interest on his loan. Furthermore, Reneri wished he could dedicate a book to De Wilhem—a standard way of honouring a patron—but his first (and only) work, he had to admit, already had been dedicated to Adriaan Pauw. We only know of this work because Reneri refers to it in a letter to De Wilhem of 31 August 1631, but no further details are known whatsoever. Perhaps it concerned a medical disputation he held at Leiden as *respondens*. Instead, Reneri presented De Wilhem with copies of Revius' poem "Laurus rediviva"<sup>411</sup> and *Illustris Gymnasii Ultrajectini inauguratio unà cum orationibus inauguralibus*, a volume containing all the addresses delivered at the inauguration of the Utrecht Illustrious School in 1634.<sup>412</sup>

Besides this, Reneri was of service by frequently acting as an intermediary between De Wilhem and his Leiden contacts.<sup>413</sup> He also introduced Elichmann to De Wilhem, with whom Elichmann shared an interest in oriental languages.<sup>414</sup> Inversely, Reneri expressly asked De Wilhem to help him expand his own network. In a letter of 22 October 1631, for instance, Reneri appeals to De Wilhem for a further introduction to Joachim de Wicquefort (1596-1670), whom he first met briefly in The Hague:

Yesterday, in the coach to The Hague, I enjoyed a most delightful and most learned conversation with the most cultured and most learned Mr. Wykefordt,

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<sup>408</sup> Reneri to De Wilhem, 28 February 1638.

<sup>409</sup> Reneri to De Wilhem, 12/22 December 1633. See also below, pp. 113-14.

<sup>410</sup> Reneri to De Wilhem, 22 October 1631; Reneri to De Wilhem, 20 February 1632 (OS).

<sup>411</sup> Reneri to De Wilhem, 10/20 December 1631.

<sup>412</sup> Reneri to De Wilhem, 23 December 1634.

<sup>413</sup> Reneri to De Wilhem, 31 August 1631; Reneri to De Wilhem, 10 September 1631(a).

<sup>414</sup> Reneri to De Wilhem, 10 September 1631(b). Cf. Juynboll, *Beoefenaars*, 186 n. 2, who quotes Elichmann from a letter to De Wilhem calling the latter a patron of Arabic literature.

and on that occasion I made the first steps towards his friendship. Make me more closely acquainted with him, for (one day, and after the exertions of the coming year) I will chiefly seek glory in the friendship I will have cultivated with the most famous and most scholarly men.<sup>445</sup>

De Wicquefort was a Lutheran silk merchant and banker from Amsterdam, who later became a diplomat. He was a patron of the arts and collected books, paintings, antiquities, coins, shells and curiosities from the East and West Indies, and so on.<sup>446</sup> It shows that Reneri consciously was building up a network of *liefhebbers*.

### 3.4.3. *Constantijn Huygens*

A *liefhebber* par excellence was Constantijn Huygens. His father, Christiaan Huygens (1551-1624), secretary to William of Orange (1533-1584) and thereafter secretary of the Council of State, had moved with the court from Brussels via Antwerp to Delft. He had destined his son Constantijn for a career as a courtier as well. He had been preparing him for a life at court ever since Constantijn was a child, giving him a gentleman's education and cultivating his many talents. In particular, Constantijn was musically gifted and had a flair for languages. After he studied law at Leiden for somewhat more than a year from 1616 to 1617, he started his career as a secretary to several embassies. In 1622 he was knighted by King James I of England. Huygens had spent a great deal of effort to get this knighthood, which was usually given to ambassadors only (Adriaan Pauw, for instance, received his knighthoods in this capacity). Although a foreign title had no official status in the Dutch Republic and carried little weight among the old aristocracy, it was conducive to a diplomatic career. Ten years later, moreover, he was also knighted in the French order of Saint Michael. In 1625 Huygens became secretary to Frederick Henry. In 1630 he was appointed a member of the *Nassause Domeinraad* (the council that administered the estates of the Nassau family). That same year he purchased

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<sup>445</sup> Reneri to De Wilhem, 22 October 1631: "Hesternâ die Hagiensi curru fruitus sum suavissimis ac doctissimis discursibus humanissimi ac eruditissimi viri D. Wykefordt: eaque occasione primos aditus ad ejus amicitiam paravi; tu me profundius insinua: potissima enim gloriae, ad quam contendam, pars, (olim et post primi anni labores,) erit in amicitia cum clarissimis ac eruditissimis viris culturâ."

<sup>446</sup> Lange, "Wicquefort, Joachim von"; Schulten, "Joachim de Wicquefort," 131-33; Van der Veen, "Dit klain Vertrek," 331-32.



the estate of Zuylichem.<sup>417</sup> Huygens was very wealthy with an estimated fortune of 300,000 guilders.<sup>418</sup>

Huygens was an art lover, who wrote poetry and composed music himself. His talents brought him into contact with the literary circle around the poet and regent Pieter Cornelisz. Hooft (1581-1647). In summer Hooft, who was *drost* (bailiff) of Muiden, hosted soirées in his castle there. As a true *liefhebber*, Huygens not only had an interest in art, but also in natural philosophy, mathematics (particularly optics),<sup>419</sup> and chemistry. Moreover, influenced by Bacon, Huygens was not only interested in the natural sciences for their entertaining value, but also for their use for the common good.<sup>420</sup>

Huygens' interest in optics was the basis of his friendship with Reneri. They probably met in the middle of the 1620s. Between 30 September and 19 November 1626 Beeckman wrote in his *Journal*, his scientific diary (which was not published until the twentieth century), that Reneri said he knew "someone who was as familiar with Drebbel as with his own brother."<sup>421</sup> This no doubt refers to Huygens, who had met the Dutch inventor Cornelis Drebbel (1572-1633) in England in 1621.<sup>422</sup> This means that Reneri met Huygens before the fall of 1626, probably at the house of Rivet, where Reneri lived during the academic year 1625/26, or through Pauw. The first letter we know of is from 28 March 1629. They had not seen each other much in the intervening years, given the formal tone of the letter and the fact that it shows that they had only shortly before, during a visit of Reneri to Huygens in The Hague, discovered their common interest in optics.<sup>423</sup> It marked the beginning of a regular correspondence between the two, in which Reneri provided Huygens with updates of his latest inventions of all sorts. In addition to this, Reneri provided

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<sup>417</sup> Hofman, *Constantijn Huygens*.

<sup>418</sup> Zandvliet, *De 250 rijksten*, 253.

<sup>419</sup> On Huygens and his interest in optics, see Ploeg, *Constantijn Huygens*, 18-28; Matthey, "Constantijn Huygens," 350-54.

<sup>420</sup> On Huygens as a *liefhebber*, see Colie, "Some Thankfulness to Constantine," 1-10; Bachrach, "Role of the Huygens Family"; Roodenburg, *Eloquence of the Body*, passim; Jardine, *Constantijn Huygens*.

<sup>421</sup> Beeckman in notes written between 30 September and 19 November 1626, in Beeckman, *Journal*, 2:372: "[...] een, die so familiaer met Drebbel is als met syn eyghen broeder [...]."

<sup>422</sup> Huygens, *De vita propria*, 59; Tierie, *Cornelis Drebbel*, 8-10, 27-28.

<sup>423</sup> Reneri to Huygens, 28 March 1629.

him and his brother Maurits (1595-1642) with Spa pills (which he probably made himself according to a recipe of Elichmann) to treat their melancholy.<sup>424</sup>

Although the relationship between Reneri and Huygens, who saw himself as a patron of the arts and sciences, has all the marks of a patronage relationship, it is not known whether Huygens actually supported Reneri in some way. In their letters they never discuss money, nor is it known whether Huygens introduced Reneri to any useful connections, although he probably had something to do with Reneri's contacts with Hooft and his circle. Their letters almost exclusively concern Reneri's inventions. Perhaps they just exchanged experiments and inventions as two fellow amateurs. The fact that Huygens expressly and repeatedly asked Reneri to send him news on his inventions seems to point in that direction.<sup>425</sup>

#### **3.4.4. Cornelis Booth**

Perhaps Reneri's greatest benefactor was Booth. In a letter from 5/15 September 1632 Reneri already refers to their "old friendship." Booth seems to have known Ludovicus Vivien (d. 1637), a relative of Reneri's wife Anna Vivien.<sup>426</sup> So perhaps Reneri met Booth through the Hallet Fund circle. The administration of this fund was in the hands of people related to the De Malapert family, some of whom lived in Utrecht. Ludovicus was inscribed as a member of the Dutch Reformed church in Utrecht on 21 June 1632 and, at that moment, lived on the Domtrans, now Achter de Dom.<sup>427</sup> He died at a young age shortly before 24 April 1637 and was buried in St. Catharine's church, where Anna was buried too.<sup>428</sup>

Cornelis' father Everard Booth (1577-1610) had worked as a minister in Utrecht, where he married Alida Ruysch (1585-1616), who came from an old Utrecht regent family. After Cornelis was orphaned in 1616, his uncle Adriaan Booth (d. 1638), bookseller and officer in the militia, acted as guardian. On 3 June 1622 Cornelis enrolled in medicine at Leiden University.<sup>429</sup> In May 1628 he went to Caen, where he graduated in medicine on 16 August of that year. The

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<sup>424</sup> Reneri to De Wilhem, 23 December 1634; Reneri to Huygens, 4/14 April 1635.

<sup>425</sup> Huygens to Reneri, 29 October 1635; Huygens to Reneri, 19 December 1637; Reneri to Huygens, 1 January 1638.

<sup>426</sup> Reneri to Booth, 5/15 September 1632; Reneri to Booth, 5 June 1633.

<sup>427</sup> Membership records of the Dutch Reformed Church in Utrecht, HUA, 746, inv. no. 406, fol. 73r.

<sup>428</sup> Utrecht burial register, HUA, DTB 122, 336.

<sup>429</sup> *Album stud. Acad. Lugd.-Bat.*, col. 161.

Protestant University of Caen was very popular with Dutch medical students, because doctor's degrees were easily awarded there. After Booth returned, he settled in Utrecht to work as a physician. He soon reduced his working hours because of the rapid career he made as a public administrator, after which he only treated friends. The fact that he was related to the Utrecht regent families Ruysch and Van Velthuysen, and, through marriage, to the prominent Van Nellesteyn family contributed to this.

In the fall of 1632 Booth became alderman and two years later he became a member of the city council. It was the start of a distinguished career, which culminated with his election as burgomaster from 1656 to 1658.

Driven by a preoccupation with genealogy and antiquities, Booth became the unprecedented chronicler of the city and province of Utrecht. Apart from this pre-eminently gentlemanly pastime, he was a book lover. Already as a student he had a collection of about 500 books on medicine, antiquity, theology, and philosophy. In 1637, because of this interest, he was appointed member of the committee for the university library. Three years later he became its first librarian.<sup>430</sup>

As an old friend Booth was a very great benefactor of Reneri. He not only lent him money, but he even sold him his prebend in the chapter of Oudmunster. This was more than a financial transaction. It was also an honour, since through this purchase Reneri became a member of the chapter. On top of this, Booth arranged through his cousin Johan Strick (1583-1648), a member of the States of Utrecht, who was dean of the chapter since 1631,<sup>431</sup> that the sum paid out was higher than Reneri was entitled to.<sup>432</sup> By way of thanks, Reneri, through Booth, sent Strick a lens and an instruction how to construct a camera obscura. As for Booth, Reneri also promised him some of his "secrets," more particularly those on medicine.<sup>433</sup> This was followed by some more inventions, which were to be passed on to Strick, accompanied by the request that the revenues from his prebend of the first half year were paid in

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<sup>430</sup> Grosheide, Monna, and Pesch, *Universiteitsbibliotheek Utrecht*, passim, esp. 58-63; Pietersma, "Cornelis Booth."

<sup>431</sup> *Nederland's Adelsboek* 15 (1917), 370-71.

<sup>432</sup> Reneri to Booth, 20 December 1632.

<sup>433</sup> Reneri to Booth, 5 June 1633. In a letter to Booth of 8/18 July 1633 Reneri somewhat ostentatiously displays his knowledge of the jargon, when he refers to a kidney disease Booth's wife suffered from: "several painful paroxysms of nephritic pain she had during gestation" ("[...] acerbos nephritici doloris paroxismos, quos gestationis tempore aliquot habuerat [...]").

advance.<sup>434</sup> To judge by the letters that survive, Booth, unlike his cousin Strick, did not show much enthusiasm for Reneri's other work.

Besides helping him financially, Booth contributed enormously to Reneri's appointment at Utrecht. As an alderman he had no voice in the appointment of professors, but he pleaded for Reneri with men who had. Through his friendship with Booth, Reneri had influential supporters within the municipality, including Booth's paternal uncle burgomaster Dirck Jacobsz. van Velthuysen (1583-1642) and city council member Frederik Ruysch (1601-1677).<sup>435</sup> For that matter, Ruysch also was an uncle of Reneri's friend Marcus Mamuchet Jr.

Ruysch was related to Booth's mother Alida Ruysch. Furthermore, through his marriage to Maria van der Meulen (1604-1682), a daughter of Suzanna de Malapert, he had a connection to the Hallet Fund administrators. The two burgomasters functioned as the board of administrators of the Illustrious School. They knew Reneri, so Reneri was no stranger to the Utrecht elite before he became professor of philosophy there.

### **3.4.5. *The Circle around Pieter Cornelisz. Hooft***

Other relations with *liefhebbers* are less clear. One of them was the extremely wealthy Lutheran merchant Matthijs van Overbeke, a renowned patron of the arts and sciences. His fortune is estimated at 540,000 guilders.<sup>436</sup> He came from Frankfurt am Main, where his father, Pieter van Overbeke, had fled to from Antwerp. On 19 February 1617 Matthijs enrolled at Leiden University to study philosophy.<sup>437</sup> Besides books and Roman coins, he collected paintings. His collection included works by the contemporary Flemish and Dutch masters Peter Paul Rubens, David Bailly, Gillis van Coninxloo, Jan Porcellis, Esaias van de Velde, Roelant Savery and Sebastian Vrancx. He exhibited his collection in his house on what is now Rapenburg 65, where he lived since 1623.<sup>438</sup> In 1629, he also displayed some of Reneri's optical instruments there.<sup>439</sup>

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<sup>434</sup> Reneri to Booth, 8/18 July 1633.

<sup>435</sup> Reneri to Booth, 26 September 1633; Booth to Reneri, 2 January 1634.

<sup>436</sup> Zandvliet, *De 250 rijksten*, 107.

<sup>437</sup> *Album stud. Acad. Lugd.-Bat.*, col. 129.

<sup>438</sup> On Overbeke, see Pelinck, "Huizen met torens," 99-104; Lunsingh Scheurleer, Willemijn Fock, and Van Dissel, *Rapenburg*, 6a:282-83, 301-10; Angel, Hoyle, and Miedema, "Praise of Painting," 250.

<sup>439</sup> Reneri to Huygens, 28 March 1629.

It is not known how Reneri knew Van Overbeke, but apparently he had drawn his attention with his inventions. Van Overbeke also took pleasure in philosophy. He regularly invited scholars, such as Barlaeus and Vossius, to his home. The Leiden professor of philosophy Jacchaeus, moreover, dedicated the revised 1624 edition of his *Institutiones physicae* to the “patron of philosophical enquiries” (“patronus disquisitionum philosophicarum”) Van Overbeke.<sup>440</sup> It would have been because of this interest in natural philosophy that Reneri was invited to display some of his inventions at Van Overbeke’s house. An interesting detail in this regard is that sometime in the 1620s Van Overbeke had a tower built on top of his house, which may have functioned as an observatory.<sup>441</sup>

Van Overbeke moved in the circle around Hooft. Reneri knew more members of this circle, such as Huygens, Vossius, the Leiden artist and botanist Johannes Brosterhuysen (ca. 1596-1650)—and Hooft himself. It is very likely that Reneri was introduced to Hooft by Huygens. His contact with Hooft seems to have been mainly limited to arranging a tutor for Hooft’s only surviving son Arnout Hellemans Hooft (1619-1680) in 1637.<sup>442</sup> In that same year, moreover, Descartes had Reneri deliver a copy of the *Discours* to Hooft in Amsterdam. On that occasion, Reneri announced, in a letter enclosed in the parcel, that he would send Hooft a specimen of his Analysis, the most advanced part of his method of logic, as well. This was a connection Reneri was willing to invest in and apparently he saw a chance there.<sup>443</sup>

Another member of this circle was Hooft’s cousin by marriage Joachim de Wicquefort, to whom Reneri wanted De Wilhem to further introduce him. Given De Wicquefort’s wealth, it is obvious why Reneri wished to get to know him better as well.<sup>444</sup>

### 3.5. Marriage as a Social Instrument

#### 3.5.1. *Vivien*

Since Reneri had no family in the Republic, a way to create social security was to marry into a family that could provide a safety net in times of difficulty or

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<sup>440</sup> Jacchaeus, *Institutiones physicae*, [dedication].

<sup>441</sup> Pelinck, “Huizen met torens,” 98; Lunsingh Scheurleer, Willemijn Fock, and Van Dissel, *Rapenburg*, 6a:303-4.

<sup>442</sup> Hooft to Reneri, 11 May 1637; Reneri to Hooft, 16 June 1637. See also the commentary in Hooft, *Briefwisseling*, 2:935.

<sup>443</sup> Reneri to Hooft, 16 June 1637. See also below, p. 209.

<sup>444</sup> See above, pp. 87-88.

even further his career. As soon as he obtained a permanent job with status as professor of philosophy at Deventer, and thus financial independence, this is what Reneri did. He married upwards. Anna Vivien, who became his wife in 1632, came from a prominent Valenciennes merchant family.<sup>445</sup> Her cousin Maria Vivien (1584-1669)<sup>446</sup> had married the Leiden merchant Gillis van Panhuys (1574-1626). The couple lived on the Steenschuur in Leiden.<sup>447</sup> This was the “Mrs. Panhuijsen,” widowed by then, from whose house Reneri sent one of his letters in the summer of 1632 and where Anna stayed before she married Reneri.<sup>448</sup> Maria also acted as Anna’s witness, together with her sister Catharina Vivien. Catharina was the widow of Gillis’ brother, the Hallet Fund administrator, Bartholomeus van Panhuys. She lived in Leiden as well. The Van Panhuys family had been part of the Antwerp patriciate. Gillis and Bartholomeus’ father, Pieter van Panhuys (1529-1585), had been an Antwerp trading partner of the Vivien in Aachen and Cologne.<sup>449</sup> Anna, thus, was a desirable match.

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<sup>445</sup> Anna’s father, Louis Vivien, had gone to Cologne, where he married Catharina Resteau, who came from a Cambrai merchant family. See Jongbloet-Van Houtte, *Daniel van der Meulen*, CXXIX; Baumann, *Merchants Adventurers*, 268; Dollinger, *German Hansa*, 354-55. To his own surprise, Reneri, in 1633, discovered that he was also related (by marriage) to Nicolas Vivien (1559-1634), Lord of Bouvignies. He met Nicolas in the spring of that year when visiting Ludovicus Vivien in Utrecht. See Reneri to Booth, 5 June 1633. Nicolas, together with his wife Elisabeth Parmentier (d. 1640), had left Valenciennes for Cologne as well. In 1631, his daughter Elisabeth Vivien married Antoine Charles Parmentier (ca. 1603-1665), who was then Pensionary of Nijmegen. Sometime after their marriage they settled in Utrecht. On Nicolas Vivien, see Geest, “Nicolaas Vivien,” 49-50.

<sup>446</sup> Maria was a daughter of the merchant, humanist, and collector Jean Vivien (1543/46-1598) and his wife Catharina de Malapert (1562-1620). Jean settled as a merchant in Antwerp, but fled to Aachen after the fall of the city in 1585. On Jean Vivien, see BN, 26:801-3.

<sup>447</sup> Register of real estate transfers, RAL, 501A, inv. no. 6618, 27v. Cf. the following entry of 1 April 1627 in the Leiden matriculation records (UBL, ASF 8, 236): “Johannes Usselmans, 30 years old, valet of Mr. Johannes Panhuys, living with the mother of the aforementioned Mr. Panhuys on the Steenschuur” (“Johannes Usselmans, ann. 30, servus D. Johannis Panhuysij habitans apud matrem dicti D. Panhuysij op de Steenschuyr”). Johan van Panhuys (1603-1663) was the second of the five children of Gillis van Panhuys and Maria Vivien.

<sup>448</sup> See also above, p. 47 n. 210.

<sup>449</sup> Van Roosbroeck, “Niederländische Glaubensflüchtlinge,” 129.

Reneri knew Anna through the Hallet Fund circle, probably through his friend Marcus Mamuchet (b. 1606/7), who was one of his witnesses at their marriage.<sup>450</sup> This once again underlines the value the Walloon College had for Reneri. Mamuchet had become a student at an early age. Only fourteen years old, he enrolled at Leiden University to study literature, whilst still living with his parents in Utrecht.<sup>451</sup> On 16 June 1627, he defended a disputation on the heavens under Burgersdijk.<sup>452</sup> His father, Marcus Mamuchet Sr. (1576/77-after 1638), Lord of Houdringe, was an administrator of the Hallet Fund.<sup>453</sup>

Marcus Sr. was a merchant who fled from Tournai to Bremen. There he married Suzanna van der Meulen (1584-1643), a daughter of the merchant Andries van der Meulen (1549-1611), Lord of Ranst and Milleghem, and Suzanna de Malapert (1566-1625).<sup>454</sup> Suzanna was a sister of Catharina de Malapert, while Andries van der Meulen was a business partner of Catharina's husband Jean Vivien. Together with Andries' brother Daniël van der Meulen (1554-1600) and Catharina and Suzanna's brother Nicolaas de Malapert (1564-1615) they owed the New Naples Company (*Nieuwe Napelsche Compagnie*), which chiefly traded in textiles.<sup>455</sup> The Van der Meulens were yet another wealthy Antwerp merchant family that had fled the city.

In the beginning of the seventeenth century, Marcus Sr. moved from Bremen to Utrecht, perhaps following his father-in-law Andries van der Meulen, who moved there in 1607. In 1629 Marcus Sr. became an administrator of the Hallet Fund, his mother-in-law Suzanna de Malapert being a cousin of Antonie Hallet (d. 1612) from Utrecht. Together with her brother and sister Suzanna was Hallet's closest heir. Part of Hallet's inheritance was to finance the education of poor students, which resulted in the Hallet Fund. Because Nicolaas de Malapert died childless in 1615, Catharina and Suzanna de

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<sup>450</sup> On 21 April 1632, Reneri had been Mamuchet's witness in a deed of conveyance before a notary public. See the protocols of notary public Adriaen Claesz. Paedts, RAL, 506, inv. no. 192.

<sup>451</sup> Matriculation records, UBL, ASF 8, 66/*Album stud. Acad. Lugd.-Bat.*, col. 153.

<sup>452</sup> Burgersdijk, *De coelo*.

<sup>453</sup> Mamuchet Jr. dedicated his disputation to his father and his uncles Andries van der Meulen Jr. (1591-1654), Charles de Latfeur, and Pieter Munnix, who were all administrators of the Hallet Fund. See Posthumus Meyjes, *Waalse College*, 206-8.

<sup>454</sup> Kooijmans, *Vriendschap*, 18-22, 27-35; Faries and Helmus, *Catalogue of Paintings*, 152-54.

<sup>455</sup> Jongbloet-Van Houtte, *Daniel van der Meulen*, LIII-LV; Asaert, *De val van Antwerpen*, 90-94.

Malapert's male descendants and in-laws became responsible for the administration.<sup>456</sup>

### 3.5.2. *Van Velthuysen*

In 1636 Anna Vivien died. Despite his decision not to remarry, Reneri married in second wedlock with Anna van Velthuysen two years later. He mentions their first meeting in a letter to Vossius of 9/19 September 1638. It has been claimed that Reneri remarried because it would be beneficial for his health,<sup>457</sup> but this letter bears no sign of such a motivation:

A young woman from Utrecht (a first cousin of the most honourable burgomaster Mr. Velthuysen, an extraordinary man of piety, integrity, and prudence), after I had the occasion of talking to her for the first time at a banquet, has led me to seriously consider a second marriage. I have begun to like her physical qualities and much more her gifts of mind, which wonderfully correspond to my character, so that from that moment I have been seized by a blazing fire, which seemingly only death will extinguish. For my love and ardour grow daily, whilst the signs that my love is returned and that the disposition I hoped for most are growing. Add to this her domestic skills and the prudence in which she was trained by her mother and which is most suitable for this matter.<sup>458</sup>

On 1 September, that is, before Reneri wrote this, the banns had in fact already been proclaimed for the first time.<sup>459</sup> They married on 21 October 1638. The Van Velthuysens were part of the Utrecht regent patriciate. Her father, Huybert Wernardsz. van Velthuysen, was *exploiteur* (bailiff) of the States of Utrecht. He lived on the west side of the Korte Nieuwstraat. The Cartesian Lambert van Velthuysen (1622-1685) was one of Anna's brothers.<sup>460</sup> Reneri apparently met

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<sup>456</sup> Posthumus Meyjes, *Waalse College*, 57-64.

<sup>457</sup> Baillet, *Vie de Descartes*, 2:19. See also p. 63 n. 299.

<sup>458</sup> Reneri to Vossius, 9/19 September 1638: "Nympha Ultrajectina cognata germana amplissimi viri consulis D. Velthuysen, viri pietate, integritate, prudentia eximij, natâ in convivio primi alloquij occasione, animum meum ad cogitandum seriò de secundis nuptijs pertraxit. Ita coeperunt placere et corporis, et multò magis animi dotes meis moribus mirè congruentes, ut ab eo tempore flamma correptus fuerim, quam sola mors videtur extinctura. In dies enim crescit et amor et ardor, crescentibus indicijs et reciproci amoris; et indolis optatissimae: quibus rebus accedit oeconomica peritia ac prudentia parta sub disciplina matris ad eam rem aptissima."

<sup>459</sup> Buchelius, *Ecclesiastica Ultraiectina*, 198.

<sup>460</sup> Register of real estate transfers, HUA, "Transporten en plechten" 56/57, 2 January



Anna through her cousin Dirck van Velthuysen, who was seven times elected burgomaster of Utrecht, from 1631 to 1634 and from 1635 to 1638. In that capacity, Dirck was, together with Van der Hoolck, also founder and administrator of the university.<sup>461</sup>

### ***3.5.3. Another Step Up the Social Ladder***

Reneri twice married into good families. In the first place, he profited financially from this. The dowry Anna Vivien brought with her enabled him to purchase a prebend. Indeed, in a letter to De Wilhem Reneri mentions Anna's financial position as one of the reasons to marry her.<sup>462</sup> Furthermore, by marrying her Reneri consolidated his connections within the Hallet Fund circle. His marriage to Anna van Velthuysen not only contributed to his standing, but would also have secured his financial position.

Inversely, it is less obvious what Reneri had to offer. To be sure, by being appointed professor at Deventer he had risen a step higher up the social ladder, but Reneri had a modest income, so he did not have the capital that would make him an attractive marital partner for a merchant's daughter such as Anna Vivien, nor did he have the right connections. In merchant circles it was common practise to marry within the same group in order to increase the joint business capital and form new alliances or strengthen the existing ties.<sup>463</sup> In Anna van Velthuysen Reneri found an even better party as far as social status is concerned. These considerations raise the question why Reneri was considered a suitable party.

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1631; Utrecht burial register, HUA, DTB 123, 3; Wijburg, "Van Velthuysen"; Van der Bijl, "Utrechts weerstand," 190. Reneri almost certainly had nothing to do with Lambert becoming a Cartesian. Lambert, who was only 16 year old when Reneri married his sister Anna, did not live with his parents in Utrecht. He attended the Latin School in Geneva, from which he did not graduate until 8 May 1639. See Klever, *Verba et sententiae Spinozae*, 7. On Lambert van Velthuysen, see DDP 2:1017-20.

<sup>461</sup> Broeyer, "Dirck van Velthuysen."

<sup>462</sup> Reneri to De Wilhem, 20 February 1632 (OS).

<sup>463</sup> Wijnroks, *Handel*, 179-93.

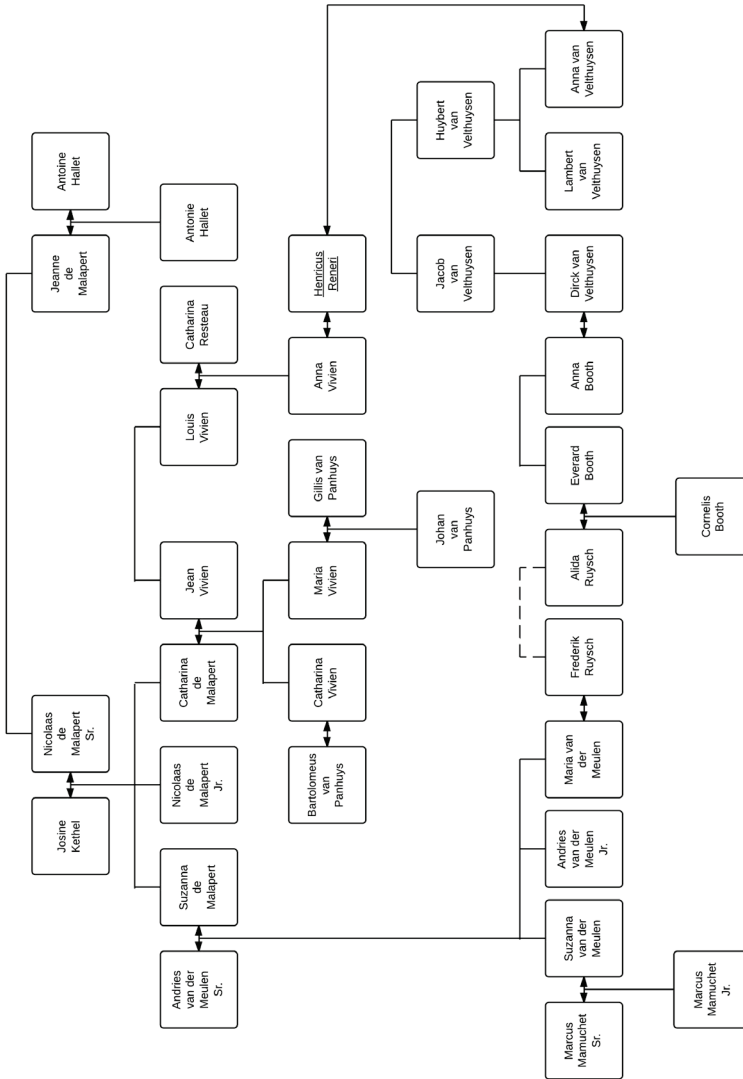


Fig. 2: The genealogical table shows the connection between Anna Vivien and the Hallet Fund circle, through which Reneri probably met her. It also shows Reneri's connections with the Utrecht regent patriciate through Cornelis Booth and possibly also Marcus Mamuchet Jr., as well as how he knew Anna van Velthuysen through burgomaster Dirck van Velthuysen. (The double arrowed lines indicate marriages. The dotted line between Everard and Anna Booth means that they are related, but how exactly is not known.)

His marriage with Anna Vivien may be explained by the goodwill he enjoyed among the Hallet people—he seems to have possessed a certain amount of personal charm. Moreover, they shared a common background as Walloon refugees. It was customary to marry within one's own social group—the fact that Reneri married in second wedlock to someone who had her roots in the Republic is evidence of his successful integration.<sup>464</sup> Furthermore, although the pay was modest, a professorship at an illustrious school certainly was a decent job. Finally, in Cologne the Vivien did not occupy the same social position as they had had in Valenciennes, since it took several generations for newcomers to become part of the local elite. So, notwithstanding the difference in wealth, the social difference between Reneri and Anna was perhaps not that great.

By the time Reneri met Anna van Velthuysen, he had further climbed the social ladder. He now was a university professor, albeit in philosophy, with an ample income (he no doubt owed his relatively large salary to his good contacts within the municipality) and connections within the local elite. With his prebend in the chapter of Oudmunster his social position and a steady income would have been assured. The fact that he married a woman from the local regent patriciate shows that he was considered socially equal.

### 3.6. Conclusion

In this chapter I showed how Reneri, having left everything behind as a religious refugee, climbed up to being a university professor with friends and a spouse from the regent class. The key to success was knowing the right people. Accordingly, Reneri's story also tells us something about social mobility in the early modern period in general and about how to build a network. Reneri, apparently aided by his charm, managed in making valuable friends and patrons, which helped him get good jobs, financial support, and new contacts. This took a while, but as from 1631, after a period of struggle, he quickly built a successful academic career and achieved status as a professor—socially as well as economically he surpassed his father, who was a small merchant.

A necessary first step was to obtain a scholarship to study theology, which guaranteed food, shelter, and a social position. Although his theological studies did not result in a degree and a job as minister, his stay at the Walloon College was not in vain. There he came into contact with, among others, the Hallet Fund administrators and their circle, which proved pivotal in his life. Another key contact was Rivet, who gave him access to his extensive network and was

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<sup>464</sup> Kuijpers, *Migrantenstad*, 178-88.

one of the driving forces behind Reneri's appointment at Deventer. Reneri's network was dominated by Southern Netherlanders. This was not solely due to the fact that Reneri had the same background, but also to the fact that this group was economically dominant and had acquired much wealth, which also offered opportunities for Reneri.

Reneri let his patrons read the notes on his experiments and gave them specimens of his inventions—gifts that suited the appetite for curiosities of these *liefhebbers*. The dedication of a book was a well known form to do something in return, but, apart from the unidentified work he dedicated to Pauw, Reneri did not publish anything. Reneri, thus, used his experiments and inventions to get ahead socially. Inversely, it is not always clear what the support of some of Reneri's benefactors consisted of.

Reneri also had good contacts within the Leiden academic community, particularly among the theologians. This once more stresses Rivet's role in the formation of Reneri's network and the importance of intermediaries in general. Furthermore, Rivet also gave rise to Reneri's friendship with non-academic philosophers, such as Descartes and Gassendi, which is the subject of Chapters 6 and 7.

## Chapter 4

### Philosophy I: A Naive Empiricist

#### 4.1. Introduction

Reneri was an active experimenter. Sometime in the first half of the 1620s, Reneri started experimenting and inventing in the fields of chemistry, mechanics, and what was called natural magic, that is, the art of manipulating the occult forces of nature in order to produce amazing and beneficial effects. The term “experiment” is to be understood broadly. In the early modern period it generally refers to an experience sought on purpose. That is to say, an intervention in the normal course of nature by means of which one forces nature to reveal itself. The words *experientia* and *experimentum* were used more or less interchangeably and Reneri uses both (in French there is only the word *expérience*).<sup>465</sup> Instruments obviously played an important role in this. Reneri created, for example, optical effects with the use of a camera obscura, and he constructed instruments, such as thermometers and water clocks. Reneri was driven by a genuine interest in matters of nature, to be sure. His medical studies and his preference for natural philosophy bear witness to that. But he also shared his inventions with his patrons in exchange for their support. Like collecting rare or remarkable natural objects and artefacts in a cabinet of curiosities, entertaining and useful experiments and inventions provoked the interest of the *liefhebber*. These kinds of experiments partly formed the subject of books of secrets, or ‘how-to’ books. These books, which were popular at all levels of society, provided techniques, information about the properties of things, recipes, formulas, and experiments associated with the arts and crafts, and with medicine. In a letter to De Wilhem of 20 February 1632 (OS) Reneri writes he compiled a book of secrets of his own.

When Reneri was appointed at Deventer, he continued experimenting and improving his instruments. He would have been one of the few academic philosophers involved in such activities, which put him in the company of

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<sup>465</sup> On the terms “experience” and “experiment” and what was understood by them in the early modern period, see Ritter, *Historisches Wörterbuch der Philosophie*, 2:868-75; Dear, “Meanings of Experience.”

instrument-makers, apothecaries, alchemists, and so on. The arts and crafts were not highly esteemed by academics because they involved manual labour. It is remarkable, therefore, that in his inaugural address at the Utrecht Illustrious School Reneri presents plans to make experiment and also observation part of his educational programme. More practical forms of instruction were not absolutely new. In the 1630s, illustrative teaching was an established part of academic instruction in the Republic. Anatomical theatres, botanical gardens, and astronomical observatories were part of the academic culture. The medicine curriculum included anatomical sections (which were referred to as “experiments”)<sup>466</sup> and botanical demonstrations, and in 1633 the Leiden professor of Arabic and mathematics Golius established the first university-funded observatory in the Republic at Leiden University.<sup>467</sup> But it would have been completely new in the teaching of philosophy. One wonders how these plans, which have a distinctly Baconian ring, relate to Reneri’s duty to teach Aristotelian philosophy. If we consider Reneri’s relationship with Descartes, this image becomes even more complex. Reneri was a self-proclaimed follower of Descartes and his philosophy, but his Baconian programme relies on a method which is substantially different from that of Descartes.

This raises various questions. What did Reneri know and understand of Descartes’ method previous to the publication of the *Discours*? Were the experiments promised in his inaugural address the same as those he performed in private? If so, what precise aim did he pursue by integrating them into his teaching programme? In this chapter, I examine Reneri’s view on observation and experiment. To this end, I first discuss the nature and purpose of Reneri’s experiments and inventions. Then, I explore his empirical programme and how it relates to Bacon’s and Descartes’ ideas on method.

## 4.2. Experiments and Inventions

### 4.2.1. ‘Secrets’

In a letter, probably addressed to John Jonston (1603-1675) around 1634, Reneri provides a list of his inventions and experiments, ranging from improved types of thermometers and secret writing to experiments involving the loadstone and devices such as the camera obscura. He points out that the list is far from complete and that “I have very many [artificial things and secrets] in

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<sup>466</sup> Lindeboom, “Dog and Frog,” 279.

<sup>467</sup> Molhuysen, *Bronnen*, 2:177, 185.

chemistry, alchemy, medicine, the mechanical arts, natural magic, partly from very experienced people, partly from my own invention, which [list] is too long to enumerate.<sup>468</sup> Still, the list must be representative, given the fact that it contains almost all of the experiments and inventions mentioned in other letters. The only experiments lacking here are observations on plants and animals, but he did not start performing these before 1638, that is, a few years after the list was made.

Although Reneri writes that he owed some of his experiments to others, he claims of nearly every experiment that he invented it himself. The only items for which he does not make that claim are several recipes for medical ointments, which may have come from Elichmann. Most of his experiments would have been inspired by books of secrets. Reneri had a large number of such books, including several editions of the two most popular, namely, Alessio Piemontese's *De'secreti* (1555) and Giambattista della Porta's *Magia naturalis* (1558).<sup>469</sup> Moreover, in his discussion of the thermometer in the disputation *De affectionibus corporis mixti in genere*, Reneri explicitly mentions *Récréations mathématiques* (1624),<sup>470</sup> a collection of experiments, tricks, and mathematical problems, which was related to the genre of books of secrets. This book had much influence on natural philosophers, who sought to scientifically explain the experiments described in it. Descartes, to name but one, discussed an experiment concerning gravity from it with Mersenne.<sup>471</sup>

The word "secret" in these books not only refers to secrets of the trade, that is, know-how which artisans were reluctant to share because their livelihood depended on it, but also to the secrets, or arcana, of nature, which these books promise to reveal. They depict nature as a repository of secrets and natural philosophy as a hunt for these secrets. Experiments were seen as means to drive them out of their hiding place. Artisans had practical knowledge of the properties of things through experience and they knew how to employ their

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<sup>468</sup> Reneri to Jonston, around 1634. See Appendix 4.

<sup>469</sup> *Catalogus librorum Reneri*, passim. Other books of secrets in the auction catalogue of his library are Carel Baten's *Secreet-boeck* (1600), Wolfgang Hildebrand's *Magia naturalis* (1610), and Johann Jakob Wecker's *Secrets de nature* (1582).

<sup>470</sup> Reneri not only had the 1627 edition, but also the Dutch translation of 1636, *Mathematische vermakelykheden*, as well as Claude Mydorge's augmented edition *Examen du livre des Recreations mathematiques* of 1630. See *Catalogus librorum Reneri*, [27].

<sup>471</sup> Descartes to Mersenne, [April 1634], in AT, 1:287/CM, 4:98. On the influence of *Récréation mathématique*, see Heeffer, "Récractions Mathématiques." See also below, pp. 106-7.

hidden causes. This was practical knowledge and not scientific knowledge, that is, knowledge of causes. Books of secrets taught, among other things, how to manipulate the hidden forces of nature in order to produce a certain effect, which is the domain of natural magic. Because the effect is more startling when spectators do not know how it is produced, the reader of the book who was to perform a trick was advised to maintain secrecy. The natural magician thus pretended to possess secret knowledge. But natural magic was more than trickery. It was regarded as the practical part of natural philosophy. This is also shown by Renieri's disputation *De natura et constitutione physicae*, in which he says that

of all these [i.e., the arts] the purpose is some operation, and the goal of magic is also admirable operations of nature, which the magician relying on his knowledge of nature produces, by means of the art of directing natural causes towards the production of various effects, which nature left to itself would otherwise not have brought forth spontaneously.<sup>472</sup>

Natural magic seemed to give access to realms inaccessible to speculative scholastic philosophy.<sup>473</sup> The subject matter of books of secrets, however, was broader than natural magic. They were also practical guides with, for instance, medical recipes and instructions on how to preserve food. Likewise, Renieri distinguished natural magic from experiments in chemistry, alchemy, medicine, and the mechanical arts. In general, the term "secrets" almost functioned as a genre designation, using the rhetoric of secrecy to sell. Renieri, too, seems to use it in this way in his correspondence with patrons, in which he refers to his experiments and inventions as "secrets." By speaking of secrets he appealed to the curiosity of these *liefhebbers*. Accordingly, the word is absent in Renieri's inaugural speech, addressed to an academic audience, in which he merely speaks of "experiments" (*experimentum*).<sup>474</sup>

Virtually nothing is known about the chemical and alchemical experiments Renieri performed, but he must have spent a considerable amount

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<sup>472</sup> Renieri, *De natura et constitutione physicae*, th. 5: "[...] iis enim omnibus proposita est operatio aliqua, et Magiae quidem operationes naturae admirabiles pro scopo sunt, quas magus naturae cognitione fretus edit, naturales causas dirigendo arte sua ad hos aut illos effectus producendos, quos aliàs natura sponte sibi relicta non edidisset."

<sup>473</sup> On natural magic and its development into applied natural philosophy, see Eamon, *Secrets of Nature*, 194-233; Clark, *Thinking with Demons*, 214-32.

<sup>474</sup> On books of secrets, see Eamon, *Secrets of Nature*; Leong and Rankin, *Secrets and Knowledge*.



of time on them. His short biography in the archives of the Deventer Illustre Gymnasium in particular refers to Reneri as a practitioner of chemical medicine: “first he devoted himself to theology at Leiden University, later he put his mind to medicine, even spagyric [medicine],<sup>475</sup> he was a man very eager for new things.”<sup>476</sup> Apart from his production of chemical drugs, he made medical ointments, but also artificial jewels and he claimed to have invented a wick that never runs out. Furthermore, in his letter to Jonston Reneri wrote that he was familiar with many of the chemical recipes Johannes Huniades (1576-1646) had previously sent him through Jonston (about which no details are provided). Reneri further built instruments, such as thermometers and water clocks, but most of his time went to optics and especially the construction of optical instruments. Reneri described his efforts in these fields in more detail, which allows us to study what Reneri’s intentions were and how he operated.

#### ***4.2.2. Creation of an Artificial Rainbow***

Reneri’s optical experiments and inventions are a regularly recurring topic in his letters, and the auction catalogue of his library mentions “many special optic glasses” (“veele raere Optische Glasen”).<sup>477</sup> In his inaugural address, in which he sums up different kinds of objects of observation, Reneri pays ample attention to applied optics:

With vision optics is concerned, which involves mirrors of every kind and various glasses, some of which are made for use, such as spectacles, the telescope, the microscope, ordinary as well as burning mirrors; others for enjoyment or wonderment, such as mirrors multiplying the number of things seen, or magnifying the size of bodies beyond measure, or rendering the face of a man

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<sup>475</sup> Spagyric, or chemical, medicine goes back to Paracelsus (1493/94-1541), who applied alchemy to medicine. The spagyrics believed that every substance contained healthful components. Separating these from the harmful components and uniting them again after purification would produce a medicine with more therapeutic effect than the original substance. See Priesner and Figala, *Alchemie*, 56-57, 98-100. See also Debus, *Chemical Philosophy*; Moran, “Survey of Chemical Medicine.”

<sup>476</sup> Declaration of adherence to Reformed doctrine, with biographical data of the professors, SAB, 806, inv. no. 24: “[...] primum Theologiae operatus in Academiâ Leidensi, animum postea ad Medicinam, etiam Spagiricam applicuit, homo rerum novarum studiosissimus.” See also below, pp. 192-93.

<sup>477</sup> *Catalogus librorum Reneri*, [38].

plainly monstrous, or distorting the position of a thing seen, or putting the image of a thing in an unusual place (suppose in the air before the mirror), or, finally, rendering the face of another person while you bring yours in front of the mirror. To this relate wonderful and delightful pictures of external things in a darkened chamber, where on the surface of a white wall or board gardens, people, ghosts, and snakes appear more perfectly than in the paintings of Apelles or Zeuxis. Nor must one omit the rainbow produced in the air by the aid of optics, which is inferior in nothing to a natural one, either in beauty or in size.<sup>478</sup>

Reneri experimented on almost all of the examples he gives here. Judging from a letter to Huygens of 28 March 1629, in which Reneri enumerates ways to produce certain optical effects, he may have been engaged in optics long before that year. In any case, he claims that he discovered them some time ago and, moreover, that he actually tried them out. Some of these inventions were on display in the house of Overbeke in Leiden, where Reneri must have left them before he moved to Amsterdam in the summer of 1626.<sup>479</sup>

The first invention Reneri mentions in his letter to Huygens of 8 March 1629 is a way of creating in a fountain a rainbow that would be indistinguishable from a natural rainbow as regards the splendour of its colours, its duration, size, and position.<sup>480</sup> The production of artificial rainbows in fountains was a common spectacle in palace gardens around Europe.<sup>481</sup> The author of *Récréations mathématiques*, referring to these recreational gardens, explains that if someone stands between the sun and a fountain throwing a

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<sup>478</sup> Reneri, "Oratio inauguralis," [199-200]: "Ad visum refertur optica, ubi specula omnis generis & vitra varia occurrunt, quorum alia ad utilitatem faciunt, ut perspicilla, telescopia, micros[co]pia, specula tum vulgaria tum ustoria: alia ad voluptatem admirationemve, ut specula multiplicantia numerum rerum visarum, vel augmentia supra modum corporum magnitudinem, vel formâ planè monstrosâ reddentia hominis faciem, vel situm rei visae pervertentia, vel loco insolito, (puta in aëre ante speculum) imaginem rei sistentia, vel denique alterius personae faciem reddentia dum tuam speculo objicis. Huc pertinent admirandae ac jucundae picturae rerum externarum in cubiculo obscuro, ubi in superficie parietis vel tabulae albae, horti, homines, larvae, serpentes multò perfectius apparent, quàm in Apellis aut Zeuxis tabulis. Nec praetereunda iris beneficio optices in aëre producta, naturali nihil cedens neque pulchritudine, neque magnitudine."

<sup>479</sup> Reneri to Huygens, 28 March 1629.

<sup>480</sup> Ibid. Cf. Reneri to Jonston, around 1634, in which he mentions the same invention.

<sup>481</sup> On the rainbow fountain and the Renaissance recreational garden, see Johnson, "Heavenly Iris."

fine spray, he can see a rainbow.<sup>482</sup> This can also be learned from everyday experience, so Renieri's 'discovery' probably consisted in having found, by trial and error, when the sun was at its best and how to make optimal use of its rays. A strong sun at a low angle would have been best. Indeed, Descartes assumes the readers of the *Météores* to be familiar with the general idea of how an artificial rainbow can be created. What he supposes to be new is that the angle between the incidence of the sun's rays and the line from the spectator's eye to the point where the droplets disperse has to be about  $42^\circ$ , something that could be known only by his own law of refraction. Descartes further explains how to make the effect even more spectacular by using a number of fountains with different liquids, such as oils and spirits. Due to the different refractive indices of these liquids this would fill great part of the sky with rainbows of different size. By closing some of the fountains' holes one would even be able to create figures in the sky.<sup>483</sup> Interesting in this respect is that the chapter on the rainbow is one of the oldest parts of the *Météores*. It resulted from Descartes' enquiry into the cause of parhelia (mock suns), which Renieri had asked for in 1629.<sup>484</sup> Renieri no doubt had told Descartes about his artificial rainbow experiment. Descartes may have written this passage about artificial rainbows with Renieri as reader in mind.

At first sight Renieri's creation of an artificial rainbow was no more than an optical game. However, in his inaugural address Renieri mentions it as an object of natural investigation. This seems to indicate that Renieri thought that studying an artificial rainbow and in particular the way it is produced could help find an explanation of a natural effect. This more scientific approach may have been a later development under the influence of Descartes. The fact that Renieri, in the disputation *De meteoris*, adopts Descartes' explanation of the secondary rainbow shows that he discussed it with Descartes. This disputation was held on 4 November 1635, that is, two years before Descartes published this theory in the *Météores*.<sup>485</sup>

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<sup>482</sup> Leurechon, *Recreation mathématique*, 58.

<sup>483</sup> Descartes, *Météores* viii, in AT, 6:343-44. For Descartes and the artificial rainbow, see Tiemersma, "Descartes' Treatise on the Rainbow"; Werrett, "Wonders Never Cease." The angle of the rainbow had already been found by measurement by Roger Bacon (ca. 1214-ca. 1294), who wrote it down in his *Opus Majus*, but this work was not published until the eighteenth century. For the history of the theory of the rainbow, see Boyer, *Rainbow*.

<sup>484</sup> See below, p. 207.

<sup>485</sup> Renieri, *De meteoris*, th. 45. For Descartes' explanation of the secondary rainbow, see Descartes, *Météores* viii, in AT, 6:336-43.

### 4.2.3. *The Camera Obscura*

Three of the other inventions Reneri mentions in his letter to Huygens of 28 March 1629 concern the camera obscura. The principle that a darkened room, or box, with a small hole in one side casts an image of the outside world on the side opposite the hole was already known in antiquity. The pinhole camera (a camera obscura without a lens) has an infinite depth of field, but the hole has to be very small, which, on the other hand, makes the image dark. Moreover, the projected image is both upside-down inverted and left-to-right reversed. The first references to the use of a lens emerge in the second half of the sixteenth century. A lens makes it possible to focus on a particular object and allows for a larger hole, resulting in a brighter image. But it does not solve the problem of vertical and horizontal inversion. Furthermore, the quality of the image that could be obtained with a lens was generally limited by the limitations of glass technology, and spherical and chromatic aberration.<sup>486</sup>

Reneri's experiments with the camera obscura involved a room-size camera obscura equipped with a lens. In his letter to Huygens Reneri claims to have discovered "A way of representing in a camera obscura people of giant size."<sup>487</sup> How Reneri did this is shown by a letter to Booth of 5 June 1633 (with an addendum in a letter of one month later),<sup>488</sup> in which he describes how to produce this effect. Reneri had enclosed an (apparently convex) lens for Booth's cousin Strick. In the letter he describes in detail how to set up a camera obscura so as to make an optimal use of the enclosed lens. Ideally the object outside would be at a distance of at least 6 feet (approx. 1.9 m)<sup>489</sup> from the lens. To be pictured in the room a white sheet or board should be at about the same distance from the lens as the object or as much as is required for distinct representation. Reneri then continues:

But if you want to see a man of gigantic stature, or his head, then a person has to be placed outside the room, not directly in front of the lens, in such a way that he is at a distance of only 2 or 3 feet [approx. 0.6 and 1.0 m, respectively] from the

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<sup>486</sup> For the early history of the camera obscura, see Hammond, *Camera Obscura*, 1-39; Steadman, *Vermeer's Camera*, 4-15.

<sup>487</sup> Reneri to Huygens, 28 March 1629: "Ratio repraesentandi in cubiculo obscuro giganteae magnitudinis homines."

<sup>488</sup> Reneri to Booth, 8/18 July 1633.

<sup>489</sup> The most commonly used foot (*voet*) in the Dutch Republic was the Rijnland foot (31.4 cm). See Verhoeff, *Oude Nederlandse maten*, 69.

lens. But to carefully observe the face of a person it must be illuminated by the rays of the sun and the board must be moved further away from the lens, certainly 9, 10, or 12 feet [approx. 2.9, 3.2, and 3.8 m, respectively] or at as much distance as is necessary for a distinct representation of the object.<sup>490</sup>

Reneri apparently used a convex lens with a focal length of at least 0.5 m. Such lenses were widely available as spectacle lenses. Indeed, two years earlier, in a letter to De Wilhem of 10 September 1631, Reneri wrote: "To represent figures in an inverted position, an opening in the window with the width of an ordinary spectacle lens and a somewhat convex spectacle lens, but especially [a lens from spectacles for] a young man, suffices."<sup>491</sup> For reading glasses such a focal length is relatively large (that is, they have a relatively low curvature, or power, hence "of a young man"), but it would be most suitable for a camera obscura the size of a room. A lens with an even larger focal length and diameter would have been better, because it would have produced a larger and brighter image, but this would have had to be especially ground, whereas spectacles were a practical and affordable solution, being readily available.<sup>492</sup>

Two years later, Reneri had some large convex lenses ground. They were the size of "those small wooden plates that one puts on tin plates, a little less" and had a focal length of at least 20 feet (approx. 6.5 m).<sup>493</sup> Little is known about early seventeenth-century tableware, but the diameter of the smallest wooden plates approximated 15 cm,<sup>494</sup> which would be considerable for a lens. Even more impressive is its focal length. From the second decade of the seventeenth century onward, as specialisation developed within the lens making craft, spherical lenses with surfaces of increasingly lower curvature

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<sup>490</sup> Reneri to Booth, 5 June 1633: "Quod si giganteae molis hominem vel caput ejus videre cupias, tum collocanda persona è regione vitri extra cubiculum, ita ut tantum duobus vel tribus pedibus à vitro distet. Sed diligenter observandam faciem personae debere radijs solaribus illustrari, et tabulam debere introrsum magis à vitro removeri nempe 9, 10 vel 12 pedibus vel tanto spatio, quantum necessarium ad distinctam objecti repraesentationem."

<sup>491</sup> Reneri to De Wilhem, 10 September 1631(a): "Ad figuras inverso situ repraesentandas sufficit foramen in fenestra latitudinis perspicilli vulgaris, et perspicillum quodcunque convexum, sed inprimis juvenile." It was customary within the glass making business to grade the strength of reading glasses to age category. Van Helden, *Invention of the Telescope*, 11.

<sup>492</sup> Cf. Cocquyt, "Camera Obscura," 134.

<sup>493</sup> Reneri to Huygens, 22 October 1635: "[...] celle de ces petites assiettes de bois que l'on met sur les assiettes d'estain, peu moindre."

<sup>494</sup> *De gedekte tafel*, 67-69.

(which resulted in increasingly larger focal lengths) could be ground, but in the 1630s a lens with a focal length of 6.5 m would still have been a product of superior craftsmanship.<sup>495</sup> A camera obscura equipped with this lens produces such a large image that Reneri recommends two or three bed sheets as projection screen. This magnifying capacity would be accompanied by a loss of focus, but magnification obviously was the determinant here.

Reneri's way of obtaining magnification with an ordinary spectacle lens, as described in his letter to Booth of 5 June 1633, is simply to place the object close to the focal point of the lens, and the projection screen further backwards. The fact that Reneri in his letter to Huygens claims that he discovered this himself gives the impression that Reneri until then did not know much about the theory of optics. As in the case of the rainbow, Reneri apparently started experimenting just by trying out what effects ordinary spectacle lenses would produce. In this way he would also have discovered that moving the object closer to the lens results in a magnified image. At a later stage he had lenses with larger focal points ground in order to obtain magnification, but this does not require special knowledge about optics either, because the lens grinder was responsible for the particular properties and the quality of the lens.<sup>496</sup> As a matter of fact, Reneri never seems to have been much interested in theoretical optics. The auction catalogue of his library mentions only a few books on this subject,<sup>497</sup> which is remarkable given both Reneri's numerous optical experiments and the size of his library. Indeed, in a letter to De Wilhem of 28 February 1638 he writes that, without being a mathematician, he discovered more beautiful and rare experiments in the field of perspective, dioptrics, and catoptrics than anybody he had ever heard of. His source of inspiration would have been books of secrets, but they provided only rudimentary descriptions of

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<sup>495</sup> Cocquyt, "Camera Obscura," 131-33.

<sup>496</sup> E.g., in a letter to De Wilhem of 12/22 December 1633 Reneri included some (not further specified) optical devices, which did not work properly though "through lack of the proper glasses, which are well-proportioned for the perfection of their effect, in turn through lack of a proper artisan." ("[...] faute de lunettes propres et bien proportionnees pour la perfection de leur effect, faute aussy d'artisan propre [...]"). This underlines the general dependence on the lens grinder for making a good instrument. On the optical quality of seventeenth-century lenses, see Molesini, "Seventeenth-Century Lenses," 117-27. See also Burnett, *Hyperbolic Quest*, 10-11; Zuidervaart, "Invisible Technician," 65-80.

<sup>497</sup> E.g., Franciscus Aguilonius' *Opticorum libri sex* (1613), Della Porta's *De refractione optices parte* (1593), and Ambrosius Rhodius' *Optica* (1611). See *Catalogus librorum Reneri*, [25-27].

the properties of lenses, and the optical tricks in them are described in the most general terms. Therefore, Renieri derived his knowledge of optics mostly from his own experience.

Meanwhile, Renieri also experimented with the use of two convex lenses in the camera obscura in order to turn the image upright. In his letter to Huygens of 28 March 1629, he claims the invention of “an instrument closed off at both ends by specific spectacles or lenses, with the aid of which a thing can be represented in an upright position.”<sup>498</sup> In his letter to De Wilhem of 10 September 1631 he provides technical details (see also Figure 3):

With regard to what you ask about representing figures in an upright position in the camera, allow me to explain in a few words. [...] if you want to see upright images on a sheet, and, what is more, as apt as possible, the opening in the window must be larger [than when a single lens is used], which also approximately equals in size the opening of a silver drinking cup, from which beer is usually drunk at meals. At this [opening] a lens of equal size is placed, and, what is more, so convex that the focal point, when by chance it is exposed to the sun for burning, is at a distance of only a small span [approx. 0.18 m]<sup>499</sup> from the surface of the lens itself. Then, another, also convex lens must be at hand, for instance, an ordinary spectacle lens of a sixty- or seventy-year-old man (for such are most suitable).<sup>500</sup> That one is placed directly after the first lens, a little beyond the focal point. Finally, the sheet is moved back and forth and up and down until it meets your wishes.<sup>501</sup>

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<sup>498</sup> Renieri to Huygens, 28 March 1629: “Instrumentum utrinque certis perspicilliis seu vitris terminatum, cujus beneficiores repraesentantur situ recto.” Cf. Renieri to Huygens, 1 January 1638, in which Renieri even claims to know three ways of seeing figures upright in a camera obscura, but he provides no details. It probably involved the use of mirrors.

<sup>499</sup> A span is the distance between the little finger and the thumb of a spread hand. See Verhoeff, *Oude Nederlandse maten*, 124.

<sup>500</sup> As second lens Renieri again uses an ordinary spectacle lens, but this time one of an old man, that is, one with a larger power and thus a smaller focal length. With a diameter of approximately 10 cm, the first lens would be about twice the size of the second lens. Such a large hole would prove to be necessary if one wants to produce a bright image, while the focal lengths of both lenses would have to be short in order to project the image within the range of a room.

<sup>501</sup> Renieri to De Wilhem, 10 September 1631(a): “Quod de figuris recto situ in cubiculo repraesentandis petis paucis accipe. [...] si rectas figuras, et quam maximè quidem appositè fieri potest in charta videre cupis, fenestrae foramen esto majus, quodque amplitudine exaequet circiter argentei poculi, ex quo cerevisia in mensis hauriri solet, orificium. Eidem apponatur paris magnitudinis vitrum, et adeo quidem convexum, ut

Turning the image inside a camera obscura upright by adding a second convex lens was not new either. It was first suggested by Kepler in *Dioptrice* (1611),<sup>502</sup> but it is also discussed in *Récréations mathématiques*.<sup>503</sup> The principle is the same as that of the Keplerian telescope, but it requires lenses with smaller focal lengths. The fact that Renieri claimed to have also discovered this by himself could mean that he had not read these books when he started experimenting with lenses. By the time he wrote his letter to Huygens he would have realized that these discoveries were not so remarkable. This is shown by the fact that he found it necessary to add that “if someone would have chanced upon some of them before me either by accident or by the felicity of his genius, I know well, at least for myself, that I have found all these things on my own without the help of anyone else.”<sup>504</sup> However, even if the principle was known, it would have required some experimentation to find out what lenses work best, that is, what their exact forms, diameters, and focal lengths should be. The same goes for the other inventions involving the camera obscura Renieri mentions in his letter to Huygens. William Shea therefore oversimplifies when he concludes that Renieri, driven by the need for a patron, found these experiments in Della Porta’s *Magia naturalis* and proposed them as his own (apart from the fact that the use of two convex lenses cannot be found in *Magia naturalis*).<sup>505</sup>

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centrum ustionis, cum forte soli ad urendum exponitur, non distet ab ipsa vitri superficie nisi exigua spithama. Deinde esto aliud vitrum ad manus etiam convexum, puta vulgare perspicillum viri sexagenarij aut septuagenarij (tale enim aptissimum). Illud collocetur directe post primum vitrum paulò ultra punctum concursus. Charta tandem ultro citroque admoveatur aut removeatur dum voto fruaris.”

<sup>502</sup> Kepler, *Dioptrice*, 44-45.

<sup>503</sup> Leurechon, *Recreation mathématique*, 3-6. See also Hammond, *Camera Obscura*, 24-25.

<sup>504</sup> Renieri to Huygens, 28 March 1629: “Si quis fortè in quaedam eorum vel casu vel ingenij felicitate ante me inciderit, probè saltem mihi conscius sum, me haec omnia proprio Marte sine ullius alterius adminiculo reperisse.”

<sup>505</sup> Shea, *Numbers and Motion*, 202.



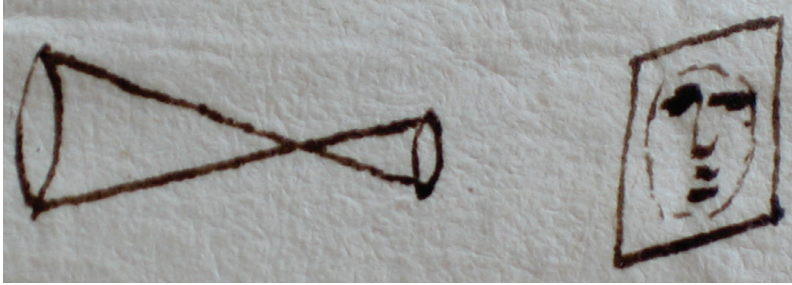


Fig. 3: Drawing in Renieri's letter to De Wilhem of 10 September 1631(a) to illustrate the working of a camera obscura equipped with two lenses (courtesy of Universiteitsbibliotheek Leiden).

In his inaugural address Renieri mentions the camera obscura as a recreational device, but the very fact that he mentions it there, that is, in the context of the investigation of nature, suggests that he also recognized its potentiality for examining the nature of light and its propagation, and the theory of vision. More specifically, the camera obscura was often presented as a model of the eye (as Descartes does in the *Dioptrique*).

The camera obscura was further used for topographical surveying and mapping, and as an aid to painting. It could not only help a painter to create perspective, but the colours of the projected image were also very intense.<sup>506</sup> In his letter to Huygens of 22 October 1633, Renieri refers to these two effects when he writes that the bed sheets used as projection screen “turn out to be so perfectly painted with some landscape, road, market, or even a whole town, that there is nothing like it, neither in terms of the vivacity of the colours, nor in terms of the proportion of the parts to the painting that is seen there.”<sup>507</sup> Renieri nowhere explicitly mentions the camera obscura in relation to painting (except as a metaphor), but Huygens appreciated the instrument as a tool for the art of drawing and painting,<sup>508</sup> so it is possible that Renieri had this application in mind. Moreover, it would explain the cryptic reference, in a letter to Huygens of 1 January 1638, to a form of painting he ‘invented’:

<sup>506</sup> On the camera obscura as an aid to painting, see Mills, “Vermeer and the Camera Obscura”; Steadman, *Vermeer's Camera*, 15-24; Wirth, “Camera Obscura.”

<sup>507</sup> Renieri to Huygens, 22 October 1635: “[...] se trouvent si parfaitement peints de quelque paysage, ou rue, ou marché, ou ville toute entiere, qu'il n'y a rien à comparer ny en vivacité des couleurs, ni en proportion des parties à la peinture qui s'y voit [...]”

<sup>508</sup> Huygens, *De vita propria*, 84. See also Wheelock, “Constantijn Huygens.” Cf. Huygens to his parents, 13 April 1622, in Huygens, *Briefwisseling*, 1:94. Alpers, in *Art of Describing*, 11-13, and Gorman, in “Projecting Nature,” 39, claim that Huygens regarded the camera obscura also as an autonomous artistic medium.

And I think I could take pride in having a painting of my invention made for His Highness [Frederick Henry], which would surpass, in perfection, all that has ever been seen, if I would have a commission to have it made by a painter who is a good enough master. Indeed, by means of this painting I could even let those who have no foreknowledge whatsoever, think they saw the thing itself and not a painting.<sup>509</sup>

If this indeed refers to the camera obscura, Renieri succeeded in constructing one that produced such a bright and distinct image that it would prove useful for a professional painter. That Renieri had an interest in perspective drawing is shown by his claim to have “admirable, delightful, useful secret perspectives with regard to pictures and the art of delineating, chiefly of my own invention.”<sup>510</sup> One of these, the fifth invention mentioned in his letter to Huygens of 28 March 1629, was a way of producing anamorphic images. This was a perspective trick involving the creation of a perspectively distorted image, which appears normal when viewed from a particular angle or with a suitable mirror or lens.<sup>511</sup> So Renieri used the camera obscura as a recreational device and possibly also as a practical tool. Although in this way no new knowledge is produced, to him these applications would have concerned the investigation of nature just as well.

#### 4.2.4. *The Telescope*

Some of the lenses that Renieri had ground for the camera obscura had such large focal lengths that they could prove suitable for use in a telescope. Since the magnifying power of the telescope is given by the ratio of the focal lengths of the objective and the eyepiece, using an objective lens with a larger focal length was a way to obtain greater magnification. In his letter to Jonston of around 1634 Renieri included a lens (meant for Huniades), which would be suitable for both the camera obscura and the telescope:

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<sup>509</sup> Renieri to Huygens, 1 January 1638: “Et je pense me pouvoir vanter de faire faire à son Alteze une peinture de mon invention, qui surpasseroit tout ce qui a jamais esté veu, en perfection, si j’avois ordre de la faire faire par quelque peintre qui fusse assez bon maistre. Voire je pourroy par le moyen de laditte peinture faire, que ceux quy ne seroyent point preoccupez, jureroyent de voir la chose mesme, et point une peinture.”

<sup>510</sup> Renieri to Jonston, around 1634. See Appendix 4.

<sup>511</sup> On anamorphosis, see Baltrušaitis, *Anamorphoses*.

Its use can be twofold: one to observe the new planets that orbit around Jupiter, which Galileo Galilei was the first to discover with his telescope, but then the glass should be put on a tube of a length of about five feet [approx. 1.57 m], and on the other end of this tube a concave glass should be put, as is usually done in ordinary telescopes. But the concave glass must have a cavity in the form of a sphere, the diameter of which should not be more than two inches [approx. 5 cm], which kind of glasses can be found everywhere. The other (and best) use of this glass is for a very beautiful representation of anything whatever in a camera obscura [...].<sup>512</sup>

The model he describes here is the Galilean telescope, which consists of a convex objective and a concave eyepiece. It produces an upright image. The convex lens Reneri sent to Jonston would have had a focal length of about 1.50 m, which was a common length. Huniades is advised to use an ordinary concave spectacle lens as eyepiece. The combination of these two lenses would have produced a modest magnification.<sup>513</sup> This could explain Reneri's remark that the lens is more suitable for the camera obscura. Another reason could be the poor quality of the glass, the adverse effects of which would prove worse in a telescope than in a camera obscura.<sup>514</sup> In any case, it looks like Reneri by this time knew better what he was taking about. In that same period Reneri wrote to Huygens that he wanted to try if his lens with a focal length of about 20 feet would also work in a telescope. In theory, a high magnification could be obtained with it because of the large focal length of the lens, but nothing is heard of it again. Apart from possible optical side effects due to the limitations of glass technology, the fact that the instrument itself would also have a length of about 6.5 m would have presented Reneri with some practical problems.

Reneri not only took an interest in the telescope for the technical aspects, but also for the spectacular astronomical discoveries recently made with it.<sup>515</sup> In addition, he built water clocks, the use of which, according to him, was to time the orbital periods of the stars.<sup>516</sup> Nevertheless, Reneri never seems to have made celestial observations himself (other than to try out the instrument). The reason for this may have been that making astronomical observations required a particular expertise, which Reneri lacked. In this context it is significant that

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<sup>512</sup> Reneri to Jonston, around 1634. See Appendix 4.

<sup>513</sup> On the early history of the telescope, see Van Helden, *Invention of the Telescope*; Van Helden, "Telescope in the Seventeenth Century"; King, *History of the Telescope*, 1-47.

<sup>514</sup> Wirth, "Camera Obscura," 158-59.

<sup>515</sup> See below, pp. 140-41.

<sup>516</sup> Reneri, "Oratio inauguralis," [194]. For Reneri's experiments with the water clock, see below, 4.2.6.

although he wants his students, as part of the research programme he proposes in his Utrecht inaugural address, to study the construction and use of the instrument, actually making observations was not part of the programme.

#### **4.2.5. *The Thermometer***

The same seems to apply to the air thermometers Renieri devised. These were thermometers that work upon the principle of expansion and contraction of air rather than liquid—the liquid-in-glass thermometer was not invented before the beginning of the 1650s. The notion that air expands when heated was already known to the ancients. On this principle Philo of Byzantium (ca. 280-ca. 220 BC) made a thermoscope. This instrument, which has no scale and merely shows that the temperature has risen or fallen, is to be distinguished from a thermometer, which provides a measure.<sup>517</sup> The basic model consists of a bulb with a long narrow neck immersed upside down in a vessel filled with water (inverted-bulb-and-tube type). In a common variant of this model the vessel was replaced by an open bulb attached to the tube (two-bulbed type). When the temperature rises, the air contained in the measuring bulb, that is, the sealed upper bulb, expands, and vice versa. This in turn causes the water level in the tube to drop. The vessel or lower bulb, which is open, prevents the instrument from overflowing, whilst it contains enough water to fill the entire tube when the air in the upper bulb contracts (see Figure 4).

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<sup>517</sup> For the early history of the thermometer, see Burckhardt, *Die Erfindung des Thermometers*; Burckhardt, *Zur Geschichte des Thermometers*; Bolton, *Evolution of the Thermometer*; Sherwood Taylor, “Origin of the Thermometer”; Knowles Middleton, *History of the Thermometer*; Borrelli, “Weatherglass.”

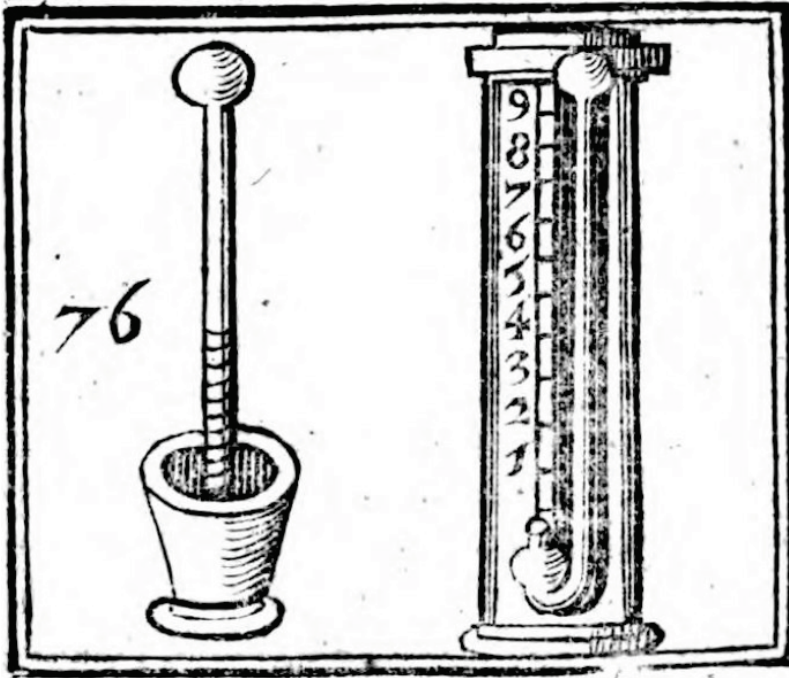
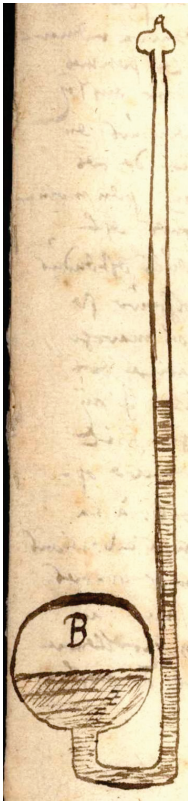


Fig. 4: Inverted-bulb-and-tube thermometer (left) and two-bulbed thermometer (right) in *Leurechon's Récréations mathématiques* (from the 1627 edition), p. 101 (courtesy of Bayerische Staatsbibliothek, Munich; shelf mark Phys.m. 149 x).

Reneri had been building thermoscopes since the mid 1620s (it is not known if he applied a scale to these instruments). In the fall of 1626 Beeckman visited Reneri at the house of Pauw, where Reneri showed him a variant of the two-bulbed type. This thermoscope had an open vessel on top instead of below, which was new to Beeckman.<sup>518</sup> Reneri had not invented it himself, but he must have been an early adopter. According to Reneri in his letter to Huygens of 22 October 1635, placing the open reservoir on top has the advantage that the amount of air in the measuring bulb can be adjusted without rendering it useless for measurement in case of large temperature fluctuations. In the common models, when the water level reaches the measuring bulb, it can no longer be read from the scale applied to the tube.<sup>519</sup> So Beeckman misses this point when he remarks that this model is not essentially different from the inverted-bulb-and-tube type.

<sup>518</sup> Beeckman in notes written between 30 September and 19 November 1626, in Beeckman, *Journal*, 2:371-72.

<sup>519</sup> Reneri to Huygens, 22 October 1635.



*Fig. 5: Reversed two-bulbed thermometer in Renieri's letter to Huygens of 22 October 1635 (courtesy of Uppsala Universitetsbibliotek).*

Ten years later Renieri was still experimenting with different models. In his letter of 22 October 1635, he sent Huygens a drawing and explication of an improved model of his own invention. Renieri first discusses the ordinary two-bulbed type and a reversed two-bulbed type (see Figure 5), which must be the model Beeckman saw at Renieri's in 1626. According to Renieri, both types suffered from the fact that the weight of the water column prevented the free expansion and contraction of the air in the measuring bulb. As the water level in the tube rises, be it due to the contraction of the air in the measuring bulb in the ordinary two-bulbed type, or to its expansion in the reversed two-bulbed type, the weight of the water column increases. This increasing downward force counteracts the force exerted by the atmospheric pressure<sup>520</sup> in the two-

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<sup>520</sup> The phenomenon that the contraction of the air results in the rise of the water was generally attributed to nature's abhorrence of a vacuum and the force of the vacuum

bulbed type, or that exerted by the expanding air in the reversed two-bulbed type. The result is that the water level rises and falls disproportionately with temperature changes.

There were many factors influencing the measuring results that users of the air thermometer were not aware of or simply neglected, such as changes in atmospheric pressure, thermal expansion of the liquid itself, and evaporation of the liquid. Various adaptations show that the influence of the weight of the water was, however, widely recognized as a problem. Among the suggested solutions were the use of low-density liquids, adjusting the distance between the degree marks on the scale in proportion to the rate at which the water level rises or falls, and using a minimum amount of water. Reneri's solution is the application of a horizontal tube (see Figure 6). This would indeed have neutralized the downward force exerted by the weight of the water column, although the water in the measuring bulb itself would still have had a considerable influence. This, however, would have been inevitable if one wanted to be able to adjust the amount of air in the measuring bulb. The question remains, however, if Reneri actually ever tested it, since the letter suggests that he merely had imagined the construction of this new model and had not (or not yet) built it.<sup>521</sup>



Fig. 6: Reneri's horizontal version of the reversed two-bulbed thermometer in his letter to Huygens of 22 October 1635 (courtesy of Uppsala Universitetsbibliotek).

Reneri does not seem to have carried out temperature measurements, although he certainly saw the potential of the instrument as a tool of enquiry. His inaugural address mentions the thermometer in the context of the investigation of air and its moving force.<sup>522</sup> And in the disputation *De affectionibus corporis mixti in genere*, in which he discusses "temperament" (*temperamentum*, that is, the proportion between the four primary qualities

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rather than atmospheric pressure. The existence of atmospheric pressure was not demonstrated until the 1640s, when Torricelli, in 1644, conducted his barometric experiment. For the history of barometry, see Knowles Middleton, *History of the Barometer*; De Waard, *Expérience barométrique*.

<sup>521</sup> For a more detailed discussion of Reneri's thermometer, see my forthcoming article "Henricus Reneri and the Early History of the Air Thermometer."

<sup>522</sup> Reneri, "Oratio inauguralis," [195].



warm, cold, dry, and humid)<sup>523</sup> he presents the thermometer as an extension of the sense of touch:

given the fact that our sense of touch is so weak that it does not feel very small differences of heat and cold, and that the degrees one has felt are not easily remembered, no method is more reliable, at any rate, to explore differences of actual heat and cold, now in the air, then in individual men, or in other things, than by means of the instrument of glass called *Thermometer*,<sup>524</sup> of which a description, albeit rather inaccurate, is found in a French book, of which the title is *Recreations Mathematiques*.<sup>525</sup>

The thermometer thus enables one to investigate the proportion of heat and cold in the atmosphere and in the human body—it of course tells nothing about dryness and moistness. The use of the instrument was, however, limited. In principle the application of a scale renders the qualities warm and cold quantifiable and recordable, but at that time there was no thought of basing scales on standard, reproducible temperatures. Accordingly, one can only record that temperature has risen, fallen, or remained unchanged. Furthermore, because thermometers were not calibrated, the results of one thermometer could not be compared with those of others. The scale could be used to mark measurements made with that particular instrument, but it did not represent any value. So, despite the scale, these instruments were no thermometers in the strict sense of the word.<sup>526</sup> Indeed, the Amsterdam physician and historiographer Nicolaes Jansz. van Wassenauer (ca. 1572-1629), another friend of Reneri, made temperature measurements on a systematic scale from 1622 to 1630, but they were no more than visual demonstrations of the weather. They showed, for instance, how the wind influences the

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<sup>523</sup> Reneri, *De affectionibus corporis mixti*, th. 15-22.

<sup>524</sup> The word “thermometer” was coined in *Récréations mathématiques*, but in 1635 it was not yet common. Normally it was called, in Latin, *vitrum calendare, calendarium*, or *vitrum graduum*. *Récréations mathématiques* was also the first to depict a thermal instrument with a scale in print. See Heeffer, “Récréations Mathématiques,” 33.

<sup>525</sup> Reneri, *De affectionibus corporis mixti*, th. 19: “[...] deinde cum tactus noster adeo obtusus sit ut exiguas admodum caloris et frigoris differentias non percipiat, et semel percepti gradus memoriâ facile excidant, nulla certior est ratio explorandum differentiarum saltem caloris et frigoris actualis, tum in aëre, tum in diversis hominibus, tum in aliis rebus, quàm per instrumentum vitreum *Thermometrum* dictum, cujus descriptio, licet minùs accurata, reperietur in libello gallico, cui titulus *Recreations Mathematiques*.”

<sup>526</sup> Barnett, “Development of Thermometry.”



temperature, or that in summer temperatures can be reached which are normal for winter.<sup>527</sup> On the other hand, because the air thermometer was in fact also a barometer, it gave more information about the atmosphere than only the temperature. In fact, it could predict bad weather.<sup>528</sup> Furthermore, Renieri also thought it could tell something about the relation between heat and motion, which was in conflict with Aristotle's qualitative understanding of heat. He may have derived this from Bacon, in whose *Novum organum* (1620) the thermometer plays a role in the investigation of the nature of heat,<sup>529</sup> or from Descartes.<sup>530</sup>

Since Renieri was capable of building a working thermometer, one wonders why he would not have made temperature measurements. This may have to do with the fact that it was not very obvious where to start and what to measure exactly. However, the impression also arises that Renieri's primary interest was the design of these instruments itself. The reason for this may have been that, contrary to making observations and measurements, this produced immediate results. Any improvement to an instrument has a direct benefit, namely, that it better serves its purpose. If so, it would indeed not have been directly necessary to build these instruments, since innovations could be developed on paper. This could have been a matter of costs or of the availability of skilled craftsmen, but it also shows that Renieri gradually abandoned the trial-and-error approach in favour of a more theoretical one.

#### 4.2.6. *The Water Clock*

The impression that Renieri devised instruments but did not build them is strengthened by what he writes on the water clock, or clepsydra. In a letter to De Wilhem of 20 February 1632 (OS) Renieri claims to have discovered

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<sup>527</sup> Van Wassenauer published his most remarkable observations in his half-yearly chronicle *Historisch verhael alder ghedenck-weerdichste geschiedenis, die hier en daer in Europa [...] voorgevallen syn*. E.g., *Historisch verhael*, vol. 8, fol. 108v; vol. 11, fol. 85v; vol. 15, fol. 59r. Some of these observations are also published in Buisman, *Duizend jaar weer*. On Van Wassenauer, see p. 174.

<sup>528</sup> Cf. Buisman, *Duizend jaar weer*, 329-30, about so-called "thunder glasses."

<sup>529</sup> See Bacon, *Novum Organum*, bk. 2, aph. 20, in Bacon, *Works*, 1:390-97. For experiments involving the thermometer, see, e.g., *ibid.*, bk. 2, aph. 12, no. 29, in Bacon, *Works*, 1:369-70; bk. 2, aph. 18, no. 11, in Bacon, *Works*, 1:338; bk. 2, aph. 24, in Bacon, *Works*, 1:406.

<sup>530</sup> See Descartes, *Le Monde* ii, in AT, 11:7-10.

many things known and unknown concerning clepsydras, of which I devised [*excogitare*] at least six, very different, genera, but more than fifteen species, which I will all sketch out and explain personally—you will be greatly delighted and it will change in admiration if you see the hidden causes of nature which are concealed in them.<sup>531</sup>

In a letter to Huygens of 1 January 1638 he discusses one. It is an inflow water clock, which measures time by the amount of water that has flown into the receiver, in this case a bottle, indicated by the letter “n,” in the lowest compartment (see Figure 7). The water is supposed to flow at such a rate that it fills the bottle in exactly 24 hours.

The most remarkable feature of this model, according to Reneri, was the outlet “M” halfway the instrument.<sup>532</sup> The classical problem of the water clock was that the inflow rate decreases as the water level in the supply tank drops due to the smaller force exerted by the water column. As a result, it was difficult to control the time in which the receiver was filled. This made the instrument inaccurate. One solution was to taper the sides of the supply tank, but the mathematics to find the exact shape of this funnel was not available until Evangelista Torricelli (1608-1647) discovered it in 1644. Another solution, already found in antiquity, was to place a third tank in between the supply tank and the receiver, which had an outlet at the top. This ensured a constant amount of water in the tank out of which the receiver was filled and, consequently, a constant flow into the receiver.<sup>533</sup> Reneri’s water clock, with an outlet in the middle compartment, obviously is an application of this solution. Interestingly enough, this problem is similar to the problem Reneri encountered in his experiments with the thermometer, in which it also is the weight of the water column that influences the accuracy of the instrument.

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<sup>531</sup> Reneri to De Wilhem, 20 February 1632 (OS): “[...] multa [...] nota et inaudita deprehendi circa clepsydras; quarum genera, diversa planè, sex quidem excogitavi; species verò plusquam quindecim, quas omnes delineabo et explicabo coram non sine tua voluptate singulari, et subinde admiratione summa ob reconditas naturae causas, quae in iisdem latent.”

<sup>532</sup> Reneri to Huygens, 1 January 1638.

<sup>533</sup> For the history of the water clock, see Turner, *Water-Clocks*, 1-44. For the technical aspects of the inflow water clock, see Mills, “Newton’s Water Clocks,” 38-43; Janich, *Protophysics of Time*, 186-70.

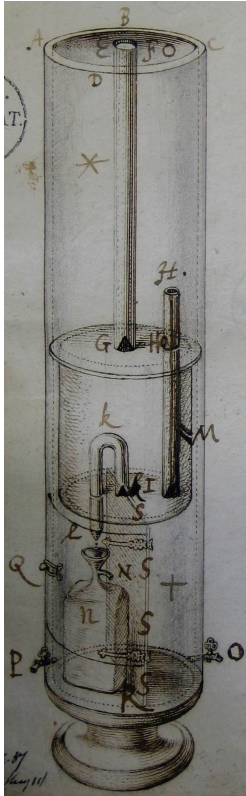


Fig. 7: Reneri's water clock in his letter to Huygens of 1 January 1638 (courtesy of Universiteitsbibliotheek Leiden).

The letter to De Wilhem, in which he presents the water clock as an object of delight and wonder because it displayed the hidden causes of nature, not only confirms that for Reneri the design of instruments was a goal in itself, but also shows that he thought that designing (and testing) them was part of the investigation of nature, too.

#### 4.2.7. *The Microscope and Microscopic Investigations*

There was one instrument that Reneri built and also used. In 1638 he constructed a simple microscope of his own invention especially for the purpose of making observations of plants:

To this effect [i.e., examine the nature of plants] I will put together all sorts of soils in order to see the various effects; next I will take various seeds, examine them from the outside and from the inside with a flea glass of my invention, I will soak

them in various solutions, then sow them. When they are sown, I will examine them and observe as carefully as I can their various ways of germinating, of growing their first roots, buds, leaves, flowers, fruits or seeds, etc.<sup>534</sup>

In a letter to Mersenne of a month later Reneri writes about the same, but now adds that he would also make observations on animals, but he provides no further details.<sup>535</sup>

The name Reneri uses, “flea glass” (*lunette à puce*—in his letter to Mersenne he calls it a *microscopium*), suggests that it was a simple microscope consisting of a single convex lens. This instrument was very common, as also Descartes writes in the *Dioptrique*.<sup>536</sup> Low-power magnifying glasses were sold as a toy,<sup>537</sup> but it must not have been difficult to grind a convex lens of higher power.<sup>538</sup> What is most striking, however, is that Reneri only started constructing a microscope in 1638 and that he did this for the sole purpose of making observations. One wonders what prompted this sudden interest in making microscopic observations. A reason could be that at that time Descartes practised (*vivi*)section.<sup>539</sup> It is probably also no coincidence that two weeks after his letter to Mersenne Reneri tabled a disputation which includes theses on the nutrition and growth of plants, the circulation of blood, and the sensory organs. Many of the theses defended in this disputation rely heavily on Descartes’ mechanistic explanations of these phenomena in the fifth part of the *Discours*.<sup>540</sup> Perhaps the publication of the *Discours* half a year earlier was an incentive for Reneri to carry out empirical investigations into these matters, all the more because Descartes does not say much about plants. Indeed, in the

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<sup>534</sup> Reneri to De Wilhem, 28 February 1638: “A cet effect je m’en iray composer toute sorte de terres pour en voir les divers effets: puis je m’en vay prendre diverses semences, les examiner par le dehors et par le dedans avec une lunette à puce de mon invention, je les vay tremper en divers liqueurs, puis semer. Estant semees je m’en vay regarder et observer le plus exactement qu’il me sera possible leur diverses facons de germer, de pousser leur premieres racines, surgeons, feuilles, fleurs, fruits ou semences etc.”

<sup>535</sup> Reneri to Mersenne, early March 1638.

<sup>536</sup> Descartes, *Dioptrique* vii, in AT, 6:155.

<sup>537</sup> A flea glass magnified about ten times. See Wilson, *Invisible World*, 80.

<sup>538</sup> For the early history of the microscope, see Bradbury, *Evolution of the Microscope*, 1–35, esp. 68–74 for single-lens microscopes. See also Ruestow, *Microscope in the Dutch Republic*.

<sup>539</sup> Descartes to Plemp, 15 February 1638, in AT 1:526; Descartes to Plemp, 23 March 1638, in AT 2:66.

<sup>540</sup> This disputation is discussed in 5.4. below.

*Dioptrique* Descartes writes that he expected that microscopic investigations of the particles of which plants and animals consisted could prove useful.<sup>541</sup> Nothing is heard of these projects again.<sup>542</sup>

### 4.3. Educational Reformer

#### 4.3.1. *The Decline of Philosophy*

Reneri did not conceal his idea that academic philosophy was in decline. To people he trusted he ascribed this decline to the influence of Peripatetic philosophy,<sup>543</sup> but as a professor whose job it was to teach Peripatetic philosophy he, of course, could not express this criticism aloud. On the contrary, in his inaugural address Reneri refers to Aristotle as the “prince of philosophers” (*philosophorum princeps*) and even praises him as a champion of empiricism.<sup>544</sup> He mentions in particular Aristotle’s *Problemata* (which were wrongly attributed to Aristotle) and *Historia animalium*, which show “what an attentive observer of nature and what a keen investigator of causes he was.”<sup>545</sup> Reneri directs his criticism not at the established philosophy of his days, but in a vague and unspecific way at the intellectual climate: students ignore the principles of mathematics and are reluctant to put time and effort into a serious study of philosophy, most professors lack eloquence and experience (*experientia*), and, as compared to antiquity, there is a decreasing number of patrons who would be ready to sponsor philosophical work.<sup>546</sup>

One of the reasons for the students’ lack of interest was, according to Reneri, the dull way in which Aristotelian doctrines were treated in Peripatetic textbooks, which filled the students with disgust. Therefore, Reneri intended to make his public lessons more attractive. As part of the lessons in logic he would submit passages from famous orators, poets, and historians—which

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<sup>541</sup> Descartes, *Dioptrique* x, in AT, 6:226-27.

<sup>542</sup> Cf. Reneri’s letter to De Wilhem of 10 September 1631(a), in which he writes that he expects Elichmann’s medical and chemical knowledge to enable him to “complete, or in any case illustrate, that more general philosophy of Mr. de Cartes.” (“[...] perficere poterit saltem valde illustrare, generaliore[m] illam philosophiam D. de Cartes.”). Apparently Reneri thought that chemical experiments, too, would reveal the corpuscular structure of nature.

<sup>543</sup> Reneri to Huygens, 22 October 1635; Schoock, *Admiranda methodus*, preface, i-ii.

<sup>544</sup> Reneri, “Oratio inauguralis,” [177-81].

<sup>545</sup> *Ibid.*, [181]: “[...] quàm sedulus fuerit naturae observator, et quàm sagax causarum indagator [...]”

<sup>546</sup> *Ibid.*, [174-75].

shows his Ramist conception of logic.<sup>547</sup> Some of the lessons in natural philosophy he would devote to “problems” (*problemata*), or questions, about the causes of everyday phenomena. In this context, the term *problema* goes back to the Pseudo-Aristotelian *Problemata* and refers to the enquiry into the causes of single, isolated natural phenomena, not to a complete system or discipline. This work covers a wide field of physical and medical problems like, for example, why the sun shining through a square hole makes a circular image.<sup>548</sup> The approach of problems in the *Problemata* consists in posing a causal question about an observed, usually familiar, phenomenon, then formulating one or more hypothetical explanations that fit the Aristotelian or Hippocratic explanatory framework, and finally assessing those explanations. The *Problemata* developed into a genre of its own, closely related to the books of secrets. It gradually abandoned the traditionally Aristotelian context and expanded the range of problems, including technical problems, experiments, and amazing phenomena. But also the original *Problemata* remained very popular until the middle of the seventeenth century. However, although the *Problemata* were philosophically very traditional, they did not belong to the canonical Aristotelian works taught at university for the same reason that natural history was usually no part of the curriculum, namely, because they concern particular natural phenomena, whereas natural philosophy is about universal truths.<sup>549</sup> Moreover, Renner also wanted to discuss artefacts, which in Aristotelian philosophy are not an object of physics—they are not ‘natural.’<sup>550</sup>

Actually, Renner had earlier done something similar in his lessons at the Deventer Illustre Gymnasium, if only incidentally, just as he had tried out his method of logic there.<sup>551</sup> In a letter to De Wilhem of 20 February 1632 (OS) Renner writes with regard to the experiments and inventions he performed at home:

I foresee that I will one day discover wonderful things about the causes and events of natural things, for which my professorship in physics, which I practise very differently from what is usually done, is exceedingly favourable and useful. I make efforts to vary the general lessons with some things from *physica particularis* [i.e.,

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<sup>547</sup> See also below, pp. 184-85.

<sup>548</sup> Aristotle, *Problemata*, 912b.

<sup>549</sup> On the *problemata* tradition, see Blair, “*Problemata*,” 171-204; Ventura, “*Aristoteles*,” esp. 136-39. See also Lawn, *Salernitan Questions*, 129-55.

<sup>550</sup> Renner, “*Oratio inauguralis*,” [182].

<sup>551</sup> See below, p. 190.

particular physical problems]<sup>552</sup> to overcome the students' aversion. I try to provide an exact picture of the causes of things that occur in nature or, inversely, bring to light, on the basis of a knowledge [*cognitio*] of more occult causes, effects and works that commend themselves for their rarity, pleasantness, or utility. I have very eager listeners and as yet attract a large crowd of students, given the obscurity of the place.<sup>553</sup>

Apparently Reneri publicly discussed the problems he encountered privately in his experiments. It is not known whether he tried to explain these problems within the Aristotelian framework or whether he employed Cartesian explanations, as he would later do at Utrecht. Furthermore, in order to make his lessons in *problemata* even more attractive, Reneri says that with the knowledge acquired from these lessons, which combined charm with usefulness, students could engage in pleasant or learned conversation—Reneri clearly draws from his own experience with the group of *liefhebbers* he shared his experiments with.<sup>554</sup>

#### 4.3.2. A Baconian Programme

Encouraged by the positive responses to his lessons at Deventer, Reneri not only proposed to discuss problems in the public lessons at Utrecht, but apparently also felt the courage to go a step further. In order to reverse the decline of philosophy, he resorts to an innovative programme that aims at usefulness. This is interesting given the fact that the only role of philosophy was usually to prepare students for the higher faculties by providing them with a conceptual framework. According to Reneri, however, philosophy is a discipline in its own right, which can be used for the benefit of mankind. Apparently he thought that this would raise its academic and social status.

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<sup>552</sup> In contrast to the more abstract, metaphysically based *physica generalis* of Aristotle's *Physics*. This distinction arose in the sixteenth century. See Kessler, "Metaphysics or Empirical Science?," 88-90.

<sup>553</sup> Reneri to De Wilhem, 20 February 1632 (OS): "praevideo fore ut mira aliquando deprehendam circa rerum naturalium causas et eventus, ad quam rem mirè favet et facit physica professio, quam planè aliter tracto atque vulgo fieri solet. Do operam ut praeceptis generalioribus interferam ad taedium auditorum tollendum quaedam ex physica particulari; dum vel eorum quae in natura eveniunt causas reddere conor, vel vice versa ex cognitione occultiorum causarum eruo effecta et opera vel raritate, vel voluptate, vel etiam utilitate sese commendantia. Avidè admodum audior, et magno pro loci obscuritate adhuc studiosorum concursu."

<sup>554</sup> Reneri, "Oratio inauguralis," [182].

The programme Reneri had in mind and which he expounded in his inaugural address was to be part of *collegia domestica*. Reneri emphasizes that these are classes for advanced students which build on the regular ‘public’ lessons, instead of replacing them. In Reneri’s view they must involve practical exercises in logic and physics. The *collegia logica* would be concerned with a quasi-Ramist programme aiming at the ordering of knowledge. The *collegia physica* would involve a quasi-Baconian programme consisting of three stages: *collegia observationum*, *collegia problematum*, and *collegia experimentorum*.

The purpose of the *collegia observationum* is the “careful and attentive study of all the things that can be perceived by the senses.”<sup>555</sup> This includes not only ordinary natural phenomena, which are spontaneously produced by nature and can be observed with the naked eye, but also facts and events which presuppose human intervention. By the latter Reneri means both phenomena that can be detected only by means of instruments (like the microscope and the telescope) and those that are produced by the manipulation of nature, that is, by experiment. To this end, Reneri wants his students to visit artisans of all sorts, collect their observations, and write them down. They should concentrate on the materials processed by these artisans, their techniques, their instruments and devices, the way they construct and handle these instruments and devices, and finally, the things they produce. What follows is an exhaustive, seven-page long list of extremely diverse artisans, which includes pyrotechnists making gunpowder, inventors of air thermometers, jewellers, beer brewers, bee-keepers, pharmacists, surgeons, printers, and so on. The optical experiments discussed above are also on this list.<sup>556</sup> In addition to this, Reneri requests the Utrecht municipal and provincial government to sponsor his project by appointing a professional collector of observations for the reason that this knowledge would be in their interest too. His task would be to walk around Amsterdam and carefully observe and interview sailors, traders, artisans, and the like. As an example Reneri mentions the Leiden professor of botany and anatomy Pieter Pauw (1564-1617). Pauw would have been offered money by the States of Holland to travel to the East Indies to investigate rare plants and collect them for the botanical garden.<sup>557</sup>

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<sup>555</sup> Ibid., [192]: “Nomine Observationum intelligo diligentem & attentam considerationem omnium rerum sensu perceptibilium, quae quamlibet rem singularem vel constituunt, vel afficiunt, vel circumstant tùm cum esse incipit, tùm cum perdurat, tùm cum postmodum varias mutationes subit, tum denique cum corrumpitur, siquidem corruptioni obnoxia est.”

<sup>556</sup> Ibid., [192-201].

<sup>557</sup> Ibid., [203-6].



(In fact, at the request of Pauw and the university, the East India Company commissioned a ship's surgeon to do this.)<sup>558</sup>

The *collegia problematum* are concerned with the investigation of the causes of the observed phenomena. This is an essential part of the scientific process, but Renieri says little about this type of exercise.<sup>559</sup>

The *collegia experimentorum* purport to build on the results of the causal inquiries of the *collegia problematum*. Renieri here defines an experiment as “the application of one or more causes in order to bring to light an unknown property of a thing or a new use of it.”<sup>560</sup> The purpose of experiments, accordingly, would be practical knowledge by finding new properties of things. The only thing he further says about these exercises is that the discoveries and inventions that result from these *collegia* must be at least as useful to mankind as the things observed in the *collegia observationum*.<sup>561</sup> The idea, apparently, is that by trying out new combinations new phenomena can be produced, and so unknown properties discovered. Since *collegia domestica* were held at the home of the professor, Renieri would have intended to make use of his own collection of instruments.

### 4.3.3. *The Investigation of Causes*

In the disputation *De natura et constitutione physicae* of 1635 Renieri discusses the scientific aspects of this three-stage programme in more detail. The context, however, differs in one important point. While the inaugural address involves a programme to popularize philosophy by means of producing useful applications of scientific knowledge, this disputation concerns the question what scientific knowledge is and how to build it. In the address Renieri is completely silent on how to find the causes of natural phenomena. *De natura et constitutione physicae* was the first in a series of seven physical disputations defended in 1635, which intend to provide a complete and coherent treatise on physics. Renieri first defines the domain of science. Again he directs his criticism against the traditional Peripatetic textbooks on physics without openly attacking Aristotle's philosophy as such. Scientific knowledge is certain, firm, and evident knowledge through proximate and adequate causes. The

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<sup>558</sup> Heniger, “Eerste Nederlandse wetenschappelijke reis”; Ogilvie, *Science of Describing*, 254-56.

<sup>559</sup> Renieri, “Oratio inauguralis,” [192, 201].

<sup>560</sup> Ibid., [192]: “Experimentum autem est applicatio causae unius, vel plurium ad proprietatem rei incognitam, vel usum ejus novum eruendum.”

<sup>561</sup> Ibid., [194].

knowledge these books contain, however, is often based on probable or even erroneous reasoning, not on true and perfect demonstrations. Therefore, it does not deserve the name *scientia*. On the face of it, Reneri's idea of science is very traditional and his criticism is not directed at the Aristotelian theory of science, but at the negligent way Peripatetics apply it. The production of effects, the third step of Reneri's programme, is not discussed in the disputation, because this is the application of natural philosophy, which is not part of the scientific process.<sup>562</sup>

However, when it comes to finding causes, Reneri leaves the Aristotelian framework for an inductive method which owes more to Bacon. The first step in the scientific process, according to Reneri, is to collect observations in a natural history, arranged probably according to the traditional division of reality in heavens, elements, meteors, minerals, plants, animals, and man. This must be a collective effort. The number of observations can be increased by means of experiments. Although observations are not always accurate, most difficulties can be overcome by means of instruments, the arts, or reason. Things that are too far away or too small to be seen with the naked eye can be observed by means of a telescope or a microscope. Anatomical section and chemistry can help us to uncover things hidden to the view. And we can use reason to derive conclusions from the analogous effects and adjuncts of phenomena that are better visible, or we can use it to correct distortions caused by the medium. The only real obstacle, for which Reneri offers no solution, is when the observer has a bodily or mental weakness or defect.<sup>563</sup>

These empirical data are then compared and methodically rearranged. This means that, first, one must examine which sensible attributes the observed phenomena have in common. Next, the phenomena are to be classified into genera and species on the basis of their sensible attributes. In this process, each genus and species is assigned its own adequate combination of sensible attributes. From this systematic collection of attributes axioms are to be derived through inductive reasoning. This is done by making lists of things with common attributes, on three different levels. First, one makes a list of each and every species of the genera defined by a common attribute. Next, one makes a list of all individual things of the lowest species with a common attribute (unless it is certain that they do not differ from each other). Then, one examines those genera and species which have a unique attribute. The final step is to find the genuine proximate and adequate causes of these sensible

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<sup>562</sup> Reneri, *De natura et constitutione physicae*, th. 5.

<sup>563</sup> *Ibid.*, th. 9-16.

attributes. Reneri is vague about how we can find, what he calls, clear and distinct knowledge (the use of the words “clear and distinct” may be an echo of Descartes’ method) of the essence of causes and how we can demonstrate effects from them in an equally evident manner. According to Reneri, this is an essential part of the scientific process, but it is also the most difficult part. Finally, to gain complete knowledge of nature one has to establish the underlying principles and use these to find new causes with the help of additional observations and new inductions.<sup>564</sup>

This method goes beyond the piecemeal approach of the Pseudo-Aristotelian *Problemata*. Rather than explaining single phenomena within an existing philosophical framework—be it Aristotelian or Cartesian—it is designed to build a new natural philosophy. Indeed, Reneri rejects the received definitions of natural species, because the knowledge we have of natural phenomena through these definitions does not suffice to produce perfect demonstrations. This in fact means that we have to start all over again by building the foundations on which a system of true scientific knowledge can be established.<sup>565</sup> Whilst the inaugural address still comprised a programme which draws heavily on the tradition of natural magic (for the benefit of which Reneri may have contented himself with ad hoc explanations as long as they are suitable for producing new useful applications), *De natura et constitutione physicae* is more fundamental and philosophically more mature.

#### **4.3.4. Compared to the Methods of Bacon and Descartes**

Although Reneri does not mention Bacon’s name and adopts only a part of his terminology, Reneri’s programme obviously shows much similarity with Bacon’s vision of the state-sponsored, cooperative investigation of nature for the benefit of mankind, and with the empirical and inductive method of the *Novum Organum*.<sup>566</sup> The classification of empirical data on the basis of their sensible attributes is more specifically reminiscent of Bacon’s tables of presentation. The first step of Bacon’s method is that of collecting observations, if necessary produced by experiments (*experimenta lucifera*, as Bacon calls them, or “light-bearing experiments”) and with the aid of instruments to assist the senses. Bacon calls this “natural history.” The second step is to find causes by means of induction, moving to the fundamental laws

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<sup>564</sup> Ibid., th. 17-20.

<sup>565</sup> Ibid., th. 5.

<sup>566</sup> Cf. Dibon, “Bacon en Hollande,” 208-18.

of nature, or knowledge of “forms”). Bacon calls this the “interpretation of nature.” And the third step is to transform nature, by means of new experiments, which manipulate the forces of nature, for the benefit of mankind (*experimenta fructifera*, or “fruit-bearing experiments”).<sup>567</sup> It was obviously Bacon’s empirical approach that appealed to Reneri in the first place. Moreover, Bacon was also indebted to the tradition of natural magic, which he appreciated for its aim to master nature and the useful knowledge it produced, although he rejected the element of trickery as a form of deceit, and its unfounded speculations. According to him, its method of trial and error would be incapable of producing real knowledge.<sup>568</sup>

There are, however, three essential differences between Bacon’s method and that of Reneri. First, Bacon’s “idols of the mind,” the intellectual fallacies that interfere with the interpretation of nature, play almost no part in Reneri’s method. According to Reneri, making accurate observations is difficult, but the mental process of induction is not. He only says that, because most of our precepts are not established correctly nor verified by this process of observation and induction, the minds of people are filled with ill-founded preconceived notions.<sup>569</sup> This corresponds to Bacon’s idols of the theatre, which are prejudices due to philosophical training, but Reneri has no theory of idols. Bacon was not concerned about common prejudices or a particular philosophy he thought to be wrong, but about general human tendencies which pose obstacles to sound reasoning. His method is a remedy for this. It provides assistance and guidance to the mind by leading it step by step from empirical data, as observed and collected by an unprejudiced mind, to knowledge of the real nature of things, thereby preventing and correcting false conclusions. Reneri’s method, on the other hand, merely enables one to examine the empirical data more systematically. He apparently has more confidence in the independence of the mind. Indeed, all one needs for correct scientific reasoning, according to Reneri, is a healthy constitution, an open mind, and an attentive attitude.<sup>570</sup>

The second difference with Bacon’s method is that Reneri does not use his way of organizing data in tables. Instead, he uses a division by genera and species. Bacon, of course, arranges the collected empirical data, or instances, in tables of presentation to facilitate induction. The purpose of induction is to

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<sup>567</sup> Bacon, *Novum Organum*. See also Jardine, *Francis Bacon*, 109-32; Malherbe, “Bacon’s Method of Science,” 75-98; Gaukroger, *Francis Bacon*, 132-65.

<sup>568</sup> Zagorin, *Francis Bacon*, 40-44.

<sup>569</sup> Reneri, *De natura et constitutione physicae*, th. 19.

<sup>570</sup> *Ibid.*, th. 20.

find the necessary relation between two qualities, or natures. This means that one has to look for the nature which constitutes the real cause, or the “form,” of the nature that is under investigation. To this end, one collects in a table of presence as much different instances as possible that have the given nature. In a table of absence in proximity one collects instances which only seem to have the given nature. In a table of degrees one collects instances where a given nature and the nature sought for vary in the same degree. From these tables one can now infer a first, tentative interpretation of the form of the given nature by excluding natures different from the form. This is the first step in a gradual process of exclusion, which is essential in Baconian induction. It prevents the understanding from jumping to conclusions on the basis of the presence of a nature in some instances only and superficial resemblances. The steps following this “first vintage” (of which only the first step is elaborated in *Novum Organum*, namely, “prerogative instances”) are meant to further isolate and ascertain the preliminary form.

Reneri’s rearrangement of the collected empirical data into a division by genus and species has the same purpose of discerning patterns and relations between sensible attributes, or qualities. The question is, however, what the added value of such a division is, especially because Reneri subsequently makes lists of all empirical data with a certain attribute, which are comparable to Bacon’s tables of presence. In Aristotelian philosophy classification into genera and species plays a role in the construction of definitions, but Bacon had no need for such classification and even rejected it because it does not represent the structure of nature. In Reneri’s method it serves no definitional purpose either. It seems that for Reneri classification was the summit of methodical arrangement. It is also the subject of the *collegia methodica*, one of the *collegia logica* Reneri discusses in his inaugural address. In the *collegia methodica* the students had to collect and methodically arrange data on everything that is produced by the human mind.<sup>571</sup> The procedure followed there shows a strong likeness to the Ramist practice of methodically arranging the subject matter of a discipline.<sup>572</sup> Indeed, it is highly suitable for getting a complete and systematic overview, and this is probably the reason why Reneri used it. In *De natura et constitutione physicae* Reneri warns against careless and incomplete induction. If one draws conclusions too hastily, exceptions undermining the established precepts are often overlooked.<sup>573</sup> Bacon’s remedy

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<sup>571</sup> Reneri, “Oratio inauguralis,” [188-91].

<sup>572</sup> Ong, *Ramus*, 225-69. See also below, pp. 184-85.

<sup>573</sup> Reneri, *De natura et constitutione physicae*, th. 17.

for this is his method of eliminative induction. His tables of presentation do not have to be exhaustive, as long as they are representative. Possible counterinstances are then actively searched for. This step, however, is absent in Reneri's scientific method, although the search for unique combinations of sensible attributes seems to have the function of isolating two (or more?) attributes. This is reminiscent of Bacon's process of exclusion, but it does not have the purpose of preventing errors. What remains is a warning against hasty conclusions. All Reneri's induction comes down to is simple enumeration, something Bacon rejects as childish and easily leading to mistakes.<sup>574</sup> Compared to Bacon, Reneri misses two essential points, namely, induction as a process of exclusion of irrelevant factors and the warning against intellectual fallacies. This makes it susceptible to exactly the pitfalls Bacon's method was developed for and which Reneri wants to avoid as much as Bacon.

The third difference is that, according to Reneri, the scientific process consists in demonstrating effects from causes. This is essential in Aristotle's theory of science, but has no role in Baconian method, in which the "form," that is, the real cause, is the last thing that can be known and that is known from its effects. In Reneri's method, however, it is not entirely Aristotelian either, because it does not concern demonstration from first principles, but from causes which are directly inferred from effects by means of induction.

To sum up, Reneri is inspired by Bacon's inductive empiricism, but it is not a simple copy of it. Behind an Aristotelian facade, he adapts Baconian method by combining it with Ramist division, which was a method of presentation rather than one of investigation. Now the question remains whether the way Reneri adapts Bacon's method to his own purposes owes something to Descartes as well. Overall, Descartes' method obviously differs fundamentally from that of Reneri. Descartes turns to observations and experiments only to give an answer to specific questions, because facts without theory do not lead anywhere. Contrary to Reneri, who saw this as a starting point for acquiring scientific knowledge, Descartes rejected it as mere curiosity.<sup>575</sup> To be sure, in his view observations and experiments are essential for identifying the causes of particular phenomena, but they are useful only after a general framework based on some fundamental truths is definitively in place. Descartes starting-point are first principles, namely, matter and motion, not randomly collected

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<sup>574</sup> Bacon, *Novum Organum*, bk. 1, aph. 105, in Bacon, *Works*, 1:312.

<sup>575</sup> For Descartes' view on curiosity, see Descartes, *Passions* ii, arts. 76-78, in AT, 11: 385-86. See also Brown, *Descartes and the Passionate Mind*, 142-50.

empirical data.<sup>576</sup> On this point Descartes' influence on Reneri seems marginal, although his ideas may have played a vestigial role in what Reneri says about an unprejudiced mind. Descartes had no need for counter-instances either, but his method of doubt also had the purpose of freeing the mind of prejudice.

The question is also what Reneri actually knew of Descartes' method. In his letters Reneri more than once writes about Descartes' mathematics and his natural philosophy, but he is virtually silent on his method. Even so, they no doubt discussed the subject. Perhaps Reneri had even been allowed to read (an early draft of) the *Regulae*, which Descartes had been working on before he came to the Republic. It seems that for Reneri Descartes' method first of all represented the free investigation of nature and he may have thought that Descartes' method was not contradictory to that of Bacon at all.<sup>577</sup> Reportedly, when Heidanus told Reneri he liked Bacon's work, this was reason for Reneri to bring him into contact with Descartes.<sup>578</sup>

All the same, it is difficult to draw definitive conclusions about Reneri's ideas on method on the basis of his academic work, since public addresses and disputations (and the classes which their subject matter was based on) had to satisfy certain requirements which were not necessarily compatible with one's personal views.<sup>579</sup>

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<sup>576</sup> Descartes, *Discours* vi, in AT, 6:72-74. For Descartes' view on the use of observations and experiments, see Clarke, *Descartes' Philosophy of Science*, 30-40, 148-55; Garber, *Descartes Embodied*, 33-51, 85-110; Bos and Verbeek, "Conceiving the Invisible," forthcoming. See also below, p. 212.

<sup>577</sup> Cf. McGahagan, *Cartesianism in the Netherlands*, 130-32.

<sup>578</sup> Wittichius, *Oratio in obitum Heydani*, [19]: "Yet, our Heidanus did not completely loose heart, but, as soon as some light from reading Verulamius [i.e., Francis Bacon] shone on him, he made intimate acquaintance with Renatus des Cartes, a French nobleman, through his companion Henricus Regnerus, whose friendship he enjoyed in the house of Colonius [i.e., the Walloon College] and who later taught philosophy at Deventer and Utrecht." ("At Heidanus noster non despondebat planè animum, sed, ubi lux aliqua ex Verulamii lectione, sibi illuxisset, in familiaritatem Renati des Cartes, nobilis Galli, se insinuavit, Henrico Regnero parario, quo in aedibus Colonii commilitone utebatur, postea Daventriae & Ultrajecti Philosophiam professo."). The theory of error Heidanus presents in his *De origine erroris* (1678) leans on both Bacon and Descartes. See Verbeek, *Dutch Cartesians*, 32.

<sup>579</sup> In *Historia critica philosophiae*, 5:218, Brucker claims that Reneri used Descartes' method in his classes at Deventer, but there is no evidence for this.

### 4.3.5. Reception

Despite everything, Reneri's programme was innovative from a didactic point of view. First, it was innovative to the extent that it introduced practical instruction in natural philosophy, in addition to established practises in the faculty of medicine. It was not until the early 1670s, when Carolus Dematius Jr. (d. 1690) and Burchard de Volder (1643-1709) were allowed to establish a chemical and a physical laboratory at Leiden, that physical and chemical experiments were carried out in an institutional academic setting.<sup>580</sup> Second, the programme is even more innovative to the extent that it gives students an active role. According to Reneri, the professor should not be someone who dictates (*dictator*) or leads (*ductor*), but an associate (*socius*).<sup>581</sup> This was a pioneering idea, since practical forms of instruction in other faculties, such as the anatomical dissections carried out in the faculty of medicine, were merely a form of illustrative teaching. Third, Reneri had the ambition of discovering new things in his classes.

Reneri's ambitious plans, however, never materialized. Worse still, they drew hardly any attention. In his diary, Buchelius bracketed Reneri's address with that of Liraeus, *De usu et dignitate studiorum humanitatis* ("On the usefulness and dignity of the humanities"), for their theme of the dignity of philosophy. Since Liraeus' address was rather trivial, this would have been all the more embarrassing.<sup>582</sup> Barlaeus, who had been appointed professor of philosophy at the Amsterdam Athenaeum Illustre in 1632, was the only one—or so it seems—to value Reneri's plans.<sup>583</sup> The reason why these plans did not materialize must first of all have been the enormous organizational effort they would have required, for which Reneri himself did not have the time. Apart from this, Reneri's programme did not offer a new philosophy yet, and it remained to be seen how fruitful his method would be. Nevertheless, his lessons in *problemata*, in which he discussed the causes of daily observations, had enjoyed a certain popularity at Deventer. Likewise, Reneri's students at Utrecht would have welcomed the discussion of *problemata* as a change from the regular lessons. Indeed, Reneri continued his discussions of *problemata* as part of his lessons. In the preface to the *Admiranda methodus* (1643) Schoock writes that Reneri regularly held what Schoock calls *problematica*

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<sup>580</sup> Jorissen, *Chemisch laboratorium*, 9-31.

<sup>581</sup> Reneri, "Oratio inauguralis," [184].

<sup>582</sup> Buchelius, *Notae quotidianae*, 21.

<sup>583</sup> See below, p. 172.



*dissertatiuncula* (discussions on particular problems), which are discussed in the following chapter.

#### 4.4. Conclusion

Reneri's experiments and inventions show his indebtedness to the natural magic tradition, the books of secrets, and the craftsman's workshop, both in their purpose and in their method. He saw the potential of the telescope, the thermometer, and in a way even the water clock for the investigation of nature, but his experiments and inventions mainly served a recreational or practical purpose. His experiments with lenses, moreover, show that he built instruments with the use of simple means, such as spectacle glasses, and by simply trying out what worked best. The fact that he later developed some of his inventions on paper only indicate a more theoretical approach.

Observation and experiment also play a central role in Reneri's scientific method. Because of the inadequacy of the sources, no definitive conclusions about Reneri's ideas on method can be drawn, but it is safe to say that Bacon's inductive method must have looked very promising, especially to an experimenter like himself who shared the same practical goals. Reneri not only wanted to build a new philosophy altogether, but he also wanted to make philosophy more attractive to students and sponsors by producing useful things. His experience with his patrons must have persuaded Reneri that such practical experiments and inventions would be popular. However, although his programme is Baconian in its empirical basis and its utilitarian goals, the result is an eclectic mix of Baconian induction, Ramist method, Aristotelian demonstration, and possibly Cartesian rationalism. Reneri understood the importance of a systematic and gradual investigation of nature, but he did not succeed to integrate these theories into his own adapted version of Bacon's method. Furthermore, both his inaugural address and *De natura et constitutione physicae* show that Reneri had no clear idea of where to start investigating. In the absence of a theoretical framework, his method would probably have resulted in endlessly collecting observations. Finding new properties or uses of things would have been a matter of trial and error. Therefore, as a scientific method Reneri's programme was a failure, but it was innovative in this respect that he transposed the experiments of the natural magic tradition to an academic context and that he wanted his students to actively participate.

A change in Reneri's attitude towards experiments occurred in the beginning of 1638, when, probably inspired by the publication of the *Discours*, he started making systematic microscopic investigations with the sole purpose

of getting to know more about plants—nothing is known about his intended investigation of animals. Descartes provided him with a new framework and a concrete starting point. This approach also was more closely related to Descartes' view on the use of experiments. Perhaps Reneri by then had left his naive attitude towards experiments behind him.

## Chapter 5

### Philosophy II: Cartesian Elements

#### 5.1. Introduction

Reneri's plans for a complete reform of philosophy were overly ambitious and it is not amazing, therefore, that nothing was heard of them again. On the whole his disputations are eclectic but traditional. Reneri adopts views from scholastics, such as Suárez, the *Conimbricenses*, and Toletus, and he uses the textbooks of Fromondus and Magirus. Even so, his disputations show some remarkable innovative ideas. In the beginning of the disputation *De elementis* of 1635 Reneri states that, despite the shortcomings of Peripatetic philosophy, he will teach what is commonly taught in the schools. The reason he gives for this is that he realises that both the manpower and the time are lacking to construct as yet a complete physics which is also completely new. But given the fact that this is not possible, he makes an effort to remove erroneous opinions.<sup>584</sup>

Reneri's early disputations contain corrections of the traditional view, some of them major. First, Reneri defends a heliocentric worldview. Second, he believes that there are only two elements, namely, earth and water. This two-element theory has mechanical corpuscular features which are likely to have a Cartesian origin. Indeed, according to Schoock in his *Admiranda methodus*, in his lessons Reneri repeatedly employed Cartesian explanations in so-called *problematica dissertatiuncula*. Schoock graduated on 29 March 1636, so his testimony concerns the early period of Reneri's professorship. These *problematica dissertatiuncula* would have provided some of the subject matter discussed in these early disputations.

After the publication of the *Discours* in 1637, Reneri manifested himself more overtly as a Cartesian. Not only would he have used the *Discours* in his public lectures, he also submitted, in 1638, a disputation on physiological theses which conveys a complete new philosophy and is Cartesian throughout. He denies the need to adopt central scholastic notions, such as substantial

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<sup>584</sup> Reneri, *De elementis*, [preface].

form, vegetative and sensitive soul, and intentional species, without, however, explicitly endorsing a mechanical philosophy.

In this chapter I deal with the Cartesian elements in Reneri's disputations. First, I discuss his corrections to traditional philosophy, the specific Cartesian elements in it, and how this relates to the method Reneri expounds in *De natura et constitutione physicae*. Then, I discuss a disputation held by Reneri's pupil Eremita under Burgersdijk in 1631. This disputation also has some mechanical corpuscular features, which suggests Reneri's involvement. Finally, I will look into Reneri's physiological disputation of 1638 and the question why Reneri all of a sudden took positions that were much more outspoken, while he had been acquainted with Descartes' philosophy much longer.

## 5.2. Heliocentrism

In the disputation *De mundo et coelo*, which was held on 10 June 1635, Reneri argues in favour of the heliocentric system. His chief argument is that the fixed stars not only are at a fixed distance from each other, but probably also do not move around the centre of the universe. Accordingly, Reneri continues, this immobility should also be attributed to the sun. From this necessarily follows the mobility of the earth, which then daily rotates around its axis and revolves around the sun in a year. Traditionally, the fixed stars were believed to be attached on a sphere which revolves equidistant from the centre of the earth and on which they are immobile relative to each other. Copernicus, on the other hand, assumed the sun to be immobile in the centre of the universe and the stellar sphere to be immobile as well. Reneri says that the immobility of the sun follows from that of the stars, but he does not make clear why the sun would be at the centre of the universe. Like Copernicus, he merely assumes it. Reneri continues by saying that, although the heliocentric theory is only probable, it is in accordance with reason and celestial phenomena.<sup>585</sup> Reneri provides a number of such phenomena, such as Galileo's discovery of the moons of Jupiter and the 'moons' of Saturn (Galileo took Saturn's ring for two moons), and his telescopic observation of the phases of Venus.<sup>586</sup> Reneri further says that recent telescopic observations (those of Galileo apparently, although his name is not mentioned) show that moon spots are in fact mountains, valleys, and seas.<sup>587</sup> He further supports Kepler's theory (again, without

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<sup>585</sup> Reneri, *De mundo et coelo*, th. 31-33. Cf. *ibid.*, th. 27. See also Vermij, *Calvinist Copernicans*, 164.

<sup>586</sup> Reneri, *De mundo et coelo*, th. 34-35.

<sup>587</sup> *Ibid.*, th. 38.

mentioning his name) that the planets move in elliptical orbits. Kepler calculated this for Mars on the basis of Tycho Brahe's astronomical observations and assumed that this is also true of the other planets.<sup>588</sup> From a traditional point of view these phenomena were signs of celestial corruptibility and change, which would be contrary to Aristotle's claim that celestial matter, or ether, is incorruptible, cannot undergo substantial change, and moves in perfect circles.<sup>589</sup> Indeed, Reneri states that celestial matter and terrestrial prime matter are in fact the same, although this view is not necessarily related to the discussion of corruptibility.<sup>590</sup> All these discoveries challenged the Ptolemaic geocentric system and the foundations of Peripatetic doctrine, and provided empirical support for alternative cosmological hypotheses. What is important to note here is that these observations apparently made Reneri abandon traditional views and look for an alternative, but that he does not make clear why he chose the Copernican model—the same observations were, for instance, also integrated in the geocentric system of Brahe.<sup>591</sup> Reneri's choice for a heliocentric system may have been influenced by Descartes, who adopted it in *Le Monde*.<sup>592</sup> Reneri must have witnessed Descartes working on it in Deventer, and they would have discussed it at some point. Little of this, however, transpires in the disputation.

In later disputations, one of 1636 and another of 1637, Reneri, however, rejects the motion of the earth.<sup>593</sup> The reason for this is far from evident. All he says is that Copernicus' opinion does not rest upon firm reasoning. One gets the impression, however, that he was corrected. Defending heliocentrism was not necessarily problematic as long as it was treated as an astronomical hypothesis and not as a physical reality.<sup>594</sup> What would have been more

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<sup>588</sup> Ibid., th. 36.

<sup>589</sup> Grant, *Planets, Stars, and Orbs*, 189-219.

<sup>590</sup> Reneri, *De mundo et coelo*, th. 23. Cf. Grant, *Planets, Stars, and Orbs*, 244-70.

<sup>591</sup> For the reception of the new astronomy in the Republic, see Vermij, *Calvinist Copernicans*. See also Van Nouhuys, *Two-Faced Janus*.

<sup>592</sup> Descartes, *Le Monde* viii-x, in AT, 11:48-72.

<sup>593</sup> Reneri, *Theses phil. misc.*, th. 17; Reneri, *Positiones miscellaneae*, "Physicae," th. 12. The second corollary to *De meteoris*, which was held by the same *respondens* as *De mundo en coelo*, states that the Copernican Philip van Lansbergen provides no convincing argument whatsoever for the daily or yearly rotation of the earth. See Reneri, *De meteoris*, cor. 2. This does not necessarily deny the motion of the earth and could be criticism of Lansbergen's particular argumentation, which was also criticized in Copernican circles. See Vermij, *Calvinist Copernicans*, 82-88.

<sup>594</sup> Cf. Reneri, *De elementis*, th. 11, in which he calls geocentrism a hypothesis just as

controversial, however, was that Reneri said that heliocentrism was not incompatible with Scripture if correctly explained.<sup>595</sup> By saying this he not only entered the domain of theology, but also implied that so far the Bible had not been interpreted correctly, or, even more seriously, that it was not to be taken literally, which was a sensitive issue, especially for Calvinists. Perhaps the *respondens* was attacked during the disputation, or Voetius, the professor of theology, had spoken to Reneri about it. Copernicanism was repeatedly subject to attack in the works of Voetius. Already in his first disputation, *De praejudiciis verae religionis*, which was held on 3 September 1634,<sup>596</sup> and in his *Thersites heautontimorumenos* (1635)<sup>597</sup> Voetius roundly rejects Copernicanism, because it was in conflict with a literal interpretation of the Bible. Furthermore, he took the view that this was a theological matter, in which mathematicians and especially philosophers were not supposed to meddle. It would also be an argument in Voetius' conflict with Regius during the so-called Utrecht crisis of 1641-1643, a clash between supporters and opponents of the new philosophy at Utrecht University.<sup>598</sup> A letter to Huygens of 22 October 1635, in which Reneri is extremely negative about the university, could be an indication that there was less room for new ideas than Reneri had expected. He refers to the classes he had to give at Utrecht as "inainties" ("niaiseries") and claims that he would be chased away with a club if he would try to reform the academic teaching of philosophy.<sup>599</sup> Nevertheless, although Reneri later rejected heliocentrism, he continued to uphold his view on celestial matter.<sup>600</sup> Moreover, he writes that the fact that comets have a much smaller parallax than the moon and most other planets proves that comets are beyond the moon and, therefore, are not meteorological phenomena. That comets, which are corruptible, belong to the celestial sphere was also an indication of celestial corruptibility.<sup>601</sup>

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well.

<sup>595</sup> Reneri, *De mundo et coelo*, th. 33.

<sup>596</sup> Voetius, *De praejudiciis verae religionis*, "Corrolaria philosophico-theologica," corr. 6, in Voetius, *Thersites heautontimorumenos*, 347.

<sup>597</sup> Voetius, *Thersites heautontimorumenos*, 256-83.

<sup>598</sup> Van Ruler, *Crisis of Causality*, 11-20; Vermij, *Calvinist Copernicans*, passim. On the Utrecht crisis, see below, pp. 232-33.

<sup>599</sup> Reneri to Huygens, 22 October 1635.

<sup>600</sup> Reneri, *Theses phil. misc.*, th. 14; Reneri, *Decas quaestionum*, th. 4. Cf. Reneri, *Positiones miscellaneae*, "Physicae," th. 3, in which the *respondens* Bornius, who in this case was also the author, does not take a position (*quodlibet*).

<sup>601</sup> Reneri, *Decas quaestionum*, th. 7; Reneri, *De meteoris*, th. 36; Reneri, *Theses phil. misc.*, th. 16; Reneri, *Positiones miscellaneae*, "Physicae," th. 16.

Furthermore, Reneri rejects the existence of multiple heavens and orbs in favour of a single fluid heaven.<sup>602</sup> Many of these issues, however, were not new and were already subject to discussion among the scholastics.

### 5.3. A Mechanical Corpuscular Theory of Matter

#### 5.3.1. Two-Element Theory

Reneri's most distinct correction to traditional doctrine was his reduction of the number of elements to two, namely, water and earth. The idea was not absolutely new. Indeed, Adriaan Heereboord mentions Reneri among many other supporters of a two-element theory.<sup>603</sup> Reneri's explanation, however, is mechanical and corpuscular, and it is vaguely reminiscent of Descartes' philosophy.

In *De elementis* Reneri says that he takes the traditional position that simple bodies are composed of matter and substantial form (hylomorphism) and that each element probably has its own substantial form. That elements are real substances was a common view among Peripatetics, but what their forms consisted of was subject of debate. The reason for this was that, according to these philosophers, pure elements are ordinarily not observed in the sublunar sphere. 'Normal' earth, water, air, and fire are mixts—they are earth, water, air, or fire only in so far as their main component is earth, water, air, or fire. However, although the elements virtually always manifest themselves as matter, the Peripatetics seem to have believed that they are real bodies. Some claimed that the primary qualities were their forms, whereas most philosophical textbooks say that because the forms of the elements are not known to us, we merely distinguish them by their qualities.<sup>604</sup> However, Reneri continues, if someone wants to claim that there is only an accidental difference between the elements, there is no solid and clear argument to prove him wrong, since "no phenomenon [observed] in the elements requires more than matter and its diverse dispositions with respect to quantity, figure, motion, and rest."<sup>605</sup> This actually would mean that there is no substantial form,

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<sup>602</sup> Reneri, *De mundo et coelo*, th. 27; Reneri, *Theses phil. misc.*, th. 13; Reneri, *Positiones miscellaneae*, "Physicae," th. 13. Cf. Reneri, *De meteoris*, corr. 1.

<sup>603</sup> Heereboord, *Meletemata philosophica*, 352.

<sup>604</sup> E.g., Magirus, *Physiologia peripatetica*, 149, 156-58; Jacchaeus, *Institutiones physicae*, 127; Burgersdijk, *Collegium physicum*, 117.

<sup>605</sup> Reneri, *De elementis*, th. 4: "Attamen si quis solum discrimen accidentarium inter elementa statuere vellet, solida et aperta ratione redargui non posset: cum nulla phaenomena in elementis sint, quae plus requirant, quàm materiam et ejus diversam

since in this view there are no real qualities, while quantity, figure, and motion are not of a substantial nature. If so, matter as such would be real substance. In this enumeration we not only recognize Descartes' definition of matter, but Reneri also adopts the strategy Descartes uses in *Le Monde* to present his theory of matter as a mere supposition. Indeed, it is an almost literal quotation of Descartes in chapter 5 of *Le Monde* about the number of elements and their qualities. Descartes writes there that "not only these four qualities but all the others as well, including even the forms of inanimate bodies, can be explained without the need to suppose anything in their matter other than the motion, size, shape, and arrangement of its parts."<sup>606</sup> That Reneri would have been influenced by a work which was not yet published is not surprising, since *Le Monde* was for a large part written during Descartes' stay in Deventer, practically under Reneri's eyes.

The claim that the differences between the elements are not substantial represents a challenge to Aristotelian physics, but Reneri is careful not to go too far. He adheres, at least nominally, to a concept of the elements based on substantial forms and real qualities.<sup>607</sup> In accordance with traditional doctrine,<sup>608</sup> Reneri defines elements as "simple bodies from which all mixed bodies are composed," but he leaves out the last part of the traditional definition, "and in which they are finally resolved," his argument being that some bodies, such as gold, cannot be resolved into their elements.<sup>609</sup> Furthermore, he reduces their number to two, namely, water and earth.

Reneri basically presents two polemical arguments, supported by empirical evidence, against the Aristotelian doctrine of four elements. Reneri's strategy is to use arguments from within the Aristotelian framework, so that they appeal to the Aristotelians he tries to refute. First, he assesses the

dispositionem quoad quantitatem, figuram, motum, et quietem."

<sup>606</sup> Descartes, *Le Monde* v, in AT, 11:26: "[...] toutes les formes des corps inanimés, peuvent être expliquées, sans qu'il soit besoin de supposer pour cet effet aucune chose en leur matière, que le mouvement, la grosseur, la figure, et l'arrangement de ses parties." The translation is taken from Descartes, *Philosophical Writings*, 1:89. See also Descartes, *Météores* i, in AT, 6:233-39.

<sup>607</sup> The principle of parsimony that all phenomena can be explained by quantity, figure, motion, and structure, however, plays a role in Reneri's discussion of vital heat. See below, pp. 147-48.

<sup>608</sup> Aristotle, *De caelo*, 3, 3, 302a-b. See also, e.g., Magirus, *Physiologia peripatetica*, 147. Cf. Burgersdijk, *Collegium physicum*, 116-17.

<sup>609</sup> Reneri, *De elementis*, th. 3: "Elementa definiri solent corpora simplicia ex quibus corpora omnia mixta componuntur et in quae ultimò resolvuntur."



traditional arguments for four elements to conclude that there are only two. Reneri argues that the four primary qualities warm, cold, dry, and humid are arbitrarily chosen. He further reasons that even if it is true that there are these four, this would still not necessarily mean that there are also four elements, given the fact that some combinations do not occur in nature. Air, for instance, is not naturally warm and humid as Aristotle claims, but dry and cold.<sup>610</sup> Moreover, according to Reneri, there are more combinations possible than cold-dry, cold-humid, warm-humid, and warm-dry. On the basis of the same principle, therefore, one would have to assume that there are also more elements, for instance, one that is moderately warm-cold.<sup>611</sup> Furthermore, arguments derived from the different degrees of “heaviness” or “lightness” of the elements (that is, their tendency towards their natural place) are also unconvincing, as Reneri continues.<sup>612</sup> Not only does their weight not say anything about their elementary status, but experience also shows that air, for example, is heavy, or moving downwards, instead of light, or moving upwards (as it would be according to the traditional view). In Aristotelian physics air is a middle element, which means that it rises when it is below its own natural place, but Reneri claims that air, being heavy, always moves downwards. He gives the example that if there is a cavity on the earth’s surface, air flows into it. Moreover, the fact that bubbles of air rise in water does not prove that air is light, but merely that it is lighter than water. That we do not feel the air’s weight is no more remarkable than that fish do not feel the weight of water.<sup>613</sup> All the same, Reneri makes the reservation that nothing certain can be inferred from the properties of ‘normal’ earth, water, air, and fire, because they are, after all, mixts.<sup>614</sup> According to Reneri, pure, elementary water can only be found in the form of distilled seawater.<sup>615</sup>

His second argument for the existence of two elements follows from the definition of elements as “simple bodies from which all mixed bodies are composed.” Reneri states that fire and air are no elements, because experience shows that they are not part of any mixt—a view he also defends in his disputation *Decas quaestionum illustrium ex philosophia naturali* from that same year. There he points out that even if one assumes that generation and

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<sup>610</sup> Ibid., th. 28-29.

<sup>611</sup> Ibid., th. 7.

<sup>612</sup> Ibid., th. 8.

<sup>613</sup> Ibid., th. 12. Cf. Descartes’ letter to Reneri of 2 June 1631, in which Descartes explains why we do not feel the weight of the air above us.

<sup>614</sup> Reneri, *De elementis*, th. 11.

<sup>615</sup> Ibid., th. 16.

corruption consist in a rearrangement of elements, there is no evidence to show that air and fire are among those elements.<sup>616</sup> For example (the example is given in *De elementis*), if wood, a mixed body, is decomposed by fire, the fire does not come out of the wood, but is generated only then. And the air that leaves the wood does not come out of the wood itself, but out of its pores.<sup>617</sup> Moreover, the Aristotelian argument that the matter we (and all other animate mixed bodies) consist of is the same as with which we feed ourselves, would imply that we are composed of earth and water only. We feed on cows, which feed on water and plants, which in turn feed on earth and water, but never on air or fire.<sup>618</sup> However, although Renieri does not express reservations here, on the basis of his own arguments nothing certain can be concluded, because, again, what we see are mixts and not pure elements.

Renieri does not say much about what air and fire are, if not elements. He seems to think that they are both simple bodies in the sense that they cannot be reduced to earth and water (so in a way would be elementary),<sup>619</sup> but because they are never part of a mixt, they are no elements in the proper sense of the word.<sup>620</sup> Apart from elements, mixts, and simple bodies, Renieri distinguishes meteors. According to him, many meteors are neither elements nor mixts, but are generated from the elements by the force of heat.<sup>621</sup> Traditionally, meteors are defined as imperfectly (meaning that they are unstable) mixed bodies.<sup>622</sup> In his disputation *De meteoris* Renieri states that it is not of the essence of a meteor to be a mixed body and that it is not against the nature of a meteor to be a perfectly mixed body. According to him, a meteor is “a body that is produced in the air from vapour or exhalation, or both.”<sup>623</sup> Vapours and exhalations ascend from the earth and water on the surface of the earth, respectively, under the influence of a source of heat. Renieri’s definition is largely traditional, but he broadens the definition to a body proper. Renieri, however, provides no examples that support this claim.

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<sup>616</sup> Renieri, *Decas quaestionum*, quest. 6.

<sup>617</sup> Renieri, *De elementis*, th. 10.

<sup>618</sup> *Ibid.*, th. 9.

<sup>619</sup> Cf. *ibid.*, th. 4.

<sup>620</sup> *Ibid.*, th. 24.

<sup>621</sup> *Ibid.*, th. 2.

<sup>622</sup> See, e.g., Magirus, *Physiologia peripatetica*, 230.

<sup>623</sup> Renieri, *De meteoris*, th. 2: “[...] corpus ex vapore vel exhalatione vel utrisque in aëre genitum.”

### 5.3.2. *A Mechanical Interpretation*

So far, Reneri's theory of elements, although it substantially differs from that of Aristotle, stays within the Aristotelian framework. However, Reneri gives it a mechanistic twist by stating that each element has its own specific figure.<sup>624</sup> From an Aristotelian point of view this is nonsense. For Aristotle figure is never an essential property of any natural thing. Furthermore, arguing against the atomists and their identification of figure and form, Aristotle, in *De caelo*, maintains that if elements had specific shapes, they would not be able to produce a continuum. Many early modern textbooks repeated these arguments in their discussion of atomism. Aristotle's argument is that there are only two solids which could fill a body without leaving interstitial vacua, namely, the pyramid and the cube. The fact that the atomist theories recognized more than two elements disqualified them in his eyes (this argument is of course only valid if one denies the existence of a vacuum, which is exactly what the atomists accept). This could be solved, according to Aristotle, by admitting elements with adjustable shapes, but then these shapes would no longer be specific to the elements. Therefore, the substratum has to be formless and unshaped.<sup>625</sup> Maybe for this reason, Reneri does not speculate on the figures of the various elements.

The only thing he says about figure concerns vital heat. Some mixed bodies seem to contain a sort of fire, which cannot be derived from elementary fire, if only because Reneri denies fire to be an element. To explain this, Reneri resorts to the concept of vital heat. Also Peripatetic philosophy distinguishes between elementary and vital heat, as Reneri emphatically claims. But here the Peripatetic analogy ends. According to Aristotle, vital heat is the active quality that powers the operations of the soul.<sup>626</sup> According to Reneri, however, vital heat can be the spirituous and flammable parts of distilled liquor, which produce its pungent taste and cause the warm sensation. Or it can be the parts of nitric acid (*aqua fortis*), which cause corrosion, burn one's tongue, skin and clothes, and dissolve metals into chalk more easily than fire. This heating and burning power is not due to the presence of fire inside these bodies, but to the particular figure, smallness, and mobility of the minimal parts of which these bodies consist. When these parts are agitated, they puncture the tongue in a

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<sup>624</sup> Reneri, *De elementis*, th. 14.

<sup>625</sup> Aristotle, *De caelo*, 3, 8, 306b-307b. See also Magirus, *Physiologia peripatetica*, 149, 158-59.

<sup>626</sup> Des Chene, *Physiologia*, 238.

way similar to fire.<sup>627</sup> These properties are not attributed to any of the two elements, but to the mixt itself. As a result, vital heat would be an irreducible property of a specific class of mixed bodies. Indeed, in another disputation of the 1635 series, *De corpore mixto in genere*, Reneri explains that the diversity of quantity and figure of minimal parts would explain the effects caused by inanimate mixed bodies.<sup>628</sup> Reneri thus reduces the concept of vital heat not only to a burning power, but also to a property of extension—in any case, it is neither an animating principle nor a real quality.

Likewise, Reneri's conclusion that fire and air are no elements asks for an explanation. Traditionally, mixture is defined as "a union of altered mixables."<sup>629</sup> According to Aristotle, in the process of mixing the contrary qualities of each ingredient act on each other, which results in a certain proportion between these qualities (*temperies*). Their substances break down into minimal parts and merge into a true mixt, that is, into one homogeneous body with a form of its own (*forma mixti*).<sup>630</sup> In accordance with the traditional definition, Reneri says that elements mix by means of an alteration of their qualities and what he calls "an imparting of substance" (*communicatio substantiae*). However, one of the reasons why fire can never become part of a mixt is that it does not combine with water or earth.<sup>631</sup> The same applies to air. Air cannot cohere with the more coarse (*crassus*) bodies water and earth, probably because it is too fluid and fine (*tenuis*). Water and earth, on the other hand, cohere because they are both coarse bodies. Furthermore, the simple body air belongs to the same species as heavenly ether, except that it is a bit coarser. Reneri apparently believes that these properties allow air to penetrate another body without being destroyed or flowing out of it. So when air is found in a mixed body, it is not because it is part of that body, but because the pores are filled with air.<sup>632</sup> To sum it up, mixture is determined by the cohesion of parts and not by the merging of elements as a result of the alteration of their qualities.

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<sup>627</sup> Reneri, *De elementis*, th. 25.

<sup>628</sup> Reneri, *De corpore mixto in genere*, th. 19. In this same thesis, perhaps to avoid the criticism of being an atomist, Reneri emphasizes that with minimal parts he does not mean the smallest indivisible parts, but parts so small that they are no longer visible.

<sup>629</sup> E.g., Magirus, *Physiologia peripatetica*, 209: "Mixtio est miscibilium alteratorum unio." See Aristotle, *De generatione et corruptione*, 1, 10, 328b.

<sup>630</sup> Fine, "Problem of Mixture," 84-95; Scaltsas, "Mixing the Elements." Cf. Magirus, *Physiologia peripatetica*, 208-19, esp. 210; Jacchaesus, *Institutiones physicae*, 152-57.

<sup>631</sup> Reneri, *De elementis*, th. 24.

<sup>632</sup> *Ibid.*, th. 27.

### 5.3.3. *Reneri's Debt to the Corpuscular Tradition*

Reneri probably took the two-element theory and in particular the arguments for it from the Dutch atomist David Gorlaeus (1591-1612). Reneri possessed Gorlaeus' *Exercitationes philosophicae* (1620),<sup>633</sup> in which a similar two-element theory can be found. Like Reneri, Gorlaeus only recognizes earth and water as elements, air being a non-elementary simple body. But although their arguments are more or less the same, their theories differ in essential details. First, in Gorlaeus' theory of elements fire is only accidental, whereas Reneri seems to think it is a simple body. Moreover, unlike Reneri, Gorlaeus rejects the existence of heavenly ether. Second, in Reneri's theory the Aristotelian concept of primary qualities has in fact become meaningless, whereas Gorlaeus recognizes two essential qualities, namely, dry and humid. This explains why there are only two elements. Third, on the basis of Julius Caesar Scaliger's reformulation of the traditional definition of mixture as "the motion of minimal bodies towards mutual contact so that a union comes about,"<sup>634</sup> Gorlaeus sees the elements as natural minima, which in turn are identified with atoms. In Aristotelian philosophy natural minima are the smallest amount of a substance that still has the form of that substance, but Gorlaeus rejects hylomorphism. According to him, in the process of mixing the elements do not merge into a true mixt, but they form an aggregate (*ens per accidens*). Moreover, Gorlaeus does not attribute specific shapes to atoms. The properties of atoms are determined by the two essential qualities dry and humid which inhere in them, and by the "real accidents" warm and cold which can migrate from one subject to the other. In this respect, Gorlaeus differs from other atomists, whose particles have no qualities other than size, shape, and motion. Furthermore, in Gorlaeus' philosophy the properties of mixts are determined by the qualities of the constituent atoms as well as their spatial arrangement. In Reneri's theory of elements, on the other hand, all natural bodies consist of matter and form, while at the same time (the minimal parts of) the elements and also all mixts have their own specific figure. This not only implies a molecular conception of matter, but also suggests that Reneri identifies form with figure. This brings us to the fourth difference with Gorlaeus. Although

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<sup>633</sup> *Catalogus librorum Reneri*, [20].

<sup>634</sup> Scaliger, *Exotericarum exercitationum*, 345 (exerc. 101): "Mistio est motus corporum minimorum ad mutuuum contactum, ut fiat unio." The translation is taken from Lüthy, *David Gorlaeus*, 46.

Gorlaeus, too, claims that air cannot mix with the coarse bodies earth and water because of its fluidity and fineness, he does not explain this in terms of cohesion between parts. According to him, they do not mix because air cannot depose its secondary qualities and assume those of earth or water.<sup>635</sup>

Although heavily leaning on Gorlaeus, Reneri adheres to the Aristotelian concepts of substantial form and real qualities, while at the same time explaining the former's two-element theory in mechanical terms. He probably owed his mechanical interpretation of this theory to Descartes, although his explanations remain very unspecific. He does not specify the figure nor the motion of the minimal parts of those substances that cause a fiery sensation. To be sure, his account of vital heat resembles Descartes' description, in the *Météores* and *Traité de l'homme*, of particles of salt, acid, and *eau de vie* acting on the tongue, but this concerns—in Aristotelian terms—simple bodies, not mixts.<sup>636</sup> Moreover, the explanation of heat in terms of figure, size, and motion was widespread among corpuscularians and can be found in other contemporaries like Bacon and Galileo.<sup>637</sup> Furthermore, Reneri seems to be also influenced by a corpuscular form of Aristotelianism which in his days was popular among iatrochemists—one may think of Andreas Libavius (1555-1616) and Daniel Sennert (1572-1637). In the sixteenth century, the theory of natural minima became associated with the corpuscular theory of the fourth book of Aristotle's *Meteorology*. In this work Aristotle takes a more pragmatic approach to physical phenomena and proposes a variety of corpuscular explanations for material change in terms of particles and pores. Under the influence of Paracelsianism, *Meteorology* IV was combined with the alchemical corpuscular tradition of the eighth-century Arab alchemist Geber (Jābir ibn Hayyān). From this an experimental Aristotelianism developed that interpreted material change in terms of the interaction of insensible particles, but without denying them essential qualities.<sup>638</sup> Reneri, however, explains the working of minimal parts of substance, as we have seen, in mechanical terms. Reneri thus takes

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<sup>635</sup> Gorlaeus, *Exercitationes*, 313-34. See also Lüthy, *David Gorlaeus*, 43-49. On pp. 85-88 Lüthy shows that Gorlaeus' main source for his two-element theory was his Franeker professor Henricus de Veno (ca. 1570-1613) and that De Veno's ideas, in turn, go back to Girolamo Cardano's *De subtilitate* (1550), who based his rejection of Aristotle's doctrine of the elements on a re-interpretation of Aristotle's *Meteorology* IV.

<sup>636</sup> Descartes, *Météores* iii, in AT, 6:250; Descartes, *L'homme* iii, in AT, 11:145-47.

<sup>637</sup> See Lasswitz, *Geschichte der Atomistik*, bk. 2; Boas, "Mechanical Philosophy," passim.

<sup>638</sup> Newman, "Experimental Corpuscular Theory," 306-17; Chalmer, *The Scientist's Atom*, 75-95.

Aristotle as his starting point, but enriches it, so to speak, with elements from other traditions.

Reneri's explanation of the cohesive powers of the minimal parts of the elements (which is also shared by mixts, as we will see in 5.3.4.) is even more unspecific. Reneri's use of the terms "coarse," "fine," and "fluid" with regard to these bodies, that is, natural minima, does not explain why more coarse bodies cohere better. A body probably does not cohere because of its coarseness; what causes it to be coarse is also what causes it to cohere. He took his imagery of coarse and fine bodies from Gorlaeus, but in the *Exercitationes* the level of cohesion does not play a role in the explanation of why air does not mix with the elements.<sup>639</sup> In Descartes' physics the level of cohesion between bodies is determined by their contiguity and their state of rest. Their shape is a prerequisite: two bodies can be contiguous only if they have a specific shape (two spheres, for instance, cannot be contiguous and hence cannot cohere, but two cubes can, provided that they are at rest). The reason why Reneri is vague on this point could be that cohesion formed a recurring problem in corpuscular theories.<sup>640</sup> In the disputation *De corpore mixto in genere*, moreover, Reneri says that the process of mixing on the level of elements eludes observation.<sup>641</sup> The way Reneri ascribes a specific figure to each element, however, suggests that he thought figure has something to do with it.

#### 5.3.4. *Two Disputations on the Vacuum*

A similar explanation is given in a disputation which, although not defended under Reneri, clearly shows his hand. On 16 July 1631, Reneri's pupil Eremita defended a disputation under Burgersdijk at Leiden.<sup>642</sup> The disputation consists of two parts, "De vacuo" and "De rarefactione et condensatione." When compared with Burgersdijk's collections of disputations *Idea philosophiae naturalis* (1622) and *Collegium physicum* (1637), the choice of subjects and the way they are treated in the disputation Eremita held are atypical of Burgersdijk, who hardly mentions the void and does not discuss rarefaction and condensation in his other disputations, probably because of the difficulty

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<sup>639</sup> Manzo, "Francis Bacon and Atomism."

<sup>640</sup> Millington, "Theories of Cohesion"; Home, "Cohesion," 163.

<sup>641</sup> Reneri, *De corpore mixto in genere*, th. 16.

<sup>642</sup> Two manuscript copies of this disputation are kept in the British Library (BL, Sloane MS 427, fols. 1-7r and 47-58, respectively) in the same folder as an English translation of the beginning of Reneri's inaugural address and some *cartesiana*.

of the subject.<sup>643</sup> The choice for these subjects is hence remarkable, all the more because Eremita took philosophy only as a preparatory course for his law studies and because this was his first disputation. Moreover, the abundant attention for experiments, including one with the thermoscope, also points to Reneri. Furthermore, the mechanical interpretation of nature's tendency to prevent a void may be the influence of Descartes, with whom Reneri had corresponded about this subject shortly before the disputation was held. It is therefore very likely that Reneri helped his pupil.

The argument of "De vacuo" is that there is no void, which is also the traditional scholastic viewpoint. To demonstrate this, Reneri provides numerous experiments. For instance, that when one lifts a reversed flask with a narrow opening which is filled with water, the water does not flow out.<sup>644</sup> Or that the two sides of a pair of bellows cannot be separated when the opening is closed off.<sup>645</sup> The use of experiments to demonstrate nature's abhorrence of the vacuum (*horror vacui*) was not new either. Many scholastic works from the Middle Ages provide them.<sup>646</sup> Reneri probably took most of his examples from medieval authors, such as Marsilius of Inghen (ca. 1340-1396) and John Buridan (ca. 1300-1358)—the experiment involving a thermoscope, however, may have been his own.<sup>647</sup> Unlike Peripatetic textbooks, however, "De vacuo" provides no theoretical argument for the impossibility of the existence of a vacuum whatsoever. It is almost exclusively about empirical evidence.<sup>648</sup>

It seems that helping Eremita with this disputation led Reneri to write to Descartes. A letter from Descartes to Reneri of 2 June 1631 shows that Reneri had presented Descartes with a simple experiment involving a glass tube sealed at the top and filled with mercury, and that he had asked him why the mercury does not flow out.

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<sup>643</sup> Burgersdijk, *Idea philosophiae naturalis*, 19-20; Burgersdijk, *Collegium physicum*, 61-62.

<sup>644</sup> Burgersdijk, *Disputatio phil. misc.*, "De vacuo," th. 5.

<sup>645</sup> Burgersdijk, *Disputatio phil. misc.*, "De vacuo," th. 15.

<sup>646</sup> For the traditional experimental evidence for nature's abhorrence of the vacuum, see Schmitt, "Experimental Evidence"; Grant, *Much Ado about Nothing*, 77-100.

<sup>647</sup> Burgersdijk, *Disputatio phil. misc.*, "De vacuo," th. 11.

<sup>648</sup> E.g., Toletus, *Commentaria*, fols. 130v-132r (bk. 4, ch. 9, quest. 10) ; Magirus, *Physiologia peripatetica*, 92-97; Collegium Conimbricense, *Commentaria*, vol. 2, cols. 77-85 (bk. 4, ch. 9, quest. 1).



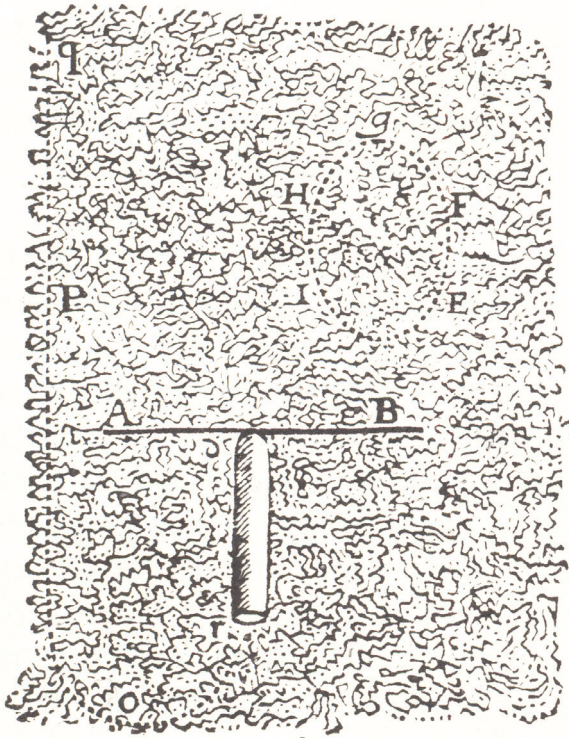


Fig. 8: Reneri's experiment involving a glass tube sealed at the top and filled with mercury. Drawing from Descartes' letter to Reneri of 2 June 1631 (from Descartes, *Lettres*, 3:603).

Descartes' answer was, in short, that the mercury does not move because it has no place to go. Given the fact that there is no vacuum (as Descartes believed), the mercury would be able to move only if the air surrounding the mercury would move as well. The mercury enters into the place of the air at "r" (see Figure 8), which enters into that of the air at "o," and so on, until the space the mercury left is filled up. This is, however, prevented because the tube is closed off at the top. Descartes meets a possible objection that ether would be able to enter through the pores of the tube (in Descartes' philosophy ether, or subtle matter, is the vehicle of light, so should be able to pass through glass)<sup>649</sup> with a somewhat far-fetched argument. He says that this ether would have to come from heaven, given the fact that there is not enough ether in the pores of the surrounding air to fill the empty space in the tube. At the same time, the

<sup>649</sup> Descartes, *Dioptrique* i, in AT, 6:86-87.

column of air extending from the bottom of the tube upwards to the clouds would have to rise in order to fill up the space in heaven left by the ether, but there would be no force large enough to lift that quantity of air.<sup>650</sup> This appears to be an ad hoc explanation.<sup>651</sup> More important, however, is that Descartes' use of the notion of ether without any further explanation indicates that the two men discussed it before. In fact, chapters 1 to 5 of *Le Monde* on matter and motion as well as parts of the *Météores* and the *Dioptrique* were ready in February 1630.<sup>652</sup> Indeed, it seems that the concept of ether was part of Renieri's question.

Descartes' explanation in the letter is not as such to be found in "De vacuo," but Renieri's explanation of the efficient cause of the upward motion of heavy bodies when the danger of a vacuum arises, bears some resemblance to Descartes' idea of circular motion. Renieri rejects the positions of those who, while examining books instead of nature, ascribe this upward motion to God, to occult qualities, or to the twofold inclination of natural bodies, namely, a body's tendency to move towards its particular natural place and the tendency of bodies in general to ensure material continuity. According to Renieri, this upward motion is not natural, as the supporters of the twofold inclination theory seem to think, but it is a violent motion, that is, one requiring an external force. His argument is that when one lifts a vessel with a narrow neck that was immersed upside down in the water, one feels the weight of the water in it, which would not be the case if God or a body's twofold inclination was the motive force lifting the water in order to prevent a vacuum. A body, in this case the water, is moved by the same force that moves the contiguous or continuous body, that is, other parts of water or the vessel itself.<sup>653</sup>

So Renieri's conclusion is that this is violent motion, but how to explain it? Renieri assumes that all bodies are somehow connected, so that if one body is moved other bodies follow. Renieri compares this process to a chain: "therefore it has to be supposed that all natural bodies form a kind of chain, the individual bodies of which mutually cohere, as long as no other body comes in

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<sup>650</sup> Descartes to Renieri, 2 June 1631. See also Gaukroger, *Descartes*, 235-36.

<sup>651</sup> It is hard to imagine that there would not be enough ether in the air to fill a small tube. Furthermore, when Descartes, in a discussion with Blaise Pascal (1623-1662) in 1647, tried to explain Toricelli's barometric experiment, this was apparently no objection, because Descartes claimed that the apparently empty space above the column of mercury was filled with ether.

<sup>652</sup> Descartes to Mersenne, 25 February 1630, in AT, 1:119-20/CM, 2:395. See also Gaukroger, *Descartes*, 227.

<sup>653</sup> Burgersdijk, *Disputatio phil. misc.*, "De vacuo," th. 16-17.

between.”<sup>654</sup> This shows that Reneri already adopted his theory of a cohesive force between bodies before 1635, when he wrote *De elementis*.<sup>655</sup> This idea could have its origin in Descartes’ (wrongly understood) theory that a considerable force is needed to separate particles that are close to each other and at rest, which of course only applies to hard bodies.<sup>656</sup> It would explain why Reneri in this experiment proposed to use a heavy liquid such as mercury, because he expected that this would exert enough force to separate itself from the top of the tube. Furthermore, Reneri does not seem to have understood that Descartes’ theory of circular motion is about a closed circuit of moving matter. Therefore, he may have interpreted the idea of one body following the other in terms of cohesion, that is, as a chain in which one body pulls another body along.<sup>657</sup> Descartes’ answer, in his letter of 2 June 1631, that there is no force large enough to lift a column of air to the clouds would have confirmed Reneri in his belief that circular motion is in the first place concerned with weight. Reneri’s explanation looks like a combination of Descartes’ theory of cohesion and that of the circulation of matter.

That Reneri had discussed corpuscularianism and ether with Descartes is confirmed by the second part of the disputation, “De rarefactione et condensatione.” In Peripatetic philosophy the problem of rarefaction and condensation is that there seems to be no way to explain the expansion and contraction of matter without adding or removing matter, while at the same time denying that there is an (interstitial) void. The traditional explanation is that the same amount of matter can fill more or less room because it is potentially both rare as well as dense.<sup>658</sup> Reneri, on his part, claims that, like a sponge, a body expands because its pores become occupied by a more fluid body. These pores in turn are produced by the fact that the coarser parts of the body move away from each other.<sup>659</sup> Reneri maintains the homogeneity and

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<sup>654</sup> Ibid., th. 17: “[...] ita existimandum est omnia corpora naturalia esse catenam quandam, cuius singula corpora invicem cohaerant, quamdiu non succedit aliud corpus.”

<sup>655</sup> The second of three corollaries about the elements added to *Disputatio philosophia miscellanea*, that the quaternary number of elements does not rest upon certain reasoning, shows that Reneri also adopted this idea at an early stage. See Burgersdijk, *Disputatio phil. misc.*, corr. 2.

<sup>656</sup> Descartes, *Le Monde* iii, in AT, 11:12-13.

<sup>657</sup> Ibid. iv, in AT, 11:18-20.

<sup>658</sup> On the problem of condensation and rarefaction in scholastic philosophy, see Maier, *Die Vorläufer Galileis*, 26-52; Grant, *Much Ado about Nothing*, 71-74.

<sup>659</sup> Burgersdijk, *Disputatio phil. misc.*, “De rarefactione et condensatione,” th. 13-16.

continuity of the expanding body by saying that it is still perceived as homogeneous and that it is a continuum, because its parts still touch each other.<sup>660</sup> To explain how air can expand and contract in a sealed glass vessel one must assume “that a body more fluid than air either enters through the glass or flows out through the same.”<sup>661</sup> Reneri calls this more fluid and fine, or subtle, body the ether.<sup>662</sup> Just as his theory of cohesion, Reneri had developed this concept of fine and fluid, and coarse bodies as early as 1631. This shows that Reneri had consistent ideas on these matters. As for the theory of pores, this can also be found in Aristotle’s *Meteorology* IV and, consequently, in later corpuscular versions of Aristotelianism.<sup>663</sup> However, since Reneri refers to the smallest and most fluid bodies as ether, Reneri no doubt derived his understanding of pores from Descartes—just as the image of the sponge. That is to say, in his letter to Reneri of 2 June 1631 Descartes uses the analogy of wool to explain the motion of ether, which is compared with the air in the pores of fleeces of wool, but he more often used the image of a sponge, in particular when explaining condensation.<sup>664</sup> He may have used it in one of his other discussions with Reneri. Nevertheless, the fact that the Aristotelian tradition acknowledges the existence of pores (which would be filled with air, instead of being void like the interstices between atoms) made it easy to integrate these ideas into the Aristotelian framework—subtle matter was new of course.

Reneri seems to have written another disputation on the void in 1634. Although no copy is known so far, its existence can be deduced from two references in Hartlib’s *Ephemerides* of 1635. Hartlib writes: “Aire this Element is to bee taught by beating with the hand and mising aire and so making to conceive of it aright as likewise non dari Vacuum by sensual Experiments, as heare ex disputatione Reineri de Vacuo.”<sup>665</sup> A bit later Hartlib mentions Reneri’s disputation in relation to *Aenigmatologia rhythmica*, a rhymed catechism in the form of riddles by the German pastor Johannes Cressius published in 1634: “*Aenigmatologia Rhythmica, das ist Neues Ratzelbuchlein oder Christlicher Zeit-vertreiber durch Ioh. Cressium*. This book should be translated

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<sup>660</sup> Ibid., th. 5-10.

<sup>661</sup> Ibid., th. 17: “[...] necesse est corpus illud aëre fluidius, aut per vitrum ingredi, aut per illud idem effluere.”

<sup>662</sup> Ibid., th. 18.

<sup>663</sup> See above, p. 150.

<sup>664</sup> See, e.g., Descartes to Mersenne, 25 February 1630, in AT, 1:119/CM, 2:395; Descartes to Mersenne, [3 May 1632], in AT, 1:246/CM, 3:298; Descartes, *Principia* ii, 5-7, in AT 8:42-44.

<sup>665</sup> Hartlib in his *Ephemerides* of 1635, HP 29/3/23A.

into other vernacular languages. Even Renieri's disputation on the vacuum pertains to this.<sup>666</sup> So Renieri's second disputation about the vacuum was held between 1634 and about mid-1635. It seems that this disputation was again reason for Renieri to turn to Descartes. A letter from Descartes to Renieri of 2 July 1634 shows that Renieri had presented to Descartes another experiment. Given are two communicating vessels (see Figure 9).<sup>667</sup> Vessel A is filled with water and open at the top, whilst vessel C has a hole in the bottom at D, which is at a higher level than the water level in vessel A. Renieri again asked why the water does not flow out.<sup>668</sup> Descartes' answer again involved an explanation in terms of the circularity of motion.<sup>669</sup>

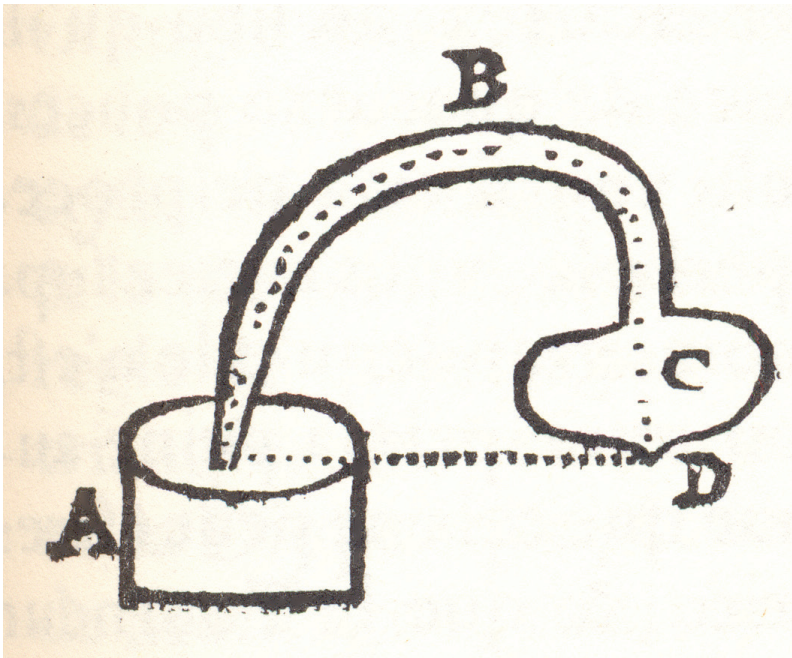


Fig. 9: Renieri's experiment with two communicating vessels. Drawing from Descartes' letter to Renieri of 2 July 1634 (from Descartes, *Lettres*, 2:363).

<sup>666</sup> *Ibid.*, HP 29/3/23B: "Aenigmatalogia Rhytmica das ist Neues Ratzelbuchlein oder Christlicher Zeit-vertreiber durch Ioh. Cressium hic liber vertendus in alias linguas vernaculas. Huc pertinet etiam disputatio de Vacuo Renieri."

<sup>667</sup> The illustration is not copied accurately in AT, because there the bottom of vessel C is below the water level in vessel A instead of above it, but in that case the water would run out of vessel C.

<sup>668</sup> Cf. Burgersdijk, *Disputatio phil. misc.*, "De vacuo," th. 9, in which another experiment involving two communicating vessels is described, now with the water flowing out.

<sup>669</sup> Descartes to Renieri, 2 July 1634.



Because Reneri's disputation *De vacuo* does not survive, we do not know if there is a relation. The vacuum or hydrostatics is not discussed in any of his other disputations. However, a week after this letter, on 9 July, Reneri presided over a disputation on miscellaneous philosophical theses, the *respondens* being Schoock. Unfortunately, no details are known, but a discussion of the vacuum may have been part of it, just as in the one on miscellaneous theses held by Eremita.

### 5.3.5. *Eclecticism*

Although Reneri in fact destroys much of the Peripatetic doctrine, he never completely abandons the Aristotelian framework. Instead, he gives his own interpretation of some basic concepts or adapts the framework on details. This is in line with what he announces at the beginning of *De elementis*.

The two most striking cases are his defence of heliocentrism and his two-element theory. The question, then, is why Reneri corrects the traditional doctrine on these specific points. He uses a mixture of conceptual and empirical arguments. For heliocentrism he has two arguments. The first is that when one assumes that the fixed stars do not move around the centre of the universe (which Reneri accepts as probable), the centre must be at rest. Reneri, however, implicitly assumes the sun to be at the centre, from which follows the mobility of the earth. Here Reneri is begging the question. His real argument seems to be that the heliocentric model explains recent observations which—although Reneri leaves this implicit—the traditional Ptolemaic model cannot explain. In his discussion of the elements Reneri first emphasizes that an element by definition is a body that is part of mixts. A series of observations which show that only two of the traditional four are part of mixts, is decisive. In his choice of conceptual arguments Reneri is opportunistic. He adopts a dialectic strategy by stretching the meaning of the term “fixed” in the concept of the fixed stars and by rigidly adhering to only one part of the traditional definition of an element.

In a general way Reneri holds observations to be decisive. This is not surprising given his view that scientific knowledge has an empirical basis. Whenever observations show that the traditional view is no longer tenable, he corrects it. However, Reneri in no way makes clear why he prefers Copernicanism to Brahe's geocentric system, or how he arrived at his model of cohesion which explains why only earth and water are never part of a mixt. Apparently, in Reneri's eyes the conceptual tools provided by Aristotle were

not adequate, whereas on the other hand his own explanations do not follow from the observations he mentions. Renieri's mechanical corpuscular explanatory model was undoubtedly inspired by his discussions with Descartes as well as by his reading of other corpuscular philosophers. Renieri's hypothesis that quantity, figure, motion, and structure explain all phenomena points to this. According to a letter to Huygens of 22 October 1635, Renieri set his hopes entirely on Descartes for the renovation of philosophy. Apparently he embraced Descartes' philosophy, but it did not induce him to abandon the Aristotelian framework in his classes. Instead, Renieri adapted traditional doctrine and provided ad hoc explanations taken from Descartes. The fact that heliocentrism was also part of Descartes' view of the cosmos may have played a role in his choice for Copernicanism.

The reason why Renieri adopts Descartes' theories on a detailed level but not on a general level is given in *De elementis*, where he says that there is as yet no new doctrine which could completely replace traditional philosophy. Apparently Renieri believed Descartes' philosophy was as yet not completed or he may have felt unable to defend it as long as Descartes had not published it. After all, even though the two men regularly discussed philosophical issues and Renieri apparently was allowed to consult the manuscript of *Le Monde* and early drafts of the *Météores* and *Dioptrique*, Descartes had not yet published anything at all.

The assumption of Renieri's eclectic approach and of his use of Cartesian explanations in his classes is confirmed by Schoock. In his dedication of his *Dissertatio de natura soni et echus* of 1638, he praises Renieri for his reformed Aristotelianism and his scientific independence.<sup>670</sup> In the preface of his *Admiranda methodus* of 1643, he recalls how Renieri in his classes talked about this French philosopher who would provide a system of philosophy that would replace Peripatetic philosophy. He further tells that Renieri in his *problematica dissertatiuncula* employed Cartesian explanations, without, however, revealing the underlying principles of this philosophy.<sup>671</sup>

An example of this is Renieri's discussion of the rainbow in the disputation *De meteoris*. Although this disputation on the whole proves to be highly conventional, in thesis 45 Renieri claims that:

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<sup>670</sup> Schoock, *De natura soni et echus*, [3-5].

<sup>671</sup> Id., *Admiranda methodus*, preface, [iii]: "he also revealed very few principles, especially those, which he was used to connect repeatedly with discussions on some particular problems." ("[...] dogmata perpauca quoque indicavit, maxime ea, quae Problematicis quibus dissertatiunculis subinde immescere solet.")

Because of simultaneous reflection and refraction various colours originate in clouds that face the sun or the moon; likewise not only the primary, but also the secondary rainbow is produced in the little drops of a dewy cloud facing the sun. For we deny that the secondary rainbow is brought about by the reflection of the primary one.<sup>672</sup>

That the secondary rainbow actually is produced in the same way as the primary rainbow, that is to say, that it is a direct reflection of sunlight, was discovered by Descartes. In the eighth discourse of the *Météores* Descartes explains that it results from the double reflection in drops of rain. Because light as a result of this enters the eye under two different angles, we see two rainbows.<sup>673</sup> This shows that Reneri discussed Descartes' theory of the rainbow during one of the *collegia privata* in preparation of the disputation, so that the *respondens* could defend this thesis. Descartes probably finished the definitive draft of the *Météores* in exactly the same month, November 1635, in which Reneri's *De meteoris* was held. Reneri, who probably met Descartes several times a week, therefore could use the Cartesian explanation before it was published.<sup>674</sup> This means that students were actively studying an unpublished book of Descartes. This is not necessarily incompatible with the traditional curriculum. Because meteorology was concerned with the concrete manifestations of elements and mixts, it was possible to teach the basics of natural philosophy by means of these phenomena without using highly abstract Aristotelian concepts.<sup>675</sup>

In his *Météores* Descartes deliberately ignores the traditional explanations in order to prevent a conflict with the Peripatetics. Or as Descartes himself writes:

Then, know also that in order to keep my peace with the philosophers, I have no desire to deny that which they imagine to be in bodies in addition to what I have given, such as their *substantial forms*, their *real qualities* and the like; but it seems

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<sup>672</sup> Reneri, *De meteoris*, th. 45: "Reflexione & refractione simul gignuntur colores varij in nubibus oppositis Soli vel Lunae, item Iris tam primaria quam secundaria, in guttulis nubis roscidae soli oppositae genita: negamus enim Iridem secundariam gigni ex reflexione primariae."

<sup>673</sup> Descartes, *Météores viii*, in AT, 6:336-43.

<sup>674</sup> Descartes to Huygens, 1 November 1635, in AT, 1:329-30.

<sup>675</sup> Martin, *Renaissance Meteorology*, 65.



to me that my explanations ought to be approved all the more because I shall make them depend on fewer things.<sup>676</sup>

Reneri, on the other hand, tries to combine them, but this results in a specific theory of matter, which in this form cannot be found elsewhere. His theory of the cohesion of bodies is neither Aristotelian nor Cartesian. On a more superficial level one recognizes Descartes' influence, but it seems to draw on a variety of corpuscular traditions. It obviously was less easy to fit Descartes' corpuscular theory in the required Aristotelian framework than his explanation of the secondary rainbow, so Reneri not only adapted traditional doctrine, but also the Cartesian concepts he used.

#### 5.4. More Outspoken Cartesian

On 17 March 1638 Reneri supervised a physiological disputation that had an unmistakably Cartesian flavour. Although its title is very general, namely, *Disputatio physica continens theses aliquot illustriores*, the subject matter is quite specific. It contains theses on the arterial pulse, nutrition, sense perception in general, and vision, hearing, and smell in particular. The choice for these subjects no doubt had something to do with the *respondens*, Antonius Mudenus. Mudenus studied medicine. He obtained his medical degree under the professor of medicine Willem Stratenus in 1641.<sup>677</sup>

In the disputation Reneri, or Mudenus, discredits a number of traditional physiological and medical beliefs, such as the existence of a faculty of attraction and intentional species. Some of the theses are unmistakably Cartesian. In most of them traditional beliefs are simply rejected without an alternative being given. In some cases they seem to reflect Descartes' theory of matter. The disputation begins with the same position on substantial forms as Reneri took in *De elementis*, now with respect to plants. Reneri states that there is no need for substantial form as the principle of operations in plants. It is enough to have a notion of matter, its various accidental dispositions, and (probably to explain its transformation through growth) the juices that feed

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<sup>676</sup> Descartes, *Météores* i, in AT, 6:239: "Puis, sçachés aussy que, pour ne point rompre la paix avec les Philosophes, ie ne veux rien du tout nier de ce qu'ils imaginent dans les cors de plus que ie n'ay dit, comme leurs *formes substantielles*, leurs *qualités reelles*, et choses semblables, mais qu'il me semble que mes raisons devront estre d'autant plus approuvées, que ie les feray dependre de moins de choses." The translation is taken from Descartes, *Discourse on Method*, 268.

<sup>677</sup> *Album prom. Rheno-Traj.*, 2.

the plant.<sup>678</sup> This implies the denial of the existence of the vegetative soul, which in Peripatetic philosophy is the substantial form of the plant and its vital principle. Likewise, Descartes tried to explain nutrition, growth, and reproduction without using the concept of substantial form.<sup>679</sup>

Reneri also denies that there is a faculty of attraction in plants, animals, and humans.<sup>680</sup> In Galenic physiology, attraction is one of the natural faculties, or operations, of the vegetative soul. It causes the motion of all bodily fluids and explains, for instance, how plants extract water from the soil or how kidneys extract fluid from food.<sup>681</sup> In addition to this, Reneri denies that nourishment and the generation of blood and other bodily fluids out of food involve substantial change. Indeed, no new substance is produced that was not there before.<sup>682</sup> Reneri does not say how he thinks these bodily functions work instead, but two theses on the arterial pulse suggest that he sees it as a mechanical process. Reneri claims that the arteries during the diastole do not dilate in virtue of an innate faculty, but as a result of the force with which the blood is expelled from the heart—Reneri leaves the question of what makes the blood leave the heart in the middle. During the systole the arteries are constricted by their own force.<sup>683</sup> This is contrary to Galen's view that the arteries fill with blood when and because they are dilated by the faculty of attraction. Reneri's theory, according to which dilatation is caused *by* the blood, rather reflects Descartes' theory of blood circulation in the fifth part of the *Discours*.<sup>684</sup> That blood circulates was discovered by William Harvey, who published his *Exercitatio anatomica de motu cordis et sanguinis in animalibus* in 1628. Descartes' theory differs on one fundamental point from that of Harvey, namely, on the motion of the heart. Harvey—correctly—thought that the arteries fill with blood during the systole due to a contraction of the heart, which functions as a pump. Descartes, on the other hand, claims that the active phase of the heart is the diastole and that the arteries fill with blood due to the rapid rarefaction and dilatation of blood heated by the heart.<sup>685</sup> Reneri's

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<sup>678</sup> Reneri, *Theses aliquot illustriores*, th. 1.

<sup>679</sup> This is merely implied in the fifth part of the *Discours*; the exact explanation was not yet published. See Descartes, *L'homme*, in AT, 11:201-2.

<sup>680</sup> Reneri, *Theses aliquot illustriores*, th. 7-8.

<sup>681</sup> See Galen, *De naturalibus facultatibus*.

<sup>682</sup> Reneri, *Theses aliquot illustriores*, th. 4-5.

<sup>683</sup> *Ibid.*, th. 2-3.

<sup>684</sup> Descartes, *Discours v*, in AT, 6:46-56.

<sup>685</sup> For Harvey's theory on blood circulation and the differences with Descartes' view on the matter, see French, *Harvey's Natural Philosophy*, 71-113, 179-85.

statement that the arteries fill during the diastole suggests that he accepted Descartes' observation, but since Reneri does not indicate the cause of the heart's motion, it is not certain that he also adopted Descartes' explanation of it.

Finally, Reneri disagrees with the traditional Aristotelian theory of sense perception. According to Aristotle, perception occurs when an object affects the sense organ and the sense organ takes on the sensible qualities of the object, that is, receives the perceptible forms without matter. This causes the potentially perceptible form of the object to be actualized in the perceiver as sense awareness. In the case of touch and taste, the object directly affects the sense organs. With regard to sight, hearing, and smell, the sensible qualities give their form to a medium, usually air, through intentional species.<sup>686</sup> None of this in the *Disputatio physica continens theses aliquot illustriores*. Just as Reneri in *De elementis* attributes the 'burning' power of some substances, such as spicy food or alcohol, to the figure and the motion of their parts, in this disputation he rejects the need for intentional species and phantasms. Sound and scent do not travel through the air in the form of intentional species, but sound reaches the hearing organ when a body that produces sound beats the intermediate air repeatedly and very quickly.<sup>687</sup> Scent is nothing but the perception of parts diffused by a body that produces a smell.<sup>688</sup> Moreover, Reneri states that it is not the lens but the retina that is sensitive to light and that, as in a camera obscura, an inverted picture is painted on it.<sup>689</sup> The theory that the eye worked as a camera obscura and that the rays of light were projected upside down and reversed from left to right on the retinal image was developed by Kepler, but Descartes proved it.<sup>690</sup>

The fact that nine months earlier the *Discours* and its accompanying *Essais* had been published must have played a role in the fact that this disputation differs so much from Reneri's other disputations. The *Discours* deals with much of the subject matter of the disputation.<sup>691</sup> It should be noted, though, that Reneri nowhere mentions Descartes' name in the disputation. This could have

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<sup>686</sup> For Aristotle's theory of sense perception, see Everson, *Aristotle on Perception*; Johansen, *Aristotle on the Sense-Organs*.

<sup>687</sup> Reneri, *Theses aliquot illustriores*, th. 22.

<sup>688</sup> *Ibid.*, th. 23. See also Reneri, *Theses phil. misc.*, th. 24.

<sup>689</sup> Reneri, *Theses aliquot illustriores*, th. 17-18.

<sup>690</sup> Descartes, *Dioptrique* v, in AT, 6:114-24. See also Lindberg, *Theories of Vision*, 178-208.

<sup>691</sup> In a letter of 7 March 1638, the very same month this disputation was defended, the Leiden professor Claude Saumaise wrote that Reneri read from the *Discours* in his public lectures. See above, p. 5.

been at Descartes' express request, who, after all, had published the *Discours* anonymously. It seems that the *Discours* gave Reneri renewed confidence and hope for the renovation of philosophy. The microscopic investigations he undertook in the beginning of 1638 are an indication of this as well.<sup>692</sup> Before 1637 Reneri merely accommodated Cartesian theories to the traditional views, while he showed reluctance to discuss the principles of Descartes' philosophy. According to Schoock, the reason Reneri gave his students for this reluctance was that they should wait for Descartes to publish his doctrine.<sup>693</sup> The *Discours* did not overcome this lack. It only briefly discusses some of Descartes' principles. Likewise, Reneri's physiological disputation is very outspoken, even though it still does not provide any theoretical underpinnings whatsoever and remains quite superficial.

The medical character of the disputation and its dedication to, among others, Henricus Regius strongly suggest that the latter was involved to some extent. Regius, Reneri's neighbour and one of the protagonists of the Utrecht crisis, was not yet employed at Utrecht University at that moment, but he fulfilled the function of town physician and seems to have been eager to obtain a professorship at the university. Regius was initiated to Descartes' ideas through Reneri, but after reading the *Dioptrique* and the *Météores* he developed a complete physiology of his own based on the principles presented in these works.<sup>694</sup> He gave private classes, in which he discussed his ideas. Regius was presumably working on his physiology when the *Disputatio physica continens theses aliquot illustriores* was written.

What Regius' exact role was in the Cartesian character of this disputation is hard to say. Regius further developed his ideas in his disputation on blood circulation held on 10 June 1640 and in two series of physiological disputations held in 1641,<sup>695</sup> that is, more than two years after Reneri's physiological disputation was held. This makes it difficult to compare Reneri's disputation with Regius' early ideas. Because they both draw on Descartes' philosophy, they show many similarities, but no direct influence can be demonstrated. Perhaps Mudenus was one of Regius' private students. If so, they may have

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<sup>692</sup> See above, pp. 123-25.

<sup>693</sup> Schoock, *Admiranda methodus*, preface, [iii-iv].

<sup>694</sup> Regius to Descartes, [8/]18 August 1638, in Bos, *Correspondence*, 3-5; Descartes to Mersenne, 23 August 1638, in AT, 2:334/CM, 8:61-2; Regius to Descartes, [early February 1639], in AT, 2:527/Bos, *Correspondence*, 12; Descartes, *Epistola ad P. Dinet*, in AT, 7:582-83. See also Descartes and Schoock, *Querelle*, 484 n. 49.

<sup>695</sup> Regius, *Disputatio med.-phys. pro sanguinis circulatione*; Regius, *Physiologia*; Regius, *Illustres aliquot quaestiones physiologiae*.

asked Reneri to supervise over a disputation about the new philosophy. Regius was not yet a professor, so it would not have been possible for Mudenus to dispute under him. Because Reneri was accountable for the content, he could have exerted a moderating influence. A letter from Reneri to Mersenne of early March 1638 shows that Reneri expected that the new philosophy would not be accepted without opposition. He writes: "I expect that, because of its novelty and some obscurity caused by its excessive conciseness, many will be offended at first and loudly protest against it, but that within two years those protests can be said with Virgil that: 'All fell silent and held their gaze intent upon him.'"<sup>696</sup> Reneri's intuition that Descartes' philosophy would meet with opposition was right as the Utrecht crisis would show.<sup>697</sup> Reneri did not live to see it though, since he died in 1639.

### 5.5. Conclusion

Reneri expected Descartes' philosophy to replace traditional philosophy. However, because it was not yet ready, Reneri in his disputations only uses elements from Descartes' philosophy while generally staying within the Aristotelian framework. Accordingly, mechanical corpuscular explanations are used to correct and complete traditional explanations. Reneri does not build a new philosophy on the basis of new principles, but makes gradual adjustments on the basis of new observations, which approach differs fundamentally from that of Descartes. Moreover, the impression also arises that, even though he had read or discussed with Descartes parts of *Le Monde*, the *Dioptrique*, and the *Météores*, he did not fully understand Descartes' philosophy or was unable to continue his line of reasoning. He combined Descartes' ideas with other corpuscular theories into an eclectic though consistent mix of his own.

The disputation held by Eremita under Burgersdijk shows that Reneri already had his views on particles and cohesion for a long time, that is, at least before 1631, and that they did not change very much over the years. It seems Reneri seized the opportunity of his pupil having to hold a disputation as part of his philosophical studies, to test some of these ideas among an academic public. Because they easily fit a broadly Aristotelian framework, this would not have caused any problem. This also makes it likely that he employed mechanical corpuscular explanations in his classes at Deventer as well. At

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<sup>696</sup> Reneri to Mersenne, early March 1638: "Ego sic judico propter novitatem et nonnullam obscuritatem à nimia brevitate ortam futurum ut initio multi offendantur ac reclamant: sed biennium non elabetur quin de clamoris illis dici poterit cum Virgilio 'Conticuere omnes intentique ora tenebant.'" The quotation is from Virgil, *Aeneid*, 2.1.

<sup>697</sup> See below, pp. 232-33.

Utrecht he introduced his two-element theory in the disputation *De elementis*, and continued to defend it in all his later disputations. Another deviation from Aristotelianism was his defence of heliocentrism, which may be partly ascribed to Descartes' influence, although obviously Descartes was not the only one to adopt that view. Nevertheless, Reneri rejected Copernicanism in his later disputations. It is not unlikely that he was criticized, which then could be the cause of his bitter frustration over his position at Utrecht.

Although Reneri promoted an empirical scientific method, empiricism only plays a role insofar as observations and experiments learn that a traditional doctrine is no longer tenable. Reneri then resorts to an alternative which has to be in accordance with the empirical data, to be sure, but which does not necessarily follow from these data. So his corrections do not result from a Baconian inductive method—nor from that of Descartes, for that matter—but Reneri rather employs the piecemeal approach of the *Problemata*, which explains causes of single phenomena on the basis of an existing theory. Reneri's capacity for synthesis, however, was limited.

The views presented in Reneri's *Disputatio physica continens theses aliquot illustriores* of 1638 are more coherent and evidently have a Cartesian origin, albeit that the disputation remains superficial. The publication of the *Discours* seems to have made Reneri more confident, but he was also careful in his introduction of the new philosophy, which he presumed would not be accepted without difficulty. This Cartesian character could also be explained by the influence of Regius.

# Chapter 6

## Network II: Circulation of Knowledge

### 6.1. Introduction

In the seventeenth century scholarly networks and correspondences played a crucial role in the dissemination of ideas, observations, and discoveries. They were based on a form of friendship which involved the exchange of favours and services. The regulating principle was *communicatio* and letters formed the most direct and important means of communication. Until the second half of the seventeenth century scientific societies did not play an important role; journals were as yet non-existent. Scholars were expected to participate in the mutual exchange of ideas, facts, books, and manuscripts for the benefit of the scholarly community. A refusal to participate could lead to being excluded from receiving information. To contribute to the advancement of knowledge and learning was not only a moral obligation, but also offered opportunities to spread one's own views.

Scholarly communication went beyond the mere exchange of knowledge. There also was a social component. Accordingly, the rules and conventions governing other types of social relations also applied to these networks. Scholars introduced each other to other members of the Republic of Letters, passed on personal news about mutual friends and academic vacancies, mobilized support for the appointment of someone from their own network, and they also spread ordinary gossip. The Republic of Letters was characterized by a fundamental equality, but patron-client relationships existed as well (the patrons generally did not participate in scholarly communication). From an intellectual point of view scholars were equal, but they had to comply to the rules of society. They were dependent on influential and powerful people for jobs, introductions to famous scholars, contacts with printers, and so forth. Also in the scholarly community, thus, friendship and patronage were intertwined. The distinction between professional, academic learning and 'amateur' scholarship, on the other hand, did not matter as status was concerned.<sup>698</sup>

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<sup>698</sup> On the Republic of Letters and scholarly exchange, see Dibon, "Communication";

Reneri actively participated in the Republic of Letters. As long as he had no academic position, it was important to stay informed of job vacancies and new developments in philosophy. For this purpose, he had to contribute to the exchange of information as well. Reneri shared his ideas and inventions not only with his patrons as a gift in return for career or financial support, but also with other scholars and members of the Hartlib circle. Admittedly, no sharp lines can be drawn between Reneri's patrons as discussed in Chapter 3 and his network which is dealt with here. Reneri's patron Rivet, for instance, also introduced Reneri to many of his scholar friends. A big difference, however, is that Rivet did not take an interest in Reneri's experiments, instruments, or method of logic. Likewise, people such as De Wilhem took an interest in Reneri's inventions, but only did so as *liefhebbers* and received these as a gift from a client to his patron. They were not themselves active in the scholarly community, contrary to the people I focus on here.

In this chapter, I will map out Reneri's scholarly network, consisting of both 'professional' academics and extra-academic scholars, and examine how he got acquainted with these men and to what extent Reneri informed them about his projects. His method of logic attracted much attention among the Hartlib circle. To better understand its appeal, I will pay ample attention to this method and try to explain how it worked. I will further try to answer the question as to how these projects were received and what Reneri got in return. Reneri's relation to Descartes, with whom he discussed his ideas as well, is the subject of a chapter of its own (Chapter 7).

## 6.2. Scholars Living in the Republic

### 6.2.1. Isaac Beeckman

One of Reneri's earliest scholarly contacts was the natural philosopher and mathematician Isaac Beeckman from Zeeland. Beeckman studied literature, philosophy, theology, and mathematics at Leiden, and theology at Saumur. In 1618 he graduated in medicine at Caen. In between he worked in the candle making business of his father in Zierikzee and constructed pumps and conduits—Beeckman had a strong interest in technical questions. After his graduation he worked as deputy headmaster at the Latin Schools of Utrecht and Rotterdam, before becoming headmaster of the Dordrecht Latin School in

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Bots and Waquet, *République des Lettres*, esp. 117-41; Stegeman, *Patronage and Services*, 169-81, 208-15. On patronage, see also above, p. 72 and n. 343.



1627. Although he never published his ideas,<sup>699</sup> Beeckman enjoyed a reputation as mathematician and philosopher among his contemporaries.<sup>700</sup>

The only source for Reneri's contact with Beeckman is the latter's *Journal*. They probably met through Rivet. In November 1626 Beeckman visited Reneri at the house of Adriaan Pauw in Amsterdam, where Reneri showed him a new type of thermoscope. Reneri also explained to him how Drebbel's "perpetuum mobile" worked, which Huygens probably had told him.<sup>701</sup> Drebbel claimed that this instrument, which was famous throughout Europe,<sup>702</sup> showed the motion of the tides, but it was actually an ordinary thermoscope.<sup>703</sup> The thermoscope may have been the purpose of Beeckman's visit. In earlier years Beeckman had made meteorological observations and he had a particular interest in the instrument. When he was appointed in Dordrecht in 1627, he had an observatory and weather station equipped with a thermometer built in a tower of the Latin School.<sup>704</sup>

Reneri and Beeckman shared a general interest in natural philosophy and technology, especially optics. Beeckman studied the technique of grinding lenses and made celestial observations with the aid of a camera obscura and a telescope. In spite of these shared interests and common friends, like Rivet and Descartes, they seem to have had no more than irregular contacts. Apart from that in the fall of 1626, only one other meeting is known, when Beeckman visited Utrecht in July 1634, a month after the Illustrious School was inaugurated. There he saw, among others, his friends Aemilius and Reneri. According to Beeckman's *Journal*, Reneri, on that occasion, claimed to have invented a wick that never runs out.<sup>705</sup> Reneri never mentions Beeckman in his letters.

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<sup>699</sup> In 1644, after Isaac's death, his brother Abraham Beeckman (1607-1663) published a selection from the *Journal* under the title of *Mathematico-physicarum meditationum, quaestionum, solutionum centuria*.

<sup>700</sup> On Beeckman, see Van Berkel, *Isaac Beeckman*; DDP 1:68-74.

<sup>701</sup> Huygens, *De vita propria*, 11.

<sup>702</sup> See, e.g., Tymme, *Dialogue Philosophicall*, 60-62; Burton, *Anatomy of Melancholy*, 354.

<sup>703</sup> Beeckman in notes written between 30 September and 19 November 1626, in Beeckman, *Journal*, 2:371-72. See also above, p. 89.

<sup>704</sup> Van Berkel, *Isaac Beeckman*, 104-6.

<sup>705</sup> Beeckman in notes written between [15] July and 1 August 1634, in Beeckman, *Journal*, 3:354.

### 6.2.2. Johann Elichmann

Reneri's friendship with the Silesian physician Johann Elichmann (1601-1639) dates from 1631. Elichmann studied Oriental languages at Leiden University, while earning a living by practising medicine—he must have taken his doctor's degree before he came to the Republic. He enrolled on 18 March 1631.<sup>706</sup> He had already learned Arabic from Johann Zechendorf (1580-1662), the headmaster of the Latin School he attended at the German town of Zwickau, but Leiden appealed to him as a centre of Oriental learning.<sup>707</sup> Elichmann's interest in Oriental languages initially concerned Arabic medical texts, but it soon shifted to comparative linguistics (he was said to know sixteen languages). He was also renowned for his medical expertise, in particular his pills made out of Spa water. Before he enrolled at Leiden, he travelled around the west of Germany and the east of the Republic. Shortly after his enrolment, he again left for a tour.<sup>708</sup> He regularly stayed in Liège as well to visit friends and possibly to get the main ingredient for his pills from the healing mineral springs of the nearby town of Spa.<sup>709</sup> At the end of 1633 he was back in Leiden, where he established a medical practise.<sup>710</sup>

Reneri met Elichmann between March and September 1631, possibly through Elichmann's fellow Orientalist De Dieu or Descartes, the latter of whom may have met Elichmann in Amsterdam in the spring of that year. In September Reneri in turn introduced Elichmann to De Wilhem by having

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<sup>706</sup> *Album stud. Acad. Lugd.-Bat.*, col. 233.

<sup>707</sup> Henri Dormal to Lucas Holstenius (1596-1661), 14 February 1631, in Mogenet, "Un ami Liégeois," 235.

<sup>708</sup> Elichmann's *album amicorum*, which is kept in the Wellcome Library, London (shelf mark MS. 257), provides (limited) information about his whereabouts. See the list of contributions in Moorat, *Catalogue*, 157-60. See also above, p. 40.

<sup>709</sup> On one of his visits there, Elichmann also met the Benedictine monk and philosopher Joannes de Woestenraedt (d. before 1638). De Woestenraedt contributed to Elichmann's *album amicorum* on 31 October 1629. See Moorat, *Catalogue*, 158. They became good friends. See Mogenet, "Un ami Liégeois," passim. De Woestenraedt intended to visit Elichmann and Descartes in the autumn of 1631. Reneri proposed to have Elichmann introduce De Wilhem to De Woestenraedt and no doubt hoped to be introduced himself, too. See Reneri to De Wilhem, 10 September 1631(a). Nothing is heard of this intended visit again.

<sup>710</sup> That he established a surgery is suggested by the fact that he re-enrolled, on 23 December 1633, as a doctor of medicine. See *Album stud. Acad. Lugd.-Bat.*, col. 259. It was customary for physicians living in Leiden to enrol at the university. See Zoeteman, *Studentenpopulatie*, 77. On Elichmann, see NNBW, 1:801-2; Juynboll, *Beoefenaars*, 191-95.

Elichmann deliver a letter to him.<sup>711</sup> This letter was the second of two Reneri wrote to De Wilhem on 10 September 1631. In the first letter (which he had already sent by mail),<sup>712</sup> Reneri had spoken highly of Elichmann, who apparently unexpectedly visited him later that day. De Wilhem became Elichmann's patron as well.<sup>713</sup>

Reneri shared Elichmann's interest in medical chemistry, albeit that Elichmann was by far his superior. Initially, Reneri had high hopes of a future in this field. One of the things Elichmann taught him was his recipe for Spa pills.<sup>714</sup> The therapeutic effect of mineral springs was already known in antiquity, and producing pills from such water was not new either.<sup>715</sup> Reneri knew other recipes for such pills, but those of Elichmann were famous.<sup>716</sup> It is not known what other recipes Reneri learned from Elichmann, since Reneri kept them for himself, judging from a letter to Booth (to whom Reneri apparently had spoken about Elichmann before), in which Reneri promises to share his "secrets" with him "with the only exception of those which I have received from Eylichmannus in confidence and under the express agreement to keep silent about them."<sup>717</sup> Perhaps these included the recipes for the medical ointments Reneri produced.<sup>718</sup>

### 6.2.3. *Professors at the Amsterdam Athenaeum Illustre*

Little is known about Reneri's contacts with other academics in the Republic. We know nothing of his relationship with the other professors at Deventer or with his philosophy colleagues at Utrecht Van Goor and Senguerdius, while his conversations with his Utrecht colleagues Regius and Aemilius seem to have been dominated by his promotion of Descartes' philosophy, as we will see in Chapter 7.

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<sup>711</sup> Reneri to De Wilhem, 10 September 1631(b).

<sup>712</sup> Reneri to De Wilhem, 10 September 1631(a).

<sup>713</sup> See Elichmann's letters to De Wilhem, UBL, BPL 293A.

<sup>714</sup> Reneri to Huygens, 4/14 April 1635.

<sup>715</sup> See De Heer, *Spadacrene*. See also above, pp. 59-60 n. 277.

<sup>716</sup> See, e.g., Saumaise to Peiresc, 2 September 1634, in Peiresc, *Lettres à Saumaise*, 386.

<sup>717</sup> Reneri to Booth, 5 June 1633: "[...] ijs solis exceptis quae fide et pacto expresso silentij ab Eylichmanno accipi." Moriaen fruitlessly tried to find out the secret of Elichmann's Spa pills. See Moriaen to an unknown correspondent, 16 June 1639, HP 37/25B; Moriaen to an unknown correspondent, 21 July 1639, HP 37/34A-B.

<sup>718</sup> Reneri to Jonston, around 1634.

Outside Deventer and Utrecht, we only know of contacts within the Amsterdam Athenaeum Illustre. Reneri's ideas as expressed in his inaugural address appealed to the renowned professor of philosophy Caspar Barlaeus, who spoke highly of them in a letter to the Utrecht town secretary Johannes van der Nypoort (ca. 1602-1662). Not without pride, Reneri quotes from it in a letter to De Wilhem of 23 December 1634, with which he enclosed a copy of *Illustris gymnasii Ultrajectini inauguratio unà cum orationibus inauguralibus*: "the slight novelty of the theme [...], which, as I see, did not displease the most famous Mr. Barlaeus, since he uttered the following words in a letter to the secretary of this town: 'That new [theme], which Renerius, a philosopher of remarkable intelligence and accurate judgement, most ingeniously and methodically expounds; in this way it is no doubt possible to have the fullest, more distinct and clear knowledge of all things, etc.'<sup>719</sup> Reneri's combined programmes in physics and logic indeed promise complete knowledge, that is, of natural phenomena as well as everything that has ever been recorded or devised by humans. It would also have been the emphasis on practical use that appealed to the humanist Barlaeus. In *Mercator sapiens, sive oratio de conjungendis mercaturae & philosophiae studiis* ("The wise merchant, or address on the connection between commerce and philosophy"), his own inaugural address delivered at the Athenaeum Illustre on 9 January 1632, Barlaeus discussed the practical use of philosophy, in particular ethics and physics, for the trading citizens of Amsterdam. It is telling, however, that Reneri has to quote Barlaeus from a letter to Van der Nypoort. They apparently did not have direct contact, nor was Barlaeus' approval a reason to establish it either, even though Reneri must have thought highly of Barlaeus. Furthermore, Reneri could easily have asked his friend Vossius, the professor of history and politics at the Athenaeum Illustre, to introduce him to Barlaeus.

Judging from the tone and content of Reneri's two letters to Vossius, they were on very familiar terms and had known each other for quite some time. Perhaps Reneri knew Vossius from his Leiden days. The fact that Reneri also

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<sup>719</sup> Reneri to De Wilhem, 23 December 1634 [OS]: "[...] novitas argumenti nonnihil [...], quam video clarissimo D. Barlaeo non displicuisse, dum in haec verba erumpit in epistola ad hujus urbis secretarium. 'Illud novum, quod ingeniosissimè ac methodicè deducit praeclari ingenij exactique judicij philosophus Renerius; quâ nempe ratione plenissima rerum omnium et distincta magis et explicata cognitio haberi possit etc.'"  
The original letter from Barlaeus to Van der Nypoort does not survive. Cf. Barlaeus to Van der Nypoort, 30 December 1634 [NS], in Barlaeus, *Epistolae*, 573-74, in which he comments on *Illustris gymnasii Ultrajectini inauguratio unà cum orationibus inauguralibus* in general.

calls himself Vossius' client suggests that Vossius helped him in some way. It may have been he who introduced Reneri to Matthijs van Overbeke, or he may have belonged to the group of "learned men" who recommended him at Franeker in 1630.<sup>720</sup> In his letter to Vossius of 16/26 August 1635, Reneri writes that he wants to discuss with him something very important regarding Vossius and his family, but it is not known what this could have been. Reneri intended to visit Amsterdam at the beginning of September, on which occasion he would visit Vossius at his home, where they could privately talk about the matter. Three years later, in September 1638, Reneri again wanted to see him. He called at his house in Amsterdam twice, only to learn that Vossius was in Utrecht looking for Reneri. Reneri then sent him a letter, in which he updated Vossius. Apart from personal matters, he told Vossius about the progress of his method of logic and of his other inventions. It seems he had the intention of publishing them. He also enclosed a copy of a reprint of his inaugural address.<sup>721</sup>

### 6.3. French Connections

#### 6.3.1. *Pierre Gassendi*

From December 1628 to August 1629, the French priest Gassendi travelled around the Spanish Low Countries and the Republic.<sup>722</sup> On 2 July, after visiting the Spanish Low Countries, he embarked at Calais and visited Rotterdam, The Hague and Delft, Leiden, Amsterdam, Utrecht, Leiden and The Hague again, Dordrecht (where he visited Beeckman),<sup>723</sup> 's-Hertogenbosch (Bois-le-Duc), then under siege, Gorinchem, and, finally, Dordrecht again. In Leiden, Gassendi saw, among others, Rivet, who encouraged him to pay a visit to Reneri in Amsterdam.<sup>724</sup> Gassendi probably arrived in Amsterdam on 8 July 1629, where he met Reneri before leaving for Utrecht on 10 July.<sup>725</sup> Reneri in

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<sup>720</sup> See above, p. 38.

<sup>721</sup> Reneri to Vossius, 9/19 September 1638. Reneri was also acquainted with Barlaeus and Vossius' colleague the professor of mathematics Martinus Hortensius, but when and how is not known. Reneri's relationship with Hortensius is dealt with in Chapter 7.

<sup>722</sup> On Gassendi's journey in the Low Countries, see Sassen, *De reis van Gassendi*.

<sup>723</sup> Van Berkel, *Isaac Beeckman*, 125-26, esp. n. 60.

<sup>724</sup> Gassendi to Reneri, 28 February 1630.

<sup>725</sup> Gassendi to Peiresc, 21 July 1629, in Peiresc, *Lettres*, 4:200. See also Sassen, *De reis van Gassendi*, 25-26.

turn introduced Gassendi to Nicolaes Jansz. van Wassenaer,<sup>726</sup> whom Reneri may have known through Pauw.<sup>727</sup>

Besides practising medicine, Van Wassenaer, since 1622, compiled a half-yearly chronicle about current events in Europe, *Historisch verhael alder ghedenck-weerdichste geschiedenisse, die hier en daer in Europa [...] voorgevallen syn*. In this chronicle he also included observations of remarkable natural events. With Reneri he shared an interest in natural history. He had a cabinet of curiosities, which Gassendi visited during his stay in Amsterdam,<sup>728</sup> and a thermometer with which he had been recording temperatures ever since the early 1620s.<sup>729</sup>

Gassendi's meeting Reneri and Van Wassenaer led to a publication by Gassendi on parhelia. It so happened that, when in Leuven, Gassendi received a report of an interesting observation. On 20 March 1629 the German Jesuit Christoph Scheiner (1573/75-1650) observed four parhelia at Frascati, near Rome. Cardinal Francesco Barberini (1597-1679), the Vatican secretary of state, sent a diagram with a description of this observation to Nicolas-Claude Fabri de Peiresc (1580-1637), a councillor in the *Parlement* of Provence with an interest in astronomy. Peiresc sent a copy to Gassendi, one of his protégés, who received it on 18 May. Gassendi had a passion for astronomy since his teaching days at Aix-en-Provence, where he taught philosophy from 1617 to 1623 while living at the house of the astronomer Joseph Gaultier de la Vallette (1564-1647). Gassendi made astronomical observations, with the naked eye as well as with the aid of a camera obscura and a telescope, and examined related optical questions. Furthermore, he supported the Copernican hypothesis of the earth's motion, which he discussed with several people during his tour in the Republic.<sup>730</sup> In Reneri he found someone with a similar interest in the new astronomy.

Gassendi showed the diagram with the description to several people, including Beeckman,<sup>731</sup> Van Wassenaer, and Reneri. Van Wassenaer had a copy made with the intention of publishing it in the next issue of *Historisch verhael*.

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<sup>726</sup> Gassendi to Peiresc, 21 July 1630, in Peiresc, *Lettres*, 4:243.

<sup>727</sup> Krelage, *Bloemspeculatie*, 32.

<sup>728</sup> Gassendi to Peiresc, 21 July 1629, in Peiresc, *Lettres*, 4:200.

<sup>729</sup> On Van Wassenaer, see NNBW, 8:1307-8; Kannegieter, "Thermometer te Amsterdam"; Kannegieter, "Nicolaas Jansz. van Wassenaer"; Van de Venne, "Greek *Xenion*," 417-21.

<sup>730</sup> Gassendi to Peiresc, 21 July 1629, in Peiresc, *Lettres*, 4:202. On Gassendi's interest in astronomy and Copernicanism in particular, see Brundell, *Pierre Gassendi*, 30-47.

<sup>731</sup> For Beeckman's copy, see Beeckman, *Journal*, 4:149-51.

He already had commissioned the printer and cartographer Hessel Gerritsz. (1581-1632) to engrave the plates, when, for unknown reasons, he decided not to include it in *Historisch verhael* after all. When Gerritsz. wanted to publish it separately together with a short explanation, Van Wassenaer asked Gassendi, on behalf of Gerritsz., to write down his thoughts. Reneri endorsed this request in a letter. During his second stays in Leiden and The Hague, Gassendi scribbled down (he uses the word *barbouiller* in his letter to Peiresc of 21 July 1629) an explanation and sent it, with a short accompanying letter, to Reneri on 14 July.<sup>732</sup> That same year Reneri had it printed by Hessel Gerritsz. under the title of *Phaenomenon rarum, et illustre, Romae observatum, 20 martii, anno 1629. Subjuncta est causarum explicatio brevis clarissimi philosophi, ac mathematici, D. Petri Gassendi, ad illustrissimum cardinalem Barbarini.*

Gassendi was not happy with the result. He disapproved of the title, disliked the way he was called on the title page, and the booklet was printed so carelessly that he even regretted having shown the diagram and the description to Reneri and Van Wassenaer in the first place.<sup>733</sup> Barbarini had not been the addressee of Gassendi's explanation, but only of the description. Neither Reneri nor Peiresc were mentioned. And Gassendi himself was called a "very famous philosopher and mathematician," which Gassendi probably disliked because it could be seen as self-praise. Furthermore, the text contains numerous grammatical, spelling, and typographical errors, some of which can cause misunderstanding. In a letter to Gassendi of 6 January 1630 Reneri admits that the printing was careless, but denies all responsibility. He had visited Gerritsz. regularly, but the latter never had time for Reneri. In September, moreover, Reneri moved to Leiden and had to delegate the task of correcting the proofs to a "trusted and very learned friend."<sup>734</sup> It is not known who this was—it certainly was not Van Wassenaer, who died that very month. In spite of all this, Gassendi was considerate and did not hold a grudge against Reneri. He even mentions Reneri on the title page of the revised edition.

This revised edition was published in August 1630 under a different title: *Parhelia, sive Soles quatuor, qui circa verum apparuerunt Romae, die XX mensis martii, anno 1629. Et de eisdem Petri Gassendi ad Henricum Renarium epistola.* Not only were the errors corrected, but Gassendi also took advantage of the

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<sup>732</sup> Gassendi to Reneri, 14 July 1629; Gassendi to Peiresc, 21 July 1629, in Peiresc, *Lettres*, 4:200-201; Gassendi to Peiresc, 21 July 1630, in Peiresc, *Lettres*, 4:243.

<sup>733</sup> Gassendi to Peiresc, 11 December 1629, in Peiresc, *Lettres*, 4:236; Gassendi to Reneri, 8 February 1630; Gassendi to Peiresc, 21 July 1630, in Peiresc, *Lettres*, 4:241-42.

<sup>734</sup> It reads "amicum fidelem nec indoctum" and not "amicum fidelem sed indoctum," as Sassen in *De reis van Gassendi*, 29, claims.



situation to be more detailed in the explanatory part. Furthermore, Gassendi apparently feared for his reputation should Barberini see a copy of *Phaenomenon rarum*.<sup>735</sup> That he had this fear is shown by a letter to Peiresc, in which Gassendi writes: “It [i.e., the new edition] nevertheless is such that it seems to have preceded the publication mentioned above and, in case a copy of this publication has been taken to Rome, it will seem to be merely an extract of the one that will be printed here.”<sup>736</sup> The quick publication of the new edition thus offered the opportunity to pretend that *Phaenomenon rarum*, which was printed without a date, was a pirate edition.<sup>737</sup>

Apparently Gassendi had not lost his confidence in Reneri’s judgement, since he asked Reneri for his opinion about his *Epistolica exercitatio, in qua principia philosophiae Roberti Fluddi reteguntur* of 1630. He sent Reneri a copy together with his request in (a now lost) letter of September 1630.<sup>738</sup> The *Epistolica exercitatio*, which Gassendi wrote at Mersenne’s request, was a polemic against Robert Fludd’s (1574-1637) mystical philosophy. Gassendi had already completed the manuscript in February 1629, so he may have brought it up when in Amsterdam.<sup>739</sup> Reneri gave a first reaction in a letter to Gassendi of 26 November 1630, without discussing the content. Reneri writes that he had only had time to browse through it. He recognized at a glance Gassendi’s acute mind, erudition, style, and so on, but he promised to examine it more carefully.

Reneri delivered on his promise almost a year later. In a letter of mid-September 1631, he sent Gassendi his comments. Given the fact that this letter is lost, we do not know how he judged *Epistolica exercitatio*, but in a letter to De Wilhem he qualifies Fludd’s philosophy as “blasphemous and insane.”<sup>740</sup> That so much time had passed since his first reaction he explained by claiming that he believed Gassendi to be in Constantinople.<sup>741</sup>

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<sup>735</sup> Tape, Seidenfaden, and Können, “Rome Halo Displays,” 84 n. 38.

<sup>736</sup> Gassendi to Peiresc, 21 July 1630, in Peiresc, *Lettres*, 4:242: “Elle est neantmoins telle que paroissant comme precedente au susdit imprimé, en cas que quelque copie dudit imprimé ait esté portée à Rome, il paroistra que ce n’aura esté que comme un extrait de ce qui aura esté imprimé icy.” Cf. Gassendi to Wilhelm Schickard, 27 August 1630, in Gassendi, *Opera*, 6:35.

<sup>737</sup> For the observation of the parhelia near Rome and its aftermath, see Tape, Seidenfaden, and Können, “Rome Halo Displays.”

<sup>738</sup> See Appendix 1, p. 243.

<sup>739</sup> Debus, *Chemical Philosophy*, 269-70.

<sup>740</sup> Reneri to De Wilhem, 10 September 1631(b). His letter to Gassendi was part of a parcel, which was to be sent to Gassendi on 15 September 1631.

<sup>741</sup> Reneri to De Wilhem, Leiden, 10 September 1631(b). In the summer of 1630 Gassendi



Reneri, on the other hand, asked Gassendi for an opinion on his Analysis. With Gassendi he shared a dissatisfaction with academic philosophy. One of Gassendi's points of criticism was that, despite Aristotle's plea for philosophical freedom, Peripatetic philosophy had become dogmatic and was no longer interested in the search for truth. In the schools' practice it was reduced to a sophistic game, whilst other philosophical traditions and disciplines based on observation and experience were neglected (a view also expressed in a letter to Reneri of 8 February 1630).<sup>742</sup> Likewise, Gassendi particularly criticized Aristotelian logic for its inability to further the acquisition of knowledge.<sup>743</sup> Reneri's Analysis was a learning tool that built on the alternative logic of Ramus. The reason Reneri sent a specimen to Gassendi may have been the pedagogical expertise Reneri assumed Gassendi to have. Half a year earlier, Reneri had asked Gassendi for advice on how to accelerate the study progress of his pupils.<sup>744</sup> Gassendi answered that Reneri first of all should have his pupils read a lot. They should also memorize what they had read and write themes, but this was of secondary importance.<sup>745</sup> Later that year Reneri started working on a method of logic. As soon as the Analysis part was ready—or so it seems—Reneri sent an example of how it could be applied to Gassendi. It was enclosed with a letter of late July or early August 1630 (now lost). The example was a poem by Lorenzo Valla (Reneri does not say which); the result of the analysis a diagram.<sup>746</sup>

Although no details of this Analysis are known, it is possible to form an impression on the basis of Gassendi's reply and of the few lines devoted to it in Reneri's inaugural address (where he is no more precise for the reason that it requires a visual demonstration). Apparently it involved a division of a text (in this case a poem) and a presentation of the various parts by means of a

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had adopted the plan to accompany the newly appointed French ambassador to the Ottoman Empire, Henri de Gournay, Count of Marchéville, on a journey to Constantinople. He would be part of a scientific expedition, for which, among others, Descartes was invited as well (but he declined). The embassy was supposed to set off in November, but it did not leave until July 1631. Gassendi in the end did not go, because he did not feel ready for it. See Hamilton, *Republic of Letters*, 126-30. The reason Gassendi gave for his silence was that he had been busy learning Oriental languages and with his Epicurean project.

<sup>742</sup> See also above, p. 35.

<sup>743</sup> LoLordo, *Pierre Gassendi*, 37-38.

<sup>744</sup> Reneri to Gassendi, 6 January 1630.

<sup>745</sup> Gassendi to Reneri, 8 February 1630.

<sup>746</sup> Gassendi to Reneri, 6 September 1630.

diagram (“synopseos seu tabulae formâ”—both terms generally refer to the bracketed outline tables that are typical of Ramism) in the terms used by the author himself. Although it is not clear what exactly Reneri had in mind, the Analysis was probably more or less similar to Ramist text analysis and would have consisted in breaking up a text into its rhetorical and dialectical elements. This means that one first retrieves the tropes and figures (rhetorical analysis), then examines the general structure of the text and isolates the arguments, and finally identifies the topics from which they are derived (dialectical analysis). It may also have involved the examination of propositions and syllogisms.<sup>747</sup> Judging from the other parts of Reneri’s method of logic in his address, and because Reneri not only wants his students to master his Analysis but also to build a collection of useful expressions, themes, reasonings, etc., it probably also included indexing or classification of the results. This distinguishes it from pure Ramist text analysis and gives it a place in the post-Ramist encyclopaedic movement.<sup>748</sup>

Gassendi responded in a letter of 6 September 1630. In spite of the diagram which Reneri had added to clarify his Analysis, Gassendi did not immediately grasp its significance. Yet, he suspected that it covered the whole range of the human mind and its ways of reasoning. Therefore, Reneri’s Analysis, as Gassendi continued, was more general and showed more variety than Ramus’ analysis, who merely reduced all discourse to syllogisms.<sup>749</sup> This critique of Ramism was common, albeit oversimplified. In Gassendi’s eyes, apparently, Reneri’s method was an improvement. Further, according to Gassendi, the use of humanist dialectic in general was limited, because its role would be either to retrieve what is already known or to order and present materials. This in itself he found useful.<sup>750</sup> Accordingly, he appreciated Reneri’s Analysis. However, he also had a critical note. Since, according to Gassendi, people have an innate capacity for reasoning, most of them would not need a method to show how people think, even if weaker intellects may profit from it. This must have been

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<sup>747</sup> Reneri, “Oratio inauguralis,” [188]. The standard work on Ramism is Walter Ong’s *Ramus, Method, and the Decay of Dialogue*. On Ramist analysis in particular, see Ong, *Ramus*, 263–67.

<sup>748</sup> Indeed, with his method of logic, of which analysis was only a part, Reneri had encyclopaedic ambitions. This method, which is further discussed in 6.3.2. below, basically consisted in collecting samples of eloquence and erudition. On post-Ramist encyclopaedism, see Hotson, *Commonplace Learning*, 127–273; Hotson, “Comenian Pansophia.”

<sup>749</sup> Cf. Gassendi, *Syntagma philosophicum*, pt. 1, bk. 2, ch. 6, in Gassendi, *Opera*, 1:89–90.

<sup>750</sup> Gassendi, *Syntagma philosophicum*, pt. 1, bk. 1, ch. 9, in Gassendi, *Opera*, 1:59–62.

an unpleasant remark for Reneri, who, judging from his inaugural address, intended his Analysis for advanced students.

After September 1631 the correspondence between Reneri and Gassendi petered out. Reneri got a demanding job at Deventer, whilst Gassendi focused on his project of reviving Epicureanism, a subject in which Reneri was not interested. In 1638, Reneri tried to restore contact through Mersenne, but it is not known if he was successful.

### 6.3.2. *Marin Mersenne*

Reneri met Mersenne in July 1630, when the latter visited Leiden as part of a tour in the Spanish Low Countries and the Republic. He followed about the same route as Gassendi had done the year before (he probably did not visit Amsterdam).<sup>751</sup> In Leiden, he visited, among others, his friends Rivet and Descartes (who had moved there in June). One of these two introduced Reneri to Mersenne.<sup>752</sup> After his return to France in October 1630, Mersenne sent him, according to a letter from Reneri to Gassendi of 26 November 1630, a letter with several enclosures.<sup>753</sup> In response, Reneri promised to send Mersenne, among other things, a list of his experiments.<sup>754</sup> Mersenne was an active experimenter himself, who sought scientific collaboration. With Descartes he corresponded

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<sup>751</sup> For Mersenne's journey in the Low Countries, see Sassen, *De reis van Mersenne*.

<sup>752</sup> Cf. *ibid.*, 33.

<sup>753</sup> According to a letter from Descartes to Mersenne of [October 1631], in AT, 1:221/CM, 3:23, Mersenne also sent Reneri a manuscript of a biography of St. Elizabeth (of Hungary, patron saint of the Third Order of St. Francis—the Minims are a branch of the Franciscans) in order to have it printed. It is not clear what book this was or what role Reneri had exactly. Presumably it concerned a hagiography for the Dutch or English market, which had to be printed illegally. It could have been *The History of S. Elizabeth, daughter of the King of Hungary* by the English Jesuit Henry Hawkins (ca. 1577-1647), which was published in 1632. If so, one wonders why Reneri, who was a Calvinist convert, would have collaborated on such a project. In his letter to Mersenne Descartes expresses his surprise that Reneri had not yet asked him for money. This suggests that the offer to have it printed in the Republic was Descartes' doing, but that Mersenne used Reneri's address as mailing address. Mersenne regularly sent mail for Descartes to others. See, e.g., Descartes to Mersenne, [3 May 1632], in AT, 1:245/CM, 3:296. Cf. Mersenne to Rivet, 20 November 1631, in CM, 3:226, in which he asks Rivet to deliver to Descartes a letter he had enclosed, because he had heard that Reneri had moved to Deventer, so that he could not ask Reneri to do it. Nothing is heard of this biography of St. Elizabeth again.

<sup>754</sup> Reneri to Gassendi, 26 November 1630.

about experiments frequently and for many years. Moreover, he also devised instruments, such as a reflecting telescope and an improved thermoscope (which were never built).<sup>755</sup> Therefore, Mersenne would certainly have been curious about the experiments Reneri performed. It is not known if Reneri kept his promise to send Mersenne a list of his experiments. A year later, in a letter to Descartes from fall 1631 (now lost), Mersenne enquired after Reneri, but it is not known for what purpose. Descartes informed Mersenne that Reneri had moved to Deventer to work as a professor of philosophy.<sup>756</sup>

The only surviving letter of the correspondence between Reneri and Mersenne is a letter from Reneri of early March 1638. It shows that they had not had contact for a long time and that Reneri tried to restore it. It seems, moreover, that Reneri also used Mersenne to re-establish contact with Gassendi. Although he had been neglecting both for a long time, Reneri still had contact with Mersenne through Descartes, and he seems to have enjoyed much goodwill from Mersenne.<sup>757</sup> As an excuse for his long silence, Reneri pleaded that he had been very busy teaching. Because his teaching load had recently been reduced, he soon would have more time on his hands, but for the moment the extra free time would go to his study of Descartes' *Géométrie*. Therefore, he gave Mersenne a short update on his activities. He had been teaching "something new and, as I persuade myself, something better" in his public lectures—it is not clear what this refers to, but it must have something to do with his reading from the *Discours* and the physiological theses that were defended under his supervision. Moreover, he was engaged in making observations on plants and animals by means of the microscope, and in optical experiments. According to Reneri, these latter experiments produced extraordinary results. Furthermore, Reneri asked if Mersenne could make his publisher send his recent French translation of Edward Herbert's work *De veritate* (which Huygens told him had appeared)<sup>758</sup> as well as his other works to the Republic. Descartes took a great interest in *De veritate*,<sup>759</sup> and it was also

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<sup>755</sup> King, *History of the Telescope*, 48-49; Barnett, "Development of Thermometry," 278.

<sup>756</sup> Descartes to Mersenne, [October or November 1631], in AT, 1:228/CM, 3:213.

<sup>757</sup> Mersenne to Rivet, 8 February 1634, in CM, 4:37; Mersenne to Rivet, 12 March 1634, in CM, 4:69; Descartes to Mersenne, 23 August 1638, in AT, 2:331/CM, 8:58-9.

<sup>758</sup> This confirms the general assumption that Mersenne is the anonymous translator of this work, which was first published in Latin in 1624. Since the translation was not published before 1639, Huygens had probably misunderstood that it had already appeared. See Bedford, *Defence of Truth*, 134-36; Lagrée, "Mersenne traducteur de Cherbury."

<sup>759</sup> Descartes to Mersenne, [19 June 1639], in AT, 2:566/CM, 8:455; Descartes to

popular among the Hartlib circle.<sup>760</sup> Reneri promised to write again in three months,<sup>761</sup> but in August he still had not. Probably this was his last letter.<sup>762</sup>

## 6.4. The Hartlib Circle

### 6.4.1. *Samuel Hartlib and John Dury*

With his method of logic Reneri drew the attention of Samuel Hartlib and his circle. Hartlib was born into a merchant family in the city of Elbing in Poland. Not much is known about his early life. He studied at Königsberg (now Kaliningrad), after which he probably travelled around. He spent the winter of 1627/28 in his hometown Elbing, where he met John Dury, who worked there as a Presbyterian minister. In the spring of 1628 he fled the Thirty Years' War, went to England, and settled in London.

Driven by utopian and millenarian ideas, Hartlib set himself to the reform of society and education. This reform aimed at improving people's lives with useful innovations and at helping them to gain control over nature. The way to achieve this was to record all knowledge and find a way to make it universally accessible, an idea which owes much to Bacon's programme for the advancement of learning and the German encyclopaedists. Hartlib started to collect manuscripts, rare books, news on scientific developments and technological innovations, medical and household recipes, and so on. For this purpose he built up a widely extended network of correspondents around Europe, with whom he exchanged information and discussed points of religion, natural philosophy, and education. Accordingly, he was interested in methods to collect, organize, and teach knowledge in order to make it available for all mankind. Searching for the one right method, he had all methods sent to him his collaborators could get hold of. Reneri's Analysis was thus one of many. Reneri does not seem to have ever had direct contact with Hartlib. This happened through intermediaries.<sup>763</sup>

Hartlib's principal agent on the Continent was Reneri's friend John Dury. Dury was the son of an exiled Scottish Presbyterian minister, who, in 1609,

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Mersenne, 16 October 1639, in AT, 2:596-99/CM, 8:548-52. Mersenne sent Descartes two copies in August 1639. See Descartes to Mersenne, 27 August 1639, in AT, 2:570/CM, 8:496-6.

<sup>760</sup> Serjeantson, "Herbert of Cherbury."

<sup>761</sup> Reneri to Mersenne, early March 1638.

<sup>762</sup> Descartes to Mersenne, 23 August 1638, in AT, 2:330-31/CM, 8:58-59.

<sup>763</sup> On Hartlib, see Greengrass, "Hartlib, Samuel"; Turnbull, *Hartlib, Dury and Comenius*, 1-126.

became minister of the small Scottish congregation in Leiden. Dury studied literature and philosophy at Leiden, and theology at Sedan, before being admitted to the Walloon College in 1616. In 1624, after he had worked as a tutor to Pieter van Panhuys for three years,<sup>764</sup> he was appointed to the clandestine Walloon church in Cologne.<sup>765</sup> In the beginning of 1626 he went through a personal crisis of faith. He was temporarily suspended from his duties and allowed to travel to Scotland in order to sort things out for himself.<sup>766</sup> In 1627 he resumed his work, with some reluctance, as a minister to a Presbyterian congregation of English merchants in Elbing, where he met Hartlib. In Elbing Dury set himself to the reconciliation of Lutherans and Calvinists, which became his life's work. In that same period, he became involved in Hartlib's projects on the reform of education. Hartlib wanted to provide children with a moral training of the kind that would prevent religious discord. Dury further worked on a method for reading the Bible, which must be seen in this light as well. Dury claimed that his method, which reduced Scripture to axioms, would unambiguously reveal the true underlying meaning of the Bible. This would end feuds over biblical exegesis and therefore eliminate religious schisms.<sup>767</sup> Dury's priority was his attempt to reconcile various Protestant denominations. In June 1630 he left Elbing and went to England to promote the cause of Protestant unification there.<sup>768</sup>

At the beginning of July 1631, he embarked on a journey to Germany to talk with church leaders and statesmen to further the reconciliation of the Protestant churches.<sup>769</sup> Meanwhile, he collected information for Hartlib. On his way from London to Hamburg, Dury stayed in Amsterdam for eight days. There

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<sup>764</sup> Resolutions of the Walloon Synod held in Rotterdam, 24-27 March 1621, *Livre synodal*, 1:292; resolutions of the Walloon Synod held in Rotterdam, 24-27 March 1621, *Livre des actes*, 209; resolutions of the Walloon Synod held in Utrecht, 13-19 April 1622, *Livre synodal*, 1:301; resolutions of the Walloon Synod held in Dordrecht, 17-20 April 1624, *Livre synodal*, 1:314. See also above, pp. 73-74.

<sup>765</sup> Resolutions of the Walloon Synod held in Middelburg, 18-20 September 1624, *Livre des actes*, 236, 238; Löhr, *Protokolle der wallonischen Gemeinde*, 115; Posthumus Meyjes, *Waalse College*, 191.

<sup>766</sup> Resolutions of the *classe* meeting held in Leiden, 26-27 February 1626, *Livre des actes*, 246-47; Löhr, *Protokolle der wallonischen Gemeinde*, 126.

<sup>767</sup> For Dury's method, see "De usu logicae in analysi et genesi," HP 24/2/2A-7B; "De logicae practicae methodo," HP 24/3/2A. See also Clucas, "True Logick," 55-56; Young, *Faith, Medical Alchemy and Natural Philosophy*, 118-21.

<sup>768</sup> On Dury, see Turnbull, *Hartlib, Dury and Comenius*, 127-341; Young, "Durie."

<sup>769</sup> For Dury's travels on the Continent, see Westin, *Negotiations about Church Unity*.

he saw, among others, “mine old acquaintance” Reneri, with whom he settled “some further resolutions of mutuall helpe in the maine worke, & correspondencie for collaterall endes.”<sup>770</sup> What this means is not clear, but they apparently concluded that their goals more or less converged and agreed to keep each other informed of developments in philosophy and science. In November 1633, after another stop in the Republic in October,<sup>771</sup> Dury returned to England, where he continued his work for church unity and raised funds for his next journey to the Continent.

In May 1634, Dury travelled to the Continent again. On his way back from Germany, he spent the winter of 1634/35 in the Republic. In Amsterdam, he visited Descartes. It was probably Reneri who introduced them to each other. Dury was very much interested in Descartes’ optics as well as his “new algebra,” supposedly because it promised an easier way to study geometry. During their meeting they discussed the possibility of epistemological certainty.<sup>772</sup> In February Dury returned to England.

In July 1635 Dury embarked on his third journey to the Continent. Before he went to Germany, he stayed in the Republic for a year. The first two weeks of September he stayed in Utrecht to attend the Provincial Synod of the Dutch Reformed Church and to meet with Reneri and Descartes (who had moved to Utrecht half a year earlier): “I purpose to goe towards Utrecht again within few dayes and then what effect God wil give to my endeavors and what I shall bee able to doe with Renerius or de Cardes in other things you shal know in due time,” as Dury writes to Hartlib.<sup>773</sup>

Reneri’s experiments and inventions circulated among the members of the Hartlib circle. Hartlib was very enthusiastic about a disputation about the vacuum from 1634 (which must be lost) for the empirical approach of the subject. Through Jonston, Reneri sent a list of his experiments to Huniades.<sup>774</sup> And Hartlib probably forwarded Reneri’s invention of a wick that never runs out to his old school friend, the Silesian educational reformer Cyprian Kinner (d. 1649).<sup>775</sup> In a letter to Hartlib of 10/20 November 1648, Kinner asked him

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<sup>770</sup> Dury to Hartlib, [after May 1632], HP 60/5/1B.

<sup>771</sup> Turnbull, *Hartlib, Dury and Comenius*, 152.

<sup>772</sup> Hartlib mentions Dury’s visit to Descartes in his *Ephemerides* of 1635, HP 29/3/13B. See also Turnbull, *Hartlib, Dury and Comenius*, 167-68; De Waard, “Entretien avec Descartes.”

<sup>773</sup> [Dury] to [Hartlib], 27 August 1635, HP 9/1/25B.

<sup>774</sup> Reneri to Jonston, around 1634.

<sup>775</sup> On Kinner, see Turnbull, *Hartlib, Dury and Comenius*, passim; Slaughter, *Universal Languages*, 131-33.



with regard to some ingenious lamps Hartlib had written him about: “Are they by any chance similar to those, which a certain Renerus, a Utrecht professor, promised in previous years, described in the added piece of paper? [...] But tell me also (if you know) where that Renerus is? Did he give us false hope, or was it confirmed by experience?”<sup>776</sup> Reneri, however, had died almost ten years earlier, something which Kinner would have known if they had been in direct contact. It shows that Hartlib spread Reneri’s work among his correspondents.

All the same, the Hartlib Papers chiefly mention Reneri in relation to his method of logic. Hartlib must have learned about it in the summer of 1630 through Dury. Reneri would have sent Dury a specimen of his Analysis shortly before the latter left Elbing for England, like he sent one to Gassendi that summer. Hartlib found it very promising, as can be concluded from his *Ephemerides* of 1634 (his diary of the information he received from his agents) and his lists of desiderata dating from between 1635 and 1640.<sup>777</sup> They frequently mention the *Methodus Reineriana*, *Analysis Reineriana*, *Logica Reineriana*, *Lectio Analytica Reineriana*, and so on.<sup>778</sup>

#### 6.4.2. Reneri’s Method of Logic

In 1634 work on his method had progressed to the point where Reneri could present a more advanced version, now consisting of more than analysis, in his Utrecht inaugural address. In addition to his programme in natural philosophy, which is discussed in 4.3.2. above, this part of the address provides a general outline of how to build a comprehensive and ordered collection of what mankind has produced. Together, the programme in physics and that in logic produce a complete collection of knowledge.

Like the *collegia physica*, the *collegia logica* involve practical exercises and consist of three parts: *collegia locorum communium*, *collegia analytica*,

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<sup>776</sup> Kinner to Hartlib, 10/20 November 1648, HP 1/33/95B: “Lampades mihi offers singularis artificii: utinam mox videam ac habeam! Sed quales illae? An similes illis: quas nobis Renerus quidam, Professor Ultrajectinus, superioribus annis promisit; adjectâ schedulâ descriptas? [...] Sed et adde; (si nôsti) ubi sit ille Renerus? an spem nobis nudam fecerit, vel experientiâ firmatam?” The enclosure Kinner speaks of does not survive. See also above, p. 169.

<sup>777</sup> Clucas, “True Logick,” 62.

<sup>778</sup> E.g., “Didactica biblicae theologiae,” HP 22/23/7A; “Didactica lectionis Scripturae,” HP 22/23/8A; “Methodus commentarii perfectioris,” HP 22/23/9A; “Desiderata didactica lectionis Sacrarum Scripturarum,” HP 22/24/1B; Hartlib in his *Ephemerides* of 1634, HP 29/2/3A, 8A; “Desiderata in logica,” BL, Sloane MS 638, fols. 4r, 21r, 54r.



and *collegia methodica*. According to Reneri, these were the three he preferred to many other possible exercises. The purpose of the *collegia locorum communium* is to collect commonplaces from the works of famous authors—a typical humanist activity. These commonplaces must be summarized into short headings, which in turn would be the basis for an index. Next, each commonplace is rated with regard to its length and quality. The numbers indicating how many pages the commonplace occupies and its quality on a scale from 1 to 5 are added to the index heading.<sup>779</sup> The *collegia analytica* involve the visual representation of the rhetorical and argumentative structure of a text.<sup>780</sup> In the *collegia methodica* students have to gather knowledge in the broadest sense of the word—but this time not only from a text—and methodically arrange it. They can start either with general terms, selected at random, or with individual things (*singularia*). Starting with general terms, first, their mutual differences are determined by means of Ramus' major topics (causes, effects, subjects, and adjuncts). Next, a deduction is made from these genera to the lowest species. Finally, examples are added to the lowest species. In case a confused mass of individual things needs to be methodically arranged, the highest genus has to be determined first, but for the rest the procedure is the same. The range of knowledge to be acquired in this exercise covers everything produced by the human mind, from stratagems devised by military commanders to all kinds of machines.<sup>781</sup> The procedure followed in the *collegia methodica* shows a strong likeness to the Ramist practice of methodically arranging the subject matter of a discipline, or “art,” as Ramus calls it.<sup>782</sup>

An (undated) English translation of the beginning of the address kept in the British Library shows that it found its way to England.<sup>783</sup> Apart from its consideration for practicality and usefulness, and the fact that it was yet another means to collect and methodically arrange knowledge, the pedagogical aspects and especially the multistage learning would have appealed to Hartlib and his collaborators. The parts of Reneri's method of logic show an increasing level of difficulty. With each step the exercises become less dependent on how readily information is offered and require greater logical competences with regard to judgement and classification.

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<sup>779</sup> Reneri, “Oratio inauguralis,” [184-88].

<sup>780</sup> See above, pp. 177-79.

<sup>781</sup> Reneri, “Oratio inauguralis,” [188-91].

<sup>782</sup> Ong, *Ramus*, 204-5.

<sup>783</sup> “The Inaugurall Oration of Henery Rener Professor of Philosophy Concerning Lectures and Philosophical Exercises,” BL, Sloane MS 427, fols. 120-121r.

Hartlib would have found Reneri's method of logic eminently suitable for his own purposes. In his address Reneri announces the publication of various worked-out examples, but this did not materialize.<sup>784</sup> In September 1638, however, his method of logic neared completion, as Reneri writes to Vossius:

I have many nearly completed things, which are new and, if I am not mistaken, will be useful beyond the charm of the novel: some, for instance, in logic, or rather, they have sprouted from the lessons in logic, like fruit from a small seed; others in natural philosophy, which have not been done in the same way; yet others miscellaneous. They only need to be thoroughly arranged and neatly copied, and dressed in a somewhat more elegant garment of words.<sup>785</sup>

In the meantime, to satisfy the requests from his foreign contacts (presumably all of them Hartlibians) for a copy of the address, Reneri had part of his address reprinted that year, as he continues:

Some years ago some foreigners (to whom I may have told that I was building up a collection of the capacities of the human mind and that I had outlined the way and idea of collecting them in an inaugural address) asked if they could have copies of this address: but I have not sent any because of the size of the volume;<sup>786</sup> further because the brilliance of the other addresses preceding mine would easily have overshadowed the little light of my small talent. And so, after I removed those greater lights, even removed from my address what did not serve this purpose, I had this part reprinted separately in a smaller type, as a result of which it could easily be sent to the foreigners I know in order to find out their opinion. And because I have a large number of copies, here is one for you—but for you, not for others, because it is only reprinted for the sake of the foreigners—most excellent Sir, which, after it has been reread apart from the very eloquent addresses from the others, perhaps displays a somewhat brighter light and use.<sup>787</sup>

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<sup>784</sup> Reneri, "Oratio inauguralis," [188].

<sup>785</sup> Reneri to Vossius, 9/19 September 1638: "Multa penè perfecta habeo, eaque nova, et ni fallor praeter novitatis gratiam utilia futura; alia quidem in logicis, vel potius à logices praeceptis, ut fructus ab exiguo semine, enata; alia in physicis itidem non tractata; alia denique miscellanea. Ordinari tantum et exscribi debent, et paullò compertiori verborum veste indui." Cf. Reneri to De Wilhem, 28 February 1638.

<sup>786</sup> Contrary to separately printed addresses, this volume must have been relatively expensive.

<sup>787</sup> Reneri to Vossius, 9/19 September 1638: "Ante aliquot annos exteri quidam, (quibus forte significaveram me moliri collectionem opum ingenij humani, earumque

Reneri never published his method of logic in its definitive form. That fall, Reneri fell seriously ill, and he died half a year later.

### 6.4.3. *William Speed*

Reneri's method of logic had a direct relevance for Hartlib. In August 1630, Hartlib founded a private educational institution in Chichester, in the south of England. William Speed,<sup>788</sup> the newly appointed Puritan rector of Chichester's St. Pancras church, seems to have been responsible for the administration, whilst Hartlib probably had an advisory role. Little is known about this school. Thirty years later, Hartlib said that he had founded it "for the education of the gentry of this nation, to advance piety, learning, morality, and other exercises of industry, not usual then in common schools."<sup>789</sup>

It was that summer of 1630 that Hartlib and Speed, through Dury, learned about Reneri's method. Perhaps Dury personally handed over a specimen of Reneri's Analysis during his journey in England. Hartlib and Speed were immediately enthusiastic about it. In a letter to Dury of 16 September 1630 Hartlib asks him for advise on which logic he should teach to advanced pupils. He presents four options: First, the most complete and best ordered systems there were in the form of tables, that is, the matter of all curriculum subjects methodically exposed. Second, Bacon's directions in the form of aphorisms in *Novum Organum* and *De augmentis scientiarum* (1623). Third, only the principles of all arts and sciences. Or, last, "your [i.e., Dury's] more accurate & New Analytical & Genetical way together with that of Mr Reineri &

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colligendarum rationem et idaeam designasse inaugurali oratione) petierant sibi exemplaria hujus orationis: sed ob molem voluminis non misi; deinde quia splendor aliarum orationum meam antecedentium facilè offuscasset exiguum ingenioli mei lucem. Itaque luminaribus illis majoribus sublatis, imo sublatis ex oratione meâ ijs quae ad institutum hoc non facerent, seorsim hanc partem typis minoribus recudi curavi, quo posset ad exteros mihi notos, iudicio eorum expiscando, commodè transmitti: et cum mihi copia sit exemplarium, ecce [inserted from the margin:] sed tibi, non alijs: cum tantum exterorum causa recusum sit [end insertion] tibi unum, vir summè, quod forte relectum seorsim ab aliorum disertissimis orationibus paullò splendidiorem lucem et usum promet." No copy of this reprint survives.

<sup>788</sup> On Speed, see Turnbull, *Hartlib, Dury and Comenius*, passim; Malcolm and Stedall, *John Pell*, 29-30.

<sup>789</sup> Turnbull, *Hartlib, Dury and Comenius*, 17. On Hartlib's school, see *ibid.*, 16-19, 36-39; Malcolm and Stedall, *John Pell*, 29-30.

Acontius.<sup>790</sup> Like Reneri's Analysis, that of Dury involved the systematic interpretation of a text and the methodical presentation of material. That of Dury was primarily devised for Scriptural exegesis. Jacob Acontius' *De methodo* (1558) was a more general treatise on the subject of orderly reasoning and teaching. Hartlib and his collaborators regarded it the best there was.<sup>791</sup> Reneri and Dury's analytical methods thus differ from that of Acontius in this respect that they are reading methods. The appeal of Reneri's Analysis for Hartlib lay in its use for identifying the main or important ideas in a text and summarizing it.<sup>792</sup>

Speed was even so enthusiastic that he insisted on Reneri's coming to Chichester. As Hartlib continues: "And here I must tell you further that I am earnestly entreated by Mr. Speed, to write for Mr Reineris coming over. For hee wishes it might not bee delaid."<sup>793</sup> This could either mean that Reneri already had plans to visit England (possibly in the company of Descartes),<sup>794</sup> of which Dury had informed Speed, or perhaps even that Speed had offered Reneri a teaching post owing to his ideas on educational reform. If Reneri indeed received a job offer, this would soon have been withdrawn, since the school collapsed already in November 1630, because there were too few pupils. In any case, Reneri seems to have never visited England.

Although the school closed, Hartlib and Speed still hoped to see Reneri's method of logic completed for their plans of educational reform. A letter from Speed to Dury of 28 March 1631 shows that Speed expected much of it. He hence urged Dury, who then travelled in Germany, to keep in touch with Reneri:

Likewise [i.e., like Dury did] my grand endevoure shalbee to gaine possession of what gifts may bee of present or constant advantage in the Church, by laying hands ether upon MS or printed bookes to my power, & the rest I shall keepe strict notice of, & attend likewise unto the personall gifts & dispositions of men, among whom I much long to have Mr Reinerie dealt withall for his Art, whose Art, I conceave, would respite us & future ages from a painfull, & needlesse perusall of many Volumes, & the expense both of much spirits & candle. You

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<sup>790</sup> Hartlib to Dury, 13 September 1630, HP 7/12/2A-3B.

<sup>791</sup> Lucas, "True Logick," 58-62.

<sup>792</sup> "Desidarata in logica," BL, Sloane MS 638, fol. 17r. Cf. Lucas, "True Logick," 64-65, on Hartlib's search for reading methods.

<sup>793</sup> Hartlib to Dury, 13 September 1630, HP 7/12/3B.

<sup>794</sup> See above, pp. 39-40.

know I guesse only, but I pray you, if it may bee, lett not the man bee slighted nor his gift lost.<sup>795</sup>

Hartlib's expectations were also high. The fact, moreover, that Hartlib, in his *Ephemerides* and his lists of desiderata, also refers to a "genetical," or compositional, method and a universal art invented by Reneri shows that he knew Reneri was working on more than only his Analysis.<sup>796</sup>

#### **6.4.4. John Jonston and Johannes Huniades**

It seems that Hartlib, in 1633, asked the physician and polyhistor John Jonston from Poland-Lithuania, another correspondent of him who at that time lived in the Republic and acted as an agent for him, to enquire into Reneri's activities. Jonston (whose Scottish father had emigrated to Poland) had studied philosophy, Hebrew, and theology at St. Andrews, and he had worked as a tutor to two barons Kurzbach-Zawadzki in Leszno, Poland, before he went on a Grand Tour through western Europe. In the Republic he visited Groningen, Franeker, and Leiden, where he enrolled, on 13 February 1630, to study medicine.<sup>797</sup> At the turn of 1630/31, Jonston went to England. In London, he probably met Hartlib, who had moved there after his school in Chichester closed, and some of Hartlib's connections. In the summer of 1631, he left for Leszno again, but now as a tutor in the noble Leszczyński family. In February 1632, Jonston returned to the Republic as part of a Grand Tour, together with Bogusław Leszczyński (1614-1659), Władysław Kurzbach-Zawadzki, and another noble pupil from Poland-Lithuania. The group first enrolled at the University of Franeker in March 1632, where they stayed for almost half a year.<sup>798</sup> On 30 August, they all enrolled at Leiden University.<sup>799</sup> During his stay in the Republic, Jonston published several works on natural history, history, philosophy, and theology. It is not known if Jonston and Reneri already knew each other, but it is not unlikely, given that they both studied medicine at Leiden in 1630.<sup>800</sup>

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<sup>795</sup> Speed to Dury, 28 March [1631], HP 46/6/24A.

<sup>796</sup> E.g., in "Desiderata in logica," BL, Sloane MS 638, fols. 5r, 20r, 22r.

<sup>797</sup> *Album stud. Acad. Lugd.-Bat.*, col. 224.

<sup>798</sup> *Album stud. Acad. Fran.*, nos. 2816-20.

<sup>799</sup> *Album stud. Acad. Lugd.-Bat.*, col. 246.

<sup>800</sup> On Jonston, see Seccombe, "Johnstone"; Fischer, *Scots in Germany*, 222-25, 311-12; Loewe, "Dr. Johann Johnston"; Bilikiewicz, "Johann Jonston."

From Leiden Jonston tried to contact Reneri, who lived in Deventer. Reneri apparently did not respond, since on 1 March 1633 Jonston reports to Hartlib: “And I have not heard anything of Reneri, and as far as all printing initiatives are known to me, our friend [i.e., probably one of the many printers who published Jonston’s books] does not publish anything of him. I will nevertheless enquire.”<sup>801</sup> Apparently, the Hartlibians were eager to know Reneri’s work. In a letter of half a year later Jonston had to report that he still had not heard from Reneri himself, but that he was informed (probably through one of his Deventer contacts)<sup>802</sup> that Reneri “tests something didactical with regard to logic.” Apparently, he had understood that it concerned Ramist logic, which he rejected, because it did not involve a method of discovery: “Still nothing from Mr. Reinerus, although I understand that he tests something didactical with regard to logic. But if he does it by means of figures, he is mistaken. The best and most fruitful way to teach logic is through the promised knowledge of things.”<sup>803</sup>

Shortly after Jonston graduated in medicine under Vorstius on 15 May 1634,<sup>804</sup> he and his pupils left the Republic to continue their Grand Tour. They finally returned to Poland in 1636, where Jonston became court physician to the Leszczyńskis and town physician of Leszno. In addition, he became a teacher at the local school of the Unity of the Brethren, which was under the direction of John Amos Comenius (1592-1670).

Jonston is probably the addressee of a letter from Reneri about his experiments and inventions. The manuscript copy of it in the Hartlib Papers does not mention an addressee, but the reason to attribute it to Jonston is that the addressee acts as an intermediary between Reneri and Johannes Huniades, a Transylvanian alchemist living in London. Jonston is, as far as we know, the only one who knew both Reneri and Huniades, whom Jonston met during his stay in London in 1631. Furthermore, at that time, Jonston corresponded with

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<sup>801</sup> Jonston to Hartlib, 1 March 1633, HP 44/1/1A: “De Reinerio ne quicquam inaudiui: & si mihi notae sunt omnes operae Typographicae nil ipsius noster prodit. Inquiram tamen.”

<sup>802</sup> Jonston seems to have known Vedelius, and he corresponded with Stefan Pilgram, an Amsterdam merchant living there. See Jonston to Rivet, 20/30 August 1634, BPL 285B, fol. 189; Jonston to Rivet, undated, BPL 285B, fol. 190.

<sup>803</sup> Jonston to Hartlib, August 1633, HP 44/1/2A: “De Dominò Reinerio necquicquam adhuc: quamvis sciam aliquid in Logicis Didacticum tentare. Sed si subsidio figurarum agit, fallitur. Optimè Logica & felicissimè docetur promissa rerum notitia.”

<sup>804</sup> Molhuysen, *Bronnen*, 2:187.

Huniades about chemical drugs.<sup>805</sup> It is possible that the subject came up between Jonston and Reneri, whereupon Jonston told Reneri about Huniades. If Jonston is indeed the addressee of Reneri's letter, he succeeded in establishing contact with Reneri before he left the Republic in the summer of 1634. The letter can then be dated around 1634.<sup>806</sup>

Jonston put Reneri, apparently at the latter's request, in contact with Huniades. At that time, from 1633 to 1635, Huniades assisted the English *virtuoso* Sir Kenelm Digby (1603-1665) in his alchemical experiments. Huniades came from Baia Mare in Transylvania, where he was trained as a goldsmith. He had gained a reputation as an alchemist, which was probably the reason for Digby to employ him as operator in his laboratory at Gresham College, London. After Digby's voluntary exile to Paris in 1635, Huniades stayed at Gresham College and taught chemistry. He regularly had contact with Hartlib.<sup>807</sup>

In response to Reneri's request, Huniades sent him, through Jonston, an artificial jewel (for which he was renowned)<sup>808</sup> and a list of experiments. Reneri returned the favour by sending a lens, which could be used for a telescope or a camera obscura, as well as a list of his own experiments, which Jonston was to forward to Huniades. Reneri asked Jonston, moreover, if he could write directly to Huniades in the future. For Reneri this connection apparently was worth the investment of a lens. There is, however, no evidence for any further contact.<sup>809</sup>

#### 6.4.5. *Johann Heinrich Bisterfeld*

Reneri's friend Bisterfeld was a member of the Hartlib circle as well, although Reneri met him before either of them became involved in it. Bisterfeld studied theology at Herborn. A Grand Tour brought him, over Basle, Geneva, and Oxford, to Leiden, where he enrolled on 3 November 1626 to continue his theological studies.<sup>810</sup> In the second half of 1628 he left Leiden to work as a minister in Grave, near Nijmegen. Although Reneri, during the years Bisterfeld

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<sup>805</sup> Appleby, "Huniades."

<sup>806</sup> See Appendix 4.

<sup>807</sup> On Huniades, see Sherwood Taylor and Josten, "Johannes Banfi Hunyades"; Gömöri, "New Information on János Bánfihunyadi"; Rady, "Transylvanian Alchemist"; Appleby, "Huniades."

<sup>808</sup> See, e.g., Hartlib in his *Ephemerides* of 1639, HP 30/4/12B, in which he applauds the quality of these jewels.

<sup>809</sup> Reneri to Jonston, around 1634.

<sup>810</sup> *Album stud. Acad. Lugd.-Bat.*, col. 196. Bisterfeld disputed under Polyander on 5 May 1627. See Viskolcz, *Johann Heinrich Bisterfeld*, 10.

studied at Leiden, lived in Amsterdam, they met at some moment, presumably through Rivet. From Bastin's reference to Bisterfeld's letter to Reneri of 4 April 1628 (which is all we have, since the letter does not survive) we know that Reneri told Bisterfeld that he intended to spend a month on the study of astrology.

In 1629, Bisterfeld was appointed extraordinary professor of philosophy at the Herborn Academy (*Academia Nassauensis*), no doubt with the help of the professor of theology and philosophy Johann Heinrich Alsted (1588-1638). Alsted not only was a former professor of Bisterfeld, but had also been a friend of his father, the minister Johann Bisterfeld (d. 1619). Later Johann Heinrich Bisterfeld married Alsted's daughter Anna. In the fall of 1629, Alsted and Bisterfeld exchanged Herborn, which suffered severely from the Thirty Years' War, for the Collegium Academicum at Alba Iulia in Transylvania. Bisterfeld had been appointed professor of theology and philosophy there. He also became adviser of Prince György I Rákóczi of Transylvania (1593-1648).<sup>811</sup>

No further correspondence between Bisterfeld and Reneri is known, but they seem to have had a close relationship and must have stayed in contact all those years. When he travelled in western Europe in 1638-39, on a diplomatic mission for Rákóczi, Bisterfeld passed through the Republic from December 1638 to January 1639 and returned for a short time in March of that year.<sup>812</sup> Although they had not seen each other for ten years, Bisterfeld still called Reneri a very close friend.<sup>813</sup> Furthermore, they informed each other when somewhere a vacancy for a professor opened. When Bisterfeld learned that Bodecher Benning in the end had been appointed to the chair of ethics left vacant by Jacchaeus in 1628, he wrote to Rivet:

I am very much surprised that Bodecherus has been shown preference to my friend Reinerus (give him my most affectionate regards). If only he would have been appointed here [i.e., Alba Iulia] together with me! For physicians, especially

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<sup>811</sup> On Bisterfeld, see Seivert, "Bisterfeld"; Kvačala, "Johann Heinrich Bisterfeld"; Murdock, *Calvinism on the Frontier*, passim; Viskolcz, *Johann Heinrich Bisterfeld*.

<sup>812</sup> Moriaen to [Hartlib], 13 December 1638, HP 37/2B; Moriaen to [Hartlib], 17 January 1639, HP 37/3A; Moriaen to an unknown correspondent, [between 17 and 31 January 1639], HP 37/167A-B; Moriaen to Hartlib, 31 January 1639, HP 37/5A; Moriaen to Hartlib, 24 March 1639, HP 37/13A; Moriaen to Hartlib, 14 April 1639, 37/20A.

<sup>813</sup> [Bisterfeld] to [Hartlib], 19 September 1638, HP 27/7/8A. Cf. three letters from Bisterfeld to Rivet of 1631, UBL, BPL 285A, fols. 66-68, in which he conveys his regards to Reneri.



chemists, grow rich very quickly here. And our school would have needed such a man.<sup>814</sup>

Inversely, judging from a letter from Rivet to Reneri, Reneri asked Rivet in 1638 to try to have Bisterfeld appointed at a university in the Republic:

I had almost forgotten to respond to the things you suggested about our friend Bisterfeldius. I already moved every stone at Leiden and Franeker. The Leiden administrators are seriously considering it. They would not only want him to teach philosophy, but also and especially theology.<sup>815</sup>

Reneri and Bisterfeld probably had contact by letter in anticipation of Bisterfeld's visit to the Republic that winter. In 1639, Leiden University indeed decided to appoint him professor of philosophy and subregent of the States College. A year later Bisterfeld was even offered the chair of theology left vacant by the death of Walaeus. Bisterfeld liked the idea of exchanging Transylvania for the Republic. In 1629 he had been competing for the professorship of ethics at Groningen,<sup>816</sup> while he had been a candidate, in competition with Reneri, for the chair of philosophy at Utrecht in 1634. Ráckócy, however, was not willing to let him go.<sup>817</sup>

Bisterfeld had an interest in method early on, and under the influence of Alsted he became one of the great post-Ramist encyclopaedists. He received his education at the Herborn Academy, where instruction was set up along Ramist lines, and his father had published his own edition of Ramus' *Dialectica* in 1597. As of 1634 Bisterfeld is mentioned in the Hartlib Papers for a "universal art" he would be working on.<sup>818</sup> This probably was an early version of his

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<sup>814</sup> Bisterfeld to Rivet, 1 January 1631, UBL, BPL 285A, fol. 66r: "Bodecherum meo Reinero (quem amántissimè saluto) fuisse praelatum vehementer miror. Utinam mecum huc praefectus esset! Nam medici, praesertim chymici, híc celerrimè ditescunt. Et nostra schola tali eguisset viro."

<sup>815</sup> Rivet to Reneri, 13 May 1638: "Penè oblitus eram ad ea respondere quae suggerebas de nostro Bisterfeldio. Ego jam omnem lapidem movi, Leydae et Franekerae. Curatores Leidenses de eo cogitant serio, non solum ut philosophiam doceat, sed etiam et maximè ut inter Theologos sedeat." See also Menk, *Hohe Schule Herborn*, 308 n. 12, where he quotes from a letter from Rivet to Willem Staeckmans (1597-1641), member of the States of Friesland and Frisian delegate to the States General, of 29 December 1637, in which Rivet recommends Bisterfeld.

<sup>816</sup> Menk, *Hohe Schule Herborn*, 77 n. 92, 306.

<sup>817</sup> Molhuysen, *Bronnen*, 2:223, 229, 247, 262, 270.

<sup>818</sup> E.g., "Desiderata in logica," BL, Sloane MS 638, fol. 20r, where he is referred to as

“philosophical alphabet,” posthumously published in *Bisterfeldius redivivus* (1661).<sup>819</sup> The fact that both Reneri and Bisterfeld were interested in method prompts the question if they discussed the subject. However, Bisterfeld seems to have remembered Reneri, in 1631, primarily for his interest in medicine and chemistry, while Reneri does not seem to have started work on his method before 1630, that is, after Bisterfeld left the Republic. It is likely, however, that Reneri in later years sent a specimen of his Analysis to Bisterfeld. Reneri does not seem to have anything to do with Bisterfeld’s contact with Dury and Moriaen though, whom Bisterfeld visited in 1638 during his diplomatic mission and with whom he discussed method.<sup>820</sup>

#### **6.4.6. A Circle of Former Reformed Ministers in Cologne**

When Dury, on his way to Germany in 1631, stopped in Amsterdam, he saw, besides Reneri, his friends Justinus van Assche (1595-1650) and Petrus Serrarius.<sup>821</sup> He knew both men from Cologne, where they had been Reformed ministers like Dury. The Hartlib Papers suggest a connection between Reneri and this circle, to which the former German Reformed minister in Cologne Johann Moriaen also belonged.

Moriaen was the son of a Dutch Calvinist refugee in Nuremberg.<sup>822</sup> After he studied theology at Heidelberg University and worked as a minister at the underground German Reformed church in the Lutheran city of Frankfurt am Main, he was, in April 1619, appointed at the German Reformed church in Cologne.<sup>823</sup> Because Cologne was Roman Catholic, this was even more fraught with danger. There he met Dury as well as Van Assche and Serrarius. In the meantime, Moriaen also worked as an assistant lens grinder to a Cologne optician (perhaps as a cover), who made, among other things, microscopes. In the summer of 1627, Moriaen was dismissed at his own request because of the increased risk of persecution<sup>824</sup> and returned to Nuremberg to raise funds for the Protestant refugees from the Upper Palatinate, which was occupied by

“Pisterfeldius.”

<sup>819</sup> See Rossi, *Logic*, 142-44.

<sup>820</sup> Dury to Hartlib, 2 November 1638, HP 2/6/5A; Moriaen to an unknown correspondent, between 17 and 31 January 1639, HP 37/167A.

<sup>821</sup> Dury to Hartlib, [after May 1632], HP 60/5/1B. See also above, pp. 182-83.

<sup>822</sup> On Moriaen, see Young, *Faith, Medical Alchemy and Natural Philosophy*.

<sup>823</sup> Löhr, *Protokolle der hochdeutsch-reformierten Gemeinde*, 235.

<sup>824</sup> *Ibid.*, 334, where he is referred to as “Bruder Joh[annes].”

Bavarian troops. In Nuremberg, but perhaps earlier, Moriaen also came under the influence of mystic views.

In 1633, presumably from May to September, Moriaen travelled around the Republic to strengthen his network.<sup>825</sup> On 24 August he visited Beeckman, with whom he discussed the technique of grinding lenses and a “horologium perpetuum” which was constructed by the Cologne inventor Johannes Sibertus Kuffler (1595-1677) after the example of the “perpetuum mobile” of Kuffler’s father-in-law Cornelis Drebbel.<sup>826</sup> Moriaen had been introduced to Beeckman by Van Assche, who was Beeckman’s brother-in-law. Not long thereafter probably, Moriaen paid a visit to Descartes.<sup>827</sup> Beeckman would have advised Moriaen to meet Descartes, who would have been interested in Moriaen’s expertise in lens grinding. Indeed, Descartes asked Moriaen to assist him in his hyperbolic project. Descartes believed that hyperbolic lenses would produce sharper images than spherical, especially when large lenses were concerned, but they were also more difficult to produce. To overcome the limitations of manual lens grinding Descartes had devised a machine for grinding hyperbolic lenses.<sup>828</sup> Descartes then lived in Deventer, so it is likely that on that occasion he introduced Moriaen to Reneri.

The next five years Moriaen spent in Cologne again, where he was engaged in preparing chemical drugs. Van Assche, who worked as a physician in Amsterdam since 1631, provided him with advice and materials. In the second half of 1638, Moriaen settled as a businessman in Amsterdam,<sup>829</sup> where he became Hartlib’s principal agent in the Republic. The only known contact between Moriaen and Reneri is from this period. In late December 1638, Reneri introduced Moriaen by letter to Christian Otter (1598-1660),<sup>830</sup> a German

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<sup>825</sup> For Moriaen’s journey in the Republic, see Young, *Faith, Medical Alchemy and Natural Philosophy*, 21-23.

<sup>826</sup> Beeckman in notes written on 24 August 1633, in Beeckman, *Journal*, 3:300, 302.

<sup>827</sup> In a letter to Huygens of 8 December 1635, in AT, 1:596, Descartes writes that Moriaen visited him “some time ago” (“Il a quelque temps”), while Moriaen, in a letter to Hartlib of 14 November 1639, HP 37/47A, speaks of a meeting five years earlier. If we take this literally, it means that Moriaen visited Descartes in 1634. However, it is more likely that he visited Descartes as part of his journey in 1633. Furthermore, Descartes refers to Moriaen as an *honnête homme* from Nuremberg, but as of 1634 Moriaen lived in Cologne.

<sup>828</sup> For a description of this machine, see Descartes, *Dioptrique* x, in AT, 6:262-77.

<sup>829</sup> Young, *Faith, Medical Alchemy and Natural Philosophy*, 25.

<sup>830</sup> Moriaen to an unknown correspondent, 10 January 1639, HP 37/169A: “Ich bin dieser tagen durch adresse Domini Reineri von Utrecht mitt dem Christiano Ottero einem

mathematician living in Leiden, whom Reneri had first met himself only the month before in Utrecht.<sup>831</sup>

The contact between Reneri and Moriaen does not seem to have been close. When Moriaen, two months later, heard of Reneri's death, he was primarily interested in the auction of his belongings: "Now I turn to your Honour's letter. Reinerus is dead. I will try if I can obtain some of his things that were previously not known and I will gladly communicate them."<sup>832</sup> After browsing through the auction catalogue, however, Moriaen lost interest. His friend Van Assche, on the other hand, sent someone to make a possible bid:

We have not obtained anything from late Mr. Renierus' library. His books were sold for a very high price. The man to whom Dr. von Asche had all the same given an unlimited commission to obtain some books, did not bid because of the high prices. In order to be certain one had to be present in person and I would have done so if I had known there was something to be got there, but there was nothing in his catalogue that drew me there.<sup>833</sup>

It is not known if Reneri knew Van Assche, but it is not unlikely.<sup>834</sup> Van Assche came from Veere in Zeeland, where he went to the same school as the brothers

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sonderlichen Mechanico, welcher sich zu Leyden auffenthelt, undt Collegio helt, bekandt worden." Moriaen contributed to Otter's *album amicorum* on 31 December 1638. See Buck, *Christian Otter*, 264. Friedrich Johann Buck's biography of Otter is for the largest part based on the album and seems to quote all contributions. That same day Hortensius contributed to Otter's album as well. See Buck, *Christian Otter*, 263. See also Moriaen to an unknown correspondent, 14 February 1639, HP 37/7A, in which he reports on the meeting.

<sup>831</sup> See below, pp. 222-23.

<sup>832</sup> Moriaen to Hartlib, 12 May 1639, HP 37/23B: "Nun kom Ich auff des herrn Schreiben. Reinerus ist todt kan Ich etwas von seinen sachen bekommen das zue vorn nicht bekandt ist darnach will Ich trachten und gern communicirn." See also Moriaen to Hartlib, 30 June 1639, HP 37/31A.

<sup>833</sup> Moriaen to Hartlib, 12 August 1639, HP 37/37A: "Von H Reneri Selig Bibliotheca haben wir nichts bekommen sind seine bucher sehr hoch verkaufft worden der Ienige dem Dr von Asche wiewoll ungelimitirte commiszion gegeben einige bucher einzukauffen hatts umb der theurung willen underlaszen umb sicher zue gehen hette man selbsten zue stelle sein muszen und das würd Ich auch gethan haben wan Ich etwas da zue erholen gewust hette, Es hatt mich aber ausz seinem Catalogo nichts dahin gelockhet."

<sup>834</sup> On van Assche, see Beeckman, *Journal*, passim; NNBW, 1:187-88; Van der Wall, *Serrarius*, 39-42 and passim.

Isaac and Jacob (1590-1629) Beeckman. They became lifelong friends. Further, in May 1630 Van Assche married their sister Sara (1600-1635). Van Assche studied theology at Franeker and went on a Grand Tour (during which he stayed with Rivet in Thouars), before he succeeded Jacob Beeckman as headmaster of the Latin School of Veere in November 1620. In October 1622, he was simultaneously appointed as minister of the Dutch Reformed churches “under the cross” in Frankfurt am Main and Cologne, where he met Dury and Moriaen. In May 1627, he returned to Veere to be appointed minister there, but this appointment was cancelled because he refused to subscribe to the Three Forms of Unity—Van Assche had Arminian sympathies. After a stay with Jacob Beeckman in Rotterdam, he enrolled, on 11 December 1628, at Leiden University to study medicine.<sup>835</sup> In September 1629, Reneri enrolled there too, but shortly thereafter Van Assche continued his medical studies at Groningen, where Serrarius studied at that moment. He joined Serrarius in his chemical experiments. After Serrarius broke off his studies, Van Assche also left Groningen and enrolled at Franeker to finish his medical studies. He received his doctor’s degree in 1631 and then settled in Amsterdam to practise as a physician. In 1639 he moved to Middelburg. Given the circles they both moved in and their common interests, Van Assche may very well have been introduced to Reneri—by Beeckman, for instance, or by Dury when the latter visited Amsterdam in 1631—but there is no evidence he actually was.

The same applies to Serrarius.<sup>836</sup> After his arts studies at Oxford, Serrarius became a bursar at the Walloon College in Leiden in April 1620.<sup>837</sup> In June 1626, after he had served the Walloon churches of Vlissingen, Middelburg, and Groede, in the southernmost region of Zeeland, as assistant minister for two years, he was appointed in Cologne as the successor of Dury.<sup>838</sup> He arrived there in October that year.<sup>839</sup> Two years later, in September 1628, he was dismissed on suspicion of heterodoxy. At the insistence of his parents, he enrolled at Groningen in December 1628 to study medicine. In Cologne he had developed an interest in alchemy and iatrochemistry, which he practised in Groningen. In the spring of 1630, he broke off his studies and settled in Amsterdam, where he worked as a proofreader and promoted millenarian beliefs. Reneri must have met Serrarius in the Walloon College in 1620. Perhaps they re-established

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<sup>835</sup> *Album stud. Acad. Lugd.-Bat.*, col. 215.

<sup>836</sup> On Serrarius, see Van der Wall, *Serrarius*; BLGNP, 6:290-92.

<sup>837</sup> Resolutions of the Walloon Synod held in Haarlem, 1-4 April 1620, *Livre synodal*, 1:285. See also Posthumus Meyjes, *Waalse College*, 191.

<sup>838</sup> Resolutions of the *classe* meeting held in Leiden, 14 June 1626, *Livre des actes*, 251.

<sup>839</sup> Lühr, *Protokolle der wallonischen Gemeinde*, 128.

contact through the Hartlibians in the Republic at a later date, but there is, again, no evidence they actually met.

Serrarius' successor at the Walloon church in Cologne was Jacques de la Grève (b. 1598). He did not belong to this inner circle of mystical millenarianists, nor was he involved in Dury's irenic project, but he probably knew Dury from the Walloon College. De la Grève stayed there as a bursar of the Rombouts Fund (another scholarship foundation, founded by the Amsterdam merchant and Walloon church member Hans Rombouts (1562-1624)).<sup>840</sup> Since he defended his first theological disputation in June 1623, he probably entered the Walloon College in 1620, when Dury and Reneri were both still there.<sup>841</sup> In December 1628, he was appointed at Cologne.<sup>842</sup> From there, he wrote to Dury, who was in Frankfurt am Main while on tour in Germany, in response to a letter of 20 October 1632 (now lost). In this letter Dury informed about his book trunk, which he had left with Van Assche on his departure from Cologne,<sup>843</sup> and about common friends within the Walloon Church. De la Grève answered that the trunk was with Hendrik van Bilderbeek (d. ca. 1653), the States General's agent in Cologne (with whom Van Assche had left it when he was dismissed),<sup>844</sup> while Serrarius had taken some of his chemical books. With regard to the whereabouts of their friends, he could tell him that "Mr. Reineri is professor of philosophy at Deventer. If you like to write to him, I know a way of sending him a letter: he is well married."<sup>845</sup> De la Grève apparently knew Reneri's whereabouts through the Vivien, who, of course, belonged to his parishioners in Cologne. There is no evidence for any contact between Reneri and De la Grève at that time though.<sup>846</sup>

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<sup>840</sup> On the Rombouts Fund, see Posthumus Meyjes, *Waalse College*, 64-65; Zandvliet, *De 250 rijksten*, 360.

<sup>841</sup> Resolutions of the Walloon Synod held in Haarlem, 23-25 April 1626, *Livre des actes*, 248; Posthumus Meyjes, *Waalse College*, 56. The records of the Rombouts Fund do not survive.

<sup>842</sup> Resolutions of the Walloon *classe* meeting held in Leiden, 8 December 1628, *Livre des actes*, 275-76; Löhr, *Protokolle der wallonischen Gemeinde*, 131.

<sup>843</sup> Dury to Hartlib, [after May 1632], HP 60/5/1B.

<sup>844</sup> Löhr, *Protokolle der wallonischen Gemeinde*, 129. According to Löhr in *Protokolle der wallonischen Gemeinde*, 140, they were later sent to Van Assche in Amsterdam.

<sup>845</sup> De la Grève to Dury, 4 November 1632, HP 69/1A: "Monsieur Reineri est professeur en la Philosophie a Deventer si il vous plait de lui escrire je scay moyen de luy envoyer la lettre; Il est bien marrie [sic]."

<sup>846</sup> Turnbull, *Hartlib, Dury and Comenius*, 37, 127; Van der Wall, *Serrarius*, 38.

### 6.5. Conclusion

Reneri fully participated in the Republic of Letters. He sent out specimens of his Analysis, copies of his inaugural address, and lists of his experiments and inventions. Moreover, he introduced his friends to people in his network and lent other support. He provided Elichmann, for instance, with a patron in the person of De Wilhem. He did his best to get Bisterfeld appointed at a Dutch university, just as he got Regius appointed at Utrecht. And he collaborated on the printing of Gassendi's *Phaenomenon rarum*. It is striking, however, that most of Reneri's correspondents seem to have been non-academics. A reason for this could have been that for Reneri extramural scholarly networks were more important, because teaching at illustrious schools and universities was conservative and, therefore, natural science arose for the most part outside academia.

The emphasis in the exchange lay with his Analysis. People within the Hartlib circle were familiar with his experiments and inventions, to be sure, but their interest primarily concerned his method of logic. Through Jonston, Reneri sent a lens as well as a list of his experiments to Huniades, but this was nothing more than an enumeration. He did not reveal his "secrets." Probably nothing came of his promise to send Mersenne a list. As far as we know, Beeckman was the only one of the people dealt with in this chapter who actually saw one of Reneri's inventions, namely, an improved model of the thermoscope. It is also likely that he shared medical recipes with Elichmann. Reneri's general restraint in revealing his discoveries probably has something to do with his fear that other people would take the credit for them. Reneri no doubt expected that the publication he had in mind would give him the recognition he was seeking. Furthermore, his patrons, to whom he sent his inventions as a gift, would not have presented them as their own work. Therefore, Reneri could impart his secrets to these *liefhebbers* without risk, urging them to keep silent though. Inversely, he sent specimens of his Analysis, which of course was a less spectacular gift, to only a few of them.

Reneri was well aware of what the people in his network were interested in and, therefore, knew what to share with each of them. Accordingly, he sent specimens of his Analysis and later his inaugural address to people who had an interest in pedagogy or worked in academia. Little is heard in reaction to his plans for a reform of natural philosophical teaching. His method of logic, which formed the other part of his inaugural address, on the contrary, drew all the more attention, especially within the Hartlib circle. Only Barlaeus reacted favourably to the whole programme presented in the address.

Given the attention Reneri received from Hartlib and some of his collaborators, it is remarkable that Reneri in his correspondence never makes mention of any of them. This leaves the impression that Reneri was less interested in the Hartlib circle than vice versa, although he would certainly have welcomed their interest in his work and obviously shared some of the pedagogic and encyclopaedic ideas that circulated in this circle. Likewise, he would have been interested in the production of chemical drugs by Moriaen, Serrarius, and Van Assche. If it is true that he paid little attention to the Hartlibians, a reason could have been that he had other priorities. It seems he felt he was too busy to maintain all of his relations. His friendships with Gassendi and Mersenne bear witness to this. He corresponded with both men for only a few years, but it petered out the moment Reneri was appointed at Deventer.

All in all, Reneri's contribution to the circulation of knowledge was small. He raised high expectations, but all he shared in general were only specimens of his Analysis, and lists of his experiments and inventions. Few of his discoveries were known outside the cabinets of curiosities of his patrons or were completed at all. The results of more than ten years of studying and experimenting were put up for auction after Reneri's death, but nothing is heard of them thereafter.



## Chapter 7

### Network III: Friend and Follower of Descartes

#### 7.1. Introduction

Although Descartes and Renier were best friends, little is known about their relationship. Only two letters from Descartes to Renier survive. This paradox is caused by the very fact that, being close friends, they saw each other on a regular basis and even lived close to each other for a total period of nearly three years (including the summer of 1630 when Descartes temporarily took domicile in Leiden). Therefore, there was little need to write to each other. In addition to these letters, there is a handful of testimonies from various sources (letters, notebooks, and printed texts), which hint at their strong bond. In this chapter, I first characterize their relationship on the basis of these scarce sources. What was it they liked in each other, or rather what did they have to offer each other?

Next, I examine Renier's role in the formation of Descartes' network. When Descartes came to the Republic in 1629, he did not know anyone except Beeckman. Their acquaintance went back to 1618, when Descartes was with the army in Breda. Nevertheless, Descartes soon had a small but high-quality network among scholars, which largely overlapped that of Renier. One is inclined to assume that, especially during the early years of Descartes' stay in the Republic, Renier played an important part in forming this network. I will therefore examine if Descartes' network was built on Renier's existing network. Inversely, although he was not widely known until his fame spread in the 1640s, Descartes quickly built a reputation, especially in circles of mathematicians. Renier also knew many of them. This prompts the question if Renier, for his part, at a given moment profited from Descartes' network.

Finally, Renier was a staunch advocate of Descartes and his ideas. He won two of his friends in Utrecht, his colleague Aemilius and his neighbour Regius, for Cartesianism. Regius, moreover, owed his later appointment as professor of medicine to Renier's lobbying and the success of his private classes in the "new philosophy." Furthermore, in Chapter 3, I have shown that Renier cautiously tried to introduce his students to Descartes' philosophy by employing Cartesian explanations in the *collegia physica* and by reading from the *Discours*

in his public lectures at Utrecht. Here we will look at some individual students and see how Renner's promotion of Descartes' philosophy was received by them. This will give an answer to what Renner contributed to the spread of Cartesianism in academia on a personal level.

## 7.2. Renner's Relationship with Descartes

### 7.2.1. Renner's Admiration for Descartes

Renner met Descartes in October 1628 or in March 1629.<sup>847</sup> They were probably introduced to each other by Rivet, who knew Descartes through Beeckman, or by Beeckman himself.<sup>848</sup> Renner probably owed his introduction to Descartes to his interest in optics, since during a meeting which must have been one of their first Descartes told Renner about Scheiner's *Oculus* (1619).<sup>849</sup> Renner before long recognised Descartes' genius and was much impressed with this man who was even three years younger than himself. A year and a half after they met, Renner wrote to De Wilhem that Descartes "(in my opinion) is not only indeed the most learned in mathematics and the whole of philosophy of all who have ever existed, but he also equals you in humanity and kindness."<sup>850</sup> This admiration for Descartes and his work came close to idolatry. In a letter to Mersenne of early March 1638 Renner speaks about Descartes, albeit in a metaphorical sense, as a god:

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<sup>847</sup> 8 October 1628, the day Descartes visited Beeckman and which marks his arrival in Holland, provides the date *post quem*, while 28 March 1629, the date of Renner's letter to Huygens, in which he speaks of "that French nobleman" ("nobilis ille Gallus") who is interested in optics, provides the date *ante quem*. In between Descartes returned to Paris for a few months.

<sup>848</sup> Baillet (*Vie de Descartes*, 1:189) is among those who think that Renner met Descartes through Beeckman, whereas Beeckman's biographer Klaas van Berkel, in *Isaac Beeckman*, 127 n. 63, claims Renner met Descartes through Rivet. Beeckman is indeed less likely, given his quarrel with Descartes in 1629-30. Cf. Sassen, *De reis van Gassendi*, 27 n. 147, in which Sassen retracts his earlier claim made in *Henricus Rennerius*, 12, that Beeckman was the one who introduced them. Without further explanation, Sassen instead claims it was Rivet.

<sup>849</sup> Renner to Huygens, 28 March 1629.

<sup>850</sup> Renner to De Wilhem, 10 September 1631(a): "[...] non enim modò in mathematicis ac philosophia solidiori omnium est qui unquam extiterunt (meo iudicio) eruditissimus; sed praeterea humanitate ac benignitate tibi non cedens."

He is my light, my sun, and like Virgil in the *Bucolics*, I can say of him: “He will always be a god to me.”<sup>851</sup> Of course, by calling him god I mean that he is the most outstanding among all mortals as to virtue and learning.<sup>852</sup>

What was it Reneri admired so much? First of all, he was deeply impressed by Descartes’ mathematics. Most of Reneri’s remarks in his letters about Descartes concern this subject. This is remarkable, since Reneri was not a mathematician nor regarded himself as such,<sup>853</sup> although he claimed to have had the ambition to master it for a long time. Reneri gives several reasons for his interest in mathematics. Not only did he want to study it

in order that, when I know the things other mathematicians know and which can be found in books, I am better equipped to learn and understand the mysteries of mathematics from Mr. de Cartes’ mouth, who does not have nor will ever have an equal in this science or in the investigation of the nature of things.<sup>854</sup>

But also was mathematics, according to Reneri, just as medicine, necessary for philosophy.<sup>855</sup> In his Utrecht inaugural address he even claims that the decline of philosophy in his days is partly caused by the fact that students ignore the principles of mathematics.<sup>856</sup> In his letters Reneri puts it even more strongly. Philosophy was in decline because it was “lying in the dark without the light of the mathematical disciplines.”<sup>857</sup> For mathematics is

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<sup>851</sup> Tityrus to Meliboeus, referring to the Roman Emperor Augustus, who had brought peace to the Roman Empire after years of civil wars. The quotation is from Virgil, *Eclogues*, 7.7.

<sup>852</sup> Reneri to Mersenne, early March 1638: “Is est mea lux, meus sol, et quod Virgilius in *Bucolicis* dixit, idem possum de ipso dicere—Erit ille mihi semper Deus [the underlining is Reneri’s, RB]. Nempe Dei nomine intelligendo eminentissimum inter omnes mortales quoad virtutem et eruditionem.”

<sup>853</sup> Reneri to De Wilhem, 28 February 1638.

<sup>854</sup> Reneri to De Wilhem, 12/22 December 1633: “[...] afin que sachant les choses communes aux autres mathématiciens et qui se peuvent tirer des livres je fusse plus propre à apprendre et comprendre les mystères des mathématiques de la bouche de monsieur de Cartes, qui n’a ni n’aura jamais, son pareil esdites sciences ou en la recherche de la nature des choses.”

<sup>855</sup> Reneri to De Wilhem, 12/22 December 1633.

<sup>856</sup> Reneri, “Oratio inauguralis,” [175].

<sup>857</sup> Reneri to Booth, 26 September 1633: “[...] in obscuro jacere mathematicarum disciplinarum luce destituta [...]].”

the telescope of philosophy. Without it we see the truth of the things, which is so far from us, only in a very confused way. [...] I notice that by their means my understanding becomes clearer and begins to see more clearly when investigating the things with which my professorship [i.e., of physics] is concerned. After having acquired in these disciplines such knowledge that I, inevitably, want to devote myself entirely to the public good and use the gifts that God gave me, not only in speech but also in writing; all the more because my heart aches at seeing philosophy so badly cultivated and its wonderful uses so little known.<sup>858</sup>

It is impossible to tell what Reneri had in mind exactly. To be sure, there was a general belief, which went back to antiquity, that mathematics sharpens the reasoning faculty, but what Reneri had in mind seems to be more specific. According to Aemilius, Reneri not only followed Plato in believing that mathematics was necessary for philosophizing correctly, but he was also under the impression that it was with the help of mathematics that Descartes had been able to penetrate the secrets of nature.<sup>859</sup> This is not very specific either. Given that mathematics play no role whatsoever in Reneri's physics, his interest in the subject probably was a reflection of his admiration for Descartes.

In his funeral oration Aemilius claims that Reneri applied himself to mathematics after his arrival in Utrecht with the help of Frans van Schooten (Aemilius presumably means Frans van Schooten Jr. (ca. 1615-1660)).<sup>860</sup> Reneri's letter to De Wilhem of 12/22 December 1633, however, shows that Reneri already in the fall of 1633 had invited Gillot to come to Deventer and instruct him in mathematics. There is no evidence that Reneri also took lessons with Van Schooten, but it is likely he met him at some moment, since Van Schooten was a friend of Descartes. What may have happened is that Reneri told Aemilius the story about Gillot and mentioned the name of Van Schooten in

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<sup>858</sup> Reneri to De Wilhem, 12/22 December 1633: "[...] des lunettes d'approche en la philosophie. Sans icelles la verité des choses qui est tant eslongnee de nous ne se voit que fort confusement. [...] je sens que par icelles mon entendement s'esclaircist, et commence à voir beaucoup plus clair en la recherche des choses appartenantes à ma profession. Apres avoir acquis en ces disciplines telle cognoissance qu'il me sera necessaire je me veux entierement employer pour le bien public, et deployer les dons que Dieu aura mis en moy non seulement par vifve voix; mais aussy par escrits: sur tout que j'ay mal au coeur de voir la philosophie si mal cultivee et ses admirables usages si peu cognus."

<sup>859</sup> Aemilius, *Oratio in obitum Renerii*, 12.

<sup>860</sup> *Ibid.*

relation to Descartes. Aemilius, then, when he wrote his funeral oration years later, mixed them up.

Reneri resumed his study of mathematics with renewed effort after his teaching load was reduced on 26 February/7 March 1638, now with the help of Descartes and an unknown mathematics teacher, whom he paid the considerable sum of 100 guilders (it is not known over what period Reneri took lessons). The previous year Descartes had published the *Géométrie* as one of the *Essais* that accompanied the *Discours*:

I begin to enjoy solving mathematical problems by means of Mr. Des Cartes' algebra so much that I begin to have hopes for myself, which I never dared to think about before. I feel, with spring coming, a new spring in my mind, the clouds and mist dimming my understanding before dissolving little by little, and I even begin to see the nature of things in a completely different light than I did before. And if our magistrate sees fit to relieve my working load a little, which is too heavy, I have the intention of trying the entire summer to fully understand the geometry of Mr. des Cartes and, furthermore, of investigating the nature of plants.<sup>861</sup>

In August of that summer Reneri, as planned, visited Descartes in Santpoort. A report of his visit gives a more concrete glimpse into what they talked about. According to Baillet, Descartes showed Reneri his explanation of the demonstration of the cycloid by the mathematician French Gilles Personne de Roberval (1602-1675), his answer to the objections of the French astrologer Jean Baptiste Morin (1583-1656) against Descartes' theory of light, and his examination of Jean de Beaugrand's (ca. 1595-1640) *Geostaticæ* (1636), in which Beaugrand claims to prove that a body becomes less heavy the closer it is to the centre of the earth.<sup>862</sup> A lot of (mixed) mathematics and a little natural philosophy, then, which confirms the picture that emerges from Reneri's own

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<sup>861</sup> Reneri to De Wilhem, 28 February 1638: "Je commence à me plaire tellement à la solution des questions mathematiques par l'algebre de monsr des Cartes, que je commence à concevoir des esperances de moy mesme, ausquelles je n'eusse jamais osé penser auparavant. Je sens avec le printemps comme un nouveau printemps en mon ame, les nuees et brouillars qui offusquoyent au paravant mon entendement se dissipent peu a peu: et je commence à regarder mesmes la nature des choses tout d'un autre oeil que je ne faisoy au paravant. Et puis qu'il a pleu à nostre magistrat d'allegger un peu mon trop grand travaille, je fay dessein tout ceste esté de tascher à comprendre entierement la geometrie de monsr de Cartes, et en oultre d'examiner la nature des plantes."

<sup>862</sup> Baillet, *Vie de Descartes*, 2:9-10.

letters. Descartes' analytic geometry, however, probably always remained a mystery for Renieri. According to Descartes, few people fully understood it—and it must be presumed that Renieri was not among them.

Besides mathematics, Renieri embraced Descartes' natural philosophy. Although Renieri's attitude towards traditional views before he met Descartes is not known, the fact that he performed experiments and his contacts with men such as Beeckman suggest that he was at least open for a different approach. Descartes taught him his corpuscular theory of matter early on. Given the content of Descartes' letters to Renieri, the two discussed subtle matter, the vacuum, and circular motion. Furthermore, *Le Monde* and the *Dioptrique* were for a large part written in Deventer, practically under Renieri's eyes. Renieri also had an interest in Descartes' philosophy in relation to his chemical activities, judging from his letter to De Wilhem of 10 September 1631.<sup>863</sup> As is discussed in 5.2. above, the question remains if Renieri fully grasped Descartes' philosophy and its implications, since he turns it into an eclectic mix of Aristotle and various mechanical corpuscular theories. That Renieri expected Descartes to change the face of philosophy, however, is beyond questioning.

As discussed in Chapter 4, we do not know how familiar Renieri was exactly with Descartes' ideas about method when he presented his own quasi-Baconian method in his inaugural address and his disputation *De natura et constitutione physicae*. Renieri probably discussed the subject with Descartes more fully when the latter was working on what was to become the sixth part of the *Discours*, which provided a theory on the use of observation and experiment. It was written in Utrecht during the winter of 1635/36 and originally it was the introduction to the *Dioptrique* and the *Météores*. Descartes was persuaded to publish these works by his friends, among whom Renieri. Judging from Regius' letter to Descartes of 18 August 1638, Renieri knew enough of it to introduce Regius at some time to Descartes' method.<sup>864</sup> This was before the publication of the *Discours*, but probably not much earlier. Early March 1638, that is, after the *Discours* was published, Renieri wrote in a letter to Mersenne that he expected that Descartes' way of philosophising was the one that would prevail. It is not known if this refers to Descartes' method. In his funeral oration Aemilius gives the impression that Renieri's interest primarily concerned Descartes' physics and mathematics.<sup>865</sup>

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<sup>863</sup> Renieri to De Wilhem, 10 September 1631(a). See above, p. 125 n. 542.

<sup>864</sup> Regius to Descartes, [8/]18 August 1638, in Bos, *Correspondence*, 3.

<sup>865</sup> Renieri is completely silent about Descartes' metaphysics. Although metaphysics in general never interested Renieri much, the question is also what he knew about that of Descartes. After all, until 1639, when he began writing the *Meditationes de prima*

### 7.2.2. *Reneri's Support of Descartes*

Through his enthusiasm for Descartes' work Reneri also had an encouraging and stimulating effect on Descartes. After Gassendi showed Reneri a copy of the description of the parhelia observed on 20 March 1629, Reneri not only asked Gassendi to write down an explanation, but, in late July or early August 1629, he also sent a copy to Descartes, asking him for his opinion on the cause of the phenomenon.<sup>866</sup> This caused Descartes to interrupt his work on metaphysics he had been doing since his arrival in the Republic and turn his attention to all meteorological, that is, sublunar phenomena. He even resolved to write a short treatise on them, but in November he changed his mind and decided to write a treatise on all natural phenomena.<sup>867</sup> At a later stage he called this project "The World" (*Le Monde*).

In May 1632 Descartes moved to Deventer to work on *Le Monde* with Reneri living nearby. He also had the plan to complete the *Dioptrique* there, which he had begun working on in Paris during the second half of the 1620s. He completed *Le Monde* in July 1633, after which he prepared the manuscript for publication.<sup>868</sup> However, when he heard, in November, of Galileo's condemnation earlier that year, he decided not to publish it, because his work, too, supported the Copernican hypothesis.<sup>869</sup>

In April 1634 Reneri moved to Utrecht. At the end of that month or the beginning of May, after Reneri had left, Descartes moved out of Deventer too.<sup>870</sup>

*philosophia*, Descartes had not much to show apart from what he had been working on in Franeker in 1629 (presumably a first draft of what later became the *Meditationes*) and his reflections on the matter in *Discours* iv (AT, 6:31-41). See Gaukroger, *Descartes*, 195-210. Cf. McGahagan, *Cartesianism in the Netherlands*, 129-32.

<sup>866</sup> Descartes to Mersenne, 8 October 1629, in AT, 1:23/CM, 2:300; Descartes to Mersenne, [21 April 1641], in AT, 3:362-63/CM, 9:586-87. Mersenne had a copy of his own and had written Descartes about it, not knowing the latter already knew about the observation. Descartes gives his explanation of this particular observation in *Météores* x (AT, 6:361-66).

<sup>867</sup> Descartes to Mersenne, [13 November 1629], in AT, 1:69-70/CM, 2:314-15.

<sup>868</sup> Descartes to Mersenne, 22 July 1633, in AT, 1:268/CM, 3:459.

<sup>869</sup> Descartes to Mersenne, [end of November 1633], in AT, 1:270-72/CM, 3:557-59. For the genesis of *Le Monde*, see Descartes, *Philosophical Writings*, 1:79-80; Gaukroger, *Descartes*, 226-28.

<sup>870</sup> Descartes gives his new address to Mersenne in a letter of 15 May 1634, in AT, 1:299/CM, 4:146, whilst there is no mention of a move out of Deventer in his letter to Mersenne of [April 1634], in AT, 1:284-89/CM, 4:97-100. Furthermore, Descartes initially

He settled in Amsterdam, where he resumed his work on the *Dioptrique*. Ten months later, in March or April 1635, Descartes moved to Utrecht. The reason for this move is not known. Perhaps Amsterdam provided too much distraction. Around that time Descartes reconsidered his decision not to publish. Renieri may have invited Descartes to join him in Utrecht and enjoy the relative peace and quiet of the town. The fact that Renieri let Descartes initially use his address to receive mail seems to confirm this.<sup>871</sup>

At Utrecht Descartes continued working on the *Dioptrique*. In October 1635 it was finished.<sup>872</sup> From the moment he withdrew *Le Monde* Descartes showed reluctance to publish his ideas,<sup>873</sup> but the repeated requests of Golius, Huygens (who had met Descartes at the house of Golius in Leiden in April 1632, where they discussed optics),<sup>874</sup> and Renieri persuaded him.<sup>875</sup> He then decided to add his *Météores*, together with an introduction to both treatises. For *Le Monde* Descartes had gathered the material he had drafted since 1629, when he first had the idea of writing a treatise on meteorological phenomena. He had been rewriting this material in the summer of 1635, so the *Météores* was practically ready. He probably finished the definitive draft in November.<sup>876</sup> The

intended to stay in the Republic only for a short period of time.

<sup>871</sup> See, e.g., Pollot to Renieri for Descartes, April 1638, in AT, 1:511-17; Huygens to Descartes, 28 October 1635, in AT, 1:325-27 (enclosed with Huygens' letter to Renieri of 29 October 1635).

<sup>872</sup> Descartes to Mersenne, [fall 1635], in AT, 1:322/CM, 5:125.

<sup>873</sup> Descartes to Mersenne, [February 1634], in AT, 1:281-82/CM, 4:27-28; Descartes to Mersenne, [April 1634], in AT, 1:285-86/CM, 4:50-51.

<sup>874</sup> Huygens to Golius, 7 April 1632, in Huygens, *Briefwisseling*, 1:348; Golius to Huygens, 16 April 1632, in Huygens, *Briefwisseling*, 1:349; Huygens to Golius, 21 October 1632, in Huygens, *Briefwisseling*, 1:368. Descartes and Huygens did not see each other again until three years later, when they met on three consecutive mornings during the period from 29 March to 6 April 1635. In these meetings Descartes read parts of the *Dioptrique* to Huygens, while Huygens offered his help on the hyperbolic project Descartes had been working on since 1629, by having a sample hyperbolic lens grinded. See Descartes to Golius, 16 April 1635, in AT, 1:314-16; Descartes to Huygens, 1 November 1635, in AT, 1:329-30.

<sup>875</sup> Descartes to Huygens, 15/25 April 1635, in AT, 1:585-86; Huygens to Descartes, 28 October 1635, in AT, 1:325-26; Descartes to Huygens, 1 November 1635, in AT, 1:329-30; Huygens to Descartes, 5 December 1635, in AT, 1:594-95. On Huygens' involvement with the *Discours*, see also Dibon, "Constantin Huygens." Cf. Descartes, *Discours* vi, in AT, 6:74-75, in which Descartes gives his reasons for publishing his ideas all the same.

<sup>876</sup> See Descartes to Golius, 19 May 1635, in AT, 1:320; Descartes to Huygens, 1 November 1635, in AT, 1:329-30.



introduction, the later sixth part of the *Discours*,<sup>877</sup> was written during that winter. In January 1636 it was finished. Through the intermediary of Golius, Descartes had previously come to an understanding with the Elsevier publishing house, but they lost interest.<sup>878</sup> At the end of January or the beginning of February, Descartes moved to Leiden to find a new publisher for the project and supervise the printing. It was only then that Descartes thought of adding the *Géométrie*. He wrote it in November, while the *Météores* was being printed.<sup>879</sup> The other five parts of the *Discours* were written between March 1636 and March 1637.<sup>880</sup>

After the *Discours* and the accompanying *Essais* were published by the Leiden printer Jean Maire (1603-1657) in June 1637, Renéri helped Descartes by having the printing office of Maire bind copies especially for Stadholder Frederick Henry, King Louis XIII of France (1610-1643), and Cardinal Richelieu (1585-1642). Furthermore, he distributed copies among some of Descartes' prominent Dutch connections, including Constantijn Huygens and his brother Maurits.<sup>881</sup> In Amsterdam, Renéri delivered complimentary copies, among others, to Pieter Cornelisz. Hooft.<sup>882</sup> There he probably also visited the parents

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<sup>877</sup> See also above, p. 206.

<sup>878</sup> See Van Otegem, *Bibliography*, 4-6.

<sup>879</sup> Descartes to [Jean Deriennes], [October 1637], in AT, 1:458.

<sup>880</sup> For the genesis of the *Discours*, see Denisoff, "Étapes"; Gadoffre, "Chronologie." In "Henri Renéri," 277, Bastin assumes that Renéri compiled the tables of content of the *Dioptrique* and the *Météores* which conclude the *Essais*. His argument for this assumption is a letter from Huygens to Barlaeus of 1 September 1642, in Huygens, *Briefwisseling*, 3:343, which shows that the tables were the work of someone other than Descartes but with an understanding of what both treatises were about: "Therefore, in my opinion, no one has ever deserved more merit from Cartesius and the readers of Cartesius than he who precisely arranged the rich table for the little physical treatises, which he published before this one [i.e., the *Meditationes*]." ("Unde neminem de Cartesio et Cartesij lectoribus melius meruisse olim judicavi, quam qui opusculis physicis, quae his praemisit, indicem locupletem ἡχρῖβωσε.") Although it cannot be proven that this indeed refers to Renéri, it is quite possible, given Renéri's involvement in the publishing of the *Discours*, the importance he attached to tables in his Utrecht inaugural address, and his familiarity with the *Dioptrique* and the *Météores*. It would also explain why Huygens refers to the tables of the "physical treatises" and not to that of the *Géométrie*, since this work would probably have proven too difficult for Renéri.

<sup>881</sup> Descartes to Huygens, [June 1637], in AT, 1:636-37. Descartes further writes that if Huygens thought that more copies needed binding, he had to turn to Renéri.

<sup>882</sup> Renéri to Hooft, 16 June 1637. On the flyleaf (UBA, hs. E c 100) Hooft wrote: "P.C. Hooft, given by the author, Mr. Des Cartes" ("P.C. Hooft, Don de l'Authœur, Monsr. Des

of the Leuven professor of medicine Vopiscus Fortunatus Plem (1601-1671) and gave them three copies of the *Discours* to forward to their son.<sup>883</sup>

Before Plem was appointed at Leuven in 1634, he studied arts at the College of the Falcon in Leuven from 1618 to 1620, and medicine at Leiden, Padua, and Bologna. Next, he practised medicine in Amsterdam. There he was introduced to Descartes by Elichmann, whom Plem had met in May 1631.<sup>884</sup> Judging from a letter from Libertus Fromondus to Plem of 13 September 1637, the latter also knew Reneri. Plem received the copies of the *Discours* from his parents in late August. At the request of Descartes no doubt, he passed one of them, together with a covering letter, on to Fromondus<sup>885</sup> Fromondus not only was his colleague, but also had been his professor of philosophy at the Falcon. In response, Fromondus gave Plem his opinion of the work and added:

These are the things, most illustrious Sir, that immediately at first sight seemed difficult to me in that otherwise ingenious author [i.e., Descartes], [a man] of enormous effort and carefulness. It even pleases me more that he is a Catholic in faith and with us has the hope of eternal life after this short life. If only I could say the same of Mr. Henricus Reneri, who, as you told me, teaches philosophy at Utrecht! In the past I saw him as a student of Mr. Nicolaus Bardout at the Falcon, who nowadays is a canon of St. Donatian's in Bruges. If only he had retained the philosophy and mindset of his master! Let us no longer mourn over his shipwreck in faith. Give him my best wishes and tell him to keep in mind that after this fleeting life the long eternity awaits.<sup>886</sup>

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Cartes"). See also Tuynmann, "Hoof en de filosoof," 177.

<sup>883</sup> Plem to Descartes, 15 September 1637, in AT, 1:399.

<sup>884</sup> Plem, *Fundamenta medicinae*, 375; contribution from Plem to Elichmann's *album amicorum* of 20 May 1631, <http://images.wellcome.ac.uk/indexplus/image/L0012970.html> (accessed 6 March 2013).

<sup>885</sup> Plem to Descartes, 15 September 1637, in AT, 1:399.

<sup>886</sup> Fromondus to Plem, 13 September 1637, in AT, 1:408-9: "Haec sunt, Clarissime Domine, quae primo statim obtutu difficilia mihi visa in isto auctore ingenioso aliàs, ingentis conatùs & diligentiae; delectat etiam me magis quòd fide catholicus & spem nobiscum habeat post hanc vitam brevem aeternae. Utinam idem possim de D. Henrico Reneri quem ais Ultraiecti philosophiam profiteri! Vidi olim eum discipulum D. Nicolai Bardout [sic] in Falcone, qui hodie Brugis ad S. Donatianum est canonicus. Utinam magistri sui philosophiam & mentem retinisset! Non doleremus iam eius in fide naufragium. Salveat a me, & dicito meminerit post fugitivam hanc vitam restare longam aeternitatem."

Plemp probably knew Reneri through Elichmann or Descartes. At some time, apparently, their common background as former students of the Falcon had come up.

It would have been this supportive and cooperative attitude of Reneri which appealed so much to Descartes. To be sure, according to Golius, Descartes moved to Deventer to be able to work without interruption: "He [i.e., Descartes] now retires to Deventer, in order to free himself of commotion and people addressing him, and thereafter devote himself more fruitfully to all things."<sup>887</sup> But since seclusion could be found elsewhere too, Descartes possibly also sought a sparring partner with whom he could discuss his work. Indeed, Descartes highly valued Reneri's intellectual capacities, as he writes in a letter to an unknown addressee of 12 September 1638, giving advice to a father on which university to choose for his son: "but for his studies, I think he would be much better off at Utrecht, for it has a university which, founded only four or five years ago, has not yet had the time to degenerate, and there is a professor, with the name Reneri,<sup>888</sup> who is an intimate friend of mine, and who, in my judgement, is better than all those from Leiden."<sup>889</sup> To be sure, Reneri was not

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<sup>887</sup> Golius to Huygens, 1 November 1632, in Huygens, *Briefwisseling*, 1:375: "Ipse nunc Daventriam secessit, ut se turbae et compellationibus eximat et postea se fructuosius omnibus impertiat." See also above, p. 48.

<sup>888</sup> AT gives "le Roy," which is based on Clerselier's edition of Descartes letters (Descartes, *Lettres*, 2:390). Descartes used to abbreviate names in the draft versions, which Clerselier expanded. Clerselier apparently thought that by "R." Regius was meant, but this could refer to Reneri just as well—the date in AT is uncertain and therefore provides no clue. Descartes refers to the inauguration of Utrecht University four or five years earlier. If we assume that Descartes meant the date of the inauguration of the university proper, that is, when the Illustrious School was raised to the status of university in 1636, the letter is from 1640 or 1641. Then "R" could be no one else but Regius. If Descartes, on the other hand, thought of the inauguration of the Illustrious School in 1634, the letter is from 1638 or 1639. I think the latter is more likely and that Clerselier made a wrong conjecture, since Descartes and Regius in that period were not yet friends. Furthermore, Clerselier made the same mistake (which was already noticed by Baillet in *Vie de Descartes*, 2:20) in Descartes' letter to Mersenne of 23 August 1638, in AT, 2:330/CM, 8:58. See Bos, *Correspondence*, xxxiii, esp. n. 78.

<sup>889</sup> Descartes to an unknown addressee, [12 September 1638], in AT, 2:379: "[...] mais pour les études, ie croy qu'il seroit beaucoup mieux à Utrecht; car c'est une Université qui, n'estant érigée que depuis quatre ou cinq ans, n'a pas encore eu le temps de se corrompre, & il y a un Professeur, appelé M. R(eneri) [my conjecture, RB; Clerselier has "le Roy"], qui m'est intime amy, & qui, selon mon iugement, vaut plus que tous ceux de Leyde."

of the calibre of men like Beeckman or Mersenne, but he certainly was intelligent and he had an open mind. Furthermore, from his correspondence and testimonies emerges a picture of Renieri as frank, modest, and generally easy to get along with, character traits which suited Descartes' personality. The fact, moreover, that they shared the same native language could also have played a role in their getting along. Furthermore, Renieri had such an admiration for Descartes that he would not have easily disoblged him, which had been the cause of several quarrels Descartes had with friends over the years. His friendships, for instance, with the French instrument maker Jean Ferrier,<sup>890</sup> Beeckman, Martinus Hortensius (1605-1639), and Regius all ended as soon as they hurt his pride, criticized his ideas, or took their own course.<sup>891</sup>

Another possible reason why Descartes wanted to have Renieri nearby is that Renieri had the facilities and the experience to perform a great variety of experiments. This would have suited Descartes, who, in matters of observation and experiment, preferred his own eyes, also because what other people saw, in his view, depended on what they expected to see—but he accepted experimental results of others that confirmed his theory. Furthermore, according to Descartes, experiments were often badly performed.<sup>892</sup> Indeed, he claimed that all his works were based on experiments he performed himself.<sup>893</sup> Collaboration with Renieri would have allowed Descartes to see for himself how an experiment was designed and executed.

It is not known if Renieri actually assisted in Descartes' experiments, but Descartes surely would have been interested in Renieri's equipment and materials. Instruments such as the thermometer and the camera obscura were expensive and their construction cost much time and effort, but they were readily available at Renieri's house. Descartes experimented with the camera

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<sup>890</sup> There were several instrument makers with the name Ferrier active in Paris at that time. For the discussion on Ferrier's identity, see Burnett, *Hyperbolic Quest*, 1 n. 1.

<sup>891</sup> Or, as Descartes expressed it in a letter to Mersenne of [25 May 1637], in AT, 1:375/CM, 6:278: "having experienced that I was not given the same [friendship and sincerity] by those of whom I have learned that they do not love me and that they are people who try to establish a reputation under false pretences, such as Beeckman, Hortensius, Ferrier, and the like." ("[...] veu que ie ne l'ay pas mesme pû avoir de ceux que i'ay sceu ne m'aimer pas, & estre gens qui tâchent d'acquérir quelque reputation à fausses enseignes, comme de B(eeckman), H(ortensius), F(errier), & semblables.")

<sup>892</sup> Descartes, *Discours* vi, in AT, 6:73. See also Bos and Verbeek, "Conceiving the Invisible," forthcoming.

<sup>893</sup> Always in letters to Mersenne, e.g., of 15 April 1630, in AT, 1:141/CM, 2:427; [5 April 1632], in AT, 1:243/CM, 3:291.

obscura because it provided a model of the eye (which was a common analogy since Kepler). In the *Dioptrique* Descartes invites the reader to experience for himself the refraction of light in the eye by means of a homemade camera obscura. The working of the eye could be imitated by trying different lenses and by varying the size of the hole and the distance between the hole, the screen, and the object projected.<sup>894</sup>

Over the years, a close friendship developed between Descartes and Renieri. Descartes spoke about Renieri in affectionate terms as one of his best friends.<sup>895</sup> Remarkably enough, neither of Descartes' letters to Renieri contain any personal details, but the reason for this seems to be that Descartes wrote both letters in haste or that they saw each other regularly. The first letter, of 2 June 1631, indeed shows they had an appointment planned three days later, shortly before Descartes' departure for Denmark. Furthermore, Renieri's correspondence shows that Renieri occasionally went to Amsterdam during the periods Descartes lived there, although he mentions Descartes in this context only once.<sup>896</sup> According to Regius, Renieri also was a regular visitor of Descartes in Santpoort.<sup>897</sup> Indeed, Renieri spent the full five weeks of his winter vacation of 1637/38 with Descartes.<sup>898</sup> On 19 August 1638, during the summer recess, he was in Santpoort again.<sup>899</sup> The fact that Descartes, when he heard Renieri was dying, hastened to Utrecht to see him one last time bears witness to their close bond.<sup>900</sup>

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<sup>894</sup> Descartes, *Dioptrique* v, in AT, 6:114-15, 124-28.

<sup>895</sup> Descartes to Huygens, 25 February 1637, in AT, 1:620/CM, 6:208 (the date given in AT, which is 27 February 1637, is a reading error of Roth, *Correspondence*, 35); Descartes to Mersenne, 27 August 1639, in AT, 2:570/CM, 8:495.

<sup>896</sup> There are three references. In his letter to De Wilhem of 29 October 1631 Renieri writes he has the intention of going to Amsterdam on 1 November. That a visit to Descartes was part of his plan, too, is confirmed by Descartes' letter to Mersenne of that month (AT, 1:221/CM, 3:23), in which he writes he expects Renieri to arrive within a couple of days. Descartes had shortly before returned from Denmark. Cf. Renieri to De Wilhem, 22 October 1631, in which Renieri writes that he would be out of town during the weekend of 29-30 October. In a letter to De Wilhem of 20 February 1632 (OS) he writes that he plans to go to Amsterdam and Leiden in the short term. The third reference is in a letter to Rivet of August 1634, in which Renieri mentions he will spend the weekend in Amsterdam.

<sup>897</sup> Regius to Descartes, [early February 1639], in AT, 2:527/Bos, *Correspondence*, 12.

<sup>898</sup> Renieri to De Wilhem, 28 February 1638.

<sup>899</sup> Descartes to Huygens, 19 August 1638, in AT, 2:672; Descartes to Mersenne, 23 August 1638, in AT, 2:330-31/CM, 8:58-59.

<sup>900</sup> This close bond makes it also likely that Renieri had something to do with the fact

### 7.3. Network

#### 7.3.1. *Reneri's Role in the Formation of Descartes' Network*

At a given moment Reneri and Descartes knew many of the same people, but it is not always possible to determine who of the two was the first to meet someone they later both knew, nor if one of both introduced the new acquaintance to the other or if there was a third party involved as introducer. Only of a few of these common acquaintances we can be fairly certain that Descartes met them, personally or by letter, through the intermediary of Reneri. They were Dury, Anna Maria van Schurman (1607-1678), Alphonse Pollot (ca. 1602-1668), and Regius. To these we must add Abraham Heidanus, whom Reneri knew from his student days.<sup>901</sup> Heidanus was another fellow student at the Walloon College, where he stayed from May 1614 to June 1619—this once more underlines the importance of Reneri's stay at the Walloon College.<sup>902</sup> After a Grand Tour of two years through Europe Heidanus became a minister of the Walloon church in Naarden and, in 1627, in Leiden. According to the Leiden professor of theology Christophorus Wittichius (1625-1687), who delivered the funeral oration on Heidanus, Reneri introduced Heidanus to Descartes. In the 1650s Heidanus, who had become a professor of theology at Leiden University in 1648, became one of the leaders of the Cartesian camp at Leiden and the first orthodox theologian to be a follower of Descartes.<sup>903</sup> Finally, Reneri probably also introduced Van der Hoolck, Godefroot van Haestrecht (1592/93-1659), and Jacobus Waesenaer (1607-1682) to Descartes. Apart from these cases, however, Reneri and Descartes probably met most of their common friends through the intermediary of a third party, although Reneri played an active role as an intermediary for Descartes once contact was established.

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that Descartes had his illegitimate daughter Francine baptised in the Dutch Reformed church in Deventer on 28 July 1635. Descartes may have asked his trusted friend Reneri (although Reneri lived in Utrecht by then) to use his connections within Deventer to arrange this. See Cohen, *Écrivains français*, 483-89; Verbeek, "Henricus Reneri," 127.

<sup>901</sup> Wittichius, *Oratio in obitum Heydani*, [19]. See above, p. 135 n. 578.

<sup>902</sup> Posthumus Meyjes, *Waalse College*, 197.

<sup>903</sup> Cf. Regius to Descartes, 3 December 1639, in AT, 2:625/Bos, *Correspondence*, 30-31, in which he refers to Heidanus, who at that moment still was a minister, as a Leiden supporter of Descartes. On Heidanus, see Cramer, *Heidanus en zijn Cartesianisme*; BLGNP, 2:240-43; DDP 1:397-402.

Reneri's contribution to establishing contact between Descartes and members of the Hartlib circle was also small. The first reference to Descartes in the Hartlib Papers dates from 1634. In his *Ephemerides* of September 1634 Hartlib mentions a French Catholic nobleman of great learning by the name of "Cares" or "Cardes," who at that moment lived in Deventer (although Descartes by that time already had moved to Amsterdam).<sup>904</sup> Hartlib's source could be Dury. If so, Dury probably heard about Descartes from Reneri, since he does not seem to have met Descartes before January 1635.<sup>905</sup> Another, perhaps more likely candidate to tell Hartlib about Descartes is John Jonston, who lived in Leiden until that summer and seems to have taken up contact with Reneri in Deventer.<sup>906</sup>

Descartes was greatly admired among the Hartlib circle, but it was difficult for them to get in contact with him. Reneri seems to have functioned as an intermediary. A note from Hartlib in his *Ephemerides* of 1639 shows that Reneri was one of the few: "No body knos where to finde him in the Low Countries but 1. Maire; 2. Eding;<sup>907</sup> 3. Reinerus which dyed phrenesi [i.e., in a frenzy]. Id [est]. Cartes."<sup>908</sup> And it was Reneri who told Bisterfeld in 1638 that Descartes had plans for a Latin translation of the *Discours*:

The Utrecht professor Mr. Reineri, who is as much an intimate friend of Des Cartes, as he is of me, told me eight days ago, that his [i.e., Descartes'] method will be published in Latin by him shortly; therefore Jonston should not worry. He [i.e., Reneri], as is also Mr. Golius, is a very great admirer of Des Chartes.<sup>909</sup>

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<sup>904</sup> Hartlib in his *Ephemerides* of [September] 1634, HP 29/2/42A.

<sup>905</sup> Hartlib in his *Ephemerides* of 1635, HP 29/3/13B: "Duraeus knowes Monsieur de Cardes which is also a great friend to Reineri."

<sup>906</sup> See above, pp. 189-91.

<sup>907</sup> The German Johann Wilhelm Eding (ca. 1611-1651) worked as a diplomat in Danish service in The Hague. See *Album stud. Acad. Lugd.-Bat.*, col. 259; *Repertorium der buitenlandse vertegenwoordigers*, 413-14.

<sup>908</sup> Hartlib in his *Ephemerides* of 1639, HP 30/4/7B.

<sup>909</sup> [Bisterfeld] to [Hartlib], 19 September 1638, HP 27/7/5B: "D. Reineri Professor Ultrajectensis, tam des Cartes, quam meus intimus ante octiduum mihi dixit, Eius methodum brevi latinè ab ipso editum iri; quare non est ut se maceret Ionston. Is ut & D. Golius summus est des Chartes admirator." Cf. Viskolcz, *Johann Heinrich Bisterfeld*, 87-88. The Latin translation of the *Discours* and two of the *Essais* was not published until 1644; the translation of the *Géométrie* was published in 1649. See Vermeulen, *Specimina philosophiae*, 1-18.



Nevertheless, he does not seem to have played a very active role in this, possibly because he knew Descartes wanted to be left in peace. Moreover, Descartes, who had very different views on scientific collaboration, showed less interest in the Hartlib circle than vice versa.

In fact, Reneri did not introduce many people to Descartes. The reason for this could be the fact that Reneri's network for the largest part consisted of patricians and academics. Reneri evidently sought protection. He needed these people in order to improve his financial situation, career, and status. Descartes, on the other hand, saw them as equals. He was financially independent and as a nobleman had a certain social rank to begin with, albeit that his Catholic faith raised distrust with some. He refused, for instance, the patronage of Huygens, a patrician, but accepted that of Princess Elizabeth of Bohemia (1618-1680), to whom he dedicated his *Principia philosophiae* (1644), and Queen Christina of Sweden (1626-1689). The position of Descartes, therefore, was very different from that of Reneri when taking refuge in Leiden more than ten years earlier. Descartes was much less in need of such friends—although his connection with influential men who could pull the necessary strings, such as Huygens and the Utrecht burgomaster Van der Hoolck, proved to be highly valuable during the Utrecht crisis.<sup>910</sup> Moreover, early on Descartes met people who moved in the same circles as Reneri, such as Beeckman and Golius. Therefore, Reneri was not the only connection between Descartes and people from his network who were of interest to Descartes.

### 7.3.2. *The Circle of Mathematicians around Descartes*

Inversely, it seems that, as of 1633, Reneri's interest in mathematics brought him, through Descartes, into contact with a number of mathematicians. The first of them was Jean Gillot, who came to Deventer in the fall of 1633 to teach Reneri the basics of mathematics. To be sure, it was Reneri who invited Gillot, but Gillot probably took the trouble of coming to Deventer only for the chance to be himself further instructed by Descartes.<sup>911</sup> Gillot had enrolled on 19 February 1630 at Leiden University to study mathematics.<sup>912</sup> He probably met Descartes during the latter's short stay in Leiden later that year. In 1632, in order to finance his mathematical studies, Gillot worked for David de Wilhem,

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<sup>910</sup> On Huygens' support of Descartes during the Utrecht crisis, see Hofman, *Constantijn Huygens*, 115-18. For Van der Hoolck's role, see below, pp. 231-32.

<sup>911</sup> See above, pp. 52-53.

<sup>912</sup> *Album stud. Acad. Lugd.-Bat.*, col. 224.



who had moved to The Hague that year, but it is not known in what capacity. Because he had very little time to study, Gillot stopped working for De Wilhem probably halfway through 1633, after his parents offered their financial support.<sup>913</sup> Reneri's invitation would have been a great opportunity for Gillot, since Reneri presumably paid him for his lessons, while he himself could profit from Descartes' presence. Descartes called Gillot his first and practically only pupil.<sup>914</sup> Indeed, according to Descartes, he was one of the few who understood his *Géométrie*.<sup>915</sup>

In the second half of December 1634, when he was in Utrecht for a couple of days, Gillot visited Reneri again.<sup>916</sup> Reneri apparently had regular contact with Gillot, since he worried if everything was all right after he had not heard anything from Gillot for a while. In a letter to Rivet of May 1638 (now lost), Reneri informed about Gillot's health and wondered if he had done something wrong. As it turned out, Gillot had been busy taking care of one of his parents who was seriously ill.<sup>917</sup>

As in the case with Gillot, Reneri seems to have already known Jacobus Golius for some time before their relationship grew closer as mutual friends of Descartes. It is not clear how they knew each other. Reneri must have met Golius after the latter's return from his journey in the Ottoman empire in the fall of 1629.<sup>918</sup> There are many possible introducers. Descartes, of course, is an obvious candidate, but many of Reneri's friends knew him, including Rivet, De Wilhem, De Dieu, and Huygens. Furthermore, Golius was a celebrity because of the collection of manuscripts he had brought from the Near East, which, just to name two, drew Descartes and Elichmann to Leiden.

In those early years the contacts between Reneri and Golius seem to have been limited to forwarding letters from Gassendi and De Wilhem.<sup>919</sup> After all, Reneri never showed an interest in Oriental languages nor, initially, in mathematics. This disinterest in mathematics changed in 1633, which reflected on Reneri's relationship with Golius. In 1634 Reneri showed great interest in an

<sup>913</sup> Descartes to De Wilhem, 7 February 1633, in AT, 1:264-65. On Gillot, see Witkam, "Jean Gillot"; Witkam, "Jean Gillot tweede deel."

<sup>914</sup> Descartes to Huygens, 9 March 1638, in AT, 2:663.

<sup>915</sup> Descartes to Mersenne, 31 March 1638, in AT, 2:89/CM, 7:126-27; Descartes to Mersenne, 27 July 1638, in AT, 2:275/CM, 7:423-24. Cf. Huygens to Descartes, 28 October 1635, in AT, 1:325.

<sup>916</sup> Reneri to De Wilhem, 23 December 1634.

<sup>917</sup> Rivet to Reneri, 13 May 1638.

<sup>918</sup> Molhuysen, *Bronnen*, 2:143, 146-47.

<sup>919</sup> Gassendi to Reneri, 22 November 1630; Reneri to De Wilhem, 31 August 1631.

encyclopaedia of mathematics Golius was working on, and he encouraged him to publish it. Work on the encyclopaedia progressed slowly, however, and Golius never published it.<sup>920</sup> Although they developed a personal friendship,<sup>921</sup> Reneri and Golius probably found each other primarily in their shared admiration for Descartes. At the beginning of 1631, Golius had renewed his contact with Descartes by sending him the Pappus problem and by asking him, through the intermediary of his student Hortensius, if he could read the unpublished *Dioptrique*. As of then, Golius got involved in Descartes' writing projects. Descartes showed Golius early versions of the *Dioptrique* and discussed the *Météores* with him.<sup>922</sup>

Descartes may also have been the binding factor between Reneri and Hortensius, although they had many common acquaintances, such as Beeckman and people from the circle around Hooft, including Huygens, Vossius, Brosterhuysen, and Heinsius. After he attended the Latin School of Rotterdam, which was then under the direction of Isaac Beeckman, Hortensius, on 13 March 1628, enrolled at Leiden University to study mathematics.<sup>923</sup> Sometime before 1632 he was introduced to Descartes. Hortensius had been making astronomical observations since the end of the 1620s, first in assistance to the astronomer Philip van Lansbergen (1561-1632) in Middelburg, whom he knew through Beeckman, and later with Beeckman and students of the Latin School of Dordrecht, in the observatory which was constructed in the tower of

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<sup>920</sup> The Leiden student of theology Caspar Streso (1603-1664) to Hartlib, 24 August 1634, BL, Sloane MS 638, fol. 75r: "He [i.e., Golius] is working on an mathematical encyclopaedia of 10 or 12 disciplines, the first of which is general mathematics. However, he progresses slowly. He has completed the general and several special [disciplines]. He is strongly urged, also by Reinerus, to publish it." ("Er hat unter handen Encyclopaediam Mathematicam 10 vol [sic] 12. disciplinarum worvon die Erste ist Mathematica Generalis. gehet aber langsam darin fort. Hatt Generalem und etliche Speciales absolviret, wird sehr sollicitiret auch von Reinero selbige auszugeben.") Streso must have met Hartlib when he studied theology in England, supported by the Dutch Reformed church in Austin Friars, London, where Hartlib attended service. See Grell, *Dutch Calvinists*, 51; Clucas, "True Logick," 56; Young, *Faith, Medical Alchemy and Natural Philosophy*, 122. On Streso, see DDP, 2:955-56.

<sup>921</sup> Descartes to Golius, 16 April 1635, in AT, 1:316: "I wish you all sorts of prosperity and health, as does also Mr. Renery, who greets you very affectionately." ("[...] ie vous souhaite tout sorte de prospérité & santé, comme fait aussy Monsieur Reneri qui vous salue tres affectueusement.")

<sup>922</sup> Descartes to Golius, [January 1632], in AT, 1:232-35; Descartes to Golius, 19 May 1635, in AT, 1:317-20.

<sup>923</sup> *Album stud. Acad. Lugd.-Bat.*, col. 208.

the school. In 1634 he was appointed professor of mathematics at the Amsterdam Athenaeum Illustre, where he taught astronomy and optics. That same year Hortensius applied himself to the development of spherical lenses—and not without result, since he claimed, according to Huygens, that he had developed a lens one could read a letter with from a mile away.<sup>924</sup>

In 1635 the States General appointed Hortensius chairman to a committee charged with examining a method for determining longitudes at sea, which Galileo had offered them after previous plans to bring him to the Republic had failed. This method made use of the observation of the satellites of Jupiter, which could be seen from every vantage point and, therefore, serve as a universal clock. Further research into their orbits was needed though. In April 1637 the States General ordered the Amsterdam chamber of the East Indies Company to provide the committee with the funds for the necessary instruments.<sup>925</sup> Three months later, Hortensius sought to approach Reneri, possibly to consult him on the construction of a telescope that was up to the task.<sup>926</sup> However, two years earlier Hortensius had fallen out of favour with Descartes, because he had disapproved of his hyperbolic project. Hortensius was afraid that this had affected Reneri, too. In a letter of 25 July 1637, he asked Johannes Brosterhuysen to find out what Reneri thought of him:

If it would please your Honour to take the trouble to go to professor Reinerus and discretely, as you did before, enquire how I stand with him [i.e., Reneri] (as I do not doubt that he has been wrongly informed as well), you would do me a great favour, all the more if your Honour could take away all suspicion with what has been written above [i.e., that he would have criticized Descartes and the *Dioptrique*].<sup>927</sup>

Nothing is heard of this again. Reneri may indeed not have wanted anything more to do with Hortensius. Or perhaps Reneri's help was no longer needed, since the longitude determination project petered out after that summer.

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<sup>924</sup> Huygens to Descartes, 28 October 1635, in AT, 1:327.

<sup>925</sup> Van Berkel, *Boek der natuur*, 77.

<sup>926</sup> On Hortensius, see NNBW, 1:1160-64; Van Berkel, *Boek der natuur*, 63-84.

<sup>927</sup> Hortensius to Brosterhuysen, 25 July 1637, in Van Berkel, *Boek der natuur*, 80: "Indien UE gelieffde de moeijte te nemen ende te gaen bij Professor Rejnerus ende stillekens als vooren vernemen hoe ick bij hem stae, (alsoo ick niet en twijffele of hy is oock al verkeert ingeleijdt) my soude groote vrundschap geschieden, te meer indien UE kond alle suspicie wech nemen met het gene hier voren is geschreven."

As little is known about Reneri's relation to Brosterhuysen himself, who was engaged in poetry, music, painting, and etching, but whose greatest interest was botany. Brosterhuysen moved in the circle around Hooft and was a protégé of Huygens, with whom he discussed, among many other things, matters of natural history and exchanged experiments.<sup>928</sup> They discussed, for example, botanical experiments from Bacon's *Sylva sylvarum* (1626).<sup>929</sup> It was no doubt Huygens who introduced Brosterhuysen to Reneri.<sup>930</sup>

According to Aemilius, Frans van Schooten Jr. was a friend of Reneri as well. Van Schooten was the son of the Leiden professor of mathematics Frans van Schooten Sr. (1581-1645). He, too, studied mathematics at Leiden, where he met Descartes through Golius in 1631. After his graduation in mathematics in 1635 Van Schooten taught at the *Duytsche Mathematique* in Leiden. This was a school with a close link to Leiden University, which offered a practical mathematical training in Dutch in subjects that were useful for a military career, such as surveying and fortification.<sup>931</sup> Van Schooten made the drawings for the *Essais* accompanying the *Discours*. In 1649 he published a Latin translation of the *Géométrie*.<sup>932</sup> It is likely that Reneri met Van Schooten through Descartes, especially because both men were involved in the publication of the *Discours*, but no details are known.

After 1637 Reneri also became involved in a circle of men living in Utrecht who applied themselves to the study of the *Géométrie*.<sup>933</sup> The one that Reneri came to know best was the Italian Alphonse Pollot, who served as an officer in the States' army.<sup>934</sup> Reneri probably met him through Huygens,<sup>935</sup> who knew Pollot from the army.<sup>936</sup> In June or July 1637, probably on the occasion of the

<sup>928</sup> On Brosterhuysen, see NNBW, 2:256-57; Van Seters, "Johannes Brosterhuysen."

<sup>929</sup> Brosterhuysen to Huygens, February 1628, in Huygens, *Briefwisseling*, 1:254.

<sup>930</sup> Cf. Reneri to De Wilhem, 10 September 1631(a), in which he writes that he twice went to Brosterhuysen's in vain (to hand over a letter?), but that he would try again that day and give him De Wilhem's regards.

<sup>931</sup> On the *Duytsche Mathematique*, see Krüger, "Lessons for Mathematics Curriculum Design."

<sup>932</sup> On Van Schooten Jr., see NNBW, 7:1110-14; Hofmann, *Frans van Schooten der Jüngere*, 1-8.

<sup>933</sup> Bos, *Correspondence*, 120-21.

<sup>934</sup> On Pollot, see NNBW, 2:1117-19; Verbeek, Bos, and Van de Ven, *Correspondence*, 289-92.

<sup>935</sup> Early 1638 Reneri sent Huygens an optical invention through the intermediary of Pollot. See Reneri to De Wilhem, 28 February 1638.

<sup>936</sup> Huygens to Barlaeus, 23 May 1636, in Huygens, *Briefwisseling*, 2:167.

publication of the *Discours*, Pollot wrote a letter to Descartes (now lost), to which Descartes does not seem to have answered.<sup>937</sup> The *Discours* and especially the *Géométrie* made a strong impression upon Pollot. In addition, Huygens told him about Descartes' *Le Monde* and his also unpublished *Traité de la Mécanique*, which Descartes had sent to Huygens. In January 1638 Pollot received a copy of Fromondus' objections to the *Discours* and the *Essais* as well as Descartes' reply.<sup>938</sup> Early February Pollot sent Descartes a letter through the intermediary of Renéri. On 12 February Descartes briefly replied that he appreciated the fact that Pollot had taken the effort to examine his *Géométrie* and that he would reserve for him one of six special copies which were printed for the people who were the first to understand it.<sup>939</sup> The apparent familiarity between both men and the fact that Descartes trusted Pollot's mathematical competence suggest that they had met personally prior to February 1638, probably through the intermediary of Renéri. In April 1638 probably, Pollot wrote a letter to Renéri for Descartes with his own objections to the *Discours* and the *Essais*.<sup>940</sup> In May, Descartes sent a package containing a letter with his answers to the objections (and probably the special copy of the *Géométrie*) to Renéri, who had to forward it to Pollot at the front.<sup>941</sup> It came back to Renéri, because Pollot had been captured by the Spanish in the battle of Kallo, a fort close to Antwerp, on 20 June.<sup>942</sup> On 19 August, Renéri visited Descartes in Santpoort and returned the package.<sup>943</sup> The first contact between Descartes and Pollot after the latter's return from captivity was in the spring of 1639. In a letter to Descartes of 15 April (now lost), presumably sent through Huygens, Pollot enquired about the death of Renéri. The fact that Pollot now used Huygens as an intermediary shows that Pollot did not have the address of Descartes and that all contact between the two men must have gone via Renéri. Once again, little is known about the relation between Renéri and

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<sup>937</sup> Descartes to Pollot, 12 February 1638, in AT, 1:518.

<sup>938</sup> Fromondus to Plemp, 13 September 1637, in AT, 1:402-9; Descartes to Plemp, 3 October 1637, in AT, 1:413-30.

<sup>939</sup> Pollot to Huygens, 30 January 1638, in Huygens, *Briefwisseling*, 2:344; Huygens to Descartes, 2 February 1638, in AT, 1:508-9; Descartes to Pollot, 12 February 1638, in AT, 1:518.

<sup>940</sup> Pollot to Renéri for Descartes, April 1638.

<sup>941</sup> Descartes to Pollot, [May 1638], in AT, 2:34-46. For the date, see Descartes to Huygens, 19 August 1638, in AT, 2:673.

<sup>942</sup> Huygens to Amalia of Solms, 24 June 1638, in Huygens, *Briefwisseling*, 2:369.

<sup>943</sup> Descartes then sent it to Huygens, who had to forward it to Pollot as soon as the latter came out of captivity. See Descartes to Huygens, 19 August 1638, in AT, 2:672-73.

Pollot, but they must have been on very good terms. Descartes answered Pollot in a letter of 6 May, in which he gave him his address and told him about his attempt to see Reneri on his deathbed.<sup>944</sup>

Cornelis de Waard suggests that Reneri also had contact with two other men from this circle that studied the *Géométrie*, namely, Godefroot van Haestrecht and Jacobus Waesenaer.<sup>945</sup> The Brabant nobleman Van Haestrecht was an officer in the States' army. He lived in Utrecht and was a canon in the chapter of the Dom church. Van Haestrecht was one of the first to understand the importance of Descartes' *Géométrie*. He wrote "Le calcul de Mr Descartes," an introduction to the *Géométrie*, which was written in 1638 but not published until the end of the nineteenth century.<sup>946</sup> Waesenaer was a surveyor of the province of Utrecht. In 1639, acting as a straw man for Descartes, he became engaged in a polemic with the mathematician Johan Stampioen Jr. (1610-1653) about the solution to two mathematical problems, which Waesenaer successfully tackled using Descartes' geometrical method.<sup>947</sup> Reneri moved in the same Utrecht upper-class circles as Van Haestrecht and Waesenaer, so it is indeed likely that he knew them. He may even have introduced them to Descartes.<sup>948</sup>

At the end of 1638 Reneri as well as Descartes were introduced to the mathematician Christian Otter in Utrecht, possibly by burgomaster Van der Hoolck.<sup>949</sup> After his philosophical and mathematical studies at Königsberg, Otter led an itinerant existence, which also brought him to the Republic. During his first two visits in the 1620s he stayed in Leiden, The Hague, and Franeker for most of the time. In 1634 Otter returned to the Republic for the

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<sup>944</sup> Descartes to Pollot, 6 May 1639, in AT, 2:545-46.

<sup>945</sup> NNBW, 2:1192.

<sup>946</sup> On Van Haestrecht, see NNBW, 1:1017; Bos, *Correspondence*, 250.

<sup>947</sup> On Waesenaer, see NNBW, 7:1308-9; Bos, *Correspondence*, 255. See also above, pp. 63-64 n. 302.

<sup>948</sup> In the same article, De Waard also suggests Reneri had contact with the composer and town carillonneur of Utrecht Jacob van Eyck (ca. 1590-1657). This is indeed likely for the same reasons that Reneri would have known Van Haestrecht and Waesenaer. Moreover, Van Eyck discovered the tonal structure of bells. This drew the attention of, among others, Beeckman, Descartes, and Huygens, who was a distant cousin of Van Eyck. In a letter of 23 August 1638, in AT, 2:329-30/CM, 8:57-58, Descartes told Mersenne how Van Eyck by whistling made the bells' different tones sound, making use of the resonance principle. On Van Eyck, see Baak Griffioen, *Der Fluyten Lust-Hof*, 23-39; Wind, "Jacob van Eyck."

<sup>949</sup> Van der Hoolck contributed to Otter's *album amicorum* on 19 May 1637. See Buck, *Christian Otter*, 264.

third time. From August to October 1637 he gave a course in fortification at the *Duytsche Mathematique*.<sup>950</sup> On 20 December 1638 he met Reneri in Utrecht. That day Reneri wrote a contribution to Otter's *album amicorum* on the verso of folio 124, celebrating their acquaintance.<sup>951</sup> On the recto of the same folio a contribution by Descartes can be found, which has no date or place. This makes it likely that they both met Otter on the same occasion.<sup>952</sup>

#### 7.4. Reneri's Promotion of Descartes' Philosophy in Utrecht

##### 7.4.1. Reneri's Students

Reneri's enthusiasm for Descartes' philosophy manifested itself not only in his personal support for Descartes and the help he gave him in his work, but also in spreading his reputation among the academic community and the upper classes in Utrecht. In his classes Reneri not only taught an Aristotelianism with strong Cartesian influences, but he also spoke about the genius behind the new philosophy. Martinus Schoock was one of the earliest witnesses of this. According to his autobiography in Revius' *Daventria illustrata* (1651), Schoock studied philosophy, mathematics, and theology at Franeker and Leiden. This is, however, not supported by the matriculation records, which only mention that he enrolled in law at Franeker on 20 April 1630.<sup>953</sup> The Leiden *album studiosorum* does not mention him at all. He further claims to have given private instruction in philosophy and theology in his hometown Utrecht, even before the Illustrious School was founded there.<sup>954</sup> Nevertheless, when the Illustrious School opened, Schoock must have enrolled immediately.<sup>955</sup> The fact that he delivered a philosophical disputation only a month later and that he defended two disputations under Voetius another three months later suggests he did receive prior instruction in these subjects.<sup>956</sup>

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<sup>950</sup> On Otter, see NNBW, 7:395-96; Buck, *Christian Otter*, 201-304.

<sup>951</sup> *Album amicorum* of Christian Otter, LMAB, F 15-303, fol. 124v. For a transcription of Reneri's contribution, see Buck, *Christian Otter*, 263; Kowalewski, "Descartes-Reliquie," 267.

<sup>952</sup> *Album amicorum* of Christian Otter, LMAB, F 15-303, fol. 124r. For a transcription of Descartes' contribution, see Buck, *Christian Otter*, 264; Kowalewski, "Descartes-Reliquie," 266 (which also provides a facsimile). See also above, pp. 195-96.

<sup>953</sup> *Album stud. Acad. Fran.*, no. 2635.

<sup>954</sup> Revius, *Daventria illustrata*, 710-11.

<sup>955</sup> The Utrecht *album studiosorum* was not accurately kept up to date during the first eight years.

<sup>956</sup> Schoock defended two disputations on indulgences under Voetius in October and



In his *Admiranda methodus*, a fiercely anti-Cartesian work written at the instigation of Voetius, Schoock gives an account of Reneri's (whose name he does not mention)<sup>957</sup> promotion of Descartes at Utrecht:

From the time that the noblest and most honourable magistrate of Utrecht in a heroic attempt first started to lay the foundations of the Illustrious Gymnasium (which against the expectation of many quickly grew into an academy), the name of a certain Renatus des Cartes first began to be whispered around, then, because he was called the eagle of philosophers, much talked about, especially among some noblemen and important persons, by the principal trumpeter of his fame, a very learned man, who took pains to convince them that somewhere (for he never wished to point out the cave of that man, no matter how much they asked) this nobleman hid, who not only would be able to overcome Peripatetic philosophy, but in due time would provide, with the help of mathematics and especially algebra, a system of philosophy which was so clear and supported by demonstrations so solid, that the sun would never see anything more perfect.<sup>958</sup>

According to his own account, as it continues, Schoock was open to what Reneri told about Descartes, although he was sceptic towards the excessive claims Reneri made on behalf of his philosophy, since he had learned that it was easier to reject dogmas than to substitute them by better ones. Schoock admits that, trusting the judgement of Reneri, he even grew sympathetic towards this mysterious philosopher. Schoock further tells that Reneri would not reveal Descartes' whereabouts, saying that Descartes led a secluded life, nor the underlying doctrine of his philosophy. Reneri said that they would have

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November 1634. See Voetius, *Selectae disputationes theologicae*, 2:286-304.

<sup>957</sup> At the request of Voetius, the passages in which Reneri was mentioned were suppressed in order not to provoke the family and friends of Anna van Velthuysen, especially the burgomasters. See Verbeek, *Descartes and the Dutch*, 33.

<sup>958</sup> Schoock, *Admiranda methodus*, preface, [i-ii]: "A quo tempore primum Nobilissimus Amplissimusque Magistratus Trajectinus, heroico conatu Illust: Gymnasii (quod praeter multorum opinionem cito in Academiam excrevit) fundamenta moliri coepit; cujusdam Renati des Cartes nomen primo mussitari, dein, quod Philosophorum aquila diceretur, apud nobiles quosdam & magnates maxime, jactari inceptum est, famae ejus praecipuo buccinatore viro quodam non indocto, qui persuadere laboravit, alicubi (antrum enim hominis ut ut rogatus nunquam monstrare cupiebat) nobilem quem virum latitare, qui non tantum sufficeret debellandae Philosophiae Peripateticae, verum etiam suo tempore, subsidio Matheseos & maxime Algebrae, tam perspicuum & solidis demonstrationibus suffultum Philosophiae systema daturus esset, ut nunquam perfectius Sol aspexerit."



to wait for Descartes himself, who would fully expound his doctrine in a publication when the time was right. Reneri no doubt had *Le Monde* in mind and possibly also the *Traité de l'homme*, but when the *Discours* was published in 1637 and Schoock read it, he was understandably disappointed.<sup>959</sup>

Admittedly, the *Admiranda methodus* is biased and Schoock was only partially responsible for its content, but his *Dissertatio de natura soni et echus* of 1638<sup>960</sup> does not show much Cartesian influence either. If any, it is that Schoock identifies sound as moving air, but he does not make the step to a fully mechanical theory of perception.<sup>961</sup> Now, this work was written the year after Schoock graduated under Reneri, long before he got involved in Voetius' campaign against Descartes. In the dedication Schoock says that the old philosophy is no longer to be followed slavishly, but the work rather echoes Reneri's call for the independent, empirical study of nature and his eclectic approach than that it shows Descartes' influence. Indeed, Schoock dedicated the work to his former professor Reneri and presents himself as following in his footsteps.<sup>962</sup> In later years Schoock wrote, among other things, works about natural phenomena from a natural historical perspective, ranging from cutting peat to brewing beer, which amounted to classification of observations rather than explaining them.<sup>963</sup> Apparently Reneri influenced Schoock, but despite the fact that he gave Schoock philosophical instruction during more than a year and a half, he had no success in winning him for Cartesianism.

On 11 July 1638, Schoock, who had taught literature at the Illustrious School as of 21 December 1635,<sup>964</sup> was appointed extraordinary professor of literature.<sup>965</sup> He resigned three months later to become professor of history and

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<sup>959</sup> Schoock, *Admiranda methodus*, preface, [ii-vi].

<sup>960</sup> It was bound with *Lusus imaginis iocosae* (1638), a compilation of echo poems collected by Theodorus Dousa (1580-1663). However, the fact that the States of Utrecht in 1637 awarded Schoock with two double riders (which had a total value of 48 guilders) for the presentation of the work seems to indicate that it was already published that year. See Dodt van Flensburg, *Archief*, 3:291. The dedication is dated 1 December 1637. On the other hand, on 26 February 1638 the Utrecht town council awarded Schoock with two golden double Dutch riders for the presentation as well. See Wijnne, *Resolutiën*, 34; Kernkamp, *Acta et decreta*, 125.

<sup>961</sup> Van Ruler, *Crisis of Causality*, 121-28.

<sup>962</sup> Schoock, *De natura soni et echus*, [1-5].

<sup>963</sup> De Mowbray, "Libertas philosophandi," 34-35; Krop, "Meer dan Plato," 155-56.

<sup>964</sup> Kernkamp, *Acta et decreta*, 83.

<sup>965</sup> *Ibid.*, 127.

rhetoric at the Deventer Illustre Gymnasium.<sup>966</sup> Two years later Schoock was appointed professor of logic and physics at the University of Groningen. From there he launched his attack on Descartes in the *Admiranda methodus*.<sup>967</sup> According to Schoock, Cartesianism would lead to scepticism and atheism, because it introduced a subjective notion of truth and denied the value of common experience. Schoock later admitted that he had been pushed to write the *Admiranda methodus* by his former professor Voetius, who provided some of the arguments, and that the insulting passages were added afterwards.<sup>968</sup>

It is not known how Reneri's other students reacted to Reneri's promotion of Descartes. It may not even have interested them very much, since for most of them philosophy was nothing more than a preparatory course. The only other student of Reneri besides Schoock and, perhaps, Florentius Schuyf (1619-1669) to make a career in philosophy was Henricus Bornius (1617-1675). Bornius, a minister's son from Utrecht, matriculated at Leiden on 12 April 1635,<sup>969</sup> and again on 7 October 1636, to study philosophy on a scholarship from the city of Utrecht.<sup>970</sup> In between he possibly returned to his hometown to continue his studies there, fleeing the plague epidemic in Leiden, which struck there in the second half of 1635. In 1637 he was in Utrecht again. On 18 October, he was *respondens* in a disputation on miscellaneous philosophical theses under Reneri, which he, according to the dedication page, had written himself.<sup>971</sup> This probably marked the end of his philosophical studies (he did not obtain a degree in philosophy until 1646), since he disputed under Voetius on 17 February and 3 March 1638.<sup>972</sup> From 1639 to 1641 he studied theology at Geneva, where he matriculated on 22 November 1639.<sup>973</sup> It is not known what he did for the next three years, but he seems to have visited Gassendi in Paris

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<sup>966</sup> *Ibid.*, 129. In a letter to the Deventer town council of 13 October 1638, the Utrecht town council wrote they willingly let Schoock go, since four years earlier the Illustre Gymnasium had been so kind to let Reneri go. See Wijnne, *Resolutiën*, 38-39.

<sup>967</sup> On Schoock, see Dibon, *L'enseignement philosophique*, 180-88; Verbeek, *Descartes and the Dutch*, passim; Krops "Meer dan Plato"; Verbeek, Bos, and Van de Ven, *Correspondence*, 294-97; DDP 2:890-95.

<sup>968</sup> Verbeek, *Descartes and the Dutch*, 30-33.

<sup>969</sup> *Album stud. Acad. Lugd.-Bat.*, col. 270.

<sup>970</sup> *Ibid.*, col. 281.

<sup>971</sup> Reneri, *Positiones miscellaneae*, [title page]. Bornius seems to have been Reneri's only student to write his own disputation. The States of Utrecht awarded Bornius 25 guilders for dedicating his theses to them. See Dodt van Flensburg, *Archief*, 3:291.

<sup>972</sup> Voetius, *Selectae disputationes theologicae*, 1:906-84.

<sup>973</sup> *Livre du Recteur*, 191.

in late 1643 or early 1644. In 1644 he matriculated at Leiden again to continue his theological studies, travelling up and down from Utrecht. In 1646 he took his degree of doctor of philosophy and master of arts under the professor of logic Adriaan Heereboord (1614-1659). The reason for this graduation was Bornius' appointment that year as professor of logic and ethics at the Illustrious School of Breda and as subregent of the Orange College, an institution similar to the States College in Leiden. In 1653 he was appointed professor of moral philosophy at Leiden University.<sup>974</sup>

At a given moment Bornius adopted Cartesian views, judging from a letter from Heidanus to the Grand Pensionary of Holland Johan de Witt (1625-1672) of 17 July 1656. When Bornius declared himself against the Cartesians at Leiden, Heidanus called him "an apostate Cartesian, who now spits all his venom at that philosophy, which he shortly before praised so much, and acts as if possessed by furies."<sup>975</sup> If this is true, Bornius could have been influenced by his supervisor Heereboord, who embraced Cartesianism in 1644.<sup>976</sup> However, Bornius' letters to Gassendi of 1644 and 1645 show that he admired Descartes' genius, but also that he was critical of his philosophy. He was much impressed by Gassendi's criticism of it in his *Disquisitio metaphysica* (1644), and he asked him to critically examine Descartes' recently published *Principia* as well.<sup>977</sup> A similar standpoint can be found in a letter from the Illustrious School of Breda of 7 October 1651. This letter was an answer to the question posed by Count Ludwig Heinrich of Nassau-Dillenburg (1594-1662) about how to deal with Cartesianism at the Herborn Academy. The response was no doubt discussed in a senate meeting, but Bornius, as the professor of philosophy, would have provided the content. Bornius wrote that there was much truth to be found in Descartes' works and that Cartesianism, like other philosophical schools, should be studied for whatever useful knowledge it contained, but that they rejected his metaphysics and that they did not wholly approve of his natural philosophy either.<sup>978</sup> Therefore, if it is true that Bornius ever called himself a

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<sup>974</sup> On Bornius, see Sassen, *Wijsgerig onderwijs te Breda*, 16-32, 69-91; DDP 1:137-39.

<sup>975</sup> Heidanus to De Witt, 17 July 1656, in Cramer, *Heidanus en zijn Cartesianisme*, 69: "[...] een verloochende Cartesiaen, die nu al zijn venijn tegen die philosophie uytbraeckt, die hy te voren soo hooch heeft gepresen, en die niet anders aengaet als oft hy vol furiën was."

<sup>976</sup> Verbeek, *Descartes and the Dutch*, 37.

<sup>977</sup> See Bornius to Gassendi, 20 September 1644, in Gassendi, *Opera*, 6:480; Bornius to Gassendi, 16/26 June 1645, in Gassendi, *Opera*, 6:489. See also Regius to Descartes, [13/]23 June 1645, in AT, 4:235/Bos, *Correspondence*, 182.

<sup>978</sup> Verbeek, *Descartes and the Dutch*, 85-86. For a transcription of the relevant parts of

Cartesian—there are no other sources than Heidanus—it is more likely that the seeds were planted before 1644, possibly by Reneri.

Both Sassen and the Dutch medical historian Gerrit Arie Lindeboom (1905-1986) assume that the Cartesian Florentius Schuyt had been a student of Reneri as well.<sup>979</sup> This is certainly possible given the fact that Schuyt in the fall of 1636 received a scholarship from his hometown 's-Hertogenbosch to study theology at Utrecht.<sup>980</sup> As was usual, he would also have taken classes in philosophy, which were taught by Reneri, at least those in logic and physics—Van Goor and Senguerdius had taken over the classes in moral philosophy and metaphysics in 1636—but there is no evidence for this. No disputation defended by Schuyt under Reneri is known, whereas Schuyt, starting 1 December 1638, defended a series of seven disputations on the full philosophy curriculum under Senguerdius, before he was promoted to doctor of philosophy and master of arts on 3 July 1639.<sup>981</sup> Senguerdius had been appointed extraordinary professor of philosophy on 11 July 1638 and would succeed Reneri as ordinary professor of philosophy after his death. Given Schuyt's apparent taste for disputing, it is not unlikely he also disputed under Reneri during the first two years of his studies. Schuyt continued his philosophical studies at Leiden, but was appointed professor of philosophy at the Illustrious School of 's-Hertogenbosch a year later. It was not until the 1640s, when Cartesianism spread, that Schuyt embraced the new philosophy. In 1662 he published a Latin translation of the still unpublished *Traité de l'homme*.<sup>982</sup>

Finally, another Utrecht 'student' with whom Reneri talked about Descartes was Anna Maria van Schurman. Van Schurman, daughter of a rich merchant of noble descent who had fled Antwerp, and a German noblewoman, was at that time known as one of the most learned women in Europe. She was an amateur theologian and knew more than ten languages. Reneri probably knew her through Voetius, who was her neighbour on the Poelenburchsteeg (now Voetiusstraat), or Rivet, who had acted as her patron as of 1631. Because

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the Breda answer, see Bohatec, *Cartesianische Scholastik*, 155-58.

<sup>979</sup> Sassen, *Wijsgerig onderwijs te 's-Hertogenbosch*, 21; Lindeboom, *Florentius Schuyt*, 11-12.

<sup>980</sup> Lindeboom, *Florentius Schuyt*, 8.

<sup>981</sup> See the disputations Schuyt held under Senguerdius in the university libraries of Edinburgh (EUL, 504/4 (18-22)) and Utrecht (UBU, MAG: Diss Utrecht 1637-90 dl 3 (no. 3)); *Album prom. Rheno-Traj.*, 1.

<sup>982</sup> On Schuyt, see Sassen, *Wijsgerig onderwijs te 's-Hertogenbosch*, 21-36; Lindeboom, *Florentius Schuyt*; DDP 2:905-9.

of her special talent, she was allowed to attend classes with Voetius (from behind a curtain, out of sight for the male students). That Reneri and she talked about Descartes is shown by a letter from Van Schurman to Rivet of 18 March 1635. Descartes, who probably had moved to Utrecht that month or was visiting Reneri in preparation of his move, had paid her a visit, presumably accompanied by Reneri.<sup>983</sup> Because Descartes claimed to have found a quicker and more secure way to true science than the accepted methods, she wanted to know Rivet's opinion of him: "I felt, however, that of all people you as my patron—and professor Reneri can vouch for it—ought to be asked in particular what you think of him, because (as also our friend Renerius affirms) you know the man."<sup>984</sup> It was no doubt Reneri who introduced her to Descartes.<sup>985</sup>

#### 7.4.2. *Friends with an Interest in Philosophy*

Among the teaching staff Reneri found a willing ear, remarkably enough not in his philosophy colleagues Van Goor and Senguerdius—or so it seems—but in Aemilius, the professor of history. Aemilius came from a Calvinist refugee merchant family from Hasselt, which was, like Huy, part of the Prince-Bishopric of Liège. After some time in Aachen and Jülich, the family settled in Dordrecht at the beginning of the 1600s. In 1607, Aemilius enrolled at Leiden to study theology, but he also took classes in history, mathematics, and literature. There he met Beeckman, who followed a similar programme. After a Grand Tour through Europe, he was appointed, in 1615, headmaster of the Latin School of Dordrecht. In 1619 he was appointed in the same position at the Hieronymus School, the Latin School of Utrecht. He took on Beeckman as deputy headmaster, but Beeckman left after barely two years to become deputy headmaster of the Latin School of Rotterdam. Aemilius resigned in 1630 and settled in Delft to work as a private scholar. In 1634 he was again given the direction over the Hieronymus School, because his successor Liraeus proved incompetent. In addition, he was appointed professor of history at the newly

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<sup>983</sup> See above, p. 60 n. 279.

<sup>984</sup> Van Schurman to Rivet, 18 March 1635, UBU, Hs. 8\*.F.19: "Horum omnium patronum, et quasi fidejussorem habeo Professorem D. Renerium: tu, vero, quid sentias, cum (ut idem noster Renerius asserit) noveris hominem, inprimis consulendum esse putavi." A facsimile of this letter is printed in Van der Horst, *Handschriften van de Utrechtse Universiteitsbibliotheek*, 283.

<sup>985</sup> On Van Schurman, see DDP 2:902-4; Van Beek, *First Female Student*.

founded Illustrious School in Utrecht. As compensation, Liraeus was offered the chair in literature at the Illustrious School.<sup>986</sup>

Although Aemilius and Reneri knew each other since 1634, they did not become friends until 1637. According to Aemilius, he and Reneri had become closer after the death of their mutual friend Beeckman that year. Aemilius had already heard about Descartes from Beeckman, but his conversations with Reneri had made him a follower of Descartes. Reading the *Discours* definitely won him over.<sup>987</sup> Now the fact that Reneri could teach Descartes' philosophy to others even before the *Discours* was published means that he must have been listening to Descartes very carefully or that he had manuscript copies of (parts of) Descartes' works. On the other hand, it is not known how detailed he could reproduce Descartes' thought or what interest Aemilius precisely had in Descartes' philosophy. From his funeral oration on Reneri arises the picture that Aemilius was primarily fascinated by the promises of Descartes' natural philosophy.

Aemilius had long wanted to come into contact with Descartes. The funeral oration offered him the opportunity. In late March or early April, he sent Descartes a manuscript copy of the oration, some laudatory poems, and a covering letter in which he introduced himself.<sup>988</sup> The two men became friends. In 1640 Descartes, perhaps at the instigation of Regius, sent him a manuscript copy of the *Meditationes de prima philosophia* (1641), but they never met in person, nor was there any contact after that year, so it seems.<sup>989</sup>

A more important early disciple of Descartes in Utrecht was Reneri's neighbour Henricus Regius. From his father's side Regius came from a family of wealthy Utrecht beer brewers, while his mother was a Van Wyckersloot, another prominent Utrecht family. After his parents died from the plague, he was raised by his uncle Adriaen de Roy, who was a member of the Utrecht town council as well as a member of the Admiralty of Zeeland in Middelburg on behalf of the province of Utrecht. In 1616 Regius enrolled at Franeker to study law, but he left the university with an arts degree. A year later he enrolled at Groningen to study medicine, which he continued at Leiden another year later. He took his degree at Padua while on a Grand Tour in France and Italy

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<sup>986</sup> On Aemilius, see NNBW, 1:38-39; DDP 1:4-5.

<sup>987</sup> Aemilius to Descartes, [late March or early April 1639], in AT 3:2/Bos, *Correspondence*, 16.

<sup>988</sup> *Ibid.*, in AT 2:23, 3:528/Bos, *Correspondence*, 16-17. See also above, pp. 67-68.

<sup>989</sup> Regius to Descartes, 5[15] May 1640, in AT 3:61/Bos, *Correspondence*, 38; Regius to Descartes, 20/30 May 1640, in AT 3:72/Bos, *Correspondence*, 50; Descartes to Regius, [June 1640], in AT 3:63/Bos, *Correspondence*, 51.

from 1621 to 1623. In 1625 he became town physician in Utrecht. Around 1630 he was appointed headmaster of the Latin School of Naarden. Early in 1634 Regius moved back to Utrecht into a house on the Oude Munstertrans. Reneri moved into the same street a few months later, and the two men became close friends. At a given moment Reneri initiated Regius in Descartes' method. It is not known when this started exactly, but it must have been before the *Discours* was published. At that time Regius gave private instruction in philosophy and medicine. After reading the *Discours* and the accompanying *Essais*, he wrote a treatise on physiology based on Cartesian principles, in which he also gave private lessons.<sup>990</sup>

On 25 September 1637 Regius was, again, appointed town physician. A year later he was appointed extraordinary professor of theoretical medicine and botany at Utrecht University, next to Stratenus. Reneri played a vital role in the appointment. In May 1638 the academic senate found it necessary to create a second, extraordinary professorship in medicine, as well as one or two in philosophy and one in Greek.<sup>991</sup> According to the *Narratio historica*, an official report of the events which led to the condemnation of the new philosophy at Utrecht University issued in 1643, Reneri recommended Regius for the chair in medicine. Regius was one of three candidates, but he won the support of Liraeus, Schotanus, who was an old study friend from Franeker, and, eventually, that of Stratenus. This won him the majority vote. Voetius and Reneri were sent on behalf of the senate to a meeting of the town council on 9 July to plead for Regius as their nominee and have him and the candidates for the other chairs appointed before the summer holidays.<sup>992</sup> They were appointed two days later, on 11 July.<sup>993</sup> In a letter to Descartes of 18 August 1638, Regius wrote he owed his appointment to the success of his private classes in Cartesian philosophy.<sup>994</sup> This was confirmed by Descartes.<sup>995</sup> In 1661 the Leiden professor of philosophy Johannes de Raey told a visiting Danish student that Regius more particularly owed his appointment to two of Descartes' friends.<sup>996</sup> The first is no doubt Reneri, whilst the other probably must be looked for among the municipality, since Regius claimed he also had supporters there. This second friend was probably Van der Hoolck, who protected Regius and

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<sup>990</sup> See above, p. 164.

<sup>991</sup> Kernkamp, *Acta et decreta*, 126.

<sup>992</sup> *Testimonium Academiae Ultrajectinae*, 9-11.

<sup>993</sup> Kernkamp, *Acta et decreta*, 127.

<sup>994</sup> Regius to Descartes, [8/]18 August 1638, in AT 2:305/Bos, *Correspondence*, 4-5.

<sup>995</sup> Descartes, *Epistola ad Patrem Dinet*, in AT, 7:582-83.

<sup>996</sup> Borch, *Itinerarium*, 1:43.



Descartes during the Utrecht crisis. In his capacity of burgomaster, Van der Hoolck was responsible for the administration of the university. It probably was Reneri, or Regius himself, who convinced him of the importance of the new philosophy.<sup>997</sup> On 6 September Regius was inaugurated together with the other newly appointed extraordinary professors Van Goor, Senguerdius, and Schoock.<sup>998</sup>

Like Aemilius, Regius had wanted to meet Descartes for a long time, but he had not had the courage to approach him directly, and Reneri apparently had not taken the initiative to introduce Regius. On 18 August he finally wrote a letter to Descartes, in which he introduced himself and expressed his thanks to Descartes for his indirect role in his appointment.<sup>999</sup> It was delivered by Reneri in Santpoort the next day, together with Descartes' undeliverable package for Pollot. Between 19 and 23 August Descartes wrote a reply, which Reneri probably took with him on his return to Utrecht. In this letter he allowed Regius to accompany Reneri on his next visit to Santpoort.<sup>1000</sup> However, due to Reneri's illness, which started in the fall of 1638, Regius gave up the hope that they would visit Descartes together in the short term. Therefore, he asked Descartes, probably in January 1639, permission to visit him alone, which Descartes granted.<sup>1001</sup> Reneri died two months later. In a letter to Descartes of 19/29 March 1639 Regius reported on Reneri's funeral two days earlier and on the funeral oration held by Aemilius the day thereafter.<sup>1002</sup>

Reneri always had been careful not to reveal the principles of Descartes' philosophy to his students. It is not unlikely that Descartes had asked him to show some restraint, being himself reluctant to reveal the principles of his philosophy. That Reneri's caution was not without reason is shown by events which occurred after his death. Regius, who became full professor on 18 March 1639, taught medicine on the basis of his Cartesian physiology and also gave a course on specific philosophical problems (*problemata*).<sup>1003</sup> Although Regius

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<sup>997</sup> Baillet, *Vie de Descartes*, 2:35; Bos, *Correspondence*, 9.

<sup>998</sup> Kernkamp, *Acta et decreta*, 128.

<sup>999</sup> Regius to Descartes, [8/]18 August 1638, in AT 2:305-6/Bos, *Correspondence*, 3-5.

<sup>1000</sup> Descartes to Regius, [between 19 and 23 August 1638], in Bos, *Correspondence*, 10. See also *ibid.*, 10-11. In *Vie de Descartes*, 2:8, Baillet claims that Descartes wrote this in a letter to Reneri of 20 August 1638, but it is unlikely there was such a letter, since Reneri visited Descartes personally. It remains unclear what induced Baillet to believe Descartes wrote to Reneri. See Bos, *Correspondence*, 8.

<sup>1001</sup> Regius to Descartes, [early February 1639], in AT, 2:527/Bos, *Correspondence*, 12.

<sup>1002</sup> Regius to Descartes, 19/29 March 1639, in AT, 2:528/Bos, *Correspondence*, 15.

<sup>1003</sup> See also above, pp. 126-27.



had promised not to teach anything contrary to traditional medicine, the academic senate tolerated it. This changed in 1641, when Regius had a controversial thesis defended about the union of mind and body. Already in 1639, a few months after Reneri's death, he had drawn attention to himself during Schuyt's defence, under Senguerdius, of his disputation *pro gradu* on metaphysical theses. The disputation contained some theses on magnetism. One of the opposing students attacked Schuyt on the occult quality of attraction, using Cartesian arguments. Senguerdius came to Schuyt's defence, but Regius proclaimed victory for the opponent, thereby insulting both Schuyt and Senguerdius.<sup>1004</sup> This incident foreshadowed the upcoming conflict over the new philosophy. In 1640 Regius had a disputation defended on the circulation of blood, thereby acting against the order of the academic senate to choose a more traditional subject.<sup>1005</sup> Then, in 1641, Regius had two series of medical disputations defended on physiological theses. They presented daring Cartesian ideas within an Aristotelian framework. The second series was more provocative because its tone was more aggressive and it openly entered the domain of philosophy. The last disputation, which was defended on 8 December 1641, ended in an uproar. What started it was the thesis that man is an accidental being, that is, that the union of mind and body is accidental, which denies the Calvinist dogma of the resurrection of the body. This prompted the faculty of theology, led by Voetius, to mount a counter-attack in defence of Aristotelian philosophy. The Utrecht crisis was born. The result was that, in 1642, Regius was forced to abandon his course on physical problems and that the new philosophy was condemned.<sup>1006</sup>

### 7.5. Conclusion

Reneri was a close friend and a loyal disciple of Descartes, who, for his part, would have welcomed such enthusiasm for his ideas. Although this was an unequal relationship with respect to social status and financial means, patronage played no part. Their relationship was based on shared philosophical interests. The friendship that grew out of it must have been the result of a fruitful interaction, even though there was also a difference in intellectual capacities.

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<sup>1004</sup> Bos, *Correspondence*, 24-25.

<sup>1005</sup> *Ibid.*, 46.

<sup>1006</sup> On the Utrecht crisis, see Verbeek, *Descartes and the Dutch*, 13-33; Van Ruler, *Crisis of Causality*; Verbeek, Bos, and Van de Ven, *Correspondence*, 183-92.

It is not known to what extent Reneri functioned as a sounding board for Descartes, but Descartes must at least have found a willing ear in his friend. Moreover, by asking Descartes for his explanation of phenomena such as parhelia, hydrostatics, and who knows what else, Reneri caused Descartes to turn his attention to natural philosophy and to write down his thoughts about it. Reneri's supportive attitude was apparently such that Descartes sought his company in Deventer and Utrecht after Reneri had gone there. The presence in Reneri's house of equipment and materials for performing experiments may have been an extra reason. Furthermore, when Descartes was reluctant to publish his ideas, Reneri was one of the people who encouraged him not to keep them for himself. After Descartes published the *Discours*, Reneri lent a helping hand in having the work bound and in distributing it.

With his novel philosophy and its promise of a way out of the philosophical cul-de-sac of Aristotelianism, Descartes not only fuelled Reneri's discontent with the state of philosophy, but also offered a solution. This was the man who would bring about the necessary revival of philosophy. That Reneri, as one of the few, was in the position to witness the development of Descartes' ideas from nearby must have added to the excitement. Moreover, Descartes inspired Reneri's own attempts to bring about change within academia. Even though it was Reneri's duty to teach Peripatetic philosophy, it is clear that his corrections to doctrine are partly indebted to Descartes' views. Even more impressed, perhaps, was Reneri by Descartes' mathematics, given the fact that Reneri in his letters mentions Descartes most of all in relation to this discipline. This caused Reneri to study mathematics himself. However, in spite of the trouble he took to master it, Reneri never reached a sufficient level of understanding to be capable of fully grasping Descartes' analytic geometry. All in all, Descartes acted as his intellectual mentor, despite the fact that he was three years younger than Reneri.

Yet, Reneri's efforts in the field of mathematics brought him, through Descartes, into contact with several mathematicians, whom he otherwise would not have met so easily. Inversely, Reneri did not substantially contribute to Descartes' network until the later years of their friendship. The academics and patricians constituting Reneri's network would have been of little interest for Descartes, who was financially independent, not interested in an academic position, and chose to lead a solitary life. Moreover, initially Descartes intended to stay in the Republic only temporarily, which made it even less necessary to build up a Dutch network. The few men Descartes gathered around him in those days were primarily chosen on intellectual grounds. It was only when he came in conflict with Voetius that the social position of some of

his connections from this early period, such as Huygens, became of use. Finally, Descartes met most of the friends he had in common with Reneri, coincidentally, through other people.

Reneri's role in the formation of Descartes' network changed after his move to Utrecht. There he introduced Descartes to Van Schurman, Pollot, Regius, and probably also to Van der Hoolck, Haestrecht, and Waesenaer. Reneri, who by that time was better versed in Descartes' philosophy, promoted it with much fervour among his friends and, with a little more caution, among his students. This raised an interest in the person behind these novel ideas. Reneri's promotion of Descartes got a great boost from the publication of the *Discours*. Moreover, Reneri seems to have derived a certain pride from the fact that he knew Descartes, which boomeranged on Reneri when Aemilius in his funeral oration in fact said that Reneri's greatest achievement was his friendship with Descartes.

In his classes—also before the *Discours* was published—Reneri talked about Descartes' philosophy more often than his disputations suggest. He was not successful in winning over his students for the new philosophy though. With Aemilius and Regius Descartes' ideas fell on more fertile ground. Their support had major consequences. Reneri may have foreseen that Descartes' philosophy would meet opposition, given his restraint in revealing the principles of Descartes' philosophy to his students. These two men, on the other hand, showed less restraint. With his exaggerated funeral oration Aemilius drew unwanted attention to Descartes. Regius developed a Cartesian physiology of his own and soon collided with the orthodox theologians at Utrecht University. Reneri's name was kept out of the conflict due to his marital connections to the Utrecht regent patriciate. These connections also may have helped Descartes during the Utrecht crisis.

So, driven by the hope that Descartes' philosophy would revive philosophy and out of admiration for his friend, Reneri played an important role in the choices Descartes made, the dissemination of his philosophy, and the spread of his fame. He did not accomplish this through his own teachings and works, but indirectly by encouraging Descartes and through propagating his ideas within his network. Without Reneri Descartes' philosophy and its reception would not have been different, to be sure, but events would certainly have taken a different course. Ironically enough, it is mainly due to his promotion of Descartes that the memory of Reneri lives on as well.



## Conclusion

In his funeral oration, Aemilius' portrayed Reneri as an advocate of free philosophizing who did not accept the authority of Aristotle and his interpreters, but investigated nature itself under the guidance, and with the help and encouragement, of Descartes. Reneri not only shared the results of his investigations with his friends, but also with his students. The image pictured by Aemilius was, albeit vague and somewhat one-sided, actually quite accurate, as my research shows. Also his characterization of Reneri as unpretentious and easy to get on with proves to be accurate. These character traits greatly helped Reneri to commit people to him.

It has now become clear what Aemilius' words actually refer to. My research enabled me to fill in the details, but also alter it on one point. Aemilius suggests that Reneri started investigating nature under the direction of Descartes, but this is not true. Reneri had been doing experiments and constructing instruments long before he met Descartes. His experiments were a matter of trial and error. They mainly aimed at producing wonderful effects in the tradition of natural magic. Reneri shared them with his patrons as gifts in return for their favours. For him these experiments and inventions were part of the investigation of nature. Only later, under the influence of Descartes, his experiments seem to have become more systematic and aimed at revealing the corpuscular structure of bodies. Descartes' natural philosophy provided the framework for this.

Reneri looked for explanations of natural phenomena that match experience more accurately than those of traditional philosophy. Descartes' physics appealed to him as an alternative. Reneri believed it would replace that of Aristotle in the end. He never concealed this from the students who took *collegia privata* with him. As yet, however, this was only an expectation. Reneri had witnessed Descartes working on his philosophy, but Descartes had not yet published anything. Instead, Reneri used elements of what he had learned from his discussions with Descartes. Later he was even more outspoken in promoting Descartes' philosophy. In 1638 he publicly read parts of the *Discours* and supervised the defence of Cartesian theses. So we have to distinguish two stages in Reneri's Cartesianism: the period before and that after the publication of the *Discours*. All the same, Reneri never taught Cartesian philosophy behind an Aristotelian facade or any such thing, as some historians after Baillet have

claimed (see the Introduction). He was open about the fact that his innovations owed much to Descartes. This was limited to physics and optics—Reneri's work shows no traces of Descartes' metaphysics and virtually none of his method. On the basis of observations Reneri adapts Aristotelian doctrine by combining it with Cartesian physics and other corpuscularian theories. His physiological disputation of 1638 is atypical and could be the influence of Regius, which of course does not alter the fact that Reneri, as supervisor, accepted responsibility for the fully Cartesian theses it included.

Some questions remain unsolved. First, one wonders whether the fact that Reneri's work only shows influences of Descartes' physics indeed means that Reneri separated Descartes' natural philosophy from his metaphysics and his method, as Sassen claimed. Second, one wonders whether Reneri thought that the other corpuscular theories he drew on were more or less similar to that of Descartes or whether he needed them to combine traditional doctrine with Descartes' philosophy into a coherent whole.

Further research, however, would require more sources, such as, for instance, letters or pieces from Reneri's manuscript collection that was put up for auction after his death. This collection may have included—apart from sketches of instruments and samples of his method of logic—letters exchanged with Descartes and, who knows, copies of early drafts of the latter's works. It is unlikely that more unknown printed sources will turn up, except perhaps for Reneri's Deventer inaugural address.

On the basis of his academic work Reneri hence cannot be called a Cartesian. Verbeek rightly concluded that Reneri's disputations (of 1635, which were the only ones Verbeek knew) were not fully Aristotelian, but that they could not be called Cartesian either. Verbeek's qualification of Descartes' influence as "insignificant and confused," however, is not entirely adequate. Reneri's eclectic mix contains elements from various corpuscular traditions, but Descartes' influence is unmistakable. Furthermore, although Reneri's interpretation of Descartes' corpuscular theory is indeed confused, it is also fairly consistent. It would also be going too far to include him among the "novantiques," since the mechanical and corpuscular elements in his disputations are too indistinct. Rather, Reneri tried out some elements of Descartes' natural philosophy. His teaching of the *Discours* in his public lessons seems to have had the same purpose.

More than through his classes Reneri contributed to the spread of Descartes' reputation through the promotion of the latter's philosophy among his network, especially Regius, whom he also introduced to Descartes. Descartes probably met most of the people he knew in Utrecht through

Reneri—as far as we know he did not know anybody there when he moved to Utrecht in 1635. Apart from this, Reneri's role in the formation of Descartes' network is smaller than presumed beforehand. Descartes seems to have met only two or three of his other friends through Reneri.

Reneri's modest and amiable character was probably the reason why the two men got along so well. For Descartes Reneri must have been a welcome discussion partner who encouraged him to write down his ideas and kept him at work, without criticizing him on fundamental issues. In this way Reneri had a significant influence on Descartes. This does not mean that without Reneri Descartes' philosophy would have been different, but one may very well wonder if the publication history of Descartes' oeuvre would have been entirely the same. Descartes interrupted his work on metaphysics to write the *Météores*, which later became the project of *Le Monde*, because Reneri had asked his friend how he would explain the phenomenon of parhelia. And it was partly at the insistence of Reneri that Descartes, after some initial reluctance, published the *Essais* with the introductory *Discours*.

When Reneri's promotion of Descartes' philosophy is left aside, what remains is a competent, dedicated, and much appreciated teacher. Moreover, with his interest in method he was a child of his time. In his work we see the influence of Bacon, Ramus, and post-Ramist encyclopaedism. Furthermore, Reneri was known for his desire for innovation and his empirical approach to philosophy. Nevertheless, Reneri did not succeed in leaving a lasting mark on the teaching of philosophy at Utrecht. The only one whom he seems to have influenced is Schoock, whose work shows the same concern for observation and natural history.

My dissertation fills some of the lacunas in Descartes scholarship in the sense that it provides a clearer picture of the circumstances in which the *Discours* and the *Essais* were written, of the choices Descartes made about where to live during the first ten years of his stay in the Republic, and of how his philosophy spread among his early followers. Furthermore, my analysis of Reneri's inaugural address and disputations provides further insight into the teaching of philosophy at Utrecht University in the first five years of its existence. Moreover, the fact that Reneri could freely try out doctrinal innovations at Utrecht (with the exception perhaps of his defence of Copernicanism) confirms the flexibility of Aristotelianism as it was taught at illustrious schools and universities in Northern Europe. Finally, Reneri's life story is also an example of the possibility of social mobility in the Republic in the early modern period. It shows how an émigré with no money or family to fall back on could rise socially by building up a network of the right

connections, albeit that Renieri's case may have been somewhat atypical given the fact that he did surprisingly well for himself.

Renieri made a small but significant impact on Descartes' life. Inversely, the impact was much larger. Descartes occupied a central place in Renieri's life. He even is the reason why Renieri is still studied today. However, the fact that Renieri was no great thinker in his own right, but soaked up the latest scientific developments and integrated philosophical trends in his work, also makes him interesting. He was one of many average philosophers, who just happened to know Descartes personally.



# Appendix 1

## Correspondence

The letters are chronologically ordered. Given are the postage date, the author, the addressee, the places from and to which the letter was sent, shelf mark, and additional information regarding publication and translation. Square brackets indicate reconstructed, that is, added or corrected, information. In the one case that there are two letters by the same author to the same addressee of the same date, the letters (a) and (b) are added to the date as well as the opening words of the letter.

In case the letter had an enclosure that does not survive I give its content on the basis of references in the letter. When I was able to reconstruct both the date and the general content of a letter that does not survive, I marked it with angle brackets.

Contributions to *alba amicorum* are listed separately.

### Letters

(1628-04-04. Johann Heinrich Bisterfeld, Leiden, to Henricus Reneri, [Amsterdam]. Referred to in Bastin, “Henri Reneri,” 255-56, 258.<sup>1007</sup> In this reportedly long letter Bisterfeld referred to Reneri’s plans to study astrology for one month.)

1629-03-28. Henricus Reneri, Amsterdam, to [Constantijn Huygens, The Hague], BL, MS Add 21524, fol. 245. Published in AT, 10:541-43. The manuscript has no addressee, but given the content and the fact that the correspondent lives in The Hague and is addressed as “amplissime vir,” it

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<sup>1007</sup> This letter was part of the collection of the Belgian priest Émile Gelin (1850-1921), who lived in Huy around the turn of the twentieth century. His family seems to have divided his books and manuscripts after his death. On 21 and 22 November 2008 books and manuscripts from this collection, including many *cartesiana*, were auctioned by Romantic Agony Book Auctions of Brussels. They were put up for auction by the St. Anthony of Padua convent in Brussels. The auction catalogue, however, does not mention the present letter. Efforts to find out whether the letter—or other letters from Reneri’s correspondence—are still in the possession of the Gelin family or in the library of the convent were unsuccessful.

must be Huygens.<sup>1008</sup> Furthermore, it was put up for auction in 1825, together with Reneri's letter to Huygens of 28 October 1635, as part of the collection of Cornelis Ascanius van Sypesteyn (1785-1841). The auction catalogue mentions a letter from Reneri, sent from Amsterdam, to Huygens of 28 March 1649 "upon a work intended by him, on Optics." The year is obviously a reading or printing error. Moreover, the work referred to is not a work Reneri intended to write, but to a possible sequel to Scheiner's *Oculus*. See *Catalogue of manuscripts of Van Sypesteyn*, 45.

(1629-07-between 08 and 14.<sup>1009</sup> Henricus Reneri, [Amsterdam], to Pierre Gassendi, [Leiden]. Referred to in Gassendi to Reneri, 14 July 1629. In this letter Reneri must have asked Gassendi once again to write down his explanation of the parhelia observed near Rome that year, to have it published together with the account of Scheiner's observation.)

1629-07-14. Pierre Gassendi, The Hague, to Henricus Reneri, [Amsterdam]. This letter contained a copy of the diagram with a description of the parhelia observed by Scheiner earlier that year and Gassendi's explanation of the phenomenon, preceded and concluded by a personal note. The beginning and closing words of the letter are published as part of Gassendi's correspondence in Gassendi, *Opera*, 6:24. This letter was prepared for publication by Reneri and published as *Phaenomenon rarum, et illustre, Romae observatum, 20 martii, anno 1629* in 1629. The personal note was recast, so it no longer has the form of a letter, nor is Reneri's name mentioned anywhere. Gassendi was not satisfied with the result and a revised edition of the work, now including the personal note to Reneri, was published as *Parhelia, sive Soles quatuor, qui circa verum apparuerunt Romae, die XX mensis martii, anno 1629* in 1630. It was reprinted with a postscript containing a diagram and description of parhelia observed on 8 April 1223 (copied from Matthew Paris' *Chronica Majora* (13th century)) in 1656 (also in Gassendi, *Opera*, 3:651-61). Gassendi's explanation in the 1630 edition is a much augmented version of the explanation in the 1629 edition.

1629-08-12. Henricus Reneri, Amsterdam, to Petrus Cunaeus, Leiden, UBL, CUN 2.

1629-08-20. André Rivet, Leiden, to Henricus Reneri, Amsterdam, KB, KA 213 (no. 2).

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<sup>1008</sup> Verbeek, "Philosopher's Life," 64 n. 54.

<sup>1009</sup> They did not meet before Gassendi arrived in Amsterdam on 8 July.

- (1629-12-00. Pierre Gassendi, [Paris], to Henricus Renneri, [Leiden?]. Referred to in Renneri to Gassendi, 6 January 1630. In this letter Gassendi must have expressed his dissatisfaction with *Phaenomenon rarum*, but nevertheless have asked for twelve copies (which were sent to him by someone else than Renneri).)
- 1630-01-06. Henricus Renneri, Leiden, to Pierre Gassendi, [Paris], in Gassendi, *Opera*, 6:395-96.
- 1630-02-08. Pierre Gassendi, Paris, to Henricus Renneri, [Leiden], in Gassendi, *Opera*, 6:29-31.
- 1630-06-07. Henricus Renneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- (1630-late July or early August. Henricus Renneri, [Leiden], to Pierre Gassendi, [Paris]. Referred to in Gassendi to Renneri, 6 September 1630. Enclosed was a specimen of Renneri's Analysis.)
- 1630-09-06. Pierre Gassendi, Paris, to Henricus Renneri, [Leiden], SBB Slg. Darmst. 2a 1630 (1): Gassendi, Petrus, Bl. 9r-10v. Published in Gassendi, *Opera*, 6:37-38. Enclosed was a copy of *Parhelia*.
- (1630-after 6 September. Pierre Gassendi, [Paris], to Henricus Renneri, [Leiden]. In this letter Gassendi must have asked Renneri for his comments on *Epistolica exercitatio, in qua principia philosophiae Roberti Fluddi reteguntur*. Enclosed were a copy of the *Epistolica exercitatio* and a letter to Golius (now lost). In his letter to Renneri of 22 November 1630 Gassendi says that approximately two months earlier he had written Renneri about the latter's Analysis, the *Epistolica exercitatio*, and *Parhelia*. Furthermore, as Gassendi continues, he had enclosed a copy of *Parhelia* and a letter to Golius. In his letter to Renneri of 6 September 1630 Gassendi indeed discusses Renneri's Analysis, and he had enclosed a copy of *Parhelia*, but he does not discuss the *Epistolica exercitatio*, nor is there any mention of a letter to Golius. In this same letter, however, he announces that he would separately send a copy of an unspecified book of his. This must refer to the *Epistolica exercitatio*, given that the work was published that year and that Gassendi had asked Renneri to comment on it, as Renneri writes in a letter to De Wilhem of 10 September 1631(b). Therefore, Gassendi must have sent him another letter in September 1630.)
- 1630-11-22. Pierre Gassendi, Paris, to Henricus Renneri, Leiden, in Gassendi, *Opera*, 6:41-42. Also published in CM, 2:557-58. Enclosed were a parcel

- containing letters from Ferrier to Descartes (lost; not in AT) and an accompanying letter from Ferrier to Reneri (also lost).<sup>1010</sup>
- 1630-11-26. Henricus Reneri, Leiden, to Pierre Gassendi, Paris, BnF, département des Manuscrits, NAL 1637, fol. 22r. Published in Gassendi, *Opera*, 6:399-400; CM, 2:575.
- 1631-06-02. René Descartes, [Amsterdam], to [Henricus Reneri, Leiden], in Descartes, *Lettres*, 3:602-4 (published from a draft version). Also published in AT, 1:205-9; AM, 1:192-94.
- 1631-08-31. Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A. Enclosed were a letter from De Wilhem to Golius, which Reneri was asked to forward but which was undeliverable and therefore returned, and De Dieu's *Animadversiones sive commentarius in quatuor Evangelia* (1631).
- <1631-shortly before 10 September. Pierre Gassendi, [Paris], to Henricus Reneri, [Leiden]. Referred to in Reneri to De Wilhem, 10 September 1631(b). It was enclosed with a letter from Mersenne to Rivet, which was delivered on 10 September (lost; not in CM or Dibon, *Inventaire*). In the letter Gassendi must have explained why he had not written for so long. He had been busy studying Oriental languages, making plans to accompany the French ambassador Henri de Gournay de Marchéville on his scientific expedition to the Ottoman Empire (which he aborted in the end),<sup>1011</sup> and with his project of reviving Democritus and Epicurus.)
- 1631-09-10(a) ("Pace tua liceat deinceps [...]"). Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- 1631-09-10(b) ("Dum in ea sum opinione [...]"). Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- <1631-09-between 10 and 15. Henricus Reneri, [Leiden], to Pierre Gassendi, [Paris]. Referred to in Reneri to De Wilhem, 10 September 1631(b). This letter, which must have contained Reneri's comments on Gassendi's *Epistolica exercitatio*, was part of a parcel. It was to be sent to Gassendi on 15 September 1631.)
- 1631-10-08. Burgomasters, aldermen, and town council of Deventer, Deventer, to Henricus Reneri, [Leiden], SAB, 691, inv. no. 338 (copy).
- 1631-10-08. Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- 1631-10-10/20. Henricus Reneri, Leiden, to the burgomasters, aldermen, and town council of Deventer, Deventer, SAB, 691, inv. no. 338.

<sup>1010</sup> See also Descartes to Mersenne, [2 December 1630], in AT, 1:190/CM, 2:579.

<sup>1011</sup> See above, p. 177 n. 741.

- 1631-10-18. Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- 1631-10-22. Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- 1631-10-29. Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A.
- [1631]-12-10/20. Henricus Reneri, Deventer, to David de Wilhem, Amsterdam, UBL, BPL 293A. Enclosed was a copy of Revius' poem "Laurus rediviva."
- [1632]-02-20 (OS). Henricus Reneri, Leiden, to David de Wilhem, Amsterdam, UBL, BPL 293A. Partly published in Dibon, "Bacon en Hollande," 212.
- 1632-06-02. Henricus Reneri, Leiden, to André Rivet, The Hague, UBL, BPL 2211A, fols. 174-75.
- [1632-between 1 July NS and 5/15 September].<sup>1012</sup> Henricus Reneri, Leiden, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 37-IV<sup>E</sup>.
- 1632-08-17. Henricus Reneri, Leiden, to David de Wilhem, The Hague, UBL, BPL 293A. Enclosed was a Spanish book on law.
- (1632-shortly before 5/15 September. Ludovicus Vivien, Utrecht, to Henricus Reneri, Deventer. Referred to in Reneri's letter to Booth of 5/15 September 1632, in which Reneri writes that he received Vivien's letter the day before he writes the present letter.)
- 1632-09-05/15. Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 39-IV<sup>E</sup>.
- (1632-shortly before 17 September. Cornelis Booth, Utrecht, to Reneri, Deventer. Referred to in Reneri's letter to Booth of 17 September 1632, in which Reneri writes that he answered Booth's letter the same day he received it.)
- [1632]-09-17, Henricus Reneri, [Deventer], to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 36-IV<sup>E</sup>.
- [1632-between 10 October and 20 December].<sup>1013</sup> Henricus Reneri, [Deventer?], to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 35-IV<sup>E</sup>.

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<sup>1012</sup> Reneri's reference to his wife in this letter provides the date *post quem*. He married Anna Vivien on 1 July 1632 [NS]. It was written before his letter to Booth of 5/15 September.

<sup>1013</sup> The reference in the address to Booth as alderman ("scheepe") of Utrecht provides the date *post quem*. He was appointed on 10 October 1632. See the resolutions of the Utrecht town council, HUA, 702-1, inv. no. 121, vol. 16, fols. 1-2r. In this letter Reneri announces his coming to Utrecht with a large sum of money, presumably to purchase a prebend from Booth (as discussed in his letter to Booth of between 1 July NS and 5 September 1632). His letter to Booth of 20 December proves that Reneri had acquired it

- 1632-12-20. Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 38-IV<sup>E</sup>.
- 1633-02-02. André Rivet, The Hague, to Henricus Reneri, Deventer, KB, KA 213 (no. 3).
- 1633-06-05. Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 33-IV<sup>E</sup>. Enclosed was a lens for a camera obscura for Strick.
- 1633-07-01. Henricus Reneri, Deventer, to the Deventer town council, Deventer, SAB, 691, inv. no. 338.
- 1633-07-08/18. Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 40-IV<sup>E</sup>. Enclosed were papers with “secrets” for Booth and a box containing a small vessel (*aqualiculus*) made of glass for Strick.
- 1633-[09]-26.<sup>1014</sup> Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 32-IV<sup>E</sup>.
- 1633-10-25. Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 31-IV<sup>E</sup>.
- 1633-12-02. Henricus Reneri, Deventer, to Cornelis Booth, Utrecht, HUA, 759, inv. no. 12, 30-IV<sup>E</sup>.
- 1633-12-12/22. Henricus Reneri, Deventer, to David de Wilhem, The Hague, UBL, BPL 293A. Enclosed were some presents, including a painting, a small copper jug (“fontaine ou aiguiier”), an accessory for projecting images upright in the camera obscura, and some other, unidentified optical instruments.
- 1633-12-12/22. Henricus Reneri, Deventer, to André Rivet, The Hague, UBL, BPL 2211A, fols. 176-77.
- 1634-01-02. Cornelis Booth, [Utrecht], to Henricus Reneri, [Deventer], HUA, 759, inv. no. 12, 35-IV<sup>E</sup> (minute).
- 1634-01-18. Henricus Reneri, Deventer, to the Utrecht town council, Utrecht, in Kernkamp, *Acta et decreta*, 37. Kernkamp published this letter from a copy, which now, however, seems to be missing from the resolutions. See HUA, 702-1, inv. no. 121-16, fol. 136r.

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in the meantime.

<sup>1014</sup> Reneri dated his letter 26 October 1633 [OS], but on the back side Booth wrote 30 September OS as the date of receipt. The postage date of 26 October can be eliminated since the letter must be written before Reneri's letter to Booth of 25 October 1633. According to Blom, Krop, and Wielema, *Deventer denkers*, 228, the postage date should be read as 6 October 1633, but this leaves Booth's note unexplained. The most plausible explanation is that 30 September is the correct date of receipt and that Reneri got the month wrong, when he wrote the letter on 26 September.

- [Around 1634]. Henricus Reneri to [John Jonston], HP 1/33/106A-B, 8/46/1A-2B (both copies from the autograph).<sup>1015</sup>
- 163[4]-07-02. René Descartes, [Amsterdam], to Henricus Reneri, Utrecht, SUH, Uffenbach-Wolfschen Briefsammlung, Sup. ep. 28, fo. 39. Published in Descartes, *Lettres*, 2:362-63 (first part of no. 81) from a draft version. The autograph letter, signed, is published in Grunwald 1896, 327-29; AT, 1:300-302 (AT erroneously indicates that the manuscript is a copy); AM, 1:262-63. [1634-between 28 July and 10 August].<sup>1016</sup> Henricus Reneri, [Utrecht], to André Rivet, Beverwijk, UBL, BPL 2211A, fols. 180-81.
- 1634-[08-09]. Henricus Reneri, [Utrecht], to André Rivet, Arnhem, UBL, BPL 2211A, fols. 178-79. In his letter of 10 August 1634 Rivet refers to this letter as "your letter of yesterday" ("vostre lettre du jour d'hier").
- 1634-08-10. André Rivet, Arnhem, to Henricus Reneri, Utrecht, KB, KA 213 (no. 4).
- [1634-08-00]. Henricus Reneri, [Utrecht], to André Rivet, Arnhem, UBL, BPL 2211A, fols. 182-83.
- 1634-12-23. Henricus Reneri, Utrecht, to David de Wilhem, The Hague, UBL, BPL 293A. Enclosed was a copy of *Illustris gymnasii Ultrajectini inauguratio unà cum orationibus inauguralibus*.
- 1635-04-04/14. Henricus Reneri, Utrecht, to Constantijn Huygens, The Hague, UBL, HUG 37. Published in Van Vloten, "Huygens' Handschriften en Brieven," 483-84; Huygens, *Briefwisseling*, 2:61; partly in Roth, *Correspondence of Descartes and Huygens*, lxxiii. Enclosed were thirty pills extracted from Spa water for Huygens, and a book for De Wilhem.
- 1635-08-16/26. Henricus Reneri, Utrecht, to Gerardus Joannes Vossius, Amsterdam, Bodl, MS Rawl. 84e, fol. 170r.
- 1635-10-22. Henricus Reneri, Utrecht, to Constantijn Huygens, on campaign with the army of Frederik Hendrik, UUB, Waller Ms benl-00589; available online: <http://waller.uu.se/object.xsql?DBID=22846> (accessed 6 March 2013). Published in Buning, "Unknown Letter," 93-95.
- 1635-10-29. Constantijn Huygens, Pannerden, to Henricus Reneri, [Utrecht], KB, KA 44, fol. 271r (minute); KB, KA 45, fol. 75r (fair copy). Partly published in Huygens, *Briefwisseling*, 2:121. Enclosed was a letter from Huygens to

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<sup>1015</sup> See Appendix 4.

<sup>1016</sup> This letter discusses potential candidates to succeed the deceased Pierre Agache, whose death was reported on 28 July, as minister of the Walloon church in Utrecht. See the Utrecht burial register, HUA, DTB 122, 26. Reneri's next two letters to Rivet and Rivet's response of 10 August discuss the matter further.

- Descartes (“couverte à Reneri pour Descartes”) of 28 October 1635 (AT, 1:325-27).
- 1637-05-11. Pieter Corneliszoon Hooft, Amsterdam, to Henricus Reneri, Utrecht, UBA, HSS-mag II C 11, fol. 913r (minute); UBL, PAP 13 (fair copy). Published in Hooft, *Briefwisseling*, 2:934-35.
- [1637]-06-16. Henricus Reneri, Amsterdam, to Pieter Corneliszoon Hooft, Muiden, UBL, PAP 2. Published in Cohen, *Écrivains français*, 507; Hooft, *Briefwisseling*, 2:944-45.
- 1637-12-19. Constantijn Huygens, [The Hague], to Henricus Reneri, [Utrecht], KB, KA 44, fol. 315r (minute); KB, KA 45, fol. 88v (fair copy). Partly published in Huygens, *Briefwisseling*, 2:338.
- [1638]-01-01 (NS). Henricus Reneri, Utrecht, to Constantijn Huygens, The Hague, UBL, HUG 37. Enclosed are two sheets that each contain a drawn illustration of a water clock. The first sheet also contains an explanation of its construction. Published without the two enclosures in Huygens, *Briefwisseling*, 2:339.
- [1638-04-00]. “S.P.” [i.e., Alphonse Pollot, The Hague], to [Henricus Reneri, Utrecht], for Descartes, [Santpoort], in Descartes, *Lettres*, 2:1-4. Also published in AT, 1:511-17; AM, 2:92-95. According to Clerselier, this letter was addressed to a friend of Descartes.<sup>1017</sup> According to Leon Roth, “S.P.” stands for Sieur Pollot, but it is not certain that Pollot is the author of the objections in the letter to Descartes’ *Discours* and the *Essais*. It could be written by a group of people.<sup>1018</sup>
- 1638-02-28. Henricus Reneri, Utrecht, to David de Wilhem, The Hague, UBL, BPL 293A. For the most part published in Dibon, “Bacon en Hollande,” 216-18. Enclosed were five *rijksdaalders* (which had the total value of 12½ guilders) interest on Reneri’s debt to De Wilhem.
- [1638-early March]. Henricus Reneri, Utrecht, to Marin Mersenne, Paris, BnF, département des Manuscrits, NAF 6206, fol. 56r. Published in Tannery, “Lettre de Reneri”; AT, 2:101-3; CM, 7:113-17. Reneri refers to the reduction of his teaching load a few days earlier, which was decided on 26 February/7 March 1638.
- 1638-05-13. André Rivet, The Hague, to Henricus Reneri, Utrecht, KB, KA 213 (no. 5).

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<sup>1017</sup> Descartes, *Lettres*, 2:1.

<sup>1018</sup> Roth, *Correspondence*, 85 n. b. See also Adam, “Correspondance de Descartes,” 395-96; AT, 2:728.



- 1638-09-09/19. Henricus Reneri, Utrecht, to Gerardus Joannes Vossius, Amsterdam, Bodl, MS Rawl. 84e, fol. 209r. Enclosed was a copy of the reprint of Reneri's inaugural address.
- 1638-11-17. André Rivet, The Hague, to Henricus Reneri, Utrecht, KB, KA 213 (no. 6).

**Contributions to *alba amicorum***

- 1618-07-14. Entry in the album of Johannes Montanus, Leiden, KB, 76H6, fol. 123r.
- 1638-12-20. Entry in the album of Christian Otter, Utrecht, LMAB, F 15-303, fol. 124v. Published in Buck, *Christian Otter*, 263; Kowalewski, "Descartes-Reliquie," 267.

## Appendix 2

### Disputations Presided Over by Reneri

- (1634-07-09. Disputation on miscellaneous theses (“ex omni philosophia”), resp. Martinus Schoock. Buchelius’ *Notae quotidianae* provides the date and the subject.)<sup>1019</sup>
- 1635-02-25. *Decas quaestionum illustrium ex philosophia naturali*, resp. Johannes Almeloveen. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- 1635-04-22. *Disputationum physicarum prima, de natura et constitutione physicae*, resp. Johannes Almeloveen. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- 1635-05-06. *Disputationum physicarum secunda, de corpore naturali in genere*, resp. Wernerus ab Enschede. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- 1635-06-10. *Disputationum physicarum tertia, de mundo et coelo*, resp. Ludovicus à Vosberghen. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- 1635-06-27. *Disputationum physicarum quarta, de elementis*, resp. Paulus Dayka Keserui. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- 1635-07-13. *Disputationum physicarum quinta, de corpore mixto in genere*, resp. Wernerus ab Enschede. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- 1635-09-30. *Disputationum physicarum sexta, de affectionibus corporis mixti in genere*, resp. Johannes Almeloveen. Utrecht: Abraham van Herwijck and Hermannus Ribbius 1635.
- 1635-11-04. *Disputationum physicarum septima, de meteoris*, resp. Ludovicus à Vosberghen. Utrecht: Abraham van Herwijck and Hermannus Ribbius, 1635.
- (1636-03-29. *Disputatio inauguralis prima continens theses philosophicas miscellaneas*, resp. Martinus Schoock. The Utrecht *album promotorum*

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<sup>1019</sup> Buchelius, *Notae quotidianae*, 23.

provides the date,<sup>1020</sup> while the resolutions of the States of Utrecht provide the title.)<sup>1021</sup>

1636-09-21. *Disputatio physica de mineralibus*, resp. Johannes Ludovici Grouwels. Utrecht: Aegidius and Petrus Roman, 1636.

1636-12-23. *Theses philosophicae miscellaneae*, resp. Godefridus Dellius. Utrecht: Aegidius and Petrus Roman, 1636.

1637-10-18. *Disputatio philosophica continens positiones miscellaneas*, resp. Henricus Bornius. Utrecht: Aegidius and Petrus Roman, 1637.

1638-03-17. *Disputatio physica continens theses aliquot illustriores*, resp. Antonius Mudenus. Utrecht: Aegidius Roman, 1638.

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<sup>1020</sup> *Album prom. Rheno-Traj.*, 1.

<sup>1021</sup> Resolutions of the States of Utrecht, 24 March 1636, HUA, 233, inv. no. 264-41.

## Appendix 3

### Reneri about Descartes

Below are collected all the passages from Reneri's letters in which he mentions Descartes. They are chronologically ordered. Although some of the letters are (partly) published (see Appendix 1), the transcriptions of the autographs are my own.

- 1) Reneri to Huygens, 28 March 1629

Context: Reneri sends Huygens the title of Christoph Scheiner's *Oculus*.

Jam demum certior factus de auctore illo, cujus nuper apud te memineram, titulum mitto.

Fundamentum opticum Scheineri Jesuitae.

Ingolstadij.

In eo fabrica oculi, et modus quo fiat visio, accuratiùs quàm apud ullum explicatur. Eo libello promittuntur quidem reliquae optices partes; sed an prodierint nondum habet pro comperto nobilis ille Gallus.

- 2) Reneri to De Wilhem, 10 September 1631(a)

Context: Reneri seems to answer to a question from De Wilhem as to what Descartes thought of the latter.

De D. de Cartes amicitia non est quod dubites: non enim modò in mathematicis ac philosophia solidiori omnium est qui unquam extiterunt (meo judicio) eruditissimus; sed praeterea humanitate ac benignitate tibi non cedens. D. verò Eylichmannus summa sua in medicis ac chymicis eruditione ac experientia multiplica perficere poterit, saltem valde illustrare, generaliore illam philosophiam D. de Cartes: in linguis quoque non ingratus tibi socius esse poterit. Quod si tertius accedat vir nobilis D. Westenraedius,

omnis eruditionis quae ex libris hauriri potest penu uberrimus, literator, philosophus ac theologus insignis; pietate verò probitate et veritatis studio nulli facilè secundus, habebis triumviratum, cui tota Europa parem non foret. Expectatur in dies in his regionibus, quas non obstante virium infirmitate, et D. Eylichmanni et D. de Cartes causâ viset et forte inhabitabit. Ad ejus amicitiam via paranda per D. Eylichmannum ad quem singulis penè septimanis prolixas [infirmittates] dat.

3) Reneri to De Wilhem, 20 February 1632 (OS)

Context: Reneri expresses his joy at the academic environment of the Deventer Illustre Gymnasium.

Quod si his omnibus accedat desideratissimum D. de Cartes, philosophorum et mathematicorum principis, consortium (ut spes nonnulla affulget) atque insuper gratissima favoris tuî aura, nemo me huic vel Attalicis conditionibus avellat.

4) Reneri to Booth, 26 September 1633

Context: Reneri has been informed of plans to found an illustrious school in Utrecht.

Ea res stimulo mihi fuit ad penitus tractanda studia philosophica, quae cum viderem in obscuro jacere mathematicarum disciplinarum luce destituta, sepositis omnibus alijs curis, in primis ijs quas medicinae seu theoria seu praxis adferre potuisset, magno ardore ad eas artes animum coepi applicare: non quod earum antea prorsus ignarus essem, sed quod penitus ea non introspexissem. Idque tantò studiosius praesto, quanto illustrior mihi est occasio magnorum progressuum, per familiaritatem cum omnium qui unquam fuerunt mathematicorum principe Domino de Cartes nobili Gallo.

5) Reneri to De Wilhem, 12/22 December 1633

Context: Reneri asks De Wilhem not to judge his gratitude for De Wilhem's support from the small number of letters he has recently sent him.

Plustost je tasche à me rendre par mes estudes de plus en plus capable pour quelque jour tesmoigner publiquement la grande obligation que je vos ay. A cet effect j'ay prins les mathematiques en main en ayant eu l'envie toute ma vie, mais point l'occasion. Je voy que ces disciplines sont des lunettes

d'approche en la philosophie. Sans icelles la verité des choses qui est tant eslongnee de nous ne se voit que fort confusement. Il est bien vray que si je me fusse addonné à la pratticque de la medecine, cela m'eust peu apporter pour le present un peu plus de profit: mais aussy faisant profession de la philosophie et ayant eu la meilleure occasion du monde par la faveur de monsr des Cartes de me rendre excellent mathematicien, que pourroy-je respondre à ceux qui m'objetteroyent d'avoir mesprisé ce qui seul me pouvoit donner advantage par dessus le vulgaire des philosophes estant joint au peu de la medecine que j'ay acquis, et aux experiences ausquelles je me suis tousjours pleu. [...] En ceste resolution, pour ne point estre trop importun à monsr de Cartes j'ay fais venir Jean Gilot à Deventer pour quelque temps tant pour son bien et advancement ulterieure sous monsr des Cartes, que pour m'enseigner l'Euclide et l'Algebre vulgaire afin que sachant les choses communes aux aultres mathematiciens et qui se peuvent tirer des livres je fusse plus propre à apprendre et comprendre les mysteres des mathematicques de la bouche de monsr de Cartes, qui n'a ni n'aura jamais, son pareille esdittes sciences ou en la recherche de la nature des choses.

6) Reneri to Huygens, 4/14 April 1635

Context: Reneri writes this as a postscript to a letter about some of his inventions.

Mons<sup>r</sup> des Cartes n'a point esté adverti par moy de ces lettres: mais je vous diray bien en un mot qu'il vous admire extremement et tant des belles et rares parties qu'il trouve en vous.

7) Reneri to Huygens, 22 October 1635

Context: Reneri criticizes the philosophy that is taught at schools and universities.

Pour moy je reçoÿ annuellement mils florins sans aultres petits emoluments pour la semaille desdits chardons, là ou si je m'addonnoÿ du toute à cultiver le champ de la philosophie pour tascher à y faire croistre quelques plantes de meilleur goust et senteur, on me laisseroit mourir de faim apres m'avoir chasse à coup de bastons hors des Escolles. Lors que mons<sup>r</sup> de Cartes par la puissance et charme de ses escrits aura transformé les Asnes en hommes, et les aura rendus semblables à vostre seigneurie et à quelques beaux esprits qui se trouvent en fort petit nombre par cy par la, alors je pourray esperer du

serieux estude de la vraye philosophie, et des experiences gentilles le mesme gage, que je tire maintenant pour les niaiseries de l'Escolle.

8) Reneri to Hooft, 16 June 1637

Context: from a letter accompanying a copy of the *Discours*.

Estant en Amsterdam pour distribuer quelques exemplaires du livre de monsr des Cartes à personnes de qualité, dont il faisoit estime pour avoir eu l'honneur de les avoir veu et de leur avoir parlé aultres fois, il m'avoit recommandé de bailler un, ou le faire tenir à vostre seigneurie pour le grand estime qu'il fait de vostre merite, desirant bien d'estre tenu pour vostre treshumble serviteur. J'espere que trouverez le livre à vostre goust.

9) Reneri to Mersenne, early March 1638

Context: Reneri apologizes to Mersenne for not having written earlier. This was due to his teaching load, which was reduced only shortly before.

Ac nisi totus jam essem in Geometria D. de Cartes intelligenda, resumerem amicitiae cum exteris officia. Sed liceat quaeso mihi, tuâ et clarissimi D. Gassendi pace per trimestre adhuc feriari ab obsequiis litterariis, quibus vobis sum obstructus. Tum ad officium redibo et suavitate ac eruditione litterariorum vestrorum colloquiorum animum reficiam. Si de privatis meis studiis ac occupationibus certior esse cupis, praeter diligentiam singularem quam impendo Geometriae D. de Cartes, totus sum in observationibus faciendis circa plantas et animalia. Et quò feliciter eas facere possim oculos novos arte mihi paravi, quibus fretus ea in seminibus, in germinibus, in foliis floribusque deprehendo quae nemo Veterum ob microscopiorum ignorationem observare potuit. In hoc studio tantâ cum voluptate versor, ut non modo amicorum, sed saepe mei ipsius obliviscar. Praesertim verò voluptatem meam auget conversatio cum D. de Cartes quâ felici quodam sydere fruitus sum et subinde adhuc fruor. Is est mea lux, meus sol, et quod Virgilius in Bucolicis dixit, idem possum de ipso dicere—Erit ille mihi semper Deus [the underlinings are Reneri's, RB]. Nempe Dei nomine intelligendo eminentissimum inter omnes mortales quoad virtutem et eruditionem. Et ipsa S. Scriptura ab hac locutione non abhorret dum de magistratibus loquens et principibus viris dicit Ego dixi Dii estis. Libenter ex Reverentia tua intelligerem quo loco sit specimen quod nuper emisit, tanquam scintillam suae eruditionis. Ego sic judico propter novitatem et nonnullam obscuritatem à nimia brevitate ortam futurum ut initio multi offendantur ac reclamant: sed

biennium non elabetur quin de clamosis illis dici poterit cum Virgilio Conticuere omnes intentique ora tenebant. Ac licet propheta non sim, nec prophetae filius, tamen ausus sum pronuntiare futurum deinceps ut nulla philosophia naturalis nec ulla philosophandi ratio praeter illam D. de Cartes obtineat apud verè homines, id est ratione recta rectos.

10) Reneri to De Wilhem, 28 February 1638

Monsr, partie par oubliance, partie par les occupations trop grandes que mes six leçons publiques et douze domestiques pour trois collegia privata m'ont donnees toutes les semaines depuis septembre jusques au nouvel an, partie pour avoir durant les vacances de l'hyver passé mon temps chez monsr des Cartes, et enfin pour m'estre jetté sur l'estude des mathematiques, j'ay differé jusques icy à vous envoyer l'interest que je joings avec cette presente, esperant que ne prendrez en mauvaise part ni mon long silence, ni ma tardiveté à m'acquitter de mon debvoir. Je pensoy vous renvoyer le capital avec l'interest: mais ayant fait ceste annee grande despense à achepter des livres, à changer l'estat de ma famille, et à quelques miennes nouvelles inventions, sans compter 100 florins que je debvras payer à mon maistre des mathematiques bien tost, je laisseray encore avec votre bon gré couler l'interest jusques à ce que je puisse plus commodement vous rendre le capital. Hier nos messieurs m'ont dechargé de quelque partie de mes leçons publiques, de sorte que j'ay prins la plume aujourd'huy pour vous escrire. Je commence à me plaire tellement à la solution des questions mathematiques par l'algebre de monsr des Cartes, que je commence à concevoir des esperances de moy mesme, ausquelles je n'eusse jamais osé penser auparavant. Je sens avec le printemps comme un nouveau printemps en mon ame, les nuees et brouillars qui offusquoyent au paravant mon entendement se dissipent peu a peu: et je commence à regarder mesmes la nature des choses tout d'un aultre oeil que je ne faisoy au paravant. Et puis qu'il a pleu à nostre magistrat d'alleger un peu mon trop grand travaille, je fay dessein tout ceste esté de tascher à comprendre entierement la geometrie de monsr de Cartes, et en oultre d'examiner la nature des plantes. A cet effect je m'en iray composer toute sorte de terres pour en voir les divers effets: puis je m'en vay prendre diverses semences, les examiner par le dehors et par le dedans avec une lunette à puce de mon invention, je les vay tremper en divers liqueurs, puis semer. Estant semees je m'en vay regarder et observer le plus exactement qu'il me sera possible leur diverses facons de germer, de pousser leur premieres racines, surgeons, feuilles, fleurs, fruits ou semences etc. Et combien que je ne me peu promettre d'y reüssir comme monsr de Cartes pourroit, tant y a que je m' imagine que je découvriray de belles choses. Et si cela n'est point, tant y a que cet estude est honneste, et mon naturel m'y



portant avec ardeur, j'y auray pour le moins du grand plaisir. Si sans estre mathematicien j'ay plus descouvert de belles et rares experiences en la perspective, dioptricque et catoptricque que personne de ceux dont j'ay jamais ouy parlé. Pourquoi ne pourray-je esperer quelque bon succes des mes observations que je feray, Dieu aidant, sur la nature des choses, estant esclairci par les mathematiques, et ayant jouy dernièrement par cinq semaines de la presence de monsr des Cartes.

## Appendix 4

### A Letter from Reneri to Jonston of Around 1634

The Hartlib Papers include a manuscript copy of a letter from an unknown author to an unidentified addressee.<sup>1022</sup> In another file a handwritten list of experiments can be found with the addition “H. Reneri, professoris Ultrajectini, Experimenta.”<sup>1023</sup> This list proves to be an excerpt from the letter (although it was probably not excerpted from this copy, but from the autograph), so the author of the letter can be identified as Reneri. There are, however, some differences between the texts of both manuscripts. Probably with the purpose of making an orderly summary, the copyist of the list of experiments not only left out information, but also numbered the experiments, condensed a passage about a lens Reneri had enclosed with the letter, and moved it to the end in conclusion of the list, and, finally, adapted the first sentence.

Furthermore, where the letter refers to a third person mentioned in the letter as “your compatriot” (*popularis vester*), the list of experiments provides a name, namely, Huniades. The copyist of the list of experiments apparently knew who was meant here and filled it in. Johannes Huniades indeed matches the reference to this person as an experienced chemist renown for the artificial jewels he made.

The letter begins with “Doctissime Dn. Ronthi,” but to use a name in the salutation was not common. Moreover, Ronthius (or something of that kind) is a name that is nowhere to be found. Furthermore, the letter was very carelessly copied and full of major spelling errors. Therefore, it is not unlikely that “Ronthi” is a copying error. I think that it read “Mihi” instead, which would be needed to complete the following phrase “gratissimum fuit.” Indeed, the mention of Huniades rather points in the direction of John Jonston, since Jonston was, as far as we know, the only one who knew both Reneri and Huniades. If so, the letter can be dated around 1634.<sup>1024</sup> The reference to Reneri

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<sup>1022</sup> HP 8/46/1A-2A.

<sup>1023</sup> HP 1/33/106A-B.

<sup>1024</sup> See above, pp. 190-91.

as professor of philosophy at Utrecht has little importance, because this could have been added by the copyist at a later date.

I indicate which passages are only in the letter (hereafter L) and give the variants in the list of experiments (hereafter E).

[L]

Doctissime Dn. Mihi gratissimum fuit munusculum, quod ab expertissimo vestro populari<sup>1025</sup> ex vulgari silice in adeo elegantem sapphirum transijt, tum tuâ causa qui diligentiam singularem adhibueris in ijs procurandis, quae obnixè â te petieram, tum lapilli ipsius causâ cujus species est oculis gratissima, tum denique  
5 et potissimum authoris ipsius causâ qui hoc eleganti lapillo ad me transmissio, et artem singularem et benevolentiam simul demonstravit. Ego olim partim ex silicibus calcinalis, partim ex metallorum calcibus diaphanes lapillos confeci, sed nec tantae duritiei nec tanti splendoris. Ego vicissim munusculum remitto reciprocae benevolentiae testandae ergò erga clarissimum illum chymicum  
10 popularem vestrum.

[L, E]

Vitrum est contextum, pixide inclusum. Ejus usus duplex esse potest: alter ad observandos novos planetas, qui circa Jovem feruntur; et quos primus Galilaeus de Galilaeis telescopio deprehendit; sed tum aptandum esset vitrum tubo  
15 longitudinis quinque circiter pedum, et ejus tubi alteri extremitati vitrum cavum aptandum esset, ut solet fieri in vulgaribus teloscopijs. Sed vitrum cavum debet habere cavitatem sphaericam sphaerae, cujus diameter non sit plus quam duorum pollicum, qualia vitra passim haberi possunt. Alter (et potissimus) usus hujus vitri est ad repraesentationem pulcherrimam quarumlibet rerum in cubiculo obscuro; dum loco pespicilli vulgaris, hoc vitrum latius foramini fenestrae adaptatur, sole  
20 insigniter illustrante res externas.

[L]

Catalogum quod attinet, is brevior est quam optassem ob temporis angustiam, quae non permisit et plura excipere, aut illum plura dictare. Attamen gratissima

**1** Mihi] *my conjecture* Ronthi L **11-20** Vitrum ... externas.] *in E this passage comes after the enumeration of Reneri's experiments* **11** Vitrum ... Ejus] Nunc mitto Vitrum contextum, pixide inclusum: cujus E **13-17** ; sed tum ... possunt] *omitted by E* **17** hujus vitri] *omitted by E*

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<sup>1025</sup> Reneri apparently thought that Huniades, from Transylvanian origin but living in England, was a compatriot of the Polish-Lithuanian Jonston.

est opera, quam hac in re praestitisti. Pleraque secreta hoc catalogo contenta ipse quoque novi, exceptâ deargentatione ferri candentis per argentum fusile cerae instar (praesertim si deargentatio intelligatur intus et extra) et reductione plumbi in mortarium, et tinctura 8 granorum, cum tribus granis tincturae ex imperfecto metallo extractae; lapillorum illorum sapphicorum et numismatum ex illis factorum rationem libentissimè scirem ex accuratâ descriptione totius artificij, si vicissim esset, quod reponere possem.

[L, E]

Ecce in eum finem catalogum de omnis generis artificijs ac secretis transmittere liceat. Cosmeticum Reginae Matris, cum alijs cosmeticis tutis ac salubribus. Variarum rationes secretissimae communicandi cum absentibus. Magnetica experimenta, Gilberto et alijs incognita, ex propriâ inventione. Perspectiva secreta admiranda, jucunda, utilia, circa picturas ac delineandi artem, ex propriâ potissimum inventione. Vitra temperamentorum aëris, quae aliàs calendaria dicuntur, multò meliora et accuratiora, ex propriâ inventione. Palatia, templa, hortos, &c. repraesentare extra cubiculum sine adminiculo dioptricae aut catoptricae, ex propriâ inventione. Iridem suscitare coelo sereno, quae nec splendore, nec magnitudine apparente, cedat naturali, quaeque in ipso coelo esse videatur; ex propriâ inventione. Cubiculum magicum, beneficio magiae naturalis, tale exstruere ac praeparare, in quo mirabiliora & magis stupenda repraesententur, quàm ab alijs fieri possit, ex propriâ inventione. In chymicis, alchymicis, medicinâ, mechanicis artibus, magiâ naturali, plurima habeo, partim ab expertissimis, partim ex propriâ inventione, quae nimis longum esset recensere. Itaque hîc sisto, rogans, ut ulterius liceat cum expertissimo vestro populari communicare per literas. Ac si quidem secreta aliquot alicujus momenti, et probè experientiâ comprobata, mihi communicet, experietur vicissim candidissimum ac liberalissimum pectus in reciprocâ praeclarorum arcanorum communicatione.

[L]

Vale doctissime vir, et celeberrimum tuum popularem chymicum unâ cum doctissimis DD. [the rest of the closing and the signature are not copied]

**8-9** Ecce ... liceat.] Ecce catalogum brevem nonnulorum meorum Experimentorum: dum aliàs justae longitudinis Catalogum, de omnis generis artificijs ac secretis transmittere liceat! *E* **9** Reginae Matris] Regimen matris *L* **23** populari] Huniade *L* **26** communicatione.] *in E* here the passage about the lens follows

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# Samenvatting

Deze studie biedt een overzicht van het leven en werk van Henricus Reneri, met bijzondere aandacht voor zijn relatie tot de Franse filosoof René Descartes. Dit wordt uitgewerkt aan de hand van vier thema's: Reneri's leven, zijn filosofische en wetenschappelijke ideeën, zijn sociale en intellectuele netwerk, en zijn persoonlijke relatie met Descartes.

Reneri staat vooral bekend als een vriend en volgeling van Descartes. De oorzaak hiervan is de lijkrede die de Utrechtse hoogleraar geschiedenis Antonius Aemilius hield na de dood van Reneri. Deze lijkrede was lange tijd een van de weinig bekende bronnen over het leven van Reneri. In de lijkrede schetst Aemilius een beeld van Reneri als voorvechter van het onafhankelijke natuuronderzoek en volgeling van Descartes. Volgens Aemilius wees Reneri de autoriteit van de antieke filosofen af en begon hij, onder leiding van Descartes, de natuur zelf te onderzoeken. Wat Reneri daarbij ontdekte deelde hij met zijn studenten, vrienden en kennissen. Descartes' eerste biograaf Adrien Baillet interpreteerde dit op een zeer specifieke manier: volgens hem onderwees Reneri in zijn lessen cartesiaanse natuurfilosofie, zij het op discrete wijze.

Tot in de twintigste eeuw bleef het beeld van Reneri gebaseerd op de beschrijvingen van Aemilius en Baillet. Wel was de vraag of Reneri cartesiaanse filosofie onderwees en op welke manier onderwerp van discussie. De antwoorden hierop liepen ver uiteen, variërend van een openlijk onderwezen cartesianisme, via een cartesianisme gepresenteerd als aristotelische filosofie, tot het afwijzen van Reneri als cartesiaan. Op basis van een groot aantal in de jaren 1950 teruggevonden Utrechtse disputaties die in 1635 onder supervisie van Reneri gehouden waren, concludeerde Theo Verbeek dat Reneri weliswaar Aristotelische concepten problematiseerde, maar ze desalniettemin, met een aantal aanpassingen, behield. Verbeek ontwaarde ook ramistische en baconiaanse invloeden; de invloed van Descartes was volgens hem onbeduidend en warrig ('insignificant and confused'). In plaats daarvan benadrukte Verbeek de vriendschap tussen beide mannen, hoe Reneri Descartes tot schrijven en publiceren aanzette, en de rol die Reneri speelde in de totstandkoming van Descartes' netwerk in de Republiek.

Het is evident dat Reneri een belangrijke rol speelde in de vroege geschiedenis van het cartesianisme, meer in het bijzonder in de verspreiding

van Descartes' ideeën, maar het is verre van duidelijk wat die rol precies was. Ten eerste is het moeilijk voorstelbaar dat de lessen van Reneri, die naar eigen zeggen Descartes' filosofie aanhing, geen enkele cartesiaanse invloed laten zien. Ten tweede vraagt de persoonlijke relatie tussen Reneri en Descartes om nader onderzoek. Wat vonden ze bij elkaar en speelde Reneri inderdaad zo'n belangrijke rol in de totstandkoming van Descartes' netwerk in de Republiek? Ten derde was er tot op heden geen volledige studie over Reneri. Zo zijn bijvoorbeeld Reneri's ideeën over methode en wetenschap, en de rol die hij daarin aan experimenten toeschreef nooit in detail onderzocht. De bestaande studies pikken er slechts enkele aspecten uit en maken geen gebruik van alle beschikbare bronnen. Deze studie brengt alle bronnen over Reneri bij elkaar. Daarbij heb ik een niet geringe hoeveelheid onbekend bronnenmateriaal teruggevonden, waaronder een groot aantal disputaties uit de periode 1635-38.

De hoofdstukken 1 en 2 bevatten een gedetailleerd overzicht van Reneri's leven. In hoofdstuk 1 volgen we Reneri vanaf het moment dat hij in 1611 *artes liberales* gaat studeren in Leuven tot zijn benoeming tot hoogleraar filosofie in Deventer. Van Reneri's vroege jeugd is weinig bekend behalve dat hij tussen 1 januari en 15 maart 1593 werd geboren in Hoei in het Prinsbisdom Luik als zoon van een koopman.

De intensieve, tweejarige *artes*-studie in Leuven bestond hoofdzakelijk uit filosofie. In 1613 studeerde Reneri af, waarbij hij in een competitie met alle 158 Leuvense *artes*-studenten van zijn jaar als derde eindigde. Hij vervolgde zijn studie aan het Grootseminarie in Luik. Na lezing van Calvijns *Instituties* bekeerde hij zich echter tot het calvinisme, waarna hij in de winter van 1615/16 naar de protestantse Republiek vluchtte.

In maart 1616 schreef hij zich in aan de Universiteit Leiden als theologiestudent. Kort daarop werd hij bursaal van de Waalse kerken in de Republiek en kreeg hij onderdak in het Waalse College in Leiden. Hiermee verplichtte hij zich na zijn afstuderen als predikant in de Waalse Kerk te werken. Toen in 1620 het afstuderen naderde, gaf Reneri echter te kennen dat het predikantschap hem tegenstond en dat hij er daarom vanaf wilde zien. De Waalse Kerk accepteerde dit niet en liet een onderzoek instellen. Mogelijk vermoedde zij arminiaanse sympathieën. Het lijkt er echter op dat Reneri inderdaad simpelweg geen interesse meer in het ambt had. Hij moest in Amsterdam de uitspraak van de Waalse Synode van maart 1621 afwachten. Die luidde dat hij van het Waalse College zou worden verwijderd.

Hierna onttrekt Reneri zich tweeënhalf jaar aan onze waarneming tot zijn inschrijving als lidmaat van de Waalse kerk in Amsterdam in oktober 1623. In

de zomer van 1625 begeleidde hij Nicolaes Seys Pauw, een zoon van de Pensionaris van Amsterdam Adriaan Pauw, als privéleraar naar Leiden. Het is waarschijnlijk dat Reneri vóór die tijd al in Amsterdam als privéleraar van Nicolaes werkte. In Leiden maakte hij van de gelegenheid gebruik om zich in te schrijven voor een studie geneeskunde. Een jaar later keerde Reneri terug naar Amsterdam om als privéleraar van Pauws andere kinderen te werken. Toen Pauw eind 1627 werd benoemd tot raad en rekenmeester van Holland en West-Friesland in Den Haag, werd Reneri privéleraar bij de Amsterdamse koopman Hans l'Hermite. In de winter van 1628/29 ontmoette hij Descartes. In het najaar van 1629 vertrok Reneri weer naar Leiden, nu als privéleraar van Adam en Cornelis van Lockhorst, zoons van een Amsterdamse papierhandelaar, en Petrus Eremita, mogelijk een neef van Hans l'Hermite. Daar pakte hij zijn geneeskundestudie weer op, die hij echter niet zou afmaken. Tweemaal probeerde hij tevergeefs een hoogleraarschap filosofie te bemachtigen, eerst in Leiden en daarna in Franeker. Omdat dit niet lukte en hij genoeg had van het privéleraarschap, overwoog hij andere mogelijkheden, zoals een kort verblijf in Engeland of Parijs, of in de leer gaan bij de arts Johann Elichmann, een vriend van Reneri die patiënten met chemisch geproduceerde geneesmiddelen behandelde. In plaats daarvan bemachtigde hij een aanstelling als hoogleraar filosofie aan het Deventer Illustre Gymnasium.

Reneri werd in oktober 1631 in Deventer benoemd tot hoogleraar fysica en metafysica, maar op zijn eigen verzoek werd de leeropdracht in de metafysica vervangen door die in retorica. Zijn oratie is niet overgeleverd.

Op 1 juli 1632 trouwde hij met Anna Vivien. Kort daarvoor, in mei 1632, had ook Descartes zich in Deventer gevestigd.

Reneri had veel succes met zijn lessen, maar na een paar jaar gingen de provinciale sfeer van Deventer en het lage salaris hem tegenstaan. Hij had schulden gemaakt door zijn verhuizing, de zorg voor zijn ouders en het kopen van boeken. Zijn salaris was niet toereikend en ook de bruidschat van Anna en een prebende van het Utrechtse kapittel van Oudmunster, die hij eind 1632 kocht, waren niet genoeg om de kosten te dekken.

Zijn financiële situatie verbeterde toen hij in januari 1634 werd benoemd tot hoogleraar filosofie aan de in dat jaar opgerichte Utrechtse illustre school, die twee jaar later tot universiteit werd verheven. Reneri hield zijn oratie tijdens de feestelijke inauguratie van de illustre school in juni van dat jaar. Zijn onderwijstaak bestond uit acht publieke colleges per week in alle filosofische vakken. Daarnaast gaf hij *privatissima* en superviseerde hij disputaties. Zijn salaris was met 1000 gulden voor een hoogleraar filosofie hoog. Omdat hij

overwerkt raakte, werd in mei 1635 zijn onderwijslast echter verlaagd. In september van dat jaar namen Arnoldus van Goor en Arnoldus Senguerdius zijn lessen in de praktische filosofie en metafysica over. In maart of april 1635 verhuisde Descartes vanuit Amsterdam naar Utrecht, maar minder dan een jaar later vertrok hij weer naar Leiden. Op 13 juni 1636 overleed Reneri's vrouw Anna.

Vanwege zijn fragiele gezondheid werd Reneri's onderwijslast in februari 1638 nog verder verlaagd. Op 21 oktober 1638 hertrouwde hij met Anna van Velthuysen. Rond die tijd verslechterde Reneri's gezondheid verder. Uiteindelijk overleed hij, na een lang ziekbed, op 10 maart 1639. Hij werd begraven in de Catharijnekerk. De dag na de begrafenis hield Aemilius zijn lijkrede in de Domkerk. Een centraal thema in deze rede is Reneri's vriendschap met Descartes. Halverwege verandert de lijkrede in een lofredre op Descartes, die Aemilius de 'Archimedes van onze tijd' noemt. Reneri's boeken, papieren, lenzen en instrumenten werden geveild in het huis van zijn schoonvader.

In hoofdstuk 3 staat Reneri's sociale netwerk centraal. In de vroegmoderne tijd waren connecties noodzakelijk om een baan, woning, krediet en huwelijkspartner te krijgen, en als sociaal vangnet. Deze relaties waren gebaseerd op de wederkerige uitwisseling van diensten. Reneri kwam naar de Republiek als geloofsvluchteling zonder middelen of connecties om op terug te vallen, maar stierf als hoogleraar met een vrouw uit het Utrechtse regentenpatriciaat. In dit hoofdstuk onderzoek ik hoe Reneri een netwerk opbouwde dat hem hielp dit te bereiken.

Een belangrijke eerste stap was het aanvragen van een beurs van de Waalse Kerk. Dit verzekerde hem van voedsel, onderdak, een sociale positie en het vooruitzicht op een baan als predikant. Daarnaast werd de basis van Reneri's netwerk gevormd door de contacten die hij via het Waalse College opdeed. Het Waalse College bood niet alleen onderdak aan bursalen van de Waalse Kerk, maar ook aan die van het Fonds Hallet. De bestuurders van dit fonds behoorden tot de elite van Utrecht en Leiden, en zij hadden goede contacten binnen het curatorium van de Universiteit Leiden. Zo kwam Reneri waarschijnlijk aan zijn baan als privéleraar bij Pauw, een van de curatoren. Deze hielp Reneri op zijn beurt aan een baan bij de families L'Hermite en Van Lockhorst. Via de bestuurders van het Fonds Hallet kwam ook Reneri's huwelijk met Anna Vivien tot stand en mogelijk ook zijn contact met het Utrechtse vroedschapslid Cornelis Booth. Deze verkocht Reneri een prebende

en maakte van zijn relaties binnen de Utrechtse vroedschap gebruik om Reneri in Utrecht benoemd te krijgen.

Als privéleraar van Nicolaes Pauw kwam Reneri in 1625 bij de hoogleraar theologie André Rivet in huis te wonen. Deze zette zijn netwerk binnen de Republiek der Letteren in om Reneri aan een academische positie te helpen. Hij schreef aanbevelingen en mobiliseerde een aantal andere Leidse geleerden om Reneri aan te bevelen. In Leiden en Franeker werd Reneri afgewezen, maar in Deventer en Utrecht had hij succes. Rivet introduceerde Reneri ook aan filosofische zwaargewichten als Isaac Beeckman en Pierre Gassendi, en waarschijnlijk ook aan Descartes.

Daarnaast bouwde Reneri een patronagenetwerk op onder patriciërs met een interesse in zijn experimenten en uitvindingen, waaronder David de Wilhem, Constantijn Huygens en leden van de Muiderkring. Deze mensen hielden zich met kunst en wetenschap bezig als een beschaafd tijdverdrijf. Waaruit de steun van zijn patroons bestond is niet altijd duidelijk, maar als tegenprestatie stuurde Reneri zijn patroons voorbeelden van zijn experimenten en uitvindingen. Hiermee appelleerde Reneri aan de verfijnde smaak van deze 'liefhebbers'.

Als hoogleraar filosofie in Deventer zette Reneri een grote stap op de maatschappelijke ladder. Deze positie stelde hem in staat met Anna Vivien te trouwen, die afkomstig was uit een naar Keulen gevluchte calvinistische koopmansfamilie uit Valenciennes. Zijn benoeming in Utrecht verhoogde Reneri's status nog verder. Daar trouwde hij na het overlijden van Anna Vivien met Anna van Velthuysen, een nicht van de Utrechtse burgemeester en curator van de universiteit Dirck van Velthuysen. Deze baan, zijn goede salaris en zijn tweede huwelijk dankte Reneri aan zijn goede contacten binnen de Utrechtse vroedschap. Met zijn uiteindelijk verworven maatschappelijke positie streefde hij zijn vader economisch en sociaal voorbij. Dit wijst op de grote mogelijkheden tot sociale mobiliteit in de Republiek.

In hoofdstuk 4 onderzoek ik Reneri's opvattingen over het gebruik van observaties en experimenten. Reneri voerde in zijn vrije tijd experimenten uit. Nu was dit al uitzonderlijk voor een academicus, maar Reneri wilde ze zelfs in het doorgaans theoretische filosofieonderwijs opnemen.

Halverwege de jaren 1620 begon Reneri experimenten te doen op het gebied van mechanica, chemie en 'natuurlijke magie', ofwel het manipuleren van de occulte eigenschappen van de natuur om wonderbaarlijke en nuttige effecten te produceren. Hij creëerde onder meer optische effecten met behulp van een camera obscura voorzien van lenzen, bouwde instrumenten zoals de

telescoop en de microscoop, verbeterde de luchtthermometer en de waterklok, en produceerde pillen uit gedestilleerd spawater. Met zijn experimenten bouwde Reneri voort, zowel wat doel als methode betreft, op de traditie van het 'secreetboek'. Dit soort boeken beschrijft materialen, technieken, recepten en experimenten uit de wereld van de ambachten en de geneeskunde. De term 'secreet' slaat niet alleen op de vertrouwelijkheid van de vakkennis die erin onthuld wordt, maar ook op de geheimen van de natuur die deze boeken beweren te openbaren. Het gaat hierbij om praktische kennis en niet om wetenschappelijk kennis, waaronder oorzakelijke kennis werd verstaan. Reneri zag het potentieel van instrumenten als de thermometer voor natuuronderzoek, maar zijn experimenten en uitvindingen hadden hoofdzakelijk een recreatief of praktisch doel. Zijn experimenten met lenzen laten daarnaast zien dat hij instrumenten bouwde met eenvoudige middelen, zoals brillenglazen, en door gewoon uit te proberen wat het beste werkt. Het feit dat hij gaandeweg sommige instrumenten alleen op papier ontwikkelde en in 1638 een microscoop bouwde met als enige doel het onderzoeken van planten en dieren wijst erop dat Reneri later een meer theoretische benadering koos. Zijn onderzoek van planten en dieren kan de invloed van Descartes zijn geweest.

Volgens Reneri was de filosofie in verval. Hij schreef dit toe aan de invloed van de peripatetische filosofie, die hij verwierp als boekenwijsheid. Aristoteles zelf viel hij evenwel niet openlijk af en prees hij als een empiricus. Uit zijn brieven blijkt dat Reneri zijn hoop op Descartes had gevestigd voor de vernieuwing van de filosofie, maar in zijn academische werk wordt Descartes niet genoemd. Daarnaast wilde Reneri door nuttige kennis en toepassingen te produceren sponsors en studenten weer voor de filosofie interesseren. In zijn Utrechtse oratie uit 1634 zet hij daarom plannen uiteen voor de hervorming van het filosofieonderwijs, die hij presenteert als programma's voor gevorderde studenten, bovenop het gewone curriculum. Het fysicaprogramma zou bestaan uit *privatissima* waarin door studenten observaties verzameld worden, de geobserveerde verschijnselen vervolgens oorzakelijk verklaard worden, en op basis van de gevonden oorzaken ten slotte naar nieuwe eigenschappen of toepassingen van dingen gezocht wordt. In zijn disputatie *De natura et constitutione physicae* uit 1635 gaat Reneri dieper in op hoe oorzaken gevonden kunnen worden. Hiertoe moeten de verzamelde observaties op basis van hun waarneembare attributen methodisch worden gerangschikt in genera en species, waarna hieruit door inductie axioma's kunnen worden afgeleid. Reneri is echter vaag over de volgende stappen, namelijk hoe duidelijke en onderscheiden kennis van de essentie van oorzaken kan worden verkregen,

hoe we met dezelfde evidentie uit deze oorzaken gevolgen kunnen demonstreren, en hoe de onderliggende principes kunnen worden vastgesteld. Wat Reneri voor ogen stond was een wetenschappelijke methode waarmee een fundament voor een geheel nieuwe natuurfilosofie gelegd kon worden.

Reneri heeft zich duidelijk laten inspireren door Francis Bacons ideaal van coöperatief natuuronderzoek ten bate van het algemeen nut, en door de empirische en inductieve methode in diens *Novum Organum*. Reneri's uitwerking ervan is echter een eclecticische mix van baconiaanse inductie, ramistische methode en aristotelische demonstratie. Hoewel Reneri het onderwerp methode met Descartes besproken moet hebben, is Descartes' invloed marginaal, behalve misschien de nadruk die Reneri legt op het belang van een onbevooroordeelde geest. Descartes' methode lijkt voor hem met name het vrije natuuronderzoek vertegenwoordigd te hebben.

Met zijn voorstel om het doen van observaties en experimenten in het filosofieonderwijs op te nemen en studenten daarin actief te laten participeren was Reneri zeer vernieuwend, maar zijn plannen vonden nauwelijks gehoor. De belangrijkste reden hiervoor zal de enorme organisatorische inspanning zijn geweest die het zou vergen. Daarnaast zou zijn programma, in afwezigheid van een theoretisch kader, zijn uitgelopen op het eindeloos verzamelen van observaties en het door trial-and-error proberen te vinden van nieuwe dingen.

In hoofdstuk 5 onderzoek ik de disputaties die Reneri zijn studenten liet houden. In sommige van deze disputaties 'corrigeert' Reneri de traditionele aristotelische filosofie op een manier die Descartes' invloed suggereert. Dit roept de vraag op welke delen van de traditionele leer Reneri aanpaste en wat hij daarbij aan Descartes' filosofie ontleende.

Over het algemeen genomen zijn Reneri's disputaties eclecticisch maar traditioneel. Desalniettemin bevatten zijn disputaties een aantal opmerkelijk innovatieve ideeën. In zijn disputatie *De elementis* uit 1635 zegt Reneri dat hij zich realiseert dat de tijd en mankracht ontbreekt om een compleet nieuwe natuurfilosofie op te bouwen. Daarom zal hij, ondanks de tekortkomingen van de peripatetische filosofie, onderwijzen wat doorgaans op illustre scholen en universiteiten wordt onderwezen. Wel zal hij proberen enkele verkeerde leerstellingen te corrigeren.

Een van Reneri's 'correcties' is zijn verdediging van het heliocentrische wereldbeeld. Daarnaast stelde hij dat er maar twee elementen bestaan, namelijk aarde en water, in plaats van de traditionele vier. Zijn twee-elementenleer heeft Reneri waarschijnlijk ontleend aan David Gorlaeus, maar zijn verklaring ervan bevat corpusculair-mechanische elementen die een

cartesiaanse oorsprong hebben. Reneri verwachtte dat Descartes' filosofie de traditionele zou vervangen. Omdat deze echter nog niet klaar was en er geen publicatie was waar Reneri op terug kon vallen, gebruikte hij in zijn disputaties slechts elementen ervan, terwijl hij binnen het aristotelische raamwerk bleef. Reneri combineerde aristotelische filosofie met Descartes' ideeën en ander corpusculaire theorieën in een eclecticische maar consistente eigen mix. Ook Reneri's heliocentrische wereldbeeld zou op de invloed van Descartes kunnen wijzen, hoewel Descartes natuurlijk niet de enige was die dat adopteerde. In latere disputaties, mogelijk na kritiek vanuit de theologische faculteit, verwierp Reneri het heliocentrisme echter weer.

Hoewel Reneri een empirische wetenschappelijke methode aanhing, speelt empirie in zijn disputaties slechts in zoverre een rol dat wanneer observaties en experimenten laten zien dat een traditionele theorie niet langer houdbaar is, Reneri op zoek gaat naar een alternatieve verklaring die in overeenstemming is met de empirische data, maar hier niet noodzakelijk uit volgt. Hij verklaart afzonderlijke verschijnselen op basis van bestaande theorieën. Reneri's synthetisch vermogen was echter beperkt.

Vier jaar eerder, in 1631, had Reneri's pupil Eremita, onder supervisie van de Leidse hoogleraar Franco Burgersdijk, een disputatie gehouden die dezelfde eigenaardige mix van aristotelische filosofie met corpusculair-mechanische verklaringen bevat. Het heeft er alles van weg dat Reneri Eremita heeft geholpen deze te schrijven en dat hij van de gelegenheid gebruik heeft gemaakt om zijn innovaties uit te proberen bij een academisch publiek. Dit maakt het waarschijnlijk dat hij ze ook in zijn lessen in Deventer heeft onderwezen.

De publicatie van het *Discours de la méthode* in 1637 zorgde ervoor dat Reneri zich openlijker voor het cartesianisme uitsprak. Naar verluidt las Reneri in 1638 in zijn publieke colleges voor uit het *Discours*. Ook liet hij een disputatie over fysiologische stellingen houden die een meer coherent beeld laten zien en overduidelijk een cartesiaanse oorsprong hebben, hoewel de disputatie op de vlakte blijft. Reneri verwerpt hierin de noodzaak van fundamentele scholastieke concepten als substantiële vorm en de vegetatieve en sensitieve ziel. Volgens hem zijn materie en de rangschikking daarvan voldoende om natuurlijke verschijnselen te verklaren, maar hij verdedigt geen expliciet mechanistische filosofie. Het cartesiaanse karakter van de disputatie kan ook verklaard worden door de invloed van Reneri's buurman, de arts Henricus Regius, die door Reneri in Descartes' filosofie was ingewijd en aan wie de disputatie mede was opgedragen.



In hoofdstuk 6 breng ik Reneri's internationale wetenschappelijke netwerk in kaart. In de zeventiende eeuw speelden geleerdennetwerken en correspondenties een cruciale rol in de verspreiding van ideeën, observaties en ontdekkingen. Het ging bovendien niet alleen om uitwisseling van kennis, maar ook om zaken als introducties en het verspreiden van nieuws over personen en academische vacatures. Het onderscheid tussen 'professionele' academici en 'amateurgeleerden' was daarbij van minder belang.

Reneri nam actief deel aan deze uitwisseling in de Republiek der Letteren. Hij stuurde onder meer voorbeelden van een logische methode waar hij aan werkte, exemplaren van zijn oratie en lijsten van zijn experimenten en uitvindingen rond. Daarnaast introduceerde hij mensen uit zijn netwerk aan elkaar en verleende hij andersoortige ondersteuning. Zo probeerde hij de Transsylvaanse hoogleraar theologie en filosofie Johann Bisterfeld aan een Nederlandse universiteit benoemd te krijgen en hielp hij de Franse filosoof Pierre Gassendi met het uitgeven van diens *Phaenomenon rarum* over de observatie van vier bijzonnen in Italië in 1629. Gassendi had de verklaring van dit verschijnsel mede op verzoek van Reneri opgeschreven.

Het is opvallend dat de meeste van Reneri's correspondenten niet aan een universiteit werkzaam waren. De reden hiervoor is mogelijk dat het onderwijs aan illustre scholen en universiteiten behoudend was en buitenuniversitaire netwerken voor Reneri daarom belangrijker waren. Vanuit academische kringen was er inderdaad weinig aandacht voor zijn plannen voor de hervorming van het natuurfilosofisch onderwijs, noch voor zijn op ramistische leest geschoeide logische methode. Het doel van deze methode was een volledige en geordende collectie te bouwen van wat de mensheid had voortgebracht. Des te meer aandacht trok Reneri's methode binnen de kring rond de Engelse 'pansofist' Samuel Hartlib. Reneri stond met Hartlib in contact via John Dury, die hij kende uit het Waalse College.

Reneri was terughoudender in het delen van zijn experimenten en uitvindingen. In zijn brieven geeft hij meestal niet meer dan een opsomming. Het lijkt erop dat Reneri bang was dat anderen met de eer zouden gaan strijken. Hij was van plan ze zelf te publiceren, maar door zijn overlijden is het daar nooit van gekomen. Bij zijn patroons, aan wie hij ze wel stuurde, hoefde hij daarvoor minder bang te zijn, hoewel hij hun wel geheimhouding op het hart drukte. Voor zover bekend is Beeckman de enige uit Reneri's geleerdennetwerk die een van zijn uitvindingen met eigen ogen heeft gezien, namelijk een verbeterd model van de thermometer.

Reneri's inhoudelijke bijdrage aan de uitwisseling van kennis is al met al bescheiden. Met de voorbeelden van zijn logische methode en de lijsten van

zijn experimenten en uitvindingen schepte hij grote verwachtingen, maar hij heeft weinig concreets geleverd. Het resultaat van meer dan tien jaar studie en experimenteren werd na Reneri's overlijden geveild, maar deze papieren zijn niet overgeleverd.

Hoofdstuk 7 gaat over Reneri's persoonlijke relatie met Descartes, zijn rol in de totstandkoming van Descartes' netwerk in de Republiek en zijn rol in de verspreiding van diens filosofie.

Reneri leerde Descartes in de winter van 1628/29 kennen, waarschijnlijk via Rivet. De aanleiding lijkt een gedeelde interesse in optica te zijn geweest. In Descartes herkende Reneri onmiddellijk het genie dat met zijn filosofie een uitweg uit de doodlopende straat van het aristotelianisme zou bieden. Reneri was met name geïnteresseerd in Descartes' natuurfilosofie: sporen van Descartes' methode of metafysica zijn in Reneri's brieven of werk praktisch niet terug te vinden. Al vanaf het begin van de jaren 1630 onderwees Descartes hem in zijn corpusculaire theorie. Bovendien had Descartes *Le Monde* en de *Dioptrique* voor een groot deel in Deventer, praktisch onder de ogen van Reneri, geschreven. Verder was Reneri erg onder de indruk van Descartes' wiskunde. Om die reden verdiepte hij zich in deze discipline, maar hij heeft nooit het niveau bereikt dat hij Descartes' analytische wiskunde kon begrijpen. Descartes fungeerde, kortom, als Reneri's intellectuele mentor.

Omgekeerd had Reneri door zijn enthousiasme een stimulerend effect op Descartes. Hij moet voor Descartes een welkome discussiepartner zijn geweest zonder hem op fundamentele punten te bekritisieren. Daarnaast zette hij Descartes aan zijn gedachten over bepaalde natuurlijke verschijnselen te formuleren. Doordat Reneri Descartes, bijvoorbeeld, om zijn verklaring van het verschijnsel van de bijzon vroeg, begon Descartes aan het schrijven van de *Météores*, dat later het *Le Monde*-project werd. Ook behoorde Reneri tot de mensen die Descartes aanmoedigden zijn werk te publiceren, wat resulteerde in het verschijnen van het *Discours* en de bijbehorende *Essais*. Ten slotte hielp hij Descartes met de verspreiding van dit werk. De vriendschap tussen Reneri en Descartes moet het resultaat zijn geweest van een vruchtbare samenwerking.

Gedurende de eerste jaren van hun vriendschap droeg Reneri niet substantieel bij aan Descartes' netwerk. De reden hiervoor is waarschijnlijk dat de academici en patriciërs uit Reneri's netwerk weinig meerwaarde voor Descartes hadden, omdat hij financieel onafhankelijk was, niet geïnteresseerd was in een academisch positie en daarbovenop een solitair leven verkoos. De weinige mensen die Descartes in die tijd om zich heen verzamelde had hij met

name op intellectuele gronden uitgekozen. De meeste vrienden die hij met Reneri gemeenschappelijk had, ontmoette Descartes bovendien via derden. Wel vervulde Reneri een actieve rol als tussenpersoon als er eenmaal contact was. Reneri's bijdrage aan Descartes' netwerk veranderde na zijn verhuizing naar Utrecht. Daar introduceerde hij Descartes aan mensen als Anna Maria van Schurman en Regius. Dat Reneri tegen die tijd beter thuis was in Descartes' filosofie zal hierin een rol hebben gespeeld. Omgekeerd kwam Reneri via Descartes in contact met een aantal wiskundigen.

Ook in zijn lessen sprak Reneri vaker over Descartes' filosofie dan zijn disputaties suggereren. Volgens Martinus Schoock, een van Reneri's eerste studenten in Utrecht, had Reneri het regelmatig over Descartes als de filosoof die met zijn heldere filosofische systeem, met behulp van algebra en ondersteund door solide demonstraties, de peripatetische filosofie zou overwinnen. Ook gebruikte Reneri cartesiaanse verklaringen in zijn lessen, maar hij onthulde nooit de onderliggende principes. Het is daarom niet verbazingwekkend dat Reneri zijn studenten niet voor het cartesianisme wist te winnen. Bij zijn buurman Regius had hij meer succes. Regius ontwikkelde een eigen cartesiaanse fysiologie, waarin hij ook privélessen gaf. Het succes dat hij hiermee had en een intensieve lobby van Reneri leverden hem in 1638 een hoogleraarschap theoretische geneeskunde en botanie in Utrecht op. Door de controversiële cartesiaanse stellingen die hij liet verdedigen kwam hij spoedig in botsing met de orthodoxe theologen aan de universiteit. Gezien zijn terughoudendheid om de principes van Descartes' filosofie aan zijn studenten te onthullen, had Reneri voorzien dat Descartes' filosofie op tegenstand zou stuiten. Het uitbreken van deze 'Utrechtse crisis' lijkt zijn gelijk te bevestigen.

Concluderend blijkt het beeld dat Aemilius in zijn lijkrede van Reneri schetst, hoewel onspecifiek en eenzijdig, vrij accuraat te zijn. Deze studie vult dit beeld verder in, maar wijzigt het ook op één punt: Aemilius suggereert dat Reneri met zelfstandig natuuronderzoek begon door Descartes, maar Reneri voerde al experimenten uit lang voordat hij Descartes kende. Wel lijken zijn experimenten onder invloed van Descartes systematischer te zijn geworden, mogelijk met het doel de corpusculaire structuur van de natuur bloot te leggen.

Op basis van zijn academische geschriften kan Reneri evenwel geen cartesiaan genoemd worden, noch kan hij tot de eclectische *philosophia novantiqua* gerekend worden. Daarvoor zijn de mechanische en corpusculaire elementen in zijn disputaties niet duidelijk genoeg te onderscheiden. Reneri maakte er evenwel geen geheim van dat hij veel van zijn innovaties aan

Descartes ontleende. Er is dus geen sprake van dat Reneri cartesische filosofie achter een aristotelische façade onderwees.

Meer dan door zijn lessen droeg Reneri aan de verspreiding van Descartes' filosofie bij via zijn netwerk en door Descartes aan te moedigen te publiceren. Daarnaast introduceerde hij Descartes aan veel van zijn kennissen in Utrecht, maar afgezien daarvan is Reneri's rol in de totstandkoming van Descartes' netwerk in de Republiek kleiner dan aanvankelijk werd aangenomen.

Wanneer we Reneri's relatie met Descartes buiten beschouwing laten, resteert het beeld van een competente, toegewijde en gewaardeerde docent. Reneri's bescheiden en aimabele karakter hielp hem een invloedrijk netwerk op te bouwen en daardoor maatschappelijk succesvol te worden. Met zijn interesse in methode was Reneri een kind van zijn tijd. Ook stond hij bekend om zijn empirische benadering van filosofie en zijn drang naar vernieuwing.

Het belang van deze studie is dat zij enkele leemten in het onderzoek naar de vroege Descartes opvult in die zin dat zij een duidelijker beeld verschaft van de omstandigheden waarin het *Discours* en de *Essais* zijn geschreven, van de keuzes die Descartes maakte met betrekking tot zijn woonplaats gedurende de eerste tien jaar van zijn verblijf in de Republiek, en van de manier waarop zijn filosofie zich onder zijn vroegste volgelingen verspreidde. Daarnaast geeft mijn analyse van Reneri's oratie en disputaties verder inzicht in het filosofieonderwijs aan de Universiteit Utrecht in de eerste vijf jaar van haar bestaan.

# Curriculum Vitae

Robin Buning was born on 7 June 1977 in Nijmegen. From 1996 to 2006 he studied Classics at Leiden University and did the minor Editing & Publishing at the University of Amsterdam. Meanwhile, from 2004 to 2006, he worked as a project manager at a translation bureau. In June 2006 he received his MA in Classics with a specialization in Neo-Latin. In November 2006 he started his doctoral research at the Department of Philosophy of Utrecht University within the NWO project “Descartes and his Network” under the supervision of Prof. Theo Verbeek. From December 2013 onwards he will be involved as postdoctoral researcher on the epistolary network of Samuel Hartlib in the project “Cultures of Knowledge” at the Faculty of History of the University of Oxford.

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