DESCARTES IN THE PHILOSOPHICAL HAVEN OF THE NETHERLANDS

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Descartes was twenty-two years old when he joined the army of Nassau. The Twelve-Year Truce (1609-1621) was still in force and Descartes did not expect to see active combat. But this satisfied the former student of the Jesuits, who had recently taken a baccalaureate in law at the University of Poitiers, and who, as a younger son of the lesser French nobility, had had to choose between the Church and the Army. His choice of Holland was not an oddity.[1] A large number of young Frenchmen were to be found at the University of Leyden or in the ranks of one of the two French regiments of Maurice of Nassau, who in his own eyes as well as in those of his contemporaries, waas the greatest general of his age. When a woman asked him one day who was the best captain of Europe, he is said to have answered, after a moment of hesitation, that Spinola was the second.

Descartes joined the army at Breda, where Prince Maurice's troops were garrisoned, in the Spring of 1618. He served as a volunteer, equipped himself at his own expense, paid his own orderly, and received no wages except an initial doubloon that he kept as a souvenir. Maurice of Nassau was practically always away, touring various parts of the country where Arminians (the disciples of the Dutch theologian Jacob Harmensen known as Arminius) and the more orthodox Calvinists were creating disturbances. By the autumn of 1618, Descartes was beginning to feel the boredom of life in a camp when he had the good fortune of making the acquaintance of a man, some years his elder, who was, in his own words, to "wake him up"[2]. This was Isaac Beeckman, who had recently received a doctorate in medicine from the University of Caen and was later to become the Director of a College in Dordrecht. In 1905 Cornelis de Waard found Beeckman's diary in Middelburg, his native town. It is a remarkably detailed account of the life of a seventeenth-century scientist and it contains numerous references to Descartes, whose name appears for the first time under the entry for 10 November 1618.[3] According to Descartes' biographer, Adrien Baillet, their meeting occurred in the following way. Strolling through Breda, Descartes came across a crowd staring at a poster on which a mathematician, as

was the custom, issued a challenge to solve a particular problem. The writing was in Dutch, which Descartes had not yet mastered, and he asked the person next to him whether he could tell him in Latin or French what it was all about. The man, who happened to be Beeckman, replied in Latin, explained the nature of the problem, and gave Descartes his card. To Beeckman's intense surprise, an unannounced visitor the next day turned out to be the young Frenchman who was calling to say that he had worked out the answer.[4] Beeckman was of course delighted and the two young men soon became fast friends. Their interest ranged over a wide field of topics from the law of falling bodies that, unknown to them, had been preoccupying Galileo in Italy, to the nature of musical consonance and the possibility of magic. As a Christmas gift for Beeckman, Descartes wrote a musical treatise in Latin, the **Compendium musicae**, which ends with a request that it be kept private. Descartes was willing to speculate on the relations between mathematical proportions and musical harmony but he was anxious to avoid hostile criticisms. The **Compendium** was only published posthumously in 1650, a few months after his death.

When Descartes was not studying mathematics or music, he busied himself "with painting, military architecture and especially Dutch".[5] Maurice Cohen has suggested that Descartes may have attended the lectures of such prominent figures as Stevin, David Orléans, and Jacques Alleaume at the Military Academy founded by Maurice of Nassau.[6] In point of fact, there was no Military Academy in Breda prior to 1826, and Descartes found life in garrison boring and wasteful.

In the Spring of 1619 he decided to travel and embarked for Denmark from whence he went to Germany, where he joined the army of Duke Maximilian in Bavaria and attended the crowning of the Emperor Ferdinand in the summer. He took up his winter quarters near Frankfurt and, on the night of 10-11 November 1619, a sudden flood of light burst upon him and he resolved to dedicate the remainder of his days to the pursuit of truth.[7] He recounts, in an autobiographical essay that was found among his papers after his death, how, having gone to bed "full of his inspiration and wholly occupied with the thought of his discovery of the foundation of a marvellous science on that very day, he had three consecutive dreams in a single night, which he thought could only come from above". In one of these dreams he heard a clap of thunder which he interpreted as "the Spirit of Truth descending to take

possession of him", and the following morning he prayed to God to give him light and to lead him in the search for truth, vowing at the same time to make a pilgrimage to the shrine of Loretto.[8] This incident helps to explain Descartes' belief that the truths of mathematics, physics and metaphysics are guaranteed by the goodness of God.

It was several years before Descartes settled down to the task of writing down his new philosophy. Between 1619 and 1628 we know little of his movements, but on 8 October of that year he called on Isaac Beeckman to say that during the last nine years he had made as much progress in arithmetic and geometry as was humanly possible, and that his **Algebra** was ready for publication. The two friends resumed their former discussions, but not for long. In letters to the French friar, Marin Mersenne, who functioned as the Honorary Secretary of the invisible College of European scientists, Beeckman had described Descartes' **Compendium musicae** as an echo of his own theories. In a moment of unpardonable tactlessness, Mersenne sent the letters to Descartes, who was incensed and wrote to Beeckman demanding the immediate return of his treatise, and in subsequent letters, despatched between September and October 1630, accused Beeckman of being a cad who mistook a polite phrase for certified praise. He denied ever having learned anything from Beeckman, who had constantly badgered him with questions that he had dealt with in his youth but was no longer interested in. The correspondence was conducted in Latin but the words were no less wounding, and relations were severed between the two men. They were restored in 1634, but never with the old warmth and trust. Descartes was as much a loser as Beeckman in this breach. Had he paid more attention to his friend he might have realized the correct nature of the law of falling bodies, which Beeckman formulated as early as 1619, in response to the answer Descartes had supplied to one of his queries.[9]

Beeckman's diary makes it clear that he was abreast of scientific developments in a variety of fields. His wide reading and his love of argument made him a veritable fount of new ideas and stimulating questions. While he may have yielded to the temptation of believing that raising a question is almost as good as finding the correct solution, there can be no doubt that he set Descartes thinking, and thinking hard. Their continued friendship would have been a boon for both.

In April 1629, Descartes registered as a student at the University of Franeker, in all likelihood to hear Adrian Metius, the brother of Jacob Metius, whom Descartes credited in his **Dioptrique** with the invention of the telescope. Descartes was particularly interested in problems of optics at the time; he sought not only the ideal curvature for lenses but efficient and practical tools for grinding them. He had taken spacious lodgings in a neighbouring castle in the hope that the French instrument-maker, Jean Ferrier would join him.[10] With his help, Descartes hoped to improve the telescope to the point that they could see "whether there are animals on the moon".[11] In his letters to Ferrier, he praises the peace and seclusion of the Netherlands but he makes one request: should Ferrier undertake the trip "would he please bring along a small camp-bed, for the beds here are most uncomfortable and there are no mattresses".[12] He also insists, and this waas to become a characteristic of his letters to foreign correspondents, that his address not be disclosed. In a garrulous age, Descartes valued his privacy and took pains to protect it.

Ferrier eventually declined the invitation and Descartes removed to the University of Leyden, where he again registered as a student in June 1630. This time "mathematician" is entered after his name; in Franeker he had been described as "a student of philosophy". He soon made the acquaintance of Jacob Gool or Golius, who had recently returned from a four-year trip to the Middle East and had taken up the Chair of Mathematics vacated by Snell at his death in 1626.

Golius exercised a profound influence on the shape Descartes' mathematics was to take by drawing his attention to the unsolved problem in the Greek mathematician Pappus. Descartes found the solution to Pappus' problem, and it became the centrepiece and prize illustration of the **Géométrie** when it was published in 1637. He also struck up a friendship with another professor of mathematics at the University of Leyden, Frans van Schooten, whose son, also called Frans, was to draw the diagrams for Descartes' **Dioptrique** and translate the **Géométrie** into Latin. Later, Descartes became acquainted with the Professor of Medicine and Botany, Adolfus Vorstius, the Professor of Hebrew, Constantin L'Empereur, and two Professors of theology, Adriaan Heereboord and Abraham Heidanus. A Catholic physician who tended the sick without charge, Cornelius Hogelande, became a close friend and

dedicated to Descartes his treatise on God and the immortality of the soul. In 1632, at the house of Golius, Descartes met Constantin Huygens, the Secretary of the Prince of Orange. He was subsequently a frequent guest of Huygens at The Hague and the two men became intimate to the point that Descartes read his Dioptrique to Huygens before committing it to print. He wrote frequently to Huygens, and their correspondence was discovered in an English collection early in this century and published by Leon Roth in 1926. They are of the utmost importance for our understanding of Descartes' character.

In Huygens' house, Descartes made several acquaintances, notably Huygens' sister Constantia and her husband David le Leu de Wilhem, who became his financial adviser. He must have been a shrewd businessman, since Descartes' affairs were managed in such a way that he was able to live in what for a modern university professor would be opulence. Descartes was also introduced to Huygens' five children. The second, Christian, was to become one of the greatest scientists of the second half of the century, and Descartes was quick to recognize his exceptional gifts and say that he was "of his blood".[13]

In 1631 or 1632 Descartes took up lodgings in the Kalverstraat in Amsterdam. He had always had a passion for medicine, and he was delighted when the physician Johann Elichman introduced him to Vopiscus-Fortunatus Plemp or Plempius, who was soon to become Professor of Anatomy and later Rector of the University of Louvain. Descartes may have learned anatomy with him. Six years later, when he resided in Santpoort, Descartes made dissections of eels, cod, dogs and rabbits. He used the results of his study of the anatomy of the eye of a bull in his Dioptrique. He also took great interest in botany and planted rare seeds sent to him by French correspondents.

Although Descartes had yet to publish, his reputation was growing and he began to have disciples. The first was Henri Régnier or Reneri, who was three years Descartes' senior. Reneri, who was born near Liège, had been compelled to teach for his livelihood when his family disowned him after his conversion from Catholicism to Protestantism. Descartes placed high hopes in him and, when he was appointed professor of philosophy at the College of Deventer, went to live in the same town from May or June 1632 until the end of 1633, when he returned to Amsterdam. In 1634

Reneri was promoted to a Chair of Philosophy at the Academy of Utrecht (which became a University two years later) and the following year Descartes moved to that city to be close to him, and to complete the three treatises that were to illustrate his new method of philosophising: the **Dioptrique,** on the nature of refraction and the curvature of lenses, the **Météorologie,** on atmospheric phenomena, and the **Géométrie,** on the integration of algebra and geometry in what was to become known as analytic geometry. To this he added a preface, the celebrated **Discourse on Method** that eventually overshadowed the treatises it was designed to introduce.

On 7 August 1635 Descartes returned to Deventer for the christening of his daughter Francine, born on the nineteenth of the previous month. We know little of the mother beyond the fact that she was called Hijlena Jans, and that she was a Protestant since the child was baptized in the local Calvinist church. Baillet quotes a manuscript in Descartes' handwriting that was subsequently lost, in which he recorded that Francine was conceived in Amsterdam on Sunday, 20 October 1634.[14] In all likelihood Hélène, as he calls her, was his housekeeper. Descartes was greatly attached to his daughter whom he referred to as his "niece",[15] and the saddest moment of his life was her untimely death at the tender age of five on 7 September 1640. Nothing is known of what subsequently happened to the mother of the little girl.

When his three treatises were ready, Descartes cast about for a suitable publisher. The Elzeviers had just published the Latin translation of Galileo's **Dialogue on the Two Chief World Systems** but the printing had not actually been carried out in their headquarters in Leyden but in Strasbourg. Indeed, Leyden was unsafe throughout 1635: between 23 June and 31 December, 14,582 persons died of the plague. But the Elzeviers were difficult ("they wanted to be begged", says Descartes[16]) and he finally reached an agreement with another Leyden publisher, Jan Maire. The galleys were ready by the end of 1636, but the French privilege that would protect Descartes' publisher from pirated editions in France took several months to arrive, and copies were only offered for sale in the summer of the following year. Descartes had travelled to Leyden to supervise the printing but otherwise kept pretty much to himself. Claude Saumaise, a fellow expatriate, wrote to a correspondent in Paris that Descartes was in hiding and seldom showed himself.[17]

When the galleys were ready, Descartes sent a set to Marin Mersenne through the good offices of Constantin Huygens, who declared himself willing to do the proof-reading. Shortly thereafter Descartes sent Huygens the galleys of the **Dioptrique** and the **Météores**, requesting not only his comments but those of his wife. "This would be a great favour", he writes, "and I would rather trust her judgment, which is naturally excellent, than that of many philosophers". Unfortunately, Huygens lost his wife a few weeks later, on 10 May 1637, and Descartes immediately sent him a letter of condolence that reveals his deep sympathy, but also the fact that he had never entered upon the kind of close relationship that Huygens and his wife shared. On 8 June, the complete **Discours de la méthode**, bound with the **Dioptrique**, the **Météores** and the **Géométrie**, was finally available for sale. Three thousand copies had been printed, a large run for the period. Descartes' arrangements with Jan Maire stipulated that he was to receive two hundred free copies in return for waiving his royalties. Descartes, now forty years old, held his first book in his hand, and he promptly despatched copies to dignitaries and eminent persons as well as scientists and philosophers. Cartesianism was launched!

But all was not to be plain sailing. In France, Fermat soon raised objections to the **Géométrie**, and he was soon followed in Holland by a young mathematician, Stampioen de Jonge. Already in 1633, when he was only twenty-three, Stampioen had challenged mathematicians, as was then common, to solve a particular problem. Beeckman had forwarded it to Descartes, who rapidly found the solution and proposed two problems in return. Now, in 1638, Stampioen published a broadsheet in which he proposed another problem and announced the imminent publication of a new **Algebra.** Descartes took fright at the thought that someone was trying to **supplant his** Géométrie. **Instead of providing the solution to Stampioen's problem himself, he instructed a young mathematician, Jacob Van Wassenaer, to write a reply. When Stampioen's** Algebra appeared in 1639 it was again Wassenaer that Descartes used as his battering ram. What appears to have incensed Descartes was the subtitle of Stampioen's book: **Nieuwe Stel-Regel** (New Method). Stampioen responded to Wassenaer's criticism with a new mathematical challenge. With overwhelming confidence, Stampioen promised, by notarized act, to donate 600 gulden to the poor if Wassenaer solved the problem. Wassenaer agreed to do the same should he fail. Descartes had been mentioned in the third of

Stampioen's challenges, but he refused to come out and fight in the open. He continued to use Wassenaer, whom he provided on 1 February 1640 with a complete solution to the problem. It only had to be recopied, dated and signed!

Meanwhile four professors had been appointed as judges: Golius and Schooten from the University of Leyden, Berlikum from the University of Rotterdam, and Schotanus from the University of Utrecht. Descartes had no doubt about the outcome and he was confident that they would reach a decision by the end of March at the latest. On 3 April, when no judgment had been rendered, Descartes wrote to Golius demanding a decision by Easter: surely this was not asking too much since, as he put it, the matter could be settled "in less than fifteen minutes". The verdict was finally made known on 24 May. Wassenaer was recognized as th winner, but Descartes was annoyed at the leniency with which Stampioen was treated in spite of the fact that his 600 gulden were declared forfeited. Descartes insisted that the money be given to the poor. Now Stampioen had entrusted his deposit to the Rector of the University of Leyden who had, in turn, handed it over to a hospital, the Pestehuis. "On what grounds?" asked Descartes, **"Quo jure?** A deposit is sacred: **Depositum, res sacra".** [20] He insisted that the sum, as agreed, be consigned to the Council of Churches that was the social welfare agency of Leyden. Descartes was hardly motivated by concern for the poor; what he wanted was a gesture that would have publicized the victory of Wassenaer, i.e. his own. In the end, Descartes had to content himself with a receipt, dated 17 October, and signed, not by the Council of Churches, but by the trustees of the Pestehuis who kept the 600 guilden for the hospital.

Descartes considered this a formal acknowledgement by Stampioen that he had lost, and he proceeded to publish the book that he had secretly been printing (in Dutch and also under Wassenaer's name) for the past two months. It bore the title **Den On-wissen Wiskonstenaer: I.I. Stampioen ontdeckt (The Ignorant Mathematician: I.I. Stampioen Exposed)** and told the story, from Descartes' viewpoint, of the quarrel with Stampioen. Descartes attempted to justify himself by claiming that his honour was at stake. But Stampioen was far from being a "charlatan" as he called him. He was a gifted mathematician and a first-rate teacher who was preceptor to the future Prince William II, to Princess Elizabeth of Bohemia, and later to the sons of Constantin Huygens, Descartes' intimate friend.

After the publication of the **Discours de la méthode,** Descartes had left Leyden for Alkmaar, then Santpoort near Haarlem where he rented a house with a garden, where he had opportunity and leisure to experiment on plants and to make dissections of animals. Through Huygens, a devout Protestant, Descartes, a practising Catholic, was put in touch with two priests of the neighbouring city of Haarlem: Johann Albert Ban (Bannius) and Augustin Bloemaert. They were interested in musical theory, and Descartes was invited by them to choral and instrumental concerts in Haarlem. Huygens encouraged their research as part of his programme of enhancing church music. He was himself a strong advocate of organs in Protestant churches and sent Descartes his pamphlet on the subject.[21]

As reticent as ever without giving his address to correspondents who might pass it on to others without authorization, Descartes asked Mersenne (whose forte was not discretion) to send his letters to Bloemaert. Descartes' house was not located at any great distance since one day, as he was sealing a letter, he decided to find out first whether any letters had arrived for him. He despatched a servant to Haarlem and upon his return had time to reply on the same day to the three letters that had been brought.

Descartes' **Meditations on First Philosophy** were published in France in August 1641 along with a series of objections, of which the first were by Johann de Kater (Caterus), a Canon of the cathedral of Haarlem. When three months passed by without copies arriving from France, Descartes began to long for Dutch efficiency and he turned to Louis Elzevier in Amsterdam. This second edition was ready by May 1642 and Huygens read it on a trip from The Hague to Amsterdam. He immediately wrote to Descartes that he had been "delightfully entertained".

In 1641 Descartes took up residence in the Castle of Endegeest, in Oegstgeest, just outside Leyden. Here he was visited in 1642 by another French expatriate, Samuel Sorbière, who has left us a vivid description of the location and of Descartes' life-style:

> He lived in a small castle, pleasantly situated, at the door of a large and fine University, three leagues from the Court, and less than two hours from the Sea. He

> had an adequate number of well-trained and handsome servants, an attractive garden at the end of which was an orchard, and fields all around. Spires of varying heights could be seen in the distance dwindling to mere points on the horizon. A day's journey by boat on the canals took him to Utrecht, Delft, Rotterdam, Dordrecht, Haarlem, and occasionally Amsterdam where he had two thousand pounds in the bank. He could spend half the day at The Hague and return home by the most beautiful road in the world, passing fields and summer houses, and then a forest.[22]

Descartes was never a perfect recluse. In Santpoort he had played host to Huygens, Reneri and several others, including his former servant Jean Gillot, to whom Descartes had taught his new geometry and who became, in Descartes' own words, one of the few who understood it perfectly.[23] Gillot taught mathematics at the Engineering School of Leyden and was frequently commissioned by Descartes to answer critics of his **Géométrie**. At one point he was considered for a position in Paris (an appointment his devout Huguenot parents dreaded), and Descartes sent the following testimonial:

> He is entirely trustworthy, very bright, and naturally pleasant. He speaks French and Flemish and knows some Latin and English. He has a thorough grasp of mathematics and understands enough of my method to teach himself whatever he does not yet know in other branches of mathematics. But one should not expect him to behave like a servant: he has always lived with his betters who have treated him as an equal.[24]

This tells us much about Descartes' attitude to his retainers. Nor was Gillot an isolated case. Gerard von Gutschoven, who was also in his employ, became a professor at the Univesity of Louvain, and Henry Schlutter, who was his last manservant, acquired considerable proficiency in mathematics. The most remarkable case is that of Dirck Rembrantsz, a poor shoemaker from the town of Nierop. Twice he was refused admission by Descartes' servants who thought he was too shabbily dressed to be anything but a beggar. To make him desist, Descartes sent him a small sum of money, which he refused with great dignity, saying he hoped the philosopher would see him in due time. Descartes did receive

him on his third visit and on numerous other occasions. Indeed he became a pupil and eventually a competent mathematician and astronomer who published several books in Dutch.

An equally gifted but much higher-ranking disciple was Princess Elizabeth, the oldest daughter of the exiled elector palatine, who was then living with her mother the Queen of Bohemia at The Hague. The princess is the first of the "femmes savantes" later satirized by Molière. She was a true scholar with a command of English (her mother was Elizabeth Stuart, the sister of Charles I), French, German, Dutch, Latin, and even Italian -- she proposed to Descartes that they study the works of Machiavelli together. She knew enough mathematics to solve a tricky problem Descartes sent her, she understood recent advances in telescopic observations, and she could raise intelligent objections to Descartes' explanation of the magnet. She was only twenty-three years old when she wrote to Descartes in 1642 to express her admiration of his recently published **Meditations.** Descartes was flattered and kept up a steady correspondence with her. The orphaned Elizabeth (the elector palatine had died in 1632) was young enough to be his daughter, and he became a surrogate father to her. Her letters are full not only of lively philosophical and scientific queries but also of quetions about her health. She consulted Descartes about her minor ailments such as her occasional constipation and the rash on her hands. The philosopher, usually so guarded and reserved in his letters, was drawn out by the confidence she bestowed on him, and revealed to her more about his own personal life than to any other correspondent. He told her of his childhood illnesses and the way he managed to get rid of bad dreams. Above all he praised a life of leisure:

> I can say, truthfully, that the main rule that I have always followed in my studies, and the one that I believe helped me most in acquiring some knowledge, is the following: I never gave more than a few hours per day to thoughts that occupy the imagination [i.e. mathematics and physics], and very few hours per year to those that occupy the understanding only [i.e. metaphysics]; the rest of my time I relaxed and gave my mind a rest.[25]

Elizabeth was not the only one to seek Descartes' advice as though he was a physician. In 1640 he was called along with his

friend the physician Cornelius Hogelande to the bedside of the young daughter of David Le Leu de Wilhem, Huygens' brother-in-law. When he wrote the **Discours de la méthode,** Descartes had sanguine expectations about the future of medicine: "if any means can be found to render men wiser and more ingenious than hitherto, I believe it is in medicine that it must be sought".[26] The following year, 1638, he was at work on a medical treatise, and in 1645 he admitted to the Marquis of Newcastle: "The main aim of my research has been at all times the preservation of health".[27] According to Des Maizeaux in his **Vie de Saint-Évremont,** Kenelm Digby visited Descartes around this time and urged him to devote his efforts to finding means of prolonging life. To which Descartes replied "that he had thought about this matter, and that although he did not promise to make man immortal he was certain that he could extend his life to the age of the Patriarchs".[28] When we recollect that Methusalah lived 969 years, we cannot resist the suspicion that Descartes was poking fun at Digby, but there is compelling evidence that he was serious. He confided to Huygens that he hoped to live more than a hundred years,[29] and we also have the testimony of a man who spent several months with him in Holland, the Abbé Claude Picot, the translator of his **Principia Philosophiae.** When Picot returned to France,

> He resolutely gave up good cheer of which he had been fond until then, and decided to follow M. Descartes' diet in the belief that this was the only way of ensuring the success of the secret method that he claimed had been discovered by our philosopher to prolong life to **four or five hundred years.**

Descartes' biographer, Baillet, adds:

> The abbé Picot was so convinced of the truth of his [Descartes'] knowledge on this point that he would have sworn that he could not have died at fifty-four as he did. Barring an unusual and violent cause (like the one that put his machine out of order in Sweden) he would have lived five hundred years and would have discovered the art of living several centuries.[30]

Descartes' great expectations were not fulfilled, and when he met Frans Burman in the spring of 1648 he had given up the

dream of reaching the ripe old age of the Patriarchs: "How men prolonged life so long before the flood is beyond philosophy". He added, however: "But I do not doubt that human life could be prolonged if we knew the proper way."[31]

Descartes' fantasy seems less extravagant, if not less sanguine, when considered against the background of his age, in which the quest for pre-diluvian longevity was not uncommon. Descartes, however, refrained from making these views known in his published writings.

The Stampioen incident had caused Descartes much bitterness, but he was soon to become embroiled in an affair of far greater consequence. Gisbert Voet or Voetius, the Professor of Theology at the University of Utrecht and a pillar of the Protestant Establishment, had found the ideas in Descartes' **Discourse** dangerously subversive. To doubt the existence of God, even with the avowed intention of establishing it on a surer basis, appeared to Voetius a threat to religion. What could be worse than a Papist with liberal ideas? Voetius' first opportunity to voice his disquiet occurred in March 1639 when a colleague at the University of Utrecht, Antoon Aemilius, pronounced the funeral oration of Reneri who had just died. Aemilius spoke of Reneri's friendship for Descartes whom he called "the Atlas and only Archimedes of our century".[32] The town council decided to print the oration, which thus received an official seal of approval. this was enough to provoke Voetius, who raised a cry of alarm and warned his colleagues of the atheism latent in Descartes' philosophy. But he had to contend with at least two fellow-professors who had been won over to the new philosophy. Along with Aemilius, Descartes could count on Henry de Roy or Regius, the scion of a rich family of Utrecht brewers, who had been appointed Extraordinary Professor (we would say today Associate Professor) of theoretical medicine and botany in 1638, and Ordinary Professor the next year. He was introduced to Descartes by Reneri and soon became an enthusiastic Cartesian. Full of crusading fervour, he began lecturing on physics as well as medicine. Regius was suspected of Arminian sympathies but he had promised the rector, Bernard Schooten, not to depart from traditional medical doctrine and his appointment had been confirmed.

At the end of June and early in July 1639, the end of term debates that were part of the normal curriculum enabled Voetius

to mount an attack on a series of theses that were described as atheistic, but rested in fact on the methodical doubt favoured by Descartes, whose name, however, was never pronounced. Regius felt that he was only bound to avoid any novelty in his lectures on medicine. In physics he could do as he pleased, and he decided to organize a debate on Harvey's theory of the circulation of the blood that Descartes had praised in **Discours de la méthode**, although he disagreed with him on the physiology of the heart and the actual mechanism of the circulation of the blood. Regius showed the text, which he intended to have read by a student, to Descartes, who suggested that a less belligerent tone would achieve better results. His advice was disregarded: Regius, as Descartes was later to learn at his expense, was a man who positively enjoyed a quarrel. Harvey's theory was therefore presented and energetically defended against opponents on 20 June 1640.

Voetius was up in arms. At a distance of over three centuries, we may well ask how a theologian could be so strenuously opposed to the circulation of the blood. The reason is that the theory seemed to do away with the notion of the traditional explanation of the immortality of the soul as well as the relation of body and soul formulated by Christian dogma. Regius had his theses published. They were immediately impugned by an English physician from Hull, John Primerose, whose **Remarks** were published by Jan Maire in Leyden in 1640. Before the year was out Regius had retorted with a pamphlet whose title reads, in part, **A Sponge to Wash Away the Dirt of Primerose's Remarks.** In the meantime Voetius had become Rector, but he had to wait until June 1641 to organize another public debate. This time a student called Lambert Van den Waterbaet was his mouthpiece, and he included in his thesis a criticism of the motion of the earth which Descartes was known to entertain. By February 1642 Regius' rebuttal was in print, and it was couched in such abusive language that Voetius had no difficulty in having him censured by the Town Council and the Senate of the University. The 130 unsold copies of Regius' rejoinder were impounded, and he was ordered to stick to medicine and botany in his teaching.

But Voetius was not satisfied. Having gagged the disciple, he had yet to fetter his master. He wrote to Marin Mersenne in Paris in the hope of enlisting him in a crusade against Descartes' novel and pernicious ideas, but the Minim Friar

immediately replied that Voetius should reserve his judgment until Descartes had published his entire philosophical system. He also informed Descartes of Voetius' design. Descartes then decided to expose Voetius in an Open Letter to his former teacher, Fr. Jacques Dinet, now Provincial (i.e. Head) of the Jesuit Province of France. Anxious to win the Jesuits to his cause, he described himself as an aggrieved and unjustly persecuted Catholic. Voetius is not mentioned by name, but since he is referred to as the Rector of the University, identification was beyond doubt. This Open Letter was printed at the end of the second edition of the **Meditations** that appeared in the spring of 1642. Voetius waxed indignant and convinced the Town Council that a reply was in order. Voetius' own son Paul was asked to draft a resolution but, since it had to be officially discussed, approved and sanctioned, it was only fifteen months later, in September 1643, that it was finally published.

Voetius senior could not be patient for so long, and he decided upon a shaft of his own devising. In August 1642 he was visited by a former student, Martin Schook, a professor at the University of Groningen, whom he succeeded in enlisting as his spokesman. Schook was set the task of attacking Descartes in a work to bear the title **The Admirable Method of the New Philosophy of René Descartes.** His hand was guided from the beginning by Voetius -- one might almost say that the letters were actually traced by his mentor -- and manuscript sheets were sent in instalments to an Utrecht publisher, Jan van Waesberge, in order to speed up the process of printing. Descartes had friends in Utrecht, however, and the galley-proofs were surreptitiously sent to him. He was thus able to work at his reply while his adversaries were still correcting the proofs of their own work. After the first six quires (144 pages), however, the printing stopped. Foul play had not been discovered; Voetius had more pressing matters to attend to and he needed all his wits to do so. He had been called upon to pronounce on a delicate matter of conscience by some of his co-religionists at Bois-le-Duc (s' Hertogenbosch). The incident is in itself revealing of the man and his age, and it was to involve him in a quarrel with another Protestant pastor, Samuel Des-Marets or Marezius, who thus became Descartes' ally.

Des-Marets was a French Huguenot who had been invited to settle in the Netherlands and had been assigned pastoral charges in

regions with mixed religious populations on the reconquered borders of the country. He had been posted in Maestricht, captured from the Spaniards in 1634, and later in Bois-le-Duc, seized in 1629 and considered the Rome of the Netherlands, the way Utrecht was recognized as its Geneva. He was strictly orthodox in his Calvinist outlook, but he was able to get along with the Catholics. Now, an ancient "Confraternity of our Blessed Lady" dating from 1318 was one of the chief ornaments of Bois-le-Duc. It still helped the poor, but it had evolved into an association of wealthy merchants who prided themselves on the high gastronomical standards of their increasingly celebrated dinner parties. It was both an honour and a pleasure to belong to such a company. In 1642 the Governor of Breda and several Protestant notables requested admission. The statutes were revised to admit non-Catholics, and fourteen prominent Protestants of Bois-le-Duc applied for membership. This caused an uproar among their more conservatively-minded or merely envious co-religionists, and insult was added to injury when they were officially received into the Confraternity on a Catholic feast day at which fish was served. Recourse was made to Voetius, who was known for his militant anti-Catholicism. He had no hesitation in branding the Confraternity as "Catholic-Papist and idolatrous, not only bad of itself and by itself, but evil, detestable and abominable."[33] Consulted by the fourteen new members of the Confraternity, Des-Marets felt that they had done nothing wrong and he wrote a personal and courteous letter to Voetius in which he argued their case. To no avail. Voetius interrupted his attack on Descartes to compose a violent diatribe against the Confraternity.

Descartes, who had not made the acquaintance of Des-Marets, got in touch with him, and they agreed to make a common front against their mutual enemy. Descartes had been preparing a rejoinder to Voetius' **The Admirable Method of the New Philosophy of René Descartes,** which was now on sale, and he decided to add a reply to Voetius' attack on the Confraternity. His **Letter to Gisbert Voetius** was published in May 1643 and ran to 282 pages. This may seem long, but it was half the length of Voetius' **A specimen of the Partly Ambiguous or Lubricious and Partly Perilous Statements Contained in a Recently Published Tract for the Members of the Confraternity of the Blessed Lady,** which numbered 511 pages of small print. Voetius sought civil redress, and on June 23, 1643 the Town Councillors of Utrecht had the bells of the Town Hall solemnly rung, as a citation was nailed to the wall

ordering Descartes to appear before them. Descartes refused the summons, but on 6 July 1643 he sent an open letter in Dutch, in which he claimed that as he was not a citizen of Utrecht the city had no right to ask him to account for himself. On 13 September 1643, the Town Council passed a vote of censure on Descartes and forbade the sale of both his **Letter to Fr. Dinet** and his **Letter to Gisbert Voetius**, the latter being described as "diffamatoire schriften ende fameuse libellen".[34] Descartes grew alarmed. Although he resided in Egmond in the Province of Holland, an agreement between the Provinces of Holland and Utrecht stipulated that a decree rendered in one Province was applicable in the other. Descartes appealed to his powerful friends at The Hague, and he was able, through the good offices of Constantin Huygens, to arrange for a secretary of the Prince of Orange to write to the Town Council of Utrecht. The French ambassador, Gaspard Cognet de la Thuillerie, also wrote a letter. The proceedings against Descartes were immediately dropped.

Matters would have probably rested there had Descartes not decided to be vindicated. **The Admirable Method of the New Philosophy of René Descartes** had appared anonymously, and Descartes was bent on showing that Voetius and not Martin Schoock was the author. Schoock was a professor at Groningen, and Descartes lodged formal complaint with the University. Since Schoock was Rector that year, the protest can hardly be called well-timed. Furthermore, Des-Marets had recently been appointed Professor of Theology at Groningen and there was the added risk of a conflict between a professor and his rector. The University wisely delayed taking any action until the end of Schoock's term of office on 26 August 1644. An enquiry was opened, and Schoock admitted that Voetius had not only suggested that he write against Descartes but that he had provided him with the arguments. The printed text contained a number of personal attacks and insults that were plainly absent from Schoock's own copy. Who had added them? Schoock had entrusted his manuscript to van den Waterbaet, Voetius' student, but van den Waterbaet denied having seen the proofs. It was hard to escape the conclusion that Voetius was responsible for the defamatory passages.

On 20 April 1645 the University of Groningen submitted its report, in which it was made clear that both Schoock and Voetius had behaved with less than academic propriety. Descartes forwarded the report to the Town Council of Utrecht. By this time

the Councillors were thoroughly fed up with the petty squabbling of university professors, and on 12 June 1645 they approved a motion prohibiting the publication of any writing for or against Cartesian philosophy. Descartes, who had hoped for a complete victory, wrote an indignant letter in Latin to the Town Council four days later. The wound still rankled with Descartes three years later, for on 21 February 1648 he sent the Town Council a lengthy apologia in both French and Dutch in which he went over the details of the entire incident.

The Utrecht front was far from the only one opened by Voetius. He had allies in Leyden and they joined in the fray. But Descartes was not without influential friends at that University. These included the mathematicians Jacob Golius, Frans van Schooten and his son, also called Frans, the extraordinary professor of anatomy and surgery, Adolfus Vorstius, and especially the professor of philosophy, Adriaan Heereboord, who saw himself as the herald of the new philosophy. Initially, Heereboord had the support of his colleague François Du Ban, but when Du Ban died in 1643, he was succeeded by a Scotsman, Adam Stuart, who joined the reactionary forces of the professor of theology, Jacob Triglandius, and the Rector of the Theological College, Jacob Revius. The latter seems to have had a longstanding distrust of Descartes. When he had met him in Deventer several years earlier he had immediately sought to convert him to Protestantism. Descartes had politely replied that he intended to remain faithful to the religion of his king. When Revius tactlessly persisted, Descartes had added that he wished to keep the faith of his wetnurse. The Frenchman's irony was lost on the grave Dutchman, who never forgave Descartes for appealing to such unphilosophical reasons for refusing the higher light of Calvinism.[35]

On 18 September 1646, a philosophy student, Paul Biman, publicly defended the use of Descartes' methodical doubt as the way to certitude. This was the opportunity that Triglandius had been waiting for. He claimed that such a thesis had an heretical ring, and the Senate of the University issued a statement reminding Faculty members that only the philosophy of Aristotle could be taught at Leyden. Heereboord took no notice of this warning. On 17 January 1647 he gave a lecture on "The Freedom of Philosophising" in which he inserted glowing praise of Descartes.[36] Revius and Triglandius had their own students prepare anti-Cartesian theses in which Descartes was called a Pelagian and a blasphemer for declaring that man had unlimited freedom of

choice. Descartes was incensed and wrote a letter to the Trustees of the University, requesting that Revius and Triglandius be made to account for their slanderous accusations.

Once again, Descartes sought the protection of William, Prince of Orange, who had succeeded his father Frederic Henry. He also wrot to the Comte de Servien, then Acting French Ambassador, to ask him to represent to the Prince that his Trustees "could not approve, after so much French blood had been shed to help them chase out the Spanish Inquisition, that a Frenchman who had once carried arms for the same cause should now be subjected to the Inquisition of Dutch pastors".[37] Noble words, if somewhat inflated, since Descartes was in the army during the Twelve-Year Truce and never fired a shot. The trustees met on 20 May 1647 and, following the example of their colleagues in Utrecht, decided that the name of Descartes should no longer be mentioned in the University. They also enjoined Heereboord to keep to Aristotle. A week later Descartes sent a note of protest to the Trustees in which he reminded them that only the names of the most wretched scoundrels were banned from polite society. Did the Professors of Leyden consider him such?[38] At the meeting at which Descartes' letter was read, the Trustees decided to take no further action beyond increasing Heereboord's salary by a hundred florins! This gesture did little to relive Descartes' indignation, but it would seem to have gone some way towards mollifying his pugnacious but financially harassed disciple.

Yet peace was not restored. At the end of the year, a young doctor in medicine and philosophy, Jean de Raez, created a disturbance by defending Descartes' views at a public disputation chaired by Adam Stuart. A few years later, in 1654, de Raez was to embarrass the Trustees of the University by dedicating to them his **Key to Natural Philosophy, or an Aristotelico-Cartesian Introduction to the Contemplation of Nature.** It was customary to offer a gratification to authors for the dedication of their works, and the Trustees first voted that de Raez be given a hundred florins, but at a subsequent meeting they reduced the sum to fifty florins and stipulated that Descartes' name should be deleted from the unsold copies.

Descartes was so incensed by the attitude of the academic establishment that he seriously considered leaving Holland and settling in France, and indeed he went there on 9 June 1647. He

stayed in Paris with the Abbé Picot, who was completing the French translation of his **Principles of Philosophy.** He met Mersenne again and made the acquaintance of Blaise Pascal, but the rumblings of civil war and the vague and ineffectual promises that he received made him realize the blessings of life in the Netherlands. By the end of September he was back in his philosophical harbour of Egmond.

Unfortunately these waters were soon to be ruffled. The cause this time was his hitherto disciple in Utrecht, the young professor Henri de Roy or Regius. The storm had been gathering since 1645, when Regius had submitted to Descartes the manuscript of his **Foundations of Physics** in which he purported to develop the Cartesian ideas of the **Principles of Philosophy** that had just appeared in print. Of the twelve chapters contained in Regius' work, the first six more or less follow the outline of Descartes' **Principles,** but the next six discuss plants and animals as well as human anatomy and physiology, the very topics Descartes was working on in view of a sequel to his book. Descartes was annoyed, partly because Regius was rushing into print before he had managed to state his own position on these difficult and controversial subjects, and partly because Regius made a mess of the whole matter. On the question of muscles, for instance, Descartes surmised that Regius had culled his information from the manuscript notes that he had shown to a few friends. But Regius had not had the benefit of Descartes' diagrams, and those he drew revealed that he had not grasped the nature of Descartes' explanation.

But there were more substantive issues. Descartes had opened his **Principles** with a summary of his metaphysics, thereby indicating that his cosmology was founded upon an explicit philosophical stance. Regius had no great taste for high-flown speculation and he moved the philosophical introduction to the end, thereby intimating that the whole Cartesian physics was independent of his metaphysics. Descartes considered this a serious subversion of his thought. But the major problem had religious overtones and was of such a nature as to risk getting Descartes into more trouble with the theologians. This concerned the unity of man, a dogma that was articulated in scholastic theology, both Protestant and Catholic, by saying that man's soul (his form) and his body (his matter) formed one natural substance. Regius had swallowed Cartesian dualism whole and felt that mind alone was

the real man. Hence his original description of the union of body and soul as **accidental,** a term he subsequently deleted at Descartes' request. But Regius then proceeded to suggest that the soul is a **mode** of the body, the **corporeal principle.** Only the Scriptures can tell us that the soul is a substance. This meant that Cartesian philosophy was at variance with Holy Writ. Descartes protested that he had never meant such a thing and he asked Regius not to publish.

By this time, however, Regius thought he had outgrown his **master, and he had the** Foundations of Physics **printed by Elzevier, who used, without Descartes' knowledge or consent, some of the woodcuts that had been made for the** Principles of Philosophy. Descartes felt betrayed and complained in letters to several friends, including Huygens. Regius retorted by printing a broadsheet and having it posted on notice-boards in Utrecht. It was headed **Programma** and listed twenty-one theses that Regius was prepared to defend. It ended with a quotation from Descartes that Regius turned against its author: "No one acquires a great reputation for piety as easily as the hypocrite and the superstitious". This was the welcome Descartes received upon his return to Holland! He saw the need to vindicate himself, and in December 1647 Elzevier published his **Remarks on the Program.** Regius was silenced for the time being, but after Descartes' death he published a second edition of his **Foundations of Physics** in which he made it clear that he had not recanted.[39]

Descartes' trip to France in 1647 had not been altogether without success. On 6 September 1647 he had been awarded an annual pension of three thousand pounds, but some service to the Crown was probably expected, since Descartes was invited back to Paris in the following year. He arrived in the French capital early in May and within a few days regretted leaving Holland. The conflict between Mazarin and the Parlement was coming to a head and Parisians were mobilizing for war, not philosophy. Descartes had been invited by friends to a dinner party only to find, as he later put it, "their kitchen in disorder and their pans overturned".[40] Descartes does not seem to have realized the extreme gravity of the situation until insurrection broke out on 26 August. Paris was no longer safe, and Descartes beat a hasty and undignified retreat back to the Netherlands.

During these periods of bitter feud in Holland and less bitter disappointments in France, Descartes was not philosophically idle. In the intervals between writing polemical pamphlets, he busied himself with a treatise on the passions. The moral stance he advocated was a form of stoicism akin to the ideal proposed by his contemporary Pierre Corneille in his famous tragedies. The work was completed in 1649 and dedicated to Princess Elizabeth, whose questions had prompted several developments.

Descartes would now have been happy to spend the rest of his days in Holland, but he was enticed to make yet another trip abroad by the flattering invitation he received from the young Queen Christina of Sweden. She expressed the desire of becoming his pupil, and even sent Admiral Claudius Flemming to fetch him in a warship in April. But Descartes could not make up his mind. As he put it to his friend Brasset:

> For a man born in the garden of Touraine, and living in a land where, if there is less honey than in the one promised by God to the Israelites, there is more milk, it is no easy thing to leave for the country of bears and live amidst rocks and ice.[42]

Nevertheless, Descartes eventually made up his mind and left for Stockholm at the beginning of September. Two days before embarking he paid a farewell call on Brasset at The Hague. The French diplomat was amused at Descartes' sartorial elegance and penned the following description of the travelling philosopher.

> I confess that when he came to say goodbye with his hair curled, wearing shoes that ended in a crescent and gloves decorated with white fur, I was reminded of that Plato who was not so divine as not to wish to know what human nature was like, and I thought to myself that the departure from Egmond meant the arrival in Stockholm of a full-dressed and well-shod courtier.

Descartes arrived in Sweden after a trip that lasted over a month and was warmly received by the young Queen. She suggested that they meet three times a week to study his philosophy. This much Descartes expected; what came to him as a surprise was the hour she named: five o'clock in the morning! Descartes was in the habit of staying in bed until noon, but he accepted with good

grace. Unfortunately, he lodged with the French ambassador Chanut at some distance from the Royal Palace, and he caught pneumonia early in February 1650. He died on February 11, after a brief illness of nine days. His personal papers had been left behind in Leyden where he had entrusted them to his friend Cornelius Hogelande. When Hogelande heard of Descartes' demise, he proceeded to make an inventory of the contents of the chest left in his custody, in the presence of three friends. Descartes had empowered him to burn whatever he saw fit to consign to the flames, but fortunately Hogelande seems to have preserved most of the documents; they were subsequently forwarded to Descartes' heirs and published in due course.

By 1650 Descartes was recognized as a leading European scholar, but it was only in the Netherlands that his philosophy was taught by young disciples whom he had trained. Attempts to suppress his views merely made them more interesting to students. In Italy censorship was still -- as in the case of Galileo -- an act by which an entire philosophy could be stifled; in the Netherlands to ban only served to underline. It waas a heaven of free thought, and here was born the first Cartesian school.

NOTES

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1. The main source of information about Descartes' life in Holland are the numerous letters that he wrote mainly to French correspondents. These are collected in the first five volumes of Charles Adam and Paul Tannery (eds.), **Oeuvres de Descartes**, 12 vols. and index, Paris, 1897-1913. The reprint edition (Paris: Vrin, 1969-1974) contains several letters of Constantin Huygens that were only discovered after the first edition. Adrien Baillet, **La Vie de Monsieur Des-Cartes**, 2 vols., (Paris, 1691, reprint Geneva: Slatkine, 1970) is indispensable. In the twentieth century, Charles Adam, **Vie et Oeuvres de Descartes** (Vol. XII of the **Oeuvres de Descartes**), Gustave Cohen, **Ecrivains Français en Hollande dans la première moitié du XVII^e siècle** (Paris: Champion, 1920), and Cornelia Louis Thijssen-Schoute, **Nederlands Cartesianisme** (Amsterdam: N.V. Noord-Hollandsche Uitgevers Maatschappij, 1954) have shed additional light on Descartes and his Dutch friends and foes. A collection of useful essays is to be found in **Descartes et le cartésianisme hollandais**, Paris: Presses Universitaires de France, and Amsterdam: Editions Françaises d'Amsterdam, 1950.

2. Letter to Beeckman, 23 April 1619, Descartes, **Oeuvres** (Adam and Tannery edition), Vol. X, p.162.

3. Descartes, **Oeuvres**, Vol. X, p.46. The passages from the diary that mention Descartes are reproduced in Vol. X of the **Oeuvres**. The complete diary was edited by Cornélis de Waard: Isaac Beeckman, **Journal 1604-1634**, 3 vols., The Hague: Martinus Nijhoff, 1945.

4. Baillet, Vol. I, p.42-44.

5. Descartes, **Oeuvres**, Vol. X, p.152.

6. Cohen, p.381.

7. For a discussion of the background to this revelation, see William R. Shea, **"Descartes and the Rosicrucians"**, **Annali dell' Instituto e Museo de Storia della Scienze**, IV (1979), fasc. 2, pp.29-47.

8. Baillet, I, pp.80-86.

9. For details, see William R. Shea, **"Descartes as Critic of Galileo"** in R. E. Butts and J. C. Pitt (eds.), **New Perspectives on Galileo**, Dordrecht and Boston: Reidel, 1978, pp.139-159.

10. See William R. Shea, "Descartes and the French Artisan Jean Ferrier", in **Annali dell' Instituto e Museo di Storia della Scienza**, VII (1982), fasc. 2, pp.145-159.

11. Letter to Ferrier, 13 November 1619, Descartes, **Oeuvres, Vol. I, p.69. Descartes discussed the possibility of increasing** the magnifying power of lenses with Beeckman, who recorded the conversation in his diary **(ibid.**, Vol. X, p.347).

12. Letter to Ferrier, 18 June 1629, **ibid.**, Vol. I, p.15.

13. Letter of Constantin Huygens to Princess Elizabeth, 31 December 1653, **ibid.**, Vol. X, p.651.

14. Baillet, Vol. II, pp.89-90.

15. Descartes, **Oeuvres**, Vol. I, p.393. Descartes actually had seven nieces; the three daughters of his eldest brother, Pierre, and the four daughters of his sister married to Roger du Crêvy. They all resided in France and never visited their uncle, but they provided the cloak that the word niece afforded.

16. Letter to Mersenne, March 1636, **ibid.**, Vol. I, p.338.

17. Letter of Saumaise to Jacques du Puy, 4 April 1637, **ibid., p.365n.**

18. Letter to Huygens, 3 March 1637, **ibid.**, p.622.

19. Letter to Golius, 3 April 1640, **ibid.**, Vol. III, p.59.

20. Letter to Wilhelm, 17 August 1640, **ibid.**, p.156.

21. Letter to Descartes, 14 August 1640, **ibid.**, p.153. The work was published by the Elzeviers in Leyden on the following year as **Gebruyck of ongebruyck van't Orgel in de Kerken der Vereenighde Nederlanden.**

22. Letter to Descartes, 26 May 1642, **ibid.**, pp.790-791.

23. Letter to Pierre Petit, 10 November 1657, **ibid.**, p.351n.

24. Letter to Mersenne, 27 May 1638, **ibid.**, Vol. II, pp.149-150.

25. Letter to Elizabeth, 28 June 1643, **ibid.**, Vol. III, pp.692-693.

26. Discours de la méthode, ibid., **Vol. VI, p.62.**

27. **Letter to the Marquis of Newcastle, October 1645,** ibid., Vol. IV, p.329.

28. **Ibid.**, Vol. XI, p.671.

29. Letter to Huygens, 25 January 1638, **ibid.**, Vol. I, p.507.

30. Baillet, **op. cit.** Vol. II, pp.448 and 452-453.

31. **Burman's notes of the conversation, dated 16 April 1648, Descartes,** Oeuvres, **Vol. V, p.178.**

32. **From Descartes' letter to the magistrates of Utrecht,** ibid., Vol. VIII-2, p.203.

33. This incident is described at length in the second volume of A.C. Duker's monumental **Gisbertus Voetius,** 4 vols. Leyden: Brill, 1897-1915.

34. From the Register of the Town Council (Vroedschap) of Utrecht, quoted in Descartes, **Oeuvres,** Vol. IV, p.22.

35. The incident is narrated in Dirck Rembrandtsz' **Des Aertrycks beweging en der Sonne stilstand** (Amsterdam, 1661), p.49, quoted in Descartes, **Oeuvres,** Vol. XII, p.345n.

36. See Ferdinand Sassen, "Adriaan Heereboord (1614-1661). De opkomst van het Cartesianisme te Leiden", **Algemeen Ned. Tijdschrift v. Wijsbegeerte en Psychologie,** XXXVI (1942-43), pp.12-22.

37. Letter to Servien, 12 May 1647, in Descartes, **Oeuvres,** Vol. V, pp.25-26. The Prince of Orange was the official Head of the University. He appointed the Rector every February, choosing him from a list of three names submitted by the professors.

38. Letter to the Trustees of the University of Leyden, 27 May 1697, **ibid.**, p.38.

39. For Regius, see M.J.A. De Vrijer, **Henricus Regius, een "Cartesiaansch" hoogleeraar aan de Utrechtsche hoogeschool,** The Hague: M. Nijhoff, 1917.

40. Letter to Chanut, 26 February 1649, Descartes, **Oeuvres,** Vol. V, p.292.

41. Letter to Chanut, 21 March 1649, **ibid.**, pp.328-329.

42. Letter to Brasset, 23 April 1649, **ibid.**, p.349.

43. Letter to Chanut, 7 September 1649, **ibid.**, p.411.