

## **Reading Huygens and Descartes.**

### **At the Intersection of Humanism and the New Science**

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Metaphors for reading are legion. Reading in turn, is often used as a metaphor itself. Reading becomes a trope for seeing, for the world, for conversion, for the construction of the self. This paper aims at an analysis of the different uses of reading as a metaphor as well as the various metaphors for reading of two seventeenth-century authors, namely René Descartes and Constantijn Huygens. As I will attempt to show, the concept of reading in the work of these authors – and especially the different use they make of that concept – is symptomatic for a more fundamental (distinction in their) conception of truth and knowledge. The different metaphors help mark the distinction between the humanist thinker and the founder of the new scientific method, all the while problematising those notions.

#### **the conversation with the dead**

In the first chapter of his famous work *Discours de la méthode*, first published in 1637, the French philosopher René Descartes gives an account of his education at ‘one of Europe’s most celebrated schools’, the Jesuit College at La Flèche (Descartes Discourse on Method and the Meditations). There the young man received a bookish education, in every sense of the word, and was brought up believing that ‘the reading of good books is like a conversation with the greatest gentlemen of past ages, their authors’ (Descartes Discourse on Method and the Meditations). This image of a conversation with the dead, reiterated with a difference – as we shall see – by Descartes, was one of the most persistent metaphors for reading in the early modern period. Other famous instances of the use of this metaphor can be found in the writings of Petrarch and Machiavelli among others. In the humanist educational tradition of those authors and of the famous Jesuit College that educated Descartes, reading the works of great gentlemen of the past was considered essential for action in the present. The trope of a direct conversation with great individuals of past centuries was used to mark the distinction between the ‘old’ scholastic system of reading and the ‘new’ humanist approach to reading. In the eyes of those humanist thinkers that made use of the conversation metaphor, their new reading practice was aimed at the destruction of the screen, as Anthony Grafton has called it, that the scholastic thinkers had put up between the reader and the ancient text. This screen

consisted of some sort of 'official reading' in which the text was taken for a corpus of impersonal propositions rather than the writings of an individual (Grafton). The difference between a corpus of impersonal propositions and a private conversation of a reader with an author could not be clearer. Furthermore, this unmediated reading of the work of one or other great philosopher of the past was not without obligations. What was read could and had to be put to direct use and should lead to tangible results in the present. As Grafton has put it:

'Reading, whether done in private or in public, could be used for very concrete political or intellectual ends. [...] In both cases, the conversation with the ancient text had the same goal: action, tangible results in the present.'(Grafton) <sup>1</sup>

Making use of the metaphor to describe his education, it would seem that Descartes is well acquainted with this image but he uses it with a different purpose in mind. While he concedes that reading may very well be a form of conversing with the dead author of the work, he goes on to state that this conversation with the dead is as useful as having a conversation with someone from a foreign country: 'For to converse with those of other centuries is almost the same as to travel.'(Descartes, 1968: 30) And though it may be a good thing to know something of the customs of other people, the importance of that knowledge for your own life is rather limited. It can even be harmful to travel too much, as 'one eventually becomes a stranger in one's own country' (Descartes, 1968:30). Descartes inevitably concludes that, just like travelling, reading is of negligible importance for the development of the mind. More can be learnt from careful contemplation with a rational mind than from studying books and ancient texts.

For Descartes the importance of reading, as his method will show, is subordinate to the principles of experience and rationality. So what is questioned in this passage of the *Discourse on method* is not the validity of the humanist image of the conversation with the dead, an image that Descartes gladly borrows to make his point, but rather the value of this conversation for gathering knowledge for and of the present. With the perversion of the image of the conversation with the dead, Descartes turns away from the humanist epistemology and establishes a break from tradition.

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<sup>1</sup> 'La lecture, qu'elle se fasse en privé ou en public, pouvait être utilisée à des fins très concrètes, politiques ou intellectuelles. [...] Dans les deux cas, la conversation avec le texte antique avait le même objet: l'action, les résultats tangibles, dans le présent.'

## seeing as reading

In a letter to Descartes, dated December 5 1635, the Dutch poet and diplomat Constantijn Huygens urges his addressee and close friend to hurry up and publish his, for Huygens at least, long awaited *Dioptrique*. Should he keep his promise of swift publication of this work, the philosopher would, according to Huygens, perform ‘the miracle of rendering sight to the blind’ (‘hastez vous au miracle, de rendre la vue aux aveugles’). In an earlier letter from Descartes to Huygens (dated November 1, 1635), Descartes had declared his own intentions as follows:

‘So, we see a lot more people capable of introducing the conjectures of the philosophers in mathematics, than those capable of introducing the certainty and evidence of mathematical demonstrations in the matters of philosophy, like those of sound and light.’ (Huygens)<sup>2</sup>

The introduction of mathematical principles in philosophical matters is the goal Descartes had set for himself and for his method. His *Dioptrique* was one of the three essays serving as an illustration of this scientific method, an introduction to which was given in the, already mentioned, *Discourse on method*. That the fame of the introduction far exceeded that of the scientific illustrations, is of course a result of their very nature. The expiry date of some of the findings on optics, geometry and meteorology that were provided by the method was reached well before that of the method itself. Christiaan Huygens’ discovery on the nature of light waves, for example, quickly replaced the older conceptions of light, including that of Descartes.

Still, with his *Dioptrique*, Descartes joined the ranks of the many 16<sup>th</sup> and 17<sup>th</sup> century thinkers whose writings offered exhilarating new insights in optics. The importance of the 17th century in the history of optics can therefore hardly be overrated. Findings by prominent thinkers such as Johannes Kepler and Descartes himself thoroughly transformed the science of light and vision. It was, in fact, Kepler who first severed the tie between the object and its beholder in Western thinking (Simon). Taking his cue from the 10th- century Arab scientist Ibn al Haytham (better known as Alhazen), Kepler described the formation of objects on the retina in terms of a mechanical *camera obscura*. In Kepler’s optical model seeing occurs when an image is formed on the retina similar to the way in which light casts an image of the

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<sup>2</sup> ‘Ainsi on voit bien plus de gens capables d’introduire dans les mathématiques les coniectures des philosophes, que de ceux qui peuvent introduire la certitude & l’évidence des démonstrations mathématiques dans les matières de philosophie, telles que sont les sons & la lumière.’ in : Constantijn Huygens, *De Briefwisseling Van Constantijn Huygens (1608-1687)* ed. J.A. Worp, 6 vols. (’s-Gravenhage: Nijhoff, 1911-1917).

object in front of the *camera obscura* against its back wall. This model will constitute the first step in what has often been described as the mechanisation of the eye (and the world-view). In spite of the huge impact of Kepler's theory on optics, one problem still remained to be solved, formulated by Kepler as follows:

'How this image or picture is joined together with the visual spirits that reside in the retina and in the nerve, and whether it is arraigned within by the spirits into the caverns of the cerebrum to the tribunal of the soul or of the visual faculty; whether the visual faculty, like a magistrate given by the soul, descending from the headquarters of the cerebrum outside to the visual nerve itself and the retina, as to lower courts, might go forth to meet this image – this, I say, I leave to the natural philosophers to argue about.' (Kepler)

What still troubles Kepler in other words is the question of how this (physical) image reaches the soul. The problem is, in fact, a direct result of the manner in which Kepler conceives seeing. In spite of his revolutionary findings, the astronomer still adheres to one of the fundamental principles of the Scholastic theory of vision, namely that of the *species*. In scholastic theories, as exemplified by Thomas Aquinas, seeing occurs when a copy of an object, called *intentional* or *visible species* penetrates the eye. Understanding and knowledge come about when that copy reaches the soul, where it is stored in the form of a mental picture, an *intelligible species*. Sense perception is thus essential for the knowledge making process. In the words of Aquinas the soul understands bodies "by images of bodies". As A. Mark Smith has put it, for the scholastics the visible is made intelligible through representation (Smith). In Kepler's theory this principle of resemblance or likeness is retained. For him the image of the object we behold is still its image. That is to say; what we see looks exactly like what we are looking at. The images that are formed on the back wall of our eyes, as well as the pictures that somehow reach our minds, are formally identical to the object they represent, thus providing a guarantee of veracity: what is, is precisely as we see it. The sole question left to be answered is the one formulated above: how do those images reach the soul where they can be stored for contemplation and memory?

In the *Dioptrique* Descartes takes Kepler's reasoning to the (logical) next level. Solving Kepler's problem, Descartes simultaneously undermines the identity between the object and its representation and defines seeing as a mental process. In order for us to see, states Descartes, 'the mind need not contemplate any images resembling the things that it senses' (Descartes Discourse on Method, Optics, Geometry, and Metereology). It is the mind that sees, not the eyes and in order to see the mind needs no images:

‘Apart from that, it is necessary to beware of assuming that in order to sense, the mind needs to perceive certain images transmitted by the objects to the brain, as our philosophers commonly suppose; or, at least, the nature of these images must be conceived quite otherwise than as they do.’ (Descartes Discourse on Method, Optics, Geometry, and Metereology)

The eye does not receive an image identical to the object before it, which is then passed on to the brain. Instead ‘[w]hen the mind perceives it does so in exclusion of sensation’ (Judovitz). Descartes does away with resemblance between objects and perception as he does away with sensory experience as a whole. Thus with his conception of seeing Descartes manages to set representation free from its object and the mind from its body – for if it is the mind that sees, the body becomes almost superfluous. It should be noted however that Descartes’ argument is grounded in a sceptical tradition. Or, to be more precise, it is grounded in an attempt at rescuing philosophy from the clutches of scepticism (Popkin) and not in a purely neo-platonic or even Augustinian attempt at valuing the mind over the body.

In *The World* (subtitled *Treatise on Light*) another important work on natural philosophy by Descartes, published for the first time in 1664, the author describes the nature of vision in terms of the arbitrary system of language:

‘Vous savez bien que les paroles, n’ayant aucune ressemblance avec les choses qu’elles signifient, ne laissent pas de nous les faire concevoir, et souvent même sans que nous prenions garde au son des mots, ni à leurs syllabes; [...] Or, si des mots, qui ne signifient rien que par l’institution des hommes, suffisent pour nous faire concevoir des choses avec lesquelles ils n’ont aucune ressemblance, pourquoi la nature ne pourra-t-elle pas aussi avoir établi certain signe n’ait rien en soi qui soit semblable à ce sentiment ?’ (Descartes Le Monde, L’homme)

According to Dalia Judovitz this analogy reduces nature to a world of signs that, just like a language, has to be deciphered. Through seeing, nature becomes a system of signs and that is precisely when the visible becomes legible (Judovitz). Seeing in other words becomes reading, a mental activity in which the visible domain is constructed according to mathematical and geometrical rules. For Kepler and those before him seeing was still a physical activity resulting in images that were stored in the soul. In the work of Descartes by contrast seeing becomes a mental activity separate from the mechanical reproduction of the image on the retina. What reaches the soul, through the mediation of the pineal gland, does not bear resemblance to the object perceived, but is instead a set of signs that the mind has to decipher so that we can see. That deciphering mental activity is the return of reading in Descartes’

philosophy. The hermeneutic and semiotic activity of seeing, is a transformed form of reading: the mind reads what it perceives, using the ‘natural light of reason’ to judge over the veracity of what we think or of what we see. In Descartes’ attempt to do away with the Scholastic theory of vision, reading is salvaged and once again becomes the foundation of knowledge. After the abandonment of the conversation with the dead as a useful instrument for getting knowledge of the present, reading returns as the semiotic activity by which we make sense of our sensory experience.

### **the blindness of the scholars**

Now let us return to the author of the letter urging Descartes to publish his findings. In Constantijn Huygens’ poem *Ooghen-Troost*, published in 1647, a careful reader can discover an entirely different layer to the metaphors of reading that we have been able to trace in Descartes. The printed poem from 1647 was a substantially expanded version of a poem that Huygens wrote to console his friend, Lucretia van Trello, for the loss of her eyesight. In the poem which has been described as a mixture of a *consolatio caecitatis* (consolatory poem for the blind) and a satire (De Kruyter), Huygens comforts Lucretia by assuring her that there are lots of people whose blindness far exceeds hers. They are the people whose disposition, mental state or occupation frames their sight, thus blinding them from what is truly important. They are prevented from turning inward and contemplating the divine truth that cannot be seen by the bodily eyes.

One of those people, blinded by his profession, is the scholar. His sight is framed by his books: ‘The scholars are blind and see but through their books’ (‘De Letter-luij zijn blind,/ en sien maer door haer Boeck’). This turn of phrase could reveal the epistemological beliefs of one thoroughly educated in the humanist tradition. By the same token, however, it contains an admonishment against that epistemology. The scholar Huygens is referring to is a man of letters who locks himself up in his library and blindly follows the teachings of his books. Characterizing the man of learning this way, Huygens essentially ignores the new type of learning that his friend Descartes represented. He is the sort of scholar who gains knowledge of the world by testing his experiential findings with the certainty provided by the inner light of his reason. For this scientist, as we might call him, ‘seeing through your books’ or conversing with the dead, is a practically futile enterprise. Huygens himself was of course a poet but he was also a diplomat and secretary to *stadhouder* Frederik Hendrik. As such he was a perfect embodiment of the humanist ideal of combining rhetoric, prudence and ethical action. And yet, Huygens was also a man fascinated by what the newly invented microscope

could teach us about the wonders of nature. This mixture of interests is also apparent from the poem.

In its entirety the passage on the scientists takes up 39 lines. Most of those are used to offer up conflicts in scientific findings or to contrast different philosophical beliefs. Copernicus' heliocentric model is contrasted with Ptolemy's geocentrism, anatomical views of Galen and Harvey on the blood-flow are offered up for scrutiny, two conflicting theories on visual perception – namely the theory of intromission and that of extramission – are described, and there is mention of the *artes liberales* discussion, to give but a few examples. The undercurrent of this whole passage seems to be a Stoic withholding of judgement or even a Skeptical doubting of the possibility of knowledge. Nowhere does the poem give evidence of preferring one of the theories offered up over another. The authors that Huygens cites *in margine*, seem to corroborate this statement. The Stoic and Skeptical content of the quotations from Hellenistic philosophers, like Lucretius and Seneca, for whom the possibility of knowledge was highly dubious at best, turns this passage from a set of consolatory lines into an epistemological debate, in tune with the confused thinking of the age.

To complicate matters even further, Huygens keeps repeating the half line 'En waerheid is maer een' ('And truth is but one') while giving conflicting views on several important issues. The phrase is repeated four times over the course of those 39 lines. Although the passage itself reveals a deeply sceptical outlook on the 'knowability' of this world, that little phrase, by contrast, holds fast to a belief in one single truth underlying the world. Huygens' poem has apparently fallen victim to what Richard Popkin has termed the early-modern 'crise pyrrhonienne' (Popkin). Pyrrhonian scepticism was rediscovered with the Latin translation of Sextus Empiricus' *Outlines of Pyrrhonism* by Henri Estienne in 1562. It differed from Academic scepticism in its lack of dogmatic content. The Academic sceptic's negative assertion that true knowledge is impossible was replaced by the even more fundamentally sceptic, but less dogmatic 'statement' that we do not know whether or not true knowledge is possible. As Popkins puts it, the increasing popularity of this non-dogmatic Pyrrhonism in the early-modern period was a result of the extension of the intellectual crisis caused by the Reformation into the domain of natural philosophy (Popkin). That crisis was first and foremost a hermeneutical crisis. With the reformatory emphasis on individual biblical interpretation – as opposed to the Catholic Rule of Faith –, true knowledge and what could be known was up for grabs. Individual reading of the Bible leads to uncertainty and scepticism and as such to seeking recourse to 'blind faith'. Calvinist thinkers introduced the notion of 'subjective certainty' as a weapon against the Catholic fideism that can be found in

Montaigne, for instance. It would seem that it is this subjective certainty of one truth underlying the conflicting world-views that is apparent in Huygens' line. Reading the Bible provides a beacon of subjective certainty – the light of truth – in a sea of intellectual doubt and scepticism.

### **book of the world**

There is still a different use of the concept of reading to be found in Huygens' poem. Lines 61 to 65 of the poem read as follows:

'Nu hebben Ghij en ick de Wereld uijtgelesen. /  
Wat dunckt u, soud't voor ons all heel ontijdigh wesen/  
Het boeck eens toe te slaen, en maken op dien Text/  
Op 'smenschen aller wijst, dat is 'taller ghext,/   
Ons blindeling sermoen, ons ooghelooos bedencken?'

(‘You and I we are finished reading the World now. Don’t you think the moment has come for us to close the book and write our blind sermon, our eyeless contemplation according to that text<sup>3</sup>: What is wisest for man is the most foolish for God’) What Huygens seems to be referring to in this passage is the well-known and oft used metaphor of the Book of Nature, or of nature as the second Book of God. In this metaphor nature forms a second divine revelation, in conjunction with the Bible. In the prototypical use Augustine made of this metaphor the world becomes a book of marvels testifying of God’s infinite powers and there for everyone to read. Foucault asserts that the figure of the Book of Nature was never a metaphor to begin with. To him, gaining knowledge of the world in the 16<sup>th</sup> century is essentially a hermeneutic and semiotic activity, a form of reading that is based on similarities and likenesses (Foucault). This semiotic activity differs however from Descartes’ conception of seeing as reading in at least three ways. First Descartes’ seeing is not based on likenesses. As we have seen he explicitly does away with likeness as a principle of perception. Secondly, for Descartes seeing itself takes place in the mind (it is a mental construction having little to do with sense perception). And finally, its aim is different: Descartes is not trying to decipher God’s message for his creation but is looking for mechanical laws of nature and mathematical rules.

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<sup>3</sup> The text that Huygens is referring to is 1 Corinthians 3:19 ‘For the wisdom of this world is foolishness in God’s sight’ F.L. Zwaan, ed., Constantijn Huygens’ Ooghen-Troost (Groningen: Wolters Noordhoff/Bouma’s Boekenhuis, 1984).



The pre-Cartesian form of reading the world, however, be it a metaphor or a literal semiotic activity, was not of value in and of itself. For Huygens, as was the case for Augustine, it has to lead to something else. Contemplation of nature and of the similarities between nature and that other book of God, has to lead the gaze inward and upward. This brings us to our next point.

If we extend the limits of this passage we have been looking at, we can discern another, yet closely related, metaphorical use of reading from this same passage. The lines immediately following those referring to the book of nature read:

‘Soud’ niet des Hemels gunst ons hebben willen krencken/  
Om binnewaerts te sien, en, met de ramen toe,/

Der stormen en ‘sgeruchts der straten even moe,/

Ons goedjen t’overslaen ’

(Would not the grace of the heaven have hurt us to make us look inward, and to make us look over our possessions with windows closed, tired of the storm and of the noise of the streets) Read alone these four lines could mean nothing more than a repetition of the theme of the poem, a plea for turning inward away from the deceptions of the senses. But together with the preceding lines in which Huygens urges Lucretia to close the book of nature she has been learning from and contemplate a different sort of text (i.e. the Bible), those last four lines contain a reference to the final reading metaphor that we shall touch upon here. From reading the second Book of God to reading the Bible to understand what you see, to finally turning inward – to self-analysis – and upward – to transcendence – , reading in these lines becomes a metaphor for conversion. This could easily be called an Augustinian reading metaphor. In his book on the importance of reading for Augustine, Brian Stock identifies reading as critical for an upward movement of the mind. Not every text can establish this, only a sufficiently authoritative text, like the Bible can lead to higher understanding. In the presence of such a text, reading becomes a “critical step upwards in a mental ascent” (Stock). The reader is turned inwards toward self-contemplation and upwards toward contemplation of the divine. Reading thus becomes an act of conversion, a form of transcendence.

### **inside out/outside in**

In the course of the sixteenth and seventeenth century the relationship between reading and seeing underwent drastic change as a result of the changes in the epistemological paradigm.

Leaving behind both the humanist and scholastic models of seeing and thus of knowledge, Descartes' new conception of seeing marks the beginning of a new epistemology. What could be known, could no longer be read in books of ancient philosophers but had to be seen and what was seen, was always read by the mind. Seeing and looking in the new epistemology become paradoxically of more and of less importance. They are conceived by Descartes as a special form of reading. Not, as was the case in the proceeding centuries, a reading of the similarities and likenesses perceived, but reading as a construction of perception itself. The premises of this new method soon intermingled with the thinking of the age. One of the places where this intermingling is apparent is Huygens' poem *Ooghentroost*. The author juxtaposes old and new theories of knowledge of the world all the while accusing both kinds of scholars of blindness. Eric Jorink writes of Huygens that he was a direct witness of the dramatic changes in the seventeenth-century conception of nature, namely the shift from book(ish) knowledge to rationalism and sensory experience (Jorink). It is indeed this shift that is partially reflected within the lines from *Ooghen-Troost* quoted above. Yet with this shift of the epistemological paradigm, the entire ground seems to shift under the feet of the seventeenth-century author, causing Huygens to shy away from definitive judgements about truth and knowledge – into Pyrrhonian scepticism – and to take refuge in turning inward and upward by contemplation of the Bible. Both Descartes and Huygens make much use of metaphors of reading as a vehicle of knowledge, what they differ in however is the direction this knowledge takes.

For A. Mark Smith the epistemological shift of the seventeenth century could be called a shift from knowing things 'outside in' to knowing them 'inside out'. Before Copernicus, Galilei and Descartes, knowledge was derived from sense perception, but now, sense perception was made to fit the knowledge gained by mathematical reason (Smith). This is, I believe, also the crucial difference between the reading metaphors in Huygens and Descartes. For Descartes reading is a mathematical construction taking place in the mind and providing knowledge of the outside world. For Huygens reading takes place in an act that slowly changes direction: first reading takes the form of looking at God's creation, then reading becomes solely directed at God's first book and finally this reading turns the gaze upward and inward to transcendence and the divine. Descartes, to conclude, reads inside out while Huygens reads outside in.

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