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JOHANNES DE RAEY AND THE CARTESIAN PHILOSOPHY OF LANGUAGE

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Abstract

This article offers an account of the philosophy of language expounded in the *Cogitata de interpretatione* (1692) of the Dutch philosopher Johannes De Raey (1620-1702). In this work, De Raey provided a theory of the formation and meaning language based on the metaphysics of René Descartes. De Raey distinguished between words signifying passions and sensations, ideas of the intellect, or external things. The aim of this article is to shift away the discussion of De Raey's critique on the application of the language of practical matters by Lodewijk Meijer and Spinoza, and to redirect modern interpretations to the originality of De Raey's own reflections on the uses of language. In his linguistic thought, De Raey criticized philosophers such as Hobbes, who supposedly deprived Aristotelian terminology of any reference and meaningful use. The analysis of De Raey testifies to the emergence of the philosophy of language out of the double traditions of logic and metaphysics. It is to be interpreted as an effect of the emergence of an alternative worldview to Aristotelianism. This called for an update of the semantic catalogue of philosophy and practical disciplines.

Key words: Language – Cartesianism – Materialism— Metaphysics – Logic

Introduction

The *Cogitata de interpretatione* (1692) of the Dutch Cartesian Johannes De Raey (1620-1702) has only only been studied in association with Lodewijk Meijer's philosophical hermeneutics of the Bible and Spinoza's philosophy. However, the *Cogitata* is among the few texts fully devoted to the study of language from a Cartesian perspective. The book should be read as the outcome of a lifelong reflection on the nature of Cartesian philosophy and its relation to (reformed) theology. In fact, De Raey's *Cogitata* should be read on at least three levels: as a reaction to the kind of philosophical analysis underpinning different forms of 'radical Cartesianism', as the result of centuries' worth of reflection over the function of logic and metaphysics, and as one of the first studies of language taking into account the physiological, ontological and semantic aspects of everyday speech. Accordingly, the functions and the importance of De Raey's

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Cogitata overcome its assessed role as a criticism of Meijer's and Spinoza's hermeneutics and philosophy. The *Cogitata* offers a valuable source of evidence in the understanding not only of the late development of Cartesian philosophy, but also of the transformation of logic and metaphysics as academic disciplines, and of the first emergence of a philosophy of language as an independent field of study, which can be explained as an answer to problems brought about by the emergence of Cartesianism.

To contextualize the emergence of the Cartesian philosophy of language of De Raey, I will first discuss the state of affairs in the secondary literature concerning this somewhat understudied philosopher (section 1). I will then define his main targets by contextualizing the *Cogitata* in the late seventeenth-century debates over the use of Cartesian philosophy (section 2). I will consider different uses of the historiographical category of 'radical Cartesianism' and show that it was present as an actor's category in early modern philosophy, when it was used both as a misguided application of Descartes' ideal of clarity and distinction and his natural-philosophical tenets to Biblical interpretation, and as part of a misinterpretation of Descartes's metaphysics inspired by a materialist ontology. Subsequently (section 3), I will unveil the peculiar character of De Raey's logic and metaphysics, devised by De Raey to deal with the principles of knowledge and with language. In this part I will show the novel role assumed by logic and metaphysics at De Raey's time, by a comparison with the Scholastic approach to these disciplines and motivating it as the outcome of the Cartesian revolution in philosophy, which pulled for a reflection on the principles of knowledge as a premise for any endeavour in philosophy. In section 4, I will analyze the contents of De Raey's *Cogitata* and, after having contextualized them in seventeenth-century linguistic theories, I will show that the work was aimed at defending the semantic value of second intention terms against the semantic reductionism entailed by radical Cartesianism. To this extent, I will demonstrate that Meijer and Spinoza were not the only targets of De Raey: he took into account, first and foremost, the introduction of Hobbes' ideas on language in the Dutch context. Moreover, I will show that De Raey's *Cogitata* had the positive function of re-defining the meanings (i.e., the concepts joined to words and recalled by them) and the references (the entities made known by concepts) of ordinary language, in the light of a Cartesian ontology and a theory of knowledge, developed through metaphysical and logical arguments. In particular, De Raey aimed at justifying the references to individual objects in a continuum of extension, deprived of substantial forms, and at defining the epistemic status of second notions, i.e., concepts meaning other concepts rather than extra-mental entities (either material and immaterial), as well as the words meaning sensory data.

1. De Raey: life and judgments

Born in Wageningen, De Raey was a student of Henricus Regius at the University of Utrecht, being the *respondens* of some of his theses on *Physiologia* in 1641 and 1643,¹ and of Adriaan Heereboord at the University of Leiden, where he was involved in the polemics over Cartesianism in 1647.² After graduating in arts and medicine, in 1648 and 1649 he gave private lectures on Cartesian philosophy, while from 1651 he was able to deliver his first public lectures and disputations, and was appointed as professor in 1653. From 1669 he held the chair of primary professor of philosophy at the Athenaeum Illustre of Amsterdam, where he died in 1702.³ Whilst considered for a long time a minor figure in early modern philosophy, De Raey is now regarded as one of the main actors of the dissemination of Cartesian philosophy in Dutch Universities, and a player in the late seventeenth-century debates over Cartesianism. Having been first surveyed by Louise Thijssen-Schoute,⁴ the role of De Raey in Dutch Cartesianism has been more deeply analysed by Theo Verbeek, who has contextualized his role in the debates over Cartesianism at Leiden in the 1640s and 1650s.⁵ There De Raey, in his *Clavis philosophiae naturalis aristotelico-cartesiana* (1654 and 1677), eased the introduction of the new philosophy by exhibiting the agreement of Descartes' natural philosophy with the 'genuine' thought of Aristotle, whom he thought was betrayed by the scholastics.⁶ More recently, attention has been drawn to De Raey's treatment of the problems of method and concepts formation.⁷ Later in life, indeed, De Raey developed a two-fold methodology aimed at defining the boundaries of application of philosophical knowledge.

¹ E.-J. Bos, ed., *The Correspondence between Descartes and Henricus Regius*, Utrecht, 2002, pp. 195-248.

² De Raey was *opponens* in a dramatic disputation on the use of doubt in theology held by Adam Stuart on 23 December 1647: see T. Verbeek, *Descartes and the Dutch. Early Reactions to Cartesian Philosophy, 1637-1650*, Carbondale-Edwardsville, 1992, pp. 46-51.

³ On De Raey's life, see D. van Miert, *Humanism in an Age of Science: The Amsterdam Athenaeum in the Golden Age*, Leiden, 2009, pp. 97-100; A. Strazzoni, 'On Three Unpublished Letters of Johannes De Raey to Johannes Clauberg', *Noctua*, vol. 1:1, 2014, pp. 68-106.

⁴ C.L. Thijssen-Schoute, *Nederlands Cartesianisme*, Amsterdam, 1954, pp. 125-142.

⁵ Verbeek, *Descartes and the Dutch* (as in n. 2), pp. 48-49, 71-73, 129-130.

⁶ J. De Raey, *Clavis philosophiae naturalis, seu introductio ad naturae contemplationem, aristotelico-cartesiana*, Leiden: Elsevier, 1654 (2nd ed. 1677). De Raey's *Clavis* was based on his *Disputationes philosophicae ad Problemata Aristotelis*, Leiden: Hack and Maire, 1651-1652. See A. Strazzoni, 'La filosofia aristotelico-cartesiana di Johannes De Raey', *Giornale critico della filosofia italiana*, vol. 7:1, 2011, pp. 107-132.

⁷ M. Aalderink, *Philosophy, Scientific Knowledge, and Concept Formation in Geulincx and Descartes*, Ridderkerk, 2009, pp. 372-380; A. Del Prete, 'Duplex Intellectus et Sermo Duplex: Method and the Separation of Disciplines in Johannes De Raey', in D. Antoine-Mahut and S. Roux, eds, *Physics and Metaphysics*, Oxford, forthcoming.

De Raey first assessed the distinction between philosophical and practical knowledge – embodied by the ‘vulgar’ understanding of the world of the Aristotelians – in his *Dissertatio de cognitione vulgari et philosophica* (1651),⁸ deepening this point in most of his late texts.⁹ According to him, philosophical knowledge has to be kept within the boundaries of physics, logic and metaphysics because these are the only disciplines in which clear and distinct ideas can be used in the discovery of truth; in all other fields of knowledge, we have to rely on the senses, imagination and witness, which provide us with a knowledge of things as they are related to us and which is useful in practice. Eventually, this two-fold perspective on the sources and ends of knowledge guided the philosophical analysis of language carried out in his *Cogitata de interpretatione*.

Despite growing scholarly interest in the methodological considerations of De Raey, so far his treatment of language has hardly been studied; it should, however, be understood in its relation both to the underlying philosophical analysis, as well as in the reasons for its development. Although De Raey’s open criticisms of the muddling of Cartesianism and vulgar knowledge has been recently traced back by Antonella Del Prete to the emergence of a Cartesian theology at Franeker in 1680s,¹⁰ De Raey’s theory of language remains mainly read as a reaction to Meijer and Spinoza.¹¹ This interpretation follows De Raey’s own account of his intellectual life expounded in a letter to Christoph Wittich (1680) printed in the appendix of his *Cogitata*. According to this letter, his thought was developed in five stages: 1) the acknowledgement of the difference between the Cartesian and Scholastic philosophy at the time of the *Dissertatio de cognitione vulgari et philosophica*; 2) the acknowledgement of the uselessness

⁸ J. De Raey, *Oratio inauguralis de gradibus et vitiis notitiae vulgaris*, Leiden: Hack, 1651. As the most part of De Raey’s speeches and disputations, this text was later reprinted in his *Clavis* (1654 and 1677) and in the *Cogitata de interpretatione*.

⁹ See De Raey’s *Disputatio de constitutione logicae* and *Disputatio de constitutione physicae* (1668), distinguishing theoretical and practical disciplines according to their objects and methods; *De Aristotele et Aristotelicis* (1669), claiming that practical disciplines are to be based on natural history rather than on intellectual principles; *Disputatio philosophica qua quaeritur quo pacto anima humana in corpore moveat et sentiat* (1663) and *Disputatio philosophica specimen exhibens modestiae et prudentiae in philosophando* (1687), showing that Descartes did not aim at applying radical doubt and his method to practical disciplines. All these texts are printed in the appendix of J. De Raey, *Cogitata de interpretatione quibus natura humani sermonis et illius rectus usus ab huius seculi errore et confusione vindicantur*, Amsterdam: Wetsten, 1692.

¹⁰ Del Prete, ‘Duplex Intellectus et Sermo Duplex’ (as in n. 7).

¹¹ T. Verbeek, ‘Les cartésiens face à Spinoza: l’exemple de Johannes De Raey’, in: P. Cristofolini, ed., *The Spinozistic Heresy. The Debate on the Tractatus Theologico-Politicus, 1670-1677 and the Immediate Reception of Spinozism. Seminar Cortona 1991*, Amsterdam and Maarssen, 1995, pp. 77-88; Id., ‘Dutch Cartesian Philosophy’, in: S.M. Nadler, ed., *A Companion to Early Modern Philosophy*, Oxford, 2002, pp. 167-182.

of Aristotelian and Ramist logic in the early 1650s; 3) the study of the iatro-chemistry of Franciscus De le Boë Sylvius in the late 1650s (consisting of the application of philosophy to medicine); 4) the controversy over the philosophy of Meijer and Spinoza in the 1660s; and 5) the deepening of his epistemology and the development of his thoughts on language during his final years in Amsterdam.¹² Yet, in the main text of the *Cogitata* De Raey takes into account a broader scope of philosophical standpoints, which have thus far been neglected in the historiography and which will be considered in this article as the main factors in the development of De Raey's philosophy of language.

2. 'Radical Cartesianism' as an actor's category

The philosophy of language of De Raey is to be understood in the light of the broader context of Dutch and European Cartesianism: in particular, in the struggle – internal to Cartesian debates – over the 'proper' uses of Descartes' philosophy and over the very definition of Cartesianism. In this section, I will show that De Raey provided a definition of 'radical Cartesianism', meaning both the misinterpretation of Descartes's metaphysics as a form of materialism, and the misapplication of his methodology to different fields of knowledge, which ultimately lead to the deprivation of language of its meaningful uses in and outside philosophy.

De Raey's analysis of language was aimed at discarding interpretations of Descartes' philosophy which he labelled 'corruption' or 'misuse' (*misbruyk*).¹³ Today, these forms of Cartesianism are labelled under the category of 'Radical Cartesianism': Tammy Nyden has considered Lambert van Velthuysen, the De la Court brothers and Spinoza as radical Cartesians as they used Cartesian concepts in political theories.¹⁴ Similarly, Wijnand Mijnhardt has used this category to describe the philosophical interpretation of Scripture by Spinoza, Adriaan Koerbagh and Lodewijk Meyer.¹⁵ On the other hand, Tad Schmaltz has labelled Pierre-Sylvain Régis and Robert Desgabets as radical Cartesians

¹² J. De Raey, *Ad Cristophorum Wittichium epistola familiaris*, in: De Raey, *Cogitata* (as in n. 9), pp. 654-661 (657-660).

¹³ In 1689 De Raey denounced the 'abuse' of philosophy in a pamphlet written with Ludwig Wolzogen and the Coccejo-Cartesian Gerbrandus van Leeuwen: *Copie van de acte van de heeren professoren der Illustre Schoole tot Amsterdam, J. de Raei, L. Wolzogue, en G. van Leeuwen, in dato den 6 October 1689, tegen het misbruyk der philosophie*, Amsterdam, 1689; see Van Miert, *Humanism in an Age of Science* (as in n. 3), p. 292.

¹⁴ T. Nyden-Bullock, *Spinoza's Radical Cartesian Mind*, New York, 2007, chapter 2.

¹⁵ W. Mijnhardt, 'The Construction of Silence: Religious and Political Radicalism in Dutch History', in: W. van Bunge, ed., *The Early Enlightenment in the Dutch Republic, 1650-1750*, Leiden and Boston, 2003, pp. 231-262.

as they elaborated some undeveloped aspects of Descartes' thought, such as the indefectibility of matter.¹⁶ Accordingly, 'Radical Cartesianism' means today the use of Cartesianism in political and theological fields, or a peculiar interpretation of Descartes' metaphysics. Yet, such a concept was also used in seventeenth and eighteenth centuries: the detachment of philosophy, theology and practical disciplines such as law, politics and medicine was indeed a main feature of the Cartesian network De Raey belonged to.¹⁷ In particular, the distinction between philosophy and theology was a main tenet of the so called 'Cartesio-Coccejans' factions in Dutch Universities, which included De Raey's friends Heidanus and Wittich, but also Balthasar Bekker, Salomon van Til, Petrus Allinga, Campegius Vitringa the Elder, and Frans Burman.¹⁸ It is likely that De Raey was influenced by Wittich's account of the relation of philosophy and theology, expounded in his *Consideratio theologica de stylo Scripturae* (1656) and his *Consensus veritatis* (1659), recently analysed by Antonella Del Prete. Addressing the reconciliation of the heliocentric hypothesis and the Bible, Wittich maintained – in accordance with the hermeneutic principle of *accomodatio* – that the language of the Bible reflects a *cognitio vulgaris* matching the common experience of men and that this language describes things *relate ad hominem*, conveying, in any case, some kind of truth essential to salvation. The ascertainment of such truth, in turn, is not guaranteed by philosophy but by Scripture itself, as it gives us the means to understand the purpose of its own contents. Accordingly, if philosophy can decide upon the kind of knowledge involved in Biblical passages – contrary to Gysbertus Voetius and his followers, who considered philosophy as the handmaid of theology – it does not provide hermeneutic criteria.¹⁹

On the basis of this distinction, Dutch Cartesians could reject the application of Cartesian philosophy to Biblical interpretation carried out by Lodewijk Mejer. In 1668 Lambert van Velthuysen – another member of the Dutch Cartesian

¹⁶ T. M. Schmaltz, *Radical Cartesianism: The French Reception of Descartes*, Cambridge, 2002.

¹⁷ As testified by De Raey's correspondence with Johannes Clauberg – who attended his private lectures in 1648 and 1649 – De Raey's network extended to the Cartesio-Coccejian theologians Abraham Heidanus and Christoph Wittich, as well as to the professor of Greek Tobias Andreae: all of them were cooperating in the defence of Cartesianism against the attacks of Jacob Voetius, Jacob Revius and Cyriacus Lentulus: see Strazzoni 'On Three Unpublished Letters' (as in n. 3).

¹⁸ E. van der Wall, 'Cartesianism and Cocceianism: a natural alliance?', in: M. Magdelaine, ed., *De l'humanisme aux Lumières, Bayle et le protestantisme*, Paris-Oxford, 1996, pp. 445-455.

¹⁹ A. Del Prete, 'Ermeneutica cartesiana: il contributo di Christoph Wittich', in: M. Marcialis and F. Crasta, eds, *Descartes e l'eredità cartesiana nell'Europa Sei-Settecentesca*, Lecce, 2002, pp. 127-145.

network, whilst not himself a professor – argued in his *Dissertatio de usu rationis in rebus theologicis* that Meijer applied Descartes’ criterion of clarity and distinction to matters where the principles of rationality do not pertain, such as articles of faith. In the same year, this defensive strategy was adopted by Ludwig Wolzogen in his *De scripturarum interprete*. In 1669, Heidanus went further in this strategy, as he published an *Advijs* to the theological faculty of Leiden, rejecting the idea that Meijer’s *Interpres* was drawn from Cartesian principles, as this text was written by a rogue. Similarly, the Cartesian reactions to Spinoza did not aim to expose his improper uses of Descartes’ philosophy, but rather turned Cartesian arguments against Spinoza’s determinism and argued that the thought of Spinoza was wholly independent from Descartes’, as Van Velthuysen did in his *Tractatus de cultu naturali* and *Tractatus de Articulis Fidei fundamentalibus* (1680).²⁰ As noted by Wiep van Bunge, if Meijer was labelled as a radical Cartesian even by Dutch Cartesians, Spinoza was not associated with Descartes’ thought in Cartesian circles.²¹ In fact, these polemics brought about a shared definition of the misuse of Cartesianism both as the misapplication of Descartes’ method and as the rejection of his metaphysics. A first account of such a definition has been provided by Henri Krop, who reconstructed the critiques of the Franeker Cartesian Ruardus Andala (1665-1727) to Arnold Geulincx, Willem Deurhoff, Pontiaan van Hattem and Frederik van Leenhof as embracing some form of Spinozism. By applying the geometrical method to all sciences and denying that experience is a source of knowledge and that particulars truly exist, they deprived words of their usual meaning, thus endangering the practical uses of language. They could be seen as pseudo-Cartesians, pretending to adhere to Descartes’ thought but actually adopting ‘a paradoxical metaphysics caused by a neglect of experience connected with a concept of substance that leads to naturalism and to a rationalism with respect to religion and the Bible.’²² Before Andala, such a rejection of Descartes’ metaphysics and the use of philosophy in theology was noted by De Raey, who in his *Cogitata* connected two main ‘extremes’ in philosophy: the rejection of Descartes’ metaphysics, carried out by ‘bad men’ (*mali*) partly inspired by Hobbes’ philosophy, and the

²⁰ W. van Bunge, *From Stevin to Spinoza. An Essay on Philosophy in the Seventeenth-Century Dutch Republic*, Leiden, Boston and Köln, 2001, pp. 97-100, 111-113. See also H. Krop, ‘Spinoza and the Calvinistic Cartesianism of Lambertus van Velthuysen’, *Studia Spinozana*, vol. 15, 1999, pp. 107-132.

²¹ Van Bunge, *From Stevin to Spinoza* (as in n. 20), p. 121.

²² H. Krop, ‘Radical Cartesianism in Holland: Spinoza and Deurhoff’, in: W. van Bunge, ed., *Disguised and Overt Spinozism around 1700*, Leiden, New York and Köln, 1996, pp. 55-81 (63-65).

application of Cartesian principles to practical disciplines, the endeavour of the ‘good men’ (*boni*):

‘[...] so that here two extremes are to be avoided again, as in this or that not few followers of Descartes digress: since the bad ones, seduced by their own error or by Hobbes’, overturn the foundations of the first philosophy taught by Descartes and destroy the common speech of men. The good ones build unsuitable things upon the principles or the foundations of that philosophy, as well as an understanding abstracted from human speech to which are committed, so that they introduce it, which is pure and simple and pertains to philosophy, into everyday life, in different arts and disciplines, and in theology itself, as far as they dare and can.’²³

The identity of our *mali* and *boni* can be unveiled through the texts published as an appendix of the *Cogitata de interpretatione*. In his letter to Christopher Wittich of 1680, besides citing Franciscus De le Boë Sylvius, De Raey mentions the improper mix of Cartesian and Aristotelian methodologies in the *Logica vetus et nova* (1654-1658) of his friend Johannes Clauberg, initially taught by De Raey himself as a replacement of Scholastic logic.²⁴ Moreover, the Cartesian exegesis of the Bible by Meijer and the philosophy of Spinoza (who is also referred to in the *Cogitata*),²⁵ and the application of the philosophical standard to domains belonging to the higher university faculties by Andreae,²⁶ who claimed that the Scriptures can be interpreted by means of philosophy.²⁷ In a second letter, addressed to an anonymous theologian involved in the polemics at the University

²³ ‘[...] ut hic iterum vitanda duo extrema sint, in quorum unum vel alterum deflectunt non pauci Cartesii sectatores: siquidem mali, suo proprio vel Hobbesii errore seducti, prima philosophiae quam Cartesius tradidit, fundamenta evertunt, destruuntque communem inter homines sermonem. Boni philosophiae istius principiis sive fundamentis propriis aliena superstruunt, atque intellectum humani sermonis abstractum, quem admittunt, ut et illum nudum et simplicem, qui est proprius philosophiae, in communem vitam, in alias artes, et disciplinas, ipsamque theologiam intrudunt, quantum audent et possunt’, De Raey, *Cogitata*, p. 215.

²⁴ De Raey, *Ad Wittichium* (as in n. 12), pp. 658-659.

²⁵ In the *Praefatio* and *Notae* to the main text of his *Cogitata* De Raey mentions two occasions in which Cartesianism had been misused: one approximately fifty years before 1692 – thus, in the early polemics over Cartesianism, such as those involving Regius – the other, a little more than twenty years before, around 1670: De Raey, *Cogitata*, p. I (*Praefatio*, unnumbered) and 338. Moreover, he explicitly refers to theology and law, and mentions the same years: De Raey, *Cogitata*, p. IV (*Praefatio*, unnumbered). In 1685 De Raey attacked those aiming to apply geometry to every discipline in a disputation dedicated to the Cartesian critic of Spinoza Willem van Blijenbergh: see J. De Raey (*praeses*), J. Targier (*resp.*), *Miscellanea philosophica*, Amsterdam: Rieuwertsz, 1685, quoted in Van Miert, *Humanism in an Age of Science*, pp. 271-272.

²⁶ De Raey, *Ad Wittichium*, p. 655.

²⁷ T. Andreae, *Assertio methodi cartesianae*, 2 vols, Groningen: Cöellen, 1653-1654, vol. 1, p. 57.

of Franeker²⁸ and dated 1687, De Raey criticised the use of philosophy in theology by Ludwig Wolzogen and Hermann Alexander Röell, who claimed that the truth of those Biblical statements concerning sun and earth are to be interpreted by philosophy.²⁹ Yet, for De Raey the misuse of Cartesianism was more dramatically embodied by the rejection of Descartes' metaphysics. In the same letter De Raey uses as his main polemical target Henricus Regius, considered to be the first misuser of Cartesian philosophy and the forerunner of Spinoza,³⁰ and admits his admiration for Gysbertus Voetius and Jacob Revius as they foresaw the radical consequences of Cartesian philosophy, what Revius, criticizing Andreae, called 'Cartesiomania'.³¹

In his map of Dutch philosophy, De Raey takes into account both the misapplication and the misinterpretation or corruption of Descartes' philosophy, considered as two kindred errors and leading to the failure of linguistic communications among men. The first consequence of Radical Cartesianism disclosed by De Raey through his linguistic analysis, indeed, is the adoption of a materialist ontology entailed by the rejection of Descartes' metaphysics – as by Regius – and by Hobbes' theses. Besides being philosophically untenable, materialism does not allow to account for our linguistic practices and it makes everyday speech senseless, as one has to use a terminology often signifying sensory data and mere concepts rather than real modifications of bodily substance. However, this is not only the result of the rejection of Descartes' metaphysics but also the consequence of the application of a philosophical standard to practical disciplines, as to comply with such a standard one should avoid referring to sensory qualities or beings of reason as logical categories. Both the misinterpretation and misapplication of Cartesianism, therefore, result in a corruption of speech,³² to whose remedy De Raey aims his analysis of language.

²⁸ Verbeek identifies him as Melchior Leidekker: see Verbeek, 'Les cartésiens face à Spinoza' (as in n. 11), p. 130, n. 146.

²⁹ J. De Raey, *Epistola ad virum celeberrimum, theologum, qui latere voluit, in sua de litibus Franekeranis, Dissertatione*, in: De Raey, *Cogitata*, pp. 661-668 (664-665). On Röell and the polemics over Cartesianism in Franeker, see R. Bordoli, *Dio ragione verità. Le polemiche su Descartes e su Spinoza presso l'Università di Franeker*, Macerata, 2009.

³⁰ De Raey, *Epistola ad virum celeberrimum* (as in n. 29), p. 666. Regius seems to be referred to also in the *Notae* to De Raey's *Cogitata: supra*, n. 25.

³¹ For this reason, De Raey was labelled as 'voetianus' and attacked by some young scholars in Amsterdam: see De Raey, *Epistola ad virum celeberrimum*, pp. 663, 666-667. De Raey refers to J. Revius, *Kartesiomania et Kartesiomania pars altera*, Leiden: De Vogel, 1654-1655.

³² 'Adeo rarum et difficile est sobrie et modeste philosophari, intra certos se terminos continere, scientiarum fines vocabulorumque definitas significationes loco non movere, atque ulterius non provehere, neque etiam magis in arctum cogere quam id recta ratio atque usus in humana vita permittit. [...] Sicut his quoque temporibus ferè inutilis et plena periculi suo insigini abusu facta est magni usus philosophia, quam ab autore cartesianam appellant, cuius fines dum conantur sine

3. Logic as metaphysics

In this section I will explain why De Raey developed his analysis of language out of metaphysics and logic: in this way, I will suggest some reasons why these disciplines took up new functions in a Cartesian context. In the late Scholastic tradition, logic and metaphysics remained largely disconnected, as logic was finalized to set the rules of reasoning, while metaphysics dealt with the different notions of being. Moreover, both these disciplines had as their objects mere concepts, rather than entities external to the mind. Since Descartes presented a radically new way of reasoning in philosophy, his theories strove for the development of a new logic and a new metaphysics, which were put forth in his *Discours de la méthode*, *Meditationes metaphysicae* and *Principia philosophiae*. In the hands of his followers, these logic and metaphysics became academic disciplines with a foundational rather than a mere propaedeutic function. In particular, De Raey provided a unification of logic and metaphysics as these both dealt with the principles of philosophical knowledge, that is, with the functioning of the mind and with its objects, thus providing a renewed categorization of being. In turn, his philosophy of language grew out these disciplines since the study of language involved both semantic and ontological aspects.

De Raey considers the analysis of language to be a task of logic, which is intended as the science of the principles of knowledge, i.e. the contents of mind representing different kinds of realities (*summa rerum genera*) and including the very notion of philosophical knowledge and the ways to obtain it.³³ De Raey first explains what he means by ‘logica’ in the *De constitutione logicae* (1668). According to this text, logic consists, first of all, in the four Cartesian rules of method: these can be easily used in mathematics, whose objects are simple.³⁴ However, in addition to these four rules a *scientia logica* is needed in order to apply them to physics, a field obscured by prejudices which need to be wiped out by logic itself: it is meant to be a science and a way to science at the same time (it is labelled as ‘scientia’ and ‘modus sciendi’) and the leading part of philosophy: therefore, it is defined as first philosophy and metaphysics itself.³⁵ The program of De Raey for logic or metaphysics is developed in his *Pro vera*

fine extendere, novis additamentis fundamenta bene posita evertunt atque nae [sic] intelligendo faciunt tandem, ut nihil intelligant’, De Raey, *Cogitata*, pp. 208-209.

³³ *Ibid.*, pp. 26-27.

³⁴ J. De Raey, *Disputatio philosophica de constitutione logicae, aliarumque artium et disciplinarum*, in: De Raey, *Cogitata*, pp. 596-606 (598-599). This disputation was held in 1668 and 1684 (see *ibid.*, p. 596), and printed in the second edition of De Raey’s *Clavis*.

³⁵ *Ibid.*, pp. 600-603 and 606. De Raey’s definition clearly echoes Goclenius’ description of Plato’s dialectic, which is described as architectonic and foundational science, working without hypotheses, and providing other disciplines with their axioms: cf. R. Goclenius, *Problemata*

metaphysica, quae de principiis humanae cognitionis tractat, whose first part begins with the Cartesian path of the *cogito*. In strict accordance with Descartes' metaphysics, the mind discovers in itself the presence of ideas, and, from the idea of God, can demonstrate His existence³⁶ and His goodness as *dator luminis* and the source of all knowledge.³⁷ After this foundation of knowledge, it is required to analyse all the other contents of our mind in order to distinguish obscure from clear notions,³⁸ and to wipe out both the errors coming from the reckless use of the senses (*modi sentiendi*) in philosophy, and those characterizing the functioning of intellect itself (*modi considerandi*), both reflected and increased by the use of language (*modi disserendi*).³⁹ De Raey distinguishes between the notions of *res*, whose main kinds are mind and body, and of *veritates*, that is, propositions which cannot exist but in our mind, even if they express principles that are to be used in order to understand external reality itself.⁴⁰ To the analysis of *res*, *via* language, he would devote his *Cogitata*, i.e., the completion of his logic. The originality of De Raey consists of the unification of logic and metaphysics, which, even if already carried out from time to time in early modern philosophy, represented a novelty in the seventeenth-century Dutch context,⁴¹ and can be explained with the insertion of Cartesianism into a long-lasting debate over the function and the object of such disciplines.

The main logical theory in vogue during De Raey's studies in Utrecht and Leiden was provided in the *Institutiones logicae* (1626)⁴² of Franco Burgersdijk, written by order of the States of Holland after the Synod of Dordt called for a reform of studies. Burgersdijk's main task was to provide a revision of Bartholomäus Keckermann's *Systema logicae* (1600)⁴³ and to make it more understandable

logica, 5 vols, Marburg: Egenolff, 1589-1594, part. I, probl. 1, pp. 12-14. On De Raey's use of Plato, see *infra*, n. 74.

³⁶ J. De Raey, *Pro vera metaphysica, quae de principiis humanae cognitionis tractat*, in: *Clavis philosophiae naturalis aristotelico-cartesiana. Editio secunda, aucta opusculis philosophicis, yarii argumenti*. Amsterdam: Elsevier, 1677, pp. 412-439 (412-417).

³⁷ *Ibid.*, p. 417. See also pp. 420-422.

³⁸ *Ibid.*, pp. 423.

³⁹ *Ibid.*, pp. 436-437.

⁴⁰ *Ibid.*, pp. 424-425.

⁴¹ In the same years, a unification of metaphysics, logic and theory of knowledge was carried out by Van Velthuysen in his *De initiis primae philosophiae* (1662): see Krop, 'Spinoza and the Calvinistic Cartesianism of Lambertus van Velthuysen' (as in n. 20).

⁴² F. Burgersdijk, *Institutionum logicarum libri duo ex Aristotelis, Keckermanni, aliorum praeceptorum logicorum praeceptis recensitis*, Leiden: Commelin, 1626.

⁴³ B. Keckermann, *Systema logicae, tribus libris adornatum, pleniore praeceptorum methodo, et commentariis scriptis ad praeceptorum illustrationem*, in *Systema systematum*, Hannover: Anton, 1613, vol. 1, pp. 67-766.

for younger students.⁴⁴ De Raey comments upon Burgersdijk's *Institutiones logicae* through its *Synopsis* (1645)⁴⁵, in his *Specimen logicae interpretationis*.⁴⁶ Moreover, he deals with the logic of Petrus Ramus, which was one of the main subjects of De Raey's pre-academic education.⁴⁷ He commented in the same text on the *novantiqua* logic of Johannes Clauberg. Ramus, Keckermann and Burgersdijk supported different views on the function and the relations between logic and metaphysics. In his *Dialecticae institutiones* (1543) Ramus treats logic as dialectic or *ars disserendi* (the art of discoursing) and reverses the traditional structure of logic by considering discovery (*inventio*) of the matters of reasoning (*loci*) as the first part of logic, to which he postpones the treatment of the formal organization of judgments and scientific syllogisms.⁴⁸ Ramus' revisiting of logic goes along with a rejection of Aristotle's metaphysics. In *Scholae in liberales artes* (1569), he claims that Aristotle mixed logic and metaphysics, since in the fourteen books of his *Metaphysics*, Aristotle treated logical notions as cause, opposition, comparison, genre and species, whilst he claimed, in various places in his logical and metaphysical books, that metaphysics is about first causes and beings and therefore not useful in teaching. According to Ramus, Aristotle's fusion of metaphysics and logic was a result of the emulation of Plato, whose *dialectica*, dealing with notions common to every discipline, was considered by Aristotle and by modern Platonists as a metaphysics.⁴⁹ As a solution to Aristotle's

⁴⁴ J.B.M. van Rijen, 'Burgersdijk, Logician or Textbook Writer?', in: E.-P. Bos, H.A. Krop, eds, *Franco Burgersdijk (1590-1635): Neo-Aristotelianism in Leiden*, Amsterdam-Atlanta, 1993, pp. 9-28.

⁴⁵ F. Burgersdijk, *Institutionum logicarum synopsis*, Leiden, apud Abrahamum Commelinum 1645, later commented in A. Heereboord, *Hermeneia logica, seu Explicatio synopseos logicae Burgersdicianae*, Leiden: Matthaëus-Lodensteyn, 1650.

⁴⁶ J. De Raey, *Specimen logicae interpretationis Amstelædami 1669, 1670, 1671, octo comprehensum disputationibus, quae paulo post occasionem dederunt primis de interpretatione disputationibus, anno 1673 et aliquot sequentibus*, in De Raey, *Cogitata*, pp. 535-596 (cf. the index). For bibliographic details on the disputations on language mentioned by De Raey – on which he based his *Cogitata* – see Van Miert, *Humanism in an Age of Science*, pp. 242-245, 377-380, 383-386, 389. Both the disputations on logic and on language were attacked in Amsterdam by the teacher of medicine Gerard Blasius (*Ibid.*, pp. 99, 157), by means of some disputations held by the physician Van Lamzweerde and printed in 1674 (in J.B. van Lamzweerde, *Respirationis Swammerdamianae exspiratio, una cum anatomia neologices Joannis de Raei*, Amsterdam: Someren, 1674, pp. 213-311).

⁴⁷ De Raey, *Ad Wittichium*, p. 658. See T. Verbeek, 'Notes on Ramism in the Netherlands', in: M. Feingold, J.S. Freedman and W. Rother, eds, *The Influence of Petrus Ramus*, Basel, 2001, pp. 38-53.

⁴⁸ W. J. Ong, *Ramus, Method and the Decay of Dialogue*, Cambridge, MA., 1958, repr. 1974, pp. 182-183.

⁴⁹ P. Ramus, *Scholarum metaphysicarum libri*, in *Scholae in liberales artes*, Basel: Episcopus, 1569, *Praefatio*, fols Nn-Nn2. On Ramus' criticism of Aristotle's metaphysics, see

misplacement, in his *Dialecticae institutiones* Ramus proposes a replacement of Aristotelian logic with his dialectic. Still, according to the first and second edition of this work (1543)⁵⁰ dialectic encompasses some sort of theology as it helps in finding the purposes of arts and the Creator of all things in a ‘third judgment’, which pairs with Plato’s dialectic.⁵¹ Moreover, Ramus would not develop any metaphysics as an independent discipline: rather, his dialectic fulfils the role of a metaphysics as *sophia*, as it concerns the rules of knowledge but also common essences and first causes.⁵²

The unification of logic and metaphysics as figured out by Ramus underwent criticism by Keckermann, who, while considering in his *Compendium systematis metaphysici* (1609) logic and metaphysics as dealing with some common objects, such as substances and accidents as *entes primarii*, states in his *Systema logicae* that these are more properly dealt with in metaphysics, as logic considers only second intentions or concepts of concepts: i.e., instruments of knowledge rather than notions representing things.⁵³ This conception of logic had previously been defended by Rudolphus Agricola and Julius Caesar Scaliger, as well as in the *Problemata logica* of Rudolph Goclenius, who was himself deeply influenced by Ramus (he defined logic as *ars disserendi* consisting of *inventio* and *dispositio*). Goclenius, however, rejected the idea that the notions dealt with by logic have real references in the world, as admitted by Ramus.⁵⁴ On the other hand, for Keckermann metaphysics deals with *ens qua ens* and with its kinds (such as substance and accident), properties (truth, goodness, unity), and orders (as possibility and

U.G. Leinsle, *Das Ding und die Methode. Methodische Konstitution und Gegenstand der frühen protestantischen Metaphysik*, 2 vols, Augsburg, 1985, vol. 1, pp. 21-30; R. Pozzo, ‘Ramus’ Metaphysics and its Criticism by the Helmstedt Aristotelians’, in Feingold et al., *The Influence of Petrus Ramus* (as in n. 47), pp. 92-106; G. Frank, ‘Petrus Ramus als Interpret der aristotelischen Metaphysik – Anmerkungen zum Theologie-Kapitel in Metaphysik XII, cap. 6, 7 und 9’, in: G. Frank, H. J. Selderhuis, eds, *Philosophie der Reformierten*, Stuttgart-Bad Cannstatt, 2012, pp. 93-112.

⁵⁰ First edition as *Dialecticae partitiones*, second as *Dialecticae institutiones, ad celeberrimam, et illustrissimam Parisiorum Academiam*, Paris: Bogard, 1543.

⁵¹ *Ibid.*, fol. 35^r. See Ong, *Ramus* (as in n. 48), pp. 189-190; N. Bruyère, *Méthode et dialectique dans l’œuvre de la Ramée*, Paris, 1984, pp. 262-264; R. Goulding, *Defending Hypatia. Ramus, Savile, and the Renaissance Rediscovery of Mathematical History*, Dordrecht-Heidelberg-London-New York, 2010, pp. 22-23.

⁵² Ramus, *Scholae in liberales artes* (as in n. 49), pp. 838, 864; Id., *Aristotelicae animadversiones*, Paris: Bogard, 1543, 18^v. This approach was also adopted by Melanchthon: see Pozzo, ‘Ramus’ Metaphysics’ (as in n. 49), pp. 92-95.

⁵³ Keckermann, *Systema logicae* (as in n. 43), p. 60 (in *Praecognitorum logicorum tractatus III*) and .80; Id., *Scientiae metaphysicae compendiosum systema*, Hannover: Anton, 1611 (1st ed. 1609), pp. 18-19. Goclenius, *Problemata logica* (as in n. 35), part I, prob. IX, p. 60.

necessity).⁵⁵ Yet, God is not dealt with by metaphysics, as He is above being itself.⁵⁶ Therefore, Keckermann can claim that Ramus improperly mixed logic and metaphysics, insofar as he dealt with the notions of truth, goodness, finiteness and even God (as the universal cause) in his logic, inasmuch these are common subjects and adjuncts of beings.⁵⁷

Both Ramus' and Keckermann's ideas on logic are discussed by Burgersdijk, who sanctioned the existence of three schools in logic: the Aristotelian, which set the basis of all logic; the Ramist, which had a too narrow conception of logic, and Keckermann's, who combined Aristotelian logic and Ramist dialectic.⁵⁸ In proposing his own synthesis, Burgersdijk defines logic as the art by which the instruments for knowing things are developed. In fact, it can only imprecisely be labelled as *dialectica* or *ars disserendi*, since this is the task of the part of logic dealt with in Aristotle's *Topica*. Logic thus concerns *themata* or everything which can be grasped by the mind, as well as words as these signify *themata* themselves.⁵⁹ This 'thematization' of logic, as shown by Riccardo Pozzo, had begun with Agricola and Melanchthon. Still, Melanchthon maintained the real reference of Aristotle's categories to reality, as these help to discern the *ordo rerum* and the different sciences: in this manner, he could replace metaphysics with logic, as logic is the means to treat things themselves. Building upon the 'thematization' of logic, Keckermann made it a *scientia directiva*: not aimed at dealing with 'thematized' entities, but rather at preparing the mind to deal with any *thema* whatever.⁶⁰ Eventually, Burgersdijk could divide logic into a *logica thematica* and *logica organica*, and maintain that the *themata* dealt with in logic are second notions.⁶¹ For Burgersdijk logic deals with first notions only accidentally and without scrutiny, contrary to metaphysics. Following Aristotle's three-fold partition of theoretical sciences, for Burgersdijk metaphysics is the theoretical discipline concerning those things which cannot be dealt with in physics and mathematics, as: 1) immaterial and incorporeal substances: God, angels,

⁵⁵ Keckermann, *Scientiae metaphysicae compendiosum systema* (as in n. 53), pp. 17-21, 29-30, 66-69.

⁵⁶ *Ibid.*, p. 23.

⁵⁷ B. Keckermann, *Praecognitorum logicorum tractatus II*, in *Systema logicae*, pp. 27-28. See H. Hotson, *Commonplace Learning: Ramism and Its German Ramifications, 1543-1630*, Oxford, 2007, pp. 146-150.

⁵⁸ F. Burgersdijk, *Institutionum logicarum libri editio novissima*, Amsterdam: Valckenier-Commelin, 1660 (1st ed. 1626), *Praefatio ad lectorem*, pp. III-X (not numbered).

⁵⁹ *Ibid.*, pp. 2 and 10.

⁶⁰ R. Pozzo, 'Ramus and Other Renaissance Philosophers on Subjectivity', *Topoi*, vol. 22:1, 2002, pp. 5-13.

⁶¹ Burgersdijk, *Institutionum logicarum libri* (as in n. 58), pp. 5-6.

demons, souls; 2) the general nature and the species of accidents; 3) all the attributes of corporeal, incorporeal, infinite, finite substances and their accidents. Accordingly, metaphysics is about the notion of *ens* as the most common attribute of all that exists, and *ens* (as it is immaterial), is dealt with in general and special metaphysics respectively. As it deals with *ens qua ens*, metaphysics is the first discipline according to the *ordo naturae*, but the last according to the *ordo cognitionis*.⁶²

De Raey's unification of logic and metaphysics, and his interest in the ontology entailed by ordinary language, are the result of his Cartesian interpretation of the objects and functions of such disciplines. First of all, De Raey reads Ramus' logic as an amelioration of Aristotle's and as an art devoted to the organization of reasoning as this is expressed in language, and separated from 'true philosophy'.⁶³ For De Raey, Ramus' *loci* or *argumenta* are relations which the mind figures between things themselves, that is, 'modi considerandi' or second notions used in everyday speech. The use of these in philosophy is allowed only if preceded by an analysis of the things to which they are applied.⁶⁴ Similarly, Burgersdijk's *themata* – as categories and every universal concept – are all labelled as relations put upon things, or as universal concepts which do not mean anything but themselves.⁶⁵ Building upon the Ramist definition of logic of Goclenius, De Raey labels the whole logic of Burgersdijk as *ars disserendi*, as 'logica' references both mental activity and verbalized discourse.⁶⁶ The target of De Raey, rather than being the particular uses of logical concepts, is the use of logic as a discipline which concerns

⁶² F. Burgersdijk, *Institutionum metaphysicarum libri duo*, Leiden: De Vogel, 1640, pp. 3-4, 9.

⁶³ De Raey, *Specimen logicae interpretationis* (as in n. 46), p. 537 and 540. In his letter to Wittich De Raey distinguishes between vulgar logic, embodied by Ramus, and Cartesian logic, offered in the four rules of the method and applied in the *Meditationes* and in the first part of *Principia*: De Raey, *Ad Wittichium*, p. 659.

⁶⁴ De Raey, *Specimen logicae interpretationis*, pp. 538-540.

⁶⁵ *Ibid.* p. 543. De Raey assumes a moderate nominalist standpoint on universals, as he criticizes the theory of universals expounded by Julius Caesar Scaliger, who saw the foundation of the predication of general concepts in the nature of things, rather than in our abstractive capacities: *Ibid.*, p. 553, cf. J.C. Scaliger, *Exotericarum exercitationum libri XV de subtilitate ad Hieronymum Cardanum*, Paris: Vascosan, 1557, *exercitatio* 307, 22, pp. 963-965. In his *De Aristotele et Aristotelicis* De Raey distinguishes universals *ante multa*, roughly corresponding to Descartes' eternal truths, and *post multa*, or universal notions provided by abstraction from particulars: J. De Raey, *De Aristotele et Aristotelicis*, in De Raey, *Cogitata*, pp. 453-490 (474-475).

⁶⁶ 'Unde dicta est logica? A voce λόγος, quae tum rationem, tum orationem significat [...] estque adeo ars rationis, non in se spectatae, sed ut oratione explicata est. [...] quare, ut pulchre Goclenius prob. Log. parte I qu. VI, "si id quod prius est, et fontem ipsum respicias, naturamque et essentiam logicae, rationalis ars est [...]". Et qu. IV "finem dialecticae recto usu rationis humanae, eoque universo ad bene disserendum definio"', p. 541. Cf. Burgersdijk, *Synopsis*, (ed. Amsterdam: Valckenier, 1649), p. 7, and Goclenius, *Problemata logica*, part I, prob. 4 and 6, pp. 37 and 45.

only *themata*. As such, it is useless for philosophical knowledge, because it does not aim at the knowledge of things in themselves.⁶⁷

De Raey's critique, however, is not merely a statement that old logic deals with second intentions: rather, he maintains that such notions are the results of a reckless use of experience and abstraction. Moreover, not only logical concepts are mere mental contents: all metaphysical notions are, because they result from the same kind of abstractive activity of mind.⁶⁸ As he points out in the *De Aristotele et aristotelicis* (1669), the 'vulgar' logic pairs with metaphysics, since they both concern the notions drawn from experience (*modi sentiendi*) and the mere ways to formulate and express concepts (*modi disserendi, predicandi* and *considerandi*), based on sense data,⁶⁹ i.e., on the *intellectum sibi permissum* described by Bacon⁷⁰ and corrupting the whole philosophy: including metaphysics, physics, ethics and politics, all based on logical categories.⁷¹ Accordingly, De Raey considers all the metaphysical concepts – starting with *ens* – the result of such childish, linguistic generalization and abstraction with no foundation *in re*.⁷² In fact, De Raey's Cartesian metaphysics does not concern substance, duration, number considered in their abstract meaning, i.e., apart from any consideration of the actual entities these are to be applied to, but it takes into account things: namely, body, mind and their actual modifications, of which universal concepts are predicated.⁷³

As De Raey assumes a Cartesian view of the sources of knowledge and on the ontology of mind and body, he can overlook the distinction of logic and metaphysics as adopted by Burgersdijk and Keckermann, and emphasize the derivation of Scholastic metaphysics from logic. Also, having learned Ramus' dialectic at the schools – where he could not have been likely acquainted with Ramus' Platonism – and probably through the mediation of Goclenius, De Raey could interpret Ramus' dialectic as a logic without any metaphysical commitment. Still, De Raey, like Ramus, came to consider logic as dialectic or first philosophy, assuming Plato as his main forerunner. Plato conceived *dialectica* as *ars disserendi* but also as *ars intelligendi, rationis scientia* and rational philosophy, which works by intellect alone.⁷⁴

⁶⁷ De Raey, *Specimen logicae interpretationis*, pp. 545-546.

⁶⁸ *Ibid.*, pp. 578-579.

⁶⁹ De Raey, *De Aristotele et Aristotelicis* (as in n. 65), pp. 470-471, 484.

⁷⁰ De Raey, *Specimen logicae interpretationis*, pp. 536, quoting Bacon, *Novum Organum*, I, aphorism 97.

⁷¹ De Raey, *Cogitata*, pp. 8-9, 15.

⁷² De Raey, *Specimen logicae interpretationis*, pp. 566-567.

⁷³ De Raey, *Pro vera metaphysica* (as in n. 36), pp. 424-425.

⁷⁴ Plato is recurrently mentioned as the source of De Raey's metaphysics in the *De sapientia veterum* (1666), *De Aristotele et aristotelicis*, *De constitutione logicae*, *Pro vera metaphysica*, *Cogitata* and in his letter to Leidekker. See *supra*, n. 35.

Moreover, De Raey could reduce the ‘redoublement’ of metaphysics by Johannes Clauberg, also criticized for having improperly combined Cartesian and Aristotelian notions and methodologies in his logic, taught by De Raey himself in the early 1650s.⁷⁵ In Clauberg’s *Logica vetus et nova*, the few rules of Descartes’ method form the basis of the more comprehensive logic of the Scholastic tradition, embodying a complete theory of definition, division and syllogism. This logic, in fact, was not aimed only at providing metaphysics or natural philosophy with a method (as for De Raey): rather, Clauberg wanted to teach how to formulate and interpret words and thoughts in all academic disciplines.⁷⁶ Clauberg’s metaphysics is redoubled first into a *philosophia prima*, which concerns those topics dealt with by Descartes in his *Meditationes* (for Clauberg, as for De Raey, metaphysics has a foundational role);⁷⁷ and second into an *ontosophia*, or a science of being in its most abstract meanings – the last discipline in philosophy (*metaphysica generalis*).⁷⁸ Yet, according to Clauberg, *ontosophia* deals with such meanings regardless of their real references *in re*, and thus concern only second notions.⁷⁹ On the other hand, De Raey unified the analysis of logical and metaphysical notions in one theory.

Like Clauberg’s logic, De Raey’s concerns language. However, whereas that of Clauberg was a *hermeneutica* adapted to the interpretation of the meaning and truth of texts, De Raey’s logic is fully concerned with the ontology entailed by everyday language, deepening the focus on the objects referred to by words according to Descartes’ metaphysics and serving as an emendation of the linguistic errors both of the Aristotelians and of the ‘radical Cartesians’.⁸⁰

⁷⁵ De Raey, *Ad Wittichium*, pp. 658-659 (*supra*, n. 24). The same judgment could likely have been extended to the Port-Royal logic: according to Lamzweerde, Arnauld’s logic was a main source for De Raey: see Lamzweerde, *Respirationis Swammerdamianae exspiratio* (as in n. 46), p. 231.

⁷⁶ A. Strazzoni, ‘A Logic to End Controversies: The Genesis of Clauberg’s *Logica Vetus et Nova*’, *Journal of Early Modern Studies*, vol. 2:2, 2013, pp. 123-149.

⁷⁷ Metaphysics as *philosophia prima* is dealt with in Clauberg’s *Defensio cartesiana* (1652), *Initiatio philosophi* (1655), *Exercitationes de cognitione Dei et nostri* (1656). For an account of Clauberg’s redoubled metaphysics, see M. Savini, *Johannes Clauberg: methodus cartesiana et ontologie*, Paris, 2011, pp. 177-196.

⁷⁸ J. Clauberg, *De cognitione Dei et nostri*, in Id., *Opera omnia philosophica*, Amsterdam: Blaeu, 1691, pp. 585-764 (596). Original edition published in Amsterdam: Elzevier, 1664.

⁷⁹ ‘Tota haec disputatio de eodem ac diverso potius ad modum cogitandi et loquendi pertinet, quam ad res ipsas in se spectatas. Quod nihil hic novi videri debet, cum similis aliorum generalium entis attributorum sit ratio’, J. Clauberg, *Metaphysica de ente, quae rectius Ontosophia* (3rd ed. of his *Elementa philosophiae seu Ontosophia*, Groningen: Nicolai, 1647), in Id., *Opera* (as in n. 78), pp. 275-340 (331). Original edition published in Duisburg: Wyngaerden, 1656.

⁸⁰ ‘Logicam philosophicam voco, quae sic ratione uti docet, ut occulta eius vitia emendet, secundum simplices et primitivas notiones, in quibus veritas est rerum in se ipsis spectatarum. Quae emendatio se potest ad orationem extendere, quatenus omnes conceptus nostros alligamus’, De Raey, *Specimen logicae interpretationis*, p. 535.

4. A Cartesian analysis of language

This section provides an overview of the philosophical analysis of language of De Raey. We begin by situating De Raey's analysis against the broader context of earlier philosophical meta-discourses on language. De Raey's analysis was preceded by a long-term process of transformation in the logical approach to language, which was ultimately determined by the erosion of the Aristotelian worldview in the early modern age. This erosion brought about new reflections on the relation of language and philosophy. The treatment of language in the Scholastic and Renaissance traditions, as that of Keckermann, Burgersdijk, Lorenzo Valla and Ramus, focused on the semantic properties of words and sentences without considering what kinds of entities these refer to, and for the sake of providing the formal rules of organization of syllogism with well-defined matters. That is, the properties of words and sentences were not considered in their metaphysical ramifications. In the seventeenth century, on the other hand, the emergence of alternative worldviews did draw attention to the philosophical consequences of the use of words, as these denoted entities which were by the new worldview. Moreover, as new images of man emerged, attention was paid to the sources of language as characterizing human beings as such. Bacon, Hobbes, Clauberg, Antoine Arnauld and Pierre Nicole considered language as a possible cause of error in philosophy, while Géraud de Cordemoy provided a Cartesian, mechanistic account of its formation. Eventually, De Raey faced the semantic, ontological and psycho-physiological aspects of the formation of language, for the sake of the re-definition of the linguistic meanings and references of ordinary speech. In particular, he faced the problems of the individuation of singular entities in a continuum of matter, and of the use of sensory qualities such as heat and cold and of mental categories such as universals, relations and all the ways of conceiving the objects of knowledge.

With respect to the traditional ways of considering language, De Raey proposes a new kind of analysis taking into account Descartes' metaphysics. In the disciplines of the *trivium* language is considered according to the correct formulation of phrases (in grammar), to its *ornatus* (in rhetoric), or to the formulation of arguments (in Ramist dialectic and Scholastic logic). Moreover, all these disciplines deal with the 'vulgar' meanings of words: that is, with the basic concepts of the Aristotelian worldview, such as of sensory qualities, essences, forms, and particular substances, as if these would exist outside mind.⁸¹ In fact, Ramus dealt in his *Dialectica* only with *notatio* and *coniugatio*, which are two of the topical arguments or *loci*, that is, the places where to find the middle terms

⁸¹ De Raey, *Cogitata*, pp. 1-6, 18-19.

for syllogisms: *notatio* is the very definition of a term, while *coniugatio* is the finding of its synonyms.⁸²

Keckermann, while maintaining that logic has *ratio* (i.e., the mind and its contents) as its primary object, while *oratio* (i.e., their expression in language) is its secondary matter, follows a linguistic criterion in distinguishing between a simple and a complex content of the mind. Indeed, Keckermann identifies simple concepts – which he labels ‘notiones’, ‘cogitationes’, ‘conceptus’ or simple ‘themata’ – by their being conveyed by simple terms. Before categories and any other *thema*, therefore, he deals with the notion of *vox* or *terminus*, which is defined as an articulated sound provided with a *significatio*. *Significatio* is the arbitrary relation of a word and a concept, and makes possible that such a concept is recalled and presented to mind when a word is uttered. Words are then analysed by Keckermann according to different standpoints: first, with regard to what they signify or make known, which can be an entity complete in itself, signified by a categorematic word, or an incomplete entity, which can be conceived only in conjunction with another notion and is expressed by syncategorematic terms as adverbs and conjunctions. Categorematic terms, in turn, can be of first or second intention, as they signify a concept alone or a thing existing outside the mind. Secondly, words are categorized according to the *modum significandi*: that is, as they are abstract or concrete, singular or collective, distinct or ambiguous.⁸³

Reversing the order of treatment of Keckermann’s logic (on the assumption that concepts are learned before words) Burgersdijk deals with *interpretatio* or speech after having treated simple *themata* – i.e., non propositional concepts – but before explaining the ways to use concepts in reasoning by means of the instruments of logic, that is, through definitions and syllogisms. Burgersdijk focuses on the kinds of speech: as *dictio*, or the utterance of names and verbs alone, and *oratio*, which is their union in a sentence. In order to find its meaning, a *dictio* or word has to be analysed according to its etymology, synonymy, homonymy and *suppositio*: it is considered as meaning itself (*suppositio materialis*) or something else (*suppositio formalis*). The meaning itself is the concept that words make known or recall to mind: accordingly, external things are also made known by concepts.⁸⁴ *Oratio*

⁸² Ramus, *Dialecticae institutiones* (as in n. 50), chapters 23-24.

⁸³ Keckermann, *Systema logicae*, pp. 68, 70-76.

⁸⁴ Burgersdijk, *Institutionum logicarum libri*, pp. 111-126. According to Earline Ashworth, ‘by the late fifteenth and early sixteenth centuries the standard definition of *significare* was “to represent something or some things or in some way to the cognitive power”,’ E.J. Ashworth, ‘Do Words Signify Ideas or Things?’, *Journal of the History of Philosophy*, vol. 19, 1981, pp. 299-326 (310). For Burgersdijk ‘voces articulatae significant animi conceptus, primo scilicet, atque immediate. Nam res etiam significant, sed mediantibus conceptibus’, Burgersdijk, *Institutionum logicarum libri*, p. 111.

or complex *thema* is then considered according to its being an *enunciatio*, that is, a truth bearer, and according to its being simple or composed by more sentences, which form a copulative, hypothetical, disjunctive, adversative and relative complex sentence – according to the kind of their conjunction. Moreover, sentences can be pure or modal, as they express the kind of relation between their parts, and universal, particular, indefinite, singular, and so on. Eventually, the considerations of Burgersdijk on language are aimed at providing syllogistic reasoning with a foundation, as from the kind of sentences different kinds of syllogisms are formed, according to the depending on the kind of sentences as equivalent, subaltern, opposite or convertible.⁸⁵ In all these cases the treatment of speech is finalized to the development of a theory of reasoning centred on syllogisms, and little attention is paid to what words actually signify, since the Aristotelian worldview entails the correspondence between particular things and concepts.⁸⁶ Even if the Italian humanist Lorenzo Valla had enquired into the entities referred to by ordinary language and traced the references of all the terms to substances, qualities and actions, redefining the terminological apparatus of Scholastic philosophy,⁸⁷ it was only with the appearance of alternative world-views that language emerged as a philosophical problem.

Indeed, a substantial change in the way of conceiving the ontology entailed by Aristotelian language was brought about by Bacon and Hobbes, whose critiques of the linguistic signification of Scholastic terminology, according to De Raey, entailed a materialist ontology. While agreeing with Aristotle that ‘words are the images of cogitations, and letters are the images of words’,⁸⁸ Bacon assumes that language can truly express the order of external things only if words signify the forms and essences underlying the qualities one acknowledges by experience. Therefore, in order to speak meaningfully one needs to go through an *interpretatio naturae* enabling the recognition of essences by a method of induction, or the core of a new logic by which he aims to replace Aristotle’s *Organon*. In fact, for Bacon, Aristotle’s categories are nothing but badly abstracted concepts leading the whole of philosophy to confusion: in his *Novum Organum* (1620) he acknowledges two main problems related to the *idola fori* or the errors conveyed

⁸⁵ *Ibid.*, 126-142.

⁸⁶ ‘Hic est concinnus ordo et rerum ipsarum in natura et intellectionis seu cogitationis humanae’, Keckermann, *Systema logicae*, p. 70. See H. Dawson, *Locke, Language and Early-Modern Philosophy*, Cambridge, 2011, p. 25.

⁸⁷ L. Nauta, *In Defense of Common Sense. Lorenzo Valla’s Humanist Critique of Scholastic Philosophy*, Cambridge, MA, London, 2009, part I.

⁸⁸ F. Bacon, *The Two Bookes of the Proficience and Advancement of Learning Divine and Humane*, London: Tomes, 1605, p. 59 (cf. *Id.*, *De Augmentis scientiarum libros IX*, London: Haviland, 1623, book VI, chapter 1).

by language: the use of terms which do not signify anything, and those which signify something obscure. Ordinary language, indeed, does not match the real essences of things, but only our immediate understanding of them.⁸⁹ Hobbes would further Bacon's criticisms of Aristotelian language in his *Elements of Law Natural and Politic* (1640), as well as in his *De corpore* (1655) and *Leviathan* (1651). He maintains that all cognition comes from sensation and results in different kinds of concepts impressed as images in the brain. In language, one can recall one concept by another which is arbitrarily attached to it as a mark or name. Accordingly, science is nothing but the knowledge of names and concepts rather than of named things, and by names and by named concepts we are reminded of things that impressed our senses.⁹⁰ As a consequence, Hobbes considers as insignificant the greater part of the terms of Scholastic metaphysics, as these are general abstractions from material entities, and do not have a representative content.⁹¹

In the case of Clauberg, one can find a use of Bacon's arguments concerning the *idola fori*, i.e., the social causes of philosophical error such as linguistic practices, conveying wrong conceptualizations of reality.⁹² These are dealt with both in his *Defensio cartesiana* (1652) as well as in the *Prolegomena* to the second edition of his *Logica* (1658), and serve to integrate Descartes' essential theory on the causes of error in philosophy, i.e., the commonsensical approach to the understanding of phenomena. The main text of *Logica* shows a novel awareness of the problem of the ontology of the things language refers to. Maintaining in his *Metaphysica de ente* (1664) that words are signs because they make something known by prompting a concept – broadly conceived as mental contents⁹³ – Clauberg deals with language first from the point of view of the clarification of such meanings in the third part of his *Logica*, by the philological disciplines of *lexica*, *grammatica* and *rhetorica*, by which one can find the meanings of simple terms and act as *media interpretandi*. *Lexica* helps in the definition through etymologies, and finds out the different meanings of terms

⁸⁹ F. Bacon, *Novum organum scientiarum*, London: Bill, 1620, book I, aphorism 59, 60 and 127. See M. Losonsky, *Linguistic Turns in Modern Philosophy*, Cambridge, 2006, pp. 42-45.

⁹⁰ T. Hobbes, *Elements of Law, Natural and Politic*, 1640 (handwritten; published without Hobbes' permission in 1650), part I, chapter II, 2-3; V, 1-3; VI, 4.

⁹¹ T. Hobbes, *Elementorum philosophiae sectio prima De corpore*, London: Crook, 1655, part I, chapter 3.

⁹² Clauberg, *Logica vetus et nova*, in Id., *Opera*, pp. 765-910: *Prolegomena*, IV, § 83 (777). Original edition as *Logica vetus et nova, quadripartita, modum inveniendae ac tradendae veritatis in Genesi simul et analysi facile methodo exhibens. Editio secunda mille locis emendata novisque Prolegomenis aucta*, Amsterdam: Elzevier, 1658 (1st ed. 1654).

⁹³ Clauberg, *Metaphysica de ente* (as in n. 79), section XXI, §§ 325-330 (336-337).

according to the different disciplines of use, *rhetorica* serves to find out the figurative meanings in a text, and *grammatica* helps in avoiding the fallacies arising from different ways of spelling and declining terms, as these can give rise to ambiguities in meaning. Yet, in the fourth part of the *Logica*, devoted to the analysis of the truth of speech, Clauberg underlines the difference between a philological and a philosophical approach, because a philosopher – i.e., a *logicus analyticus* – scrutinizes the actual references of single words, since these are supposed to refer to some kind of entity, either mental (as a *modum considerandi* or being of reason) or material. It is the case, for instance, of passions of soul, which mean both a modification of the body and the mind: yet, they are expressed by a simple voice, entailing a composite meaning.⁹⁴

A further position on the problem of language is testified to by the *Grammaire* (1660) and *Logique* (1662) of Port-Royal – though these texts are not mentioned by De Raey.⁹⁵ In their *Logique*, Arnauld and Nicole assume the traditional theory of meaning according to which signifying is to make something known.⁹⁶ Moreover, they maintain a traditional standpoint on what is signified by words and ideas in the *Grammaire*, where the objects of thought are divided into individual substances and accidents.⁹⁷ However, they replace *themata* with ideas as the objective contents of mind, constituting the ‘spiritual’ component of words.⁹⁸ Like Bacon, moreover, they aim to replace the Aristotelian categorization of the world with a Cartesian conceptualization, as traditional categories are substituted by the concepts of mind, body, measure, position, shape, motion and rest, which actually match real features of reality.⁹⁹ Moreover, they draw attention, in the first section of the *Logique*, to the fact that words as ‘sensation’ have a composite meaning often overlooked in ordinary speech, and require a more stable definition.¹⁰⁰

The case of De Raey can be interpreted as a further development in the Cartesian reflections on language and in the assessments over its consequences for logic, on the one hand, and for philosophy as such on the other. Following Clauberg, De Raey maintains that besides the common, Aristotelian meaning of

⁹⁴ Clauberg, *Logica vetus et nova* (as in n. 92), part III, chapter 4-5; part IV, chapter 3-4 (846-850, 869-870).

⁹⁵ *Supra*, n. 75.

⁹⁶ A. Arnauld and P. Nicole, *La Logique ou l’art de penser, contenant, outre les règles communes, plusieurs observations nouvelles, propres à former le jugement*, Paris: Desprez, 1683 (5th edition), part I, chapter 14.

⁹⁷ A. Arnauld and C. Lancelot, *Grammaire générale et raisonnée contenant les fondemens de l’art de parler, expliqués d’une manière claire et naturelle*, Paris: Le Petit, 1660, chapter 2.

⁹⁸ Arnauld and Nicole, *La logique ou L’art de penser* (as in n. 96), part I, chapter 1.

⁹⁹ *Ibid.*, part I, chapter 3.

¹⁰⁰ *Ibid.*, part I, chapters 11-12.

words,¹⁰¹ it is possible to find a philosophical or Cartesian one. For this reason, the first problem De Raey faces is the clarification of the basic concepts of semantics. According to De Raey, words have a *sensus* or *intellectus*, and a *significatio*. *Sensus* or *intellectus* is the mental content conventionally associated to the ‘body’ of the words, that is, to the ink or the sound which exist outside mind and are perceived by mind through sensory experience. *Significatio*, as for Burgersdijk, is the act of meaning or making something known: ‘to represent something or some things or in some way to the cognitive power.’¹⁰² Hence, mental contents such as intellectual ideas and sense data are the *sensus* of words, and through them names signify those things ideas represent: if mental contents are the senses of words, things are their reference, both made known (i.e., signified or meant) by words.¹⁰³ This tripartite scheme of signification turns out to be necessary for De Raey to allow the use of many terms which do not have a reference in bodies even if they are supposed to, that is, the greater part of Aristotelian language. In fact, the theory of signification that De Raey provides is the ground for his emphasis of the semantic value of second intention terms, which can still be used along with those words meaning only material or mental entities, as they can still make something known.

De Raey analyses terms according to an eightfold categorization guided by a Cartesian ontology. He distinguishes between words that signify mental contents resulting from a movement of the body and words that signify intellectual ideas independent from such a movement. The kind of philosophical analysis of language employed by De Raey is a clear and distinct definition of what words signify, even when such signification involves ‘anticipations’ or obscure concepts of what things are, as in most of Aristotelian vocabulary.¹⁰⁴ This analysis is grounded, therefore, not only on the theory of knowledge expounded by De Raey in his *De constitutione logicae* and *Pro vera metaphysica* but also on a physiological account of sensations and passions of the mind, which gives reason of the meanings of words, of what pulls men to talk (that is, of passions as these manifest themselves in discourse), and of what words actually are, that is, entities composed by modifications of matter, by our sensation of such modification and by the mental content (either an intellectual idea or a passion itself)

¹⁰¹ De Raey, *Cogitata*, pp. 8-9.

¹⁰² *Ibid.*, pp. 25-29. Cf. *supra*, n. 84. In his *De cognitione humana*, printed in the appendix of the second edition of his *Clavis*, De Raey writes that to signify means ‘*potentiae cognoscenti [...] facere praesens: J. De Raey, Clavis, editio secunda* (as in n. 36), pp. 237-295 (244).’

¹⁰³ ‘*Nomen [...] interventu ideae [...] refertur ad ipsummet corpus in extantibus*’, De Raey, *Cogitata*, p. 313.

¹⁰⁴ *Ibid.*, pp. 11-14.

arbitrarily attached to them.¹⁰⁵ Insofar, the causes of the mental contents meant by words are bodily motions in brain and heart which ‘occasion’¹⁰⁶ sensory experiences (like Aristotle’s five *sensibilia propria*), internal sensations, as well as passions like wonder, love, hate, cupidity, joy and sadness.¹⁰⁷ A ‘physiological’ theory of speech had been outlined by the French Cartesian Géraud de Cordemoy in his *Discours physique de la parole* (1668), following his *Le discernement du corps et de l’âme* (1666)¹⁰⁸ and where De Cordemoy aims at discovery of a criterion to identify the individuals provided with a soul. In fact, he restates the problem raised by Descartes in his *Discours de la méthode* and, like Descartes, maintains that the creative aspects of language cannot be explained in terms of mechanical processes but only by considering the ‘creative’ activity of an immaterial soul.¹⁰⁹ According to De Cordemoy, *signification* is a thought arbitrarily joined to a sound or line of ink: to signify thus consists of giving signs of thoughts.¹¹⁰ In his treatise on language he provides an account of how sounds are produced by considering human and animal anatomies from a mechanical standpoint – showing, for instance, how the sounds to which we associate letters are produced, analogously to the mechanisms of musical instruments.¹¹¹ Accordingly, there is no need to assign an immaterial soul to animals, since their sounds are explainable mechanically: on the other hand, the novelty and creativity of human speech cannot be explained without having recourse to a soul, which makes possible the process of signification.¹¹² However, De Cordemoy does not display a full account of human passions nor of the concepts

¹⁰⁵ *Ibid.*, pp. 38-39.

¹⁰⁶ In his *De forma substantiali et anima hominis* (in De Raey, *Clavis, editio secunda*, pp. 473-573) De Raey uses such terms as ‘sympathia’, ‘harmonia’, ‘consensum’, ‘conspiratio’ (pp. 569-570), stating that bodily motions prompt mind to produce its modifications (p. 524). Elsewhere, he states that passions do not result from the union but are the very union, that is, the correspondence of the modifications of soul and body guaranteed by God: De Raey, *Disputatio philosophica qua quaeritur quo pacto anima humana in corpore moveat et sentiat* (1663), in *Id.*, *Cogitata*, pp. 669-676 (670-671).

¹⁰⁷ De Raey, *Cogitata*, pp. 39-54.

¹⁰⁸ G. de Cordemoy, *Le discernement du corps et de l’âme, en six discours, pour servir à l’éclaircissement de la physique*, Paris: Lambert, 1666; *Id.*, *Discours physique de la parole*, Paris: Lambert, 1668.

¹⁰⁹ *Ibid.*, pp. 8-21; cf. AT VI 58-59. See F. Ablondi, *Gerauld de Cordemoy: Atomist, Occasionalist, Cartesian*, Milwaukee, 2005, pp. 80-86, 106-112; J. Cottingham, “‘The only sure sign...’ Thought and Language in Descartes”, in: *Id.*: *Cartesian Reflections*, Oxford, 2008, pp. 107-128; N. Chomsky, *Cartesian Linguistics: A Chapter in the History of Rationalist Thought*, New York, 1966, p. 9.

¹¹⁰ De Cordemoy, *Discours physique de la parole* (as in n. 108), pp. 122-123, 138.

¹¹¹ *Ibid.*, pp. 70-81.

¹¹² *Ibid.*, pp. 109-114, 185-188.

and things signified by words: he was interested in furthering Descartes' scarce considerations on language only to provide a demonstration of the distinction of body and soul, therefore, he reinstalls Descartes' theory of body as a machine, rather than working on a theory of the formation of concepts and passions, and of their references. De Raey, on the other hand, displays a theory of passions as the foundation of his categorization of the meaning of words.

The first order outlined by De Raey is that of interjections, defined as as 'notae passionum inter loquendum': their utterance evokes the concept of a passion, which is always brought to our mind as someone uses them.¹¹³ The other orders are more guided by a philosophical perspective, as they include names and verbs¹¹⁴ considered only according to their meanings. The second order contains names and verbs signifying passions by means of thoughts or concepts, which in turn are actions as they do not depend on the body for their creation, even if they are about a passion. Whereas interjections signify confusedly a passion and a concept, the terms of the second class signify properly the ideas of passions, and through these the passions themselves.¹¹⁵ In accordance with his theory of passions, signified passions are 1) the *affectus*, such as wonder, fear, hope, joy; 2) the natural appetites, such as hunger and thirst; 3) the sensations caused by something internal to the body, such as pain or pleasure. The words signifying *affectus* (1) can signify even the sole act in the soul, without the passion which comes after the body. Indeed, to act and to have a passion is the same thing in the soul, as it is a modification that we can consider in different ways.¹¹⁶ Moreover, they can signify, according to their proper meaning, that modification of the soul which comes after that of the body. The case is analogous for the natural appetites (2), which can signify something pertaining only to the mind, such as the *voluntas bibendi*, a modification of the body, or, more properly, a modification of the mind coming after a bodily motion. Also among the names of sensations (3) one finds similar improper significations: that is, by 'hot' we can mean just a bodily modification.¹¹⁷ The terms of the third order are addressed in the same way, as they mean passions coming from a cause external to our body, like coldness, warmth, or Aristotle's five *sensibilia propria*.¹¹⁸ As in the case of the previous category, these terms have a proper meaning, that is, passion in the soul, and an improper meaning, or the sole bodily modification. The uses of these improper significations

¹¹³ De Raey, *Cogitata*, pp. 63-66.

¹¹⁴ Names mean a quality or a thing, whereas verbs an action or a passion (*ibid.*, p. 116).

¹¹⁵ *Ibid.*, pp. 66-67.

¹¹⁶ *Ibid.*, p. 73.

¹¹⁷ *Ibid.*, pp. 71-75.

¹¹⁸ *Ibid.*, pp. 75-78.

are legitimate, even if in different ways: indeed, the passions named in the second order have often a unique and determined cause in the body, whereas those of the third can have more than one cause, located outside our body. Thus, they are even less useful to speak about bodies.¹¹⁹ Yet, expressions such as ‘ortus’ and ‘occasus soli’ can still make known something true, as they testify to a relative movement *in apparentibus* which is considered in practical disciplines.¹²⁰ Finally, the fourth category includes words which signify a passion (more properly, a sensation) and through it and along with it, something really existing in the physical world. These are the names of quantities, numbers, figures, positions and places, movement and rest, time.¹²¹

If the treatment of the words of the first four orders justifies some use of everyday language in practical disciplines, it does not fulfil De Raey’s justification of the use of words relating to modifications of the soul, in order to refer to bodies. He achieves both these ends by taking into account a second series of orders of terms: the modifications of the mind as these are produced by the mind alone. This analysis is made possible by a different consideration of the soul itself, that is, from the point of view of its being active and independent from the body.¹²² He can thus take into consideration passions and sensations independently from their bodily causes, and the *modi considerandi* or second notions used by Scholastic logic and metaphysics, as these do not result from a bodily motion but from a mental activity. According to this perspective, in the same way as the first order includes the marks of passion, the fifth order includes prepositions, adverbs, and conjunctions as marking the ways in which we pass from one thought to another.¹²³ In turn, the sixth order includes all the words of the second and the third orders, as these are meta-names of passions – that is, they mean not only the very thought of a passion of the soul, but also names of purely intellectual passions, without a bodily cause.¹²⁴ This order includes also the proper terms for mental acts, in which mind is free: as ‘cogitatio cogitare’ and ‘voluntas velle’, which summarizes all the actions of mind. Indeed, for De Raey there is an immanent voluntary act of judgement implied by aware perceptions:¹²⁵ all concepts bring an act of affirmation, which is the meaning of ‘esse’. This is always joined

¹¹⁹ *Ibid.*, pp. 81-93.

¹²⁰ *Ibid.*, pp. 107-108 (quoting Aristotle, *De caelo*, II, 8, 290a 23-24: ‘*nihil interest, sive oculus, sive id quod cernitur moveatur*’, italics by De Raey), and p. 210.

¹²¹ *Ibid.*, pp. 93-101.

¹²² *Ibid.*, p. 109.

¹²³ *Ibid.*, pp. 109-115.

¹²⁴ *Ibid.*, pp. 120-122.

¹²⁵ *Ibid.*, pp. 127-128.

to all the other meanings, because by them we affirm at least that what we conceive is at least a thought (*est secundi adiecti*), but we do not specify its ontological status (*est tertii adiecti*).¹²⁶ Finally, the seventh order contains names and verbs signifying thoughts by which we erroneously refer to some bodily reality, and the eighth order includes the name of things truly existing outside the mind. As to the former, one can find ‘esse’ and its derived terms ‘ens’ and ‘essentia’, and ‘posse’, ‘potentia’,¹²⁷ and all the further second notions, κατηγορούμενα used in scholastic logic and metaphysics: *unum, verum, bonum, necessarium, contingens, substantia, accidens, quantitas, qualitas, causa, effectum, totum, pars*,¹²⁸ and less general terms signifying relations, which do not match anything outside the mind, like the concept of divisibility, which is only an expectation that bodies can be divided.¹²⁹ Still, these notions, which are ‘added’ to other notions as their subjects,¹³⁰ make known some kind of reality along with those terms signifying *res extantes*, which are included in the eighth order: as the names of motion, figures and magnitudes, i.e., the geometrical properties of matter, considered according to the intellect as abstracted from a *concretum* or composite subject, and those terms referring to ‘individual substances’, such as names of men, animals, plants, what he calls the *supposita substantiva separata*, which mean a modification within the continuum of matter.¹³¹

Through his linguistic study De Raey faces a crucial problem in Cartesian philosophy: that is, the definition of individual objects within the continuum of extension, deprived of substantial forms. The collapse of this ontology led to the emergence of the problem of how to find a reference for those terms usually taken as names of substances. De Raey solves this problem by taking into account their inner mechanical structure and shape: the world is still composed of forms, which have lost the feature of substantial forms and are mechanical constitutions, constituting a *totum physicum* or *essentialis*.¹³² This form, however, is abstracted by the mind from a continuum: the justification of mathematical and physical

¹²⁶ *Ibid.*, p. 163.

¹²⁷ *Ibid.*, p. 212.

¹²⁸ *Ibid.*, pp. 146-147.

¹²⁹ *Ibid.*, p. 157, 196-197.

¹³⁰ *Ibid.*, p. 191 and 203. De Raey clarifies their use through Boethius’ definition of eternity as ‘interminabilis vitae tota simul et perfecta possessio’: if ‘vita’ is a first notion, its possession and qualifications are just ways of considering it: see p. 193. Another comparison is with the shadow of a body (p. 192), also used by Keckermann to distinguish first and second notions: Keckermann, *Systema logicae*, p. 61. In his *Anti-Spinoza* (1690) Wittich criticizes Spinoza as relying on second notions in some propositions of his *Ethica*: see A. Douglas, ‘Christoph Wittich’s Anti-Spinoza’, *Intellectual History Review*, vol. 24:2, 2014, pp. 153-166.

¹³¹ De Raey, *Cogitata*, pp. 180-181, 188.

¹³² *Ibid.*, pp. 285-288.

abstraction is provided insofar as the entities we refer to are present in actual bodies as parts in a whole. According to De Raey, abstraction is made possible because the mind, as for Aristotle, is the place of forms, τόπος εἰδῶν:¹³³ insofar, De Raey carries on the ‘thematization’ of philosophy begun with Melanchthon, as well as the ‘subjectification’ of individual entities signalled by Udo Thiel, and intended as individuated, rather than by inner forms, by our conceptualization of them.¹³⁴

As to the names of *modi considerandi*, these are necessary in order to carry out any research in mathematics – which consists of mental operations as equations¹³⁵ and in physics – where one uses terms as ‘facultas’, ‘vis’, ‘actio’, ‘natura’, which cannot be easily replaced by ‘motus’ and ‘materia’:¹³⁶ that is, their *sensus* – like those of names of sensations – cannot be substituted and restricted as to mean only a bodily modification.¹³⁷ The semantic value of such notions is abused by the Aristotelians, who consider most of the entities meant by language as existing outside mind,¹³⁸ and is rejected by radical Cartesians.¹³⁹ This ‘semantic reductionism’ is traced back to Bacon’s and Descartes’ critique of the Aristotelian ontology of substances¹⁴⁰ and to Hobbes’ *Objectiones* to the Third Meditation of Descartes,

¹³³ *Ibid.*, pp. 188-189, 213, 216. See Aristotle, *De anima*, III, 4, 429a 27-28.

¹³⁴ U. Thiel, *The Early Modern Subject. Self-consciousness and personal identity from Descartes to Hume*, New York, 2011, pp. 72-76. On the problem of form in Cartesian philosophy, see H. van Ruler, *The Crisis of Causality. Voetius and Descartes on God, Nature and Change*, Leiden-New York-Köln, 1995, and H. Hattab, *Descartes on Forms and Mechanisms*, New York, 2009.

¹³⁵ De Raey, *Cogitata*, p. 188.

¹³⁶ ‘Ac si nomen [...] facultas a facere, actio ab agere, nomen inane sit, quia haec singula ita praecise [...] non significant [...] quid rei ὄντως sit, in nobis vel extra nos. [...] Putamusque horum nominum significationem neque ab humano sermone, quo vel in communi vita, vel in disciplinis utimur ad huius vitae usum spectantibus removeri (ac si, ut loquitur Hobbesius, voces insignificantis sint) neque per substitutionem everti debere, ac si non amplius facultas, vis, actio, natura, vita, anima, verum motus, materia primi elementi, globuli coelestes, particulae striatae, dicere, aliisve debeamus novis nominibus uti, propter hoc unum, quod usitata illa non significant, non faciant notum in extantibus id quod in iis philosophus desiderat’, *ibid.*, pp. 212-213.

¹³⁷ *Ibid.*, pp. 209-210.

¹³⁸ The kinds of linguistic errors described by De Raey are the mistaking of properties of names with properties of things, as substantive names are considered as names of substances (De Raey, *Specimen logicae interpretationis*, p. 561-582, *Cogitata*, p. 314) or of ‘real accidents’ (*Specimen*, pp. 581-582). Moreover, it is the case of the abuse of the term ‘actus’, which properly applies only to voluntary actions of the soul can be used to describe every movement in nature, leads to the error of universal soul: pp. 136-142.

¹³⁹ ‘Errore ab una parte in Aristotelis, ab alia opposita, in Cartesii sectatoribus notatus, quatenus illi multiplicat, hi minuunt entia sine necessitate’, De Raey, *Cogitata*, pp. 207-208.

¹⁴⁰ ‘[...] neque alia ratio aliorum nominum generalium est, quibus utitur Aristoteles in definitione animae, quae concedimus, non primae verum secundae notionis sive intentionis nomina esse [...]. Hinc vero non sequitur, ut multi putant, et forte Verulamius putavit [...] quod inania haec nomina sint, sive voces insignificantis, uti supra audivimus Hobbesium loquentem, atque suo hoc

where thoughts are reduced to material images resulting from sense impressions.¹⁴¹ Hobbes' materialist ontology of mind leads him to consider all second intention and abstract terms as deprived of any meaning. De Raey actually refers to Hobbes' *De corpore* and *Leviathan*, published in Amsterdam in 1668.¹⁴² According to these works, all the marks of concepts which do not have a reference, i.e., are not images of a material entity, are empty names, as in the case of 'immaterial substance', which is to say something 'absurd, insignificant, and nonsense', like 'round quadrangle': such names have no meaning at all.¹⁴³ In fact, as De Raey refers to Hobbes' followers without mentioning them,¹⁴⁴ he could also address Samuel Sorbière, who cared for the publication of Hobbes' *De cive* by Amsterdam Elzeviers in 1647 and by Blaeu in 1649 (as *Eléments philosophiques du citoyen*),¹⁴⁵ and was also responsible for the publication in Amsterdam, in 1644, of Gassendi's *Disquisitio metaphysica*, where Gassendi maintains a materialist

insigni errore abutentem ista Verulamii, et imprimis Cartesii observatione', *ibid.*, p. 306. At the beginning of his *Cogitata* (p. 15), De Raey quotes Bacon, *Novum Organum* (as in n. 89), I, aphorism 63, where Bacon criticizes the Aristotelian notion of soul.

¹⁴¹ 'Si pro cogitatione motum corporis, pro idea in cogitatis nescio quae simulacra corporea, denique pro ipsa in nobis mente corpus supponas, ac si ut aliqui fingunt *cogitatio opus corporis cogitantis sit, et similis esse possit in homine et bestia cogitatio, non quicquam amplius quam corpoream rei similitudinem complectens*', *ibid.*, p. 211. See AT VII, p. 182. Hobbes' Objections were his first text translated into Dutch, in R. Descartes, *Meditationes de prima philosophia: of Bedenkingen van d'eerste Wysbegeerte*, J.H. Glazemaker trans., Amsterdam: Rieuwertsz, 1657.

¹⁴² Hobbes' *De corpore* was first published in London in 1655: a second Latin edition appeared only in the *Opera philosophica* published by Blaeu in Amsterdam in 1668, including also the first Latin translation of *Leviathan* (republished in 1670). *Leviathan* was translated into Dutch by Abraham van Berkel and published in Amsterdam in 1667 and again in 1672. See C.W. Schoneveld, *Intertraffic of the Mind. Studies in Seventeenth-Century Anglo-Dutch Translation*, Leiden, 1983, pp. 29-46; L. van Velthuysen, *A Letter on the Principles of Justness and Decency, Containing a Defence of the Treatise De Cive of the Learned Mr. Hobbes*, M. de Mowbray, ed. and trans., C. Secretan, intr., Leiden and Boston, 2013, pp. 13-15.

¹⁴³ 'Diminutio primum nos a multis cogit vocabulis abstinere, ac si sint voces insignificantis vel barbarae, sine quibus commode loqui possemus et philosophari, ut putant', De Raey, *Cogitata*, p. 209, cf. Hobbes, *De corpore* (as in n. 91), part I, chapter 3, and *Leviathan or The Matter, Forme and Power of a Common Wealth Ecclesiasticall and Civil*, London: Crook, 1651, sect. De homine, chapter V, § 5. *Leviathan* had been a source for De Raey as he positively quotes it with regard to the attacks suffered from the iuvenes in Amsterdam: 'accusant his temporibus aperte, nimium propectam in me aetatem contra Hobbesi sui in politicis', De Raey, *Epistola ad virum celeberrimum*, pp. 666-667, cf. Hobbes, *Leviathan*, sect. De homine, chapter III, § 8.

¹⁴⁴ '[...] uti hoc putavit Thomas Hobbesius [...] hi inquam mali, quorum error etiam antiquus est, omne iudicium quo affirmamus, omnem in nobis veram et liberam ratiocinationem, quae plus quam copulatio nominum, plus quam imaginum corporearum necessaria incursio est, evertunt', De Raey, *Cogitata*, p. 215.

¹⁴⁵ T. Hobbes, *Elementa philosophica de cive*, Amsterdam: Elzevier, 1647 (1st ed. London, 1642); Id., *Elements philosophiques du citoyen*, trans. by S. Sorbière, Amsterdam: Blaeu, 1649. Further Latin editions of *De cive* were published by Amsterdam Elzeviers in 1657 and 1669, and

standpoint on the notion of soul, which has a corpuscular nature. Moreover, Sorbière was in contact with Regius, who had held materialist positions since 1640s – assuming that mind can be either an immaterial substance, an essential attribute, or a modification of a corporeal substance – and admitted that it can be an indestructible atom in the second edition of his *Fundamenta physices* (1654).¹⁴⁶ As shown by Vlad Alexandrescu, Sorbière likely influenced Regius on his positions on the nature of soul and on the decidability of metaphysical questions by mind alone.¹⁴⁷ Moreover, De Raey could also have been attacking Van Velthuysen, who published a defence of Hobbes' *De cive* (1651) and provided a combination of Descartes' and Hobbes' philosophy in a disputation *De finito et infinito* (1651)¹⁴⁸ as well as 'political' Hobbesians such as the De la Court brothers and Abraham van Berkel (the translator of *Leviathan* into Dutch), as he mentions the 'replacement' of meaning in words as good or bad what is good by nature with a conventional good: as it is defined in Hobbes' *Leviathan*, *De Cive* and *De homine*.¹⁴⁹

5. Conclusions

At the end of seventeenth century Cartesianism came to a dead end. This can be seen in the dismissal of Cartesian physics in academic and scientific circles,

followed by a Dutch translation in 1675. See Schoneveld, *Intertraffic* (as in n. 142), and Van Velthuysen, *A Letter* (as in n. 142).

¹⁴⁶ H. Regius, *Explicatio mentis humanae, or Medicatio viri cachexia leucophlegmatica affecti. Corollaria*, Utrecht: Noortdyck, 1647; Id., *Brevis explicatio mentis humanae, sive animae rationalis: ubi explicatur, quid sit, et quid esse possit*, Utrecht: Ackersdijck, Zijll, 1648; Id. *Philosophia naturalis, editio secunda*, Amsterdam: Elzevier, 1654, pp. 345-346. Cf. P. Gassendi, *Disquisitio Metaphysica seu Dubitationes et Instantiae Adversus Renati Cartesii Metaphysicam & Responsa*, Amsterdam: Blaeu, 1644, p. 294-298. See C. Wilson, *Epicureanism at the Origins of Modernity*, New York, 2008, pp. 122-124. As De Raey's first disputations on language appeared in the early 1670s (*supra*. n. 46), he could not take into account Locke's treatment of language nor his thesis that God can put thought upon matter (cf. J. Locke, *An Essay concerning Humane Understanding*, IV.3, 6).

¹⁴⁷ V. Alexandrescu, 'Regius and Gassendi on Human Soul', *Intellectual History Review*, vol. 23:2, 2013, pp. 1-20.

¹⁴⁸ L. van Velthuysen, *Epistolica Dissertatio de principiis iusti et decori, continens apologiam pro tractatu clarissimi Hobbaei De Cive*, Amsterdam: Elzevier, 1651 (in Van Velthuysen, *A Letter*); Id., *Disputatio de finito et infinito, in qua defenditur sententia clarissimi Cartesii, De Motu, Spatio et Corpore*, Amsterdam: Elzevier, 1651. On the reception of Hobbes in the Low Countries, see M.J. Petry, 'Hobbes and the Early Dutch Spinozists', in: C. de Deugd, ed., *Spinoza's Political and Theological Thought*, Amsterdam, 1984, pp. 150-170; C. Sécretan, 'La réception de Hobbes aux Pays Bas', *Studia Spinozana*, vol. 3, 1987, pp. 27-46.

¹⁴⁹ '[...] *bonum, malum, honestum, turpe, more, atque voluntate hominum*, subsituas, ut certe faciunt his temporibus plurimi, pro eo quod est *natura bonum, malum*', De Raey, *Cogitata*, pp. 210-211, cf. Hobbes, *Leviathan*, sect. *De homine*, VI, 7; Id., *De cive, Praefatio ad Lectorem*; Id., *De homine*, XI, 5.

where the experimental study of nature carried out by experimental philosophers such as Boyle, Hooke and Newton could not be integrated within the Cartesian ‘speculative’ methodology. The latter assigned no dominant role to experiments as a source of first principles of natural philosophy, and did not consist of a mathematical description of phenomena.¹⁵⁰ In fact, Cartesianism was mainly relegated to the realms of logic and metaphysics, where it continued to play a primary role well into eighteenth century, as even the textbooks of the Dutch Newtonians Petrus van Musschenbroek and Willem Jacob ’s Gravesande testify.¹⁵¹ The case of De Raey is no exception to this trend. Since he stressed only the role of pure understanding in the acknowledgement of first principles in physics, and ascribed to experience the function of providing just descriptions of phenomena – detaching natural philosophy from natural history¹⁵² – De Raey could not further Descartes’ natural-philosophical results. On the other hand, De Raey did develop Descartes’ analysis of the contents of the mind. In considering both the pure ideas of intellect, sensory impressions, and second intention notions, De Raey firmly focused on logic and metaphysics rather than on physics.¹⁵³ His late works testify to the lively debate on Cartesian philosophy, since his *Cogitata* were aimed at solving two problems raised by Descartes’ metaphysics and theory of knowledge, both widely debated in the 1690s: the individuation of corporeal entities and the epistemic status of second notions.¹⁵⁴ Moreover, the case of De Raey adds new evidence about the reception of Hobbes in the Low Countries, which has been mainly studied in its political aspects so far. The criticisms of De Raey, indeed, enable one to unveil the metaphysical aspects of the uses of Hobbes, together with the meaning of ‘Radical Cartesianism’ as an actor’s category in the early modern Dutch context: to be intended as a materialist

¹⁵⁰ P. Anstey, ‘Experimental versus speculative natural philosophy’, in: P. Anstey and J. A. Schuster, eds, *The Science of Nature in the Seventeenth Century. Patterns of Change in Early Modern Natural Philosophy*, Dordrecht, 2005, 215-242 (231-232), and P. Anstey and A. Vanzo, ‘Early Modern Experimental Philosophy’, in: J. Sytsma and W. Buckwalter, eds., *A Companion to Experimental Philosophy*, forthcoming.

¹⁵¹ See P. Schuurman, *Ideas, Mental faculties and Method: The Logic of Ideas of Descartes and Locke and Its Reception in the Dutch Republic, 1630-1750*, Leiden-Boston, 2004, pp. 165-166. In the Netherlands, Cartesian physics was still supported in late seventeenth and early eighteenth century by Burchard de Volder (though with some reserve) and Ruardus Andala: see T. Nyden, ‘Living Force at Leiden: De Volder, ’s Gravesande and the Reception of Newtonianism’, in: E. Schliesser and Z. Biener, eds, *Newton and Newtonianism*, New York, 2014, pp. 207-232 and Krop, ‘Radical Cartesianism in Holland’ (as in n. 22).

¹⁵² *Supra*, n. 9.

¹⁵³ Van Miert, *Humanism in an Age of Science*, p. 293.

¹⁵⁴ As in the case of Wittich (*supra*, n. 130) and Locke, discussed in Thiel, *The Early Modern Subject* (as in n. 134).

interpretation of Descartes' thought and the rejection of the whole conceptual apparatus of Aristotelian philosophy, mainly inspired by Hobbes. In fact, De Raey did not directly attack the theses of the followers of Hobbes or those of Meijer, Spinoza and of the members of the Spinozistic circles in the Netherlands.¹⁵⁵ Instead, he acknowledged the source of their errors in the excesses of the criticisms of Aristotelian philosophy – i.e., the systematization of the layman's understanding of the world – portrayed in its most extreme form by Hobbes' philosophy, and, in more moderate versions, by Bacon and Descartes himself. Finally, De Raey's *Cogitata* reveal the emergence of language as an autonomous philosophical topic, considered both in its semantic and ontological aspects, and according to the psycho-physiological processes underlying its formation. As part of a growing trend in the study of language as a topic which does not concern logical aspects only (as Bacon and Hobbes had already signalled the consequences of linguistic errors in various fields of philosophy), De Raey's *Cogitata* show that the problem of language became a full blown philosophical topic as a consequence of the new conceptualization of beings brought about by Descartes. As a new world-view was installed in philosophy, the philosophy of language of De Raey – developed on a logical and metaphysical ground – was aimed at providing an updated semantic catalogue for philosophy and practical disciplines. These both deal with concepts of sense data and mental categories besides the clear and distinct concepts of soul and body, but assume different purposes, as philosophers have to use clear and distinct concepts in order to get to the truth, whereas the end of the practical arts is the effectiveness of the use of concepts. The theory of knowledge and the ontology of Descartes, introduced by his metaphysics, pulled for a reflection over the kind of reality referred to in ordinary language, as this does not always match actual features of matter or mind according to a Cartesian standpoint. Thus, De Raey provided a reflection on the uses of language criticizing those depriving ordinary language of any reference and meaningful use, and clarifying, at the same time, its legitimate uses.

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¹⁵⁵ W. Klever, *Mannen rond Spinoza. Portret van een emanciperende generatie, 1650-1700*, Hilversum, 1997.