

READING DESCARTES

Consciousness, Body, and Reasoning

edited by
Andrea Strazzoni
Marco Sgarbi



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FIRENZE UNIVERSITY PRESS
2023

Reading Descartes : consciousness, Body, and Reasoning / edited by Andrea Strazzoni, Marco Sgarbi. – Firenze : Firenze University Press, 2023.
(Knowledge and its Histories ; 1)

<https://books.fupress.com/isbn/9791221501698>

ISBN 979-12-215-0168-1 (Print)
ISBN 979-12-215-0169-8 (PDF)
ISBN 979-12-215-0170-4 (ePUB)
ISBN 979-12-215-0171-1 (XML)
DOI 10.36253/979-12-215-0169-8

Graphic design: Alberto Pizarro Fernández, Lettera Meccanica SRLs
Front cover image: Florentius Schuyl's representation of the human brain according to a Cartesian model, in Descartes, René. 1662. *De homine, figuris et latinitate donatus a Florentio Schuyl*. Leiden: Apud Petrum Leffen et Franciscum Moyardum (p. 20, figure 7). University of California, Los Angeles, Biomed History and Special Collections, signature: WZ 250 D453d 1662, Public Domain.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 892794 (project "READESCARTES").

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FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

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Published by Firenze University Press
Firenze University Press
Università degli Studi di Firenze
via Cittadella, 7, 50144 Firenze, Italy
www.fupress.com

*This book is printed on acid-free paper
Printed in Italy*

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Preface

Andrea Strazzoni, Marco Sgarbi

This volume takes cue from the idea that the thought of no philosopher can be understood without considering it as the result of a constant, lively dialogue with other thinkers, both in its internal evolution as well as in its reception, reuse, and assumption as a starting point in addressing past and present philosophical problems. In doing so, it focuses on a feature that is crucially emerging in the historiography of early modern philosophy and science, namely the complexity in the production of knowledge.

The book explores the applicability of this approach to a long-considered arm-chair philosopher, namely René Descartes, who is now more and more understood as a full-blown scientist, networker, and intellectual *éminence grise* rather than as the mere philosopher of the *cogito*, as well as the originator of different “Cartesianisms” which encompassed many ideas and approaches for long captured by dichotomic historiographical categories as rationalism and empiricism, or speculative and experimental philosophy.

The essays gathered in the volume aim to address the ways in which Descartes’s philosophy evolved and was progressively understood by scientists, philosophers, and intellectuals from different contexts and eras, either by considering direct interlocutors of Descartes such as Isaac Beeckman and Elisabeth of Bohemia, early modern thinkers who developed upon his ideas and on particular topics as Nicolas Malebranche or Thomas Willis, those who adapted his overall methodology in developing new systems of knowledge as Johannes Clauberg and Pierre-Sylvain Régis, and contemporary thinkers from continental and analytic traditions like Emanuele Severino and Peter Strawson.

Descartes on Selfhood, *Conscientia*, the First Person and Beyond

Andrea Christofidou

Abstract: I discuss Descartes' metaphysics of selfhood, and relevant parts of contemporary philosophy regarding the first person. My two main concerns are the controversy that surrounds Descartes' conception of *conscientia*, mistranslated as "consciousness," and his conception of selfhood and its essential connection to *conscientia*. "I"-thoughts give rise to the most challenging philosophical questions. An answer to the questions concerning the peculiarities of the first person, self-identification and self-ascription, is to be found in Descartes' notion of *conscientia*. His conception of selfhood insightfully informs his conception of personhood. I offer a unified account of selfhood, *conscientia*, the first person, and personhood anchored in the self's authority of reason and autonomy of freedom.

Keywords: René Descartes, *conscientia*, first person, selfhood, personhood, freedom.

let the mind know itself not as if it were seeking an absent self, but let it set the attention of its will, by which it was wandering among other things, upon itself and let it think itself.

Augustine, *On the Trinity*, X, 9

1. Introduction

Concern with the metaphysics of selfhood is concern with the metaphysics of *conscientia* and the relation between two distinct but non-independent elements of first-person thoughts: self-identification and self-ascription. First-person thoughts, or "I"-thoughts, "give rise to the most challenging philosophical questions, which have exercised the most considerable philosophers" (Evans 1981, 300) through the centuries. Here, I examine Descartes' conception of selfhood and its essential connection to *conscientia*, and some parts of contemporary philosophy on the first person.

I argue that an important part of an answer to the question concerning the peculiarities of the first person—self-identification and self-ascription—is to be found in the notion of *conscientia*, as used by Descartes, which presupposes and forces into the centre of our thought and enquiries the notion of the self.

A striking aspect of Descartes' lasting legacy is his celebrated first and most indubitable truth, *Ego sum, ego existo*, "I am, I exist" (*Second Meditation*, AT 7,

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Referee List (DOI 10.36253/fup_referee_list)

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Andrea Christofidou, *Descartes on Selfhood, Conscientia, the First Person and Beyond*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.03, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 9-40, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

25; CSM 2, 17), which still prompts us to reflect deeply on a number of issues regarding the self, *conscientia*, and the first person. The metaphysical status of and the relations between all three remain a serious challenge of our times: the *cogito* is ahistorical. Descartes writes: “I devoted as much effort [to the *Second Meditation*] as to anything I have ever written” (*Second Set of Replies*, AT 7, 137; CSM 2, 98). This is unsurprising, since it grapples with one of the most recalcitrant philosophical problems—that of the self—which involves “some of the profoundest philosophy” (Evans 1981, 300).

The I of the *Meditations* is not a mere logical/formal self; logical/formal selves cannot think, act, judge, or synthesise. The logical self is implied by the real self, a subject of thought and activity, or “whatever it is about which a thinker thinks when he thinks about himself” (Evans 1982, 259, n. 2). The self is neither an appendage to personhood—added or subtracted according to our theories—nor supernatural. The self, a natural real and true entity, is the metaphysical and explanatory ground, a source of a unified notion of personhood. Drawing on Descartes’ statement: “my whole self [...] can be affected by various [...] bodies that surround it” (AT 7, 81; CSM 2, 56), I demonstrate that the “whole self” is the embodied self: a person. I am “a single person with both body and thought [mind]” (letter to Elisabeth of Bohemia, 18 June 1643, AT 3, 694; CSMK, 228).¹

It is Descartes’ conception of selfhood that informs his conception of personhood. Once our understanding is freed from intellectual habits that persist in current debates concerning Descartes’ metaphysics (see par. 4 below), his views offer an opportunity to draw important insights.

2. The Structure of Reasoning

Examining Descartes’ metaphysics of *conscientia*, the aim is not to give a general account of the notion, given its long history, but to offer an elucidation in two inextricably related parts. The first, in par. 5, elucidates *conscientia* as self-knowledge in a dual sense—not in our modern sense of self-knowledge of immediate access to one’s mental states, “given free by introspection”; *conscientia* is a hard-won achievement, as we shall see. The second part, in par. 6, elucidates *conscientia* as self-consciousness, since only a self-conscious being is capable of embarking on self-knowledge and self-scrutiny.

Drawing on this, in par. 7, I examine the relation between *cogitatio* and *conscientia* and consider the view that Descartes defines *cogitatio* in terms of *consci-*

¹ A person is constituted by the *substantial union* of mind and the body. It is not identical with the union, which would violate the logic of identity, nor is it identical with either of them alone. Yet although Descartes uses “person” to refer to the mind-body composite, because the soul *can* be immortal, Thiel refers to the thesis that personal identity consists in the identity of the soul as the *Cartesian view* (Thiel 2012, 270). It is not clear which Cartesian view this is, but it is certainly contrary to Descartes’ commitments, as is evident throughout my discussion. Descartes’ metaphysics of mind needs to be divorced from so-called Cartesian philosophy of mind and *Cartesianism*, and be understood in itself.

entia, or treats them as equivalent, labelled “Descartes’ definition of thought” (henceforth, the controversy).

In par. 8 I demonstrate Descartes’ significant turn in the metaphysics of mind, and in par. 9 I argue that Descartes anticipates Frege’s subjective/objective distinction. Finally, in par. 10 I turn to the two elements—self-identification and self-ascription—leading from selfhood to personhood.

Ultimately, the aim is to develop a basis for a unified account of selfhood, *conscientia*, the first person, and personhood anchored in the idea of the self’s authority of reason and autonomy of freedom exemplified in Descartes’ works. Such an account, if successful, would resolve the controversy and be philosophically the closest to Descartes’ metaphysics.

But first, in par. 3 I offer a preliminary elucidation of Descartes’ conception and use of *conscientia*. This enables me, in par. 4, to begin clearing the ground of some misconceptions of and misattributions to Descartes’ philosophical commitments. This task is necessary if I am to proceed in an orderly way and demonstrate *conscientia*’s centrality to his metaphysics.

3. Preliminary Elucidation of Descartes’ Conception of *Conscientia*

Conscientia is a complex term with a long history, in classical and mediaeval Latin, and originally meant shared knowledge (with other subjects), and which in “the course of history [...] became associated with one’s own knowledge about one’s own wrongdoings” (Hennig 2007, 474). Given its long history, a general account of *conscientia* requires another paper.² Here, in light of the complexity of *conscientia* and the lack of a “single modern expression of the term” (Hennig 2007, 459 and 456), I shall attempt to elucidate, not analyse, reduce, or define it.

Drawing on Descartes’ affinity with the classical Greek philosophers,³ I trace the notion of *conscientia* back to the Delphic injunction γνῶθι σεαυτόν (know thyself, *nosce teipsum*),⁴ through Plato’s preoccupation with it,⁵ to the way *conscientia* and *conscius* are used by Descartes in directing his metaphysical enquiry. This is not arbitrary, but based on good reasons, drawing on what Descartes writes: “there is no more fruitful exercise than attempting to know ourselves” (*Description of the Human Body*, AT 11, 223–24; CSM 1, 314). And again: those endowed with the use of reason “have an obligation to employ it principally in the endeavour to know [God] and to know themselves” (letter to Mersenne 15 April 1630, AT 1, 144; CSMK, 22) In this sense, I understand *conscientia* as self-knowledge in a substantive sense, with metaphysical, epistemic, and moral

² See Hennig’s excellent account.

³ This affinity is drawn out of Socrates’ preoccupation with self-examination and the method of *elenchus*, and of Plato’s concern with self-knowledge (see for example, the dialogues mentioned in n. 5).

⁴ It was one of three injunctions inscribed in the *pronaos* (forecourt) of the Temple of Apollo at Delphi.

⁵ For example, in *Charmides*, *Apology*, *Alcibiades I*, *Phaedo*, *Republic*, *Timaeus*.

significance. *Conscientia* as self-knowledge entails *conscientia* as self-consciousness, as I shall argue later.

What can be pointed out right away is that the English editions somewhat misleadingly translate *conscientia* as “consciousness,” giving the impression that it is used in the modern sense traceable to the late-seventeenth and early-eighteenth centuries. This is then carried over into the numerous commentaries on Descartes.⁶ Translating *conscientia* as “self-consciousness” would have been preferable, because at least it relates to one’s being *consci*us of oneself as oneself.⁷ However, both self-knowledge and self-consciousness are necessary, neither on its own is sufficient for Descartes’ metaphysics of selfhood and thereby personhood. *Conscientia* always has an object: “what is the object of *conscientia*?” (par. 5 *passim*).

Descartes uses the French term *conscience* in the *Passions of the Soul*, meaning conscience in a moral sense, but also in some letters implying epistemic virtue. The Latin word *conscientia* does not appear in his masterpiece, the *Meditations*, only *consci*us, and that only occasionally. From this it does not follow that *conscientia* was not central to Descartes’ metaphysical enquiry. In fact the *Meditations* contains the most rigorous and radical two-fold conception of the concept: with its invitation to the reader to adopt the persona of the meditator, the work effected a self-transformation, and an ontological shift and a metaphysical turn that changed the philosophical world, and that enabled the emerging new sciences to progress.

Descartes uses *conscientia* in his *Replies to Objections*, in *Principles of Philosophy*, in *The Search for Truth*, and in some letters. What is crucial for now is Descartes’ declaration in the *Regulae*:

I wish to point out here that I am paying no attention to the way these terms have lately been used in the Schools. For it would be very difficult for me to employ the same terminology, when my own views are profoundly different. [...] I shall use what seem the most suitable words, *adapting them to my own meanings* (*Rule Four*, AT 10, 369; CSM 1, 14; italics added).

One such term, I suggest, is *conscientia*.

For Descartes the notions of *conscientia* and *consci*us are not simply conative but cognitive. *Consci*us is a cognate of *scire*, to know, to be cognitively, not simply conatively aware. I consider this in par. 6; for now, the distinction can be seen in his reply to Gassendi’s objection that the meditator “could have made the same inference from any one of [his] other actions” (*Fifth Set of Objections*, AT 7, 259; CSM 2, 244). Descartes replies: “I may not, for example, make the inference ‘I am walking, therefore I exist’, except in so far as the awareness of

⁶ See par. 4 below, and also, for example, Radner 1988, 439; Lähteenmäki 2007, 177–201; Simmons 2012.

⁷ I say “at least” because “self-consciousness” is also traceable after Descartes, to the early eighteenth century.

walking is a thought”—that is, in so far as the awareness is cognitive and not simply conative: “The inference is certain only if applied to this awareness and not to the movement of the body” (*Fifth Set of Replies*, AT 7, 352; CSM 2, 244).⁸

Descartes didn’t use *conscientia* to mean consciousness in our modern psychological and nonmoral sense, with all its post-Cartesian baggage, nor did he equate thought with consciousness, or claim that the mark of the mind is consciousness.⁹

The problem with mistranslating *conscientia*, in other words, is not simply terminological, but has serious substantial implications regarding misattributions to Descartes’ metaphysical commitments by post-Cartesian writers. Not only does the phenomenological school of thought lump Descartes together with Husserlian “phenomenological reduction,” or “bracketing the self,” but also the analytic school of thought over the last hundred years or so attributes to Descartes the fantasy of isolation, introspection, privacy,¹⁰ of confining the self within consciousness, of adverting to the sense-data of logical positivists,¹¹ such that how things seem to a subject is how they are.

4. *Conscientia* and Misconceptions

Some examples of such misattributions will suffice to demonstrate the seriousness of the problem. Misattributions in various writers’ doctrines are accepted by those who follow, partly because of the power and authority of those who “pass them off as true” (*Rule Two*, AT 10, 362–63; CSM 1, 11), and partly because, through lack of reflection, any misconceptions in such doctrines become widespread inveterate intellectual habits, “fortifying [oneself] with the authority of others [...] since truth by itself is so little esteemed” (letter to Mersenne, 30 September 1640, AT 3, 184; CSMK, 153).

Misconceptions typically present the extent of the meditator’s (supposed) inner space as self-standing or self-contained:

in effect Descartes recognizes how things seem to a subject as a case of how things are [...] [and faces] up to losing the external world with the inner for consolation [and retreats to and accepts] the availability of infallible knowledge about the newly recognised inner region of reality (McDowell 1998, 239).¹²

⁸ The *cogito* was *discovered* non-inferentially. However, if the discoverer has to give an explanation, a defence, or recapitulation of the *cogito*, he can do so only by means of an argument. How else can Descartes convince his critics of its truth, other than by providing forms of argument that they can understand, since they find his order of discovery difficult to grasp? See Christofidou 2013; for a more detailed discussion, Christofidou 2022.

⁹ Simmons (2012, 3), apparently unaware of this, claims that Descartes uses “the Latin *conscientius* and *conscientia* by divesting the terms from their normative moral connotation [...] and rendering them purely descriptive and psychological.”

¹⁰ Kenny 1989, 9–10. See Cottingham’s response: Cottingham 2008, 115.

¹¹ Austin 1962, 11 n. 49. Misattributions persist unabated, see Gupta 2006.

¹² See also Peirce 1986, 257–76, vol. 3; Martin 2008, 503.

Simmons claims that “Descartes revolutionized our conception of the mind by identifying consciousness as the mark of the mental.” She goes on to say: “I do not deny the revolutionary story” because

while Descartes was indeed unwavering in his commitment to the conscious mark, he had the resources to distinguish different types and degrees of consciousness that make for a richer cognitive psychology than he is typically credited with (Simmons 2012, 1 and 3).

Thiel states that Descartes, unlike Locke, did not see consciousness as a separate act, though it is not easy to determine whether for Descartes consciousness was first-order or second-order. Thiel attributes to Descartes the second-order view (Thiel 2011, 47–8). Given that Descartes never used the notion of consciousness, nor was it available at the time, he cannot be committed either to the first-order or to the second-order view.

Others, in similar vein, claim that for Descartes “consciousness is the defining characteristic of the mind”; the

incorrigible foundations are discovered only in first person, present tense, psychological statements concerning the individual current contents of the introspective gaze: a gaze focusing on objects as heterogeneous as ‘pains’ and metaphysical ‘thoughts about being’ [‘given free by infallible conscious introspection’]. The mind [and ‘its dramatic separation from anything bodily’] becomes a private inner stage (*vide* Hume’s analogy which, precisely, compares the mind to an internal theatre) [...] in which everything ‘mental’ passes chaotically before an unblinking inner eye (Wilkes 1992, 22–3).

Or, the “Cartesian model of self-knowledge [is] analogous to [sensory] observation” (Rorty 1980, 110).

Descartes in fact argues against all these positions, yet through ill-formed intellectual habits the misattributions persist unabated. First, he rejects both the sense–perception–model of self-knowledge, considered of dubious coherence (Shoemaker 1984, 14–5), and introspection, or “internal senses,” since he considers it as unreliable as the external senses¹³ (*Sixth Meditation*, AT 7, 77; CSM 2, 53; *Second Meditation*, AT 7, 23 and 29), as limited in its reach, and as providing no insight into objective standards.

Descartes’ concern is with reason’s clear and distinct perceptions which correspond, are directly and indubitably responsive, to the nature of what is real and true. The two principles—*clarity and distinctness*, and *correspondence*—provide sufficient reason that such perceptions are a direct openness to reality, not a veil that shrouds reality.

¹³ After decades of scathing misattributions to Descartes of supposedly relying on introspection, in recent debates especially in the philosophy of mind, introspection has become *the* yardstick for distinguishing the mental from the physical. This moves fallaciously from introspective awareness to metaphysics.

Secondly, what is clearly and distinctly understood cannot be doubted. In *Principles* I:45, Descartes elucidates what is meant by a clear and distinct perception: “I call a perception ‘clear’ when it is present and accessible to the attentive mind” (AT 8-a, 22; CSM 1, 208). What does this mean? Attentively determining that it is clear, not simply thinking that it is clear or just being present to the mind, involves subjecting it to the methodic scrutiny and its withstanding that scrutiny (*Fifth Set of Replies*, AT 7, 379; CSM 1, 207).¹⁴

A perception which can serve as the basis for [...] indubitable judgement needs [also to be] distinct. [...] I call a perception ‘distinct’ if, as well as being clear, it is so sharply separated from all the other perceptions that it contains within itself only what is clear (*Principles* I:45, AT 8-a, 22; CSM 1, 208),

and nothing extraneous to it.¹⁵

A distinct perception or “concept is not any more distinct because we include less in it; its distinctness simply depends on our carefully distinguishing what we do include in it from everything else” (*Principles* I:63, AT 8-a, 31; CSM 1, 215). A perception “cannot be distinct without being clear” (*Principles* I:45, AT 8-a, 22; CSM 1, 208). Thus whatever is clearly and distinctly perceived is true; it cannot be doubted, and cannot be contradicted, and while concentrating on it the meditator needs no one to guarantee its truth and indubitability.¹⁶

Sense perceptions, including sensations of intense pain, can be clear, but “however clear” (*Second Set of Replies*, AT 7, 145–46; CSM 2, 104) cannot be distinct because they are confused, i.e., mixed (from *confundere*, mingled or mixed), the mixing of sense and reason.¹⁷

¹⁴ Descartes discovered the marks of clarity and distinctness in his cross-examination of the *cogito* in the *Second Meditation* (AT 7, 25–7; CSM 2, 16–8), which withstood that scrutiny. He thus takes the withstanding of the rigorous scrutiny as the mark of *clarity*. The *cogito* is grasped or understood as indubitably true, without being dependent on or needing anything extraneous to; it is *distinct* from anything extraneous to it. *Distinctness* is thus established as the second mark of truth, both marks are necessary for whatever is true and indubitable. Following his strict order of reasoning, in the *Third Meditation* (AT 7, 35; CSM 2, 24), after going through the cross-examination once again, Descartes is able to lay down his *principle of clarity and distinctness*: “I now seem to be able to lay it down as a general rule that whatever I perceive very clearly and distinctly is true.” The “seem,” I have argued (in Christofidou 2013, chapter 4), is significant, demonstrating Descartes’ unrelenting cross-examination of what he is *laying down*; that is, he proceeds to cross-examine the *principle* before he *establishes* it. The *Meditations* and the *Principles* I:45 are consistent.

¹⁵ Leibniz criticises those “who misuse the principle that every clear and distinct conception is valid” (letter to Arnauld, 14 July 1686, Leibniz 1973, 63). The editor of Leibniz’s *Philosophical Writings* explains that Leibniz is attacking Descartes for such a misuse “because we need to know when an idea is clear and distinct” (Leibniz 1973, 63 n. 1). Leibniz seems to have missed Descartes’ explanation.

¹⁶ For the so-called Cartesian circle, see Christofidou 2013, 182–86.

¹⁷ “Confused” (*confundere*) in Descartes’ use doesn’t mean bewildered or perplexed, as a number of commentators think, nor does he use “confused” and “obscure” interchangeably. “Confused” is contrasted with distinctness, “obscure” is contrasted with clarity; a sense-perception can be clear but cannot be distinct. See Christofidou 2013; Christofidou 2019; Christofidou 2022.

Attention, as in “the attentive mind,” “the attentive enquirer,” or “attentively determining” plays a central role in Descartes’ method as set out in the *Discourse*, in the method of scrutiny, in the order of reasoning that he follows and considers to be “the right way [...] to find and explain the truth” (letter to Mersenne, 24 December 1640, AT 3, 266; CSMK, 163; *Rule Four*, AT 10, 378–79).¹⁸ *Order* in terms of prior/posterior. It proceeds by “analysis [which] shows the true way by means of which the thing in question was discovered methodically *tantumquam a priori* [i.e., *prior* in the order of discovery]” (*Second Set of Replies*, AT 7, 155; CSM 2, 110).¹⁹ Attention involves a resolute focusing of one’s mind on what is under consideration, or on the way “the thing in question was discovered,” without shifting one’s focus (Christofidou 2013, chapter 7). Descartes’ requirement of an unprejudiced, attentive enquirer marks out attention as a distinctive capacity; inattention can lead to erroneous judgements and irresponsibility (*Fourth Meditation*).

Thirdly, Descartes does not confine the self within consciousness because, not only he never used “consciousness,” but equally importantly, even in the *Second Meditation* where his commitments are epistemic not metaphysical, Descartes’ conception of the self conforms perfectly to Evans’s requirement:

just as our thoughts about ourselves [our ‘I’-thoughts] require the intelligibility of [the] link with the world thought of ‘objectively’, so our ‘objective’ thought about the world also requires the intelligibility of [that] link (Evans 1982, 212 and 259).

Nothing in the self’s conception fails to conform to Evans’s requirement, since the *intelligibility* of such links is part of the self’s clear conception; nor does it prevent the self’s conception of the world *as* an objective world (Christofidou 2022). The *cogito*, I shall demonstrate later, has objective universality: “reason is a universal instrument” (*Discourse*, AT 6, 57; CSM 1, 140).

Fourthly, Descartes is not concerned with infallibility—he finds its strength uncomfortable (*Discourse*, AT 6, 40).²⁰ Indeed, he writes to Elisabeth of Bohemia: it is

¹⁸ Descartes does not follow “the order of the subject-matter which is good only for those [...] who can say as much about one difficulty as about another” at the same place (letter to Mersenne, 24 December 1640, AT 3, 266; CSMK, 163).

¹⁹ By “analysis” Descartes does not mean reduction. From the Greek verb *analyō* (*ana* can mean “through” and *lyō* unravel, loosen), it means to unravel, loosen, investigate, meditate, to examine closely in order to discover. Thus by “analysis” he means to discover through enquiry, through unravelling, through elucidating the complexities.

²⁰ Descartes changed “must infallibly” to “must rather” in the Latin translation (1644) of his *Discourse* (Descartes 2006, 76, note 34). Sometimes he uses “infallible” when referring to those inclined towards divine revelation, which he rejects (*Principles, Preface to the French edition*, AT 8-a, 5; CSM 1, 181). In his letter to [Mesland], 2 May 1644, referring to theological controversies, he says, “we may earn merit even though, seeing very clearly what we must do, we do it infallibly [*infalliblement*], and without indifference” (AT 4, 117; CSMK, 234). “Infallibly” is used adverbially to mean inevitably or without fail: “the will [being at one with reason] is drawn voluntarily and freely [...] but nevertheless inevitably [*aliter, infallibiliter*], towards a clearly known good” (axiom 7, AT 7, 166; CSM 2, 117).

not necessary that our reason should be free from error; it is sufficient if our conscience testifies that we have never lacked resolution and virtue to carry out whatever we have judged the best course” (letter to Elisabeth, 4 August 1641, AT 4, 266–67; CSMK, 258).

Nor is he concerned with self-intimation, incorrigibility, or irresistibility. His concern is with indubitability: with *what cannot be doubted* (attentively adducing reasons that can withstand the methodic scrutiny), and not with whether he or anyone else, psychologically or epistemically, can or cannot doubt it.

Fifthly, the distinction between appearance and reality, seeming and being, was addressed as early as in the closing passage of the *First Meditation*, where the meditator asserts his autonomy of freedom in defiance of the demon: however powerful the demon is, “I shall [...] do what is in *my power* [‘to suspend my judgement’ and] resolutely guard against assenting to any falsehoods” (AT 7, 23; CSM 2, 15; italics added).

Descartes does not conflate seeming and being; he explicitly states: “There is nothing at all that I asserted ‘with confidence’ in the *First Meditation*: it is full of doubt throughout” (*Seventh Set of Objections with Replies*, AT 7, 474; CSM 2, 319)—clearly missed by inattentive critics. He suspends judgement, and neither accepts nor finds consolation in how things *seem*; nor does he affirm “the opposite of what is doubtful” (AT 7, 465; CSM 2, 356). On the contrary, the resulting instability in the edifice of opinions provides a ground for rational discomfort, *aporia* (in Socrates’ and Aristotle’s sense). A little reflection shows that doubting involves no affirmation or denial.

Furthermore, his experiences cannot be private, since self-critical reflection and the capacity to suspend one’s dubitable beliefs require adopting reason’s objective standpoint, “rightly conducting one’s reason and seeking the truth” (*Discourse*, AT 6, 1; CSM 1, 111). There is no picture of the so-called inner space in which what I seem to see or hear is accepted as how things are, or considered as infallible or, absurdly, as *knowledge*. Attributions of such views to Descartes are distortions through the post-Cartesian lenses of modern theories and persistent intellectual habits.

Sixthly, and following from the previous point, for Descartes knowledge—*scientia*—is metaphysically basic, not subject to the reduction or analysis that preoccupies much contemporary epistemology. The foundations of *scientia* must be objective, not time-bound and not, absurdly, the contents of one’s psychological states of consciousness. *Scientia* requires stability and lastingness—as Descartes makes clear in the opening paragraph of the *First Meditation* (AT 7, 17; also *The Search for Truth*, AT 10, 513)—indubitability because of its inseparability from truth, clarity and distinctness, and reason’s authority and its internal relation to the autonomy of freedom (Christofidou 2009b; Christofidou 2013). No *cognitio* “that can be rendered doubtful seems fit to be called *scientia*” (*Second Set of Replies*, AT 7, 141; CSM 2, 101).

In Descartes’ distinctive conception of freedom, there is no primacy either of practical or of theoretical reasoning. Freedom in its internal relation to reason, the

highest grade of freedom, is necessary not only for practical reasoning, but equally for theoretical reasoning²¹—the unity of the self is not severed in Descartes' conception. What can be clearly and distinctly understood is true and real; it cannot be doubted and cannot be contradicted.

Descartes is not, however, in the grip of a fantasy that reason unaided “by imagination, sense-perception and memory” can give us understanding of a world of *corporeal objects*.²² He considers observation, pictorial illustrations, experimentation, testing, and correction to be necessary to the spirit of scientific enquiry (*Rule Twelve* AT 10, 411 *passim*; also letter to Plempius for Fromondus, 3 October 1637, AT 1, 421).

Seventhly, for Descartes, mind and body are really *distinct* in their essence and *can* exist separately, as the conclusion of the *real distinction argument* states clearly (*Sixth Meditation*, AT 7, 78). Real distinction implies *separability*, not actual separation—a mere logical possibility that many commentators and critics through the centuries to the present day have not grasped—a failure resulting in volumes of unfounded criticisms.

5. Selfhood and *Conscientia* as Self-knowledge

Addressing the question “what is the object of *conscientia*?,” I begin by considering the first part of my two-part elucidation of *conscientia* as self-knowledge in a dual sense:

1. knowledge of *oneself* in terms of the readiness to scrutinise one's preconceived opinions and wrongdoings (including moral *akrasia*); to cross-examine one's ill-formed intellectual habits or epistemic vices; to purge oneself of all this and acquire the epistemic and moral virtues of open-mindedness and objectivity. Purguing oneself of all this is what is meant by “rigorous scrutiny.”
2. knowledge of *what* the self is, the very entity fundamental to the possibility of any other forms of *conscientia*—including moral conscience.

Conscientia in the first sense retains the traditional meaning of “shared knowledge,” but now one's knowledge is shared with one's intellect²³ in subjecting it to rigorous cross-examination (as might be said to occur in Plato's *Timeaus*, 90 a–d). It exemplifies the value of self-knowledge for any thinker who engages in self-examination.

The objects of self-knowledge, in this sense, are the self's commitments. The self is *consciens*, cognitively aware, that the *content* of his thoughts, of his opinions, his acceptance of Scholastic principles, can be subject to doubt. To embark

²¹ Contemporary epistemologists have only recently begun considering the relation between epistemic and moral normativity and virtue.

²² The emphasis on *corporeal objects* is important, even though in his later commitments concerning *pure* mathematics and *pure* geometry he abandoned the aid of imagination and diagrams and introduced his co-ordinates and algebraic equations.

²³ It is also shared with the evil demon. See Christofidou 2022.

on such scrutiny is to be committed to an evaluation by objective standards: truth, reasons that withstand scrutiny, and (anticipating the discovery of the principle of) clarity and distinctness. This is inherent in Descartes' method of doubt, his intellectual tool, resolutely adopted through perseverance, individual effort, and practice by the searcher for what is true and real; crucially, it requires the joint efforts of reason's authority and its internal relation to the will's autonomy of freedom.

Thus the meditator's primary task is to free reason from the bondage of external authority and preconceived opinions, and to free the will from prejudices and ill-formed habits that enslave it, in order to be at one with reason, not pulling in opposite directions, and to begin operating "within the bounds of truth" (*Second Meditation*, AT 7, 30; CSM 2, 20). Self-critical examination and the capacity to suspend one's dubitable opinions presuppose reason's *objective* standpoint—a faculty that "must tend towards the truth, at least when we use it correctly" (*Second Set of Replies*, AT 7, 144; CSM 2, 103). It is, after all, reason rightly conducted (*Discourse*, AT 6, 1) "which aspires without limit to ever greater and better things" (*Third Meditation*, AT 7, 51; CSM 2, 35), and "allows us to reach vastly beyond ourselves" (Nagel 1997, 71)—towards truth and objectivity. Reason's *raison d'être* is openness to objectivity and truth, not its own isolation; reason's openness can be considered a virtue, both epistemic and moral. Searching for truth is a basis of the *very idea* of objectivity. Descartes "is right even here" (Nagel 1997, 67, n. 11).

In Descartes' hands the Socratic *elenchus* is first self-administered,²⁴ but it does not remain merely self-directed, since in self-scrutiny the mind is at the same time world-directed: what ultimately can survive the *elenchus* is truth.

Conscientia in the second sense also requires Descartes' special and invaluable methodic scrutiny in order to cross-examine one's opinions of what the self is. *Conscientia* is just as much about understanding clearly and distinctly *what it is to be a self*, as understanding that I am distinct from the objects of which I can have knowledge²⁵—understanding the "fundamental ground of difference" (Evans 1982, 107)—prompting some of the deepest philosophical questions. The object of *conscientia*, in this sense, is the self *itself*. It involves reason's grasping *what* the self is, grasping its "nature as distinctly as possible" (*Second Meditation*, AT 7, 28; CSM 2, 19; Descartes' commitments in this meditation are epistemic not metaphysical: see AT 7, 8)—graspable by anyone who attentively reasons "in an orderly way" (*Principles* I:7 and 10; AT 8-a, 6–7 and 8; CSM 1, 194).

²⁴ It is also so used by Socrates, e.g., *Apology* 22 d–e and 23 b.

²⁵ Regarding the distinguishability of the self, see Christofidou 2022. Thiel states that Descartes did not give an account of the individuation of the soul: Thiel 2011, 38. Thiel perhaps did not realise that (as I argued in Christofidou 2022) for Descartes individuation is primitive; that is, for being an individual no condition is required other than *sum* and its inseparability from *ens*, denoting a true unity or indivision. A true unity is what makes individuation possible; it itself cannot presuppose individuation. The self, being one in itself, is an individual true unity. What is at issue is distinguishability. Individuation is prior to distinguishability.

Only if we conflated intellectual clear and distinct perception with sensory perception would we think that the former is paradoxical or self-defeating because the self eludes its own perception, or that the self is “observationally systematically elusive.”²⁶ As Descartes explains: “the mind must be diverted” from sensory perception—“from this manner of [perceiving] things” (French edition)—and come to “realise that none of the things that the imagination [or the senses] enable me to grasp is at all relevant to this knowledge of myself which I possess” (*Second Meditation*, AT 7, 28; CSM 2, 19; letter to Mersenne, July 1641, AT 3, 393–94; also par. 8.1 below) Descartes is not rejecting the senses (which would be nonsensical), but is drawing the *bounds* of sense.²⁷

Conscientia brings home to us the realisation of our finiteness—a realisation that stems, not simply from the mortality of the subject, but from the fact that we are doubting, self-scrutinising, searching for truth—and stresses that reality is potentially greater than we can grasp, that we cannot achieve the totality of truths, or “the absolute conception of reality” (Williams 1978, 65; also Christofidou 2013 *passim*). We cannot overestimate the vastness of the universe (*Principles* III:1). But that should not frustrate our enquiries into what is real and true. On the contrary, the recognition of the vastness of the universe is uplifting, liberating our reflections from the threat of subjectivism, the fall into relativism, parochialism, or scepticism regarding reason’s ability to understand the nature of reality—and there is a world of difference between a conception that strives for the possibility of truth and objectivity, and one that attempts to rule it out. Nor does it force upon us utter *noumenal* ignorance of the nature of the self.

Clear and distinct ideas are sufficient for the attainability of any determinate facts, since with “the right use of reason” and following “the advice of our reason we have left undone nothing that was in our power” (letter to Elisabeth, 4 August 1645, AT 4, 266–67; CSMK, 258). Thus, although we do not have complete knowledge of anything, we can have knowledge that something is complete, or that it is a true and real entity. Any properties of which we are unaware, or which we might conceive as belonging to it, however, must be consistent with its principal attribute, which constitutes “its essence and to which all its other properties are referred” (*Principles* I:53, AT 8-a, 23; CSM 1, 210; also AT 7, 220–23; letter to Gibieuf, 19 January 1642, AT 3, 477–78).

Conscientia in its dual sense and the *principle of clarity and distinctness* are necessary to Descartes’ groundbreaking undertaking, since the search for and attainability of a new metaphysics is not independent of, but requires the attainability of freedom and its internal relation to reason, restoring the self as locus of authority and autonomy, as against the authority of theology.

²⁶ Ryle 1949, 186. Having made this mistake, Hume was unable to find the looked-for self. Unlike Ryle and others, past and present, however, Hume had the intellectual honesty to admit in the *Appendix* that his bundle theory failed to account for the self and “the nature of the uniting principle, which constitutes a person” (*Treatise* I.iv.ii; Hume 1978, 189). Without the self, none of his theses could be sustained, or would make any sense.

²⁷ In my article *Descartes on Scepticism, Habits, Freedom and the Self*, in progress.

Conscientia in its dual sense is a hard-won achievement. Descartes' notion is substantially different in nature and purpose from the modern notion of self-knowledge. This hard-won achievement stems from our nature as thinking, acting, free subjects and agents. Self-knowledge is key to the attainability of virtue, moral and epistemic, and of self-mastery—hence my tracing *conscientia* to the Delphic injunction (as explained above). It can be taken to constitute the beginning of the human search for wisdom (*Principles* I:12 and 41, AT 8-a, 9 and 20), and for Descartes and the great philosophers of the past it is considered to be bound up with the very idea of philosophy. The two senses of *conscientia* are not separate, even if for explanatory purposes we can distinguish between them.

6. *Conscientia* as Self-consciousness

The second part of my discussion of Descartes' use of *conscientia* elucidates it as self-consciousness. Self-consciousness is not identical with reflection; our acts, perceptions, knowledge are not accompanied by a further act of reflection (even if a self-conscious being is able to reflect on itself, on its acts, knowledge, etc.).²⁸ Knowledge does not “require reflective knowledge, i.e., knowing that we know, and knowing that we know that we know, and so *ad infinitum*. This kind of knowledge cannot possibly be obtained about anything” (*Sixth Set of Replies*, AT 7, 422; CSM 2, 285).²⁹ I begin my elucidation with a passage central to the controversy.

6.1 Acts of Thought

In his reply to Hobbes, Descartes explains that the intellectual and sensory acts of the mind,

which we call ‘acts of thought’, such as understanding, willing, imagining, having sensory perceptions, and so on [...] all fall under the common concept of thought [*cogitatio*], or perception [*perceptio*], or *conscientia*, and we call the substance in which they inhere a thinking thing or a mind [...]. [The] acts of thought have nothing in common with corporeal acts, and thought, which is *the common concept* under which they fall, is different in kind from extension, which is the common concept of corporeal acts (*Third Set of Objections with Replies*, AT 7, 176; CSM 2, 124; italics added; letter to Mersenne, May 1637, AT 1, 366).

Furthermore, a clear and distinct understanding reveals that “there is an intellectual act included in their essential definition”—in *what they are* (*Sixth Meditation*, AT 7, 78; CSM 2, 54). What this entails is that for Descartes the *content*

²⁸ Thiel saddles Descartes with an infinite regress: Thiel 2011, 46.

²⁹ Regarding “reflection” he writes: “When an adult feels something, and simultaneously perceives that he has not felt it before, I call this second perception *reflection*, and attribute it to the intellect alone, in spite of its being so linked to sensation that the two occur together and appear to be indistinguishable from each other” (letter for [Arnauld], 29 July 1648, AT 5, 221; CSMK, 357).

of both intellectual and sensory acts of mind is conceptual, and has significant implications in the metaphysics of mind (par. 8), given Descartes' distinction between the acts of thinking, sensing, etc., and what the acts are about—the world-directedness of the mind (par. 9).

This is not a mere speculative thought, but a metaphysical precondition for what it is to be a thinking, acting, imagining, sensing being who can not only think of itself, but think of itself *as itself* (as I shall demonstrate in what follows).

A note of clarification. For Descartes, “within us,” “inhere in,” “contained in” denote ontological and explanatory dependence, not a container or a causal relation—the mind is not an amphora. “Contained in” can also mean “true of a thing in terms of its nature”: “When we say that something is *contained in the nature or concept* of a thing, this is the same as saying that it is true of that thing, or that it can be asserted of that thing” (definition 9, AT 7, 162; CSM 2, 114).

In par. 3, I explained *conscius* as meaning cognitively, not merely conatively or sensorily, aware; my explanation is now vindicated, since both our cognitive and sensory acts include in their essential definition an intellectual act. We can thus distinguish two kinds of cognition in Descartes' conception: a cognition of reason, and a cognition of reason mixed with the senses. What this means is that, though our *a priori* thoughts may require no other faculty except the faculty of reason, our *a posteriori* thoughts, sensations, emotions, sense perceptions, etc., fall *also* under the faculty of sensory awareness—the mixing of reason and the senses.

For Descartes, being sensorily aware cannot be conflated with post-Cartesian views of “the myth of the given,”³⁰ or of *merely* sensory or non-conceptual. Furthermore, the mixing of reason and sense ensures the active character of perception, and gives weight to the idea that understanding an object (however minimally) requires directing our attention to it. This can also help us get as clear as possible about the source of our concepts: the *a priori* concepts of reason, which nevertheless can figure in our experience, and those concepts which can be acquired only from experience, requiring the mixing of reason and the senses. In this way we can begin to determine their use and applicability safely and invaluablely.

6.2 Thought: What is *Cogitatio*?

Descartes' reply to Hobbes, cited above, is one of the passages that a number of scholars use to argue that he treats *conscientia* and *cogitatio* as equivalent.³¹ This raises the question: “what does Descartes understand by *cogitatio*?”

³⁰ This phrase was introduced by Sellars as a criticism of the view that what we sensorily perceive can be independent of the conceptual processes which result in perception, and that such sensory experience gives us certainty suitable to serve as a foundation for the whole of empirical knowledge and science (Sellars 1956, 298–99). All this is contrary to Descartes' metaphysical commitments which rely, first, on clear and distinct ideas of reason, and secondly, on Descartes' view that the *content* of both intellectual acts and sensory acts is conceptual (see also Christofidou 2021).

³¹ See Hennig's citations and discussions of such arguments (Hennig 2007); also McRae 1972, 55–6, especially nn. 2 and 3.

In clarifying *cogitatio*, there is a distinction between *cogitatio* or *cogitationes*, “taken as modes [...] of the mind [...] as many different thoughts [i.e., acts]” (*Principles* I:64, AT 8-a, 31; CSM 1, 215) on the one hand, and the *common concept* of thought, on the other. Neither the modes of thought nor the acts of thought can be equivalent to the common concept of thought; rather, they *fall under* it—they *presuppose* it. Descartes explains to Hobbes: “‘thought’ is sometimes taken to refer to the act, sometimes to the faculty” (AT VII, 174; CSM 2, 123), but both the acts and the faculties fall under the common concept of thought.

Thought, under which the *acts* of thought fall, is a simple notion or nature—it is unanalysable, not made up of parts (*Rule Twelve*, AT 10, 419)—and it is common because it relates to all acts of thought. Thought, *cogitatio*, in this sense, is the principal attribute of the mind: our intellectual and sensory acts, faculties, capacities presuppose, fall under, the principal attribute of thought, which constitutes and expresses (makes known, manifests) the essence of mental substance; the attribute of thought is the mark of the mind.

Attribute is no ordinary property, or an aspect, but a simple common notion, along with substance and essence, ascribed indifferently to corporeal and mental entities.³² Unlike attribute, substance, and essence, simple common notions such as existence, duration, etc. (*Rule Twelve*, AT 10, 419), are *modes* “under which we conceive a thing in so far as it continues to exist” (*Principles* I:55 and 57, AT 8-a, 26 and 27; CSM 1, 211); they too are ascribed indifferently to all classes of finite *existing* things.³³ The attribute of *thought* is a simple common notion, since it relates to all acts of thought but to no other class of things.

As we have seen, clear and distinct understanding of these acts reveals that an intellectual act is included in what they are, and without which they wouldn’t be acts of a thinking, acting, sensing being. They all “contain some reference to [the attribute of] thought,” and the distinction between them and the mind is modal (*Sixth Meditation*, AT 7, 78; CSM 2, 54). That is, they can neither *be* nor be *understood* “without an intellectual substance to inhere in”³⁴—presupposing its true unity (*Second Meditation*, AT 7, 28; CSM 2, 54; *Third Meditation*, AT 7, 34; *Fourth Meditation*, AT 7, 56–7; *Sixth Meditation*, AT 7, 78–9; also par. 7.2 below.) None of them can be ontologically, metaphysically, and explanatorily independent of the attribute of thought, which in turn is inseparable from the mind.

³² “Substance,” “essence,” “attribute” don’t apply univocally to God and finite entities.

³³ As I argue elsewhere (presented at the Princeton/Bucharest Seminars Autumn 2022), since these modes remain inseparable and unchanged *while the thing exists*, they can be called “attributes,” but non-essential, because they have no bearing on the essence of things (except existence pertaining to God’s essence).

³⁴ This has far-reaching consequences for contemporary writers who attempt to ground consciousness, our rational and sensory acts, all *severed* from the mind, in the neurobiological or physical, or who claim that consciousness arises from a physical/biological basis. Yet, oddly they have no explanation of why and how it so arises, referred to as the explanatory gap, and dubbed “the hard problem of consciousness.” The gap is not simply explanatory but metaphysical.

Conscientia is also a simple common notion, and *presupposes* the principal attribute of thought: that is, being a self-conscious subject *entails* being a thinking subject. If there is *conscientia*, there must be a thinking subject. The key point is that a self-conscious subject, by the very fact that it is a thinking subject, is capable of reflecting upon itself and upon the world, capable of self-knowledge in its dual sense.

Thus *conscientia*, both as self-consciousness and as self-knowledge, cannot be equivalent to *cogitatio* the principal attribute, nor can it be equivalent to the many different modes of thought, or the many different acts of thought. Consequently, there is no ambiguity in Descartes' reply to Hobbes that *acts* of thought "all fall under the common concept of *cogitatio*, or *conscientia*," nor does he treat them as equivalent, since the latter presupposes the former, and "we call the substance in which [the acts] inhere a thinking thing or a mind" (AT 7, 176; CSM 2, 124). Put differently, "falling under" the common concept of *conscientia* presupposes the common concept of *cogitatio*, the attribute of thought.

For Descartes the mark of the mind is *the attribute of thought*, contrary to Kenny's claim that for Descartes "consciousness is the defining feature of the mind an especially hidden and private realm," not "rationality [as it was 'for his predecessors' which], is not [...] private." Ignoring the attribute of thought—the true mark of the mind—is important to Kenny's polemic against Descartes, which has become an inveterate intellectual habit. Kenny openly states that he follows "the polemic of Ryle" (Kenny 1989, vii and 9; regarding Ryle's polemic, see Christofidou 2018).

My elucidation is also consistent with Descartes' explanation in his letter for [Arnauld], that in *Principles* I:63 and 64, he

tried to remove the *ambiguity* of the word 'thought' [...] [stating that] thought, or a *thinking nature*, which I think constitutes the essence of the human mind, is *very different* from any particular act of thinking. It depends on the mind itself whether it produces this or that *particular act* of thinking, but not that it is a thinking thing. [...] So by 'thought' I do not mean some universal which includes all modes of thinking, but a particular nature, which takes on those modes, just as extension is a nature which takes on all shapes (letter [for] Arnauld, 29 July 1648, AT 5, 221; CSMK, 357; italics added).

Descartes abandoned "the universals of the dialecticians" (*Fifth Set of Replies* AT 7, 380; CSM 2, 261; *Principles* I:59, AT 8-a, 27–8), which are derived through the senses by a process of abstraction of common features of sensory objects of the same kind, omitting what is peculiar to each. They are not distinct; they have no true unity, only a form of aggregation imposed by us. They are constructs of the mind as it struggles to make sense of its sensory experience, and even if useful for such heuristic purposes, they are inadequate for Descartes' new metaphysics and a new science of mathematical physics.

He introduced simple notions which relate "to many things an idea which is in itself singular," that is, whose *referent* is a singular true nature (letter to Regius, 24 May 1640, AT 3, 66; CSMK, 148). On Descartes' reversal of the order of reasoning and his abandoning of Scholastic universals and abstractions, we un-

derstand the general in the singular true nature graspable by reason. The simple notions and simple common notions are true, and prior in the order of reasoning. In order to know what are the simple intellectual notions, such as thinking, willing, and doubting, the simple purely material notions, such as extension, and the simple common notions such as existence, unity, and duration, “all we need is some degree of rationality” (*Rule Twelve*, AT 10, 419; CSM 2, 45). They are grasped by the intellect guided by the natural light of reason (which is not arbitrary but a precondition of *conscientia*).³⁵ We do not

have to rack our brains trying to find the “proximate genus” and the “essential differentia” which go to make up their true definition. We can leave that to someone who wants to be a professor or to debate in the Schools (*The Search for Truth*, AT 10, 523; CSM 2, 417).

7. *Cogitatio* and *Conscientia*

It might be argued against my discussion that, apart from his reply to Hobbes, there are other passages adduced by commentators when stating that Descartes defines *cogitatio* in terms of *conscientia*.

7.1 True or Real Definitions versus Linguistic Definitions

In light of the seriousness of the controversy, what needs to be addressed first is: “what does Descartes mean by ‘definition?’” It is clear from the above quotation that Descartes does not mean Scholastic definition, linguistic, conventional, or logical definition: “our attempts to define [simple notions would make them] more obscure” (AT 10, 523; CSM 2, 417); “Matters which are very simple and self-evident are only rendered more obscure by logical definitions, and should not be counted as items of knowledge which it takes effort to acquire” (*Principles* I:10, AT 8-a, 8; CSM 1, 195).

By “definition,” Descartes means a *true or real* definition, founded in reality, in what the simple notions *are*, in their essential nature; hence, “an intellectual act [is] included in their *essential* definition.” As Spinoza, following Descartes, states: “the true definition of each thing neither involves nor expresses anything except the nature of the thing defined” (*Ethics* I, proposition 8, scholium 2, Spinoza 1996, 5).

³⁵ For Descartes, “all men [*homines*] have the same natural light” by their very nature as reasoning beings. The difference between them can be traced to the fact that some allow it to be clouded by preconceived opinions and habits: “hardly anyone makes good use of that light [and therefore many] may share the same mistaken opinion” (letter to Mersenne, 16 October 1639, AT 1, 598; CSMK, 139. *Principles* I:50). Descartes’ use of the neutral *homines* (mistranslated as “men”) expresses his commitment to equality, long before we became sensitive to these issues. By “the natural light of reason” he is referring neither to anything physical nor to divine grace or supernatural illumination (he rejects both), but to something real and natural pertaining to any thinker. Whatever is physical might be real and natural, but it’s fallacious to infer that whatever is real and natural is physical.

Thus there is no room for stipulation because the simple notions “already have a sense” (Frege 1979, 210). For Descartes, followed by Spinoza, what is real is true, and what is true is real. Real or true definitions make known the essence of entities or simple notions, in contrast to linguistic, logical, or nominalistic definitions, which are purely terminological. True notions are graspable by reason; it is not up to us to make them so: “our mind is not the measure of reality or of truth; but certainly it should be the measure of what we assert or deny” (letter to More, 5 February 1649, AT 5, 274; CSMK, 364), implying epistemic and moral responsibility.

As Descartes explains, “we cannot have any thought without a foundation [in reality]” (letter to ***, 1645/1646, AT 4, 348–50; CSMK, 279–80). Any true thought we can have must be founded in something real: “whatever is true is something” (*Fifth Meditation*, AT 7, 65; CSM 2, 45), not simply true of something; “truth is essentially indivisible” (*Seventh Set of Objections with Replies*, AT 7, 548; CSM 2, 374). It is metaphysically basic “however epistemological we may allow our formulation to be of its marks” (Wiggins 1996, 274) indefinable, irreducible, indivisible; “truth consists in being,” in what is real—the intrinsic denomination of truth (letter to Mersenne, 16 October 1639, AT 1, 597–98; CSMK, 139). He writes: “I have no criterion [of truth] except the natural light [of reason]” (AT 1, 596; CSMK, 139). Similarly, Spinoza states: “truth is its own standard” (*Ethics* II, proposition 43, scholium, Spinoza 1996, 59).

Simple notions are the simplest constituents of knowledge, and are known through themselves (*Principles* I:10). Their self-evidence “is the basis for all the rational inferences we make” (*Rule Twelve*, AT 10, 419; CSM 1, 45). They are such that they focus the attentive thinker’s direct apprehension, or singular thought, on *that* notion as a notion *in and of itself*.

7.2 *Cogitatio* and *Conscientia*

Let’s now consider two passages central to the controversy. In the *Arguments* appended to the *Second Set of Replies*, in definition 1 Descartes states:

Thought. I use this term to include everything that is within us in such a way that we are immediately conscious of it [*ut eius immediate consciū simus*]. Thus all the operations [acts] of the will, the intellect, the imagination and the senses are thoughts. I say ‘immediate’ so as to exclude the consequences of thoughts; a voluntary movement, for example, originates in a thought but is not itself a thought (AT 7, 160; CSM 2, 113).

In *Principles* I:9, he states:

By the term ‘thought’, I understand everything which we are aware of [*nobis consciū*] happening within us, in so far as we have awareness of it [*conscientia est*]. Hence, *thinking* is to be identified here not merely with understanding, willing and imagining, but also with sensory awareness [...] since they relate to the mind, which alone has [for example] the sensation or thought that it is seeing or walking (AT 8-a, 8; CSM 1, 195).

Both in definition 1, and in *Principles* I:9 Descartes consistently holds that “thought” in *this* context, refers to the various *acts* of the mind. This is perfectly consistent with *Principles* I:63 and I:64 (see par. 6.2 above), in which he refers to “thought” as the principal attribute of the mind: acts of thought fall under the true and real principal attribute of thought constituting the essence of mind.

Descartes elucidates further:

we are not always aware of the mind’s faculties or powers, except potentially. By this I mean that when we concentrate on employing one of our faculties, then immediately [...] we become actually aware of it (*Fourth Set of Replies*, AT 7, 247; CSM 2, 172).

“We cannot have any thought [any act of thought] of which we are not aware [*conscii*] at the very moment when it is in us [...] [we] are always actually aware of the *acts or operations* of our minds” (AT VII, 246; CSM 2, 177; italics added; *First Set of Replies*, AT 7, 107; *Third Meditation*, AT 7, 49; *Passions* I:19, AT 11, 343).

It is “the operations [acts] of the mind,” when the mind *enacts* them, of which we are immediately *conscii* (AT 7, 232 and 247; CSM 2, 113), and of which Descartes says in his reply to Caterus: “there can be nothing within me of which I am not in some way *conscius*” (*First Set of Replies*, AT 7, 107; CSM 2, 77).³⁶

There is no suggestion, implicit or explicit, that he defines *cogitatio* in terms of *conscientia*. To help settle this long running debate, pulling my discussion in par. 6 and par. 7 together, the difference between *cogitatio* and *conscientia* can be summarised thus:

First, *cogitatio* can be taken to refer to many different thoughts, or to many different *acts* of thought; *cogitatio* is also taken to refer to the *principal attribute of thought*. But *conscientia* cannot be taken to refer either to different thoughts, or to *acts* of thought, or to the attribute of thought which is presupposed by *conscientia*. Secondly, and equally importantly, the objects of *conscientia*, apart from the self, are the acts of thought and *what they are about*: their world-directedness. But the objects of the acts of thought cannot be the acts of thought, on pain of absurdity. For example, the object of an act of sense perception, or what the act is *about*, its *content*, is, say, the sun itself (*Third Meditation*, AT 7, 39). But the act is not part of the content (see par. 9 below).

Therefore, any arguments that Descartes treats *cogitatio* and *conscientia* as equivalent or synonymous, or that he defines one in terms of the other, cannot be sustained.

³⁶ Descartes is quite clear that it is of the operations or acts of the mind that we are immediately *conscii* at the moment when they are enacted. This contradicts what Simmons claims: that for Descartes “all and only thoughts are conscious.” She then proceeds to criticise him, stating: “today the idea that all thoughts are conscious seems obviously wrong” (Simmons 2012, 1). Radner also states: “it seems that Descartes is not only confused [regarding this point] but also committed to consequences detrimental to his system” (Radner 1988, 439).

8. A Significant Turn in the Metaphysics of Mind

The significance of all this cannot be overestimated and has its basis in the *Meditations*. Referring to his reply to Caterus (AT 7, 107), Descartes writes to Mersenne: “What I say later, ‘nothing can be in me, that is to say, in my mind, of which I am not aware’ [*consciuis*], is something which I proved in my *Meditations*” (letter to Mersenne, 31 December 1640, AT 3, 273; CSMK, 165–66).

In the *Second Meditation*, the meditator raises the question “What then am I?” and after an unrelenting cross-examination, he replies: “A thing that doubts, understands, affirms, denies, is willing, is unwilling, and also imagines and has sensory perceptions” (AT 7, 28; CSM 2, 19). The last two conjuncts are not mere afterthoughts—nothing is an afterthought in the *Meditations*—but are of groundbreaking significance in the metaphysics of mind (Christofidou 2021; Christofidou 2022). They challenge the prevailing Aristotelian doctrine of a sharp division between the sensory soul (*psyche*, *anima*) and the intellectual mind (*nous*; Christofidou 2009a), which had dominated the philosophical world for centuries, and move towards Descartes’ conception that both intellectual and sensory acts are dependent on, are inseparable from, the *single* mind (*mens*) (AT 7, 28–9), which presupposes the unity and irreducibility of “the same I”: “Ego sum res cogitans [...] & sentiens” (AT 7, 28; CSM 2, 19); “I consider the mind not as a part of the soul [*anima*] but as a thinking soul [*mens*] in its entirety” (*Fifth Set of Replies*, AT 7, 356; CSM 2, 246).

The two conjuncts demonstrate Descartes’ new beginning: a significant turn in the metaphysics of mind. They highlight his insightful conception and defence of the true unity of mind, the unity of *conscientia* (as self-consciousness and as self-knowledge), a conception that has far-reaching consequences for our concerns, since it is not only rational acts but also sensory acts which include in their *essential definitions* an intellectual act. The nature, irreducibility, indivisibility *sive* unity of the mind is not constructed by us, but founded in reality—and reality is more than physical reality:³⁷ the mind forecloses any attempts to analyse it in terms of “things to which it [doesn’t] pertain.” Otherwise, “we cannot help going wrong” (letter to Elisabeth, 21 May 1643, AT 3, 666; CSMK, 218).

The mind, for Descartes, is neither disembodied nor supernatural; it is a real and natural entity.³⁸ It may be true that what is physical is natural, but it’s fallacious to infer that what is natural is physical, or reducible to, or grounded in the physical. For Descartes: “the word ‘mind’ is taken in the ordinary sense,” a “thinking thing which in common usage is termed a ‘mind’” (*Seventh Set of Objections with Replies* AT 7, 558 and 525; CSM 2, 558 and 357). A common usage cannot be dubbed supernatural or metaphysically extravagant.

³⁷ What is mind-independent may be real, but it’s fallacious to infer that what is real is mind-independent. Our thoughts, feelings, etc., are real but are not mind-independent.

³⁸ Mind and body are really distinct in their natures, which implies separability not actual separation, as we shall see in par. 10 and par. 11.

Yet, all this seems to have gone largely unnoticed in the vast literature on Descartes, in the vaster literature on phenomenology and intentionality, and in the current controversy between those who argue that our rational capacities are independent of and additional to our sensory capacities, and those who argue that our rational capacities transform our sensory capacities—dubbed the “additive” and “transformative” approaches, respectively.³⁹ Descartes’ argument that “an intellectual act is included in the definition” of *all* acts of the mind, cuts across the current controversy which gives priority to the rational over the sensory either by being added to, or by transforming the sensory, and the controversy regarding the conceptual/non-conceptual content. Descartes’ conception provides a clear path over these seemingly unbridgeable chasms in contemporary debates.

8.1 The Mind and its Unique Power

The self has the capacity for self-ascription and self-identification; for self-reflection, self-scrutiny, self-determination, and self-mastery. Such a capacity manifests the power of “a thinking thing or a mind,” capable of acting on itself. As Arnauld acknowledges: “the mind meditates attentively and keeps its gaze fixed upon itself” (*Fourth Set of Objections*, AT 7, 197; CSM 2, 138).

The self’s mind and its power constitute an exception to the axiom “nothing acts on itself” adduced by Gassendi in support of his objection that the thinker of the *Meditations* cannot know itself because, Gassendi argues, not only do corporeal entities or faculties not act on themselves (e.g., “the eye [...] cannot see itself in itself”), but also “the intellect does not understand itself” (*Fifth Set of Objections*, AT 7, 292; CSM 2, 138).

Gassendi is right that no corporeal entities⁴⁰ or faculties (brains or particles) can act on themselves, or know or cross-examine themselves, or have a first-person perspective. But he is wrong to conflate that with a thinking entity, a mind and its intellect. Gassendi’s conflation leads him to draw the erroneous conclusion, directed at Descartes, that there is “no hope of your knowing yourself” (AT 7, 292; CSM 2, 203).

Gassendi seems to be “one of those who think they cannot conceive a thing when they cannot imagine it, as if this were the only way we have of thinking and conceiving. [...]” (letter to Mersenne, July 1641, AT 3, 393; CSMK, 185).

It is not possible to imagine [the mind] or form an image of it. But that does not make it any less *conceivable*; on the contrary, since it is by means of it that we conceive all other things, it is itself more conceivable on its own than all other things put together (letter to Mersenne, July 1641, AT 3, 393–94; CSMK, 185–86; italics added).

³⁹ Boyle mistakenly aligns Descartes with the additivists (Boyle 2016). See Christofidou 2021.

⁴⁰ Corporeal entities have powers to bring about an effect, to interact, to move, but not act on themselves.

It is also unclear what Gassendi thinks the self-cross-examination of the *First* and *Second Meditations* amounts to, or how it is carried out.⁴¹ It is the thinker's mind with its faculty of intellect which has the *unique power* to cross-examine itself, to know itself, to act on itself, constituting an exception to the axiom.

9. Acts of Thought and their Content: Descartes and Frege

Equally importantly, Descartes distinguishes between the *acts* of thought and the *content* of such acts. The acts of thinking, doubting, perceiving, sensing, etc.—that is, *that* I am perceiving, sensing, etc.—cannot be doubted, but *what* I am perceiving can be doubted (*Third Meditation*, AT 7, 39; *First Set of Replies*, AT 7, 103; *Third Set of Objections with Replies*, AT 7, 176).⁴² This is clearly demonstrated in the *First* and *Second Meditations*, where he supposes:

I am now seeing light, hearing a noise, feeling heat. But I am asleep, so all this is false. Yet I certainly *seem* to see, to hear, and to be warmed. This cannot be false; what is called 'having a sensory perception' is strictly just this, and in this restricted sense of the term it is simply thinking (AT 7, 29; CSM 2, 19; *Third Meditation*, AT 7, 35; *Sixth Meditation*, AT 7, 77).

This is what Descartes means when he writes:

there is nothing entirely in our power except our thoughts, at least if you take the word 'thought' as I do to cover all the operations [*acts*] of the soul, so that not only meditations and acts of the will, but the activities of seeing and hearing and deciding [...] so far as they depend on the soul are all thoughts [are *acts* under the attribute of thought] (letter to Reneri for Pollot, April/May 1638, AT 1, 36; CSMK, 97).

Descartes' characterisation is more detailed than the *Discourse* where, referring to his third maxim, he states: "In general I would become accustomed to believing that nothing lies entirely within our power except our thoughts" (AT 6, 25; CSM 1, 123).

Pertinent to my present concerns in particular, but also to our current debates in general, is the fact that Descartes' conception of the acts of thought and his distinction between the acts of thought and what the acts are *about*, anticipates Frege's subjective/objective distinction.⁴³ For both philosophers, an act of thought is not part of the content (par. 7.2 above).

⁴¹ I have argued elsewhere (Christofidou 2013, chapter 1), one of the reasons for postulating the demon is to provide a backdrop against which reason can *enquire into itself*, a task predicated on intense cross-examination. Descartes is not prepared simply to assume the authority of reason without good reasons, especially if he is to demonstrate, as against the denial by thinkers such as Gassendi (and predecessors such as Montaigne), that reason is capable of transcending appearances and clearly and distinctly grasping the nature of things.

⁴² He is neither a representationalist—he rejects the retina-image thesis (*Optics*)—nor an indirect realist. See Christofidou 2013.

⁴³ On the subjective/objective distinction, see Christofidou 2000, par. 5.

Frege states: “By a thought I understand not the subjective performance of thinking but its objective content, which is capable of being the common property of several thinkers” (Frege 1948, 215, n. 5). Descartes states: the act of thinking, perceiving, inferring, judging, sensing, etc., is performed by a subject, it *pertains* to a subject,⁴⁴ but the *content* of any act is objective,⁴⁵ including the *content* of the *cogito*, which meets the objectivity requirement of truth and, in its special case, self-evidently so, graspable by any thinker who attentively follows *the order of discovery* (*Second Set of Replies*, AT 7, 155), “anyone who philosophizes in an orderly way” (*Principles* I:7 and 10, AT 8-a, 7 and 8; CSM 1, 195); each capable of understanding that it applies to itself but also to each of the others; each capable of conceiving any other thinkers, each capable of forming a clear conception of itself as one thinker among many in a single objective world, any one of whom can attentively follow and execute the same method of enquiry (Christofidou 2022).

All this manifests the objectivity and universality of content, and demonstrates that content is not determined by internal factors only, but (in part) by external objective factors, including truth-conditions.⁴⁶ I say “in part” because the *acts* of thinking, perceiving, etc., *pertain* to the subject. There is a relation between a subject and the object perceived, be it an empirical object, an eternal truth, or a true and real essence; indeed, in the last case truth thrusts itself upon the *attentive* mind.

The self’s “I”-perspective invokes responsiveness to reasons, to normative principles, to modal reasoning directed towards what *can* objectively be the case. The fact that only *his* perspective can express—make known to the objective world—the self that he is, does not entail that his conception is self-contained. Descartes’ concern is not with post-Cartesian baggage and the perspective of consciousness. His concern is with what is performed by, and what pertains to, a subject: the authority and objectivity of reason, the autonomy of freedom of the will, the power of thinking, sensing, and acting.

10. From Selfhood to Personhood

Our conception of the self and *conscientia*—self-consciousness and self-knowledge—is bound up with the relation between self-identification and self-ascription, both of which concern first-person thoughts: “I”-thoughts. One is self-identifying and self-ascribing in cross-examining one’s opinions, prejudices, habits, etc., and in scrutinising *what* one is.

⁴⁴ Descartes doesn’t use the modern sense of “subjective” and hence couldn’t have “given birth to subjectivity”; as far as I know, he doesn’t even use the Latin adverb *subjective*, which meant what belongs to things, or as they are in themselves. During the course of its history, the Latin adverb came to have all the connotations associated with post-Cartesian baggage.

⁴⁵ The “objective reality” of an act signifies what the act is *about*, the object, *not* the idea of it—a rejection of the veil-of-perception-thesis. See Christofidou 2013.

⁴⁶ Whatever is physical might be objective, but it’s fallacious to infer that what is objective is physical. Objectivity encompasses far more than physicality.

10.1 What am I?

Self-identification is concerned with “I”-thoughts about oneself *as oneself*. The “object of an ‘I’-thought is its subject” (Evans 1982, 260). Is this a substantive or a linguistic claim? Does it constitute an adequate answer to the question “what am I?”

Self-identification involves an immunity to error through misidentification relative to “I,” and a peculiarly strong form of identification-free self-reference. In “I”-thoughts one is cognitively aware of oneself in a direct way: an unmediated identification-free self-reference (Evans 1982, 186–189). This strong peculiarity does *not*, however, entail that the referent is either a peculiar entity, a momentary entity, a non-entity, or an “empty, representation ‘I’ [...] a subject of thoughts = X”⁴⁷—as I shall demonstrate.

Self-ascription is concerned with the ascriptive component of “I”-thoughts *as being* in a certain way, that is, the self-ascription of properties and acts of the mind, of properties of the body, and those arising from their substantial union. This is crucial, for the possibility then arises that in self-conscious thoughts, more is involved in the total cognitive awareness than the states of one’s mind.

I have argued (in Christofidou 2000) that self-ascription involves a *second* immunity, which I called “immunity to error through *misascription*,”⁴⁸ and discussed at length its relation to the immunity to error through misidentification, addressing the complexities arising therefrom. One central point is that in the vast literature in this area, self-ascription is subsumed under the immunity to error through misidentification. This has led leading philosophers, such as Shoemaker and Evans—whose invaluable work in this area set the debate in motion—to argue that in the self-ascription of bodily properties the immunity to error through misidentification relative to “I” is only circumstantial or non-absolute.

Strawson argues that immunity to error through misidentification applies to “*both* states of consciousness *and* corporeal characteristics” (Strawson 1959, 104; Strawson 1966, 165). This is true. But his explanation is that “I” “can be used without criteria of subject-identity and yet refer to the subject,” because the links between criterionless *self-ascription* and the third-person criteria “are not in practice severed.”

There are two problems. First, Strawson conflates the identification-free self-reference of “I,” with criterionless *self-ascription*. Secondly, Strawson’s claim that the immunity to error through misidentification applies to “*both* states of

⁴⁷ Kant 1933, A346/B404 (*Paralogisms*). Kant intends this as a criticism of Descartes because he thinks that Descartes moves fallaciously from “I am thinking” to “I am a thinking thing,” as a metaphysical commitment. But this is a mistake. Following the order of reasoning, Descartes’ commitments in the *Second Meditation* are epistemic, not metaphysical; this is made clear at AT 7, 27 and the *Preface*, AT 7, 8—somehow missed by critics. Furthermore, the *cogito* establishes the *indubitability* of the meditator’s existence, *not* its existence, which would be nonsensical (see Christofidou 2013, chapters 2–3; Christofidou 2022).

⁴⁸ Not to be confused with old-style incorrigibility (Christofidou 2000, part 5).

consciousness *and* corporeal characteristics” must be argued for, not simply “repeat the point that [...] it is guaranteed by [...] the ordinary practices well established among human beings” (at best relying on an implicit verificationism: Strawson 1994, 211). The defence that “I” is immune to error in referring to an embodied subject must be the conclusion of one’s enquiry in this area.

In contrast, the conception of the self as an embodied being is the *outcome* of my enquiry. My argument has been that the immunity to error through misidentification relative to “I” is *absolute*, whatever the self-ascriptive component. One reason for this is that self-identification is *always* presupposed by *any* possible self-ascription. On Descartes’ insight, the immunity to error relative to “I” is not simply guaranteed by the perpendicular pronoun, the logic of indexicals, the ordinary practices of humans, or “the ordinary ways of talking” (AT 7, 36; CSM 2, 21), but by an ontological underpinning: a real, thinking, acting subject. This has significant implications for the move from selfhood to personhood.

But first, an explanation, albeit brief, of the *second* immunity is required. This immunity occurs with “I”-thoughts whose self-ascriptive component involves the self-ascription of certain mental properties (cogitations of reason, e.g., thinking or doubting; and cogitations of reason mixed with the senses, e.g., feelings or sensations).

I say *certain* because the second immunity does not occur in all cases of mental self-ascription. In self-ascriptions such as “I am in pain,” there is no question, not only that it is *I* who is in pain (a result of the first immunity), but also that it is *pain* that I feel (a result of the second immunity). Such statements have a *double* immunity.

In cases of mental self-ascription such as “I am seeing a bird,” however, the second immunity might not hold. But the identification component remains immune to error through *misidentification* relative to “I” absolutely, since there is no question *that* I am seeing, even if *what* I am seeing might be subject to doubt.

The second immunity might also not hold in cases of bodily self-ascription. If, say, in a mirror I see a leg bleeding and think it is mine, but in fact it is another person’s leg, then I am mistaken in thinking that my leg is bleeding. That, however, is not a case of erroneously misidentifying myself, or *my* leg, but of misidentifying *the* leg that is bleeding, or *the* person whose leg is bleeding. My mistake is established by determining the ascriptive component, *not* the identification component which remains immune to error absolutely. This is not a trivial consequence of the use of language, or of Strawsonian ordinary practices among humans, but has its roots in the nature of “my whole self,” as Descartes argues, the embodied human being or person. The question of whether first-person statements can be subject to error in self-ascription depends on *conscientia* as self-knowledge, of finding truths about oneself as being in a certain way. But now we are in the realm of the immunity to error through *misascription* (for a detailed discussion see Christofidou 2000, part. 4).

What I should add to my discussion (Christofidou 2000) is that the second immunity holds in the self-ascription of *all* acts of the mind, intellectual and sensory, since one is indubitably and *immediately* aware of them while they are

taking place, presupposing the unity of the mind, and in turn the unity and irreducibility of “the same *I*”: “Ego sum res cogitans [...] et sentiens.” All acts of the mind have a *double* immunity. The *self* is the irreducible “anchoring point” (Shoemaker 1984, 18) of each thinker, safeguarding its unity and numerical identity to which any conception it can have of itself must refer (*Second Meditation*, AT 7, 25; *Third Meditation*, AT 7, 36; see Christofidou 2022), manifesting the connection “between its persistence and its existence, and between its existence and [however minimal its knowledge] the kind of thing that it is” (Wiggins 1980, 54–5).

“*I*”-thoughts make vivid the fact that the thinker’s continuity and numerical identity across time involves “no keeping track of the object from *t* to *t*₁.” There is “no need for any skill or care (not to lose track of something) on the part of the subject” since “*I*”-thoughts do not form *dynamic* Fregean thoughts: there is no shifting from “*I*”-thoughts to “*you*”-thoughts or “*it*”-thoughts as one thinks of oneself over time, since they “could not be connected by expressing a single dynamic thought” (Evans 1981, 295; see Christofidou 2022).⁴⁹ It is not merely that thinking cannot be conceived apart from a thinking subject, but more substantially that thinking, sensing, and acting *are* inseparable from the nature of the self, who is the source, not the outcome, of thoughts, freedom, and actions.

In self-identification one is *consci*us of oneself in a “primitive way,” as Frege argues—in an irreducible and unanalysable way (Frege 1967, 25–6). The Fregean *sense* (the mode of presentation) of the referring singular term “*I*” is *entity*-invoking, it directly picks out something in reality: the thinking acting sensing subject. This special, primitive or irreducible way of being *consci*us of the referent can be explained by the fact that in first-person reference, unlike any other kind of reference, there is no gap between the subject and the referent which needs to be filled by evidence or criteria of identification.⁵⁰ In first-person reference the object of the “*I*”-thought is identical with the subject.

That’s the power of the *Ego sum, ego existo*: what is grasped is the *basis*, not a consequence of the signification of “*I*.” Yet, despite his insight, Descartes does not argue that the immunity to error through misidentification entails that *I* am either a bodily thing, or simply a thinking thing.⁵¹ Descartes does not argue, even in the *Sixth Meditation*, that the *I* or self is disembodied, only that it is logically possible (AT 7, 78)—clearly missed by many commentators and critics alike over the centuries.⁵²

⁴⁹ Thiel states that Descartes failed to give an account of the identity of the soul over time: Thiel 2011, 38. Evans’s account and my interpretation of it, provide an adequate response to this.

⁵⁰ For a fuller discussion see Christofidou 2000; Christofidou 2013 chapters 2–3; Christofidou 2022.

⁵¹ *Contra* Strawson’s misattributions, labelled “the Cartesian illusion”: Strawson 1966, 163–74.

⁵² For drawing the *real distinction* between the nature of mind and body (*corpus*), it’s sufficient that *I* clearly and distinctly understand myself “*in so far as I am simply a thinking thing*” (without including imagination and sense perception, despite their being inseparable from my nature); and “on the other hand [that] *I have a distinct idea of body, in so far as this is simply an extended [...] thing*” (AT 7, 78; CSM 2, 54; see also Christofidou 2013; Christofidou 2018).

Two key points follow: first, the immunity to error through misidentification is straightforwardly caught up in the metaphysics of selfhood and personhood. In “I”-thoughts, self-identification is immune to error through misidentification relative to “I” *simpliciter*—whatever the self-ascriptive component. Secondly, the significant implication of all this is that the immunity to error through misidentification and the identification free-self-reference are guaranteed for both the self *qua* thinking *I*, and “my whole self”—the self substantially united with the body constituting a person (letters to Elisabeth, 21 May 1643, AT 3, 664; 28 June 1643, AT 3, 691; CSMK, 226).

10.2 The Metaphysics of the Union or Personhood

The self of the *Second Meditation* is indubitably endowed with reason’s authority and objectivity, the will’s autonomy of freedom, and its inseparability from “I”-thoughts, *conscientia*, self-identification and self-ascription. It is a real, true, thinking and sentient being, even if its understanding of its nature is epistemic, not yet metaphysical. Such a conception, which begins in the *Second Meditation*, leads through the strict order of reasoning of clear and distinct discoveries, towards the conception of “my whole self” in the *Sixth Meditation*—a conception of an embodied self, an irreducible notion of personhood.

When Descartes reaches the *Sixth Meditation*, the most important root idea of personhood is that I am not “present in my body as a sailor is present in a ship, but I am [...] intermingled [*conjunctum*] with it, so that I and my body form a unit” (AT 7, 82; CSM 2, 56; *Discourse*, AT 6, 59)—a *unio substantialis* “ordained by nature” (*Optics*, AT 6, 130; CSM 1, 167).

I have recently discussed at length the union and offered a metaphysical solution to the interaction between mind and the body (Christofidou 2019). Here I shall draw on what is relevant to my present purposes. The union of mind and the body is not the result of their interaction. Rather, their interaction *presupposes* their substantial union. This has significant implications for our current debates in this complex area of metaphysics, negating any historical distance.

In defending the substantial union, Descartes writes to Regius: “a human being is a true *ens per se* [a true entity in itself], and not an *ens per accidens* [accidental entity].” The mind and the human body are united, not by “the mere presence or proximity of one to another, but by a true substantial union” (letter to Regius, January 1642, AT 3, 493 and (508); CSMK, 206 and 209; December 1641, AT 3, 460–61).⁵³ Descartes expresses the fact that the mind–body interaction cannot in any way, metaphysical, epistemic, or scientific, be the same as or compared to other entities whose interaction presupposes no union.

He writes to Elisabeth: “I think that we have hitherto confused the notion of the soul’s power to act on the body with the power one body has to act on another” (letter to Elisabeth, 21 May 1643, AT 3, 667; CSMK, 218). Similarly, to Gassendi:

⁵³ Also letter to Elisabeth, 28 June 1643, AT 3, 691; *Fourth Set of Replies*, AT 7, 227–28.

when you try to compare the intermingling of mind and [the] body with the intermingling of two bodies, it is enough for me to reply that we should not set up any comparison between such things because they are quite different in kind (*Fifth Set of Replies*, AT 7, 390; CSM 2, 266),

though they are all subject to his single *causal principle*, which is neutral as to the causal relata (*Third Meditation*, AT 7, 40).

What is unique and marks that “difference in kind” is a metaphysical necessity: the *presuppositionality* of the substantial union, without which a human being would not be a human being: “a true mode of union, as everyone agrees, though nobody explains what this amounts to” (letter to Regius, January 1642, AT 3, 493 and (508); CSMK, 206 and 209).

What nobody has explained—then or now—is not only the truth of the substantial union, but its *uniqueness*. It is unique because innumerable causal interactions, body–body interactions, occur in the world without presupposing a union, a principle of true unity.

Therefore, no explanations of body–body causal interactions can be used either against Descartes or in defence of his bidirectional mind–body causal interactions, because the latter would not occur without the mind–body substantial union. The reason for this constraint is that without the substantial union we would not have experiences, sensations, pains, feelings, sense perceptions, etc. Nor would the mind “incline its will” to action (letter for [Arnauld], 29 July 1648, AT 5, 222; CSMK, 357).

Without the presupposition and uniqueness of the substantial union, we would be only detachedly aware of causal effects, like sailors in ships having simply “an explicit understanding of the facts” (*Sixth Meditation*, AT 7, 81; CSM 2, 56). But that is all contradicted by the irreducible and undeniable facts of self-conscious awareness. Epistemically or phenomenologically, the substantial union is the only way to understand *how* we are, and *why* we feel so intimately united with our bodies.

Metaphysically, however, the substantial union does not follow from our experience or first-person awareness of interaction: the union is presupposed by the interaction—a union that can be clearly grasped by the intellect (Christofidou 2019).

The metaphysics of the union or personhood can be given a two–fold defence. First, the union is not up to us or our theories because it “is not accidental to a human being, but essential, since a human being [a person] without it is not a human being” (letter to Regius, January 1642, AT 3, (508); CSMK, 209), whose true nature arises *from* the union, an irreducible unity *per se*.⁵⁴ Secondly, a person is neither a physical, neurobiological particular, nor a disembodied mind

⁵⁴ This is consistent with the position that mind and body are really distinct in their nature and *can* exist without each other. For how one entity, a person, can be constituted by two substances (strictly, the human body is not a substance), see Christofidou 2013, 221–26.

or ego; a person is an irreducible, unanalysable true entity—neither a mind nor a body (*Comments on a Certain Broadsheet*, AT 8-b, 351).

Descartes, insightfully, turns past and present theories of mind–body interactions on their heads: there is no more profound unity than that of mind–body union presupposed by mind–body interactions. There is a clear parallel between the metaphysics of the substantial union and (a) the metaphysics of the unity of *conscientia*, and (b) the metaphysics of the unity of an irreducible self who is the metaphysical and explanatory ground of personhood.

Metaphysically, the substantial union is the only way to understand *what* we are as persons: embodied, thinking, acting agents in the spatiotemporal world, who take responsibility for our metaphysical, epistemic, scientific, and moral commitments, our acts and actions.

11. Concluding Remarks

Drawing on Descartes' metaphysics and on "Cartesianism and Beyond," that is, on some parts of contemporary philosophy, I have offered a resolution to the controversy that surrounds *conscientia*, and provided a basis for a unified account of selfhood, *conscientia*, the first person, and personhood—an account which is philosophically the closest to Descartes' insightful conception.

I have demonstrated that arguments in contemporary debates on the complexities of the self have tried to explain the immunity to error in first-person thoughts by—at best—explaining the first immunity, but have given us no grip on the second immunity. These arguments seem to share a mistaken premise that judgements involving the self-ascription of bodily properties can only be circumstantially or non-absolutely immune to error through misidentification relative to "I." My arguments have exposed the mistaken premise that conceives the body as external to the thinking acting subject, a view that fails to appreciate the fact that there is *unique substantial union* presupposed by their interaction, as Descartes argues, constituting a person. This is important, for it helps bring home to us the fact that there is nothing in the use of "I" that forces upon us either a distinction between absolute and circumstantial immunity to error or, more seriously, an actual separation between the two components of our nature. Nor does it force upon us an actual disjunction: neither a physicalist, neurobiological conception, nor an idealist conception of what we are. We come to realise that we are substantially united, embodied, self-conscious beings, each of which has reason and reflection and can think of itself *as* itself, a thinking, acting, free being—a person, a true *ens per se*. A person, unlike any other entity in the world, acts not only in accordance with laws, but *from* a clear recognition of principles, *under* the idea of freedom.

Freedom in its internal relation to reason, the highest grade of freedom, is "the greatest good [...] the supreme good [...] the noblest thing we can have [...] [and] seems to exempt us from being [God's] subjects" (letter to Queen Christina, 20 November 1647, AT 5, 81–6; CSMK, 324–26). It clearly exempts us from being subjected to physicalism or neurobiologism. Freedom, in its highest

grade, confers upon us autonomy, self-determination, and epistemic and moral responsibility, making us “in a special way the author[s] of [our] actions” (*Principles* I:37, AT 8-a, 18; CSM 1, 20S).⁵⁵

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⁵⁵ I should like to thank Andrea Strazzoni and Marco Sgarbi for organising a series of seminars on *Cartesianism and Beyond*, in March–June 2022, which I attended and, as a consequence, for inviting me to contribute to this special edition of a collective volume related to the seminars. I should also like to thank Peter J. King for his valuable comments and numerous discussions.

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The Development of Descartes' Idea of Representation by Correspondence

Hanoch Ben-Yami

Abstract: Descartes was the first to hold that, when we perceive, the representation need not resemble what it represents but should correspond to it. Descartes developed this ground-breaking, influential conception in his work on analytic geometry and then transferred it to his theory of perception. I trace the development of the idea in Descartes' early mathematical works; his articulation of it in *Rules for the Direction of the Mind*; his first suggestions there to apply this kind of representation-by-correspondence in the scientific inquiry of colours; and, finally, the transfer of the idea to the theory of perception in *The World*.

Keywords: René Descartes, representation, geometry, perception, colour.

1. Introduction

In my book, *Descartes' Philosophical Revolution: A Reassessment* (Ben-Yami 2015), I have shown in some detail that Descartes was the first thinker to hold a theory of representational perception with all the following characteristics:

- When we see colours, we are immediately aware of ideas of colour in our mind.
- The colour in the things we see causes our idea of colour.
- The idea of colour *represents* the colour in seen things.
- The colour in seen things does not *resemble* the idea of colour.
- The representation, when adequate, is so because it *corresponds* with what it represents.

(I focus here on vision, although the theory is supposed to apply to other sensory modalities as well). These characterisations of Descartes' view are all found in the scholarly literature and most are common in it, yet like so much else in this literature, some have been challenged. I provided in my book evidence for this interpretation of Descartes' theory and argued against some alternative ones (Ben-Yami 2015, chapter 2), and I shall assume it in what follows.

Theories of representational perception were common from antiquity onwards (Ben-Yami 2015, section 2.3, 33–43), yet Descartes' theory is original in several respects. For instance, Descartes is the first to hold that the representation of which we are directly aware is in the mind and not in the sense organs.

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Referee List (DOI 10.36253/fup_referee_list)

FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

Hanoch Ben-Yami, *The Development of Descartes' Idea of Representation by Correspondence*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.04, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 41-57, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

This aspect of his theory, however, is one on which I shall not dwell in this paper. The innovative claim I shall discuss below is that the representation is adequate not through *resembling* what it represents but through having some sort of *correspondence* with it. This representation through correspondence, without resemblance, is true not only for the representation of colours by the ideas of colour in the mind, but also for their representation in the nervous system by various patterns of flow of animal spirits. I have provided in my book a historical survey to support my claim that the correspondence-without-resemblance view of representation was an innovation of Descartes' (section 2.3).

Descartes was aware of this innovative aspect of his theory of representation and of the consequent need to explain and justify it, something he therefore does at a few places in his writings. One place in which we find such a detailed explanation is the fourth discourse of his *Optics*. Descartes first explains why representation by means of resemblance is impossible in the case of vision:

We must take care not to assume—as our philosophers commonly do—that in order to perceive, the soul must contemplate certain images transmitted by objects to the brain; or at any rate we must conceive the nature of these images in an entirely different manner from that of the philosophers. For since their conception of the images is confined to the requirement that they should *resemble* the objects they represent [*avoir de la ressemblance avec les objets qu'elles représentent*], the philosophers cannot possibly show us how the images can be formed by the objects, or how they can be received by the external sense organs and transmitted by the nerves to the brain (*Optics*, Discourse IV, AT 6, 112; CSM 1, 165; emphasis added).¹

Having noted this, he continues to show, with an example taken from perspectival engravings, how an adequate representation sometimes *should not resemble* what it represents:

Moreover, in accordance with the rule of perspective, [engravings] often represent circles by ovals better than by other circles, squares by rhombuses better than by other squares, and similarly for other shapes. Thus it often happens that in order to be more perfect as an image and to represent an object better, an engraving ought not to resemble it (*Optics*, Discourse IV, AT 6, 113; CSM 1, 165–66).

He concludes that this is the case with vision, where what is crucial is *correspondence* between representation and what is represented, and not resemblance:

Now we must think of the images formed in our brain in just the same way, and note that the problem is to know simply how they can enable the soul to perceive all the various qualities of the objects to which they correspond [*les diverses qualités des objets auxquels elles se rapportent*]—not to know how they can *resemble* these objects (*Optics*, Discourse IV, AT 6, 113; CSM 1, 166; emphasis added).

¹ I almost always use existing translations, occasionally with minor revisions which I don't note.

His theory of representation in perception indeed involves correspondence without resemblance. This was a breakthrough in the understanding of representation generally and in the implementation of the idea in theories of perception, in philosophy as well as in physiology. From Descartes on, physiologists have developed models that explain how the nervous system preserves the *information* about the perceived objects, and did not try to explain how the colours of the things we see are *reproduced* in the brain.

A question that arises at this place is, why was *Descartes* the first to think of this kind of representation? One might of course claim that Descartes was a genius of sorts, and that a genius was needed to come up with this idea. History, however, has not been short of geniuses, and yet it was Descartes who first understood this possibility, so this response is insufficient. We need to understand what was special in Descartes' *circumstances* that made the idea of representation by correspondence accessible to him.

The answer I suggested in my book (section 3.3) was that Descartes transferred the idea of such a representation from analytic geometry to the theory of perception. In analytic geometry, algebraic entities represent geometric ones, and vice versa. This representation is of course devoid of any resemblance, while the different domains have corresponding structures that enable the representation. Accordingly, the idea of representation by correspondence was available to Descartes from his work in analytic geometry. In mathematics, work done during the last decades of the sixteenth century prepared the ground for the development of analytic geometry, which was indeed developed independently by Descartes and Fermat in the sixteen-twenties (Ben-Yami 2015, 241, note 20).

However, the treatment of the subject in my book left much work to be done. I did not trace there the development of Descartes' mathematical thought in a way which shows that the idea was available to him by the time he developed his theory of perception, and neither did I show in detail how the transfer of the idea from one domain to the other was accomplished. This is what I intend to do in this paper.

Descartes' mathematical thought developed gradually. We find him working on mathematical problems and methods quite early, in November 1618, following his meeting with Beeckman, but this does not mean that the developed techniques of his 1637 *Geometry*, their articulation and their application to complex problems occurred immediately. For instance, Descartes tried to solve Pappus's problem, which plays a central role in his *Geometry* and in demonstrating the power of his method, only in late 1631, after the Dutch mathematician Jacobus Golius had urged him to do so (Shea 1991, 60; Sasaki 2003, 3 and 206–7). Moreover, the stages of the development of Descartes' mathematical thought are controversial (see e.g., Rabouin 2010). His mature theory of perception, on the other hand, is already present in *The World*, which he started writing in 1629.² To defend the thesis of this paper it needs to be shown that

² By *The World* I refer to both treatises, *Light and Man*.

his understanding of representation by correspondence had been developed before that time.

The use of a technique and its clear conceptualisation do not necessarily arise together. In fact, one often acquires the former, albeit possibly to a limited degree, before the latter, and can describe it only through reflection on its existing use, a description that can then contribute to the technique's improvement. We should therefore expect that these stages might be found in Descartes' writings as well. Yet, as we shall see, both the technique and its articulation had been fully developed before Descartes started to work on *The World*.

Recourse to analytic geometry in order to explain the origin of the idea of representation by correspondence without resemblance might seem to introduce redundant complexities: hasn't *language* been available to Descartes, demonstrating this sort of representation? Moreover, doesn't Descartes *use* language to demonstrate this very idea of representation, already on the first pages of *The World* (AT 11, 4)?—I think that Descartes *did not* think of language as a representational medium, and that in the mentioned passage in *The World* he is arguing for a different point, namely, the possible lack of resemblance between cause and effect, as is also clearly seen in its later reworking in the *Principles of Philosophy* IV:197. Since I argued for this in detail in (Ben-Yami 2021), I shall not discuss it again in this paper.³

2. Earliest Mathematical Writings

2.1 *Cogitationes privatae*

The *Cogitationes privatae* or *Private Thoughts* of Descartes', which is known to us mainly through a copy made by Leibniz in June 1676, dates from 1619–1620⁴ and contains the earliest mathematical writings of Descartes' (a few earlier ideas are mentioned in Beeckman's diary). I shall discuss here one problem that Descartes tries to solve in this work (AT 10, 234–35), which contains the most elaborate applications there of his technique of representing one domain by another.

Descartes asserts that he has found the solution of the equation $x^3 = 7x + 14$ and similar ones. In this context, finding the solution means, for him, specifying a geometric-mechanical procedure that yields a line whose length is the solution of the equation. From Euclid's day to Descartes', solving a problem meant finding a *construction* with the required properties (Shea 1991, 45). Accordingly, Descartes does not look for a method of arithmetical calculation that would yield the solution, as one might do today. Solving the equation thus involves the use of an instrument, and in this case, one invented by Des-

³ My 2021 paper supersedes my earlier discussion of this question in Ben-Yami 2015, 72–4.

⁴ For the history of the manuscript and of Leibniz's copy, both now lost, see Sasaki 2003, 109.

cartes, which he describes in the *Private Thoughts* and calls a *mesolabe compass* (AT 10, 238–39).⁵

The drawing in the *Private Thoughts* as well as the explanation there are not too clear, but luckily Descartes provides a more detailed description in the *Geometry*, accompanied by a more informative drawing. I shall therefore explain the working of the instrument by reference to them.

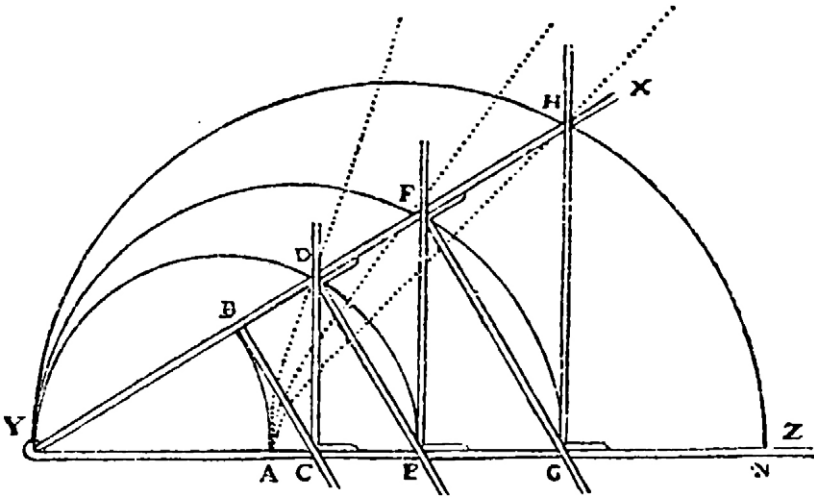


Figure 1 – Descartes' Mesolabe Compass (AT 6, 391; public domain).

The mesolabe is shown in Figure 1, taken from the *Geometry*. Its operation is as follows. While arm YZ remains stationary, arm YX can rotate around Y as axis. The ruler BC is fixed at a right angle relative to YX at point B. The rulers CD, EF and GH are at a right angle to YZ, and DE and FG, and they are all mobile. When we open arm YX,

the ruler BC, which is joined at right angles to XY at point B, pushes the ruler CD toward Z; CD slides along YZ, always at right angles to it, and pushes DE, which slides along YZ, remaining parallel to BC. Then DE pushes EF, EF pushes FG, which pushes GH. And one can conceive of an infinity of other rulers, which are pushed consecutively in the same way, of which the ones always maintain the same angles with YX, the others with YZ (*Geometry*, Book II, AT 6, 391; translation, slightly altered, taken from Descartes 2001, 192).

The construction of the mesolabe makes the triangles YBC, YCD, YDE, and so on all similar.

⁵ Descartes was led to the invention of his mesolabe through his work on music, contained in his *Compendium of Music*. When studying the work of Gioseffo Zarlino he came across Eratosthenes' mesolabe, which inspired his own. See Shea 1991, 38–40.

We can now turn back to the *Private Thoughts*. Descartes reduces there the equation, $x^3 = 7x + 14$ to the equation, $x^3/7 = x + 2$ and mistakenly claims that if he solves the equation, $x^3 = x + 2$ and then multiplies the solution by 7, he will find a solution to the former equation. He then introduces his mesolabe (Figure 2).

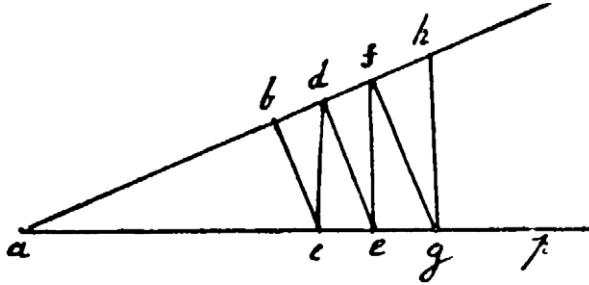


Figure 2 – The *Private Thoughts*' Mesolabe (AT 10, 234; public domain).

As we saw above, the triangles abc , acd , ade , etc. are similar. We therefore have:
 $ab:ac = ac:ad = ad:ae = \dots$

Setting $ab = 1$ and designating $ac = x$, we get:

$$ab = 1, ac = x, ad = x^2, ae = x^3$$

If we now open the mesolabe's arm ah until we get $ce = 2$, so that $ac + 2 = ae$, measuring the length ac will provide us with the solution of the equation, $x^3 = x + 2$.

What kind of representation do we witness in this case? First, numbers are represented by lines ($ab = 1$, $ac = x$ etc.). Moreover, addition of numbers is represented by addition of lines and ratios are represented through geometric relations, and in this way we obtain square numbers, cubes of numbers, etc., represented by lines (e.g., $ae = x^3$). Namely, already at this early stage of Descartes' mathematical thought, we find representation of items of the domain we investigate (numbers, algebra) by means of geometric entities through correspondence, without resemblance, and manipulation of the geometric entities leads to the solution of the algebraic problem.

2.2 *De solidorum elementis*

In 1676, Leibniz copied a manuscript which Clerselier held and that was later lost, which he titled *Progymnasmatata de solidorum elementis excerpta ex manuscripto Cartesii* (*Preliminary Exercises on the Elements of Solids Extracted from a Manuscript of Descartes*). Leibniz's manuscript, which is dense and hard to read and comprehend, is still extant. By now there are two detailed and careful studies of it, which include a transcription and translations into English and French, by Pasquale Joseph Federico and Pierre Costabel (Federico 1982; Descartes 1987). The date of the manuscript has been debated, but it seems safe to date it to the years 1619–1623 (see Sasaki 2003, chapter 3, section 3D).

In the first part of this short work, Descartes tries to prove that there cannot be more than five regular polyhedrons. This has been proved already in antiquity, but by purely geometric considerations; the innovation in Descartes' approach is that he tries to do that by algebraic means. This aspect of his work makes it relevant to our interests here.

Descartes designates the number of solid angles by α , and the number of faces by a cossic symbol which I shall replace here with β . He then adduces various considerations and concludes that both $(2\alpha - 4)/\beta$ and $(2\beta - 4)/\alpha$ should be integers. A simple calculation then shows that there are exactly five solutions to the ordered pair (α, β) : (4, 4), (6, 8), (8, 6), (12, 20) and (20, 12). These solutions yield the five regular polyhedrons.

The solution of this problem uses representation of geometric properties in an algebraic medium. The representational relations that are involved, as well as the manipulations needed to solve the problem, are more elementary than what we have seen in the *Private Thoughts* problem. However, the fact that now geometry is represented by algebra evinces a degree of abstraction in the approach to representation by correspondence: not only geometric entities do the representational work, but whichever medium that can serve to solve the problem addressed.

2.3 Descartes' "Old Algebra"

In a letter to Mersenne from early 1638, Descartes mentions a work to which he refers as his old *Algebra*, "ma vieille Algèbre" (AT 1, 501). The work is probably identical with a book Descartes showed Beeckman when they met in October 1628, the first meeting since they had parted in 1619. Later, in 1638, Descartes already thought that it was a work "not worth being seen" (AT 1, 501), having been superseded by his *Geometry*. However, it contained work from the mid-twenties, and as such represents an important stage in the development of his mathematical thought: later than the earliest works of 1619–1623 but still preceding the period of *The World* and *Geometry*. Moreover, Mersenne mentioned in his *Harmonicorum libri* (*Books of Harmony*: Mersenne 1636, 146–47) a proof that Descartes' work contained as one that Descartes had shown him in the summer of 1625. Accordingly, this proof, which I shall mention next, probably precedes also at least much of the work on *Rules for the Direction of the Mind*, which I consider in the next section. Other parts of the old *Algebra* may also be as early, but certainly precede the work on *The World*.

The old *Algebra* did not survive, but we learn about some of its contents from the reports of Mersenne and Beeckman. Two problems that Beeckman reports interest us here. Beeckman describes the first as, "It Is Demonstrated That One Can Find Two Mean Proportionals by Means of a Parabola" (AT 10, 342). Descartes finds the mean proportionals by intersecting a circle and a parabola. This is an advanced use of geometry to solve an arithmetical problem. I shall describe in more detail, however, the second problem, which demonstrates an even more advanced use of the representational technique.

Beeckman describes the second problem as follows:

With the help of a parabola to construct all solid problems by a general method. That M. Descartes in another place calls a universal secret to resolve all equations of third and fourth dimension by geometric lines (AT 10, 344; translation taken from Sasaki 2003, 172).

The equations Descartes discusses are of the form, $x^4 = \pm px^2 \pm qx \pm r$.⁶ Descartes describes the construction given in Figure 3.

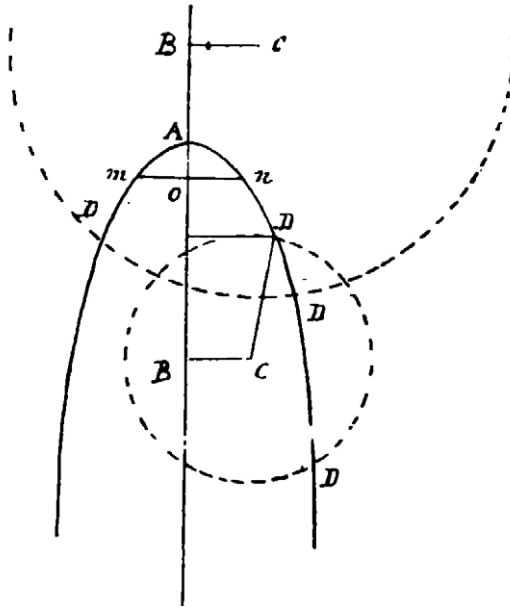


Figure 3 – Descartes' Construction for Fourth-degree Equations (AT 10, 345; public domain).

I shall consider only the case in which all signs are positive, namely, $x^4 = px^2 + qx + r$. The construction proceeds as follows. We draw a parabola with a vertical axis, vertex A as highest point and *latus rectum* 1. Take $AB = (1 + p)/2$ from A down along the axis. Next, take $BC = q/2$ perpendicular to the axis either to the right or to the left (to the right). Take a line segment of length $= \sqrt{(CA^2 + r)}$ and draw a circle with centre C and this segment as radius. The circle intersects the parabola at points D; draw perpendiculars from points D to the axis. These segments from the axis to D are the solutions; if D is at the same side of the axis as C, then the segment gives a positive root, while otherwise it gives a negative one.

⁶ I follow in my presentation Bos 2001, 256–57, where a modern proof of the correctness of the solution is also found. See also Shea 1991, 54–7.

This complex construction is doubtlessly a great achievement. Little wonder Descartes was highly pleased with his achievements, and with characteristic modesty told Beeckman

that insofar as arithmetic and geometry were concerned, he had nothing more to discover; that is, in these branches during the past nine years he had made as much progress as was possible for the human mind (AT 10, 331, translation taken from Sasaki 2003, 159).

Irrespective of that, it is clear from the construction that by the mid-sixteen-twenties Descartes has made great progress in the technique that interests us: Complex entities of one domain are represented by those of another; in addition, the representation is through correspondence and without resemblance; the representing medium is again geometry; and complex manipulations in the representing medium track properties of the represented one, in this case algebraic equations, and in this way problems pertaining to the represented domain are solved.

3. *Rules for the Direction of the Mind*

Anything written on Descartes' *Rules for the Direction of the Mind* (*Regulae ad directionem ingenii*), and certainly any work that makes claims about the development of his thought, should be reconsidered now that the recently discovered purportedly early manuscript version of *Rules* has been published. However, this paper had been submitted and gone through revisions before the publication of that manuscript (April 2023), and the author could not therefore do that. In case that manuscript shows that important revisions or additions should be made to the analysis below, I hope to publish these later, at least as online material.⁷

3.1 The Method

Descartes worked on *Rules* from sometime in the mid-twenties until he moved to Holland in late 1628, leaving the work unfinished. Accordingly, the significant mathematical achievements discussed above antedate this work. The impression they left on Descartes is apparent in what *Rules* tries to develop: a scientific methodology based on the method that Descartes has been successfully applying in his mathematical work.

Rules 13 to 24 were supposed to discuss the method, but of these only rules 12 to 18 are developed, while rules 19 to 21 consist of titles alone, and the rest not written. However, the method of representing the object of research by means of geometric entities is clearly described.

Descartes' science is a mathematical science, dealing with quantities. All the examples he provides are from physics, which is also, apart from pure mathematics, the subject that he investigated in his earlier writings (e.g., *Private Thoughts*,

⁷ The recent study of *Rules* by Tarek R. Dika (Dika 2023) was also published too late (March 2023) to be consulted for this work.

AT 10, 219 and following). The ideal of science to emerge from *Rules* is thus that of mathematical physics. This science deals with quantities, which according to Descartes should be represented in abstraction from their specific subject-matter:

We can also see how, by following this Rule, we can abstract a problem, which is well understood, from every irrelevant conception and reduce it to such a form that we are no longer aware of dealing with this or that subject-matter but only with certain magnitudes in general and the comparison between them (*Rules*, Rule 13, AT 10, 431; CSM 1, 52).

Moreover, the magnitudes are to be represented by means of geometric entities. The title of Rule 14 is:

The problem should be re-expressed in terms of the real extension of bodies and should be pictured in our imagination entirely by means of bare figures (AT 10, 438; CSM 1, 56).

These geometric entities are the preferred means of representation because it will be very useful if we transfer what we understand to hold for magnitudes in general to that species of magnitude which is most readily and distinctly depicted in our imagination. But [...] this species is the real extension of a body considered in abstraction from everything else about it save its having a shape. [...] Let us then take it as firmly settled that perfectly determinate problems present hardly any difficulty at all, save that of expressing proportions in the form of equalities, and also that everything in which we encounter just this difficulty can easily be, and ought to be, separated from every other subject and then expressed in terms of extension and figures (AT 10, 441; CSM 1, 58).

Descartes clearly transfers his mathematical technique to scientific enquiry generally. So much so that he next writes,

At this point we should be delighted to come upon a reader favourably disposed towards arithmetic and geometry [...] For the Rules which I am about to expound are much more readily employed in the study of these sciences (where they are all that is needed) than in any other sort of problem (AT 10, 442; CSM 1, 58).

Still, while Descartes sees the method as clearly *exemplified* in mathematics, its use is far wider:

These Rules are so useful in the pursuit of deeper wisdom that I have no hesitation in saying that this part of our method was designed not just for the sake of mathematical problems; our intention was, rather, that the mathematical problems should be studied almost exclusively for the sake of the excellent practice which they give us in the method (AT 10, 442, CSM 1, 59).

Accordingly, when writing *Rules* Descartes was not only in full mastery of his mathematical method but he also explains it clearly, and moreover generalises its applicability to all domains of scientific enquiry. It involves representation of *any* subject matter by means of geometric entities. Clearly, usually no resem-

blance exists in such representations, although the properties and relations of the represented correlate with the representing geometric properties.

Descartes' conceptualisation of his method in *Rules* agrees with that found about a decade later in his *Discourse on Method*:

All the special sciences commonly called 'mathematics' [...] agree in considering nothing but the various relations or proportions that hold between their objects. And so I thought it best to examine only such proportions in general, supposing them to hold only between such items as would help me to know them more easily. At the same time, I would not restrict them to these items, so that I could apply them the better afterwards to whatever others they might fit. [...] I thought that in order the better to consider them separately I should suppose them to hold between lines [...] But in order to keep them in mind or understand several together, I thought it necessary to designate them by the briefest possible symbols. In this way I would take over all that is best in geometrical analysis and in algebra, using the one to correct all the defects of the other (*Discourse*, AT 6, 19–20, CSM 1, 120–21).

Unlike *Rules*, this later description of the method is supposed to apply only to the mathematical sciences, without claiming at this place that the method is applicable in all of science. And although the relations or proportions are here said to be represented only by lines, the practice of the *Geometry*, published together with the *Discourse*, shows that these lines are often used to construct more elaborate curves in order to achieve adequate representation of complex relations. We thus see that the methodology of *Rules* is that found in the mature description of the *Discourse*. Descartes of *Rules* is in full mastery of the representational technique of his later *Geometry*, as well as of its conceptualisation.

3.2 The Application in Perception

An important example in *Rules* of the application of the method is that to the study of perception, and more particularly of sight. I have argued in my book that while writing *Rules*, Descartes did not yet hold his later theory of the physical world as being pure extension but that he rather thought, following the Aristotelian tradition, that objective colour resembles our idea of colour (Ben-Yami 2015, 45; here and below I use "objective" in our contemporary sense, not in Descartes'). It follows that representation of colour and of the idea of colour by geometric figures is not through resemblance.

Descartes' discussion of the representation of colour occurs while discussing our cognitive powers (AT 10, 412–17). As with all other objects of scientific inquiry, it too, and all other qualitative sensory properties, should be represented by geometric figures. As Descartes writes later in the book,

One thing can of course be said to be more or less white than another, one sound more or less sharp than another, and so on; but we cannot determine exactly whether the greater exceeds the lesser by a ratio of 2 to 1 or 3 to 1 unless we have recourse to a certain analogy with the extension of a body that has shape (AT 10, 441; CSM 1, 58).

Descartes should therefore provide a way of representing colours by shapes or figures. He thus asks us to “conceive of the difference between white, blue, red, etc. as being like the difference between the following figures or similar ones,” as in Figure 4 (AT 10, 413; CSM 1, 41):

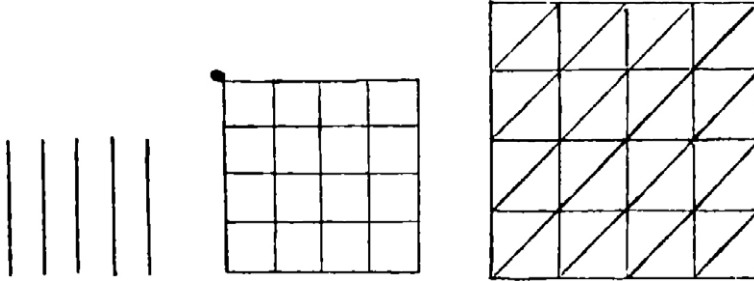


Figure 4 – Descartes’ Representation of Colours in *Rules* (AT 10, 413; public domain).

Descartes does not explain at this place or anywhere else why he suggests *these* figures. Probably, the five vertical lines represent white, conceived of as the simplest, purest colour. But why should then qualitative blue be represented by a pattern of squares and qualitative red by the same pattern with diagonal lines added, and whether the increasing proportions of the drawings play any role in the representation, is hard to figure out. I am not familiar with any theory of colour in Descartes’ writings or of his time that sheds any light on these representations. His later theory of objective colour in the purely extensional physical world is unrelated to these representations: colour is there the ratio between the pressure in the direction of propagation of light and the rotational pressure of the globules whose pressure is light (*Meteorology*, Discourse VIII, AT 6, 333–35; *Description of the Human Body*, AT 11, 255–56; letter to Mersenne, December 1638, AT 2, 468). This later theory allows each colour to be represented by two lines, one that represents the translational pressure and one that represents the rotational pressure relative to the translational one. It therefore makes the representation of red in *Rules* by squares with diagonals unnecessary and even meaningless. (This also shows that at the *Rules* stage, Descartes did not hold his later “geometric” theory of colour). Accordingly, Descartes’ later theory does not help us understand his suggestion for the representation of colours in *Rules*.

Whatever the reasons for *Rules*’ suggested scheme of representation of colours are, we have here a representation of qualitative, sensory qualities by geometric figures. This representation is supposed to be by means of some correspondence, obviously without resemblance, between the properties of the representing medium and what is represented. Accordingly, while writing *Rules*, motivated by his ideal of mathematical physics and consequent representational methodology, Descartes conceived of a systematic correspondence between colours and geometric figures and properties, which enables the one to represent the other.

4. From *Rules* to *The World*

When Descartes wrote the first few pages of *The World*, he already held the view that the ideas of light, colour and other sensory qualities do not resemble the things they are ideas of—the objective light, colour, and so on—a view he mentions there. Moreover, as is clear from later in that work, he also already held the view of the physical world found in Galileo's *The Assayer* (*Il saggia-tore*, 1623), as being pure extension (I do not consider in this paper Descartes' reasons for adopting this view). This view enabled him to describe his physics as nothing but geometry (letter to Mersenne, 17 July 1638, AT 2, 268). In this geometric world, there is no place for the sensory qualities of which we are directly aware. Descartes had therefore to relocate them to something which is not material, or not purely material, namely to the immaterial mind, which is united in the living human being with a part of the brain (the pineal gland, called "gland H" in *Man*).

The idea of colour of which we are directly aware cannot therefore *resemble* its cause in the physical world. However, Descartes already had the conceptual resources to make the idea represent its physical cause adequately. By then, he had developed the concept of representation by correspondence and put it to much use, as we have seen in the previous sections when examining his earlier mathematical works. Accordingly, the lack of resemblance between the idea of colour and its purely "geometrical" cause is not in itself a reason to hold that an adequate representation of the cause—objective colour—is impossible. *Correspondence* between idea and *ideatum* is still possible.

In addition, although Descartes' favoured medium of representation has been geometric figures, he occasionally used algebra to represent geometric figures and properties, and by manipulating the algebraic representations solved geometrical problems: we saw this at work when we examined his *Elements of Solids*. Representing geometric entities is therefore something he had already done before he started working on *The World*.

Lastly, we saw that while writing *Rules*, Descartes suggested, for methodological reasons, representing colour by means of geometric figures. This kind of representation is achieved through a correspondence between the properties of the representing elements—geometric figures—and what they represent—colour. Namely, already at this stage Descartes conceived of a correspondence between colour and geometric entities.

Accordingly, Descartes had in his conceptual toolbox all the means he needed to develop a theory of representation through correspondence in perception. To achieve adequate representation within the framework of his new theory of perception, he just needed to reverse the *Rules*' relation between representation and represented. First, geometric properties are now turned into the thing being represented. Secondly, the ideas of colour, which are supposed to represent objective colour, can exhibit correspondence with geometric properties, as they did in *Rules*. Uniting these elements, we get Descartes' theory of representation in perception: the ideas of colour, these subjective sensory qualities, represent

through correspondence objective colour, a property of Descartes' geometric physical world. The road to modern theories of perception has been opened.

That Descartes, while writing *The World*, thinks along the same lines (1) on the scientific representation of qualities by means of geometric entities, a representation of the kind we met with in *Rules*, and (2) on the representation of perceived reality by the nervous system and the soul or mind, is shown, among other things, by his terminology. I consider two kinds of representation he discusses.

Hearing, according to Descartes, is caused by "little blows with which the external air pushes against a certain very fine membrane stretched at the entrance to [cavities in the back of the ear]." The air behind the membrane is moved by these little blows and transmits its movement to fibres at the back of the ear. These connect to the brain and "will cause the soul [*donneront occasion à l'Âme*] to conceive the idea of sound." While a single blow produces only a dull noise, a sequence of such blows produces a sound, which the soul "will judge to be higher or lower depending on whether they follow one another slowly or quickly" (AT 11, 149–50; Descartes 1998, 122).

When several sounds are heard together, Descartes holds, they "will be harmonious or dissonant depending on the extent to which their relations are orderly, and on the extent to which the intervals between the blows making them up are equal" (AT 11, 150; Descartes 1998, 123). To explain that, Descartes uses the diagram given in Figure 5.⁸

In this diagram, lines A to H represent different sounds: a line represents a series of "blows," each represented by a notch, and the time between the blows is represented by the distance between notches: "the divisions of the lines A, B, C, D, E, F, G, H represent [*représentent*] the little blows that make up that number of different sounds." Since the distances between the blows on G and H are irregular, "[the sounds] represented by the lines G and H cannot be as smooth to the ear as the others." Moreover, given the ratio of the distances between the notches on lines A to F, "B must be considered to represent a sound an octave higher than A, C a fifth higher, D a fourth, E a major third, and F a full major tone" (AT 11, 150; Descartes 1998, 123). Descartes then continues to discuss relations of consonance and dissonance between the different sounds. The representation of percussions of air on the auditory nerves and their temporal relations by means of geometric figures is here used for the analysis of the character of sounds and the relations between them, in accordance with the methodology of mathematical physics we saw in *Rules*.

⁸ I am using at this place the illustration from the edition of *Man* in Latin, *De homine*, published in 1662, two years before the publication of the original French version. Annie Bitbol-Hespériès has remarked, following Erik-Jan Bos, that the illustration in *De homine* is probably closer to the original one by Descartes and, following Rudolf Rasch in the Dutch translation of the book (Descartes 2011; reference from Bitbol-Hespériès), that it is more faithful to the text (Bitbol-Hespériès 2021, 157–58). My points, however, apply to the later illustration in the French edition of 1664 as well (Descartes 1664, 36), an illustration also used in AT 11, 150.

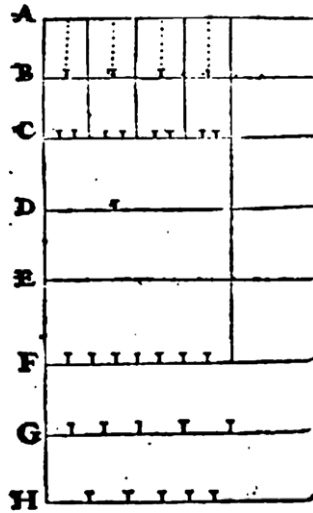


Figure 5 – Descartes' Representation of Sounds in *De homine* (Descartes 1662, 43; public domain)

Another use of “representation” occurs when Descartes discusses the representation on the retina of points at different distances, a representation rendered distinct by changing the shape of the lens, making it either flatter or more arched (AT 11, 156). In this case, some resemblance between the thing represented and its representation or image is still possible, yet this is not so in the following case. When discussing the formation of the ideas of objects that strike our sense (AT 11, 174–76), Descartes describes how light rays coming from an object press on optic nerves ending at the back of the eye while tracing there a figure of the object. The valves of these optic nerves open at their other ends, in front of the pineal gland, and consequently animal spirits from corresponding specific points on the pineal gland flow into these nerves. In this way, “that figure is traced on the surface of the gland depending on the ways in which the spirits issue from [these] points.” The figures traced by the spirits on the surface of the pineal gland are the ideas, namely, “the forms or images which [...] the rational soul will consider directly when it imagines some object or senses it” (AT 11, 176–86; Descartes 1998, 149). And this pattern of spirit flow from the surface of the pineal gland represents all that we perceive:

And note that by figure I mean not only things that somehow represent [*représentent*] the position of the edges and surfaces of objects, but also anything which, as I said above, can give the soul occasion to sense movement, size, distance, colours, sounds, smells, and other such qualities (AT 11, 176; Descartes 1998, 149).

Descartes emphasises that this figure, determined by spirits' pattern of flow, represents not only the *figures* of objects (“the position of the edges and surfaces”),

but other diverse characteristics of the material world as well, such as movement, distance, smells, and more: it is important to him that his reader realise that representation can be of things it does not resemble at all. It can be achieved both by geometric figures representing sound, for scientific purposes, as we saw above, and by patterns of spirit flow, representing diverse properties of perceived objects.

The parallel conceptualisation of representation in mathematics and in perception is shown also by the talk on how the representation *corresponds* or *relates*—*se rapporter*—to what it represents. The first marginal heading in the *Geometry* reads, “How the calculations of arithmetic correspond to the operations of geometry” (AT 6, 369). And later, Descartes notes:

The scruples that the ancients had about using the terms of arithmetic in geometry, which could only proceed from the fact that they did not see sufficiently clearly their correspondence, caused much obscurity and awkwardness in the way they explained themselves (AT 6, 378).

And similar formulations occur when discussing perception. When we look at an object directed a certain way, the soul will be able to tell how it is positioned because the nerves affected by the light coming from it will trace at the place in the brain from which they originate a figure which will correspond exactly (“*se rapportera exactement*”) to it, and consequently a corresponding figure will be traced on the pineal gland (AT 11, 159 and 175–76). Correspondence with the object remembered is also used to explain memory (AT 11, 178). And generally, we should assume

that each tiny tube on the inside surface of the brain corresponds to a bodily part, and that each point on the surface of gland H corresponds to a direction in which these parts can be turned: in this way, the movements of these parts and the ideas of them can cause one another in a reciprocal fashion (AT 11, 182; Descartes 1998, 154–55; cf. AT 11, 183).

Descartes gives additional detail on these pages of *Man* on how patterns of flow of animal spirits represent by correspondence the images we perceive and remember.

To recapitulate: we have seen that Descartes developed and employed the idea of representation by correspondence without resemblance in his mathematical work; that a little later (*Rules*) he thought of applying it to the study of perception for the purpose of mathematical physics; and that he then transferred it to perception itself, once his view of material reality as pure extension had been developed (*The World*). The terminology he uses also shows the related conceptualisations of the two domains. Accordingly, the idea was most likely transferred by Descartes from his mathematical thought to his thought on perception.

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Humors, Passions, and Consciousness in Descartes's Physiology: The Reconsideration through the Correspondence with Elisabeth

Jil Muller

Abstract: By pushing Descartes to more clearly explain the union of body and soul beyond the functioning of a "strong" passion, namely sadness, Elisabeth wants Descartes to review his idea of the passions, and his understanding of the "theory of the four humors." This chapter aims at showing that Descartes turns away from Galen's theory of the humors, which he globally adopts in the 1633 *Treatise of Man*. With the shift in his conceptualization of the humors between this *Treatise* and the *Treatise of the Passions* (1649), Descartes analyzed more specifically the inner feelings, consciousness, and the passions, by considering that a man is not simply a body, but a psychophysical being, with a body and a soul.

Keywords: René Descartes, Elisabeth of Bohemia, passions, humors, animal spirits, consciousness.

1. Introduction

In René Descartes's *oeuvre*, his readers and critics play a major role, as they push the philosopher to reconsider some of his quintessential philosophical and scientific terms in his work in progress. This critical engagement with Descartes enables one to identify essential changes in his philosophical positions, one of which concerns Descartes's understanding of the concept of the passions, which he modifies after exchanging letters with Princess Elisabeth of Bohemia about her sadness and melancholy. In this case, we can see an important shift from the concept of humor, which is used by Descartes in the *Treatise of Man* (finished c. 1633), to that of passion, present in his *Treatise of the Passions* (1649).

The term "humor" (French: *humeur*) as Descartes understands it goes back to the Galenic theory of fluids in the body, which trigger various moods, character traits and even diseases. In light of recent scholarship, we now know that Descartes read Galen and took a course on him at the University of Leyden (Bitbol-Hespériès 1990, 31–52; Starobinski 2012, 21–34 and 42–6; Lebrun 1995, 18–25; Teyssou 2002). Galen greatly influenced the medicine of his time by continuing the Hippocratic theory of body-fluids. The theory of the four humors was taken up again by many philosophers in the Renaissance (es-

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Referee List (DOI 10.36253/fup_referee_list)

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Jil Muller, *Humors, Passions, and Consciousness in Descartes's Physiology: The Reconsideration through the Correspondence with Elisabeth*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.05, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 59-80, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

pecially in the 16th century) to describe the human body and above all to understand melancholy.

The word “humors” historically in ancient and medieval western medicine has two meanings: first, in Hippocrates’s and Galen’s theory, the humors are “the nourishment of the body, i.e. of its tissues, which consequently owe their existence to the humors” (Temkin 1973, 17) that is, they refer to the four main vital bodily fluids (blood, yellow bile, phlegm and black bile: Hippocrates 1823; Hippocrates 1983). It is especially Galen who retains humorism¹ as a medical theory and proposes taking account of imbalances in any of the four humors as a means of diagnosing patients with a variety of diseases (Galen 1916, book 2, chapter 8, 169–95, and chapter 9, 209–19). This imbalance is the direct cause of certain diseases and is usually inflected by variations in weather, geography, age and even by certain occupations or works (Galen 1981; Galen 2007–2019, and especially, Galen 1995). Secondly, Galen describes humors as being related to temperament,² usually accepted as psychological dispositions, which Galen, however, uses to refer to bodily dispositions. These bodily dispositions give information about mood, behavioral and emotional inclinations and about predispositions for certain diseases. Therefore, it seems logical that Descartes at first refers to Galen, when he discusses melancholy with Elisabeth.

In the *Treatise of Man*, Descartes adopts the term “humor” and agrees with Galen’s explanation. However, his understanding of the humors and passions changes during the correspondence with Elisabeth, from 1645 onwards,³ even if he had already discussed passions and animal spirits in his correspondence with Henricus Regius in the early 1640s. The correspondence with Regius mainly concentrates on the metaphysical understanding of passion as a thought and on the interaction between an agent (the body) and a patient (the soul). In the correspondence with Elisabeth, however, Descartes seems to be pushed to consider body and soul united, equally involved in the process of causing and reacting to the passions, as Elisabeth pushes him in this direction through her own arguments on sadness.

¹ See Temkin 1973, 103: “The doctrine of the four humors was not Galenic; it was Hippocratic. But the emphasis on these four humors as the Hippocratic humors, the linking of them with the Aristotelian qualities and with the tissues of the body was largely Galenic.”

² For Galen, the excess in one of the four humors produces the four main temperaments: sanguine, choleric, melancholic and phlegmatic. Like the humors, the temperaments are inflected essentially by age, but also by weather conditions and seasons. See Temkin 1973, 103: “In a rather complicated way traced by Klibansky, Saxl, and Panofsky, such characterizations coupled to the four humors of blood, phlegm, yellow bile, and black bile came to constitute the four classical temperaments: sanguine, phlegmatic, choleric, and melancholic. Today they survive as popular psychological types, whereas in the Middle Ages they were at once somatic and psychic.”

³ See the Introduction to Elisabeth and Descartes 2007, 30: “Just like Galenic medicine, mechanist therapeutics models the body as a hydraulic system. However, Descartes’ mechanist model differs from the Galenic model in that the fluids of the body are all of one kind of matter—the only kind—and the parts of the blood are distinguished only by their size.”

While in the *Treatise of Man* Descartes used the concept of inner feelings (caused by external objects or by internal dispositions of the body), humors and passions, he only clearly differentiates between humors and passions, and between inner feelings and passions, in his correspondence with Elisabeth and in his subsequent works. The passions are all thoughts that are evoked in the soul without her will being involved (AT 4, 310; CSMK, 270), while the inner feelings, on the contrary, are caused by external objects or by internal dispositions of the body.⁴ This then raises the question of what caused Descartes to examine all of these terms more carefully. What role did consciousness play in the humors and the passions? And why does he remove some of these concepts from his theory of the passions?

At the beginning of the correspondence with Elisabeth, Descartes has a slightly different interpretation of the concepts of passions and humors. But by discussing the sadness and melancholy⁵ which burden Elisabeth in everyday life, Descartes understands that he needs to explain the functioning of the passions more precisely. The interaction between body and soul plays a decisive role in arousing, triggering and controlling the passions. Therefore, Descartes must examine the elements that trigger the soul or body to discover what causes the passions. As is well known, Descartes uses the term “passion” in three different contexts: in physics, in physiology and in psychophysics.

In physics, a passion is anything that ‘takes place or occurs’ as the result of ‘that which makes it happen’ (AT XI 328, CSM I 328). In physiology, a passion is a corporeal impulse of the animal body (AT V 278, CSMK 366). In psychophysics, ‘passions of the soul’ are modes of the soul that ‘depend absolutely’ on actions of the body (AT XI 359, CSM I 343) (Brown 2016, 563–69).

This chapter will especially focus on the two last dimensions in physiology and psychophysics, by identifying the role that comes to consciousness in the passions.

This chapter will show that the discussion with Elisabeth about her sadness or melancholy launches a different understanding of the passions and constitutes the turning point for Descartes’s change in the understanding of the concept of the humors. There are several studies of Elisabeth’s melancholy and the correspondence with Descartes.⁶ In this context, Elisabeth’s precise analysis

⁴ See Descartes to Elisabeth, 6 October 1645: AT 4, 310; Elisabeth and Descartes 2007, 118: “From all this it follows that one can generally call passions all the thoughts that are excited in the soul in this way without the concurrence of its will, and by consequence, without any action coming from it, but only from the impressions in the brain. For everything that is not an action is a passion. But one ordinarily reserves this word for the thoughts that are caused by some particular agitation of the spirits. Those that come from exterior objects or even the interior dispositions of the body, such as the perceptions of colors, sounds, odors, light, thirst, pain, and similar ones, are called sensations, some external, some internal.”

⁵ For this subject see also: Bitbol-Hespériès 2000; Ebbesmeyer 2011; Koch 2008, 60–5.

⁶ See also: Descartes 1989: In the Introduction to these letters from Descartes and Elisabeth, Jean-Marie Beyssade analyses Elisabeth’s personality and her role in the correspondence. See also Kolesnik-Antoine and Pellegrin 2014; the Introduction to Elisabeth and Descartes

of the interaction between body and soul in the union is often brought up, and Descartes scholars have shown that she calls on Descartes to explain the union and passions more clearly. However, no one has dedicated a complete study to Descartes's modification of the concepts of the humors and passions all through his own works, from the *Treatise of Man* to the *Treatise of the Passions*.⁷

Therefore, it is important to take a close look at this change and to show the role played by Elisabeth's letters, especially those written in 1645. In this context, I will start by explaining Descartes's interpretation of the humors in his early work, and the passions in his later work, in order to clarify the shift between these two concepts. Thereafter, I will analyse Elisabeth's letters about sadness and melancholy and Descartes's responses to find the pivotal element in Descartes's change of understanding. Elisabeth, by describing her own sad feelings and thoughts, helps to change Descartes's view of the passions so that the concept of humors is no longer appropriate.

2. From the Humors to the Passions

In the *Treatise of Man*, completed in approximatively 1633, Descartes explains his view of the human body in connection with the humors. In this text, he deals primarily with the Galenic theory of liquids, their trigger elements and their consequences for the human body. However, between 1633 and 1649, Descartes revisits his understanding of Galen's theory, from which he has been increasingly turning away since 1645, in order to elaborate his own theory of the passions.

In the *Treatise of Man*, in 1633, when Descartes describes the inner feelings⁸ (French: *sentiments intérieurs*), he uses the term "humors" to refer to bodily fluids in a manner that we can acknowledge mirrors Galen's theory, which associated the

2007; Meschini 2008. In this chapter, the author highlights the importance of the correspondence, because it provides a clue to the chronology of Descartes's works and helps to understand the development of the Cartesian vocabulary. In Ebbersmeyer and Hutton 2021, Descartes's correspondence with Elisabeth and the issue of passions are discussed in several contributions. However, it is almost always analysed in the context of the mind-body problem or the idea that the mind can direct the passions. There is no discussion of the extent to which Elisabeth had an influence on Descartes's understanding of the humors and the shift towards the passions.

⁷ We have some precise studies on Descartes and his correspondent Regius: Verbeek 2017; Bos 2017; Verbeek 2020; and on some precise concepts involved in the theory of the passions: Terestchenko 2004; Talon-Hugon 2002; Shapiro 2003.

⁸ The word "inner feelings" designates all the different perceptions, i.e., the "inspections of the mind" (see for example the "wax argument" in the *Second Meditation*). The perceptions coming from the five senses are inner feelings triggered by an external object, and the perceptions triggered by an internal disposition of the body, i.e., an excitement triggered by the soul itself, are inner feelings with an internal cause. This excitement triggered by the soul itself could be generated by an act of consciousness, where the soul becomes aware of its relation with the body and its involvement in the passion itself.

humors with the juices produced by digestion.⁹ Descartes invokes the first sense of the word “humors,” i.e., the liquids, when he describes hunger and thirst as inner feelings: “These fluids accumulate mainly at the bottom of the stomach, which is where they cause the sensation of hunger” (AT 11, 163, my translation; see also Kambouchner 1988; Meschini 2013, 53 and 57–76; Meschini 2015, 113–63; Des Chene 2001, 22). Following this description, Descartes then addresses the sensations of joy and sadness as if there were no hierarchy between these different inner feelings.

Thus, the blood going into the heart, when it is purer, finer, and flares up more easily than usual, gives the little nerve there the necessary disposition to cause the sensation of joy. And if the flowing blood is of a completely different nature, it can give the little nerve the disposition required to cause the sensation of sadness (AT 11, 164–65, my translation).

Descartes, whose understanding of the four humors is at this point in his thinking identical to that of Galen, claims that the liquids are solely responsible for the different sensations. For hunger, the digestive juices descend to the bottom of the stomach, and for joy and sadness, the blood flows into the heart. It seems that it is the quality of these liquids which triggers different reactions, without exogenous factors or internal dispositions of the body being involved. However, if the quality of the blood explains how joy or sadness are triggered, Descartes speaks of the meat that is in the stomach to explain how hunger is caused:

When the liquids that I have previously mentioned, serving as strong water in the stomach, and entering there unceasingly with all the mass of the blood through the ends of the arteries, do not find enough meat to dissolve in order to occupy all their force, they turn the force against the stomach itself. Agitating more strongly than usual the little threads of its nerves, the liquids make the parts of the brain move in the direction whence they come. This is how the soul, being united to this machine, conceives the general idea of hunger (AT 11, 163, my translation).

The connection Descartes sees between the inner feelings or passions, as he writes a little further (AT 11, 176) of those of hunger and those of joy is difficult to understand since it seems as if an important element is missing in the description of joy and sadness, namely the external or exogenous factor which is triggering the bodily reaction. The liquids in the stomach turn their “force,” their action against the stomach itself, when it is empty or when there is little meat in it. And this action (the “attack” of the liquids against the stomach) triggers hunger. But what triggers the different quality of the blood to create joy or sadness? Are joy and sadness only triggered by the liquids, without any exogenous element? But then, how can Descartes still speak of inner feelings or pas-

⁹ See Temkin 1973, 17: “In the process of digestion, food and drink turn into the bodily juices, the humors, of which there are four main kinds: blood, phlegm, yellow bile, and black bile.” As Galen’s theory associates humors with the juices of digestion, we understand that for Galen, the healing process of a disease caused by the imbalance of the humors must refer to food, drink and drugs. Descartes seems to mirror this idea, but after 1645, he will turn away from Galen’s theory.

sions in both cases, if their functioning is different? Is the key element in joy and sadness some kind of an act of consciousness, in which one realizes that one is directly involved in the passion, as a cause or trigger?

In the *Sixth Meditation* of the *Meditations on First Philosophy* (1641), we read the same association between hunger and joy as inner feelings, but Descartes omits here an external object that triggers hunger:

But why should that curious sensation of pain give rise to a particular distress of mind; or why should a certain kind of delight follow on a tickling sensation? Again, why should that curious tugging in the stomach which I call hunger tell me that I should eat, or a dryness of the throat tell me to drink, and so on? I was not able to give any explanation of all this, except that nature taught me so (AT 11, 60; CSM 2, 52–3).

In 1641, Descartes has to admit that he does not exactly know what the causes and the triggers are for the different inner feelings: pain, joy, hunger and thirst. Despite being taught by nature that there are in fact different triggers, Descartes cannot give any logical explanation. And he does not even speak any longer of the meat in the stomach or the diverted force of the liquids, but only about a bodily disposition (tugging) which causes the inner feeling of hunger. We notice that from 1633 to 1641, Descartes has reviewed his idea of inner feelings without discovering their real cause: they can be triggered by an external object as in 1633 (at least for hunger) or by an internal disposition of the body, as in 1641. In 1641, his theory clearly lacks clarity: he avoids talking about passions and liquids, and focuses only on inner feelings, but at the same time he no longer distinguishes between inner feelings triggered by external objects and inner feelings where no external object plays a role. This makes his theory even more confused.¹⁰

We also notice the same confusion in Descartes's letter to Regius of May 1641. Regius sees the seat of the passions in the brain, but Descartes refuses this in the first instance, even if this view will later be his own in the *Treatise of the Passions*, where all passions are considered thoughts (Verbeek 2017, 168). In 1641, Descartes clearly distinguishes between the body and the soul and locates the passions above all in the body:

To say of the passions that their seat is in the brain is very paradoxical and even, I think, contrary to your own view. For although the spirits which move the muscles come from the brain, the seat of the passions must be taken to be the part of the body which is most affected by them, which is undoubtedly the heart (AT 3, 373; CSMK, 183).

¹⁰ This confusion is maintained in the *Principles of Philosophy* (1644), where Descartes draws a list of experiences that refer to the body and the soul as a union: "This list includes, first, appetites like hunger and thirst; secondly, the emotions or passions of the mind which do not consist of thought alone, such as the emotions of anger, joy, sadness and love; and finally, all the sensations, such as those of pain, pleasure, light, colours, sounds, smells, tastes, heat, hardness and the other tactile qualities" (AT 8-a, 23; CSM 1, 209). This list refers to hunger and joy as a mixture of "thinking things" and "material things."

When the heart is the main seat of the passions, one could understand the “bodily disposition” of which Descartes speaks in relation to the inner feeling. But then again, there would be no clear distinction between inner feelings with an external object and those without an external object.

The confusion goes even further in this letter, as Regius does not accept considering passions as “passive.” According to him, “passions are acts of the thought,” and therefore cannot be purely passive. Descartes, however, states that attention “forms the basis of any passion,” and so this is not an act, “given the fact that it is involuntary”; “the acts of the mind belong, according to him, to the will.” Attention is involuntary and therefore passion is not an act. This is summed up in the idea that the body is an agent that acts on the soul. The latter only undergoes the passion; it receives it in a certain way. In Descartes, there seems to be a distinction between the agent (body) and a patient (soul), where the passions are only passively received (Verbeek 2017, 168–69). This commentary could explain the bodily disposition in the passions, to which Descartes refers after 1641, but does not clarify the distinction between inner feelings and passions.

However, in 1645, we will notice that Descartes begins to examine a possible distinction between passions and inner feelings,¹¹ probably because of Elisabeth, who is not content with a vague explanation, which will even shape another change in Descartes’s understanding of the concept of inner feelings. If we consider the two passages quoted above, we see that Descartes speaks of joy and sadness, and of hunger and thirst as inner feelings and that in 1633, he considers the inner feelings as synonymous with passions. And even in his letter to Elisabeth of October 6, 1645, Descartes considers them as synonymous, but he also determines a distinction between the inner feelings and the passions. Generally, passions are all the thoughts excited in the soul by the impressions in the brain. External objects, internal dispositions of the body, previous impressions which remain in the memory and the agitation of the animal spirits form different impressions in the brain.¹² These impressions trigger the passions, without the will of the soul being involved. In this case, the inner feelings and the passions are synonymous.

¹¹ AT 11, 349; CSM 1, 338–39: “After having considered in what respects the passions of the soul differ from all its other thoughts, it seems to me that we may define them generally as those perceptions, sensations or emotions of the soul which we refer particularly to it, and which are caused, maintained and strengthened by some movement of the spirits.”

¹² AT 4, 310; Elisabeth and Descartes 2007, 118: “Some are formed by exterior objects which move their senses, others by the interior dispositions of the body, or by the vestiges of the preceding impressions which remain in the memory, or by the agitation of the spirits which come from the heart, or in a human, by the action of the soul, which has some force for changing the impressions in the brain, as, reciprocally, these impressions have the force to excite thoughts in the soul that do not depend on its will.” See also Brown and Normore 2003.

Nonetheless, Descartes mentions an “ordinary and common” distinction between inner feelings and passions, so that passions are considered as “[...] thoughts which are caused by some special agitation of the spirits.” But

for thoughts that come from external objects, or from internal dispositions of the body—such as the perception of colours, sounds, smells, hunger, thirst, pain, and the like—are called external or internal sensations” (AT 4, 310; Elisabeth and Descartes 2007, 118).¹³

Thus, the inner feelings are a category of the passions (understood as a general concept), triggered by the internal disposition of the body or by some external object, which distinguish them from a “special sort” of passion, which are excited by the animal spirits. Consequently, the animal spirits are different from what Descartes calls the internal disposition of the body. Furthermore, the list of inner and outer sensations (French: *sentiments intérieurs et extérieurs*) no longer contains joy and sadness, but still hunger and thirst. Joy and sadness became passions, because they are triggered by the agitation of the animal spirits.

Consequently, in 1645, Descartes highlights that there must be a difference at the trigger level, as he noticed already in the *Treatise of Man*, where he could not define any exogenous element or factor for joy and sadness, but he has to admit that this difference is not easy to figure out:

But we denominate them in accordance with their principal cause or their principal aspect, and this makes many confuse the sensation of pain with the passion of sadness, and the sensation of tickling [*chatouillement*] with the passion of joy, which they also call voluptuousness or pleasure, and sensations of thirst or hunger with the desires to drink and to eat, which are passions (AT 4, 309; Elisabeth and Descartes 2007, 119).

Descartes speaks of the animal spirits, which participate in the passions without using the will of the soul. Thus, in contrast to the inner feelings, it is not necessary that the soul is touched by some perceptions caused by external objects or deliberately elicits reactions to generate the passions. There are precise triggers in the inner and outer sensations (like the meat in the text from 1633, but without Descartes examining this closely), but in the *Treatise of the Passions* Descartes only speaks of a “special movement of the animal spirits” (AT 11,

¹³ However, in the *Principles of Philosophy*, internal sensations and passions are synonymous: “The nerves which go to the heart and the surrounding area <including the diaphragm>, despite their very small size, produce another kind of internal sensation which comprises all the disturbances or passions and emotions of the mind such as joy, sorrow, love, hate and so on. For example, when the blood has the right consistency so that it expands in the heart more readily than usual, it relaxes the nerves scattered around the openings, and sets up a movement which leads to a subsequent movement in the brain producing a natural feeling of joy in the mind; and other causes produce the same sort of movement in these tiny nerves, thereby giving the same feeling of joy” (AT 8-a, 317; CSM I, 280). For the purview of this study, we will not go into detail about this work.

349), which could be, as we call it today, an act of consciousness. One is aware of the implication of the self in the passions, and therefore of the responsibility that falls to oneself: one can trigger or change some passions in the soul, by the will of the soul. This is why joy and sadness are no longer inner feelings and are said to be triggered by the movement of the animal spirits. Is this shift due to the fact that Descartes could not assign an exact trigger to joy and sadness? To answer this question, we have to understand Descartes's conception of animal spirits (Meschini 2013, 97–104).

When Descartes talks about the movement of the spirits in the passions, without a concrete trigger, we can assume that he refers to the Galenic theory.¹⁴ He had already written about these spirits in the *Treatise of Man*:

First, concerning the animal spirits, they can be more or less abundant, their parts more or less thick, more or less excited and more or less the same at any given time. Because of these four differences, it happens that all different moods (humors) or natural tendencies that exist in us (at least insofar as they do not depend at all on the state of the brain or the special affections of the soul) are represented in this machine (AT 11, 166, my translation).

For Descartes, the spirits are the elements responsible for the quality of the different liquids.¹⁵ Their number, their mass, their movements and their proportions correspond to the four liquids (Meschini 2013, 103). Descartes here takes up the theory of humourism from Galen, even if his description of the mechanism of the humors is somewhat different, as he speaks of the animal spirits and not of liquids. However, like Galen, Descartes speaks about four different reactions in the body, so that we can admit that Descartes's animal spirits function in a manner that recalls Galen's humors (Des Chene 2001, 52).

¹⁴ The Galenic theory of humors and animal spirits is even resumed by Ambroise Paré, who was probably read by Descartes. See Paré 1585, 12, my translation: "The humors are everything that is fluid, fluent, flowing, coming from the human body as well as from that of the animals that have blood, which is either natural or unnatural." To go further on the subject of the heritage of Galen and Paré, see also Teyssou 2002, 222, my translation: "The force animates and manages the various humoral functions. It comes from the animal spirits and the spirits of nature: the 'esprits animaux', coming from the brain and distributed by the nerves, are the instruments of the thinking and acting soul; the animal spirits, coming from the heart and distributed from the arteries, are the instrument of the passions of the soul; the natural spirits, coming from the liver, are distributed by the veins and control the functions of digestion."

¹⁵ See Des Chene 2001, 37: "There is another kind of particle, 'more lively and subtle, like those of brandy, acids, or volatile salts', which cause the blood to dilate but 'do not prevent it from condensing promptly afterward' (*Descrip.* par. 28, AT 11, 260). Such particles, 'quite solid and quite agitated', are the *spirits*. Unlike aereous particles, they do not tarry for long in the lungs, but go further, into the aorta, and toward the brain. Like the blood which rises toward the brain, they are eventually deflected, 'and tum to the right and left toward the base of the brain, and toward the front, where they begin to form the organs of sense' (261). Some of the aereous particles make their way along the same route."

In Galen's theory, the four main liquids go together with the four seasons, the four elements (fire, water, air and earth) and the four constitutions of the human body.¹⁶ Furthermore, these four bodily fluids, namely blood,¹⁷ mucus/phlegm, yellow bile and black bile, each have the four qualities (primary qualities) warm and damp, cold and damp, warm and dry and cold and dry. Even a slight alteration in these constitutions can have an impact on the balance between the liquids and create a disparity which is the cause of some extraordinary reactions of the body (i.e., a variety of bodily ailments or emotional disorders). Descartes generally agrees with Galen's understanding of the bodily constitutions and the liquids, and he even recalls the concept of animal spirits, present in Galen's theory.

If these animal spirits, for Descartes, cause different humors it is because they are responsible for the different qualities in these humors or liquids. This then would suggest that the animal spirits play a role in the inner feelings, as we saw with the passage of the *Treatise of Man* in 1633: the sensation of joy or sadness was caused by the quality of the blood going into the heart. But in his letter of October 6, 1645, Descartes assigns this role to the spirits only in the passions and not in the inner feelings. This could explain why joy and sadness are no longer inner feelings but are called passions. Furthermore, even Regius considers joy and sadness as passions,¹⁸ and Descartes must have known his theory and adapted his own as soon as he began to discuss with Elisabeth the role that the body and soul play in the passions. The latter are no longer merely elements of the body that the soul must endure as a patient. Nonetheless, Descartes's theory is not yet perfected in 1645, although he begins to change ideas.

In 1645, he only speaks of the external objects or internal dispositions of the body for the inner feelings, which are not clearly identified, and associates the animal spirits with the passions. If animal spirits and humors interact in the inner feelings (1633) and in the passions (1645), why does Descartes distinguish between inner feelings and passions in 1645?

When we accept and combine the two explanations about the animal spirits in the *Treatise of Man* and in the letter of October 6, 1645, then inner feelings and passions have to be triggered by the movement of the animal spirits, which first trigger the humors. This means that there is no exact difference between inner feelings and passions, at least not at the level of fluids. The only difference, which could be noticed, is the external object (or internal disposition) which

¹⁶ See Temkin 1973, 17: for Galen, "the elements of fire, earth and water do not exist as such in the body; they are represented by yellow bile, black bile, and phlegm, respectively. Only air is directly provided through respiration." Cf. Temkin 1973, 4, note 9.

¹⁷ See Temkin 1973, 17: "What is found in the veins is really a mixture of humors, but since the true humor 'blood' predominates, the name is also extended to the content as a whole."

¹⁸ Verbeek 2017, 166: "In sum, the basis of a passion (*affectus*) is a physiological process, by which either more, or less, blood is pumped into the body than usual. Moreover, passions manifest themselves at four different levels: the senses (pleasure or pain), judgment (joy or sorrow), the will (love or hatred), and action (liveliness or indolence)."

was however removed from the explication given in 1641. This external object causes a reaction in the inner feelings, as Descartes says in the letter of October 6, 1645, which recalls the text of 1633. Therefore, it is important for Descartes to distinguish between passions and inner feelings: passions are triggered without an external object or internal disposition of the body and inner feelings need these external objects or internal dispositions.

Furthermore, as noticed earlier, Descartes omits to speak of humors in his letter of October 6: he no longer mentions the liquids that trigger the inner feelings, as he did in 1633. But when we follow the Cartesian explication of the animal spirits, which we located even in the inner feelings, then there must be humors in the inner feelings. Why is Descartes so rough in his explanation in 1645? (Kambouchner 1995, 65–71). This is probably because his understanding of humors, liquids, inner and outer sensations and passions is being developed. While developing these notions, Descartes slowly breaks away from Galen's theory of humors.

For Galen, the humors were the trigger for various reactions in the body and even the cause of various diseases, and the temperaments were the natural disposition of the person. But for Descartes, the humors become the effects of the animal spirits and the animal spirits become the triggers of the various humors (in the sense of liquids, but also of tempers and moods), which show up in and through the body, i.e., they cause passions. This suggests that Descartes understands the word "humors" as being synonymous with moods too (a use that can already be read in Montaigne) and not as in Galen exclusively as liquids and pathogens of these moods. And temperaments, in Descartes, are sometimes seen as a

temporary condition of the blood, which can change under the influence of the passions, sometimes as the permanent disposition of an individual to have certain passions or to display a certain behavior, which either cannot be changed at all or can be modified only with great difficulty (Verbeek 2017, 169).¹⁹

And thus, Descartes can understand the humors in connection with psychological states, as Galen understood the temperaments, which are the personality traits of humans. Cartesian humors are more than simply bodily liquids (as in Galen's theory), and therefore, in the *Treatise of the Passions*, he has to define the humors only as moods, and the passions as a mixture of liquids (humors) and thoughts, as we will see.

Before we consider more precisely the passions, let us take a closer look at what distinguishes the humors from the passions and why it is so important for Descartes to no longer mix them in the *Treatise of the Passions*. Probably through the correspondence with Regius in 1641, Descartes became even more aware that a basic element of the Galenic theory of the passions is incompatible with his own

¹⁹ However, Regius understands temperament as "the particular configuration of particles by which the properties of a thing or the properties and dispositions of a living being can be explained," Verbeek 2017, 169.

ideas, namely the tripartite division of the soul. This tripartition plays a major role in the Galenic as well as in several Renaissance theories of the passions, as in Nicolas Coëffeteau and Jean-François Senault. Both admit that the passions are in the “irrational part of the soul” (Coëffeteau 1648, 2). For Coëffeteau, for example, the passions are caused by a movement of the sensory appetite, coming from this irrational part of the soul. However, since for Descartes this tripartition is void, he cannot adopt the Galenic theory one-to-one. Moreover, for Descartes, the relationship between the soul and the body is reciprocal, which he has to emphasize more strongly, since the correspondence with Elisabeth. Whereas for Coëffeteau, for example, the soul “changes the natural disposition [...], and by its agitation snatches it from the rest in which it [the body] found itself before the soul disturbed it in this way” (Coëffeteau 1648, 11). Thus, the moralist gives the soul a place and a function superior to the body; she can manipulate the body in the passions.

These two major differences with Galen, and with Descartes’s contemporaries push the philosopher into rethinking his theory of the passions. As already mentioned, the humors are, for Descartes, the effects, or reactions of the animal spirits, which move differently and have different masses. Thus, the humors denote different physical reactions in the body and no longer the triggers as with Galen. It is therefore clear that Descartes’s theory of the passions distinguishes not the humors, i.e., the liquids, from the passions, as passions include humors as the physical part of them, but the humors as moods from the passions. Descartes maintains the view of liquids as the cause of different reactions (such as when the blood transports the spirits, which heat or cool different organs).²⁰ Nevertheless, we have to notice that since 1633, Descartes’s humors already were not only bodily liquids as in Galen’s theory, but more of a psychological and psychosomatic state because they are also triggered by some impressions in the brain, by the animal spirits, and by the consciousness of oneself, involved in the passions. In the *Treatise of Man*, he writes: “But because the same moods (humors) or at least the passions to which they give a disposition, also depend very much on the impressions which are produced in the substance of the brain [...]” (AT 11, 167, my translation). Descartes here distinguishes between the humors and the passions “to which they give a disposition,” which means that the humors only trigger the passions. But how is it possible that Descartes describes the hu-

²⁰ The main difference between Galen and Descartes is probably the unitarian doctrine of the soul presented by Descartes. This idea does not come from Descartes, he probably refers to Ioannes Argenterius, “one of the most outspoken critics of Galen within the camp of academic physicians.” See Temkin 1973, 142: “Argenterius doubted Galen’s assertion that the psychic spirit was elaborated from arterial blood in the retiform plexus (the rete mirabile).” Therefore, he refuted the existence of three spirits. “There existed only one spirit, flowing from the heart and carrying heat, the instrument of life and of all actions. To this unitarian doctrine of the spirit corresponded a unitarian doctrine of the soul.” And even Descartes refuses to consider the soul as a combination of three different parts. For him, there are no more natural and vital souls, as for Galen.

mors as psychological states and at the same time rejects that they are already passions and only assumes that they trigger them?

Here we can clearly see that Descartes still follows Galen's theory when he says that the passions are excited by liquids in the body and the humors by the impressions in "the substance of the brain." The humors in Galen are the liquids that are produced in the body by the process of digestion, which then trigger some reactions in the body. These liquids can rise up to the brain as vapors in the body and awaken the spirits there, which then trigger passions or emotional reactions. In Descartes, the humors are dependent on the impressions in the brain, but they are not dependent on the state of the brain. The humors are only triggered by the animal spirits, which result from the impressions in the brain.

On the contrary, the passions, unlike the humors, are the result of the interaction of the body with the soul: they are caused by the humors and the will of the soul and are the visible bodily reactions. One could assume that the Cartesian humors or moods are the psychological effects in the body without being triggered by the state of the brain, but also not by the reactions of the body and still have their greatest effect in the body. The humors, triggered by the animal spirits, are the product of the "rational" soul, the only one Descartes accepts, and the impressions in the brain. This is the major difference with Galen, who admits three different souls: a natural, a vital and a rational soul, which each produces different kinds of spirits, triggered by the humors and different impressions. The Cartesian humors, however, only depend on the impressions in the brain and the spirits and are thus connected to the human being, by producing bodily reactions in the form of passions. In the letter of October 6, 1645, Descartes confirms this hypothesis:

Finally, when the ordinary course of the spirits is such that it regularly excites thoughts that are sad or gay, or other similar ones, we do not attribute this to passion but to the nature or humor of those in which they are excited. This makes us say that this man is of a sad nature, this other of a gay humor, etc. There remain only those thoughts which come from some particular agitation of the spirits, and of which we sense the effects in the soul itself, which are properly called passions (Elisabeth and Descartes 2007, 119).

So, the humors do not depend on the state of the brain, and reason cannot interfere in them, because they are produced by the impressions in the brain, without the will of the soul being involved. But the passions depend on the movements of the animal spirits, which produce the humors, and also on reason, which sends signals to the spirits and can also direct them. The passions are therefore a mixture of, on the one hand, the humors or the natural tendencies (the character of the human being), as Descartes understands them, which are stimulated by the impressions in the brain (which result from sensation) and on the other hand, the will of the soul. The passions grow from the interaction of the soul and the body, and reason can control them. This difference with the humors shows why Descartes can no longer speak of humors as liquids but only as moods, in the *Treatise of the Passions* because the passions are already a mixture of humors, i.e., liquids, and thoughts, controlled and influenced by reason.

As we have seen in the evolution of Descartes's thinking, there is a shift from the conceptualization of humors to that of passions, linked to the unitarian doctrine of the soul. But the question remains as to the main motive for such changes in Descartes's understanding. It is well known that Elisabeth plays a major role in clarifying the understanding of the union between body and soul. Probably her line of inquiry provokes Descartes to substitute the humors with the passions. In some way, she manages to convince Descartes that his understanding of the passions is a different system than Galenic theory. Using a "strong" passion such as sadness, she urges the philosopher to explain the union more precisely, and thus the role of reason in the passions. Elisabeth's sadness seems therefore the reason Descartes goes into more detail about the difference between humors and passions.

3. Elisabeth's Sadness: The Shift from the Humors to the Passions

In Descartes's letter of 18 May 1645, we learn that Elisabeth had been ill for a long time, suffering from a dry cough and a creeping fever, but that she was on the mend. In his letter,²¹ Descartes tries to analyse the cause of this physical "weakness" in order to find a cure for Elisabeth:

The most common cause of a low-grade fever is sadness, and the stubbornness of fortune in persecuting your house continually gives you matters for annoyance [...] One would fear that you would not be able to recover from it at all, if it were not that by the force of your virtue you were making your soul content, despite the disfavor of fortune (AT 4, 201; Elisabeth and Descartes 2007, 86–7).

For Descartes, the cause of the fever is clearly the sadness that causes excitement in the body. Elisabeth is so much surrounded by sad experiences that her sadness does not only show up on a face that is consumed but affects the entire body in the form of an illness. Descartes follows the Galenic theory by admitting that this illness is caused by an emotional disorder. However, Descartes turns away from Galen who attributes sadness to the imbalance of the humors. Or does Descartes's "new" understanding permit him to substitute the humors with the passions? How can we understand that the passions that were initially the effects of a cause, namely of the humors, now become the cause of the fever themselves? This is only possible if Descartes accepts that passion is a mixture of humors, impressions in the brain and thoughts guided by the soul.

In the Galenic theory of humors, negative thoughts like sadness and fear produce the fluids of the black bile. So, if a person is too long touched by or too busy with negative thoughts, there is an overproduction of this liquid (black bile), which can then no longer remain in the spleen and therefore overflows into the body. There, the black bile can inflict all kinds of harm, such as excessive

²¹ Numerous studies analyse Descartes's correspondence and his role as a doctor. See for example Kambouchner 2014.

sweating, digestive problems and bloating. But the most harmful is the vapors that climb up the body and hit the mind because they cause delusions or let people repeatedly have sad thoughts. These sad thoughts or delusions are the result of an overflowing imagination, driven by the vapors of the black bile.²² When this happens, proponents of Galenic theory speak of an illness. And Descartes seems to admit that the physical part of the passion, namely the humors, causes the bodily disease and even produces a vicious circle of negative thoughts, even if he does not explicitly say this.

However, the following letters to Elisabeth, in 1645, show that Descartes's understanding of humors and passions is still weak. As is already explicit in the letter of May 18, Descartes recognizes great strength in the virtue of the soul, which can fight against the negative thoughts, but he does not mention the role of the body. Descartes is convinced that these passions, at least sadness and anger, must be overcome because they provoke damage to the body if they are misused. And it is only the strength or the virtue of the soul that can free itself and the body from the passions and control them. Furthermore, if the soul manages to tame them, then it benefits from great satisfaction. Therefore, Descartes suggests that Elisabeth "heal" her soul or spirit, but he does not speak of a remedy for the body,

[...] whereas the others [i.e., the great souls] have reasoning so strong and so powerful that, even though they too have passions, and often even more violent ones than most do, their reason nevertheless remains mistress and makes it such that even afflictions serve them and contribute to the perfect felicity which they can enjoy already in this life (AT 4, 202; Elisabeth and Descartes 2007, 87).

Descartes seems firmly convinced that Elisabeth, on the one hand, can overcome her sadness solely through the strength of her soul or reason and that, on the other hand, she can use these negative experiences to gain greater happiness. That is why Descartes does not reject these passions as such, but their misuse, i.e., when instead of learning and growing stronger, souls remain in this state of sadness or anger and then fall into a kind of melancholy. So, in order to turn away from sadness, Descartes advises Elisabeth to occupy the mind with good and positive things and not to be confused by the negative events (Alanen 2003). One has to use his or her reason to lead and control the passions.

²² See Kutzer 1998, 99, my translation: "Headache is a further physical symptom (of melancholy); very rarely is a special type of 'fever' mentioned, as well as tremors [...] Precordial feelings of heat, pressure, pain, bloating, indigestion were signs of hypochondriacal melancholy"; 102: "It is discussed whether delusions of this kind are not favored by certain physical characteristics and complaints, such as a particularly delicate physique, flatulence and stinging in the stomach; or they discussed why delusion was based on physical characteristics, weaknesses and inclinations, occupations and labor." See also Bell 2014, 59: "It began life in antiquity as a subspecies of melancholia with a specific location in the organs below the diaphragm." For Galen, this form of melancholia is associated with flatulence and impaired digestion.

However, Elisabeth is not satisfied with this explanation and advice and asks the philosopher to consider sadness not only on a rational level, but to put it in a practical context. Elisabeth draws Descartes's attention to the fact that passions have a double nature and grow from the union of the body with the soul (Shapiro 2003). This is, of course, an idea from Descartes himself, but it seems as if he had forgotten it in the correspondence with Elisabeth. Elisabeth writes to Descartes:

Know thus that I have a body imbued with a large part of the weaknesses of my sex, so that it is affected very easily by the afflictions of the soul and has none of the strength to bring itself back into line, as it is of a temperament subject to obstructions and resting in an air which contributes strongly to this (AT 4, 208–9; Elisabeth and Descartes 2007, 88–9).

Elisabeth, who knows Galen's theory of body fluids, explains to Descartes how much her body suffers from sadness, and that the overproduction of negative thoughts triggers a physical reaction, which is noticeable in her unrelenting fever. For Elisabeth, sad thoughts triggered a fever that she cannot cure so quickly. In her opinion, it is of no use to simply entertain the mind elsewhere by showing it other objects or thoughts; one has to heal the body too since it is the first to be affected by this fever. To do this, Elisabeth goes for a walk, goes on a diet, and asks Descartes if he thinks Spa waters would help heal her. But these cures seem to fit only for fever. Can they really cure the root cause, namely sadness or melancholy?

The remedies that Elisabeth tries are all supposed to have an effect on the overproduction of black bile, but the melancholy, which triggers a physical reaction, is not only caused in the body, i.e., in the fluids, but also in the mind or in the nature of man himself. There are people who tend to be sad in character, as Descartes himself said. Descartes suggests to Elisabeth to cure melancholy using reason and by the entertainment of the imagination, which occurs while reading Seneca:

These are domestic enemies with which we are constrained to interact, and so we are obliged to stand on guard incessantly in order to prevent them from doing harm. I find for this but one remedy, which is to divert one's imagination and one's senses as much as possible and to employ only the understanding alone to consider them when one is obliged to by prudence (AT 4, 218; Elisabeth and Descartes 2007, 91).

If Descartes proposes to entertain the imagination elsewhere, he shows that he knows the theory of fluids and melancholy too well. A fantasy that is on its own and that is left to the fumes of the black bile can lead to madness.²³ This is

²³ See Horwitz and Wakefield 2007, 54–5: "From ancient Greek medical writings until the early twentieth century, what is now termed depressive disorder was generally referred to as melancholia, which literally means 'black bile disorder'. Although the name stuck into modern times, it originally reflected the ancient belief that health and disease depend on the balance or imbalance between four bodily fluids, or 'humors', and that an excess of black bile—a humor often thought to be produced in the spleen—was responsible for depressive symptoms." See also

why it is so important for the philosopher to “heal” Elisabeth before she falls into the vicious circle of melancholy. But Descartes has to realize that simply stimulating the imagination with interest in other matters proves to be more difficult than he thought. Mind or reason must prepare for these problems without recognizing them too much so that Elisabeth can still stimulate and entertain her imagination and senses elsewhere. And that’s why Descartes continues:

One can, it seems to me, here easily notice the difference between understanding, on the one hand, and imagination or sensation on the other. Consider for instance a person who otherwise has all sorts of reasons to be content, but who sees continually represented before her tragedies full of dreadful events, and who occupies herself only in considering these objects of sadness and pity. Even though these events are feigned and fabulous, so that they only draw tears from her eyes and move her imagination without touching her understanding [...]
(AT 4, 219; Elisabeth and Descartes 2007, 91).²⁴

This response from Descartes shows that, like Elisabeth, he believes that passions do not only play a role in the soul but also in the body, which means that it, too, has to be healed because it is directly involved in the passions. This small excerpt is particularly interesting because it proves again that Descartes knew Galen’s theory of fluids, even if he does not use the word humors here (see footnote 42). Descartes gives a precise description of the body and its mechanism in sadness and explains how the heart, spleen, and lungs are involved. Here he employs the phrases “particles” and “clogging of the pores,” which could be due to the animal spirits. Like a doctor, Descartes explains how sadness could have caused Elisabeth’s cough and must, therefore, admit that the body needs additional healing. A sick body does not make it possible to entertain the soul elsewhere, because it reminds the soul too much of the triggers not only for the illness but even for the sadness and repeatedly causes gloomy thoughts.

But even if Descartes realizes that passions can excite the body and make it sick, he does not seem to want to deviate from his position, which emphasizes

Burton 1621. Melancholy is a common evil in the 16th and 17th centuries, so the English writer Robert Burton wrote a book about this subject, called *The Anatomy of Melancholy*, where he distinguishes two “types” of melancholy: one that is a disposition and another that is a permanent state. Temporary melancholy is accompanied by sadness, fear, and other passions. According to Burton, melancholy can affect anyone, even the wisest and most balanced person, and is against happiness and joy. Even though melancholy is very often only a temporary state and joyful thoughts can dispel it, there is a risk that people will sink too long in these phases of fear and grief until they become completely melancholic. Melancholy, like depression, is then viewed as a condition of the disease. See also Klibansky, Panofsky, and Saxl 1964.

²⁴ And he continues: “[...] I believe, I say, that this alone would suffice to accustom her heart to close itself up and to emit sighs. Following this, the circulation of the blood would be blocked and slowed, and the largest particles of the blood, attaching one to the other, could easily grind up the spleen by getting caught and stopping in its pores, and the more subtle particles, retaining their agitation, could alter her lungs and cause a cough, which in the long term would give good cause for fear.”

that the mind must be entertained with pleasant thoughts in order to deal with unpleasant situations and thereby create a certain objective distance from the negative situations and thoughts. Averting the imagination and otherwise occupying it seems to Descartes the main cure for sadness since it is the imagination that plays the main role in melancholy. For Descartes, the body cannot be healed when sad thoughts prevail. And Elisabeth understands Descartes's line of thought:

I know well that in removing everything upsetting to me (which I believe to be represented only by imagination) from the idea of an affair, I would judge it healthily and would find in it the remedies as well as the affection which I bring to it (AT 4, 233; Elisabeth and Descartes 2007, 93).

Elisabeth realizes that reason plays a decisive role in the management of the passions. So, it is the imagination that gives a foundation to sad thoughts, as well as to joyful thoughts. If this is the role that imagination plays in the production of passions, then it can also withdraw it for a moment so that reason can view and assess the situation objectively. But for Elisabeth, it is also clear that this objective assessment is only possible afterwards because the passions always have "something surprising," i.e., the passions distress Elisabeth because of their sudden manifestation, which confuses the soul and the body at the same time. And even if the soul quickly overcomes this surprise, it is the body that struggles with it the longest. Elisabeth speaks of months when her body is ailing and maybe even sick. Meanwhile, new situations, even daily ones such as bad news from the family,²⁵ can confuse the body, which Elisabeth sees as the cause of her melancholy. This vicious circle of sadness ultimately evokes her melancholy.

Descartes cannot deny the impact that passions have on the body and the soul and he has to agree with Elisabeth that the body needs remedies, too. However, Descartes is convinced that the most important remedy is that which arises from reason because it has a great strength that can help heal the body by giving the mind positive thoughts through the imagination (Brown 2006). In his letter of September 1, 1645, he underlines the idea that the body is healed not by bodily or physical remedies, but instead by reason:

For the other indispositions, which do not altogether trouble the senses but simply alter the humors and make one find oneself extraordinarily inclined to sadness, anger, or some other passions, they no doubt give trouble, but they can be overcome and even give the soul occasion for a satisfaction all the greater insofar as those passions are difficult to vanquish (AT 4, 282–83; Elisabeth and Descartes 2007, 107).

²⁵ AT 4, 270; Elisabeth and Descartes 2007, 101: "It has been eight days since the bad humour of a sick brother prevented me from making this request of you, since I have had to stay near him every day, either to make him, through the fondness he has for me, abide by the rules set by the doctors, or to show him my fondness by diverting him, because he is persuaded that I am capable of diverting him."

Once again, Descartes mentions the satisfaction that the soul can have if it can tame the passions or even overcome them. But the most interesting point in this passage is that Descartes combines the alteration of the humors (fluids) and the passions: he affirms that the alteration of the humors produces some passions, so that he explicitly mirrors Galen's theory.

We even notice that he no longer speaks of the moods or character traits, as in the *Treatise of Man* in 1633, when he uses the word "humors," but only of the fluids that cause the passions. Descartes says that the humors are altered by some indispositions, which he does not clearly explain, but which we can relate to some negative thoughts, illnesses or even emotional disorders. And this alteration produces passions, which are the visible reactions of the body. So, for Descartes, the humors are the triggers of the passions, and the animal spirits are the triggers of the humors. We, therefore, understand that the word "humors" is completely omitted in 1649 in the *Treatise of the Passions* because the passions are a mixture of physical and rational reactions, a mixture of humors and impressions in the brain: a mixture that shakes the body through the liquids but is also triggered by the fluids themselves.

In this sense, we can agree with Theo Verbeek: in Descartes,

[...] for man as a psychophysical being the passions (love, hatred, joy, sorrow, etc.) are what sensations (pain, hunger, thirst) are for the same man in so far as he is only a body—they remind him of the need for a certain type of action and prepare him for that action (Verbeek 2017, 170).

And precisely because Descartes has to distinguish between a "body" and a psychophysical man, he also has to distinguish the words he uses. Once the psychophysical aspect was accepted, through the Correspondence with Elisabeth of Bohemia, Descartes can no longer mix passions and inner sensations, by always using the same concept "humors."

4. Conclusion

Descartes's understanding of the human body, its anatomy and its functioning of passions is a complex and sophisticated system, combining ancient and medieval theories with his new interpretation. Therefore, the concept of humors undergoes a change in Descartes's philosophy, even if it goes hand-in-hand with the Galenic theory of humorism. As we have seen, Galen understands the humors as the vital bodily liquids, which cause bodily and emotional reactions, and even diseases. Descartes generally agrees with Galen's theory, and the *Treatise of Man* summarizes many of Galen's ideas. However, already since this early work, Descartes revisits Galen's understanding and reworks the concepts of humors, liquids and animal spirits.

Descartes's humors are no longer the first trigger of some bodily reactions, but they are the effects of another kind of trigger, namely the animal spirits. To put it simply, we can admit that Descartes's animal spirits correspond to Galen's humors, in the sense that they trigger reactions in the body, i.e., changes

of the liquids. For Descartes, the animal spirits change the qualities of the liquids and produce a bodily reaction at the level of the humors. These humors are still liquids, as in Galen, but they are more than a simple anatomic concept, as Descartes admits that these humors are dependent even on the impressions in the brain. Therefore, Descartes's humors incorporate even psychological and psychosomatic states, which enables Descartes in the *Treatise of the Passions* to consider humors only to be moods and no longer liquids. The sense of liquid, however, is not lost for Descartes. He only understands it as a part already present in the concept of passion, which is a mixture of, on the one hand, humors, i.e., liquids, and a special movement of the animal spirits, and on the other hand, different kinds of thoughts.

This mixture is the key for reason to be able to control and tame the passions. If they were simply bodily reactions produced by liquids, as Galen proposed in his theory of humorism, depending on external states, then reason could not interfere. In Descartes, on the contrary, as humors (liquids) are already dependent on the impressions in the brain, and passions combine these humors with all possible thoughts, reason can dominate the passions and control man's reaction to all kinds of daily situations. This even shows the strength of the soul and its virtue: reason can change the impact that passions can have on the body, but the body has to be "healed" too if one would prevent a vicious circle.

It was after all due to the correspondence with Elisabeth that Descartes understood that his conception of humors, liquids, moods and passions was still not clear in 1645. Therefore, he revisits his interpretation of Galen's theory and develops a new one in the *Treatise of the Passions*. There he no longer speaks of humors as liquids that trigger passions, but of humors as the general mood of the person, because the passions are already a mixture of liquids and thoughts. It was Elisabeth who reminded Descartes of the strong connection between the body and the soul. Reason can always have any effect on the passions, but even the body has an effect on reason. The pre-eminence of bodily functions would therefore not leave it up to reason solely to change sad thoughts. This is why Descartes has to admit that the body has to be healed too, because a sick body is always a reminder of the trigger elements of the illness and thus creates a vicious circle of sad thoughts.

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Foundations of Human and Animal Sensory Awareness: Descartes and Willis

Deborah Brown, Brian Key

Abstract: In arguing against the likelihood of consciousness in non-human animals, Descartes advances a slippery slope argument that if thought were attributed to any one animal, it would have to be attributed to all, which is absurd. This paper examines the foundations of Thomas Willis' comparative neuroanatomy against the background of Descartes' slippery slope argument against animal consciousness. Inspired by Gassendi's ideas about the corporeal soul, Thomas Willis distinguished between neural circuitry responsible for reflex behaviour and that responsible for cognitively or consciously mediated behaviour. This afforded Willis a non-arbitrary basis for distinguishing between animals with thought and consciousness and those without, a methodology which retains currency for neuroscience today.

Keywords: René Descartes, Thomas Willis, consciousness, animal soul, structure-determines-function principle, immortality.

1. Introduction

1664 marked the year of publication both of René Descartes' *Traité de l'homme* and Thomas Willis' *Cerebri anatome*, although Descartes' treatise was written much earlier (between 1629 and 1633) and had appeared in Latin in 1662. Placed side-by-side the works are striking both for their similarities and their differences.

A strict mechanist, Descartes sets out to uncover the principles governing the functions of the human body as if it were a "statue or machine made of earth"—that is, to describe all "our functions which can be imagined to proceed from matter and to depend solely on the disposition of our organs" (AT 11, 120; CSM 1, 99). The contrast is with all those functions we possess as human beings that depend on the faculties of the rational soul. The rational soul is really distinct from this automaton that is the human body, and there is no other soul—vegetative or sensitive¹—needed to explain the vital and sensitive functions of an animal

¹ Tripartite divisions of the soul since Antiquity distinguished (1) the vegetative soul, which governs nutrition, cardiovascular functions, respiration and reproduction and associated motor functions, (2) the sensitive soul, incorporating all the functions of the external and internal senses, including the *communis sensus* (common sense), and corporeal imagination

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Referee List (DOI 10.36253/fup_referee_list)

FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

Deborah Brown, Brian Key, *Foundations of Human and Animal Sensory Awareness: Descartes and Willis*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.06, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 81-99, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

body. These functions include non-conscious sensory processing and appetite; the circulation of the blood and respiration; digestion, nutrition, growth; sensory processing and reflexive behaviours; indeed, any of the functions we share with animals. Here, as elsewhere in Descartes' anatomical treatises, the explanatory strategy relies on a kind of "reverse engineering," appealing to the same principles that one would apply in dissecting and analysing the movements of a clock or other automaton. He first identifies a function; then proceeds to identify the structure responsible for performing that function; and then attempts ultimately to subsume the explanation under the laws of mechanics.

Willis' explanatory strategy also involves a commitment to iatromechanics, but one tempered by his iatrochemistry (Arráez-Aybar et al. 2015). His explanations stop at the level of describing anatomical structures and chemical reactions that either promote or inhibit the activity of the animal spirits. Willis analyses the "nervous juices" or animal spirits that flow through the nerves and account for sensory processing, storage, and retrieval, as well as all muscular movement in the animal body, as mixtures of chemical particles. These include familiar active (Paracelsian) and passive principles (active: mercury or spirit, sulphur or oil, and salt; passive: water, phlegm, and earth) but also nitro-aerial particles (Eadie 2003, 16). Whether he thought that these chemical properties were basic or reducible to the properties like those of Cartesian physics (e.g., size, shape, motion) is obscure, but also probably irrelevant. The "nitrosulphureous particles" (Willis 1681a, 129) in the animal spirits are essential to explaining how the animal spirits go off with a bang in the brain when they need to produce a fast muscular reaction at a distance. The matter of the brain and nerves, Willis hypothesized, is too "tender" to account for the speed of reflexes—a simple opening of a valve to release animal spirits into the nerves wouldn't cut it. Where Descartes' central metaphor for the nervous system was the slowly unwinding clock,² Willis' was gunpowder—an explosive substance able either to propel a projectile a considerable distance at great speed or to displace the quantity of animal spirits or nervous fluid already in the nerves (Willis 1681b, 40; Willis 1681a, 129). This, according to Willis, is how the animal spirits control muscular movements.

In this paper, we examine how Willis responded—perhaps unwittingly—to a specific challenge laid down by Descartes' *bête-machine* hypothesis, namely, the problem of locating a non-arbitrary basis for distinguishing between those

and memory, and (3) the rational soul, responsible for the functions of intellect and will. Drawing on Plato's tripartite division, Galen divided the animal into three separated yet integrated systems or "souls" centred around the functions of the liver, heart, and brain. The terminology persisted, as evident from Willis, despite refutations of Galen's anatomy in the 16th century, including by Paracelsus (Temkin 1973, 118 and 123–25). Prior to Descartes, it was unusual to deny that the sensitive soul was the seat of consciousness or even a kind of judgement. See Brown 2006, chapter 2.

² Descartes describes a nociceptive reflex—withdrawing the foot from a fire—of the imaginary humanoid body lacking a rational soul in *L'homme* at AT 11, 141–44; CSM 1, 101–3.

non-human animals capable of thought and consciousness and those that are not. Descartes argues that to demonstrate consciousness or thought, an animal would have to exhibit flexible, non-deterministic behaviour and be able to communicate their thoughts via language (broadly construed to include gestures or nonverbal signs). His conclusion is that no animal is capable of thought or consciousness (see Brown 2015 for discussion). We focus on Willis' examination of the distinction between the involuntary and voluntary nervous systems as addressing the question of whether animals can perform more than reflex functions. Willis' recognition that higher, cortical brain structures are involved in voluntary motor control was, we argue, prescient. Philosophically, it allowed him to make a distinction between the types of sensitive soul different brutes can be said to possess—finer grade distinctions than Descartes was prepared to allow but proved useful in accounting for different kinds of animal behaviours. Willis is thus clearly opposed to Descartes, but he is also opposed to Descartes' chief opponents, the vitalists, who conflated any kind of sensory processing with conscious cognitive processing. While Willis allows that some non-human animals are conscious and capable of a specific kind of thought, he accuses Descartes of committing a *non sequitur* in supposing that the animal soul would, if it were thinking, need to be both immaterial and immortal. Significant challenges to Cartesian metaphysics were thus advanced on the back of Willis' empirical investigations into the “seat” of consciousness in the brain.

We close this discussion by pointing to the legacy of Willis' scientific contributions for the science of consciousness today, including his recognition of the importance of the cortex to subjective experience, and his application of what was to become the foundational axiom of neurobiology, namely, that structure-determines-function.

2. Descartes' Wicked Thesis

L'homme is of a piece with other works by Descartes that describe the functions of the animal machine exhaustively in terms of mechanical processes without any mediation by conscious or cognitive processing. From the *Discours de la méthode* of 1637 onwards, he was widely known for what seemed to many a monstrous and repulsive thesis, namely, that all animals are simply unfeeling machines. Pushback was swift and deafening. As Leonora Cohen observed, each set of objections to the *Meditationes de prima philosophia* (1641) contains an objection to the bête-machine hypothesis despite the question being absent from the *Meditationes* itself (Cohen 1941). Criticism took various forms—from behaviorist assumptions that the complexity of animal behaviour and learning presupposed consciousness (at least that of the animal's awareness of its own wants (More; Cavendish)); from vitalist objections that the inertial quality of Cartesian matter could not explain the distinction between living (self-moving) and non-living (inert) things (Cudworth; More); and from teleologists committed to the irreducibly normative aspects of nature, which invoked God as the “other director” or his instruments—final

causes or “plastick natures” (Cudworth)—as basic presuppositions of physics (Gassendi; Cudworth; Leibniz).³

Descartes’ reasoning for his wicked thesis is straightforward. First, behavioural criteria are too weak to ground the existence of souls as organising principles of living things. Since we can construct automata that satisfy the same criteria using only principles of mechanics that make no reference to minds or souls, this is easily demonstrated. If we built a doll that cried out when we touched it, we would not think it in pain (AT 6, 56; CSM 1, 140), so why would we suppose an animal crying out is in pain if we can explain its movements in the same terms we use to explain the construction of the doll? In regard to language, he wrote, “we see that magpies and parrots can utter words as we do, and yet they cannot speak as we do: that is, they cannot show that they are thinking what they are saying” (AT 6, 57; CSM 1, 140). Their lack of ability to communicate is not due to want of an organ of speech, but to want of a rational soul. Their responses lack the freedom of human action and speech. Animal behaviour is instead highly *inflexible*—it is either the exercise of a reflex or instinct (AT 4, 575; CSMK, 303) or behaviour “learned” through processes of (non-conscious) sensitisation and habituation, as when we train hunting dogs to respond to a secondary stimulus (a gunshot) to run towards not away from the direction of the shot. Nowadays, we would call this associative learning—conditioned responses that do not need to be mediated by cognitive processing to explain their existence. By contrast, our reason is a “universal instrument” that allows us to adapt our behaviour to changing circumstances without rehabilitation (AT 6, 57; CSM 1, 140). Even in regard to what we would now think of as the more sophisticated operant conditioning models of behaviorism, this approach, by Descartes’ reckoning, is dead in the water.

Second, if we can succeed in explaining the formation and development of organisms in mechanical, non-mentalistic terms, then postulating a distinct principle of life (soul) is redundant—a bit like postulating the existence of a gremlin to explain how the hands of a clock move. Descartes’ account of embryogenesis—a zealous fable of how once particles are heated in the womb, they are stirred into circulation, compact (initially into the organs of the heart and brain as they cool), or being deflected by larger bodies and their containing membrane from their rectilinear tendencies, move into new areas to create all the diversity of organs that make up an animal body—is an example of this explanatory approach at full tilt (AT 11, 254, 274–76, 318, 516, and 599).

Finally, Descartes presents a host of dialectical arguments aimed at reducing his opponents’ arguments to contradiction or absurdity. While it was orthodox to accept that the rational soul or mind of a human being was immortal, most would not have wanted to hold that the vegetative or sensitive souls of animals were immortal. While Descartes never professes to have proved that any soul

³ See Brown and Normore 2019, chapters 3 and 4 for a comprehensive discussion of the backlash against Descartes’ views on animals.

is immortal, including the mind,⁴ he offers a slippery slope argument that if we accept that the rational soul is immortal and were to attribute it to any animals, then we would have to attribute it to all, including oysters and sponges, and that would be absurd (AT 4, 576; CSMK, 304). We can call the arrangement of matter in an animal that accounts for its self-movement and functions a corporeal or animal soul if we want, but we should not confuse that with the thinking and self-aware soul of the human being that can exist apart from matter (Letter to More, February 5, 1649: AT 5, 276).

There were various pressures on Descartes not to admit that consciousness or thought admit of degrees or that a soul could be sensitive but not intellective or volitional. His argument for the simplicity and unity of the soul is based on the assumption that anything which can sense, can form judgements and incite the will, and vice versa (AT 7, 86; CSM 2, 59). His seeming conflation of sensation and sensory judgement at the “third grade” of sensory response together with the volitional nature of judgement would entail that anything capable of sensory consciousness (at the second grade) must be capable of judgement and possess a free will (AT 7, 436–38; CSM 2, 294–95). The conflation of thought and consciousness (*Responsiones secundae*), and the implication of the *cogito* that anything which thinks/is conscious is simultaneously reflectively self-aware (CSM 2, 22), would have made it impossible for him to admit forms of consciousness that were not at the same time aware of the ego or mental substance that is doing the thinking.⁵ One cannot, on Descartes’ view, be just a little bit conscious.

In advancing his slippery slope argument, Descartes did not, however, see the potential in his own forays into neurology for avoiding the regress from attributing consciousness and thought to a dog to attributing it to oysters and sponges. Descartes is right to be worried about *arbitrarily* drawing a line between conscious and non-conscious organisms, but his own commitment to what was to become the foundational axiom of the biological sciences—the *structure-determines-function* principle—should have afforded him the idea that such discriminations might at least be possible. While such a commitment appears to be excluded by his other metaphysical commitments, his tendency to rely on the assumption that if animals think or are conscious at all, they must meet the

⁴ He claims only that his argument for the real distinction of mind and body leaves open the possibility that the rational soul is immortal, an orthodox position, never that he has an argument for believing that it is immortal. What he does claim is that any argument for immortality depends first on a thorough understanding of physics, presumably to isolate those immaterial things which are candidates for immortality (AT 7, 13–4; CSM 2, 10), but this seems on the face of it to beg the question.

⁵ To our mind, Descartes was at least right to question the assumption that consciousness admits of degrees. As pointed out in Bayne et al. 2016, in much of the empirical work supporting the idea that consciousness comes in degrees, there is confusion over whether the evidence supports the existence of different degrees of being conscious or consciousness of stimuli with different degrees of clarity.

criteria for having immaterial, immortal souls like humans do, struck many, including Willis, as simply false—an ad hoc move designed to shore up his otherwise questionable metaphysical assumptions. Descartes uses physiological explanations based on the structure-determines-function principle in much of his work. For example, his explanation of the circulation of the blood in terms of the structures of the heart (chambers; valves; arteries; connecting fibres; etc) is a case in point. The question is why a similar approach to the nervous system would not enable us to make informed judgements about which animals do or do not have subjective experience.

For his slippery slope argument to be cogent, Descartes must be entitled to suppose that between *any* two species, there is an inevitable indeterminacy or “gray zone” (Walton 2017, 1513) from which it follows that it is impossible to decide whether both are conscious or only one is. Gray zones are difficult to defend in comparative neurobiology and worse still, if they are presumed to be transitive so that if there is a gray zone between species A and B, and one between B and C, there is one between A and C. Otherwise, from the fact that one is pretty sure that oysters are not conscious, but unsure whether birds are conscious, one would not feel entitled to conclude that apes are not conscious. One might well have good reason to deny that oysters are conscious based on facts about their neurobiology while regarding the jury as out on birds but there being no question about the consciousness of apes. The slippery slope is beginning to look more like a staircase. Compare the following analogy. The gray zone between mammals and fish that might make it hard to decide whether the lungfish should count as having lungs in the same sense that mammals do is not a reason for supposing that every animal, down to oysters and sponges, either has lungs or none do. Taxonomic issues may be complex, but are not, for all that, a free-for-all.

One can see the tension clearly in Descartes’ argument that animal behaviour is invariably *inflexible*, based on the fixity of their organs. Machines are constrained to produce actions according to the arrangements of their parts, and there are mechanical limits on what can be added to any machine to increase the number and variety of functions it can perform. Think of a 17th century clock with a specified number of gear chains for each of its functions. One could only add more gear chains within limits, and even then, each of those would be fixed in terms of the functions it performs. For Descartes, the pineal gland by contrast enables a great variety of human actions because it can be moved this way or that, not only by the animal spirits, which are fixed in their movements, but also by the rational soul, which because of its freedom is not so constrained. The precise mechanism for this freedom of movement of the pineal gland is that the soul (in some unspecified way) can control the release of animal spirits from the gland (where they are distilled or better, sieved, from the blood; AT 11, 129; CSM 1, 100), directing them back into the nerves controlling the muscles. Descartes draws this conclusion about the “adaptability” and “diversity” of motions of the animal spirits in humans from his anatomical observations of the brains of non-human animals:

both in our bodies and those of brutes, no movements can occur without the presence of all the organs and instruments which would enable the same movements to be produced in a machine. So even in our own case the mind does not directly move the external limbs, but simply controls the animal spirits which flow from the heart via the brain into the muscles, and sets up certain motions in them; for the spirits are by their nature (*ex se*) adapted with equal facility to many diverse actions (AT 7, 229; CSM 2, 161; trans. alt.).

Aside from the fact that it is highly implausible to suppose that the pineal gland is capable of accounting for the unlimited variety of actions Descartes attributes to it, Descartes here seems inconsistent. As Willis observes, that many non-human animals have pineal glands should give us pause in thinking that this gland is the seat of a soul that is supposedly exclusive to humans. But if the pineal gland were the seat of the soul in humans, here would be a structure that, being shared by many animals, might give animals the flexibility to adapt their responses to changing circumstances just as it does in humans. And if we do not see animals adapt their behaviour in this way while having a pineal gland, could this really be the function of this gland in humans? (Willis 1681a, 106). Yet, Descartes is unwilling to countenance doubt about this issue, preferring instead to treat the reflex behaviours of animals, like that of dogs and cats when they futilely scratch the ground to cover their excrement (AT 4, 575; CSMK, 303), not as evidence of the absence of the right organ for the job, but as evidence of the absence of conscious thought. And that is to beg the question. The same question arises for the unthinking humanoid body of *L'homme*. Is it too stuck performing merely reflex actions, or could it adapt its behaviour because of its pineal gland and animal spirits? Descartes does not say. In the end, it is arguably Descartes himself who is guilty of arbitrarily drawing a line between conscious (i.e., human) and non-conscious (i.e., non-human) animals.

3. Willis on the Various Seats of the Various Souls

The term “neurologie”—the doctrine of the nerves—first appears in Samuel Pordage’s 1681 English translation of Willis’ 1664 *Cerebri anatome* (Willis 1681a, 136; Eadie 2003, 14). Unlike Descartes, Willis was a practising physician, a neurologist with a specialty in nervous pathologies. Willis headed a team of anatomists at Oxford, which included the brilliant anatomist, Richard Lower, and the astronomer and architect, Christopher Wren, who illustrated *Cerebri anatome* with exquisite neuroanatomical illustrations. Willis and his team crafted new ways of performing dissections of the brain, removing it whole and unrolling it instead of slicing it while still in the skull as was common practice (Willis 1681a, 55; Meyer and Hierons 1965a, 9–10). He used a variety of methods, some similar to ablation and nerve-muscle isolation techniques still used today, to theorise about the sensorimotor functions of the nerves and structures of the brain. And he synthesised a substantial amount of zoological work, contributing both to comparative neuroanatomy and to the classification of species into

groups. Dissections of the brains of many different animals revealed to Willis a “notable Analogy” between the brains of humans and four-footed animals, despite the fact that the human brain is both larger and thicker (Willis 1681a, 61). He noted a different kind of analogy between birds and fishes, concluding that the brains of humans and four-footed creatures are “more perfect” than those of birds and fish (Willis 1681a, 56). What proceeds is a remarkably detailed neuroanatomical description that improved in accuracy on preceding accounts. As Eadie remarks, Willis was “well aware of the general configurations of the cerebral hemispheres, cerebellum, brain stem, spinal cord and the peripheral and autonomic nervous systems” (Eadie 2003, 15); enumerated the cranial nerves more accurately than had previously been thought possible; and importantly, localised brain functions in the cerebrum and cerebellum rather than the ventricles, as Descartes had mistakenly done (cf. Willis 1681a, 97).

Willis embraces many of the features of Descartes’ and other mechanists’ account of nerve function—the role of the animal spirits as matter that travels through the nerves causing the contraction or relaxation of muscles; the role of the brain in integrating and storing sensory information in a “natural (i.e., corporeal) memory” and issuing motor commands; the idea that the “corporeal soul” of animals is material and thus distinct from the intellectual soul of humans; and, crucially, the structure-determines-function principle. While others (e.g., the Dutch anatomist and microscopist, Jan Swammerdam) not long after were conducting experiments that questioned both the essential role of the brain in producing muscular movements and the idea that animal spirits cause muscular contraction by swelling up in the nerves of the muscles and relaxation by their sudden exodus from the nerves, Willis retained both of these distinctively Cartesian ideas. Swammerdam’s experiments in the 1670’s with an isolated nerve and thigh muscle (belonging to that “old martyr of science,”⁶ the frog) showed that a muscle would contract when an adjacent nerve was rubbed with a scalpel.⁷ This is purported to have shown that the brain was not a necessary cause of motor responses (Cobb 2002). When the same experiment was performed on a muscle immersed in water, the Cartesian view would predict that the volume of animal spirits in the muscle by displacement of water should increase. The fact that no increase in volume of the muscle was observed is reputed as having shown that the doctrine of the animal spirits is false. Cobb thus concludes that Swammerdam made a significant contribution to “exorcising” animal spirits from science (Cobb 2002, 397–98). But interestingly, Willis had performed similar nerve-muscle isolation experiments and provided an explanation consistent with the doctrine of the animal spirits. In his *De motu musculari* (1670; *Discourse of Muscular Motion*, 1681), he describes experiments in which the muscles of decerebrate animals move of their own accord, but infers that this is

⁶ As Hermann Helmholtz (Holmes 1993) apparently referred to the frog.

⁷ According to Sleigh (2012), Swammerdam’s frog work was only published posthumously in 1737, in which case Willis would not have known about it.

due to the presence of animal spirits in the remaining nerves, which, containing “motive Particles” retain some of their explosive force and can cause slight movements. Indeed, the contraction of the muscle was hypothesised to be caused by the explosion within the muscle itself, which, expanding its girth, draws its ends together. Eadie attributes this idea even earlier to Gassendi (Eadie 2003, 16). Thus, for Willis, it is not just the volume of animal spirits but their activity that is responsible for muscular movements. Nor would Swammerdam’s experiments have cast doubt on the role of the brain in controlling muscle movements. Very small reflexive muscular movements can occur in isolation but for any larger movements, the brain is necessary. The muscles of animal bodies could thus only “act,” he writes, if the brain and nerves and a significant volume of animal spirits are involved (Willis 1681b, 40–1).⁸

In Willis’ neuroanatomy, the cortex of humans and higher animals is the principal site for voluntary brain functions, being responsible for both the procreation of animal spirits and their circulation. Animal spirits—pure and highly active particles of matter—are distilled and “subtilized” from the blood which reaches the brain via the “sanguiducts.” This blood has already undergone some distillation. Thinner and more volatile blood can only reach the head of an animal whose head is held high (Willis 1681a, 87–8). Humans and horses, for example, will thus have more superior faculties than those whose head is mostly near the ground and whose blood is, as a result, thicker and more sluggish. The brain is likened to an alembic (a still) or Balneo Marie, separating through heat and constant stirring the more rarified particles (Willis 1681a, 88; Willis 1683, 30). It is the *circulation* of the animal spirits and interaction between the corpus callosum and cortex, however, that is responsible for consciousness. We can feel the “endeavour or striving motion”—a nod in the direction of *conatus* or active motive force that one sees in the mechanics and psychology of Descartes, Hobbes and Spinoza—in the forebrain when we rub our forehead or temples in trying to recall something (Meyer and Heirons 1965b, 142–43). Indeed, Willis uses the same language as Descartes to describe this active force—as a “tendency” or a “stretching forth” (e.g., Willis 1683, 30; Brown 2021). All voluntary motions depend on the activity of the animal spirits in these sites, whereas the “Spirits inhabiting the Cerebel [in the hindbrain] perform unperceivedly and silently their works of Nature without our knowledge or care” (Willis 1681a, 111). The motions issuing from the cerebel are fixed, like those in an “artificial Machine or Clock” (Willis 1681a, 111).

It is thus not the cortical organs per se but the way the animal spirits interact with them that is responsible for consciousness and voluntary motions. The slowing or wearying of the motion of animal spirits in this location caus-

⁸ It is thus not obvious that, as Georges Canguilhem assumes, there was the equivalent of a Copernican Revolution in the physiology of movement revolving around the “dissociation of the notions of the brain and of the sensori-motor centres, the discovery of eccentric centres, the formation of the reflex concept,” Canguilhem 1977, 127; also 77. At least Willis did not take his own ablation experiments to show that the brain was not necessary to explain reflexes.

es drowsiness and then sleep. Although their ceasing to flow to the “streaked membrane” (i.e., striatum of the subcortical basal ganglia) halts voluntary movement, their continued motion in the cerebellar cortex ensures continuation of vegetative functions during sleep (Eadie 2003, 21). Willis hierarchically orders and explains five pathological disturbances to consciousness—somnia, coma, lethargy, carus, and apoplexy—in terms of different degrees of immobility of the animal spirits in the cortex or in terms of their dilution, as in the case of cerebral oedema, which Willis discovered through autopsies (Willis 1683, *Second Discourse*; Eadie 2003, 22). This could be brought on through head injury or narcotic or moribund matter that inhibits the mobility of the animal spirits or displaces them from their place in the cortex. Reflex behaviours—e.g., rubbing an injured spot while asleep—can be triggered by the striatum alone without the animal spirits passing from there to the callous body (i.e., *corpus callosum*). Without the engagement of the callous body, imagination is not engaged, and without the engagement of a second structure, the Appendix, to which animal spirits flow from the callous body, the functions of appetite and locomotion, are not consciously engaged. If the animal spirits reach the cortex, phantasy (imagination) and memory become involved, and voluntary conscious action is possible (Willis 1681a, 96). Through the cortex, the rational soul (which Willis regards as immaterial) can also direct the sensitive soul, although Willis does not explain by what power or mechanism it achieves this effect.

In *Cerebri anatome*, the cortex of humans and four-footed animals is described as lying on the outside of the brain, whereas in fish and birds it appears inverted relative to the ventricles (Willis 1681a, 75). Willis then describes the brains of fishes and birds as mostly “Cortical and Ashy” with very little medullary (i.e., white matter or nerve tracts), which is why when boys perform the “Experiment” of passing a needle through the head of a hen, she “lives and be well for a long time” (Willis 1681a, 93). Lacking the power to circulate animal spirits between the callous body and cortex robs these animals of phantasy and memory; it is instead from their striatum that the animal spirits issue forth to meet the sensitive and locomotive needs of these animals (Willis 1681a, 75–6). In later work, Willis locates the seat of the soul principally in the activity of the spirits in the Imagination or Phantasy and associated structures “for this is where all sensible species may be beheld” (i.e., become conscious) (Willis 1683, 41). Animal spirits that do not proceed higher than the striatum are reflected back through the nerves and produce only involuntary, reflex motions. When this happens, the animal spirits are reflected to the brain stem and spinal cord and from there to peripheral nerves and muscles without conscious or cognitive mediation (Eadie 2003, 26–7). The similarity in brain structure between fish and fowls accounts for the similarity of some of their bodily movements. Although fish have even less brain and blood than birds, the flight of birds is likened to “swimming in the air” (Willis 1681a, 77). Similarly, the optic chambers of both are almost as large as their brains, which accounts for their keenness of sight (Willis 1681a, 104). These are nice examples of the structure-determines-function principle at work in Willis’ comparative neurobiology.

Imagination consists in the undulation or wavering of animal spirits that radiates out from the middle of the brain towards its circumference; memory consists in the reflecting back of animal spirits in the opposite direction from the outer reaches back to the mid-brain. There, appetite is stirred up and spirits flow to the nervous system (Willis 1681a, 91). Both imagination and memory are needed for consciousness and thought. The “gyrations and turnings” of brain structure create a “spiral circuit” from the forebrain to the back. The cortical substance is “uneven and rough with folds and turnings” that contain “cells or storehouses” in which “sensible species” (the forms or phantasmata of sensible things) are stored for recollection (Willis 1681a, 92). Memories consist in the animal spirits carving tracks of the object perceived in these cells, an idea similar to Descartes’ account of corporeal memory as involving carved channels in the brain (AT 11, 360; CSM 1, 343–44). Willis states (Willis 1683, 36) that “a Character being affixed on the Brain, by the sense of the thing perceived, it impresses there, Marks or *Vestigia* of the same, for the Phantasie and the Memory then affected [...]” And

when the Prints or Marks of very many Acts of this Kind of Sensation and Imagination, as so many Tracts or Ways, are engraven in the Brain, the Animal Spirits, often of their own accord, without any forewarning, and without the presence of an Exterior Object, being stirred up into Motion, for as much, as the Fall into the footsteps before made, represents the Image of the former thing [...] (Willis 1683, 36).

When these engravings on the cortex are triggered by association, animals can think of things not immediately present.

Like Descartes, Willis notes that humans have an advantage over other animals in their freedom of movement, but attributes this to a difference in the size and complexity of their brains, not to the operations of an immaterial soul:

hence these folds or rollings about are far more and greater in a man than in any other living Creature, to wit, for the various and manifold actings of the Superior Faculties; but they are garnished with an uncertain, and as it were fortuitous series, that the exercises of the animal Function might be free and changeable, and not determined to one. Those Gyrations or Turnings about in four footed beasts are fewer, and in some, as in a Cat, they are found to be in a certain figure and order: wherefore this Brute thinks on, or remembers scarce any thing but what the instincts and needs of Nature suggest. In the lesser four-footed beasts, also in Fowls and Fishes, the superficies of the brain being plain and even, wants all cranklings and turnings about: wherefore these sort of Animals comprehend or learn by imitation fewer things, and those almost only of one kind; for that in such, distinct Cells, and parted one from another, are wanting, in which the divers Species and Ideas of things are kept apart (Willis 1681a, 92).

Where there is less diversity of flexibility in behavioural response or where animals appear only to respond to things immediately present, there is less reason to suppose that they have sensitive souls that would presuppose cognition or consciousness.

Willis' attention to the differences in brain structures that serve as the "hypostases" of the involuntary and voluntary systems respectively afforded him a principled way of drawing a distinction between reflexive and voluntary behaviour. Reflexes are wholly explained in terms of sub-cortical neural activity directed by the striatum, whereas voluntary—consciously and cognitively mediated—behaviour is under cortical control. This, in turn, afforded him a non-arbitrary basis for halting Descartes' slippery slope. Where a species lacks a cortex, it can reasonably be inferred that it lacks imagination, memory, and thus the capacity for voluntary, conscious behaviour. That having been said, whether Willis always applied this finding consistently is less clear. If one reads the *Cerebri anatome*, one could well infer that fish and birds are not capable of consciousness or voluntary movements. But in a later text, *De anima brutorum* (1672; *Two Discourses Concerning the Soul of Brutes*, 1683), birds are cited as teaching other birds songs, which they recall from memory (Willis 1683, 37). Nor is it always clear when Willis speaks of the "soul" of various animals whether he is talking about the vital (non-sensitive) soul or a sensitive soul but one lacking imagination and memory or a sensitive soul featuring imagination and memory which may thus be supposed to be conscious. The details though are perhaps less important than the fact that the overarching framework is one that at least allows for such discriminations to be made.

While Willis' contribution to the medical sciences was profound, he seems to have made little dent on debates about the nature of the soul in philosophical circles. On a superficial reading, Willis can appear to be simply reinstating the tripartite division of souls from Antiquity, only grounding the division in a clearer understanding of the structures and functions of the brain. Willis thought, however, that his empirical results required us to rethink Descartes' twin metaphysical assumptions that no sensitive soul could be rational without being capable of intellectual abstraction and that no soul could be both rational and corporeal. While this, Willis acknowledged, was essentially the same view as Gassendi's (Willis 1683, 42–3), Willis' distinctive contribution was to provide an empirical foundation for Gassendi's distinction among corporeal souls.⁹ What was left to ground the distinction between the souls of brutes and human beings remained, however, a vexed question.

4. Psychologie or the Doctrine of the Soul

In the Preface of his *Two Discourses*, Willis affirms that the sensitive soul is corporeal, shared between humans and brutes, and distinct in kind not merely in degree from the rational soul, which he accepts is immaterial and immortal. He dismisses the idea that matter is incapable of perception and the idea that there cannot be two forms (rational and sensitive) actuating matter, finding

⁹ For a detailed exposition of the relationship between Willis' and Gassendi's ideas, see Meyer and Hierons 1965a.

more absurd the idea that two immaterial souls might compete to be united to the same matter and integrate their functions. Better to consider the sensitive, inferior soul as immediately conjoined with matter as its form (admitting of no real distinction) and as subordinate to a second but distinct kind of form in humans—the rational soul. Willis is thus a hylomorphist about the sensitive soul and a dualist about the rational soul. In chapter 1, Willis also dismisses the Cartesian objection that if we suppose that the souls of humans and beasts differ only in degrees of perfection, they “must alike be either Mortal or Immortal, and alike propagated *ex traduce* or from the Parent” (Willis 1683, 3). Neither horn of this dilemma was tenable. Holding the rational soul to be mortal and to proceed from the potentiality of matter would have been heretical, whereas holding the animal soul to be immaterial and potentially immortal was absurd. The idea that fishes and insects have immaterial and immortal souls is ludicrous, when their main function, Willis says, is to be “pickled” (i.e., preserved) in water for consumption by other animals (Willis 1683, 4). But how does Willis propose to avoid impaling himself on the first horn of this dilemma if the kind of cognitive and conscious capabilities we think of as definitively rational and, therefore, human, make their way in some form into his conception of the animal soul?

Willis acknowledges Descartes’ and Digby’s equation of the corporeal soul with the arrangement of the parts of the machine but regards this as too passive a model for understanding animal motion. The clocks and fountain automata on which Descartes models his animal body move only when moved by something else (the winding of a cord or spring). Animals, by contrast, contain the principle of life and movement within themselves. Willis describes a second slippery slope argument we see in the background of the Cartesian view—one based on the slide from attributing some cognitive faculties to brutes to attributing all cognitive faculties to them. People who deny cognition to brutes, suppose that:

for otherwise, if Cognition be granted to the Brutes, you must yield to them also Conscience [consciousness], yea and Deliberation and Election, and a Knowledge of Universal Things, and lastly a rational and incorporeal soul (Willis 1683, 3).

Descartes and Digby, despite their differences, come to the same wrong conclusion in Willis’ mind, underestimating the power of God to make that of which they cannot conceive (Willis 1683, 3). They underestimate the workmanship of the divine craftsman in creating the providential order and the capacity for some form of thinking among brutes (Willis 1683, 29).

For Willis, the corporeal soul is extended throughout the body, a fact which can be seen when by cutting a worm, eel, or viper into segments, each part curls up of its own accord. But more specifically, the soul is a fiery substance, which, as we learned from the earlier *Cerebri anatome*, are the explosive animal spirits distributed by the nerves throughout the body (Willis 1683, 5). The spirits permeate the body like a “spectre or shadowy hag,” which cannot be seen but only known through their effects and operations (Willis 1683, 6). What proceeds in *Two Discourses* is a long, anatomical discussion of the vital operations of blood-

less insects, molluscs, and crustaceans, and the question whether they should be attributed a soul at all, especially given that they live under water, an element “deadly to fire” and, hence, deadly to Willis’ gunpowder analogy for the animal soul (Willis 1683, 13). This is resolved subsequently where it is explained how the nitrosulphuric particles in the animal spirits can burn “in the dark like a live Coal” (Willis 1683, 15). The case is clearer with bloody fishes, for where blood exists, so too do the organs of sense, and fish have brains (Willis 1683, 13).

Chapter 6 is titled “Of the Science or Knowledge of Brutes.” This attribution is quickly qualified. While some animals appear to choose between actions and have Deliberation, they do not have rational souls like humans or they would rise to the level of having science or the knowledge that humans possess, but they do not (Willis 1683, 32). This was not by any means either an inconsistent or radical position. Avicenna and Aquinas each thought that animals were capable of a rudimentary form of judgement—a function of their *vis estimativa* (estimative power) for discerning the aetiological properties of objects. The sheep may lack both reason and will, but its sensitive soul can judge the *malicitas* of the wolf as much as the wolf’s colour or shape, and flee accordingly (see Brown 2006, 42–3). Willis too acknowledges that animals can, in addition to sensing properties through the five external senses, sense the utility or disutility of external objects, prompting in them the experience of various passions and subsequent self-preserving actions. Species of the same object sensed by the external senses that appear “Congruous or Incongruous, produce the Appetite, and local motions its Executors” (Willis 1683, 36). On the question of animal deliberation, Hobbes, in his *Leviathan* (1651), had already diluted the notion of deliberation to the alternation of passions representing the pros and cons of a certain course of action, and thus to something we share with brutes. The notion of deliberation circulating in England was thus far from anything resembling Aristotle’s syllogisms of practical reasoning.

Willis’ view likely sits somewhere in the middle of these views. Higher brutes are “Knowing and Active”; have a faculty of “Varying their Types [of actions], and of Composing them in themselves”; and use methods of “ratiocination” that involves considering “Propositions” as “Premises” in simple “arguments.” A four-footed animal can form ideas of singular things and associate them with other ideas: “she is taught through various Accidents, by which she is wont to be daily affected, to know afterwards other things” (Willis 1683, 34). Some of these ideas are innate, geared towards conservation of the animal, which is a “Law of Divine Providence.” These ideas are correlated with fixed, deterministic responses to external stimuli. Other ideas arise, however, out of the interplay of Sense, Imagination and Memory. Sometimes, innate and acquired ideas interact. Instincts can be “complicated” by notions acquired by sense—e.g., when a dog comes to associate a stick with pain through being struck by one (Willis 1683, 38). Acquired ideas are typically sparked by contingent experiences, but the animal is then able to store or put them together with other ideas to reproduce an action from memory or produce a novel action to achieve its wants. In these cases, Willis claims that we are dealing with a kind of knowledge, one which re-

quires a clear brain and lucid animal spirits. When this material is transmitted to the striatum, reaches the common sensory, and then,

as a sensible Impulse of the same, like a waving of Waters, is carried further to the Callous Body, and thence into the Cortex, or shelly substance of the Brain, a perception is brought in concerning the Species of the thing admitted, by the Sense, to which presently succeeds the Imagination, and marks or prints of its Type being left, constitutes the Memory (Willis 1683, 35–6).

Examples of the first kind of action, produced from knowledge stored in memory, include the horse that upon seeing hoofprints leading out of its meadow, recalls the greener pastures further away and embarks on a journey going hither and yon to find them. Examples of the second include draft beasts who, from drinking water and observing its cooling effects, proceed to lie down in it to reduce their heat (Willis 1683, 37). Perhaps the most striking case of animal ingenuity is that of the fox, which feigns death to fool the hen into coming closer, or more hilarious yet, being aware that the turkey up in the tree is watching it with a keen eye, runs at great speed around the base of the tree until the turkey, getting giddy, falls to the ground (Willis 1683, 38). This kind of “acquired Knowledge of the Brutes, and the Practical Habits introduced by the Acts of the Senses, are wont to be promoted by some other means to a greater degree of perfection.” It teaches them “to form certain propositions” and “draw certain conclusions” (Willis 1683, 36). Things that come to them by accident that are repeated become habits. And such cases show animals to have “Cunning and Sagacity” (Willis 1683, 37). Willis refers to the case of the fox as evidence of “a kind of Discourse, Ratiocination or Argumentation” (Willis 1683, 38):

the reason of the whole thing done, or the Endeavour, is resolved into these Propositions; the Fox thinking now to take the prey [suggested by natural instinct], that is before his eyes, after what manner he may, remembers how he had taken the same formerly, by these or those sorts of Cunning ways or Crafts, found out by some chance.

Animal reasoning is thus grounded in experience and confined to being about particulars, but the animal soul can think beyond the immediately given through the powers of association afforded by Imagination and Memory.

We have left only to consider why Willis is adamant that such powers are corporeal. First, he argues that it is absurd to reject the idea that a sensible thing can be composed of insensible material, citing a chemical analogy of how we have no trouble conceiving how a “kindled thing” (a fire) can be made from “inkindled things.” Animal spirits are nothing more than their material parts, just as light is nothing more than a kind of fire:

Animal spirits as Rays of Light, proceeding from this fire, are Configured according to the Impressions of every of their objects, and what is more, as it were meeting together with reflected irradiations, cause divers manners of motions (Willis 1683, 33).

Nor is it problematic to suppose that animal spirits may constitute perceptions, any more than it is to accept that light coming through a pinhole can project an image onto a surface behind it (Willis 1683, 33).

Second, Willis offers a lengthy discourse in chapter 7 on what is unique to the rational soul of humans, and why it cannot therefore be accounted for in terms of the composition or faculties of the brain (Willis 1683, 38ff). Willis sees us sharing Phantasie and Memory and the capacity for practical habits with four-footed creatures at least, but we excel brutes both in the variety of objects we can think about and in our “Acts and Modes of Knowing.” For, as Aristotle observes, our thought is not restricted to objects of sense, but extends beyond the sublunary to consider all beings (*ens*) (*de Anima*, 3.4). The reasoning of brutes is analogical; that of humans scientific. Our reasoning is logical; we reason from first principles—i.e., about the causes of things; demonstrative; mathematical; and mechanical (Willis 1683, 39–40). There is also a normative dimension to our thinking that brutes lack. Brutes have only a few simple notions of particulars and intentions to act, but know nothing about rights or laws of political society (Willis 1683, 40). Human reason corrects its imagination and abstracts universals, and brings those universal concepts to bear on its actions when it counteracts or diverts the effects of the passions. The rational soul considers immaterial things, such as God and the angels, which it could not do if all its ideas were sensory; it composes and divides; deduces; comprehends virtue; and perceives itself, which neither imagination nor memory alone can do. The rational soul is, therefore, clearly immaterial, and although Willis, like Descartes, offers no argument for it, clearly also immortal (Willis 1683, 38–9).

5. Conclusion

Our reading does not reveal any dramatic inconsistencies between the earlier work of *Cerebri anatome* and the *Two Discourses* (cf. McNabb 2014). Willis is consistently a materialist about the corporeal soul, whether that be the vital soul of insects, molluscs and crustaceans, or the sensitive-but-involuntary souls of fish and (possibly) birds, or the sensitive-and-voluntary souls of higher animals. Willis’ inattention to the rational soul in his *Cerebri anatome* is consistent with his later insistence that the rational soul of humans is immaterial and immortal, since the purpose of the *Cerebri anatome* is to uncover the neural bases of reflexive versus “voluntary” (meaning: consciously mediated) animal behaviour. It is also consistent with other investigations throughout the history of anatomy—particularly Galenism—into the “seat” of the soul in the brain, the principal organ of the body that the soul relies upon for its sensitive and appetitive functions. In this regard, Willis is not doing anything fundamentally different from Descartes, except drawing different conclusions about where that seat is located and what kinds of souls can be attributed to which kinds of animals.

With hindsight from the perspective of contemporary neuroscience, there is much to admire in Willis’ neuroanatomy. As Meyer and Hierons note, “In 1946 [C.S.] Sherrington wrote: ‘The notion of reflex action is traceable to Descartes,

but the term hardly. The term is traced more clearly to 'Thomas Willis'" (Meyer and Hierons 1965b, 142). There was in the 17th century nothing comparable to Willis' understanding of the reflex, even if he failed to understand how the sensory and motor components of the reflex arc connected. It would take another 100 years "until Whytt introduced the spinal cord for this purpose and thus prepared the way for Unzer, Prochaska and above all Marshall Hall to build the modern concept of reflex action" (Meyer and Hierons 1965b, 143). In the meantime, it was Willis, not Descartes, who remained the authority.

There is much else besides his analysis of the reflex for which to applaud Willis. When he writes in *Two Discourses* (Willis 1683, 7) "that as there are Various kinds of Bodies, in the diverse Habitats of this world, and offices of those Bodies destined to life, so also Various Souls" he is very much in tune with the sentiment of a much later evolutionary biology that took a comparative approach to the question of what the soul is. When Willis considers that the passages or tracts in the nervous system allow for the flow of "some subtle particles" "most thin, invisible, and nimble" (Willis 1683, 23), he is not that far off from the view held today that it is the flow of ions through the nerves that creates neural activity. For Willis though, these structures and the animal spirits that move within them are the "Constitutive parts of the sensitive Soul" and the "Authors of the Animal Function" (Willis 1683, 23). Similarly, when he introduces the idea that these tracts or pathways carved out by the excited spirits become strengthened in the brain, he is describing a precursor to modern thinking about the strengthening of synapses and memory and how imagination and voluntary action arises. And when he describes the cortex as necessary for the kind of thought and consciousness implicated in "voluntary," conscious actions, and speculates that perception involves "images or pictures" being sent via nerves from the cortex to the "streaked body," projected onto the corpus callosum like a screen, and then projected back to the cortical folds where they are stored as memories (Willis 1683, 25), he is again not too far off the mark. Memory continues to be a challenge in neuroscience today, but the cortex certainly contains representations and is, by all telling, the "seat" of consciousness. Willis' *neurologie* thus represents not only an important progression from the Cartesian account of nerve function, but one that served as a catalyst for rethinking the very foundations of Cartesian metaphysics of the mind.¹⁰

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¹⁰ Funding for this research was supported by an Australian Research Council (ARC) Discovery Grant (DP200102909; project "Toward Closure on the Animal Pain Debate"). We acknowledge the support of the ARC and the University of Queensland in enabling this research and express our gratitude to the editors of this volume, Andrea Strazzoni and Marco Sgarbi, for their excellent editorial support in bringing this paper into print.

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Self-examination, Understanding, Transmission: On Becoming a Teacher in Clauberg's *Logica vetus et nova*

Adi Efal-Lautenschläger

Abstract: This paper takes a fresh look at Johannes Clauberg's *Logica vetus et nova*, in order to try to clarify its nature and character. Differently from prior readings of Clauberg that analyze his philosophy from the point of view of the construction of "ontology," the approach of the present paper sees in Clauberg's philosophy a late-Humanist work, accentuating his pedagogic and hermeneutical interests. Indeed, in Clauberg's philosophy, hermeneutics and pedagogy are intrinsically bound together. This, the paper suggests, is supported not only by the concrete subject-matters of his logic, but also by the examination of Clauberg's milieu and of his sources. Analysis, in this framework, has a strictly hermeneutical usage.

Keywords: Johannes Clauberg, logic, hermeneutics, teaching, pedagogy, didactics.

1. Introduction

This study aims to capture the late-Humanist conception of knowledge from the perspective of how knowledge is transmitted in a pedagogical framework. During the 17th century, philosophers were well aware of their pedagogical responsibility. Late-Humanists and Cartesian thinkers were carefully considering the manner in which the knowledge they had acquired could be transmitted in an educational or even instructional context. Recently, a scholarly volume addressed the pedagogical concerns of the Cartesians and shed new light on this highly influential aspect of 17th century philosophical production (Cellamare and Mantovani 2022). The volume highlights the integration of the scientific achievements of Descartes in pedagogical, mostly institutional practices of philosophers around Europe. One of those Cartesians, who were clearly addressing the transmission of knowledge in a pedagogical perspective, was Johannes Clauberg (1622–1665). In this framework and notably in Clauberg, "knowledge" does not mean exclusively scientific knowledge: the understandings of the Classics and Sacred Literature and the means to articulate them precisely also played an important role in the specific transmission of knowledge. This is the basis for the following inquiry concerning Clauberg's *Logica vetus et nova*. Though the *prima facie* aim of this treatise is logic, from the first lines of the treatise, one learns that

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Referee List (DOI 10.36253/fup_referee_list)

FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

Adi Efal-Lautenschläger, *Self-examination, Understanding, Transmission: On Becoming a Teacher in Clauberg's Logica vetus et nova*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.07, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 101-128, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

Clauberg considered logic as an approach to attain knowledge.¹ In this context, knowledge is inherently connected to an activity of correctly understanding both one's own thoughts and the works, words, and thoughts of others. This pertains to Clauberg's engagement with hermeneutics, as discussed below. Because this hermeneutical framework is not overtly Cartesian, one of the questions that will be addressed below is the following: how does this hermeneutical knowledge stand in regard to Clauberg's avowed Cartesianism?

Clauberg's *Logica vetus et nova* was published at least in two Latin forms in the Clauberg's lifetime, first in 1654, and then in its final form in 1658.² The second edition of the treatise is dedicated to Tobias Andreae (1604–1676), Clauberg's mentor in Groningen and a fellow Cartesian.³ The present paper deploys the general framework of Clauberg's *Logica*, while emphasizing the pedagogical principles that are to be found within its pages. The proposition of the present paper is more qualitative than argumentative: I try to pinpoint the character of Clauberg's logic and demonstrate its differentiated position against the background of early 17th century treatises of logic written in the milieu in which Clauberg was working: the Calvinist philosophy of the first half of the 17th century. The important difference between the philosophical baggage of Clauberg and of his predecessors, is Clauberg's close acquaintance with the philosophy of Descartes, an acquaintance which in the 1650ies was already well established.⁴ However, Clauberg's adherence to the Cartesian creed cannot explain the overall structure, as well as some of the determining terminologies that one finds in this treatise, which is constructed as a handbook, a didactic guidebook to the art of logic. In order to adequately and qualitatively characterize Clauberg's logic, one should acknowledge both its pedagogical and its hermeneutical motivations. According to the present reading, one should understand Clauberg's procedure in his *Logica* as adhering in the first place to a hermeneutic motivation, which is not prominent in the logical treatises of his predecessors in Calvinist philosophy, but which is obviously not a consequence of his Cartesian convictions either. The pulsating hermeneutic motivation that one finds in Clauberg's logic also provides the foundation of Clauberg's *pedagogical* concerns. What is, or are, however, the source/s of Clauberg's explicit engagement with hermeneutics? This question hides within itself another question, which in itself isn't trivial: what are Clauberg's actual sources in writing his *Logica*? The reasons that this ques-

¹ One must emphasize that Clauberg was also occupied with teaching natural science: his *Physica* (1664; in Clauberg 1691, 1–208) contained wide-reaching discussions of physics and biology. See Smith 2013; Strazzoni 2014.

² Clauberg 1654; Clauberg 1658. See also the excellent French translation: Clauberg 2007. I consulted this translation when preparing the translations into English. In 1657, Clauberg published in Amsterdam a translation into Dutch.

³ On the editions of the *Logica* see Verbeek 1999, 189; On Andreae see Savini 2011, chapter 3; Omodeo 2022, chapter 6.

⁴ On the accepted typification of Clauberg as forming a mixture between Scholasticism and Cartesianism see Savini 2006; Hamid 2020.

tion is not trivial, are two: first, Clauberg is not very generous in citing his immediate sources. One finds only a few of them throughout the *Logica*. Clauberg is more generous when he uses primary sources, from ancient Greek, Roman sources or the Old and New Testaments. The second reason why this question is not trivial is related to Clauberg's Cartesianism. In order to pin down the distinctive character of Clauberg's Cartesianism, one should chart his precise interlocutors. However, the text itself reveals very little about those interlocutors, at least in the framework of the *Logica*. In relation to the hermeneutical element of Clauberg's logic, it is not that clear who is the main interlocutor, and whether this interlocutor is related or not to Cartesianism.

One of the more evident influences on Clauberg's hermeneutical occupations is Johann Conrad Dannhauer (1603–1666).⁵ Clauberg cites his *Idea boni interpretis* at least three times in the third part of the *Logica*, in which Clauberg begins to discuss the hermeneutical part of logic (Clauberg 1691, 845, 855, 870). Dannhauer, the Lutheran theologian from Strasbourg, revived the practice of hermeneutics as the determination of the true meaning of given documents and written or spoken discourses, mostly in the context of reading the Bible. In the case of Clauberg, however, there is no limitation of the art of interpretation to religious material. In general, Clauberg's ideas refer to any kind of spoken, written or even cogitated discourse (the third is referred to by Clauberg as "internal discourse"). If, then, one wishes to see in Clauberg a follower of Dannhauer in matters of hermeneutics, then indeed, it appears that Clauberg opened the sense of hermeneutics and widened its objects beyond the borders of theological discourse. In any case, what is certain is that the influence of Dannhauer should be counted as an independent trope not necessarily related to Clauberg's Cartesianism.

What makes our task of qualification even more complicated, is that Clauberg's hermeneutics is explicitly presented as a pedagogical endeavour. In other words, if the essence of logic is the understanding of discourses, then the framework of the logic shows the scope and principles of the realization of that task and the manner in which to transmit that true understanding to others. Hence, the pedagogical framework that one finds in Clauberg is double-layered: in the first stage, one should learn to read well (both oneself and others); at the second, necessary stage, one must learn to transmit the true sense of what is read to one's students. In other words, Clauberg's logic is intended to train teachers of logic, to train teachers for true interpretation or for true *understanding* (*Verstehen*).⁶

One should further note that the occupation with the *art of logic* cannot be considered as Cartesian and may even be understood as an un-Cartesian activity. Descartes's position regarding logic was in general negative: he aspired, according to his own avowal, to replace the art of logic with his own method,

⁵ On Dannhauer, see Bolliger 2020.

⁶ Andrea Strazzoni has suggested to understand in this specific sense Clauberg's Scholastic Cartesianism: Clauberg is a Cartesian Scholastic, in the sense of a philosophy intended and oriented towards the School. See Strazzoni 2014, 156.

which, instead of leaning on the pre-conceived instruments of syllogisms, will lean on the power of the natural light and its correct guidance.⁷ In this sense, the project itself of creating a new art of logic seems to be missing one of the central and most essential Cartesian moves, which is to make logic redundant altogether. Theo Verbeek also recently suggested that the pedagogical concern is quite strange to Descartes's philosophy in itself (Verbeek 2022). Descartes's grudge towards the pedants of the Schools is well known. Nonetheless, Descartes's structural occupations with the method are seemingly well supported. In this view, Clauberg's work as a teacher reflecting on one's own art can also be viewed as trying to implement the more rigorous methodological aspects of the Cartesian method in the various domains he was professing.

As just noted above, Clauberg's logic proposes a theory of *knowledge*, and this is indeed its decisive character: logic, in the Claubergian sense, willingly drops its scholastic model of being a self-contained system of rules for the determination of the truthfulness or the falseness of propositions; instead, it assumes a wider task which is the establishment of the capacity for knowledge of the world at large. But this also must not be necessarily understood as a Cartesian trait. Instead, in this Clauberg presents a relation to a thread of thinking deriving from Francis Bacon (1561–1626), a line of influence which the historiography of German philosophy of the 17th century has not yet characterized clearly enough. However, the importance of Bacon's philosophy to a more complete understanding of Clauberg's philosophy is beginning to become consensual among scholars.⁸ Not only did Clauberg know Bacon's writings (he refers to Bacon numerous times in his *Opera omnia*), he also borrowed from them some of his general principles. Clauberg's education was pregnant with Baconism: his teacher in the Gymnasium of Bremen, Gerhard de Neufville (1590–1648), was engaged in the reading and application of Bacon's conception of science (Verbeek 1999, 182; Strazzoni 2012, 259; Collacciani 2020). This Baconian thread moreover is also concomitant with the kind of hermeneutics that we find in Clauberg's logic. The knowing of nature, in this framework, is understood as an *interpretation of nature*. However, at least in the framework of the logic, what is interpreted is explicitly discourse (*sermo*): discourse of one's own or discourses of others.

Francesco Trevisani emphasized the quasi-empiricist character of Clauberg's philosophy in general and not only of his logic: if one scrutinizes the milieu of Calvinist metaphysics of the 17th century,⁹ according to Trevisani, one finds on the one side the tendency to approach a purification of the abstract set of categories and principles of reasoning, such as in Clemens Timpler (1563–1624), and on the other side one finds the experience-oriented tendency which is closer to the

⁷ On logic in Descartes see Mehl 2005. On the relationship between logic, ontology, *ontosophia* and metaphysics see the very helpful Savini 2009.

⁸ Bacon was influential in the Dutch philosophy of the 17th century: Strazzoni 2012.

⁹ For a discussion of the empirical element in Clauberg and the "Duisburg school," seen as Cartesian medical philosophy, see Smith 2013.

Aristotelian and the late Scholastic occupation with the apprehension of *things* (real beings), as in Bartholomäus Keckermann (1572–1609), whose epistemological positions Trevisani considers as closer to Clauberg’s epistemology (Trevisani 2006, 106–9). In this orientation the art of logic is presented as a general method for obtaining valid judgments of things in all existing domains, via a critic of sensual experience; in other words, logic, in the just mentioned framework, is the other name for early modern theory of knowledge, or epistemology. It is within the domain of logic that the theory of true knowledge about the world was developed. That experience-oriented logic that one finds in Keckermann and in Clauberg is less intended to the achievement of a purified, ordered language of valid propositions, but rather, it aims to supply a method for an *adequate reference to things*. We are talking here indeed about quite an innovative approach to logic which definitely deserves the name it received from Clauberg, the “new” logic. One should ask however whether this quasi-empiricist turn of logic should be attributed to a Cartesian influence. Paul Schuurman has identified such an empirically oriented logic in 17th- and 18th-century philosophy, the “logic of ideas,” beginning with Descartes, continuing with John Locke (1632–1704) and developed by philosophers as Jean Le Clerc (1657–1736) or Jean-Pierre de Crousaz (1663–1750). The “logic of ideas” which presented itself as a “new logic,” was motivated by Descartes’s occupation with method, and is characterized by Schuurman as no more rationalist than empiricist. The logic of ideas is furthermore conceived by Schuurman as a method to order and edify the “mental faculties.” Schuurman demonstrates the extensive influence that this new logic had in Holland and Germany, and indeed, this is also the context into which Clauberg’s work adequately fits (Schuurman 2004, 19–33).¹⁰ The theological context of inner splits within Calvinism, which Schuurman extensively addresses, also characterizes Clauberg’s own milieu. However, one should not forget that Clauberg’s life ended in 1665, a time when the last two mentioned philosophers were still very young. In this sense, if we follow Schuurman’s roadmap, Clauberg’s *Logica* must be placed at the *very beginning* of this dynasty of thinkers, as the aftermath of Descartes’s method.

2. Clauberg and Aristotelian-Ramism

Can one say that Clauberg was a late Ramist thinker? Both Hotson (Hotson 2020, 145–75) and Trevisani place Clauberg within the framework of Dutch-German Ramism.¹¹ Indeed, Timpler and Keckermann are the two most relevant

¹⁰ Regarding the question of Cartesian logic, see Gaukroger 1989. Gaukroger indeed argues for the existence of a genuinely *Cartesian* kind of logic. However, Gaukroger’s interpretation of Cartesian logic is inferential, that is to say, it leans heavily on the operation of *deduction*; hence, it is not at all an empirically-oriented understanding of Cartesian logic, as we may find in Clauberg. Moreover, the inferential understanding of Cartesian logic does not give an essential place for hermeneutics, which is so central in Clauberg.

¹¹ On the relationship between Cartesianism and Ramism in the context of Dutch universities, see Hotson 2022.

thinkers in this regard. Both are mentioned a few times in Clauberg's *Opera omnia* and there is no doubt that he knew their works. Like Clauberg, Timpler (the Protestant) and Keckermann (the Calvinist) pertained to a group of philosophers adhering to the Reformed confession. Both Timpler and Keckermann were directly influenced both by the Paduan Aristotelian Giacomo Zabarella (1533–1589) and by the Late Scholasticism of the School of Salamanca and the work of Francisco Suárez (1548–1617). Zabarella and Suárez are to be found (again, very sporadically) in Clauberg's *Opera*. Timpler, Keckermann and Clauberg were occupied with a critical reception of Aristotelian philosophy. Clauberg, however, is differently positioned than Timpler and Keckermann. In as much as in Timpler and Keckermann one finds a direct recourse to Scholastic terminologies, Clauberg was rather trying to *criticize* and *renovate* Aristotelian and Scholastic questions with the help of Cartesianism.

Both Timpler and Keckermann are often considered within the framework of the group of thinkers that are considered in a general manner as “Philippo-Ramist.” Both Howard Hotson and Marco Sgarbi supplied the background for that commonly overlooked chapter in the historiography of early modern philosophy, extending between the last decades of the 16th century and the first decades of the 17th century (Hotson 2007; Sgarbi 2016). Hotson described Clauberg's intricate relationship with the Philippo-Ramist school, and demonstrated that Clauberg's philosophy cannot be detached completely from the generation of his predecessors, but nor we can see in Clauberg a purely Ramist thinker (Hotson 2020, 142–48, 156–81). The entire (however short) academic career of Clauberg was made against two intellectual, conservative adversaries: the Ramist conservatives and the Aristotelian conservatives (Trevisani 2006, 93–5). And the close relationships with the Ramists in Herborn leave no doubt as to the latent problem of Ramism behind Clauberg's preoccupations, Cartesian and others. The observation that the present paper suggests is that Clauberg's concerns are not only partially but essentially Ramist: he *engages critically* with this school of thought, and, in a way, Clauberg's Cartesian convictions serve as an instrument in the criticism Clauberg suggests of Ramism. What stayed as an influential character in Clauberg's philosophy is its pedagogical concerns, which derive directly from the reformed Ramist occupation with the renovation of the system of education and learning (Wilson and Reid 2011; Hotson 2020, 224–304). According to Frédéric Lelong, during the years following the Wars of Religion what was at stake was the constitution of a new style of civility (Lelong 2021). And it is to the education of that civility that the newly constructed institutions of Reformation Germany, both in Herborn and in Duisburg, were dedicated. One of the rising influences in this orientation in the Reformed world of teaching was Comenism, issuing from the Calvinist pedagogical thinker Jan Amos Comenius (1592–1670). Comenian didactics was occupied with the universalization of knowledge, as an educational application of Philippo-Ramist encyclopedism (Sadler 1966; Lukaš and Munjiza 2014; Schmidt-Biggemann 1983). In Clauberg, however, one does not find that all-encompassing *ordering* of knowledge that one easily detects in Comenius. Also, if Clauberg refers to Comenius

a couple of times in his corpus, there is no direct engagement with Comenian pedagogy in his writings.¹² In Clauberg, if encyclopedism is latently present, it is in the form of a “scrambled” encyclopedism, re-ordered both through the newly revived method of hermeneutics and through the Cartesian method. Effectively, the Cartesian method is called by Clauberg to serve in the task of re-ordering encyclopaedic knowledge. Moreover, one does not find in Clauberg’s writings that systematic style of tables, schemes and lists that one finds in the Ramism and Comenism. Instead, what we do see in Clauberg is the emphasis on the beginning of philosophizing, trying to provide a method for a re-education of the mind, in a search for its purity, which leads to a true understanding of the world. In our modern terms, one could say that Clauberg is occupied with developing a theory of *continuing* education, aspiring to begin *anew* the directing of reason after it has been *necessarily* corrupted. The beginning of philosophizing is especially emphasized in his *Defensio Cartesiana* (1652) as well as in his *Initiatio philosophi* (1655),¹³ and it is heavily pregnant with Cartesian terminology.

In this framework of initiation, logic is presented by Clauberg as a proto-philosophical, propaedeutic method: one must master the art of logic before starting, or at least *upon starting* to philosophize and to approach the things of the world. This turn in the understanding of logic incorporates a change in its conception. Clauberg’s predecessors in Calvinist philosophy did not hold such an explicit epistemological orientation towards the understanding of works oriented by a theory of logic. Much more, they developed what Marco Sgarbi has articulated as facultative logic; a trope of philosophy which is concentrated on the examination of the faculty of reason (Sgarbi 2018). Sgarbi demonstrated the existence of a lineage of facultative logic in the second half of the 16th century and in the 17th century up to Immanuel Kant (1724–1804), a lineage of questioning in which logic, method and epistemology have been synthetized, forming a science of the principles and conditions of reasoned knowledge. Sgarbi gives a definition of facultative logic thus:

First, facultative logic has to do with a ‘habituated’, that is, a consolidated way of using the mind, and investigates its principles. [...] The second aspect is that this logic should determine the ways in which the mind acquires knowledge by helping to discover the truth or to form a well-grounded opinion starting from sensible experience (Sgarbi 2018, 271).

These two essential characteristics of facultative logic (habituation and sensible experience as a starting point) are adequate to a description of Clauberg’s logic. In his writings on method, Clauberg emphasizes the process of the acquisition of the capacity to reason well. It seems, moreover, that the habituated nature of Clauberg’s method is stronger than the one finds elsewhere: Clauberg

¹² However, Clauberg’s *Ontosophia*, and especially its first edition was well informed by the Comenian idea of *pansophia*. See Leinsle 1999.

¹³ On the *Initiatio*, see Ragni 2019.

postpones and prolongs the stage of habituation. He puts the emphasis in his philosophy on the preparation and emendation of the mind, and indeed, also his “metaphysical” writings (as for example the well-known *Ontosophia*), should be taken, according to the present understanding of Clauberg’s philosophy, *within* that framework. In other words, metaphysics takes a part in the *pedagogical* project that Clauberg is constructing, and it is not to be understood merely as that higher stage of philosophizing, metaphysics, that one must achieve *after the method*; in other words metaphysics is combined and entangled with method itself.

Clauberg’s logic must be placed in the framework of facultative logic, as it fits into the guiding principles of the thinkers that Sgarbi draws attention to: logic is no longer presented as a system of syllogistic verification, but rather it is reframed as a manner to enhance the faculty of reasoning. However, according to my reading, one should also acknowledge where Clauberg parts ways with Philippo-Ramist facultative logic. In the first place, Claubergian logic is directed at the establishment of the ability to understand (*verstehen*) given proposition, and hence it is an activity of *understanding* (*Verstehen*).¹⁴ As is the case in many of his predecessors, Claubergian logic is also genuinely a didactic endeavour: it constructs a training program for the instructors of logic. Logic itself, in this framework, is being conceived as an essentially pedagogical endeavour. It serves not only as the medicine for the corrupted habits of the mind, but it also prepares the mind for philosophical occupations. The didactic character of logic is enhanced and emphasized throughout the *Logica*, dealing explicitly with the position of the teacher, the instructor of logic. Moreover, Clauberg presents logic as a training in the development of the capacity to understand (compositions of) signs as well as, in the last phase of logical examination (the fourth chapter of the *Logica*), to judge and evaluate them adequately.

In the lineage of facultative logic, the group of thinkers, belonging to the Reformed faith, the “Philippo-Ramists” takes a leading role (i.e. thinkers such as Rudolph Goclenius, 1547–1628, Keckermann, Timpler, Johann Heinrich Alsted, 1588–1638).¹⁵ This group of thinkers belongs to the generation just preceding Clauberg, who was educated in the intellectual milieu of their works. Though one does not find in the Claubergian corpus much direct references to the above listed thinkers, his work is structurally informed by the Philippo-Ramist mental habitus. According to the reading suggested in the present paper, Clauberg presents a later, possibly a last, *critical* phase of Philippo-Ramism, one which is already synthesized with the Cartesian understanding of method and with the early fruits of the hermeneutical method; these two influences are actively integrated by Clauberg into the institutionalization of higher education in the Reformation period after the Peace of Westfalia (1648; see Ehrenpreis 2005).

¹⁴ Clauberg 1691, 913 (*Logica contracta*, par. 5): “wol verstehen.”

¹⁵ This list is not exhaustive. Many more important philosophers belonged to that group, which Sgarbi describes fully.

This element of the institutionalization of Calvinist higher education should not be taken only as an exterior, circumstantial part of Clauberg's intellectual biography. It must be acknowledged as informing his philosophical motivations. The educational influence of Ramism, leaning on compendia and oriented to the nurturing of that civil, political and mercantile society which was establishing itself as determining not only the transmission but also the production of knowledge (Hotson 2020, 224–64). Clauberg taught for two years at Herborn, which was at the time the epicenter of Reformed schooling. However, Clauberg was also forced to quit Herborn, due to his Cartesian preoccupations (Verbeek 1999, 185–86). In this, one can witness in Clauberg's biography also the inner tensions within the Calvinist education system, which was actively engaged in the politico-religious struggles of the time. Those tensions were feeding from the relationship of Germany with the Netherlands and with the Cartesianism developed there, as Andrea Strazzoni has demonstrated (Strazzoni 2018). Clauberg's relationship with Dutch philosophy is evident in his biography (Verbeek 1999, 182–84). He terminated his studies in Groningen and also studied for a brief while with Johannes de Raey (1622–1702) in Leiden. In 1648, Clauberg transcribed in Egmond, on the seashore near Amsterdam, the conversation with Burman. In that sense, Clauberg's philosophy is related in the strongest sense to Dutch Cartesianism,¹⁶ and the conflicts that characterize his philosophy are also characteristic of the inner tensions and divisions within the Dutch Calvinist milieu.

The tensions and rifts within Calvinist education seem to express a general divide between encyclopedist systematization and an emphasis on *method*: the latter stands for the tendency to emphasize the question of the roots and initiation of philosophical inquiry (Ragni 2019). For this task, the Cartesian creed was *well suited*, but it was not the sole cause of that tendency, which was well underway over the 16th century (Gilbert 1960).

3. The Condition for the Beginning of Thought: Genetic Logic

The *Proemium* of the first edition of the *Logica* (1654) holds in a nutshell Clauberg's attitude towards logic as an art of thought. This proem does not appear in the later editions of the logic (the 1658 edition is already devoid of it), but it holds important clues regarding the motivations of Clauberg in composing this treatise. According to Clauberg, logic directs internal discourse (“dirigit sermonem internum”).¹⁷ What is this internal discourse? Clauberg's internal discourse is another name for the mental process of reasoning.¹⁸ Clauberg explains that the establishment and ordering of interior discourse is necessary for the more advanced students in logic. One cannot arrive at the hermeneutical *analytics*,

¹⁶ For more on Netherland Cartesianism see Van Bunge 2019.

¹⁷ The proem appears only in the 1654 edition: Clauberg 1654, *Proemium*, 1 (unnumbered).

¹⁸ For more on the theme of “internal discourse” see Maclean 2017. However, this topos of “internal discourse” must be researched further.

which is the end-goal of logic, without passing through the stages of *genetical* logic, occupied with the establishment of *that inner discourse*. Genetic logic is not yet hermeneutical; it incorporates rather the rationality of Adam, that human existence which is not already even accompanied by Eve (Clauberg 1654, *Proemium*, 1, unnumbered). In that sense, if we remember Clauberg's biographical engagements with the theological tensions of the times, he is referring here to adamic reason before the Fall (but it is also a reason which is condemned, that is to say predestined, to be fallen). This adamic reason, that genetic logic tries to approach, erupts from a human existence which is not yet embedded in social intercourse. In this, according to Clauberg, the genetic part of logic is primary both chronologically and in dignity to analytic logic: it precedes chronologically the establishment of the logic being occupied with the analysis of the work of men, and it precedes also in dignity the logic which is occupied with the understanding of works of men, because it regards the purer state of human thought, the state of self-examination. A most inadvisable thing, says Clauberg, is the common tendency to condemn something when one actually is not yet capable of judging. The framework that Clauberg proposes is a one which consciously and reflectively *prepares the instruments* of logic, such as repaired attention, firm memory, excited diligence, and clear and distinct perception.¹⁹ The last expression, clear and distinct perception, is evidently Cartesian. However, one must also pay attention to the other instruments that Clauberg's logic suggests, especially firm memory, excited diligence and repaired attention, as in the later parts of the *Logica* Clauberg treats these elements extensively.

In the second part of the *Logica*, Clauberg argues that the language of the teacher of logic must establish a commensurability between inner and outer discourse.²⁰ In as much as inner discourse is educated through the genetic process, the analytic process makes outer discourse adequate to express that inner discourse. The first condition for the achievement of such parallelism between internal and exterior discourses is the minimalism of outer discourse (par. 106): analytic, outer discourse must be clear (Clauberg adds here an analogy to medicine which aspires to give a cure which is as simple as possible). The conclusion of the interpretative process must also be presented in a homogenic manner:²¹ obscure phrases must be ordered so that the true sense will be made clear. One of the common mistakes in the development of reason, states Clauberg, is to un-

¹⁹ I counted about 25 times in the 1654 edition where the Cartesian notion of "clear and distinct" appears.

²⁰ Clauberg 1691, 824 (*Logica vetus et nova* 2, 5): "Generalibus de sermone externo dicta ad efferenda simplicia, ad substantias, ad attributa, imprimis ad composita et relativa, nec non ad alia quaelibet speciatim ita sunt applicanda, ut sermo exterior respondeat interiori."

²¹ Clauberg 1691, 837 (*Logica vetus et nova* 2, 15, 106): "Argumenta *analytica* sunt eiusdem disciplinae, cuius est quaestio, adeoque disciplinae alicuius propria, et conclusioni homogenea. Maxime autem *simplicitati* et *paucitati argumentorum* studet analyticus, bonos medicos imitatus, qui, ubicunque possunt, simplicia malunt adhibere medicamenta, quam compositorum multitudine aegros fatigare."

derstand interior discussion following the rules of exterior discussion. In this, says Clauberg, one can observe only *artificial skeletons* of thought and not a living body. The living body of internal discourse must be worked-out through the intricate dynamics of genetic logic. Clauberg clarifies that within the discussion of genetical logic he does *not* include a consideration of the question of the *Categoriae*, which he rather discusses in his most known treatise, the *Ontosophia*.²² Hence, one may want to look at the *Ontosophia* not as an essay in metaphysics, but as an essay in *logic*, paralleling the position of the Aristotelian *Categoriae*. Clauberg furthermore specifies, importantly, that following Rodrigo de Arriaga,²³ one should look at the *Categoriae* as merely a concluding list of common manners of speaking (Clauberg 1654, *Proemium*, 3, unnumbered), and not as eternal ideas or principles. This essentially nominalist approach to the *Categoriae* is not a common trait of the Philippo-Ramist lineage. Timpler and Keckermann made Aristotelian categories (or in their other name the “predicaments”) an integral part of the system of logic. For example, in the table provided at the beginning of Keckermann’s *Systema logicae* (1601), where all the parts of logic are hierarchically listed and charted (in a manner which is common to Philippo-Ramism), the predicaments appear at the very middle of the table, as one of the two primary manners to refer in “simple terms” to things.²⁴ Also Timpler’s *Logicae systema methodicum* (1612) assigns an operative role to the categories (Timpler 1612, 77–8): categories are defined as logical instruments, by which the intellect is directed in the cognition of things. They serve to order all matters in comprehensible series.²⁵ Hence for Timpler, the categories still serve as an essential, primary tool of the logical art. In Clauberg’s *Logica*, however, they become secondary and practically disappear. We can also relate that the nominalist, artificial understanding of the categories, as a contingent, useful set of primary, canonic terms, with Clauberg’s discussion of the relation between inner and outer discourse: in as much as external discourse is inherently artificial, inner discourse retains a kind of purity of thought, and in fact the task of logic is to make outer discourse tuned and ordered according to inner discourse. In the framework of the *Logica*, hence, the categories belong to the tools of exterior discourse, to the part of the transmission of valid judgments onwards to the pupils.

Thus Clauberg’s *Logica* is *technical* in nature: it is a book of guidance, an enumeration of principles, in which all the sections are constructed as questions and

²² On the *Ontosophia* and for readings of Clauberg in the “ontological” manner see Brosch 1926; Carraud 1999; Pätzold 1999; Strazzoni 2014; Ragni 2016; Collacciani 2020.

²³ Rodrigo de Arriaga (1592–1667) was a follower of Suárez and a student at Salamanca, and thereafter a nominalist philosopher. He taught at Prague. See Tozza 1998; Armogathe 2004. From Arriaga himself see Arriaga 1632.

²⁴ Keckermann 1601, 7. Kerckermann lists explicitly the Aristotelian categories: substance, quantity, quality, action, passion, relation, place, time, site and habitus.

²⁵ Timpler 1612, 78: “Quia categoriae sunt instrumenta logica, per quae in rerum cognitione intellectus noster dirigitur: quatenus nimirum omnium rerum sunt series, h. e. per certos ordines ordinumque gradus distinctiones et dispositiones.”

replies. This technical character of logic reminds of his predecessors Keckermann and Timpler. Not only the technical but also the propaedeutic concerns stand in the center of both Clauberg's and the Ramist logicians, whose propaedeutics appear in the form of the posing of logic as the preparatory stage in the development of the philosophical mind. However, in Clauberg, the beginning of the acquisition of this proto-technical capacity begins at a different starting point from the one we find in his predecessors. Clauberg's starting point is essentially *corrective* and even *medical*: one begins the acquisition of logic with a coming-to-terms with the already *deformed habits of reason*, acquired through the state of childhood. In other words, *all* logical propaedeutics begin with a *morbid state*, which is a necessary outcome of the stages of childhood. The stage of erring is hence a necessary stage of the education of the philosopher. To sum up this point, Claubergian logic has a technical side, but it also holds a latent metaphysical demand, which is to purify the already corrupted internal and external discourses.

Clauberg's logical method is meant from the outset as a cure against the auto-referentiality of traditional logic. In the *Prolegomena* to the *Logica* Clauberg (appearing only from the 1658 edition onwards) insists that logic must be capable of referring to concrete things and phenomena, and that Scholastic logic which is closed within the syllogistic structure is not adequate for such a task. That is to say, the object which one studies influences the manner in which one proceeds in the investigation. And along these lines, logic must be renewed if one aspires to make it relevant to knowledge of the world and the things in it. This assertive task should definitely be seen as influenced by the Cartesian method, but it is also very much a reflection of Baconian influence.²⁶ Logic must be able to help the student approach all problems whatsoever, from any domain of knowledge. This means, that logic's end task is *referential* and not only *inferential*. This renovation of logic endows logical investigations with an epistemic tenor: logic helps us get to *know things that are found in the world*: it can no longer remain the self-enclosed system of rules for constituting true phrases. Logic is not an inferential system which is concentrated on determining the truth value of the object which is explored; rather there is a meaning to be found "within" the object and it is this meaning which is the task of logical understanding to explore. This referential capacity of logic is bound up with the hermeneutical impulse that one finds in Clauberg's method. Moreover, in the framework of Clauberg's logic, the epistemic tenor is not simply directed at things in the world but, at least as we find it in Clauberg's logic, it is directed to texts, expressions, concepts, metaphors etc., things *that are already made*. In this orientation the task is to examine given phrases and expressions of every kind. Hence, logic is understood by Clauberg as a method of occupying oneself with already existing propositions, either one's own or those of others. What derives from this is a clear retroactive, or what one may want to call an *a posteriori* orientation of logic.

²⁶ On Bacon in Clauberg, see Strazzoni 2012, 251–58, 267–70. On the Baconian influence in German philosophy of the 17th century, see Hotson 2020, 265–70.

It is a logic which relates to propositions that have already been composed and synthesized, whether it is the beliefs and judgments of one's own mind (when we are teachers), carrying all its corrupt presuppositions and customs that must be reordered and expurgated, or the sayings or writings of others.

The overall task of the logic is defined by Clauberg as *analytic*, analytic, however, only in the very specific and limited sense of the understanding of the true sense of complex propositions. In as much as the preoccupation with one's own already composed propositions is called the *genetic* part of logic, the second, more advanced part of logic, which is preoccupied with the understanding of the propositions of others is called the analytic part of logic par excellence. According to Clauberg, in as much as all analytic procedure must lean on the genetic procedure, the latter can also stand by itself: all analytic logical procedures include a genetic part; but genetic logical processes do not usually include an analytic part. In order to arrive at an established understanding of the discourses of others, one must begin with a preliminary process of genetic examination and prepare one own's mind for the inquiry into the works of others.

4. The Preliminary Principles of the *Logica*

The first issue which is discussed in the *Prolegomena* to the *Logica* (in the second edition), is that one should begin by *correcting* the acquired maladies of the human mind. This means that Clauberg acknowledges in the first place the situation in which something *has already gone wrong* in the development of the mind. We must begin with an emendation of the corruption of our relation to truth. In this, one should note that Clauberg's approach is different from that which one finds in Goclenius, Keckermann and Timpler, because, for them, logic can begin to operate immediately, without the demand to go through the stage of preparation and emendation. Instead, in the logic of the Philippo-Ramists, logic itself is the groundwork for the construction of the habitus of science. For Clauberg, one should first establish in the mind a clean slate, and only then can one begin a reconstruction of the mind. However, what exactly went wrong in our childhood, according to Clauberg? What went wrong issues from the very nature of the state of childhood, in which there is no clear understanding of the separation between the senses and the mind. In this sense, there is no possibility of not being in error; error is structurally relevant to the state of childhood. All human development must pass through a stage of erring. Children think that what one derives through the senses is as it is represented by them. The error of childhood is presented as an error of interpretation, as an error in understanding, and even bluntly as the problem of corporeal egoism: we think as children that the world is as it is mirrored through our tendencies, tastes and desires. It is this misinterpretation which must be amended.

In order to use logic well, one has rather to act as the good farmer (par. 6): the farmer considers the nature and the defects of the earth in order to learn how to cultivate it, he cleans the land before planting his seeds. It is this work of cleaning which must be accomplished by the genetic part of logic (par. 7). Another

metaphor that Clauberg uses is that of the leader that governs the spirit, basing his rule on the preliminary understanding of the capacities and the deficits of the people. Already here, Clauberg refers to Francis Bacon (par. 15) in stating that as long as the malady remains latent in the patient, no medicine can cure it. In this sense, the first step in the learning of logic is to get to know the maladies of reason and to bring them out so that they can be cured. The first task is to excavate and expose the errors of the mind. And then the second task is to direct and lead the mind according to the separated, purified, clean state of the spirit. This expression of the direction of the mind will notoriously appear in Descartes's *Regulae*, written probably around 1628 but published only in 1701, even though parts of it were already in circulation, kept in the circles of Dutch Cartesians.²⁷ Because one finds at various points an affinity between this unpublished text of Descartes and what one finds in Clauberg's writings on method, there is no reason to exclude the possibility that Clauberg had at some stage seen the manuscript of the *Regulae*.

The task of reining in and directing the mind through logic, however, was also articulated by Clauberg's predecessors. Keckermann says: "Logica est ars dirigens mentem in cognitionem rerum." Logic is an art that directs the mind in the cognition of things (Keckermann 1601, 8). However, unlike Clauberg, for Keckermann the difficulty does not lie with the maladies of the soul themselves, but rather with the difficulties of the problems that one must solve. That is to say, the difficulty lies with the aims and tasks of logic. For Clauberg, on the other hand, the difficulties begin with the *person who performs* the logic. Logic's task is to teach the mind the rules to be able to stay close to the thing it examines, without being led astray. Keckermann also refers directly to Philip Melanchthon (1497–1560), who defined logic as an art that teaches righteousness, order and clarity.²⁸ For Timpler as well as for Keckermann, logic must direct human reason. Logic is the art of true cognition, teaching to discern the true from the false. It is the invention and transmission of truths. Its office is the formation and the direction of human reason.²⁹ As in Keckermann and Timpler, in Clauberg, too, logic directs the mind, but in Clauberg, the pedagogical, therapeutic aspect is highlighted.

²⁷ On the history of the manuscript of the *Regulae*, see AT X, 351–57.

²⁸ Keckermann 1601, 8–9: "Id quod etiam voluit Philip. Melanchton, cum logicam definit, artem recte, ordine, et perspicue docendi, ubi per synecdochen rerum cognitionem vocat docendi facultatem. Docemus enim vel nos, vel alios: cum nos docemus, proprie dicimur circa res cognoscendas versari. Tribus autem istis quae addit determinationibus: *recte, ordine, et perspicue*, significat a logica nobis expectandam: primo quidem mentis in cognoscendo rectitudinem, post in explicando perspicuitatem, denique in conferendo et disponendo concinnum ordinem."

²⁹ Timpler 1612, 14 (part 1, *quaestio* 5): "Rationes ipsorum sunt: 1. quia logica est ars cognoscendi verum, seu disciplina diiudicandi et discernendi verum a falso; 2. quia propter cognitionem veri logica a philosophis primitus fuit inventa, posterisque tradita; 3. quia principale officium logicae est rationem hominis sua natura coecam praeceptis suis informare et dirigere, ne in studio disciplinarum a vero aberret."

In chapter 2 of the *Prolegomena*, Clauberg determines that the errors of childhood are the major cause of our errors as adults. The task of logic is, therefore, to correct the errors of childhood. Clauberg's method here is genealogical: he intends to follow the development of the errors, and to discover their cause. This method of finding the cause of a situation is also bound up with the Zabarellian understanding of the synthetic method,³⁰ the task of which is to demonstrate the relation between a cause and the situation which results from it. The state of childhood, according to Clauberg, is one in which body and soul are confused, and in which the soul is too much connected to the pleasures or the displeasures of the body. For the child, if an object does not affect the body, it does not exist. While there may be an aspect of Cartesianism in this argument, it is not exclusively Cartesian. What it actually propagates is the existence of mental tokens that are not in any way mediated through sensual signs. Hence, the independence of and the distinction between body and mind is Cartesian, while the latent argument is rather theological in nature: there is a mental, pure reality which is separated from the body and from the senses, and the inner, spiritual pupil who aspires to be able to *understand*, must learn to use and operate those pure tokens of the mind. Understanding, hence, is a mental and not a sensual operation. Teaching and learning are the tasks of the pure soul, not only a matter of civility or commerce.

In his second logical text, the *Logica contracta*,³¹ Clauberg differentiates between natural logic and instrumental logic, in as much as natural logic consists of what any (healthy) mind possesses, i.e. intelligence, judgment and memory, instrumental logic consists of definitions, divisions and syllogisms (Clauberg 1691, 913, *Logica contracta*, par. 7). Logic must be developed and understood according to *usage*, as each instrument is only activated rightly or wrongly according to its usage.³² The usage of logic lies with the action of understanding. The attainment of the usage of logic must rely on the stage of genetics. As already mentioned, Clauberg determines in par. 107 of the *Prolegomena*, genetic logic can exist without the analytic, but the analytic cannot exist without the genetic. The genetic part of logic assures the correct emendation of the mind, while analytic logic is occupied with the understanding of the discourses of others.

5. The Initiation into Philosophy and the Formation of the Teacher

Evidently as one of the results of his Cartesianism, Clauberg's philosophy is constantly occupied with the entry into philosophy. Indeed, it seems that Clauberg's strongest point in defense of the Cartesian creed was exactly that one should strengthen and clarify the foundation of any philosophical endeavour. The most

³⁰ On the synthetic method in Zabarella, see Sgarbi 2013, chapter 4; Maas 1995, chapter 14.

³¹ The *Logica contracta*, which is *not* an abridgement of the *Logica vetus et nova* but is rather a self-standing treatise, was published in 1659. See Verbeek 1999, 190.

³² On the instruments of logic see Clauberg 1691, 786 (*Logica vetus et nova* 1, 3, 18).

edifying treatise in this respect is Clauberg's *Initiatio philosophi* (1655; see Ragni 2019), which is entirely dedicated to the exploration of the initiation of the philosopher and to the place of doubt in this propaedeutic stage of philosophizing. Hence the propaedeutic, initiating part of philosophy has both inner-Ramist and Cartesian undertones and overtones. This aspect of the concern for elementary schooling in philosophy is constant throughout Clauberg's writings, and all his three versions of the *Ontosophia* and the *Logica* exhibit these concerns.

Clauberg's considerations throughout the *Logica* exhibit a constant pedagogical preoccupation, striving to delineate the guidelines of the initiation into philosophy, and hence, placing philosophy as a pedagogical project. This pedagogical nature of Clauberg's philosophy was often overlooked in Clauberg research, notably in works that place Clauberg as one of the first thinkers in ontology.³³ What is more important to notice is that the genetical part of Claubergian logic is not only pedagogic but also explicitly *auto-didactic* in its nature. The self-preparation and the self-examination of the initiating logician must precede any advancement in the direction of logic. One should indeed also remember, that Clauberg's writings, throughout, are polemical. His entire academic career (from 1647 onwards) is ranged against the opponents of Cartesian philosophy (especially Jacobus Revius, 1586–1658, and Cyriacus Lentulus, 1620–1678). The latent argument that Clauberg brings out in this genetic part of logic, is: before you express judgments regarding the propositions of others, you must examine yourself. Before you are allowed to condemn the thoughts and expressions of others, you yourself must be willing to put your own presuppositions to the test. In so doing, Clauberg furnishes his logic in a manner which will be also suited to defend Cartesianism against its opponents; the logic, in this sense, is also an instrument in the defense of Cartesianism.

Another specific difference of Claubergian logic against the backdrop of Philippo-Ramism is its *personalized* character. One of the first questions that Clauberg poses at the opening of the *Logica* is the problem of "who": *who* is the student of logic? This question of "who" is extremely important and cannot be dismissed as merely a stylistic measure: Clauberg emphasizes that logical processes are being carried out by specific persons, and every person will have a specific starting point, and hence a specific history of errors and a quite individualized series of genetic questioning. It is not a rigid and general scheme that can be applicable to any thinking mind, but rather a specific thinking process of *a* mind that begins its training. This personalized approach to the study of logic is, as far as I know, absent from the writings of his predecessors, and is, so it seems, directly enhanced by the Cartesian approach to method.

The second part of the *Logica* supplies, therefore, a genuine theory of philosophical pedagogics. Within the preliminary framework of the strictly pedagogical considerations, Clauberg brings up the issue of the age of the student (Clauberg 1691, 784: *Logica vetus et nova* 1, 1, 7), because not all the objects

³³ On Clauberg and ontology, see for example, Ferrater Mora 1963; Jaroszyński 2018, chapter 8.

of study are proper to any age: youth must turn to the study of languages, the basics of mathematics, astronomy and geography and subjects of that kind, which require the mastery of the senses and of memory, that are very strong in the adolescent. Only when one arrives at a riper age, when judgmental ability appears, only then can one proceed to study philosophy, which is more precise and searches for the causes and the principles of things. Notice that Clauberg does not talk about a precise numerical age: he is talking in general on periods in a person's development and the ripening of the person. Hence, logic is placed in the propaedeutic stage, in which one can already approach the study of philosophy, but which does not belong to philosophy itself. In any case, we learn from this section that the study of philosophy is allowed to be initiated only at a second phase of learning, and this phase occurs when the learner has acquired the capacity of *judgment*. Does the study of philosophy belong to the study of general knowledge (adequate to the younger age) or to the stage of the initiation into philosophy (which is possible only from the moment when one has already acquired the capacity of judging)? From the structure of the specific section in Clauberg's text the relationship between logic and philosophy becomes clearer. Clauberg conflates the moment which is proper to begin the study of logic with that proper to begin studying philosophy: when judgment appears in the person, one can begin preparing oneself to philosophize, by going through the process of passing through the genetic part of logic, and then passing from the genetic stage of logic to the analytic stage of logic. As we are about to see, the passage from the genetic to the analytic phase is determinative and difficult. In the following step (par. 8), one should get to know one's own natural mental dispositions:

What is second in my consideration? Response: what is explored is one's own *ingenium*, whether it is fast or slow, is it made for a rush of thought, or for a sedentary meditation, [is it] sharp or dull, confident or doubting oneself, diligent or negligent, towards what his natural impetus carries him, for what [activities] is he apt, [and] for what [activities] he is inapt. Some [persons] are made to mathesis, some to eloquence, other to poetry, much less people that are made for many [domains] or to all of them. Hence, those whose intellect cannot know a lot, and even people who can know everything, must take care, according to domain, status and conditions to acquire the knowledge only of the necessary matters in the limits of time. The *ingenium* disposes each man [towards something]; *wherever fate leads, I follow*.³⁴

³⁴ Clauberg 1691, 785 (*Logica vetus et nova* 1, 1, 8): "Quid in mei consideratione secundum est? Resp.: explorandum est *ingenium*, num sit velox an tardum, praeceps ad festinandum, an ad sedatas meditationes factum, actutum an hebes, confidens an dissidens sibi, diligens an negligens, ad quae naturae impetu imprimis feratur, ad quae aptum, ad quae ineptum. Neque enim existimandum est tali homines ingenio esse praeditos, ut sapientes cuncti esse possint, aut in iisdem omnes artibus excellere. Alii ad mathesin, alii ad oratoriam, alii ad poësin, paucissimi, qui ad multa vel omnia facti. Ac proinde cuius intellectus non potest vera plurium, multo minus omnium rerum cognitione imbui, annitatur saltem, ut pro captus, temporis,

We see in the first place that Clauberg follows here the precise constellation of the Aristotelian differentiation between disposition and habitus: in as much as disposition refers to the unwilling, contingent situation changing the subject, or tendency, habitus is already a fixed and established tendency that becomes second nature. All habitus, according to the Aristotelian conception, must begin as a disposition, but this disposition must be worked through, repeated and habituated, in order for it to become a habitus.³⁵ In the reception of Clauberg, one must begin by getting to know one's own dispositions, one own's mental tendencies, capacities and limitations. The fate that our disposition registers for us in advance is the beginning point of the study of logic. However, from this point onwards one begins an artful, if not artificial exercise that may install in the student the capacity to understand. At the opening of the second part of the genetics, Clauberg burdens further the student with the obligatory duty to teach. He asks:

He who has correctly formed his own thoughts, perceived many things, judged them and memorized them, does he not have the right to take a rest, as someone who has acted well and achieved his task? Response: He must look further and not keep within himself the acquired science, but he must diffuse it. [...] he who communicates to others that which he knows makes the science in his own soul more firm and more solid. As, when he instructs others, in stopping on certain points, and giving them more attention, he makes his perception more clear and more distinct, and fortifies his own memory.³⁶

In reading this paragraph, one's attention is naturally drawn to the local usage of the Cartesian principles of clear and distinct perception: however, the application of these Cartesian terms is different from the one we find in Descartes. In order to fortify the existence of clear and distinct perceptions in one's mind, one must pass them onwards; the fortification of one's mind is necessarily done by the transfer of our science to others, by the work of teaching. This stands in contrast to the Cartesian declaration in the *Discours de la méthode* that the necessity of spreading his thoughts is a burden rather than a privilege (CSM 1, 141–51). Clauberg mentions here the importance of the exercise of memory, which is one of the problems that Descartes acknowledges but, in a way, bypasses, as the latter wishes to reach the point where science will overcome the frailty of

loci ordinisque sui ratione maxime necessariorum scientiam comparet. Quo genius quemque suos inclinat, quo fata trahunt sequendum." Coqui and Lagrèe identified the end of the passage as a paraphrase of Virgil, *Aeneid* V, 709. See Clauberg 2007, 63, note 2.

³⁵ On habitus in Philippon-Ramism, Semi-Ramism and Anti-Ramism, see Pozzo 2012, chapter 3.

³⁶ Clauberg 1691, 817 (*Logica vetus et nova* 2, 1, 1: "Qui recte cogitationes suas formavit, rebus quam plurimis bene perceptis, iudicates memoriaeque retentis, estne illi merito, tamquam re bene gesta et consummata quiescendum? Resp. Ulterius tendere, neque scientiam acquisitam in se veluti sepelire, verum ad alios propagare debet. [...] Quin etiam qui communicat cum aliis ea quae cognovit, scientiam in animo suo firmiorem ac solidiorem efficit. Nempe dum alios instituit, ipse rebus diutius immorando, magisque ad eas attendendo, perceptionem suam clariorem distinctio remque reddit, memoriam roborat."

corporeal memory³⁷ and will install in the mind a quick and prompt capacity to use installed knowledge as if in an automatic manner. The manner to achieve that prompt action of the mind is to keep on teaching, exteriorizing the emended internal discourse which is acquired in the genetic phase. This demand or advice should not be taken as exclusively Cartesian. It is well embedded in the humanist theory of method.

6. The Second Part of Clauberg's *Logica*: The Transmission of the True Sense

The person who is occupied with the acquisition of the logical habitus must therefore grow to be a teacher; in the second part of the *Logica*, Clauberg concentrates on the manner of transmitting onwards to others the propositions achieved in the genetic part of knowledge. Teaching, as an art of transmission, is in itself an art of interpretation, that is to say an art of analysis. Analysis, for Clauberg, is the manner of discerning the true sense of a certain given. Analysis is the art which understands the given. And the results of the analytic process must be transferred to others.

In the art of the transmission of the true sense of works, Clauberg suggests three divisions: 1) the transmission can be made by either writing or by the living voice; 2) transmission can be didactic or elenctic; 3) transmission can be acroamatic or exoteric. The first differentiation is the one between oral and written teaching (par. 16–7). In as much as teaching by the living voice is always limited in its scope (according to Clauberg), written teaching is directed at a wide and innumerable audience. Clauberg emphasizes the efficiency of living teaching, and hence supports the existence of Schools, Colleges and Academies; however, the best way to teach (i.e. to transmit the true sense of works) is to write textual commentaries and explications. The first supports memory, the second helps perception, and the unification of both (oral and textual) amplifies judgment (par. 17). Hence, Clauberg avows that textual work is essential and necessary to the work of teaching.

The second pedagogical differentiation Clauberg mentions is the one between didactic and elenctic transmission. Didactic transmission can be made to those students with an already clean mind³⁸ or those whose minds have already been corrected and amended. Elenctics must be applied to those who come with a deviant mind filled with preconceptions. Elenctics is hence first unlearning and is important and complex (Clauberg 1691, 818: *Logica vetus et nova* 2, 1, 4). Clauberg does not say this explicitly, but elenctics reminds one of the *genetic*

³⁷ In his earliest writings, Descartes speaks against the *ars memoriae* of his time: AT X, 230. On memory in Descartes see Sepper 1996, 76–9, 104–5. On logic and memory in early modern philosophy see Rossi 2000.

³⁸ In the *Defensio Cartesiana* Clauberg refers critically to the Aristotelian model of the *tabula rasa*, and in fact prefers the Platonic model of the inner powers of the soul, as being more fitting for the Cartesian model (he refers to Plato's dialogue *Theaethetus*). See Clauberg 1691, 1065: "Quasi mens omnino sit instar tabulae rasae seu chartae purae, cui nihil est inscriptum, et quae etiam ipsa nihil inscribere valeat."

part of logic discussed above, as the genetic part of logic is exactly the one in which the teacher learns through himself the process of the emendation of the spirit. Hence, elenctics is the process by which the teacher helps others to correct their minds. In this, one should note that the genetic stage of logic, which is also parallel to the operation of doubt in the Cartesian method, should be, in the Claubergian framework, put into *the elenctic* part of pedagogy. The usage of doubt, in this sense, is elenctic and methodic at the same time, and is a necessary part of any initiation into philosophy.³⁹ Didactics, however, is classified by Clauberg as more valuable than the elenctic. When the truth appears all the clouds disperse, and it is better to show the truth not through disputes but rather by a direct demonstration of the true. There is more dignity and more art in defense than in accusation, and there is more value in edification than in destruction. Reason, number, and order are more easily learned, because truth is simple and uniform, in as much as the forms of error are infinite.

A third differentiation that Clauberg mentions is the one between the acroamatic and the exoteric modes of transmission. The acroamatic mode is the one which penetrates the issues at hand, which Clauberg also calls didactic, and which is also in the strongest manner analytic (Clauberg 1691, 819–20: *Logica vetus et nova* 2, 2, 15 and 20). The exoteric mode, on the other hand, proceeds according to human opinions and beliefs, and is qualified by Clauberg as dialectical and popular. Indeed, in the last paragraphs of the second part of the first part of the logic, Clauberg admits that he sees *dialectics* as an inferior way of proceeding in logic, which is related to the exoteric mode of transmission (Clauberg 1691, 838–39: *Logica vetus et nova* 2, 16, 114). It is better to demonstrate the truth, than to argue with false opinions. This statement has many targets: not only the late scholastics and their internal disputations, but also Ramus's art of dialectic (Ong 1958; Bruyère 2000) is considered by Clauberg as secondary in importance and dignity. Logic is not to be mistaken for dialectics or to be limited to be the art of disputation. It is rather the art of the adequate transmission of valuable internal discourses.

In general (as said earlier, at chapter 5 of the second part of the first part of logic), the task of the teacher is to make external discourse conform with internal discourse, that is to say to make elenctic, didactic demonstration adequate to the corrected mind of the transmitter (the teacher). One must learn to clearly translate one own's thoughts into a discourse that will be sufficiently didactic, clear and facile, and will enable to pass from genetics to analytics. Translating adequately the ordering of inner discourse to the language of external discourse is the very task of logic.

The stage of adulthood of the mind is the one in which mind and body are thoroughly distinguished from each other. If the genetic part of logic is a kind of a purgatory, a cathartic process in which the mind is purged of its misconcep-

³⁹ The entire treatise *Initiatio philosophi* (1655), is dedicated to a thorough exploration of the place of doubt in the initiation into philosophy.

tions in preparation for the work of the understanding of works, in the analytic part of logic one is allowed to proceed towards the works themselves. This part of logic is inherently hermeneutic. It is, however, consonant with Dannhauer's presentation of hermeneutics as a part of logic, following the structure of the Aristotelian *Organon* (Bühler 2006). The "things" that are being analyzed in Claubergian logic are not natural things but rather the creations of men, written or spoken words of other men. In this sense, the subject matter of the analytic are things that are already composed, that is to say, synthesized things. Analytics in the framework of Claubergian logic means, in the first place, a reduction of the phrase into its "true sense" in order to be able to pass it onwards, to an audience, or to one's students. In more modern terms, one could say that logical analysis in the Claubergian sense is similar to the work of abstraction, of the reduction of the thing to its true essence.

The analytical part of logic also puts the thinker in an essential relation with one's surroundings. It is a communicative art, also drawing its sources from rhetoric. In genetic logic ("in logicam geneticam") the mind (*mens*) turns towards its own thoughts, in the analytical part of logic one turns towards the thoughts of others: in the first case, one considers the thoughts which must be primarily educated, in the second, one passes to consider the thoughts which are already formed. The first is therefore anterior and more necessary than the second, because composition is anterior to resolution (*resolutio*), and it is more important for every man to form his thoughts according to the rules than to know those of others; the one is necessary to all men, even the solitary ones, who love to educate themselves, and the other is valuable only for he who passes his life among men or he who wants to learn from another (par. 108).⁴⁰

If one undertakes the work of examination, explication and transmission, one has to be aided by a method. The doctrine of method, hence, is pertinent to logic, and without it logic is lacking and mutilated. Finally, and again in line with the personalized tone of Clauberg's *Logica*, Clauberg raises the question of he who speaks in the proposition which is examined (Clauberg 1691, 846: *Logica vetus et nova* 3, 3, 12–3). One has to ask in the first place: who speaks? Is it a man or the divine? Is it a representative of the voice or the first person himself? Is the speaker the original or someone else representing her? Also in that line, one has to be attentive to the context of the discourse, to the circumstances that enabled the words and the arguments (Clauberg 1691, 847: *Logica vetus et nova* 3, 4, 17).

⁴⁰ Clauberg 1691, 780 (*Logica vetus et nova, Prolegomena*, par. 108): "In logica genetica mens in se reflexa versatur circa proprias cogitationes, in analytica mens versatur circa alienas; ibi formandae, hic formatae respiciuntur cogitationes: illa prior est et magis necessaria, quam haec, quia compositio prior est resolutione, et magis requiritur, ut suas quisque cogitationes rite formet, quam ut alienas cognoscat. Illud cuius homini eruditionis amanti, etiam solitario; hoc non nisi inter homines vitam agenti, vel ab alio discere volenti necessarium est."

7. Analytical Logic as the Art of Definitions of the Truth of Works

In the general theory of method before Clauberg and before Descartes, one of the great problems is that of the status of definitions. Galen (c.129–c.216) had argued against the exaggerated use of definitions in the proceedings of the (medical) method (Hood 2010). The question of definitions continues to be a constant part of the tradition of the discussion around method: Keckermann, for example, in his own logic was also occupied with the question of definitions (book 1, chapter 17) and divisions. It seems that if Clauberg is more sceptical regarding the power of definitions, then for Keckermann definitions are essential.

In par. 52 Clauberg differentiates “definitions of things” and “definitions of words” (Clauberg 1691, 879–80: *Logica vetus et nova* 4, 7, 52–4). Only in a state of confusion or obscurity, can definition contribute to the clearer and more distinct perception of the thing. But one should not use definitions automatically or excessively (as the Phillipino-Ramists do): when there is no confusion, one should no longer define further for no reason. In par. 54 Clauberg refers to Galen’s aversion towards definitions and mentions also *philoristia* (the malady of the exaggerated love of definitions). In searching to clarify further that which is already clear, one is being led more severely into confusion. One does not need to hold a lantern in the daylight; logical definition is required only when the natural light does not give us a clear enough image of the thing. But when the natural light shines on the thing, one should stop the procedure of definitions. Definition for Clauberg comes through the operation of division, and this is also the key to good teaching: *Qui bene dividit, bene docet*.⁴¹

Not only the teacher, but also the students must perceive the matter at hand clearly and distinctly, as, from the moment this clearness is achieved, the certainty of judgment follows from itself, and as a clear perception is acquired by definition and a distinct perception by division, this type of transmission is being performed, in the nice phrase of Clauberg, through chalk rather than through carbon (Clauberg 1691, 886: *Logica vetus et nova* 4, 9, 79). In other words, it is the duty of the teacher to present the true sense of texts in a manner which will be clear and distinct, and when this is achieved true judgment will necessarily follow. And how should the teacher arrive at that clear and distinct perception? One should reduce the thing to its class, and this is achieved in the *genus proximum* to show the property of difference.⁴² All clearance of transmission must lean on the first and basic division, which is the one between cogitated and ex-

⁴¹ Clauberg writes this phrase as an unauthored paraphrase, in *Logica vetus et nova* 4, 8, 65 (Clauberg 1691, 882).

⁴² Clauberg 1691, 886 (*Logica vetus et nova* 4, 9, 79): “Duo ista nec semper necessaria, ut modo ostensum, nec sola sunt clarae distinctaeque perceptionis comparandae adminicula, sed alia plura, quae summam recensentur Log. I 122. Et 2. patet ex primo Logices gradu, rem, quam clarae distinctaeque perceptionis ergo attendimus, primo reducendam esse ad suam classem, deinde attributa eius varia consideranda, atque in communia et propria distinguenda, etc. porro ex communibus genus proximum, ex propriis differentiam seligendam, ex iis coniunctis tandem concinnari definitionem.”

tended things. The mind can only conceive of substances if they are either extended or cogitated. The cogitated, is, Clauberg adds, in this sense immaterial. This is the fundamental analytical division, and all other divisions develop from this one. Analytic division according to Clauberg, is thus the development of this basic duality,⁴³ which can be seen as corresponding to a Cartesian, but also to a Calvinist, vision of man.

8. The Emendation of Perception as the High Task of Logic

In conclusion, Clauberg's logic does present a *sui generis* version of early modern logic. In the first place, the text, its structure and its terms combine several influences in a manner not easily found in other texts of the same period: Philippo-Ramism, the questioning of method in the wake of Galen, hermeneutics, pedagogics and Cartesianism. Intentionally, I put Aristotelianism and Scholasticism aside, as in the view of the present paper these are not as evident in Clauberg's work as sometimes assumed.

The general orientation of the *Logica* is clearly pedagogic, not only in the limited sense of educating the mind, but also more extensively in the sense of the formation of teachers. If one would need to choose the most important influence on this special conception of logic, the prominent move, according to the view of the present paper, is the hermeneutical one, taking the work of the true understanding of the works of others to be the central issue and aim of logic. In this, the emendation which occurs through the teaching of logic is the transformation of sense perception (the perception of works) into mental perception. At one place in the *Logica*, Clauberg states explicitly: the mind is perception.⁴⁴ And the mind, that is to say, perception, must reign both in what you say *and* your judgments. If you perceive well, you'll be able to judge well. But in order to judge well, you must perceive with a purified mind. This is the first step in the initiation into philosophy.

9. Pending Threads: The German-Dutch School and Clauberg's Latent Socratic Ideal

In conclusion, let us try to redefine Clauberg's concept of logic, while taking into account both the influences and the characteristics discussed in the above inquiry. Similarly to Descartes, Clauberg did not produce a logic in the canonical sense of the term. His logic presented itself as innovative and endeavoured to exemplify the term of the "new" logic. The overall program of the

⁴³ Clauberg 1691, 885 (*Logica vetus et nova* 4, 8, 74): "Nulla substantia mente concipi possit, quae non sit extensa vel cogitans. [...] Recte Suarez: *immateriale esse et intellectuale esse inseparabilia sunt.*" One should note the resemblance of this definition to Spinoza's definition of the attributes, that are defined as the only two attributes through which the human mind can conceive of the substance.

⁴⁴ Clauberg 1691, 890 (*Logica vetus et nova* 4, 11, 94): "Mens, id est, perceptio, debet imperare quod dicas et iudices [...]."

logic presents itself as a process of training teachers (in the general sense of the term). The genetic part of the logic is more Cartesian in nature, and it proceeds as an auto-propaedeutic process, in which the mind learns to shed its own preconceived ideas. Afterwards, this same mind must learn to transmit this very mental purity towards one's pupils. The analytic part of logic is, however, less Cartesian and un-Scholastic. It is concentrated on the development of the capacity to *understand* and to *judge* the words of others. After the stage of establishing the meaning of a proposition, analytic logic aims to transmit this gained understanding towards one's pupils. Though one can state Dannhauer's hermeneutics as a source for this part of the logic, the analytic part in Clauberg's logic is less limited to theological texts such as one finds in Dannhauer.

Hence one cannot, in the present state of our knowledge of Clauberg's work, point to one exclusive source for his logical program. The creation of this mixture is itself genuinely Claubergian. However several further points are evident from the above: Claubergian logic is neither a purely Scholastic nor a purely Cartesian one. The typification as Cartesian-Scholastic is, at least in the case of the *Logica*, inadequate. However, there are more lines of influence that are evidently present in Clauberg that one must pursue further in order to be able to configure the place of Clauberg in the history of philosophy. One direction that must be considered further is the Baconist thread, which is highlighted by Trevisani, and which corresponds to the inner workings of what Clauberg promotes in his various writings, notably in the *Logica*. This Baconism has to do with the concentration on the understanding and criticism of the works of men, as well as with the consciousness of the importance of techniques of transmission of knowledge.

A second matter pending in the necessary further research regards Clauberg's closest allies, Tobias Andreae and Christoph Wittich (1625–1687), though Clauberg refers only rarely to their work. It is evident that both were Calvinist Cartesians, they were both educated in Germany and Holland, and they both were aware of the groundbreaking thought of Francis Bacon and of the growing strength of Ramism. However, their areas of competence were rather different than those of Clauberg. Andreae was involved in theology and medicine,⁴⁵ and Wittich was mainly occupied with task of defending a Cartesian theology.⁴⁶ Much research is needed into the biographical and philosophical relationship between those three philosophers, who created a real school of thought.

The last thread that must be researched further, is a hidden tendency in Clauberg to promote arguments that one cannot qualify but as Socratic: the priority of the quest after the foundation (Strazzoni 2018, 8–22); the initiation to philosophy; doubt as an instrument of method, self-examination, questioning of

⁴⁵ Andreae's work which is most concerned with questions of method is his *Methodi Cartesianae assertio* (1653). For a detailed presentation and analysis of this treatise, see Savini 2011, 139–60.

⁴⁶ Wittich's text that deals most extensively with issues of logic and method is his *Anti-Spinoza*, published much after Clauberg's lifetime (1690). On this see Douglas 2014. One important monograph exists already on Wittich's case: Eberhardt 2018. See also Del Prete 2013.

given propositions and, finally, seeing philosophy itself as a pedagogic endeavour. At least with regard to this latent presence of the Socratic ideal in his writings, Clauberg is far from Scholasticism, and, certainly, this Socratic thread is immanent in Clauberg's adherence to the Cartesian creed.

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Cartesian and Malebranchian Meditations

Raffaele Carbone

Abstract: In his *Christian and Metaphysical Meditations* (1683) Malebranche develops a reflection in which the self discovers in its interiority that the interlocutor able to answer some of its questions is the divine Word. Through references to the Holy Scriptures and to Augustine, Malebranche constructs a meditative itinerary that differs from the one proposed by Descartes, as it moves from the *lumière naturelle* in the Cartesian sense to the *lumière* of the Word. In the light of these historical-theoretical data, we propose a reconstruction of the role played by interiority and meditation in certain texts by Malebranche, highlighting the moments in which he appropriated the Cartesian heritage and those in which he distanced himself from Descartes' philosophical paradigm.

Keywords: Nicolas Malebranche, René Descartes, meditation, Holy Scriptures, Augustine.

1. Introduction

The *Christian and Metaphysical Meditations* were first published in 1683, printed in Holland but under the cover of a fictitious publisher in Cologne, Balthasar d'Égmond & Company. This first edition bears the title *Méditations chrétiennes* and—like the third edition of the *Christian Conversations* (1685)—the statement “by the author of *The Search after Truth* [par l'auteur de la *Recherche de la vérité*]” (Malebranche 1683, front-page). This statement is replaced by the name of Malebranche, Priest of the Oratory, from the 1699 edition onwards. This same edition, “revised, corrected and augmented,” is given the definitive title *Méditations chrétiennes et métaphysiques* (Malebranche 1699, front-page). It comprises two volumes: the first includes Meditations I to XVI; the second includes Meditations XVII to XX and the *A Treatise of the Love of God* followed by the *Three Letters to Father Lamy*. The last edition of this work to appear during Malebranche's lifetime was published in Lyon, by Léonard Plaignard, in 1707 (Malebranche 1707). This is the edition that the Oratorian recommends in the “Avertissement” of *The Search after Truth*, edition of 1712 (Malebranche 1962: OC I, 28–9; Malebranche 1997, xlvi).

Father André provides us with some interesting information on the circumstances of the composition of the *Christian Meditations*. As the *Christian Conversations* had aroused the interest of several enlightened minds, Malebranche decided to set out “the same truths [...] in the form of Meditations, to make them

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Referee List (DOI 10.36253/fup_referee_list)

FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

Raffaele Carbone, *Cartesian and Malebranchian Meditations*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.08, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 129-153, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

even more edifying” (André 1886, 31–2, my translation). André states that the first four Meditations were completed towards the end of 1676 and that, having interrupted the writing of this work because he feared that some readers might be bothered by the discursive strategy adopted (“this way of being instructed by the divine Word,” André 1886, 32), Malebranche resumed writing it in 1682. According to André, there were five reasons why the Oratorian began to write again: he had already written four Meditations; his friends urged him to complete this work; after the controversies with some of his friends, he would often converse with God; he found this way of writing edifying and capable of edifying others as well; he thought it was essential to find a form of expression more appropriate to his thought (André 1886, 99). The history of this book is therefore no less complex than that of Descartes’ *Meditations on First Philosophy*. The Cartesian *Meditations*—published in 1641—represent the final version of a project that developed over time, through several successive versions (the little treatise of 1629 that Descartes mentions to Father Gibieuf in a letter dated July 1629; the criticisms addressed to the *Discourse on the Method*, published in 1637; the writing of the *Meditations* from the beginning of 1639 until the middle of the same year). Malebranche’s *Meditations* of 1683—which, as I have already said, would be published in other editions with some additions and modifications—are already the culmination of an important project that goes back to the time of the publication of *The Search after Truth* (1674–1675), the first work of the Oratorian.

2. The Discursive Device: Interiority and Meditation

Already in the first book of *The Search after Truth* (1674) Malebranche speaks of “the secret reproaches of reason [reproches secrets de la raison]” (Malebranche 1962: OC 1, 55; Malebranche 1997, 10) and explains that these reproaches, like the remorse of conscience, are but “the powerful voice of the Author of Nature [la voix puissante de l’Auteur de la Nature]” urging us to yield to the evidence and to love the good (Malebranche 1962: OC 1, 57; Malebranche 1997, 11). It is also interesting to remark that in this rather Cartesian context, where he sets out the general rules for avoiding error, Malebranche already evokes the role of meditation as a way by which we can interrogate “The Master who teaches us inwardly.”¹ Moreover, in the first edition of *The Search after Truth*, in a note in the

¹ “The Master who teaches us inwardly wills that we listen to Him rather than to the authority of the greatest philosophers. It pleases Him to instruct us, provided that we apply ourselves to what He tells us. By meditation and very close attention we consult Him; and by a certain inward conviction and those inward reproaches He makes to those who do not submit, He answers us [Le Maître qui nous enseigne intérieurement veut que nous l’écoutions, plutôt que l’autorité des plus grands Philosophes; il se plaît à nous instruire, pourvu que nous soyons appliqués, à ce qu’il nous dit. C’est par la méditation, et par une attention fort exacte, que nous l’interrogeons; et c’est par une certaine conviction intérieure, et par ces reproches secrets qu’il fait à ceux qui ne s’y rendent pas, qu’il nous répond.]” Malebranche 1962: OC 1, 60; Malebranche 1997, 13. Here and henceforth, the spelling has been modernized.

margin of this paragraph which, however, disappears in successive editions, he quotes the famous Augustinian precept set out in *On True Religion*: “Do not go outward; return within yourself. In the inward person dwells truth [*Noli foras ire; in teipsum redi, in interiore homine habitat veritas*]” (Malebranche 1674, 21 (book 1, chapter 2, paragraph 1); Malebranche 1962: OC 1, 60). All in all, the principle of interiority and the path of meditation, presented in an Augustinian tone, seem to have already imposed themselves in *The Search after Truth*. Perhaps, in certain places in his first work, Malebranche aims to emphasise the Cartesian filiation of his purpose and approach²—which could explain the disappearance of the above-mentioned quotation from the second edition of *The Search after Truth*—but the Augustinian call to meditation and inner truth infuses an intensity into certain passages of this book, notably the famous Preface:

Let us enter into ourselves and draw near the light that constantly shines there in order that our reason might be more illumined [Que l’on rentre dans soi-même, et que l’on s’approche de la lumière qui y luit incessamment, afin que notre raison soit plus éclairée] (Malebranche 1962: OC 1, 25; Malebranche 1997, xlii–xliii).

It is nevertheless true that the principle of inner truth and the path of meditation permeate the *Christian and Metaphysical Meditations* in a particular way: one could say that the call to interiority guides the movement of meditation.³ “Enter into yourself, and listen only to me,” says the Word to the “I” who speaks (Malebranche 1986: OC 10, 37; here and henceforth my translation): such is the leitmotiv of this work.⁴ To enter into oneself is to listen to the voice of Wisdom: a permanent dialogue is thus established between the universal Reason and the individual mind.⁵

² Consider, for example, the passage where, polemicising against the Aristotelians, Malebranche argues for the need to remember that “[...] we have eyes with which to try to guide ourselves [que l’on a des yeux avec lesquels on veut essayer de se conduire];” Malebranche 1962: OC 1, 61; Malebranche 1997, 14. The philosophical attitude underlying this passage is in line with the Cartesian approach. See Descartes’ *Principes de la philosophie* (1647), *Lettre-Préface*: “[...] it is undoubtedly much better to use one’s own eyes to get about, and also to enjoy the beauty of colours and light, than to close one’s eyes and be led around by someone else [il vaut beaucoup mieux se servir de ses propres yeux pour se conduire, et jouir par même moyen de la beauté des couleurs et de la lumière, que non pas de les avoir fermés et suivre la conduite d’un autre];” AT 11-b, 3; CSM 1, 180. Descartes opposes the alleged philosophers who blindly followed Aristotle (AT 11-b, 7–8). The rest of this paragraph in the first book of *The Search after Truth*, where Malebranche emphasises the rule of evidence and the need to free oneself from one’s own prejudices in order to gain access to the truth, can also be interpreted in this light (Malebranche 1962: OC 1, 61 (book 1, chapter 3, paragraph 1); Malebranche 1997, 14).

³ “El autor de las *Meditaciones cristianas*, sin citar expresamente a San Agustín, va mucho en su compañía. El principio de la interioridad—*Noli foras ire, in teipsum redi*—dirige todo el movimiento del diálogo [...]. La introspección y la atención a la Verdad interior, constituyen en los dos filósofos el principio fundamental de la espiritualidad,” Capanaga 1966, 314–15.

⁴ See Malebranche 1986: OC 10, 60, 91, 110–11, 141, 149, 170, 190, 206, 217, and 218.

⁵ See Robinet 1965, 436. This dialogue—in which the mind’s journey towards truth and its listening to the word of God is expressed—involves a movement that comes from God himself.

These few remarks already show that the respective intentions of Malebranche's *Christian and Metaphysical Meditations* and Descartes' *Meditations on First Philosophy* cannot entirely overlap, even if the idea of meditation as an adequate path to metaphysical truth and as a solitary practice that requires time and reflection⁶ is common to both authors. Indeed, as is well known, the author of the *Discourse on the Method* did not want to mix religion with philosophy.⁷

In fact, in *Christian and Metaphysical Meditations*, it is the Word—the incarnate Light which coincides with the universal Reason—, who speaks: this also amounts to giving voice to the inner Master who gives faith. The *Meditations* translate the taking over of the Word by the Christian philosopher in his own particular way. From then on, metaphysical writing is, to a greater or lesser extent, an awkward understanding and reformulation of a series of truths taught by the Master. A risk of infidelity or betrayal nevertheless remains in this enterprise of transcription, because of the human limitations of the listener (in the Letter of Dedication of his *Mediations*, Descartes himself recognised that he could not assure that his arguments were free of mistakes: AT 7, 5). Malebranche willingly confesses this in his “Avertissement,” warning of the inevitable criticisms that his project raises (Malebranche 1986: OC 10, 6; see Belin 2002, 273).

Malebranche's practice of mediation is, of course, part of a growing interest in meditative practice. Long reserved for professionals, philosophers or monks, meditation had by now spread to all cultured circles with the help of the printed book. This phenomenon was accompanied by a greater individualisation of the religious behaviour of the faithful. In a confessionally divided Christian world, Christians learned to assert their identity more as co-responsible subjects of their supernatural destiny. At the same time, they discovered that they were not only members of a formerly undivided Church but individuals immersed in an increasingly secularised world. The craze for meditative exercise corresponded to a decline in the sense of belonging to a church community, as well as to the discovery of a new singular identity. The Christian asserted a fascinating and disturbing self that makes him or her a fully-fledged subject of a universal *historia salutis*. This passage from the collective to the individual, within a fragmented Christianity, went hand in hand with a process of internalisation of the faith, which can be traced, in the long term, from the *Imitation of Christ* to Madame Guyon's *A Short and Easy Method of Prayer* (1685). The practice of meditation took route in a tension between the desire to keep the Christian faith intact and the consciousness of a world in the process of de-Christianisation, in its representations of knowledge and power (Belin 2006, 8). On this point, Christian Belin wrote that

the Galilean epistemological rupture and the secularisation of societies are accompanied by a spiritual effervescence that reflects its reality [the reality of this secularisation], but also its scandal, opportunity or threat. The art of

⁶ See Descartes' first and third Meditations, and second Replies: AT 7, 17, 34–5, and 130; AT 9-a, 13, 27, and 103.

⁷ See Descartes to Marin Mersenne, 27 August 1639, AT 2, 570–71.

meditation combines fear with enthusiasm, the obverse and reverse, because it takes charge of all the emotion contained in the mind in dialogue with the heart (Belin 2006, 8–9, my translation).

Returning to the subject of the relationships between Cartesian and Malebranchian projects, we can recall that, making fun of Malebranchianism, Pierre Jurieu affirmed in 1684 that the Word accommodated Cartesianism:

Nothing is more singular, in my opinion, than his last Work called *Christian Meditations*. The poor Peripatetics and the disciples of Aristotle have to be very confused, to see that the Eternal Word has become a Cartesian in his old age, and that their God has declared himself against them so formally. From now on, it will be necessary to be very bold to fight the new Philosophy, since Jesus Christ has put himself at the head of the new Philosophers.⁸

Jurieu warns against the dangers of Malebranche's enterprise, against the brilliance of its singularity and its novelty:

one had never yet ventured to set up the Lord Jesus Christ as a Master of Philosophy, and to have him spout physical and metaphysical visions. [...] These mysterious ways of expressing his thoughts are pleasing because of their novelty and singularity [on ne s'était encore jamais avisé d'ériger le Seigneur Jésus Christ en Maître de Philosophie, et de lui faire débiter des visions Physiques et Métaphysiques. [...] Ces manières mystérieuses de débiter ses pensées plaisent par leur nouveauté et par leur singularité] (Jurieu 1684, 79).

Malebranche, after all, had little respect for Eternal Wisdom: he merely lent his own elucidations to the Word, thus coming closer to the mystical authors.⁹ Thus, if Jurieu, at first, seems to interpret the *Christian Meditations* as an attempt to unify religion and the new philosophy by giving the Word itself the language of Cartesianism, he then calls Malebranche a mystic and argues that his *Meditations* are surrounded by a halo of mystery that has nothing positive:

In my opinion, M. Arnaud's mind has never been more successful than in the refutation of these representative beings, which are pure visions, and which are nevertheless the sole foundation of all those speculations, so thorough and so penetrating, of Father Malebranche. For it is solely on this that those mystical views, by which we see everything in God, are founded; those desires to know

⁸ "Rien n'est plus singulier, à mon avis, que son dernier Ouvrage appelé *Méditations Chrétiennes*. Les pauvres Péripatéticiens et les disciples d'Aristote doivent être bien confus, de voir que le Verbe Éternel est devenu Cartésien sur ses vieux jours, et que leur Dieu s'est déclaré contre eux si formellement. Il faudra désormais être bien hardi pour combattre la nouvelle Philosophie, puisque Jésus-Christ s'est mis à la tête des nouveaux Philosophes," Jurieu 1684, 78–9. Here and henceforth my translation.

⁹ "Mais enfin bien des gens craignent que cela ne conduise au style de Rusbroquius, de Taulerus, de la Mère Julienne, et des autres Auteurs mystiques, dont on juge comme chacun sait," Jurieu 1684, 79.

and that attention, which are the natural prayers to oblige eternal truth to reveal itself to us, and a hundred other mysteries which are found in the *Treatise on Christian Meditations*.¹⁰

In 1686, in his reply to the first book of Arnauld's *Philosophical and Theological Reflections* (1685), Malebranche himself stated that the *Christian Meditations* were intended "to confirm the *Treatise on Nature and Grace*" by explaining "at some length, and perhaps clearly, the principles on which that *Treatise* is based." He emphasises the particular nature and style of his 1683 work:

if I have resolved to continue, it is because I was urged to do so; it is because I have felt that this way of writing edified me, and that I believed it would be suitable for edifying others [si j'ai pris la résolution de continuer, c'est qu'on m'y a exhorté; c'est que j'ai éprouvé que cette manière d'écrire m'édifiait, et que j'ai cru qu'elle se-rait propre à édifier les autres] (Malebranche 1966b: OC 8–9, 636–37).

The writing of this book contributed to Father Malebranche's spiritual progress and he believes he can have the same impact on his readers.

A year earlier, in 1685, in the first of the *Three Letters Concerning M. Arnauld's Defence Against the Answer to the Book of True and False Ideas*, explaining to his adversary that he could not help but give voice to universal Reason in his *Meditations*, Malebranche also claimed a meditative dimension for his work:

I am allowed, as other men are permitted, to meditate and to write down my meditations. Now as I am, as well as St. Augustine, in this thought, that we are not our own master, and that it is Eternal Wisdom who speaks to Meditators in the most secret part of their reason; it was a necessity according to these principles, that I should attribute to this same Wisdom what ungrateful men pretend to draw from their own depths, because of the fidelity with which God responds to them as a consequence of the general laws of the union of the mind with universal Reason.¹¹

The Oratorian then makes a very interesting retrospective remark which offers us a key to reading the itinerary developed throughout the pages of his *Meditations*:

¹⁰ "À mon sens, jamais l'esprit de M. Arnaud n'a mieux réussi que dans la réfutation de ces êtres représentatifs, qui ne sont que de pures visions, et qui pourtant sont l'unique fondement de toutes ces spéculations si poussées et si pénétrées du P. Malebranche. Car c'est uniquement là-dessus que sont fondées ces vues mystiques, par lesquelles nous voyons tout en Dieu; ces désirs de connaître et cette attention, qui sont les prières naturelles pour obliger la vérité éternelle à se découvrir à nous, et cent autres mystères qui se trouvent dans le *Traité des Méditations Chrétiennes*," Jurieu 1684, 79–80.

¹¹ "Il m'est permis, comme aux autres hommes, de méditer et d'écrire mes méditations. Or comme je suis, aussi bien que saint Augustin, dans cette pensée, que nous ne sommes point notre maître à nous-mêmes, et que c'est la Sagesse Éternelle qui parle aux *Méditatifs* dans le plus secret de leur raison; c'était une nécessité selon ces principes, que j'attribuasse à cette même Sagesse ce que les hommes ingrats prétendent tirer de leur propre fond, à cause de la fidélité avec laquelle Dieu leur répond en conséquence des lois générales de l'union de l'esprit avec la Raison universelle," Malebranche 1966a: OC 6–7, 266.

If you have been paying attention, Sir, I am talking to myself about myself, in the first of the *Christian Meditations*. I did not yet know that I had a Master. But having discovered it in the second, I would certainly have wounded Reason, and shocked common sense, if I had continued in the same way, without making Him who enlightens all men speak.¹²

Two essential elements emerge from these extracts. First, the discursive device of the *Christian Meditations* is based on the principle that man is not master of himself, nor does he enlighten himself. There is nothing extraordinary or dazzling about having made the Word speak: it would be quite the opposite, and one should be shocked if someone presented these truths taught by Jesus Christ as his own knowledge.¹³ As is well known, Malebranche demonstrated in his *Elucidations on the Search after Truth* (1678) that there is a universal Reason that enlightens all minds. In the tenth Elucidation he proves that no man grasps mathematical and moral truths in the minds of others; but since all men can see these truths, it is necessary that there be a universal Reason in which all intelligences participate, and which provides them with those truths on which they agree and which constitute the common basis of all spiritual and moral community (Malebranche 1964: OC 3, 129; Malebranche 1997, 613). The Oratorian can thus assert that

[...] the mind of man that several Fathers call an illuminated or enlightened light, ‘*lumen illuminatum*,’ is enlightened only by the light of eternal wisdom, which these same Fathers therefore call illuminating light, ‘*lumen illuminans*’.¹⁴

Not only do the *Christian Meditations* take up and develop this doctrine, but their very argumentative structure is based entirely on it:

[...] how can it be that all men agree and agree with each other, if the reason they consult is a particular reason? Can you conceive that the genius which you think enlightens you, is capable of spreading the same light generally in all minds, and that a particular intelligence can be the universal Reason, which makes all the nations of the world reasonable?¹⁵

¹² “Si vous y avez pris garde, Monsieur, je me parle à moi-même de moi-même, dans la première des *Méditations Chrétiennes*. Je ne savais pas encore que j’avais un Maître. Mais l’ayant découvert dans la seconde, assurément j’eusse blessé la Raison, et choqué le bon sens, si j’eusse continué de la même manière, sans faire parler celui qui éclaire tous les hommes,” Malebranche 1966a: OC 6–7, 266.

¹³ “Étant persuadé qu’il n’y a que Jésus-Christ qui enseigne toute vérité, j’eusse choqué le bon sens, de la communiquer aux autres comme mon propre bien, dans ces *Méditations* si dignes d’être raillées,” Malebranche 1966a: OC 6–7, 267.

¹⁴ “[...] l’esprit de l’homme que plusieurs Pères appellent lumière illuminée ou éclairée, *lumen illuminatum*, n’est éclairée que de la lumière de la Sagesse éternelle, que les mêmes Pères appellent pour cela lumière qui éclaire, *lumen illuminans*,” Malebranche 1964: OC 3, 157; Malebranche 1997, 630.

¹⁵ “[...] comment se peut-il faire, que tous les hommes s’entendent et conviennent entre eux, si la raison qu’ils consultent est une raison particulière? Peux-tu concevoir que le génie que tu penses t’éclairer, soit capable de répandre la même lumière généralement dans tous les esprits, et qu’une intelligence particulière puisse être la Raison universelle, qui rend raisonnables toutes les nations du monde,” Malebranche 1986: OC 10, 20–1.

In the “Prayer” that precedes the first Meditation, Malebranche addresses himself directly to Eternal Wisdom as the “*lumen illuminans*” of all intelligences:

O Eternal Wisdom, I am not my own light; nor can the bodies that surround me enlighten me; nor can the intelligences themselves, which do not contain in their being the Reason that makes them wise, communicate this Reason to my spirit. You alone are the light of Angels and Men; you alone are the universal Reason of spirits: you are even the Wisdom of the Father. Eternal, unchanging, necessary Wisdom, who makes the creatures and even the Creator wise, though in a very different way. O my true and only Master, show yourself to me: make me see the light in your light.¹⁶

The starting point of the *Christian and Metaphysical Meditations* is that the finite mind possesses a body of valid knowledge and that there is a light, a reason that makes it possible. The problem is to understand where this light comes from and what the role of the finite mind in the cognitive processes is, and to clarify whether the body comes into play in these processes. Malebranche’s answers are as follows: the reason that illuminates the mind and makes knowledge possible is the universal, immutable, necessary Reason (it illuminates all men and makes them reasonable since they, as spiritual beings, participate in this reason); the subject does not construct his knowledge by himself—we mean the knowledge of eternal truths (metaphysics, mathematics, basic principles of morality)—but must consult and pay due attention to the universal Reason that alone can illuminate him; the body cannot act on the mind, so no knowledge can come from it (in the first Meditation, Malebranche first questioned the hypothesis of the pineal gland as a medium through which mind and body communicate and through which the body acts on the soul: Malebranche 1986: OC 10, 13).

The reasoning based on the metaphor of illumination refers back to Augustine and develops the principle set out in the *Gospel of John*; it allows the passage from the light of nature, the “*lumière naturelle*” in the Cartesian sense—which is not equated with divine light—to the light of the Word to be accomplished: from the *Metaphysical Meditations* to the *Christian Meditations*.¹⁷ To stress this

¹⁶ “Ô Sagesse éternelle, je ne suis point ma lumière à moi-même; et les corps qui m’environnent ne peuvent m’éclairer; les intelligences mêmes ne contenant point dans leur être la Raison qui les rend sages, ne peuvent communiquer cette Raison à mon esprit. Vous êtes seul la lumière des Anges et des Hommes: Vous êtes seul la Raison universelle des esprits: Vous êtes même la Sagesse du Père. Sagesse éternelle, immuable, nécessaire, qui rendez sages les créatures et même le Créateur, quoique d’une manière bien différente. Ô mon vénérable et unique Maître, montrez-vous à moi: faites-moi voir la lumière en votre lumière,” Malebranche 1986: OC 10, 9.

¹⁷ See Gouhier 1948, 326. However, Christian Belin thinks that even though Malebranche, unlike Descartes, assumes the religious dimension of meditation, in both thinkers reason replaces Scripture as the source of the meditative exercise. See Belin 2002, 245–80. The fact remains that Descartes shares the taste for meditation and retreat that characterises the era of late humanism and the Counter-Reformation. See Belin 2006, 9 and following. On this question, see also Courtès 2006. This commentator asserts that Descartes’ philosophical

essential difference between the two books, we can consider for example the “Synopsis of the Meditations”: “Nor is there an examination of those matters pertaining to the faith or to the conduct of life, but merely of speculative truths known exclusively by the means of the light of nature” (Descartes 2006, 8; AT 9-a, 13; AT 7, 15). Admittedly, as Martial Gueroult and Matt Hettche argued, Descartes also seems to be influenced by an Augustinian devotional tradition that expresses itself in the practice of spiritual exercise, the source of which may be Mersenne’s *L’usage de la raison*, published in 1623 (Gueroult 1957, 351; Hettche 2010, 285).¹⁸ Moreover, Descartes’ relationship with Cardinal Bérulle, who urges him to elaborate a new philosophy, and other Augustinian Oratorians shows that the author of *Metaphysical Meditations* can draw on a rich conception of meditation stemming from the Neoplatonist tradition with further developments in early modernity (Sepper 2000, 738). According to Christia Mercer, Descartes’ “brilliant reimagining of the meditative genre,” which has not been sufficiently explored by commentators, can even be compared with Teresa of Ávila’s *Interior Castle* (Mercer 2017, 2541 and 2553).¹⁹ In any case, it should be pointed out that the French philosopher appropriates and uses the meditation techniques ascribable to Augustinian tradition up to the third Meditation, after which he adopts the style of a treatise, and for a sole philosophical purpose: the certainty of knowing. In other words, his concerns are with epistemological error and not with moral fault, and the consequent precarious condition of the soul in the earthly dimension (Hettche 2010, 285, 306–7). This last issue, as is well known, is particularly close the heart of Malebranche, who, from his earliest work—as we will demonstrate in the following pages—, links the need to rid oneself of error in the field of knowledge to the possibility of freeing oneself from evil and achieving moral perfection.

journey constitutes the secularised version of Christian meditation while Malebranche’s *Christian and Metaphysical Meditations*, “realising the union of Descartes and Augustine,” progressively unveil the possible relationship between Christ and man: Courtès 2006, 110, 121, and 123.

¹⁸ In the proceedings of the conference on Descartes organised at Royaumont, published in 1957, there is an exchange between Ferdinand Alquié, Willem Evert Beth, Gueroult, Henri Lefebvre, Robert Lenoble, Pierre Mesnard, following a paper by the latter on Descartes’ tree of wisdom. The first part of this discussion focuses on rapprochement and distinction between Descartes’ *Metaphysical Meditations*, Ignatius of Loyola’s *Spiritual Exercises*, the Malebranchian meditation, and St. Augustine’s *Soliloquies*. In the last years this discussion has been mentioned in an article by de Peretti. According to this interpreter, Descartes’ *Metaphysical Meditations* are part of a double meditative tradition: that of religious meditation in vogue in the 17th century, on the one hand, and that of the ancient philosophical exercises, on the other (de Peretti 2010, 4). In this text, moreover, de Peretti refers to Pierre Hadot insofar as the latter invites us to understand the *Metaphysical Meditations* in the light of the notion of spiritual exercise, of self-transformation calling upon all the faculties and resources of thought (de Peretti 2010, 11).

¹⁹ Mercer explains that, considering the Society of Jesus’ enthusiasm for Teresa of Ávila’s spiritual writings, it is plausible that Descartes’ training was also nourished by ideas drawn from Teresa’s teachings (Mercer 2017, 2546).

Coming back to Malebranche's *Christian and Metaphysical Meditations*, it should be noted that in the rest of the prayer, Malebranche invokes the Word as "Word":

Speak eternal Word, Word of the Father, Word that has always been spoken, that is being said, and that will always be said: speak, and speak, loud enough to make yourself heard despite the confused noise that my senses and passions unceasingly excite in my mind.²⁰

Thus, through the intermediary of Augustine's *On the Teacher*, from which he draws the metaphor of speech and the conception of the master and of interior teaching (Gouhier 1948, 326) that runs through his entire work,²¹ Malebranche passes from the visual image to the auditory image, but the two images, here strictly intertwined, metaphorically express the same truth.

But let us return to the excerpt from the first of the *Three Letters Concerning M. Arnauld's Defence* that we quoted above and turn our attention to a second fundamental conceptual element. Reflecting on his earlier work, Malebranche invites Arnauld to notice the evolution from the first to the second Meditation. In the first, a kind of inner monologue or dialogue develops in which the speaking "Self" exposes its beliefs and doubts: "I speak to myself as of myself, in the first of the *Christian Meditations*. I did not yet know that I had a Master."²² The discovery of the Master, of this Other who enlightens the mind, is made progressively, in the course of the second Meditation,²³ after having discarded other hypotheses on the nature of this light, thanks to which minds know theoretical and moral truths and all men agree among themselves.²⁴ This work is not, therefore, constructed as a treatise in which the author sets out his system point by point, using exclusively deductive resources; although he does not renounce

²⁰ "Parlez Verbe éternel, Parole du Père, Parole qui a toujours été dite, qui se dit, et qui se dira toujours: parlez, et parlez, assez haut pour vous faire entendre malgré le bruit confus que mes sens et mes passions excitent sans cesse dans mon esprit," Malebranche 1986: OC 10, 9.

²¹ This is true already in *The Search after Truth*. Mentioning Augustine's *On the Teacher* and *Soliloquies* in the "Preface," Malebranche writes that God is "our sole Master [notre seul Maître]" and that He "alone teaches us all truth [seul nous instruit de toute vérité]" through the manifestation of His substance," Malebranche 1962: OC 1, 17–8; Malebranche 1997, xxxviii.

²² "Je me parle à moi-même comme de moi-même, dans la première des *Méditations Chrétiennes*. Je ne savais pas encore que j'avais un Maître," Malebranche 1966a: OC 6–7, 266.

²³ "Quoi, mon Jésus, c'est donc vous-même qui me parlez dans le plus secret de ma Raison? C'est donc votre voix que j'entends? Que vous venez de répandre en un instant de lumières dans mon esprit! Quoi c'est vous seul qui éclairez tous les hommes? Hélas que j'étais stupide, lorsque je pensais que vos créatures me parlaient, quand vous me répondiez! Que j'étais superbe, lorsque je m'imaginai que j'étais ma lumière à moi-même, quand vous m'éclairiez!" Malebranche 1986: OC 10, 23.

²⁴ The disciple wonders whether there is a demon who directs him and gives him his light; or whether it is the pure intelligences that have the power to enlighten men (Malebranche 1986: OC 10, 20). See also 20–1: "[...] comment se peut-il faire, que tous les hommes s'entendent et conviennent entre eux, si la Raison qu'ils consultent est une Raison particulière?"

deductive reasoning, it is rather the unfolding of a reflective work involving practices of prayer,²⁵ meditation,²⁶ examination of conscience²⁷ and an exercise of constant vigilance.²⁸ In the course of this work, the “Self” discovers its own limits, recognises the existence of an infinite substance which goes beyond him and which he does not perceive in himself,²⁹ and thus he begins to listen to this other voice that speaks to him internally: “Go within yourself and listen to me: and compare what I am going to say to you with what the Religion you profess teaches you” (Malebranche 1986: OC 10, 22). The *Metaphysical and Christian Meditations* thus become the transcription of the dialogue that is established between universal Reason and finite Reason.

Now, having understood that what is at stake is the foundation of morality, religion and all the sciences and that

[...] all those who meditate have a common master who answers them all in the time that they imagine they are answering themselves [tous ceux qui méditent ont un maître commun qui leur répond à tous dans le temps qu'ils imaginent se répondre à eux-mêmes],

Malebranche recognised that, in order not to deny his principles, he could not continue “the other Meditations in the same style as the first [les autres Méditations dans le même style que la première]” (Malebranche 1966a: OC 6–7, 269). In short, making the Word itself speak—or else “giving the world [...] the answers of the inner Truth [donner au monde [...] les réponses de la Vérité intérieure]” (Malebranche 1966b: OC 8–9, 638)—was peremptorily imposed.

3. Authority, Dialogue, Questioning

The first four Meditations seem to echo the original purpose and aim of *The Search after Truth*: to learn to avoid error and to rid oneself of one's own

²⁵ See for example Malebranche 1986: OC 10, 174: “Ta prière rend honneur à mes qualités, et je me fais un plaisir de t'exaucer.” Consider also the “Prière” before the first Meditation (9–10).

²⁶ See Malebranche 1986: OC 10, 28.

²⁷ “Ainsi, mon Fils, nourris-toi souvent de ma substance: mais examine et purifie ton cœur auparavant; et afin que je ne te condamne pas, n'oublie pas de te juger, et de te condamner toi-même,” Malebranche 1986: OC 10, 196.

²⁸ The rhetorical strategies used by Malebranche also bear witness to this. For example, we note the frequency of the phrase “beware” (“prends garde”) from the first Meditation onwards (“But beware my mind, are you not mistaken? [Mais prends garde mon esprit, ne te trompes-tu point?];” Malebranche 1986: OC 10, 11) to the last: “Nevertheless, beware, the matter is of consequence, judge by the principles I have explained to you, if it is as easy for you to save yourself in the state you are in, as in some place of retreat; don't voluntarily mislead yourself [Néanmoins prends garde à toi, l'affaire est de conséquence, juge par les principes que je t'ai exposés, s'il t'est aussi facile de te sauver dans l'état où tu te trouves, que dans quelque lieu de retraite; ne te trompe point volontairement];” Malebranche 1986: OC 10, 230.

²⁹ Consider the entire first Meditation, especially paragraphs 20–8: Malebranche 1986: OC 10, 16–8.

prejudices in order to free oneself from moral misery. Indeed, since error is the cause of human misery and the origin of evil in the world, if they want to be solidly and truly happy, men must work to avoid it (Malebranche 1962: OC 1, 39; Malebranche 1997, 1). In other words, the search for truth should serve to reform behaviour; attention to clear ideas and the “precision of mind” should promote moral perfection: “But we must always labor to avoid error, since we always desire to be delivered from our miseries [on doit travailler sans cesse à ne point se tromper, puisqu’on souhaite sans cesse de se délivrer de ses misères]” (Malebranche 1962: OC 1, 40; Malebranche 1997, 1). *The Search after Truth* examines the different kinds of errors by discovering their causes; this study constitutes the guiding thread for drawing up a picture of the mind of the whole man, by analysing its different faculties, referred either to the union with the body or to the union with God (Malebranche 1962: OC 1, 19–20; Malebranche 1997, xxxviii).

But the project of reflecting on the way and the means to free oneself from the fetters of one’s own prejudices and to counter the hold of the senses, the imagination and the passions on the mind (with the acute awareness of the respective weight of two unions in the life of man that such a work requires) continues in another form in the *Christian and Metaphysical Meditations*,³⁰ the first draft of which accompanies (and perhaps overlaps with) that of the *Christian Conversations*, which Malebranche composed in the summer of 1676, at Marine, one of the country residences of the Oratory, near Pontoise (Lelong 1967: OC 20, 299). The latter work is characterised by the integration of properly theological issues into philosophical discourse and, building on the achievements of *The Search after Truth*, aims to examine the religious and moral question from a different angle.³¹

Now, in the very first lines of the “Avertissement” that opens the *Christian and Metaphysical Meditations*, Malebranche evokes the theoretical background of *The Research after Truth*, the conception of the double union that constitutes man and the tension between two different domains that it implies:

Since I am convinced that the eternal Word is the universal *Reason* of spirits, and that this same Word, made flesh, is the *Author and the consumer of our faith*; I believe that I must make him speak in these Meditations, as the true *Master*, who teaches all men by the authority of His word, and by the evidence of his lights. [...] I know that I am a man, and that if the Word to whom I am united like the rest of the intelligences, speaks to me clearly in the most secret part of

³⁰ See for example Malebranche 1986: OC 10, 236: “L’esprit humain est trop plein de lui-même: il forme facilement de généreux desseins: mais le poids du corps l’appesantit et le rend impuissant au bien. Étudie l’homme, sa maladie, ses faiblesses, ses inclinations, les lois de l’union de l’âme et du corps, les sens, l’imagination, les passions. Cette étude t’est nécessaire pour te conduire; et si tu fais bien réflexion sur ce qui se passe en toi, tu deviendras bientôt savant sur cette matière.”

³¹ On the *Christian Conversations*, see Bardout 2010, 13–6.

my reason, I have an insolent and rebellious body which I cannot silence, and which often speaks higher than God Himself: I have a body which seems to me to make up more than half of my being: I cannot separate my interests from those of the body: its goods and its evils make up at present my felicity and my misery.³²

But consider also this other passage from the *Christian Meditations*:

O my sole Master, I only confuse myself when you do not enlighten me. I want to pass by all the sensitive beauties to raise myself to you. But alas, I cannot find a hold in anything that has no body. I am not accustomed to contemplating purely intelligible beauties. The weight of my body weighs down my mind, I fall back and let myself be led by my imagination, which reassures and relaxes me by representing to me the proportions of figures, sensitive beauties, shadows and faint rays of the beauty I desire.³³

The “Avertissement” of the *Meditations* (but also the second text quoted) therefore presupposes a labour of reflection already realized and a theoretical baggage already acquired which will be reworked from a new perspective through the strategy implemented in the work published in 1683. This consists in making the Master Himself, He who teaches and enlightens all minds, speak. The reflections on inner truth, the common Master and the difficulty of listening to Him because of a tyrannical body³⁴ are already developed in *The Search after*

³² “Comme je suis convaincu que le Verbe Éternel est la *Raison* universelle des esprits, et que ce même Verbe, fait chair, est l’*Auteur et le consommateur de notre foi*; je crois devoir le faire parler dans ces *Méditations*, comme le véritable *Maître*, qui enseigne tous les hommes par l’autorité de sa parole, et par l’évidence de ses lumières. [...] Je sais que je suis homme, et que si le *Verbe* auquel je suis uni comme le reste des intelligences, me parle clairement dans le plus secret de ma raison, j’ai un corps insolent et rebelle que je ne puis faire taire, et qui parle souvent plus haut que Dieu même: j’ai un corps qui me paraît faire plus de la moitié de mon être: je ne puis séparer mes intérêts des siens: ses biens et ses maux font actuellement ma félicité et ma misère,” Malebranche 1986: OC 10, 7.

³³ “Ô mon unique Maître, je ne fais que me troubler moi-même, lorsque vous ne m’éclairez pas. Je veux passer toutes les beautés sensibles pour m’élever jusqu’à vous. Mais hélas! je ne trouve point de prise dans tout ce qui n’a point de corps. Je ne suis point accoutumé à contempler les beautés purement intelligibles. Le poids de mon corps appesantit mon esprit, je retombe et je me laisse conduire par mon imagination, qui me rassure et me délasse en me représentant des proportions de figures, des beautés sensibles, ombres et faibles rayons de la beauté que je désire,” Malebranche 1986: OC 10, 37.

³⁴ Let us recall that Adam’s sin and the decadence of post-lapsarian man produced an asymmetry within the psycho-physical union by transforming it into a relationship of dependence. See Malebranche 1962: OC 1, 11–2 and 15; Malebranche 1963: OC 2, 135 and 176; Malebranche 1959: OC 4, 102. This thesis is a common thread running through Malebranche’s anthropology. The Oratorian affirms it throughout his work and even in his last book, the *Reflections on Physical Premotion* (1715): Malebranche 1986: OC 16, 54. The theme of the dependence of the mind on the body since sin also appears in the *Christian and Metaphysical Meditations*: “Tu dois aussi avoir assez de capacité pour le recevoir: car ton esprit est fort limité, et la dépendance où il est de ton corps le partage extrêmement,” Malebranche 1986: OC 10, 32; “Ainsi, étant pécheur, il est juste que tu dépendes du corps

*Truth*³⁵ and in the *Christian Conversations*,³⁶ and are thus received in the *Christian Meditations* to be reworked from a new perspective.

On the other hand, in a precise allusion to *The Search after Truth*, which Malebranche recommends reading in order to fully understand his new work,³⁷ the author underlines the specific character of his *Meditations*: firstly, this text presupposes a knowledge already acquired as a condition for an adequate understanding; secondly, it does not seem to be intended for everyone, but mainly for those who are familiar with the principles of Malebranchism and are willing to engage seriously in the practice of meditation. The *Christian and Metaphysical Meditations* thus seem to be different from other texts which could be compared to them,³⁸ for example the *Introduction to the Devout Life* (1609) by Francis de Sales. The latter work is intended to meet the needs of Christians who are not destined for the religious life but who wish to lead a holy life in the world. Addressed to a wider public than the spiritual treatises of the time, it does not aim at “the instruction of those who are very much withdrawn from worldly dealings [l’instruction des personnes fort retirées du commerce du monde]” but rather to

instruct those who live in towns, in households, in the court, and who, by their condition, are obliged to live a common life outside [instruire ceux qui vivent ès villes, ès ménages, en la cour, et qui par leur condition sont obligés de faire une vie commune quant à l’extérieur] (de Sales 1934, 3).

auquel j’avais seulement uni l’homme innocent,” Malebranche 1986: OC 10, 104; “Tu as un corps, ton âme y est unie, et même elle en dépend depuis le péché,” Malebranche 1986: OC 10, 112.

³⁵ “[...] en effet l’attention de l’esprit n’est que son retour et sa conversion vers Dieu, qui est notre seul Maître, et qui seul nous instruit de toute vérité, par la manifestation de sa substance, comme parle saint Augustin, et sans l’entremise d’aucune créature [the mind’s attention that any truths are discovered or any sciences acquired, because the mind’s attention is in fact only its conversion and return to God, who is our sole Master, who alone teaches us all truth through the manifestation of His substance, as Saint Augustine says, and without the intervention of any creature],” Malebranche 1962: OC 1, 17–8; Malebranche 1997, xxxviii.

³⁶ “Apprenez donc, mon cher Aristarque, à rentrer dans vous-mêmes, à être attentif à la vérité intérieure qui préside à tous les esprits, à demander et à recevoir les réponses de notre maître commun,” Malebranche 1959: OC 4, 11.

³⁷ It is not by chance that towards the end of the “Avertissement” Malebranche wishes to make a few clarifications to help his reader understand his work: “Je crois néanmoins devoir avertir que pour comprendre clairement ces Méditations, il est comme nécessaire d’avoir lu la *Recherche de la Vérité*, ou, du moins s’appliquer à cette lecture avec une attention sérieuse, et sans aucune préoccupation d’esprit. Ces conditions sont un peu dures. Mais comme je n’ai pas écrit ceci pour toute sorte de personnes, ce ne sont point tant là des conditions que j’exige que des avis nécessaires pour ne pas perdre son temps, et condamner la vérité sans l’entendre,” Malebranche 1986: OC 10, 8.

³⁸ And first of all, the *Meditations on Humility and Repentance*, which, in order to realise the project of putting down human pride and disposing man to humility, does not hesitate to use the fundamental conceptual elements of Occasionalism.

Although the *Christian and Metaphysical Meditations* do not exclusively advocate retreat but encourage action in the world for the edification of the faithful,³⁹ they do require a familiarity with certain notions. Of course, they do not set out this knowledge in a systematic way but use it to mark out a pathway through which each person is led to work on himself or herself. It is only from this specific angle (work on oneself) that the two treatises can be compared. In Malebranche, however, this aspect is correlated with metaphysical reflection, whereas in de Sales the emphasis is on conduct among men.⁴⁰

The doctrine of the common Master and of the inner truth, as well as the requirement to learn to question the Master in order to be enlightened,⁴¹ seem to find a coherent outcome in the *Christian and Metaphysical Meditations*. Didn't Theodore invite his interlocutor to go beyond the framework of human conversations: "learn, then, my dear Aristarchus, to enter into yourself, to be attentive to the inner truth that presides over all minds, to ask and receive the answers of our common master"?⁴² Thus the *Christian and Metaphysical Meditations* implement this approach by showing how finite reason questions itself on the source of its knowledge and happiness in order to discover an Other—the infinite and

³⁹ "You like to retire: the world's business disgusts you. Content with my answers and favours, you now want nothing more. You do well: but you can do better. Do not fear to expose your salvation by exposing the truth. You will defend it without hurting, or at least without breaking charity, provided that you often enter into yourself, and that you look upon those to whom you speak as persons whom I address to you, so that you work for their sanctification and they for yours [Tu te plais dans la retraite: le commerce du monde te fait horreur. Content de mes réponses et de mes faveurs, tu ne veux maintenant rien davantage. Tu fais bien: mais tu peux mieux faire. Va ne crains point d'exposer ton salut, en exposant la vérité. Tu la défendras sans blesser, ou du moins sans rompre la charité, pourvu que tu rentres souvent en toi-même, et que tu regardes ceux à qui tu parles, comme des personnes que je t'adresse, afin que tu travailles à leur sanctification, et qu'ils travaillent à la tienne]," Malebranche 1986: OC 10, 206; see also 205.

⁴⁰ According to de Sales, for example, devotion should be practised by all men, because it is the highest point of life everywhere, but it should be adapted to each situation: "La dévotion doit être différemment exercée par le gentilhomme, par l'artisan, par le valet, par le prince, par la veuve, par la fille, par la mariée: et non seulement cela; mais il faut accommoder la pratique de la dévotion aux forces, aux affaires et aux devoirs de chaque particulier [...]. Où que nous soyons, nous pouvons et devons aspirer à la vie parfaite," de Sales 1934, 15 and 16. On these points, see Dubreucq 2002, 5.

⁴¹ See Malebranche 1959: OC 4, 11–2: "The attention of the mind is the natural prayer we make to the inner truth, so that it may be discovered to us. But this sovereign truth does not always respond to our desires, because we do not know too well how to pray to it. We often ask it without knowing what we are asking, as when we want to resolve questions whose terms we do not know [L'attention de l'esprit est la prière naturelle que nous faisons à la vérité intérieure, afin qu'elle se découvre à nous. Mais cette souveraine vérité ne répond pas toujours à nos désirs, parce que nous ne savons pas trop bien comment il faut la prier. Nous l'interrogeons souvent sans savoir ce que nous lui demandons, comme lorsque nous voulons résoudre des questions dont nous ne connaissons pas les termes]."

⁴² "Apprenez donc, mon cher Aristarque, à rentrer dans vous-même, à être attentif à la vérité intérieure qui préside à tous les esprits, à demander et à recevoir les réponses de notre maître commun," Malebranche 1959: OC 4, 11.

universal Reason—which surpasses and founds it (Malebranche 1986: OC 10, 11–8), external in one sense to the mind and internal in another; this Other finally revealing itself as the eternal Word which is both truth and order,⁴³ the epistemological and moral keystone of individual existence.⁴⁴ Certainly, this work proves arduous and painful because the mind does not know how to discern the voice of the Word and the “secret inspirations [inspirations secrètes]” of its own passions and imaginations; so it must learn to recognise those thoughts which are not unquestionable truths but “confused feelings [des sentiments confus]” or “vain phantoms [des vains fantômes]” breathed into it by its passions or imaginations.⁴⁵ It is not by chance that Malebranche makes the Word say:

the labour of meditation is still absolutely necessary today to merit the clear view of truth; and I did not come to earth to spare men this labour [le travail de la Méditation est encore aujourd’hui absolument nécessaire pour mériter la vue claire de la vérité; et je ne suis pas venu sur la terre pour épargner aux hommes ce travail] (Malebranche 1986: OC 10, 28).

The labour of meditation advocated in the third Meditation implies from the outset the work by which the “Self” who speaks in the *Christian Meditations* themselves, and with whom any recipient can in principle identify, has come to discover the inner Master who presides over his knowledge and happiness. Thus, in the first Meditations, a “process of questioning” unfolds;⁴⁶ at the beginning of this the “Self” who speaks is first of all the consciousness which, by making an effort, grasps certain truths. Now this enunciative subject spontaneously believes that he is the source of the light that enlightens him, that he is his reason and his light (Malebranche 1986: OC 10, 11). But immediately a caesura opens up within the intrapsychic discourse: the enunciative subject finds itself in a dual space and questions its first conviction.⁴⁷ The movement must

⁴³ “Ne me consulte donc pas seulement comme vérité, mais comme ordre, ou comme la Loi immuable des esprits, et je réglerai ton amour: je te communiquerai la vie: je te donnerai la force de vaincre tes passions, et pour récompense de tes victoires je te ferai part de ma Gloire et de mes plaisirs pendant toute l’Éternité [...]. Je suis l’ordre aussi bien que la vérité; et tu dois beaucoup plus contempler la beauté de l’ordre que l’évidence de la vérité,” Malebranche 1986: OC 10, 33 and 34.

⁴⁴ It should be noted here that these passages from the *Christian and Metaphysical Meditations* reveal another important point of friction between Descartes and the Oratorian: unlike Descartes, Malebranche does not relegate metaphysics to the last rank of our concerns from an ethical point of view; first in terms of evidence, it is also first in terms of ethical utility. See Gueroult 1955–1959, vol. 3, 159.

⁴⁵ Malebranche 1986: OC 10, 27–8. This work can thus take advantage from the analyses of the senses, imagination and passions developed in *The Search after Truth*.

⁴⁶ The expression is borrowed from Dubreucq 2002, 13.

⁴⁷ “Mais prends mon esprit, ne te trompes-tu point? La lumière se répand en toi, lorsque tu le désires, et tu en conclus que tu la produis. Mais penses-tu que tes souhaits soient capables de produire quelque chose? Le vois-tu clairement? Y a-t-il une liaison nécessaire entre tes désirs et leur accomplissement?” Malebranche 1986: OC 10, 11–2.

take on a different pace.⁴⁸ In the following paragraphs of the first Meditation, in this same dual space, the essential question raised takes on its full scope; at the end of this Meditation, the movement from the “I” to the “you” (of the “I” and the “you” within the enunciative space) makes it possible to circumscribe a first truth: “[...] I grant you that [your substance] is light, but *illuminated* light [...] [je t’accorde que [ta substance] est lumière, mais lumière *illuminée*]” (Malebranche 1986: OC 10, 18). It is during the second Meditation that the identity of the “you” dialoguing with the “I” is revealed as the light that illuminates the latter. This “you” coincides with universal Reason, with Jesus Christ who speaks to the enunciative subject in “the most secret part of [his] Reason [le plus secret de [sa] Raison]” (Malebranche 1986: OC 10, 23). At the end of this journey, the “you” who has revealed himself as the universal Reason/Divine Word coinciding with truth and moral order leads the “I” to rediscover himself, to reconstitute himself under the sign of a new self-understanding. He perceives himself as a being swollen with pride and insolence and understands that he must set out on the path to humility.⁴⁹ This reversal of perspective, which implies the castigation of a certain philosophical pride (Malebranche 1986: OC 10, 14 and 34), allows Malebranche—as in the *Meditations on Humility and Repentance* (1677)—to make explicit the constructive function of the virtue of humility,⁵⁰ since the latter gives access to a new tone of existence.⁵¹

In the *Christian and Metaphysical Meditations*, Malebranche then presents in a new light the steps that allow one to consult the inner truth and that involve questioning. As Joseph Moreau stated, the challenge is not so much to discover and contemplate immutable essences and ready-made truths in universal Reason, as to learn to question well and to listen to the word of the inner Master: “[...] truth reveals itself only to those who pray with attention and perseverance; in other words, Reason answers only to those who question it properly” (Moreau 1960, 134). This commentator rightly draws our attention to the summary of the third Meditation:

Truth speaks to men in two ways; how it is questioned, and on what subjects it must be questioned, in order to receive its answers [La vérité parle aux hommes en deux manières; comment on l’interroge, et sur quels sujets on la doit interroger, afin de recevoir ses réponses] (Malebranche 1986: OC 10, 27).

⁴⁸ “Tu cours un peu trop vite,” Malebranche 1986: OC 10, 12.

⁴⁹ See, for example, Malebranche 1986: OC 10, 67 and 174.

⁵⁰ See the “Avertissement” in the *Meditations on Humility and Repentance*: “Le dessein des méditations suivantes et d’abattre l’orgueil de l’esprit, et de le disposer à l’humilité et à la pénitence,” Malebranche 1960: OC 17, 387.

⁵¹ “Ô Jésus faites voir votre beauté aux esprits superbes, afin qu’ils s’humilient devant vous, afin qu’ils se haïssent et qu’ils vous aiment: et n’attendez pas le jour auquel votre présence les remplira de honte et de désespoir; lorsque, ne pouvant supporter l’éclat de votre beauté, ils chercheront les ténèbres et se précipiteront dans les enfers. Pour moi je vous confesse maintenant mes désordres, afin que vous me fassiez rentrer dans l’ordre, et que votre beauté efface ma laideur, comme vos lumières dissipent mes ténèbres,” Malebranche 1986: OC 10, 34–5.

But the question appears in all its breadth already in the course of the second Meditation:

Do you not feel that the light of your Reason is always present to you, that it dwells within you, and that when you enter into yourself, you become completely enlightened by it? Do you not hear that it answers you by itself, first when you question it; when you know how to question it by paying serious attention; when your senses and your passions are in respect and in silence.⁵²

One must learn to ask questions carefully and persistently and understand what the Word can clarify—it cannot instruct the mind about the beings God created, but about how he created them (Malebranche 1986: OC 10, 30–2). For, says the Word,

when you question me, you must know what you are asking me, so that when I present it to you, you can recognize it. You must also have enough capacity to receive it: for your mind is very limited, and the extent to which it is dependent on your body causes extreme division.⁵³

It seems to me, however, that the challenge is not only to develop an effective “method of interrogation.” It is also a matter of rethinking the terms in which *The Search after Truth* has conceived certain problems, and of qualifying certain conclusions. There is another reason why the third Meditation we have just mentioned constitutes an important milestone in Malebranche’s reflection: by presenting the two ways in which truth speaks to men, it makes it possible to rethink the relationship between reason and faith in a new way. If in *The Search after Truth* Malebranche distinguishes between factual and speculative truths (Malebranche 1962: OC 1, 23–6; Malebranche 1997, xli–xliii) and argues in favour of the methodological separation of reason and faith,⁵⁴ in later works he opens the way to the possibility of a harmonisation between faith and reason to the point of arguing that faith can be fulfilled in intelligence. Already in the *Christian Conversations*, he seeks to minimise the distance between the two fields:

⁵² “Ne sens-tu pas que la lumière de ta Raison t’est toujours présente, qu’elle habite en toi, et que lorsque tu rentres en toi-même, tu en deviens tout éclairé? N’entends-tu pas qu’elle te répond par elle-même, d’abord que tu l’interroges; lorsque tu sais l’interroger par une attention sérieuse; lorsque tes sens et tes passions sont dans le respect et dans le silence,” Malebranche 1986: OC 10, 22.

⁵³ “[...] lorsque tu m’interroges, tu dois savoir ce que tu me demandes, afin de pouvoir le reconnaître, lorsque je te le présente. Tu dois aussi avoir assez de capacité pour le recevoir: car ton esprit est fort limité, et la dépendance où il est de ton corps le partage extrêmement,” Malebranche 1986: OC 10, 32.

⁵⁴ See for example Malebranche 1962: OC 1, 62; Malebranche 1997, 14: “The mysteries of faith must therefore be distinguished from the things of nature. We must be equally submissive to faith and evidence; but in matters of faith, evidence must not be sought before belief, just as in matters of nature, one must not stop at faith, that is, at the authority of philosophers. In a word, to be among the Faithful, it is necessary to believe blindly; but to be a philosopher, it is necessary to see with evidence, for divine authority is infallible, whereas all men are subject to error.”

You must believe what must be believed, but you must try to see what can be seen, and consequently what must be seen. For faith must lead us to intelligence: we must not yield Reason to the enemy of truth.⁵⁵

Malebranche subsequently developed this thought in the third Meditation. In the first place, he states unambiguously that truth speaks to men in two ways:

As universal Reason and intelligible light, I enlighten all minds inwardly by the evidence and clarity of my Doctrine; as Wisdom incarnate and proportionate to their weakness, I instruct them by faith, that is to say, by the Holy Scriptures and the visible authority of the universal Church.⁵⁶

He then points out that faith concerns only a certain number of truths and that evidence alone perfectly enlightens the mind. Moreover, when the Word/ Universal Reason speaks to men about truths that have no relation to religion, “the labour of meditation” is necessarily required to conceive these truths with a clear view (Malebranche 1986: OC 10, 28). And yet the Word can communicate many truths of faith in a purely intelligible way to those who enter into themselves, and consult him with all the necessary respect and application; in short, men can learn with evidence what they only know with certainty, provided they are able to consult divine Wisdom:

However, although I never teach in a tangible way the truths which it is not necessary to know in order to honour my Father and to regulate one’s mind and heart, I often show to the mind in a purely intelligible way, many truths which belong to faith. For when my disciples enter into themselves and consult Me with all the necessary respect and application, I reveal to their minds many truths which they only knew with certainty because of the infallibility of my word.⁵⁷

But this is not all. In the fourth Meditation, Malebranche reveals a diachronic and dynamic relationship between faith and reason, or rather a link that brings into play the relationship between time and eternity, for faith will pass away and intelligence will subsist forever:

⁵⁵ “Vous devez croire ce qui doit être cru, mais vous devez tâcher de voir ce qui peut, et par conséquent ce qui doit être vu. Car il faut que la foi nous conduise à l’intelligence: il ne faut pas céder la Raison au parti ennemi de la vérité,” Malebranche 1959: OC 4, 106.

⁵⁶ “Comme Raison universelle et lumière intelligible j’éclaire intérieurement tous les esprits par l’évidence et la clarté de ma Doctrine; comme Sagesse incarnée et proportionnée à leur faiblesse, je les instruis par la foi, c’est-à-dire par les Écritures saintes et l’autorité visible de l’Église universelle,” Malebranche 1986: OC 10, 27.

⁵⁷ “Cependant, quoique je n’enseigne jamais d’une manière sensible les vérités, qu’il n’est pas nécessaire de savoir pour honorer mon Père, et se régler l’esprit et le cœur; je montre souvent à l’esprit d’une manière purement intelligible plusieurs vérités qui appartiennent à la foi. Car, lorsque mes disciples rentrent en eux-mêmes, et me consultent avec tout le respect et toute l’application nécessaire; je découvre à leur esprit avec évidence plusieurs vérités qu’ils savaient seulement avec certitude à cause de l’infaillibilité de ma parole,” Malebranche 1986: OC 10, 28.

Did you not veil yourself, O Jesus, in this Sacrament to give us a pledge that one day our faith will be transformed into Intelligence, that now we possess you without knowing it: but that the happy day will come when we shall know clearly in what ways you are the life and food of our spirit.⁵⁸

Perhaps, in the *Christian and Metaphysical Meditations*, Malebranche represents the usual bipartition of truths according to their source (universal Reason, which enlightens us by evidence and clarity, and incarnate Wisdom, which instructs us by faith and the authority of the Church), but he does indicate clearly that there is a single Master who speaks to men through these two channels. While acknowledging the incomprehensibility of the mysteries and the excessive composition of the truths of morality, he claims here the right to “meditate on [the] law [of the Word] day and night, and [to] humbly ask Him for light and understanding [méditer [la] loi [du Verbe] jour et nuit, et [lui] demander humblement la lumière et l’intelligence)” (Malebranche 1986: OC 10, 28). Thus, in the path opened up by the *Christian Meditations*, the mind is not exempt from the search for light and intelligence, which are presented as the true goal of the believer himself. Now, as Malebranche argues in particular in the thirteenth Meditation, those who do not succeed, in spite of their efforts, in understanding the sublime truths that the Word has taught them, can and must stick to the Scriptures and profit from the teaching of the Fathers of the Church (Malebranche 1986: OC 10, 149). However, even in this case, the labour of consulting the Word itself cannot be completely renounced. It is not by chance that Malebranche makes the Word say the following:

Nevertheless, they must not be so much trusted in their words that they do not often consult me to see whether I speak to the spirit as they do to the eyes. They have been men and subject to error. When they speak as witnesses of the doctrine

⁵⁸ “Ne vous êtes-vous pas voilé, ô Jésus, dans ce Sacrement pour nous donner un gage qu’un jour notre foi se changera en Intelligence, que maintenant nous vous possédons sans le savoir: mais que le jour heureux viendra auquel nous connaîtrons clairement en combien de manières vous êtes la vie et la nourriture de notre esprit,” Malebranche 1986: OC 10, 45. See also the *Treatise on Ethics* (1684): “Evidence, or understanding is preferable to faith. For faith will pass away, but understanding will endure eternally. Faith is truly a great good, but this is because it leads us to an understanding of certain necessary and essential truths, without which we can acquire neither solid virtue nor eternal felicity [L’évidence, l’intelligence est préférable à la foi. Car la foi passera, mais l’intelligence subsistera éternellement. La foi est véritablement un grand bien, mais c’est qu’elle conduit à l’intelligence de certaines vérités nécessaires, essentielles, sans lesquelles on ne peut acquérir ni la solide vertu, ni la félicité éternelle],” Malebranche 1966c: OC 11, 34; Malebranche 1993, 57. See also Malebranche 1966c: OC 11, 65 and 183; Malebranche 1993, 79 and 161. But we must also consider the *Dialogues on Metaphysics and Religion* (1688). One of the leitmotifs of this work is that we should not oppose philosophy to religion, because truth speaks to us in two different ways. In the sixth Dialogue, for example, Theodore reveals to Ariste “[...] qu’il faut être bon Philosophe pour entrer dans l’intelligence des vérités de la Foi; et que plus on est fort dans les vrais principes de la Métaphysique, plus est-on ferme dans les vérités de la Religion,” Malebranche 1976b: OC 12–13, 133.

of their century, they must be believed and my word must be respected in the tradition of the Church. But when they propose their own sentiments, you must listen to them with some sort of mistrust, and never surrender yourself entirely until I order you to do so.⁵⁹

Now, if this conception, as his Roman censor remarks, seems to smack of Protestantism (Costa 2003, 226–27; Moïsuc 2016, 39–40), and to involve the rejection of ecclesiastical mediation, it is interesting for an understanding of the development of the theoretical strategy implemented by the Oratorian. This article of his *Meditations* confirms that such a strategy aims at integrating the truths of the faith into the edifice of reason through a non-dogmatic approach and an always open questioning. This process does not refute tradition but takes its questioning into account by opposing—if necessary—the historical authority of received teaching with the inner dialogue between finite reason and universal Reason. This dialogue, in the final analysis and beyond certain formulas, does not seem to be based on an acritical submission to the authority of the Word, but on a permanent questioning and on a reflection that develops through twists and turns, taking into consideration a range of answers to philosophical and theological questions as they are addressed.

All in all, the development of Malebranche's thought between *The Search after Truth* and the *Christian and Metaphysical Meditations* leads, as Alquié stated, to the “relative abolition of the frontiers between reason and faith” (Alquié 1974, 401). In the light of the work published in 1683, we can therefore affirm that for Malebranche: 1. our finite reason is constituted in the dialogical relation to the Word/Reason; 2. it is a participation in universal Reason, light illuminated by the divine Word; 3. the Word/Reason can show to the mind in a purely intelligible way several truths of faith. This is why reasoning can be applied to any field and the mind can deepen and rework the truths of faith through the labour of meditation. This is why the dogmas and mysteries of faith can be gradually captured in the orbit of reason.⁶⁰ On the other hand, they prove to be “not only explicable, but also explicative [non seulement explicables, mais encore explicatifs]” (Alquié 1974, 402) insofar as they allow the resolution of certain problems posed by reason.⁶¹

⁵⁹ “Néanmoins il ne faut pas tellement les croire à leur parole, qu'on ne me consulte souvent, pour voir si je parle à l'esprit, comme ils font aux yeux. Ils ont été hommes, et sujets à l'erreur. Lorsqu'ils parlent comme témoins de la doctrine de leur siècle, il faut se rendre à leur témoignage, et respecter ma parole dans la tradition de l'Église. Mais lorsqu'ils proposent leurs propres sentiments, tu dois les écouter avec quelque espèce de défiance, et ne te rendre jamais entièrement que je ne l'ordonne,” Malebranche 1986: OC 10, 149–50.

⁶⁰ “[...] il est permis d'expliquer même les mystères, pourvu qu'on le fasse selon l'analogie de la Foi, et qu'on suppose comme incontestables les dogmes reçus dans l'Église,” Malebranche 1976a: OC 5, 187.

⁶¹ “Que les Philosophes, mon cher Ariste, sont obligés à la Religion, car il n'y a qu'elle qui les puisse tirer de l'embarras où ils se trouvent,” Malebranche 1976b: OC 12–13, 101. See also these passages from the *Réflexions sur la prémotion physique*: “[...] la foi est toujours d'accord avec la Raison, puisque l'une et l'autre viennent du même et infallible principe. Mais l'esprit

In the *Christian and Metaphysical Meditations*, the incorporation of the truths of faith into the rational edifice and the illumination of religion on philosophical problems is achieved through a process of questioning, a dialogical journey that requires work on oneself and a conversion from pride to humility. While establishing a hierarchy—man and his finite reason depend inexorably on God—,⁶² the dialogical allure of the text, where statements tend to elicit the response of others and an active attitude,⁶³ ends up, if not defusing, at least attenuating any authoritative device. Certainly, at certain points in the book, the relationship of the “Self” who speaks to the Word is in the register of authority,⁶⁴ but as we move forward in these *Meditations*, we realise that the relationship of authority prevails when man does not succeed in beginning the work of meditation or is weary of listening to the inner truth.⁶⁵ On the other hand, submission to authority seems to be akin to a state of passive ignorance.⁶⁶ Thus, the true relationship

humain ne peut pas toujours découvrir cet accord,” Malebranche 1986: OC 16, 132; “[...] il arrive souvent que la foi conduit à l’intelligence, et obtient des idées claires de quelques vérités que l’on croyait uniquement par la foi,” Malebranche 1986: OC 16, 133.

⁶² “L’homme n’est à lui-même ni sa loi, ni sa lumière. Sa substance n’est que ténèbres; il ne peut rien voir en se contemplant: et comme il dépend de Dieu, il n’est point le Maître de ses actions,” Malebranche 1986: OC 10, 46.

⁶³ See these two paragraphs from the second Meditation: “11. Ne sens-tu pas que la lumière de ta Raison t’est toujours présente, qu’elle habite en toi, et que lorsque tu rentres en toi-même, tu en deviens tout éclairé? N’entends-tu pas qu’elle te répond par elle-même, d’abord que tu l’interroges; lorsque tu sais l’interroger par une attention sérieuse; lorsque tes sens et tes passions sont dans le respect et dans le silence. Ainsi quel besoin as-tu de te rendre les Démons favorables? Ce ne sont point eux qui t’éclairent, puisque sans que tu les consultes, tu entends bien qu’ou te répond. 12. Rentre en toi-même, et écoute-moi: et compare ce que je te vais dire avec ce que t’apprend la Religion que tu professes. Voici comment la vérité parle à tous ceux qui l’aiment, et qui par des désirs ardents la prient de les nourrir de sa substance,” Malebranche 1986: OC 10, 22.

⁶⁴ In the “Avertissement,” the subject-enunciator states that he “[...] [est] convaincu que le Verbe Éternel est la *Raison* universelle des esprits, et que ce même Verbe, fait chair, est l’*Auteur et le consommateur de notre foi*”; and then: “je crois devoir le faire parler dans ces Méditations, comme le véritable *Maître*, qui enseigne tous les hommes par l’autorité de sa parole, et par l’évidence de ses lumières,” Malebranche 1986: OC 10, 7.

⁶⁵ “Comme la plupart des hommes ne sont point faits au travail de la Méditation, et ne peuvent rentrer en eux-mêmes pour écouter en silence la voix purement intelligible de la Raison, ils doivent s’instruire de leurs devoirs par la lecture des Livres saints, et régler leurs sentiments par l’autorité infaillible de ma parole,” Malebranche 1986: OC 10, 149. See also 28: “Le travail de la Méditation est encore aujourd’hui absolument nécessaire pour mériter la vue claire de la vérité; et je ne suis point venu sur la terre pour épargner aux hommes ce travail [The work of meditation is still absolutely necessary to merit a clear view of the truth, and I did not come to earth to spare men this work]”; 221: “Que si tu es las de m’écouter comme vérité intelligible, soumets-toi à l’autorité de mes Écritures.”

⁶⁶ “Que votre lumière conduise tous mes pas, et règle toutes mes réflexions. Laissez-moi plutôt dans la simplicité de mon ignorance, soumis à l’autorité de votre parole, et sous la conduite de ma mère votre chère Épouse, que de me faire part de cette lumière qui éblouit, et qui enfile les esprits lorsqu’ils manquent de charité et d’humilité,” Malebranche 1986: OC 10, 101. Moreover, in the same paragraph (14) of the ninth Meditation, the disjunctive relationship

of the finite mind to the Word—which the metaphors of light, voice and food⁶⁷ seek to express in an increasingly prominent way—is concretely constructed in an inner dialogical space, through the work of meditation, to the rhythm of questions and answers, of the twists and turns of philosophical questioning.

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between evidence and authority emerges prominently: "[...] fortifiez mon attention afin que je ne consente jamais à rien, avant que j'y sois forcé par l'évidence de votre lumière ou par l'autorité de votre parole!" Malebranche 1986: OC 10, 101.

⁶⁷ In addition to the metaphors of light and voice, there is a third metaphor that Malebranche uses to express the relationship between the finite mind and the Word: that of food. The Word/Reason is thus presented as "the true manna of spirits" (in the *Christian and Metaphysical Meditations*: Malebranche 1986: OC 10, 24; in the *Treatise on Ethics*: Malebranche 1966c: OC 11, 63; Malebranche 1993, 78). It would be—as Lucien Bridet has argued—the metaphor that "expresses the least imperfectly the ineffable relationship of our intelligence with God. For the light or the voice leave an opposition between the one who illuminates or speaks and the one who looks or listens. But the union of our spirit with God is closer. We are not outside God, but in God. He is the very atmosphere in which we breathe," Bridet 1929, 91, my translation. In this sense, the metaphor of food is in line with St Paul's assertion that life, movement and being reside in God, which Malebranche quotes in the chapter of *The Search after Truth* titled "That we see all things in God," Malebranche 1962: OC 1, 447; Malebranche 1997, 235.

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System, Hypothesis, and Experiments: Pierre-Sylvain Régis

Antonella Del Prete

Abstract: Pierre-Sylvain Régis's Cartesianism is quite singular in seventeenth-century French philosophy. Though, can we speak of a form of experimental science in Régis's work? After exploring his notions of "system" and "hypothesis," I will define his position in relation to Claude Perrault, Jacques Rohault, and the Royal Society. I argue, first, that the contrasts which traverse French science are not so much about the use of experiments but about whether or not observational data can be traced back to hypotheses and to a coherent system. Secondly, that we can detect a significant similarity between Boyle's positions and the views expressed by Perrault and also by Régis. Lastly, that French science, even in its Cartesian version, is much more probabilistic than English experimental philosophy.

Keywords: Pierre-Sylvain Régis, system, hypothesis, experimental natural philosophy, speculative natural philosophy, Claude Perrault.

Pierre-Sylvain Régis's Cartesianism is quite singular in the panorama of seventeenth-century French philosophy. His *Système de philosophie* (1690) combines in innovative ways the different philosophical traditions upon which it draws. Despite his obvious debts to Jacques Rohault—including from a biographical point of view, since Rohault introduced him to the Cartesian philosophy that led to his abandoning the Sorbonnic training meant to make him a theologian—, Régis distinguished himself from his master by his ambition to provide a complete and exhaustive course of Cartesian philosophy and to make explicit the metaphysical foundations of physics.¹ There is, however, a similar attempt in French Cartesianism: Jacques Du Roure produced a comprehensive textbook of philosophy inspired by Descartes's thought.² His attempt, however, was passed over in silence by the mainstream of Cartesianism, within which references to his pioneering work are few and far between. It is therefore difficult to determine whether he could have inspired Régis's project.

The systematic ambition also distinguishes Régis from Dom Robert Desgabets, who provided him with much of the inspiration behind his gnoseology alongside several metaphysical theses.³ In this regard, it is also necessary to

¹ For an overall description of Régis's philosophical personality, see Del Prete 2019.

² On this intriguing personage, see Roux 2020; Roux 2021.

³ See the seminal book Schmaltz 2002.

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Referee List (DOI 10.36253/fup_referee_list)

FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

Antonella Del Prete, *System, Hypothesis, and Experiments: Pierre-Sylvain Régis*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.09, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 155-168, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

mention that the theological interests of Régis are most evident in his last work, which on the one hand seems to detail metaphysical theses on God and his action, and on the other to have clearly had an apologetic goal (against Spinozists and Socinians): it does not share with Desgabets the same tone, nor does it have the same extent of the theological interests of Desgabets.

Régis's refutation of Malebranche consists essentially in the rejection of occasionalism and the theory of vision in God. Régis does not hesitate, however, to adopt some of the Oratorian's theses and use them consistently with his dismissal of any purely intellectual activity of the soul. A Cartesian metaphysics which risks association—because of its definition of substance and modes—with Spinoza's thought, coupled with a sensualist gnoseology and a physiology of the brain that allows for an explanation not only of sensations and imagination but also of judgment and reason without an appeal to the *mens*: such, in a nutshell, is the philosophy of Régis.⁴ His gnoseology, in particular, caused him to be classified among the radical Cartesians. On this basis, can we speak of a form of experimental science in Régis's work? And if such an experimental science stands, how can we situate it in relation to the scientific practices of the time?

I will focus on three questions. First, I will explore what Régis means by system and what kind of use can be made of hypotheses. This will then allow me to define Régis's position in relation to Claude Perrault who not only represents an anti-metaphysical form of empiricism but is also hostile to any generalization going beyond sense experience and leading to general systems about the nature of phenomena. Lastly, I will compare Régis's views with those of his master in Cartesianism, Rohault, and of some members of the Royal Society in the 1660s, in order to highlight the similarities and differences with Régis's thought.

1. In Search of a System: Completeness and Order

Investigating the *Physique* of Régis is not an easy task. While his metaphysics, logic, and morals have been studied extensively,⁵ the same cannot be said for his physics, despite the fact that it is, quantitatively, the main part of his work. If we take as a reference the 1691 edition of the *Cours entier de philosophie*—which notably names Descartes on the cover page—, we find that, of the three volumes that make up the work, logic occupies 62 pages; metaphysics, 209; physics, 1,247; and morals, 151 pages. Thus, the *Physique* is almost six times as extensive as the *Métaphysique*. Not only is the *Physique* imposing by sheer weight of page numbers, but also by the breadth and scope of the subjects with which it deals: from the definition of the body, of motion and rest to the explanation of the passions of the soul, it also encompasses cosmology, physics itself, chemistry, botany,

⁴ Schmaltz 2002, 107–29 and 245–51. See also Del Prete 2018a; Del Prete 2018b.

⁵ In addition to the above-mentioned book by Tad Schmaltz, see Des Chene 2002: despite its title (“Cartesian Science: Régis and Rohault”), this article deals with Régis's theories of creation, of eternal truths, and of ideas.

anatomy, animal and human physiology. In this vast picture, Régis relates the views of his contemporaries, takes a stance in relation to them, and sometimes polemicizes with those with which he disagrees. In writing to Leibniz on 30 May 1691, Simon Foucher had immediately grasped this aspect:

Vous sçavez, comme je pense, que Mr Regis a donné au public un grand systeme de philosophie en in quarto avec plusieurs figures. Cet ouvrage renferme plusieurs traitez de plus considérables comme de la percussion de Mr Mariotte, de la chymie de Mr l'Eméri, de la medecine de Mr Vieuxsang et de Mr du Vernai. Il y parle mesme de mon traité des Hygrometres quoy qu'il ne me nomme pas. La Physique de Mr Rohault y a bonne part, il y refute le P. de Malbranche, Mr Perraut, Mr Varignon; le 1er touchant les idées, le 2e touchant la pesanteur, et le 3e, lequel a esté nouvellement receu de l'Academie royale des Sciences touchant la pesanteur aussi. Les Metheores du Pere l'Ami font encor une partie des ornements de cet ouvrage et le reste est de Mr Descartes. Ce n'est pas que Mr Regis ne se soit conduit assez adroitement dans son systeme surtout dans sa morale (Foucher to Leibniz, 30 May 1691, A II/2, 421–22).⁶

This passage merits some commentary. While having polemicized with Malebranche some time before, Foucher is not interested in Régis's theory of ideas nor his metaphysics: apart from a very quick reference to morals, all his attention is focused on the *Physique*. He recognizes the composite nature of this work: without saying so explicitly, the long list of sources enumerated by Foucher testifies to Régis's lack of originality. This, however, is not something for which Foucher believes Régis should be reprimanded: on the one hand, Régis very often acknowledges his debts by explicitly referring to the authors whose theories and observations he borrows; on the other, the *Système* does not aim to bring new knowledge, but to organize in a different way what is already known. It is again a letter, sent by Jean Robert Chouet to Pierre Bayle, which attests that Régis's contemporaries had perfectly understood what was his purpose:

Le cours de Mr Regis, dont vous me parliés, Monsieur, est assurément un bon ouvrage, et Mr Leers, à mon avis, n'y perdra rien; car, encore que ce qu'il y a de nouveau ne soit pas grand-chose; cependant, comme c'est un cours complet, et qui est escrit avec beaucoup de netteté, il sera recherché (Chouet to Bayle, 25 August 1684, Bayle 1999–2019, vol. 5, 52).

According to an aim that is very clearly indicated in the preface to the *Système*, Régis acknowledges that his goal is not to make discoveries, but “d'établir un Système par lequel on peut expliquer uniformément celles qui sont déjà découvertes.” Nevertheless, this systematization allows him to give new definitions: those he quotes are related either to metaphysics (spirit, soul, understanding, will) or to physics (movement, rest, quantity, prime matter). For him, the singularity of his book, compared to other expositions of Descartes's philosophy,

⁶ On Régis's sources, see also Mouy 1934, 147–66.

resided in the fact that the *Système* treats all philosophical disciplines and exposes them in such a way as to join together principles and consequences in a coherent whole:

Ceux qui n'ont fait que des traités séparés de Logique, de Métaphysique, ou de Morale, n'ont rien donné de plus complet; il n'y a que ceux qui ont rassemblé en un seul corps toutes les parties de la Philosophie, qui aient tenté le même dessein que moi: Mais si l'on considère bien leurs ouvrages, on y trouvera si peu de rapport entre les parties de ce corps qu'ils ont essayé de composer, que sans leur faire tort on peut dire que cet assemblage ne donne point l'idée parfaite d'un tout bien régulier; car il ne suffit pas pour faire un corps naturel, de joindre plusieurs parties ensemble, il faut aussi que ces parties aient de certains rapports entre elles, sans lesquels elles ne produisent qu'un corps difforme et monstrueux (Régis 1691, vol. 1, *Préface*, unpaginated).

Régis's aims are twofold. First, he wants to treat all the parts of philosophy and secondly, he wants to build a coherent and orderly whole. To treat all the parts of philosophy he must take up the same challenge as confronted the other Cartesians who intended to write a complete course of philosophy: he must integrate a logic into the tree of knowledge described by the *Lettre préface* to the *Principes* (which includes metaphysics, physics, and the products of these sciences—namely, mechanics, medicine and morals); he must also develop the parts of the Cartesian tree that Descartes himself had never written (Ariew 2014). The *Système* thus contains a *Logique*, a *Métaphysique*, a *Physique*, and a *Morale*. This general design is very close to that of Du Roure's *La philosophie divisée en toute ses parties* (1654); the use of Hobbes's *De cive* (1642) in the section devoted to morals is another common thread between the *Système* and Du Roure.

Concerning the second aim—the building of a coherent order—, Régis is very critical of his contemporaries, as the previous quotation shows. The order that Régis intends to follow is determined by the application of analysis: he begins with what is best known to us—namely, ourselves. Having devoted a few pages of his *Système* to a summary of the *Art de penser* (Milani 2012), Régis exposes Descartes's metaphysics; his close following of the analytic principle with which he begins provides us with the definition of the body and allows us to move on to physics. The *Physique* ends with the study of the passions and the faculties of the soul, allowing Régis to move on to morals; that is to say, the roles of the above-mentioned faculties in the free choice of good and evil:

Ainsi la Morale suppose la Physique; la Physique suppose la Métaphysique; et la Métaphysique la Logique: et par ce moyen toutes les parties de la Philosophie ont un tel rapport, et une telle liaison ensemble, que j'ai cru que le tout qui résulte de leur assemblage, pouvait justement être appelé le *Système général de la Philosophie* (Régis 1691, vol. 1, *Préface*, unpaginated).

The absence of a right connection between the parts has unfortunate consequences not only for the general structure of the textbooks, but also for their

specific content. Metaphysics is an assemblage of abstract notions; morals is a logic or a disguised metaphysics; physics consists of experiences piled up one on top of the other, lacking coherent explanations insofar as it involves the use of the most disparate hypotheses:

En effet, on ne voit dans les Traités de Physique qu'expériences entassées les unes sur les autres, avec des explications qu'on ne peut réduire aux mêmes principes, parce qu'elles sont fondées sur des hypothèses qui n'ont, aucune analogie entre elles. On ne trouve dans la Métaphysique que des notions abstraites des substances corporelles, et des substances intelligentes. Enfin on ne rencontre dans la Morale que des questions de Logique, ou des maximes de Métaphysique, qui n'ont aucun rapport avec la connaissance des devoirs de l'homme, qui est pourtant le vrai objet de la Morale (Régis 1691, vol. 1, *Préface*, unpaginated).

2. System and Hypotheses: Régis and Perrault

When, in the *Préface* to the *Système*, Régis contrasts his approach with that of some of his contemporaries who overload their books with a “multitude confuse de propositions peu liées et mal suivies,” he is not referring to his Peripatetic opponents, but to a famous member of the Académie des Sciences, Claude Perrault. Perrault is the author of the *Essais de physique*, published in 1680. In the *Préface* to that work, the author distinguishes between the philosophical and the historical parts of physics (Perrault 1680, vol. 1, *Préface*, unpaginated). The first one looks for causes, and formulates hypotheses but results in probabilities. The second accumulates experiences and its conclusions are provisional, since they can be falsified by other experiences. In both cases, the research can only be endless: the hypotheses of the first are indeed probable, and the facts of the second do not eliminate the doubts. The purpose of physics is thus the search for novelties and the formulation of explanations that we know to be very provisional. However, one should not completely give up the search for causes: Perrault distances himself from other physicists who have an even more empirical attitude than he does. We can therefore freely put forward hypotheses and make use of all possible systems, without taking a definitive position in favor of one or the other: assembling into a single system the hypotheses made to explain our experiences is beyond our understanding. Our knowledge is indeed finite and imprecise, whereas the world is the product of an infinite wisdom: to choose this or that system, while discarding the others, would be tantamount to trying to determine the *modus operandi* of God.

The partitions that we find in the *Avertissement* at the beginning of Régis's *Physique* are very close to those of Perrault. Régis sketches an opposition between the Ancients, who looked for the causes of phenomena whilst neglecting the facts, and the Moderns, who “font consister toute la Physique dans la découverte de nouveaux faits” (Régis 1691, vol. 1, 275–76). He speaks about speculative physics and practical physics. Régis does not reject Perrault's probabilism: he clearly distinguishes between mathematical demonstrations and physical explanations

(Régis 1691, vol. 1, 275). Mathematics studies mathematical bodies. It can infer the properties of these bodies from definitions and its demonstrations are absolutely certain. Speculative physics studies physical bodies, whose parts are insensible. It does not use a deductive process but guesses the causes from the effects. It does not develop demonstrations. Its explanations are only probable. We can measure the distance between Régis and Descartes by comparing the *Système* with a letter to Mersenne: Descartes undoubtedly acknowledges that there is a difference between the mathematical and physical demonstrations, but argues in favor of their being equally demonstrative. The strength of physical demonstrations is threefold: the principles of physics have been demonstrated at the metaphysical level, they are not contrary to experiences, and they are logically correct in their construction:

Vous demandez si je tiens que ce que j'ai écrit de la réfraction soit démonstration; et je crois que oui, au moins autant qu'il est possible d'en donner en cette matière, sans avoir auparavant démontré les principes de la Physique par la Métaphysique (ce que j'espère faire quelque jour, mais qui ne l'a point été par ci-devant), et autant qu'aucune autre question de Mécanique, ou d'Optique, ou d'Astronomie, ou autre matière qui ne soit point purement Géométrique ou Arithmétique, ait jamais été démontrée. Mais d'exiger de moi des démonstrations Géométriques en une matière qui dépend de la Physique, c'est vouloir que je fasse des choses impossibles. [...] Car on se contente, en telles matières, que les Auteurs, ayant présupposé certaines choses qui ne sont point manifestement contraires à l'expérience, aient au reste parlé conséquemment et sans faire de Paralogisme, encore même que leurs suppositions ne fussent pas exactement vraies (Descartes to Mersenne, 27 May 1638, AT 2, 141–42).

Régis outlines a virtuous circle between practical and speculative physics: practical physics accumulates experience allowing us to know effects. Speculative physics puts forward hypotheses that amount to explaining phenomena by a suitable arrangement of the parts of matter. It then brings these hypotheses back to the first truths. If these two steps are taken correctly, we can conclude that the hypotheses are proven and that we have explained the effects.⁷

However, in some situations, several hypotheses can explain a single phenomenon. When we have various explanations of the same experiences, equivalent in their capacity to give reasons for all their aspects, the choice of the best explanation can be arrived at by several different approaches. The first is to choose the supposition conforming to the laws of nature that have been previously stated. We have a concrete example of this approach in the *Système*: reference to the laws of nature allows Régis to discard the hypothesis that mus-

⁷ Desmond Clarke proposed a very insightful analysis of the Cartesian use of hypotheses/conjectures: Clarke 1989, 131–63; I would just like to add that Régis's probabilism concerns physics in general, not just explanations of phenomena that result from the action of parts that are beyond the senses.

cular contractions depend on fermentation alone or that the movements of our limbs are caused by the mere change of figure of the muscles, without the help of any additional matter in their fibres (Régis 1691, vol. 2, 505).

Alongside this criterion of choice, however, there are others: on some occasions, faith tells us that a hypothesis is to be rejected, at least until there is no experimental evidence to the contrary; in other cases simplicity decides between two otherwise equivalent hypotheses. Régis uses the first criterion in the case of the soul of animals: the existence of a soul different from the body but which is unable to exist without its body and which is therefore mortal is rejected as unreasonable. Between the Cartesian mechanism and the hypothesis that animals are endowed with a soul different from the body and capable of existing after death, it is faith that tells us that we must side with Descartes (Régis 1691, vol. 2, 506 and 630–32). It is only simplicity, by contrast, which allows us to decide between two different types of preformism, to reject the supposition that germs are scattered everywhere in nature, and to embrace the view that they are present in females (Régis 1691, vol. 2, 537–39 and 641).

Régis's epistemology is becoming clearer. Logic, metaphysics, and morals are domains where there is no place for suppositions and hypotheses. Physics, on the other hand, is different: physics uses suppositions and hypotheses, thus being a discipline where probability reigns, in contrast to the demonstrative rigor of mathematics. However, the use of hypotheses is subject to precise rules: they must compose a coherent whole, which means that they must be derived from first principles or at least be compatible with them:

Je n'ai rien supposé dans la Logique, dans la Métaphysique, ni dans la Morale; et si j'ai fait quelques suppositions dans la Physique, ce n'a été que pour expliquer ce qu'elle a de plus problématique, avec cette précaution, que les suppositions que j'y ai faites, dépendent absolument des lois générales de la nature, ou au moins, n'y sont pas contraires (Régis 1691, vol. 1, *Préface*, unpaginated).

There is no qualitative difference between hypothesis and system but a quantitative difference, the system being a set of hypotheses:

Il n'y a de la différence entre Système et Hypothèse ou supposition, qu'en ce que l'Hypothèse est un Système plus particulier, et le Système est une Hypothèse plus générale, ou pour mieux dire, le Système n'est qu'un composé de plusieurs Hypothèses (Régis 1690, vol. 1, *Dictionnaire des termes propres à la philosophie*, entry "Système," unpaginated).

Hence, Perrault and Régis share the idea that physics is divided into two different branches, one more theoretical and the other more related to the simple observation of phenomena; they also agree that both should be cultivated, without privileging only one; they describe physics as a probable knowledge formulating hypotheses allowing for the explanation of phenomena. Their dispute exclusively concerns the possibility or impossibility of reducing the hypotheses to a coherent whole, connecting them to primary truths. This contrast is very clear if we compare their statements:

Il y a encore une autre chose qui fait que je ne sçauois estre de l'opinion de la plus grande partie des Philosophes qui veulent que dans la Physique on s'attache à un seul systeme: car puisque il ne nous est pas possible de trouver le veritable, et que le plus vrai-semblable ne sçauoit jamais estre assez pour éclaircir toutes les difficultez d'une matiere si difficile, ma pensée est qu'il le faut recevoir tous; afin que ce que l'un ne sçauoit faire entendre, l'autre le puisse expliquer [...] (Perrault 1680, vol. 1, *Préface*, unpaginated).

Comme la nature agit toujours par les voies les plus simples, nous sommes persuadés que son action ne saurait être expliquée que par un seul système. Le système est donc un ensemble d'hypothèses liées les unes aux autres, capable de mettre en relation les effets et leurs causes, les phénomènes et les premières vérités. Expliquer les effets produits par un corps particulier revient donc à avancer des hypothèses portant sur la taille, la figure, l'arrangement des parties qui composent ce corps et qui sont capables de produire cet effet. Ce qui ne saurait convenir aux hypothèses purement arbitraires, telles que sont celles de la plupart des Philosophes modernes (Régis 1691, vol. 1, 275–76).

But what exactly are the primary truths that lie at the top of Régis's physics? He enumerates these in the *Avertissement* of his *Physique*:

Qu'il y a une nature corporelle qui existe; que cette nature considérée selon quelque grandeur, prend le nom de quantité; que la quantité est divisible par sa nature; que le mouvement local se fait suivant quelques règles; que selon ces règles les parties de la quantité reçoivent certaines figures; que selon ces différentes figures les corps physiques qui sont composés de ces parties sont capables de produire différents effets (Régis 1691, vol. 1, 276–77).

The criticisms addressed to Perrault, under a purely epistemological aspect, hide a background of a metaphysical nature: the truths allowing the construction of a system are indeed those that are at the basis of the Cartesian mechanism. For Régis, indeed, the idea of body includes both extent and existence, as he showed in his metaphysics (Régis 1691, vol. 1, 74–6).⁸

3. Experience: Probable or Certain?

The connections between Régis's *Système* and Rohault's *Traité de physique* are deserving of an extensive and thorough study. I will limit myself here to some surveys concerning probabilism in physics and the role of experience.

If we look at the declarations of principle, we see that there are two important respects in which Rohault's *Traité* differs from the *Système*. The first concerns the use of mathematics; the second, that of experience. Rohault's *Préface* contains

⁸ Régis's physics is founded on metaphysics; in this regard, he is much nearer to Descartes than to Rohault, as Schmaltz argued: Schmaltz 2017, 300–6.

a defense of the usefulness of mathematics in physics and a classification of the uses of experiences and experiments in physics, which either have no equivalent in the *Système*, or are opposed to explicit statements by Régis. While admitting that mathematics is useful, Régis indeed argues—in his *Préface*—that a scientist can be a good physicist without being a good geometer and he emphasizes the difference between the two disciplines. As we have just seen, mathematics is made up of necessary demonstrations, physics only of probabilities; physics is satisfied with comparing the magnitudes of physical phenomena, mathematics claims “aussi connaître avec évidence les rapports exacts qui sont entre elles, ou de combien précisément elles sont plus grandes; ce qui ne regarde en rien la Physique.” The distinction introduced by Régis between physics and mathematics is consistent with his classification of knowledge and his methodology, but it diverges for sure from the scientific approach of Rohault, whose mathematical skills have recently been highlighted.⁹

Regarding experiences and experiments, and their use, Régis does not devote specific attention to this subject. He limits himself to reminding us of the invitation to join reasoning and experience, placed at the beginning of the *Traité*. Rohault, by contrast, distinguishes between three kinds of experiences. The first is the simple use of the senses; the second consists in making experiments that are not guided by a scientific hypothesis, but merely by trial and error; the third, however, serves to test a conjecture, by trying to find a necessary consequence of our suppositions on the nature of a phenomenon (Rohault 1671, *Préface*, unpaginated).¹⁰ The absence of a specific discussion of experiments does not imply a disagreement with Rohault regarding the relationship between experiments and hypothesis: they both affirm that suppositions must show how the mechanical structure of matter can explain phenomena.¹¹ This structure must respect the properties of matter—as attributed by Descartes—size, figure, arrangement of insensible parts. What is astonishing is Régis’s ability to integrate into such a theoretical framework the results achieved by scientists who often had a very different philosophical and epistemological orientation: this is the case for Edme Mariotte, who could hardly be classified as Cartesian, and for Nicolas Lemery.

Another element of continuity between Rohault and Régis is the fact that they share some rules allowing us to choose between different scientific hypotheses: like Régis, Rohault states that he prefers simple explanations (Rohault 1671, vol. 1, 21–2). What seems, however, to be a characteristic particular to Régis is his insistence on conformity to the laws of nature and the systematic coherence of hypotheses. There is agreement on the rejection of experience as

⁹ On the usage of mathematics in Rohault’s *Traité* see Dobre 2020.

¹⁰ Several authors have stressed the experimental character of Rohault’s physics, which differs from the deductive approach of Descartes: McClaughlin 1996; McClaughlin 2003; Des Chene 2002, 194–95; Dobre 2013, 209–15; Dobre 2019; Spink 2018. By contrast, Sophie Roux and Schmaltz do not see profound differences between Descartes and Rohault on the use of experiments (Roux 2013; Schmaltz 2017, 294–300).

¹¹ On the use of experiences among Cartesian scientists, see Clarke 1989, 201–12.

the definitive or even sole criterion for preferring one hypothesis over another, with exceptions to the rule stating that hypotheses must explain all known effects. Rohault, for example, explicitly affirms that one should not abandon a well-established hypothesis because it cannot explain a newly known property of a body. The match between the old hypothesis and the new property indeed could be found later, as happened with the telescopic observations that eliminated a difficulty in the Copernican hypothesis concerning the apparent size of Venus (Rohault 1671, vol. 1, 22).

Similarly, in Régis we find a very clear defense of the hypotheses against the observational data when we can identify another perceptible element that can play the same role as the element that has been discarded by the experience. Let me explain by way of an example: Régis is acquainted with the latest developments in anatomical knowledge, especially those discoveries concerning the brain. He is aware of Thomas Willis's work and he uses the *Neurographia universalis* (1684) of Raymond Vieussens, whom he had met in Toulouse. He no longer identifies the pineal gland as the unifying center of psychological activity and as the seat of the soul. All the functions of imagination, memory, and also the cerebral transcription of the activities of understanding and reason are located in the oval center.¹² What matters, in his opinion, is not the anatomical or physiological detail, but the function that this detail assumed: if this function is preserved, the detail can change without too many problems. The rejection of such an important explanation, in the name of agreement with the evolution of our anatomical and physiological knowledge, does not imply the rejection of the general hypothesis trying to explain by neurophysiology our intellectual functions: it is enough to find a new and more efficient center of cerebral activity. This is the reason why Régis can declare that the hypotheses put forward by Descartes are still valid and why he can still consider himself Descartes's heir while abandoning his master on matters that he deems to be of minor importance. Thus, he can assert that: "tout ce que j'ai dit, [doit] être attribué à *Monsieur Descartes*, dont j'ai suivi la Méthode et les Principes dans les explications mêmes qui sont différentes des siennes" (Régis 1691, vol. 1, *Préface*, unpaginated).

Crossing the Channel, we find some unexpected similarities. Peter Anstey detected the presence of a constant opposition between experimental and speculative natural philosophy in English philosophy in the second half of the seventeenth century (Anstey 2005). While the terminology varies from one author to the next, experimental natural philosophy is fairly consistently understood to pertain to experiments whereas speculative physics is linked to hypotheses constructed from experiments. Perhaps the strongest parallel to the categorization we encountered in Perrault and Régis can be found in Robert Boyle: in the *Proemial Essay* (1657) of his *Certain Physiological Essays*, the practical part of physics is based on experiments while the speculative philosopher seeks the

¹² On this specific topic, see Schmaltz forthcoming; see also Del Prete 2019, 376–77; Del Prete 2023.

causes of phenomena. These two activities must work together to build a sound natural philosophy:

I shall [...] do what is requisite to commend Experimental Learning to you, if I be so happy as to make it out, that Experiments considered in the Lump, or one with another, may very much assist the speculative Phylosopher, that is sollicitous about the causes and reasons of Naturall things; and that the speculative Phylosopher so assisted, may (on the other side) very much improve the Practical part of Physick. And consequently, that both of them may very happily conspire to the Establishing & Advancement of a Solid usefull Naturall Philosophy (Boyle 1999–2000, vol. 2, 23–5).

Hypotheses are not explicitly mentioned in this text: conversely, we can find them a few years later in Samuel Parker's *A Free and Impartial Censure of the Platonick Philosophie* (1666). Here the distinction between experiments and hypotheses becomes an opposition between certainty and uncertainty, a dichotomy also confirmed by the subdivisions of the *Physiologie*: the history of nature, which is based on observations and experiments, is certain and exact; hypotheses are doubtful, uncertain, and probable (Parker 1666, 45–6). However, the uncertainty of the hypothesis does not imply that it should be avoided altogether. Only a few decades later, in texts such as William Wotton's *Reflections upon Ancient and Modern Learning* (1694), do we find a clear-cut condemnation of the use of hypotheses, and we move from a twofold to a threefold partition: the faithful and neat experiments; the theories, i.e., the consequences, immediate results, or manifest corollaries of the experiments; and the hypotheses, now reduced to chimeras:

I do not here reckon the several *Hypotheses of Des Cartes, Gassendi, or Hobbes*, as Acquisitions to real Knowledge, since they may only be Chimæra's and amusing Notions, fit to entertain working Heads. I only alledge such Doctrines as are raised upon faithful Experiments, and nice Observations; and such Consequences as are the immediate Results of, and manifest Corollaries drawn from, these Experiments and Observations: Which is what is commonly meant by *Theories* (Wotton 1694, 244).

It should be noted that in the latter text the fanciful hypotheses are no longer those elaborated by the Ancients, but those found in some modern philosophers who share the same condemnation beyond the albeit lively controversies that have opposed them: Descartes, Gassendi, and Hobbes. Anstey interprets this growing hostility to hypotheses as the effect of the shift from an era in which the main polemical target was peripatetic philosophy, to one in which the enemies instead became some seventeenth-century philosophers perceived as heralding materialism. The result is to hold experimental natural philosophy as entirely certain: this choice contrasts sharply with the conjectural nature of science supported by Perrault and Régis, who never claimed observations and experiments to be something capable of providing us with indubitable and certain knowledge.

We can therefore draw three conclusions. First, the contrasts that traverse French science and oppose more pro-Gassendist philosophers and Cartesian

philosophers are not so much about the use of experiments and adherence to a more or less abstractly deductive model of science, but about whether or not observational data can be traced back to hypotheses that can constitute a coherent system. Secondly, Anstey's article allows us to detect a significant similarity between Boyle's position and the views expressed by Perrault and, to some extent, also by Régis: Perrault's and Régis's partitions of physics are quite similar to Boyle's definition of experimental and speculative natural philosophy; they all share the claim that we must aspire to a wise use of hypotheses.¹³ This similarity, however, disappears if we look at the English intellectual debate in the following decades: in fact, an accentuation of the absolutely certain character of experiences prevails alongside a strong condemnation of hypotheses, in open polemic not only with Descartes, but also Gassendi and Hobbes. Lastly, French science, even in its Cartesian version, is much more probabilistic than English experimental philosophy, which is very confident in the certainty of observations and experiments: Gassendi's legacy seems active and powerful not only in the early Académie des Sciences and in the work of its renowned member, Claude Perrault, but also in the work of Pierre-Sylvain Régis.

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¹³ Dmitri Levitin has convincingly argued that seventeenth-century French science is definitely experimental and that this character results from multiple influences, among which Francis Bacon's philosophy is not the most decisive: Levitin 2005. See also Roux 2013, 85; Sturdy 1995, 23–4, 124–25, and 157.

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Consciousness without Existence: Descartes, Severino and the Interpretation of Experience

Andrea Sangiacomo

Abstract: Consciousness is connected with the fact that a subject is aware and open to the manifestation of whatever appears. Existence, by contrast, is used to express the fact that something is given in experience, is present, or is real. Usually, the two notions are taken to be somehow related. This chapter suggests that existence is at best introduced as a metaphysical (or meta-experiential) concept that inevitably escapes the domain of conscious experience. In order to illustrate this claim, two case studies are considered. The first case is provided by Descartes's famous treatment of consciousness and existence in his *Meditations on First Philosophy*. The second case is meant to contrast the Cartesian approach by taking the opposite route, as delineated by Emanuele Severino (1929–2020) in his “fundamental ontology.”

Keywords: René Descartes, Emanuele Severino, consciousness, existence.

Aññathābhāvi bhavasatto loko,
Bhavapareto bhavamevābhinandati;
Yadabhinandati taṃ bhayaṃ,
Yassa bhāyati taṃ dukkhaṃ;
Bhavavippahānāya kho,
Panidaṃ brahmacariyaṃ vussati.

From one existence to another, the
world is attached to existence,
oppressed by existence, and yet it seeks delight in existence.

For one who seeks delight, there is fear,
for one who fears, there is suffering.
It is indeed for abandoning existence,
that this holy life is lived.

Udāna 3.10

τὸ γὰρ αὐτὸ νοεῖν ἐστίν τε καὶ εἶναι.
Indeed, knowing and being are the same.
Parmenides, Fragment 5

1. Consciousness and Existence

Consciousness or awareness (taken here as synonyms) is usually connected with the ability to experiencing reality, or with the fact that a subject is aware and

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Referee List (DOI 10.36253/fup_referee_list)

FUP Best Practice in Scholarly Publishing (DOI 10.36253/fup_best_practice)

Andrea Sangiacomo, *Consciousness without Existence: Descartes, Severino and the Interpretation of Experience*, © Author(s), CC BY 4.0, DOI 10.36253/979-12-215-0169-8.10, in Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, pp. 169-198, 2023, published by Firenze University Press, ISBN 979-12-215-0169-8, DOI 10.36253/979-12-215-0169-8

open to the manifestation or “appearing”¹ of some content of experience. Existence, by contrast, is usually taken as a more objective notion, which is used to express the fact that something is given in experience, is present, or is real. Usually, the two notions are taken to be somehow related. If one takes consciousness as the starting point, then the problem becomes that of assessing whether, and to what extent, consciousness gives access to something that exists in its own right, independently of consciousness itself, and hence in the “external world.” If one takes existence as the starting point instead, then the issue is how to account for the role of consciousness in the conceptualization of existence, or whether and to what extent existence can be understood as independent from any form of consciousness. When consciousness is taken to have some sort of primacy over existence, the resulting philosophical position is a variety of idealism, while if it is existence that takes over, the result is a variety of realism.

In order to illustrate the way in which consciousness and existence can be related to one another, this chapter considers two case studies. The first case is provided by Descartes’s famous treatment of consciousness and existence in his *Meditations on First Philosophy*. Descartes’s case exemplifies a way in which, by taking conscious experience as one’s starting point, existence is eventually posited as a necessary inference, which points to both a ground of experience and yet reveals how this ground does not (and cannot) itself appear within that same experience. In this way, existence can be understood as “consciousness-independency” or as the way in which contents of consciousness can also have a form reality beyond and outside of conscious experience. Descartes’s discussion is relevant because it both attempts to define existence as “consciousness-independency” and shows that such a notion must fall entirely outside the scope of experience.

The second case is meant to contrast the Cartesian approach by taking the opposite route, as delineated by Emanuele Severino (1929–2020) in his “fundamental ontology,” which he conceived as an ontological discussion that can capture the structure of all reality.² Severino’s case provides a particularly inter-

¹ This less colloquial expression will be used in the remainder of this chapter in order to stress that whatever appears is not just a mere “appearance” (in the sense of being a “semblance,” somehow different from a more fundamental reality). The act of being manifest in experience is itself an act of “appearing” insofar as the reality of whatever is manifesting is fully expressed in its coming to manifestation (or by its becoming a *phenomenon*).

² Severino was a disciple of Gustavo Bontadini (1903–1990), who taught at the Catholic University in Milan and was a relevant voice of Italian neo-scholasticism. Severino himself began his academic career as a professor at the Catholic University. However, in 1970, the Congregation for the Doctrine of the Faith established that Severino’s thesis that all beings are eternal (as already clearly expressed in some of Severino’s fundamental publications, like his paper “Ritornare a Parmenide” published in 1964 in the *Rivista di Filosofia Neoscolastica*, now in Severino 2016, 35–83), was incompatible with Christianity and the belief in a creator God. As a result, Severino had to leave the Catholic University. Despite this abrupt separation, Severino never ceased to reflect on notions, categories and themes derived from Christian theology, as exemplified in his reinvention of concepts like “Glory” (see Severino 2001) or his rethinking of a sort of eschatology in one of his last books (Severino 2011).

esting contrast to Descartes's discussion, since it is deliberately aimed at taking the notion of existence as the most fundamental one, even more fundamental than the notion of consciousness itself. In other words, Severino takes as its starting point the opposite of Descartes's subjectivist turn. In Severino's account, existence is defined as "non-contradictoriness" and it is seemingly released by any further reference to consciousness. In fact, (subjective, empirical) consciousness itself is treated as an entity among others, without any special status. Conceiving of existence as "non-contradictoriness" means that the sky, the buildings, the people, the trees, and even the consciousness that is aware of them all share the same property of not being a sheer nothingness. Hence, they all exist in this fundamental sense in the same way; all the remaining differences are just differences in *how* existing things exist.

To accomplish this move, Severino replaces the notion of consciousness with a notion of "appearing" (Italian *apparire*), which expresses the fact that there is some content of experience immediately and phenomenally available in the first place. The way in which existence and appearing are related is at the core of Severino's reflection. This reveals that his account, *mutatis mutandis*, is another way of reconceiving the connection between "consciousness" and "existence" in different terms, while avoiding Descartes's subjectivist stance and the problems that come with it. As it will become apparent, however, Severino encounters problems as well. In order to give full coherence to his account, he is forced to admit that the structure of existence is ultimately incapable of properly appearing within conscious experience, even when conscious experience is precisely about it (such as in the case of Severino's own attempt of theorizing the fundamental structure of reality).

Taken together, Descartes and Severino's positions describe two extremes of a potentially more complex spectrum of possible ways of conceiving of the relation between consciousness and existence. However, despite their differences, they uncover similar problems connected with how the two notions are supposed to work together. By reflecting on the issues that emerge from this comparison, it can be surmised that the notion of existence is parasitic over that of consciousness, in the sense that existence is at best introduced as a metaphysical (or meta-experiential) concept that inevitably escapes the domain of conscious experience. But since experience is by definition accessible and available only through consciousness, existence should be either deflated to anything that is given in consciousness, or it remains something entirely ungraspable. While this claim might have an idealist ring to it, it does not assert that existence *is* the fact that a certain content is given in consciousness, or that the being or reality of any entity depends on consciousness only. Rather, it asserts that the very conceptualization of existence as something above and beyond conscious experience is experientially unwarranted and conceptually problematic. The suggestion is that experience can be meaningfully analyzed and conceptualized by relying on the notion of consciousness alone, without any further need to connect it with existence. While existence without consciousness is problematic, consciousness without existence is not.

2. Descartes's Account of Consciousness and Existence

Descartes is one of the first who introduced an epistemic notion of consciousness into the Western philosophical debate. Stressing this historical circumstance is important to realize that the philosophical history of consciousness is not that long, after all. Before Descartes the term “consciousness” and its cognates had predominantly a moral meaning, referring to the “inner forum” within which one would be aware of good and evil, sin and responsibility, and so forth.³ In order to carry out his plan of reforming sciences and philosophy, Descartes began to play with a different notion of consciousness, which he used to capture a form of self-transparency through which a thinking subject can be immediately aware and perceive its own thoughts. On this basis, Descartes discusses “existence” as “consciousness-independency” in order to reach out for some sort of reality that is different from the thinking subject itself. There is a subtle play of concepts here: the two notions are clearly dependent on one another, and yet the *meaning* of existence is ultimately taken to refer to something that is *ontologically independent* from consciousness itself. This notion of existence entails, for instance, that there are things that exist in their own way, outside of “my” consciousness of them.⁴

According to Descartes, experience can be analyzed using the following five-fold structure (which will be unpacked in the following discussion):

[Because of God]⁰ [I am]¹
 [conscious of]² [an idea about]³ [an object]⁴
 [that exists in the world]⁵

Each of the five elements singled out here can be more or less problematic. In the *Meditations* (as spelled out below), the core of this structure is constituted by elements 2-3-4: consciousness of ideas about objects. Descartes's phrasing usually employs *thought* as more fundamental than consciousness, but this is more a terminological than a conceptual issue. Any thought, in order to be available to the subject and be part of experience, needs to be a conscious thought, and thought without consciousness would not be accessible even to the thinking subject.⁵ The notion of consciousness is thus used to express the fact that

³ For an historical sketch of the emergence of this notion in early modern Western philosophy, see Thiel 2011; Jorgensen 2020.

⁴ From a more historical point of view, Descartes's account has been subject to endless criticisms. It might seem that Descartes simply introduces the notion of consciousness without providing a full-blown analysis of it. This might be misleading, see discussion in Simmons 2012.

⁵ See Descartes's *Second Replies*: “*Thought*. I use this term to include everything that is within us in such a way that we are immediately aware [*conscii*] of it. Thus, all the operations of the will, the intellect, the imagination and the senses are thoughts. I say ‘immediately’ so as to exclude the consequences of thoughts; a voluntary movement, for example, originates in a thought” (AT 7, 160; CSM 2, 113). In this passage, Descartes claims that *thought* is actually whatever is present in a thinking thing (a mind) as something of which that thing is conscious.

there is some experience, manifestation, appearing of something. This entails that there cannot be any experience without consciousness. All experience is conscious experience.

The implication of this remark is momentous: whatever is experienced is only (and could only) be experienced as a content of consciousness. It is impossible to “meet” an object “face-to-face” in a completely immediate and direct way. All that is experienced is experienced in consciousness; hence, all that is experienced are contents of consciousness. The very notion of “object” ends up signifying primarily “content of consciousness.” Descartes then speaks of “ideas” in order to stress this fact.⁶ We do not see tables, hear music or touch water. Rather, we are conscious of ideas about tables, music and water. In this way, Descartes introduces what can be called “the veil of representation,” which is nothing but those ideas through which we can be aware of contents of experience. In fact, ideas *are* the only content of experience, since all that can be experienced is experienced in consciousness, and contents of consciousness are ideas.⁷

Ideas themselves are “representative beings,” they are like portraits or pictures that represent certain qualities, characteristics or other features of certain objects. Ideas are *about* something and they refer to this content as their object. The idea of me hearing music is different from the idea of me touching water. Because the contents of these ideas are different, these ideas represent (or have) different objects. Hence, not only is consciousness *about* ideas (consciousness is consciousness of ideas), but also ideas are *about* objects (ideas are ideas of certain objects). This *about*-ness is a way of expressing the fact that both consciousness and ideas are *intentional* entities. Intentionality here can be understood in the broadest sense of being the quality of pointing at something, or rather being able to discriminate between *this* and *that*, having a determinate content (“determinate” means that *this* is not *that*, or that there is a difference that makes *this* appearing as not-*that*). The Cartesian structure entails that intentionality shapes both consciousness and ideas, or that both these elements are based on the same intentional structure (they are “about something”).

Since ideas are based on consciousness and depend on it (just as anything else), Descartes considers them as “modes,” namely, as ways in which the activity of consciousness unfolds, and which in themselves depend on consciousness to be and be conceived. Hence, there is an ontological hierarchy between consciousness and ideas: there is no free-floating idea that is not underpinned by consciousness. Since ideas are themselves objects of consciousness, the fact that they are experienced presupposes that there is a consciousness that experiences them. However, consciousness itself is a phenomenon that is *somehow*

⁶ Cf. Descartes’s *Second Replies*: “*Idea*. I understand the term to mean the form of any given thought, immediate perception of which makes me aware [*consciuis*] of the thought” (AT 7, 160; CSM 2, 113).

⁷ For further historical exploration of this notion of a “veil of representation,” see Nadler 1989; Adriaenssen 2017.

manifest (if it was absolutely unmanifest, no experience could be manifest at all, which does not seem to be the case); but consciousness as such cannot be an idea, nor be manifest as an idea, since consciousness is needed in the first place in order to have the experience of any idea at all. When one is conscious of a certain idea, one is conscious of *both* that idea and of the fact of being conscious of it. Hence, consciousness is manifest in experience, but not as the content of a particular idea; rather, consciousness is manifest as what allows any idea to be experienced. But if consciousness as such is radically different from any of its contents (ideas), then is consciousness even graspable at all? Anything we can say *about* consciousness will inevitably constitute an *idea* of consciousness, and hence something different from consciousness as such. But if we cannot experience consciousness through ideas, then how do we experience it?

Descartes's solution is well known: *I am* that consciousness that is aware of ideas. The fact that there are ideas entails that there is consciousness, and the fact that there is consciousness entails that *I am* that consciousness. This first-person phrasing means that there is an immediate access of the subject ("me") to its own consciousness, and this direct access is what accounts for the experience of consciousness that the subject has. In the Cartesian scheme, any experience of consciousness as such can only be the experience of a certain subject who is conscious of their own consciousness.

With his famous *Cogito, sum* Descartes introduces a further dimension in his account of the structure of experience: *existence*. The subject of consciousness is supposed to express the fact that consciousness itself is a manifest phenomenon, while at the same time preserving the intuition that consciousness is more fundamental than any idea, and hence it cannot be itself an idea (regardless of how many ideas *about* consciousness one can form). Existence ("I am") is thus a way of grounding consciousness into something else and more fundamental, which can in turn account for the fact that consciousness is present and manifests in the way in which it does (*sui generis*, namely, not through an idea of consciousness). While all contents of experience are available *in* consciousness, consciousness itself is available because *I exist* and *I am* (or *I have*) that consciousness.⁸

⁸ By contrast, according to Christofidou 2022, Descartes's *Cogito* does not introduce or demonstrate the existence of the subject. Rather, by taking it for granted, it is aimed at proving its *indubitability*. In the same paper, Christofidou also presents a case for the impossibility of any experience of consciousness that is not underpinned by a real existing self or subject. For present purposes, two remarks are in order. First, the investigation here focuses on the relation between conscious experience and existence. In order to ensure that existence is not reduced to just "being a content of consciousness," it must refer to something external to consciousness. If Descartes was merely assuming the existence of the subject and only demonstrating its indubitability, it would remain an open question whether this subject is itself just another (perhaps special) content of consciousness (in which case, "existence" would be reduced to conscious experience), or not (in which case, its existence must be external to conscious experience, hence not directly or immediately given, and therefore in need for some further inference or support). Second, the fact that conscious experience needs to be framed in a subject-object perspective does not entail that the subjective per-

Existence is both the assertion that there is a more fundamental subject of experience that underpins consciousness *and* that this subject is immediately in touch with consciousness, or better: consciousness is the consciousness owned by that subject. Existence thus entails both a form of appropriation (consciousness belongs to the subject who is aware and cannot be separated from it) and the assumption that there is something more fundamental than consciousness itself (namely, the existence of the subject of consciousness), which is also somehow external to it.

The element of appropriation is crucial to ensure that the experience of consciousness itself is accessible to whoever is actually reflecting upon it. In his *Meditations*, Descartes is not speculating about someone else's consciousness or about consciousness from a third-person perspective, but rather on that very phenomenon of consciousness that is immediately available to him while meditating. In order to account for this immediacy, Descartes concludes that this immediately available consciousness can be experienced in this unique way only because it is actually *his* own consciousness (Descartes's reasoning can be applied by whoever is currently going through these reflections). The appeal to subjectivity, introspection, or a first-person perspective are all just devices used to account for this immediacy.

The element of externality can be justified only by spelling out an implicit and seemingly commonsensical assumption, namely, the fact that consciousness is (or appears as) a *finite* consciousness, or the consciousness that I experience as a finite subject. This assumption comes together with the idea of appropriation just mentioned: by observing that *I am* this consciousness, I am also appropriating the experience of consciousness as something belonging to me as a finite subject.⁹ Now, conceiving of existence (my existence) as external to consciousness is a way of ensuring that I am the ground of this finite consciousness or that consciousness belongs to this finite subject that I am. If existence was not external to consciousness in this sense, then it would be either a sheer idea or concept with no definite or added meaning (in such a way that saying "I am conscious of X" or "X exists" would be interchangeable expressions) or it would entail that consciousness is the ground of itself. But assuming that something is the ground of itself (or a *causa sui*) is problematic. Descartes himself is skeptical about the validity of self-grounding,¹⁰ and if this notion was applied to consciousness, it would entail that consciousness would have properties such as eternity

spective must entail necessarily a real existing entity. A phenomenal subjective perspective might be just a constitutive quality of conscious experience, and this might be enough to account (by definition) for the subjective quality of conscious experience, without any further indication that such a perspective requires an underpinning entity in order to be established.

⁹ The fact that the meditator is a finite subject is not proved in Descartes's discussion until the *Third Meditation*, but it is assumed as a commonsensical hypothesis since the start and it is implicitly at work in the *First* and *Second Meditations*.

¹⁰ See discussion in Carraud 2002, 167–293.

and infinity that would not belong to a finite subject. In other words, *assuming* that consciousness manifests as the consciousness of a finite subject, such a consciousness must then have a ground (since it cannot be self-grounding), and this ground must exist somehow externally to consciousness itself. Stating *Cogito, sum*, Descartes is thus moving from the domain of direct conscious experience (*Cogito*) to the ontological ground that underpins that experience (*sum*).¹¹

The element of externality is crucial in order to ensure that existence (my existence) can ground consciousness. If my existence was not somehow external to consciousness, it would be just a content of consciousness. Hence, it would be an idea. But an idea cannot ground the phenomenon of consciousness because any idea requires that consciousness is already preliminarily established. Consciousness as such is a phenomenon (it appears), but it does *not* appear as an idea. Hence, it must be grounded in something else, something that in itself *is not* an idea of consciousness, something then *external* to both consciousness and its ideas.¹²

According to Descartes, the possibility that the condition for all experience (consciousness) is in itself ungrounded is simply absurd. Hence, there must be a ground for consciousness.¹³ Since this ground cannot be consciousness itself, it has to be different from it. But given that all experience is the conscious experience of ideas, if existence is different from consciousness and ideas, then it needs to be located outside the veil of representation. In fact, external existence *cannot* be experienced directly (by definition), but its presence must be somehow

¹¹ The fact that the *Cogito* might be interpreted as an inference will be discussed briefly below. But Descartes's assumptions concerning the existence of a finite subject are far from obvious, as an even superficial comparison with ancient Indian philosophy would reveal. Since the *Upanishads*, Indian thinkers tended to acknowledge a certain form of universal consciousness as the foundation of all phenomenal experience, but this went together with the recognition that the true subject (or Self) of this universal consciousness could not be the finite self of ordinary life, which in fact needed to be transcended or somehow subsumed in universal consciousness. Diverging from this view, the early Buddhist tradition challenged even the idea that consciousness entails the *existence* of a Self, since the presence of a subjective perspective in first-person experience might be just an effect (hence, part of the *content*) of consciousness and of how it intentionally experiences any object, without this necessarily having any further ontological implications (see discussion in Ganeri 2007). In fact, since the early discourses of the Buddha, the notion of "existence" is regarded as problematic and best abandoned altogether (see on this point Sangiacomo 2022).

¹² One might object: if consciousness is only consciousness of ideas, how do we know that there is a consciousness beyond the sum or collection of all ideas? Doesn't this notion of "consciousness as such" entail some illicit form of abstraction or hypostatization of what is nothing but a common trait of all ideas? To this objection, Descartes would reply by pointing out that ideas could neither be, nor be conceived without referring to conscious thought, while conscious thought does not need any particular idea in order to be. Hence, conscious thought is more fundamental than (and different from) any idea.

¹³ This assumption goes back to the widely accepted axiom according to which *actiones sunt suppositorum* (actions belong to their subjects). Interestingly, Descartes and Hobbes (who disagree sharply about the nature of what exists and whether thought can exist as an immaterial independent substance), *both* subscribe to this principle (cf. e.g. AT 7, 175; CSM 2, 123).

inferred from what is experienced directly. This provides a more precise definition of existence itself. Since existence cannot be just a content of consciousness but must refer to something outside of conscious experience, existence can be taken in a more proper sense to mean “consciousness-independency,” namely, anything that can be established or posited in such a way that its nature is not grounded in consciousness itself.

Once the notion of existence as something external to consciousness is introduced, Descartes can further expand the domain of objects to which this notion can apply, besides the thinking subject. Consider again the fact that all ideas have an object to which they refer. In a sense, objects in themselves are unproblematic since all ideas necessarily have objects. An idea without an object would not be *about something*; hence, it could not be an idea. For a similar reason, an object has to be always determinate to some degree (it must be *this* and not *that*); otherwise it could not be an intentional object.¹⁴ From another point of view, however, objects are profoundly problematic, insofar as they seem to entail that what they represent exists in its own right outside of the idea itself. Notice that, without the previous reflection, one could simply dismiss this fact as being nothing but another object of an idea (the *idea of external existence*). However, since it has been established that some kind of external existence is more than a possible object of an idea, but rather the ground for any experience of any idea whatsoever, it becomes cogent to investigate whether external existence applies to more than just “me.”

Descartes is positive about the solution of this problem. He points out two main candidates for external existence: God and material objects. Descartes’s arguments for the existence of God are complex and controversial in their own right, but for present purposes it is enough to draw attention to just the following point. The existence of God is based on a quest for grounding that is similar to the quest that leads to establish the *Cogito*. This can be approached from two perspectives. From the point of view of “me” (*a posteriori* proof, *Third Meditation*), one can ask what is the ground that allows for the existence of this subject that “I am.” In order to prevent a regress (assuming that an existential regress is unacceptable), one needs to establish that there is at least one entity that is endowed with external existence in virtue of its own nature, and we call this entity “God” for short.¹⁵ From the point of view of existence itself (*a priori* proof, *Fifth Meditation*), one can ask: what is the ground for the existence of existence, given that existence itself lies outside of the veil of representation, and hence we

¹⁴ A non-determinate object could not be intentionally aimed at because it would not be possible to aim at it and make this act different from any other act *not* aiming at that same object.

¹⁵ In the *Third Meditation*, Descartes first introduces considerations on the possibility of inferring external existence from the degree of reality represented by the objects of ideas. This principle will be crucial for his proof of the existence of an external material world in the *Sixth Meditation*. For present purposes, attention here is drawn to the set of reasonings that Descartes introduces in the second half of the *Third Meditation*, stressing the ontological dependence of any finite substance on an infinite substance, cf. AT 7, 46–52; CSM 2, 32–5.

do not have any direct or immediate experience of it? Again, assuming that one wants to avoid a regress, it will be necessary to assume that existence entails its own existence or is self-grounding. However, if existence entails its own existence, then it has to be perfect, infinite, eternal. Hence, it will be “God.” Whatever exists, then, is either God or something that existentially depends on God (in Descartes’s terminology: finite substances, like *res cogitans* and *res extensa*, created and constantly conserved by God).

If the *Cogito* provided a way to establish that there must be something beyond consciousness (namely, “me”), further reflection on the notion of existence entails that there is also necessarily something beyond the subject who is currently aware (namely, God). In the structure outlined at the beginning, God has to be positioned ahead of *I am*, since God’s existence is an ontological ground for “my” existence as well. The existence of God is deeply connected with the nature of external existence as such and with its conceptual implications. By itself, it does not seem to say anything about the existence of other finite objects beyond the veil of representation. And yet, once external existence has been extended to another entity different from “me,” Descartes can more easily prove that it can extend to even more entities, which together constitute the “world” of what there is. This last step is taken in the *Sixth Meditation* and in Descartes’s argument for proving the existence of material objects (AT 7, 77–80; CSM 2, 54–5).

Again, Descartes’s argument is complex and can be challenged on many fronts. For present purposes, it could be summarized as follows: since (i) there are objects of ideas that clearly and distinctly represent certain entities as material objects, which are genuinely different from the nature of consciousness and ideas themselves (*res extensa* appears to be genuinely different and irreducible to *res cogitans*); and given that (ii) the existence of God ensures that the objects of my clear and distinct ideas cannot be systematically misleading (God’s veracity is a guarantee of clear and distinct ideas); it follows that (iii) these entities must exist outside of my ideas in the way in which they are clearly and distinctly perceived through these ideas.

Notice that since external existence remains something beyond the veil of representation, demonstrating the existence of the material world does not entail that one’s experience of it will change or be affected in any way. The only way to experience the material world is still through ideas; hence, the only experience of the material world remains wholly confined within the realm of consciousness and ideas. And yet, one can *infer* that beyond these representations there is also a real world of real material things that exists in its own right.¹⁶

¹⁶ How material objects exist requires some qualification: they exist in the way in which they are *clearly and distinctly* represented, meaning that only insofar as external material objects are conceivable through the idea of extension (or through mathematics and geometry) can also be considered to have external existence (because God can guarantee only clear and distinct ideas, and only ideas of mathematics and geometry offer a clear and distinct representation of material and sensory objects). This further problem, though, concerns the degree of isomorphism (or lack thereof) between ideas and existing things, and can be set aside for present purposes.

Consider again Descartes's fivefold structure of experience. Its representation can now be further qualified by distinguishing between the domain of conscious experience and the domain of external existence as follows (Figure 1).

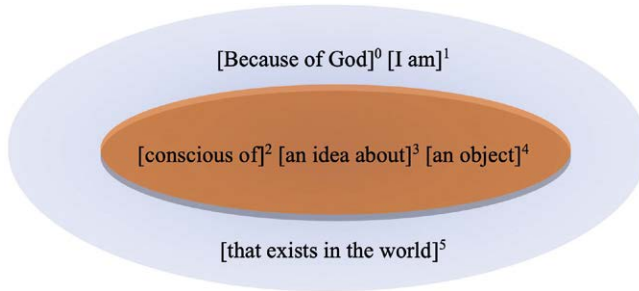


Figure 1 – The Cartesian Structure of Experience.

In this structure, all the elements (2-3-4) that fall into the inner space constitute the actual domain of conscious experience, while those that fall into the outer space (0-1 and 5) constitute the domain of external existence. In this sense, the fivefold structure can also be simplified into a twofold structure based on conscious experience and external existence. The space of conscious experience is circled by the veil of representation, meaning that whatever is placed beyond it is accessible only via inference, but it cannot be an immediate object of experience. One can form ideas about external existence, God and sensible objects, but one cannot experience them “face-to-face,” namely, without relying on an idea of them. Since whatever one experiences is consciousness of an idea (and not the immediate encounter with the object itself), the veil of representation is inescapable. And yet, inference might allow one to reach beyond that veil, based on what is manifest within the space of conscious experience.

Descartes uses existence as a conceptual tool to reach beyond the veil of representation by inferentially establishing the reality of a thinking substance, God, and the material world as given in their own right, more or less prior or independently from any conscious experience of them.¹⁷ However, this structure tends to collapse under its own weight. As already mentioned, if existence was picking up merely the presence of any content within conscious experience, then it would become an idle notion. In order to do proper philosophical work, existence needs to entail a degree of externality with respect to consciousness, so that by stating the existence of something one can say more than just acknowl-

¹⁷ While the thinking subject is not really distinguished from conscious experience (since consciousness belongs to thought and thought is an essential attribute of the thinking substance), the fact that thought is conceived as an attribute shows that it is ontologically subordinated to the notion of substance itself to which it belongs.

edging the conscious experience of it, and in fact point to some aspect of that experience that transcends consciousness and can be posited in its own right.

As mentioned, an important assumption behind Descartes's *Cogito* argument is that the thinking subject is a *finite* subject. Conceiving of the subject as finite, though, can occur only in the form of having an *idea* of the subject. When Descartes assumes the subject to be finite, he thus takes at face value a certain idea that he has of himself and backs it up by attributing existence to it. But since Descartes is not interested in producing just another set of ideas *about* consciousness, but rather in underscoring its fundamental ground, no matter how many valid ideas one might generate, they will do nothing to *show* the actual nature or ground of consciousness since consciousness as such and by itself (as discussed above) cannot appear through any idea. All that can be reasonably said is that, among those ideas that are present in consciousness, one might have the idea of a finite thinking subject and then conceive of that subject as the subject of conscious experience. But this is just a connection between ideas; it says nothing about the nature of consciousness within which those ideas appear. In other words, any conceptualization of the subject of consciousness can occur only as a modification of the thinking substance (namely, via ideas), and hence it depends on that subject, but does not necessarily reveal or entail anything about its nature in itself considered. This does not mean that conscious experience does not have a *subjective* aspect (expressed by the fact that conscious experience appears to occur from a certain perspective), but this observation says nothing about the nature of the subject of consciousness, and even less about its real existence as an entity given in its own right.

This problem somehow surfaces in Descartes's own discussion. Remember that external existence is introduced as something that accounts for the ground of consciousness. But since existence, in order to remain a meaningful notion, cannot *appear* as such in conscious experience, this entails that consciousness *must appear* to be groundless in itself (or that consciousness must appear while simultaneously the existing subject that grounds consciousness does not appear in it). If consciousness did not appear to be groundless, the rest of the argument would not be needed, nor would it follow. If consciousness appeared as self-grounded in itself *qua* consciousness, then Descartes would not have been entitled to claim that there must really be an existing subject that underpins it (consciousness itself would have been enough). But if one grants that the space of conscious experience *actually appears* to be groundless in itself (or not to be grounded by itself), then it should also be granted that *it is possible* for something groundless (such as consciousness) to appear and be experienced in its groundlessness. If this is possible, much of the pressure for actually finding a ground of conscious experience outside of it is taken away, since now a direct and manifest experiential evidence is provided of something that clearly and distinctly appears as groundless. The need for inferring the (non-experienceable) domain of external existence is entirely based on the need for grounding conscious experience; but this same reflection reveals that the need for grounding conscious experience presupposes that conscious experience clearly appears and is man-

ifest as groundless in itself. Hence, it is possible for conscious experience to appear *and* lack a ground. However, if conscious experience can appear without having a ground, why should it be necessary to infer a ground for it? To put it in other words: what is the fuss about groundlessness?

Of course, one could immediately point out that conscious experience can appear only because its ground (external existence) is already there, and this is what makes it possible for it to appear as it does. I can think about and doubt anything only because *I am*, and not because thinking and doubting are free-floating activities that can unfold without any ground at all. However, if the existence of the subject appears only as *an idea* in consciousness, then it can provide no ground to it, as already mentioned. If it does *not* appear in consciousness, then in order for this (non-experienceable) ground to be ascertained, the groundless nature of conscious experience should be manifest first. In order to infer that *I am* the one who thinks and doubts, it is necessary for the conscious activity of thinking and doubting to appear in their own right first, hence without necessarily entailing that *I am* their ground (since “I” could just be another object of thinking and doubting).

To recapitulate, in order for consciousness to appear since the beginning as something grounded in an existing subject, then the existing subject should be either (i) an *idea* in consciousness, or (ii) the subject should appear within consciousness itself, or (iii) it should be identical with it. Regarding the first option, it has already been discussed why no idea can provide a ground for consciousness. Regarding the second option, the subject of consciousness cannot appear within consciousness (while simultaneously not being an idea) and also be the ground of consciousness. Consciousness is not a physical space but an intentional structure *about* something, and what consciousness is about are ideas. Appearing within consciousness without being an idea means that something is not an intentional object of consciousness; hence, it does not actually appear in consciousness. Regarding the third option, if the subject was identical with consciousness, then either consciousness should appear as completely ungrounded and the subject would not be its ground (contrary to the hypothesis), or consciousness would appear as capable of grounding itself, but then it would not be necessary to speak meaningfully (or in a non-deflationary way) about a really existing subject of consciousness, since this would be indistinguishable (per hypothesis) from consciousness itself.

For Descartes’s argument to go through, it is essential that consciousness appears and is experienced as inherently groundless in itself. Descartes’s discussion indirectly establishes that there is an experience of groundless consciousness, and this seems to be perfectly fine from a phenomenological point of view. Groundlessness *can* appear; even more, *this* appearing of groundlessness is the necessary premise for Descartes’s own inference about the existence of an existential ground of consciousness. Yet, if this experience of the groundless nature of consciousness becomes evident and is even needed, it becomes unclear why there would be any conceptual need to *infer* the existence of a non-experienceable ground for consciousness in order to ground it.

Descartes could (and did) further push back this sort of criticism, by insisting that there is no *inference* from consciousness to existence. Despite the fame of *Cogito, ergo sum*, in the *Meditations* there is no *ergo*, meaning that the acknowledgment of the existence of a thinking subject is already immediately entailed within the experience of consciousness itself. The reason why this line of defense is philosophically unsatisfactory is that the sort of existence attributed to the thinking subject must be qualitatively different from the fact of “being present in consciousness” (like an idea is). If “existence” only meant the latter, then the *Cogito* could not go through, since all contents of consciousness are subject to the malicious demon hypothesis, and the existence of the subject (if taken as a mere content of consciousness) would fall within the scope of that hypothesis as well. It is vital for Descartes’s argument to assume that the existence of the subject is qualitatively something more, namely, it has to be “external” to consciousness itself (in the way described above). However, this externality comes at the price of not being immediately accessible to experience (by definition, what is outside the space of consciousness cannot be directly experienced, since all direct experience is conscious experience of ideas). Hence, an inference is needed in order to establish something not-experienceable on the basis of something that is actually experienced. In other words, the inference is needed (Descartes cannot avoid the *ergo*) because the sort of existence at stake in the statement “I am” is different from the sort of experience entailed by the statement “I think” alone: the former entails “more” than the latter, and this “more” is not immediately visible in the latter (by definition). Hence, it only can (and must) be inferred from it.¹⁸

This problem is not solved by trying to push Descartes’s account towards a realist or idealist solution. In either case, one would have to establish a certain form of priority or other hierarchy between the two notions of consciousness and existence. But here the problem is that these two notions do not have the same conceptual cogency, since existence turns out to be a purely metaphysical (or meta-experiential) concept constructed in order to justify certain assumptions about the experience of consciousness (the finitude of the subject or the need for consciousness to have an ontological ground), which are in themselves nothing but *ideas*, and hence naturally subject to the hyperbolic doubt raised by Descartes himself at the beginning of the *Meditations*. While Descartes is warranted to take conscious experience to be somehow resilient against this doubt (since doubting can occur only within consciousness, and hence wherever there is doubt, there is conscious experience), this does not involve the way in which the subject of consciousness is conceived, since any such conception is by definition just a content of consciousness, and moreover a content that pretends (via its external existence) to be posited in its own right in such a way that no experience of its inherent existence is directly verifiable.

¹⁸ To use Kantian terminology, one might say that *Cogito, sum* is a synthetic judgment, not an analytical judgment, and hence it needs proper justification, since it does not assert a logical tautology.

We can derive from this short survey of Descartes's discussion that defining existence as "consciousness-independency" comes with serious problems. But one might perhaps think that these problems are due to the Cartesian approach of starting with consciousness itself, and it is only because of this approach that the notion of existence turns out to be problematic. What if we start instead from existence straight away?

3. Severino's Account of Appearing and Non-contradictoriness

The problems raised by the Cartesian approach can be addressed in many ways. One possible solution would be to go back to a more "classic" approach, as that which seemed to be favored among ancient Greek philosophers, in which the investigation of experience and reality started with an investigation of "being" or "existence." Severino's philosophy can be envisaged as an attempt to revive this classic approach and develop it with all the extra rigor and sensitivity that can be gained from a direct confrontation with the problems that emerged afterwards.¹⁹ Severino's "returning to Parmenides" and to Greek ontology is a deliberate turning away from the subjectivist trend opened by Descartes. Severino's philosophy is built on the intuition that existence is the most general and fundamental notion that is necessarily required for anything else to make sense and appear. Hence, philosophical reflection on the nature of reality must take existence itself as its starting point. In this sense, Severino's approach presents itself as the most explicit and elaborated attempt at offering a diametrically opposite alternative to Descartes's subjectivist investigation. The fact that, despite this intention, Severino's system will run into problems not too dissimilar from those encountered by Descartes, makes the comparison between the two particularly interesting, not only from a historical point of view, but especially from a theoretical point of view.

As a sign of his departure from any subjectivist and even idealist account, Severino's terminology shifts from the notion of "consciousness" to the notion of "appearing" (Italian *apparire*). Appearing expresses and encompasses all that is immediately evident and manifest in experience. From a subjectivist point of view, appearing would be interpreted as whatever is given in consciousness. The term "appearing," though, is meant to be more general and broader in scope than "consciousness," since it does not immediately refer to a subject and its experience, but simply to the fact that there is some experience and that experience is available for scrutiny. As it will soon become clear, Severino does not take "existence" to mean "consciousness-independent external existence," but rather "non-contradictoriness." This understanding of existence is again more general and broader than the one discussed in dealing with Descartes, and it

¹⁹ Since most of Severino's major works are still published only in Italian, the following account is a short summary and paraphrase of his main ideas. Footnotes provide references to the core texts in which these ideas are developed.

subsumes the more subjectivist notion of existence as one particular instance of “non-contradictoriness.”²⁰

Severino’s approach is based on the interaction between two principles, which he calls “logical immediacy” (*immediatezza logica*, L-immediacy) and “phenomenological immediacy” (*immediatezza fenomenologica*, F-immediacy).²¹ Logical immediacy states that anything, in order to be what it is, must not be identical with its negation. In other terms, logical immediacy regards the principles of identity and non-contradiction as two mutually entailing (and ultimately inseparable) principles, whose negation is self-refuting. L-immediacy is a form of *immediacy* because it does not depend on something more fundamental that could ground it, but it grounds itself in the fact that any attempt at refuting L-immediacy is self-refuting.²² In other terms, L-immediacy states that whatever is considered has to be determinate (it is *this*, not *that*), and only what is determinate can be anything at all (because what is not determinate is something that violates the principle of identity-non contradiction and hence it would be self-refuting).

Phenomenological immediacy acknowledges that something appears in the field of experience or that there is an actual appearing. Again, F-immediacy is a form of *immediacy* because it cannot be grounded or derived from anything more fundamental. Also, F-immediacy entails in its own way that any denial of

²⁰ By taking non-contradictoriness as the meaning of existence, Severino has a way of defending the possibility of absolutely general quantification, by claiming that the fundamental structure of being that he is describing applies to absolutely all that there is. This is because Severino (unlike most of today’s analytic metaphysicians, see debate in Westerhoff 2020) does not engage with ontology understood as an attempt to describe or provide a list of “what there is,” nor as an attempt to establish what are some of the most fundamental relations among these things. He is rather interested in what he calls “fundamental ontology.” or a way of making apparent within language the fundamental structure that constitutes being or existence as such. Anything that is different from nothing is something. *This* “being-something-and-not-nothing” is the absolutely general meaning of “existence” or “being” that each and every thing different from a pure “nothing” should share. This account comes together with Severino’s way of dealing with contradictions (including the sheer assertion of “nothingness”) as semantic constructions that assert their content (such as “this is nothing”) only within a broader assertion that denies the truth of that content (such as “it is contradictory to say: this is nothing”). The alleged possibility of directly encountering contradictions or nothingness (or counting them as “things”) is just due to the epistemic fallacy of isolating a positive semantic parcel from the structure in which that parcel is necessarily entailed and within which it can only be found. On this latter point, see Severino 1981, chapter 4.

²¹ Severino’s thought evolved over a long period, between the first edition of his *La struttura originaria* (1958) and his last substantial contribution, *La morte e la terra* (Severino 2011). For present purposes, this reconstruction of Severino’s thought will be based on key notions introduced in *La struttura originaria* (second, substantially revised edition 1981) and developed mostly in what is perhaps the pivotal work in his career, *Essenza del nichilismo* (1982, originally published in 1972, now available in English: Severino 2016).

²² Severino discusses at length this property of L-immediacy by engaging with Aristotle’s *elenchos*, namely, his way of establishing the principle of non-contradiction in book 4 of the *Metaphysics*. See discussion in Severino 1981; Severino 1982; Severino 2005.

it would be self-refuting. Suppose that F-immediacy is false, and nothing actually appears. This fact should itself be either (i) some kind of experience of the absolute “non-appearing” of anything at all, or (ii) it should not appear at all itself. In the first case, the experience of the absolute “non-appearing” would be the appearing of *this* particular content. Hence, it would constitute the appearing of something (against what this experience is supposed to be). In the second case, there would be no experience of this absolute “non-appearing”; hence, it would be impossible to establish that *this* is part of experience or that it is phenomenologically immediately available.

Notice that both L-immediacy and F-immediacy remain extremely general and even vague in their reference. L-immediacy does not state what is the domain of objects to which it applies (really existing entities, ideas, phenomena, linguistic constructions, or anything else), and F-immediacy does not specify what exactly it is that appears or what this appearing is (be that a consciousness, mind, thought, or anything else). However, the fact that both principles necessarily hold (because their refutation is self-refuting) also entails that they both converge towards the same domain. If they did not apply to a particular domain, there would be a domain in which any of these principles is invalid, but this would constitute a refutation of that principle, which is impossible. Similarly, if L-immediacy and F-immediacy apply to entirely different domains respectively, then each of these domains would constitute a refutation of the other, which is again impossible. Hence, F-immediacy and L-immediacy simultaneously apply to at least one same domain or converge towards it.²³

This entails that since the domain of what immediately appears (F-immediacy) is by definition immediately present to experience, this experience has to be determinate, namely, it has to be a domain shaped by L-immediacy. In this way, Severino establishes that L-immediacy cannot possibly be a purely theoretical or just linguistic domain, but it necessarily applies and informs the whole field of immediate phenomenological experience. In other words, it is impossible to experience reality without experiencing it as shaped by the principles of identity and non-contradiction.²⁴ In turn, being shaped by L-immediacy entails that whatever is, is not its own negation (A is not not-A), or it is determinate as the negation of its own negation (A is determinate as what is not-not-A). Hence, the convergence of L-immediacy and F-immediacy entails that whatever appears (F-immediacy) is determinate (L-immediacy).

On this basis, Severino defines existence as the fact that any content of F-immediacy is subject to the syntax of L-immediacy, namely, it is non-contradictory (because it is essentially the negation of its own negation). For something to exist

²³ Talking about “convergence” is a way of keeping some space to establish the possibility that while L-immediacy applies universally to all domains whatsoever, F-immediacy does not have exactly the same generality, as it will become clearer below.

²⁴ This point is one of the consequences of Severino’s discussion and reformulation of the principle of identity-and-non-contradiction, see Severino’s *Returning to Parmenides*, par. 6, in Severino 2016, 59–80.

it means *not to be* its own negation. It follows that the simultaneous appearing of content and of its negation is impossible (it cannot belong to F-immediacy). If a content appeared simultaneously with its annihilation, then the appearing of the content would be simultaneous with the negation of that appearing (since annihilation entails also the negation that something appears). But because the content that appears (whatever this might be) *is* actually appearing, it is impossible (due to L-immediacy) for that content to appear simultaneously with the appearing of its annihilation. Since this impossibility holds regardless of time or any other parameter, but just in virtue of the structure of L-immediacy applied to F-immediacy, it follows that the annihilation of anything that appears could *never* appear in F-immediacy, nor is it allowed by L-immediacy (since it would assert a contradiction). Hence, annihilation cannot be part of any possible experience. As a consequence, any phenomenon of becoming or changing cannot ever be interpreted or rightly understood as entailing any sort of annihilation of anything at all. In more positive terms, all that appears must be eternal in its own right and simply in virtue of being something rather than nothing. This brings the analysis to one of the most important tenets of Severino's philosophy: everything that is, has to be eternal (its being is such that it will never, nor could ever, cease to be). Since existence is non-contradictoriness, existence necessarily entails eternity and unchangeability, which in the domain of F-immediacy results in the fact everything that appears must appear eternally.

The obvious problem is that F-immediacy *does not seem* to show the appearing of eternal contents, but rather provides evidence of the fact that *change* in what appears is immediately manifest. The problem of finding a suitable account for becoming thus takes center stage in Severino's thought. He rejects any attempt to account for becoming in ontological terms, as the arising out of nothing of some being, and the return into nothingness of what was previously existing. According to Severino, this way of interpreting becoming is just an interpretation of F-immediacy, which is however at odds with L-immediacy, and hence it is ultimately self-refuting. Severino *denies* that F-immediacy can ever attest or manifest that *a being* comes out of nothing or returns into nothingness.²⁵ All that F-immediacy can attest is that the contents of appearing are not always present,

²⁵ Severino discusses at great length, from both a historical and a theoretical point of view, various standard accounts of "ontological becoming" (a conception of becoming in which "something" arises or return to nothingness). His general criticism of any of these attempts is that they inevitably have to grant that some element or component of experience, which is identified as something that is different from a sheer nothingness, at some point will have to arise out of nothing or return into nothing, and *that* is impossible; hence, believing it would be a folly (cf. Severino 2005; Severino 2007; Severino 2016). Of course, one can push Severino further by asking whether the appearing itself of some content that is present for a certain duration and then drops out of appearing would not amount to an annihilation of *that appearing* as such. Severino's general reply is that, on the one hand, appearing cannot be isolated from the content that appears, and that appearing itself has to be broader than any finite circle of appearing; see *Postscript in Returning to Parmenides* (in Severino 2016, 85–145) and further discussion here below.

but some content begins to appear at some point and ceases to appear at some later point. Becoming can only be phenomenological, not ontological. Understood in this latter way, becoming is *not* at odds with the eternity of beings, since becoming is no longer interpreted in terms of annihilation or creation of being. Nonetheless, this is not yet the solution to the problem, but simply the way in which Severino allows the problem to be formulated in a more meaningful and consistent way, given the universal validity of L-immediacy. The issue becomes to account for the fact that the overlap between L-immediacy and F-immediacy entails that all that is included in F-immediacy should be eternally appearing, while F-immediacy seems also to attest that contents arise and fade away from appearing. Why is it so?

Severino's solution consists in discerning between two main layers of reality: (i) a foreground, finite layer in which F-immediacy attests the arising and fading away of the appearing of some contents; and (ii) a background, infinite layer in which *all* contents are eternally appearing. F-immediacy can cover only the first layer, while the existence of the second layer must be based on a necessary inference, since the eternity of *all* contents is *not* what is immediately attested in any finite experience, and yet it is necessary to establish it based on the universal validity of L-immediacy.

F-immediacy is necessarily a *finite* domain, in the sense that it does not (and it cannot) encompass the whole of appearing. As mentioned previously, the fact that L-immediacy applies to F-immediacy entails that all contents of F-immediacy are determinate in themselves. Since F-immediacy as such is also a content of appearing, and L-immediacy must apply to this content as well, F-immediacy as such must also be determinate (F-immediacy not only appears as the appearing of all immediately appearing contents, but F-immediacy also appears as *this* particular content and not something else). Now, "being determinate" means *not being* its own negation. The negation of F-immediacy can encompass either (i) a space in which nothing at all appears, or (ii) a space in which something else from what is currently in F-immediacy appears. The first option is immediately self-refuting while the second is *indirectly* attested by F-immediacy itself, because the contents in F-immediacy are immediately manifesting as *changing*, and since this change cannot be an arising out of nothing or a returning into nothing, those contents that appear as changing must exist and appear also somewhere else than in F-immediacy.²⁶ This is so because if they had a being or existence that absolutely did not appear at all, this being or existence would be identical to the appearing of their non-being or annihilation, and hence they could not be determinate, or simply this would be a contradiction. As a result, there must be a space that is *not* F-immediacy, and this space is a negation of F-immediacy,

²⁶ In this way, the definition of "determination" or "non-contradictoriness" can be used to establish a real difference between two equally existing domains, which nonetheless entail one another in their structure, since one is *not* its other. This mutual entailment between different entities is *not* a mutual negation of them, insofar as it is simply used to establish the being of both as mutually different and irreducible.

but it is not a pure contradiction or a sheer nothingness.²⁷ It follows that F-immediacy is essentially defined as the negation of that broader space in which contents are and appear (eternally) even when they are no longer manifest in F-immediacy. Since this dichotomy between *two* spaces of appearing entails that they are both domains of existence, and that the space of F-immediacy is more limited than its other, F-immediacy is necessarily a *finite* space, while the other has to be infinite (or not-finite).

The inference that grounds the existence of this broader space of appearing beyond F-immediacy shares the same necessity that underpins the simpler assertion of both F-immediacy and L-immediacy, since rejecting the twofold structure resulting from this argument would entail a denial of one or both of these principles, which in turn is impossible because self-refuting. This twofold structure (and its further complex articulations) is what Severino calls “the fundamental structure” (Italian *la struttura originaria*), which ultimately spells out what is the meaning of existence when existence is primarily conceived as non-contradictoriness.²⁸

²⁷ Assuming that there is *more* appearing than what is manifest in F-immediacy is not self-refuting in the way in which assuming that there is *no appearing* at all would be. In the latter case, the assertion that there is no appearing should immediately appear, and hence the negation of F-immediacy entails its affirmation (it is self-refuting). In the former case, though, the assertion of something *beyond* F-immediacy entails that appearing is not exhausted by F-immediacy, but it does not deny that F-immediacy appears. In lack of further argument, this is just a possibility or a hypothesis, not a refutation of F-immediacy as such.

²⁸ The notion of “fundamental structure” is perhaps the most important theoretical core of the whole of Severino’s philosophy. Although it cannot be deepened here, it might be worth stressing that it entails that both truth and being are essentially relational, or rather based on a necessary structure. This starts from the seemingly most basic principles, identity and non-contradiction, by showing that they do not stand on their own and they are indeed self-refuting if they are posited in isolation from one another. However, Severino expands this intuition so to encompass all factors that contribute to shape any experience in general. Every element that contributes to spell out and qualify the meaning of existence, its non-contradictoriness, and its universal applicability is part and parcel of the fundamental structure. Finite entities themselves emerge from this structure and are entirely grounded in it. Since the fundamental structure is itself the basis of the whole of reality, Severino’s ontology should qualify as “non-foundational,” because it does not allow for any ultimate brute facts or simple atomic elements from which all other facts, truths and aspects about reality can be derived (for a contextualization of this view in the perspective offered by today’s debates in analytical metaphysics, see Westerhoff 2020, 152–266). This point is important to keep in mind since Severino’s characterization of the fundamental structure presents it as absolutely necessary (irrefutable, in the sense that its refutation would be a self-refutation) and he rejects the very notion of a “possibility” or “contingency.” In short, Severino is a strict necessitarian (see also Severino 2019). This point, though, concerns the logical modality through which the fundamental structure is articulated (necessity instead of contingency), and then the logical modality of the “grounding” of everything (everything is necessarily and not contingently grounded in the fundamental structure). When it comes to spell out what is the necessary “ground” of everything, Severino’s answer does not point to any simple entity or fact, but only to a self-constituting complex and articulated structure.

At this point, an incumbent task for Severino is that of explaining *why* there is a manifest arising and fading away of contents in F-immediacy while at the same time L-immediacy would directly entail that all contents should be eternally and unchangeably present. Why could the domain of appearing not have been just the infinite appearing of unchangeable eternal contents? Why is there a need for splitting the domain of appearing between F-immediacy and something beyond it? So far, it has been shown only why F-immediacy must necessarily be finite, but even this proof relies on the immediate manifestation of *change* in F-immediacy, hence it presupposes change itself as a given or as a fact. But why do we face this fact? Is it a brute fact or is there a reason for it?

In a nutshell, Severino's solution consists in showing that the structure of L-immediacy entails the necessity of fully spelling out an *infinity* of determinations in order for any determinate content to be concretely and fully established in its difference from its non-being. For instance, this particular *red* is what it is because it is not green, not blue, not yellow, but also not a car, not a cow, not a cat, and even more, it is not the red it was yesterday, or the red that will appear tomorrow, and so on *ad infinitum*. While it is possible to state *in abstracto* that this red is what it is because it is not the whole of "not-red," this statement remains only abstract until the whole of "not-red" is spelled out in detail. This is partially a semantic issue, but it is not *just* a matter of semantics.

From a semantic point of view, the term "not-red" is essential for the definition of *red* insofar as *red* is what is not "not-red." If one takes "not-red" away, then the meaning of *red* is destroyed as well. However, "not-red" in itself has only a vague and general reference, since it encompasses the whole of reality that is not *red*, but it does not specify what actually belongs to this whole. Depending on what enters this whole, the meaning of "not-red" might change. Consider a world in which *red* is the only color that appears. In that world, "not-red" would entail cows, cats, trees and so on, but it would not entail "blue" or "yellow," because in that world, these contents do not appear. Hence, in that world, "not-red" would mean something different from what it means in our current world. Since *red* means what is not "not-red," if the meaning of "not-red" changes, then also the meaning of *red* changes. This is the semantic reason why "not-red" must be spelled out in order for *red* to be fully meaningful.²⁹

However, Severino goes beyond this semantic reason. "Not-red" is a placeholder for the appearing of those other beings or entities that are actually not *red*. If these other entities do not appear, then "not-red" does not actually ap-

²⁹ This point emerges since Severino's early works (see Severino 1981) and creates a strong (albeit arguably unintended) parallel between Severino's approach and the Buddhist's epistemological theory of *apoha*, developed by Dignāga and Dharmakīrti around the fifth century of the common era. In short, *apoha* is a way of accommodating a thorough nominalism with the possibility of universal predication, by assuming that what makes all individuals belong to a certain kind is the fact that they are similarly different to all other individuals of other kinds. See discussion in Siderits, Tillemans, and Chakrabarti 2011. For a further discussion and problematization of this issue in Severino's thought, see Sangiacomo 2020.

pear either. For instance, consider someone building a mechanical clock in the early eighteenth century. Today, we could say that such a mechanical clock is not an electronic clock and that being a mechanical clock is not being an electronic clock. However, this understanding would have been impossible in the early eighteenth century, and not just for semantic reasons, but also because at that time no electronic clock appeared at all; hence, “not-electronic” could not appear either. But if “not-electronic” does not appear, then “mechanical clock” cannot appear as the negation of “not-electronic,” because there is nothing that appears as “electronic” to negate. Generalizing this point, it can be said that in order for any determinate content to appear as *that* content (which is the negation of all that is “not-*that*”) all the other contents that fall within such a negation must also appear themselves, concretely, “in flesh and bones” so to say. This is not *just* because they are needed in order to make the linguistic expression “not-*that*” meaningful from a semantic point of view, but also (and more fundamentally) because without their appearing, “not-*that*” cannot appear within the fundamental structure of reality itself, and without the appearing of “not-*that*,” *that* cannot appear as the negation of “not-*that*.”³⁰

Notice that this problem uncovers a tension between L-immediacy and F-immediacy. L-immediacy already entails that any content (*that*, or *red*, or whatever) is not its own negation (it is not “not-*that*” or “not-*red*”). However, F-immediacy is finite, and it does not allow for the full appearing of all those entities that together make up the appearing of what any determinate entity denies as its own concrete negation (meaning, all that belongs to “not-*that*”).³¹ There is then

³⁰ Generalizing this reasoning, one might say that “being” is the negation of “not-being,” but then this entails that “not-being” should appear in order for “being” to appear as its negation. However, “not-being” cannot appear without contradiction since only being is capable of appearing. Severino solves this aporia by showing that “not-being” is never something that could be posited in its own right, but only something that belongs to a more complex structure that actually denies it. “Not-being” is the target aimed at in the assertion “not-being is not.” The denial of this assertion is “not-being is.” Hence, “being” is not just the denial of “not-being” *tout court*, but rather the denial of the assertion “not-being is,” and *this* assertion needs to appear in order for “being” to appear. However, the assertion “not-being is,” is *not* a sheer nothingness, but rather the assertion that “not-being is.” Hence, it appears in the way a contradictory assertion appears, and this appearing is a *positive* appearing (the positive appearing of a contradiction). Contradictions can appear without problems, although what contradictions wants to say cannot appear at all. Since “being” is the denial of the positive appearing of a contradiction, “being” means “not-being the contradiction that asserts: not-being is.” *This* latter positive appearing of the contradiction is indeed necessary for “being” to appear as well, although this appearing can only appear within the apophantic structure that exhibit it as a positive contradiction. The fact that “being” requires the appearing of the contradiction that it denies allows Severino to build his whole philosophy of history as the necessary appearing of “nihilism” (the intention of denying that being is) as the landmark in the history of the West, but also as something that is not a pure contingency, but it remains deeply rooted in the “destiny of necessity.”

³¹ By definition, if F-immediacy is finite, then there remain other beings that exist and appear beyond F-immediacy and that should be included in the “not-*that*” component that constitutes the determinate and concrete essence of each and every being. Hence, the finitude of F-immediacy makes it unable to fully account for that component.

a dyscrasia between what L-immediacy demands and what F-immediacy can deliver. This entails a peculiar paradox. On the one hand, it would be self-refuting to deny what L-immediacy demands; hence, it is necessary to maintain that any determinate content is the negation of its own concrete negation. On the other hand, though, F-immediacy does not allow for the full appearing of this concrete negation that any determination must deny in order for it to be determinate; hence, no content in F-immediacy can be genuinely *fully* determinate as L-immediacy demands. Severino phrases this point by stating that the determination that appears in F-immediacy is only *formal* or *abstract* (it abides by the rules of L-immediacy, but it does not fully implement them), and yet it is necessary (in order to avoid a self-refutation) to have a *concrete* determination as well. Now, if F-immediacy cannot structurally bear it (because F-immediacy is structurally finite), that concrete determination must appear somewhere beyond F-immediacy. In fact, since it is necessary that F-immediacy is finite, and it is also necessary that all determinations must appear as *concrete*, it is necessary that there must be an infinite appearing unfolding beyond F-immediacy.

The space of F-immediacy is not disconnected from the space beyond F-immediacy in which determinations appear in their infinite concreteness. Each and every determination in F-immediacy entails the necessity of the appearing of their own infinite concreteness beyond F-immediacy. This has two connected implications. The first implication is that any configuration of F-immediacy (the interconnected appearing of all determinations currently appearing in F-immediacy) cannot be the *first* configuration of F-immediacy. Firstness can be understood in three ways: (i) something before which nothing else appears; or (ii) the most fundamental configuration from which all other configurations derive; or (iii) an unchanging configuration that is not followed by any other configuration. The first meaning is self-refuting because it presupposes that there is a moment in which F-immediacy appears as empty or nothing appears. The second option is impossible because in order to be “fundamental” in this sense, a configuration should be *concrete* because whatever is not concrete is also not fundamental, since its appearing and being relies on the appearing and being of something else that does not yet simultaneously appear with it. However, since any configuration in F-immediacy is necessarily *not* concrete in this sense, no configuration of F-immediacy can be fundamental. The third option also requires that a configuration should be concrete because only then no further appearing would be needed for that configuration to fully and properly be established. For as long as a configuration remains abstract to some extent, to that extent more appearing is needed in order to make it concrete; hence, that configuration cannot be unchanging.

This brings us to the second implication, namely, no configuration of F-immediacy can remain unchanged, but it has to be overcome by other configurations. This movement of “overcoming” (Italian *oltrepassare*) is necessary because any configuration in F-immediacy is abstract to some extent, and that entails with necessity the need for that configuration to be asserted more concretely through the appearing of what does not yet appear. Hence, F-immediacy is the space of

an endless (phenomenological) becoming in which each and every configuration is progressively overcome by the next. Since this process applies to (and is multiplied for) any and each determination that appears, F-immediacy is in fact infinitely refracted and multiplied in an infinite constellation of “finite circles of appearing” (*cerchi finiti dell'apparire*) in which an infinite process of unfolding and overcoming takes place.

The phenomenon of *change* is not a brute fact, but it is the symptom of how the fundamental structure of being works. In order for the concrete assertion of the non-contradictoriness of all beings to become manifest, appearing must be the appearing of an infinite (and infinitely dense) unfolding process in which infinitely many configurations overcome one another, in a progressive saturation of the whole space of being (namely, in the process of making the appearing of all beings fully concrete).³²

4. Severino and Descartes

Consider how Severino’s account shapes the structure of experience, as illustrated below (Figure 2).

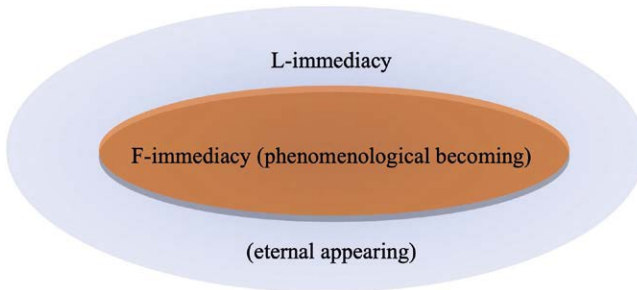


Figure 2 – The Structure of Experience according to Severino.

In this structure, existence means the same thing across all layers. Existence is always and only non-contradictoriness, or not-being one’s own negation. This is a consequence of the absolutely universal scope of L-immediacy. However, existence manifests in two essentially different ways. In the space of F-imme-

³² The argument for this claim is fully developed in Severino 2001; Severino 2007. For present purposes, notice that this solution is deeply different from the more traditional solution of the problem of becoming found in classical metaphysics. Instead of moving from the acknowledgment of becoming in the world to the inference that there must be some eternal principle (God) that grounds such becoming, Severino shows that each determination is *already* God in itself (in the sense that it shares the features of eternity and unchangeability usually attributed to God only), and yet it needs to appear within an infinite unfolding process in order for these qualities to be fully established. See further discussions of these points in Sangiacomo 2022.

diacy, entities appear as arising and fading away (from that space) *because* the full and concrete establishment of the existence of those same entities cannot be confined within any finite space of appearing. The space of L-immediacy thus entails the presence of a broader domain of appearing (another F-space), which is however *not* immediately accessible from within F-immediacy, but only in virtue of an inference made on the basis of F-immediacy and L-immediacy. L-immediacy itself is appearing within F-immediacy (otherwise, existence could not have a unique and consistent meaning in all layers), *but* its appearing cannot be confined to what appears within F-immediacy. Hence, the complete appearing of L-immediacy itself transcends the appearing that is manifest in F-immediacy.

In this way, Severino does grant a space for a sort of transcendence of L-immediacy with respect to F-immediacy, but this transcendence concerns only the *contents* of appearing (or better, the concreteness with which they are determined), and not the *meaning* of existence (or its syntax, its structure). Unlike Descartes, Severino does not posit any “external existence” outside the space of immediate experience (F-immediacy). His account rather entails that the genuine divide is between finite appearing (F-immediacy) and infinite appearing (which might be called *F-mediacy*, since it is established by inference), which are *both* underpinned by the same structure of existence. Also, unlike Descartes, Severino is forced to allow for the fact that there must be a space of reality that is currently *not* appearing within what is immediately appearing (F-immediacy), and which then requires a sort of “transcendental subject” (which is structurally different from any empirical, finite subject) to whom this show is already present and always manifest.³³ However, this space of F-mediacy cannot possibly appear within any space of F-immediacy, and since F-immediacy is the immediate manifestation of appearing, F-mediacy *cannot* be a possible content of any finite experience. In other words, Severino needs to allow for the *existence* of an appearing that does not immediately appear (while Descartes was forced to allow for the presence of an external existence that does not appear).

Severino’s definition of existence is broader than Descartes’s definition, since non-contradictoriness encompasses *all* possible contents and entities, including “consciousness-independency.” In order for the Cartesian notion to establish itself, it should first of all *be* a notion, namely, it needs to be posited as something different from a sheer nothing. In this basic sense, the Cartesian notion already presupposes non-contradictoriness at its bottom. Nevertheless, the Cartesian notion allows for a separation between existence and appearing that is not acceptable in Severino’s framework. According to Descartes, it is possible (even

³³ In this way, Severino can take into account one of the major developments that occurred after Descartes, especially between Kant and Husserl: the differentiation between an empirical subject and a transcendental subject. While the empirical subject is itself a content of experience, the transcendental subject is an epistemic structure that necessarily makes that experience possible. However, from Kant to Husserl, this transcendental subject always remained a matter of inference, as it was the notion of external existence for Descartes.

necessary) for some things to exist regardless of how or whether they appear, since existence itself is “external existence” (external with respect to a perceiving consciousness). Severino cannot maintain this possibility because all that *is* (L-immediacy) has to appear somewhere and somehow (in F-immediacy or F-mediacy). Otherwise, being and nothing would have the same (non-)manifestation, which would be contradictory. And yet, even Severino has to grant that not everything that appears can *immediately* appear (not all appearing is included in F-immediacy). Since Severino’s notion of existence is broader, though, he can make room for a number of differences in the way in which things actually appear, and he can consider the appearing in consciousness (even in an individual human empirical consciousness) as just *one* particular way for contents to appear, but neither the only nor the most fundamental one.

Despite these differences, both Descartes and Severino share at least three basic commitments about the way in which they discuss the relationship between existence and appearing. First, appearing is always the appearing of something that *exists*; there would be no appearing if there was nothing existing. In this sense, they both maintain that being or existence is the ground for appearing. Second, appearing is immediately manifest, but it needs *interpretation*, which is provided through logical reasoning and philosophical analysis (in the case of Descartes this leads to establish the existence of real entities, like “me,” God and material objects; in the case of Severino this leads to reject ontological becoming and establish the domain of F-mediacy). Third, a thorough analysis of the domain of appearing reveals the need to infer the existence of a domain that does not appear *in* it, but that must necessarily be posited in order for what appears to make sense. This domain beyond appearing is (and could be) established only through inference; it is not accessible to direct experience.

5. Problems with Severino’s Account

Consider again the fact that F-immediacy can provide only an abstract and inadequate appearing of the reality of what exists. This entails that F-immediacy, considered alone and in its own right only, *potentially contradicts* L-immediacy (since it fails to show the concrete determination of what appears; hence, the concrete way in which what appears is not its negation). Severino calls this potential contradiction “c-contradiction” (Italian *contraddizione-c*) and much of the argument used to show that there must be a space of F-mediacy in which an infinite appearing unfolds is used to provide a solution to this c-contradiction (the solution is asserting the necessity of an infinite unfolding process through which all determinations can appear in their full concreteness).

However, if the space of F-immediacy is the space in which c-contradiction is *not* yet removed, and in fact appears as such, then the space of F-immediacy is the space in which it is impossible to establish the *true* appearing of what exists, free from any contradiction whatsoever. This true appearing appears only in F-mediacy. But how do we know about F-mediacy? Severino claims that we need to infer its existence based on the fact that L-immediacy cannot be denied,

and not allowing for F-mediacy (namely, restricting appearing to F-immediacy only) would amount to such a negation. But then, Severino must grant that F-immediacy, considered in its own right, does entail a negation of L-immediacy after all. This negation can be taken away only outside of the space of F-immediacy, which entails that the taking away of this negation cannot be a content of immediate appearing. For as long as one experiences immediate appearing (F-immediacy), one will never see or encounter the taking away of the negation of L-immediacy. The space of F-immediacy is thus structurally doomed to remain a negation of L-immediacy and to appear as such.

This issue takes almost an eschatological dimension in Severino's later thought. On the one hand, he contends that since any space of F-immediacy is defined by the appearing of a human will or consciousness (an empirical subject), then c-contradiction can be fully overcome only when the last human will or consciousness will appear as "dead" (namely, "finished," "perfected," subject to no further appearing). Only when the whole of humanity will be gone (dead), the infinite and fully concrete appearing of being will shine.³⁴ On the other hand, this means that *within* the space of any finite appearing (F-immediacy, consciousness), it is structurally impossible for any true concrete appearing to be genuinely and fully manifest. Even if Severino's own thought aims at being a witness of the fundamental structure of being and appearing, this witnessing remains enveloped in a form of inevitable folly and error, since it partakes in c-contradiction to some extent. Partaking in a contradiction is a form of folly. Partaking in a folly to some extent means to be mad to that same extent. Severino himself acknowledges this conclusion as a necessary result of his analysis of existence and appearing.³⁵

The implications of this point are momentous. Anything built entirely and exclusively on the domain of F-immediacy (anything pertaining to finite and empirical consciousness) is structurally unreliable and doomed to be inadequate. Hence, F-immediacy as such cannot ground any proper or ultimately valid explanation of reality, since it is essentially affected by c-contradiction, which endows it with a certain degree of folly (as any attitude that would believe to some degree that some truth can be derived from contradictions; dialetheists aside). This entails that even any form of F-immediacy lacks any genuine explanatory validity. Perhaps F-mediacy might remedy this shortcoming, but unfortunately it is structurally impossible to have an immediate access to it, and one will have to wait until the extermination of the whole of humanity for the actual appearing of F-mediacy, which makes the use of the notion of (empirical) consciousness quite pointless for the purposes of human inquiry into reality.

Severino's thought is entirely built on the assumption that it is possible to provide a full-blown and coherent account of reality, where the validity of L-immediacy is established without limits. The result of this investigation is that

³⁴ This point is developed at length in Severino 2011.

³⁵ See his last book, *Testimoniando il destino* (Severino 2018).

whatever will be part of any immediate experience (F-immediacy) will also be necessarily a sort of folly or madness, inevitably colored by the inadequacy of c-contradiction. If one takes F-immediacy to stand for “consciousness,” this means that in Severino’s account not only consciousness appears as ultimately “ungrounded” (not fully justified, which in Severino’s view amounts to be subject to c-contradiction), but also as intrinsically unreliable, because inevitably abstract, incomplete, lacking.³⁶

However, since the whole structure of existence and of its unfolding are based on an inference rooted in F-immediacy, one might wonder what the validity of this inference can be. Surely, Severino contends that regardless of the inadequacy of F-immediacy, it is necessary to allow for the inference that brings to F-mediality, since not allowing that would contradict L-immediacy, which would be self-refuting. Yet, Severino has also to grant that a partial (at least) refutation of L-immediacy is *already* glaringly appearing in F-immediacy, insofar as its immediate appearing let shine the purely abstract and not yet fully concrete appearing of any determination (hence witnessing that no determination that is immediately appearing is actually fully determined, pace L-immediacy). Allowing for the inference from F-immediacy to F-mediality in order to resolve this c-contradiction presupposes that it would be self-refuting for F-immediacy to appear in such a way as to refute L-immediacy; but this is precisely what *is* actually appearing (and this is in fact all that immediately appears), and hence it is unclear why allowing that inference should be more than a brute fact or an act of faith. In other words, a puzzling consequence of Severino’s conceptualization of existence is that precisely that domain of F-immediacy that should provide the most immediate access to the appearing of what exists and of its fundamental structure shows itself to be an unreliable basis for drawing any inferences since it is constitutively affected by a form of contradiction; or else, it shows that all that appears as existing is in fact affected by an irreducible contradictoriness, which in Severino’s terminology is the same as saying that it amounts to non-being. In both cases, Severino’s analogous of (finite) consciousness shows that existence can manifest only as a riddle, as a metaphysical dream, or as a form of folly.

Despite having turned the Cartesian picture upside down, Severino seems in the end forced to wrestle with problems analogous to those evoked by Descartes. One might perhaps wonder whether some malicious demon is not involved with this curious fate. Perhaps the problem is with Severino’s own account, or rather with Descartes’s account instead. But these two accounts offer different and almost symmetrically opposite ways of articulating how consciousness and existence might relate to one another (one starting from consciousness, the other

³⁶ At some point in his career, Severino introduced the expression “the isolation of the earth” (Italian *l’isolamento della terra*) to express the fact that F-immediacy can only disclose a finite parcel of the infinite appearing, and, being thus limited, what it discloses is inevitably isolated from the infinite vastness of the concrete appearing of being. This phenomenon of isolation is necessarily entailed by the fundamental structure, and yet it makes F-immediacy structurally limited and ultimately unreliable.

from existence). As mentioned, no plausible interpretation of experience can dispense with consciousness entirely. It should then be seriously considered whether the problem is not with the notion of existence itself. Even more interestingly, one might start wondering how a rigorous interpretation of experience might be articulated by postulating only consciousness without existence.

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KNOWLEDGE AND ITS HISTORIES

TITOLI PUBBLICATI

1. Andrea Strazzoni, Marco Sgarbi (edited by), *Reading Descartes. Consciousness, Body, and Reasoning*, 2023

This volume takes cue from the idea that the thought of no philosopher can be understood without considering it as the result of a lively dialogue with other thinkers. On this ground, it addresses the ways in which René Descartes's philosophy evolved and was progressively understood by intellectuals from different contexts and eras, either by considering direct interlocutors of Descartes such as Isaac Beeckman and Elisabeth of Bohemia, thinkers who developed upon his ideas and on particular topics as Nicolas Malebranche or Thomas Willis, those who adapted his overall methodology in developing new systems of knowledge as Johannes Clauberg and Pierre-Sylvain Régis, and contemporary thinkers from continental and analytic traditions like Emanuele Severino and Peter Strawson.

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ISBN 979-12-215-0168-1 (Print)

ISBN 979-12-215-0169-8 (PDF)

ISBN 979-12-215-0170-4 (ePUB)

ISBN 979-12-215-0171-1 (XML)

DOI 10.36253/979-12-215-0169-8

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