

The *a priori* in the Thought of Descartes

The *a priori* in the Thought of Descartes:

Cognition, Method and Science

By

Jan Palkoska

Cambridge
Scholars
Publishing



The *a priori* in the Thought of Descartes: Cognition, Method and Science

By Jan Palkoska

This book first published 2017

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

Copyright © 2017 by Jan Palkoska

All rights for this book reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

ISBN (10): 1-4438-1700-7

ISBN (13): 978-1-4438-1700-4

The work on this book was supported by research grant GAP401/11/0371 "A priori, synthetic and analytic" awarded to the Institute of Philosophy, Academy of Sciences of the Czech Republic, and to the Faculty of Philosophy, Charles University, Prague, by the Czech Science Foundation.

TABLE OF CONTENTS

Acknowledgements	viii
Note on Quotations and Bibliography	ix
Introduction	1
Chapter One	5
Cognition and <i>Scientia</i>	
1.1 <i>Cogitatio</i> and Its Modes.....	8
1.1.1 Understanding, Will, and Judgments.....	11
1.1.2 Understanding and Its Modes.....	21
1.2 The Modes of Understanding, and Innate Ideas.....	29
1.2.1 Innate Ideas and Dispositions.....	35
1.2.2 Innate Ideas and Implicit Apprehension.....	38
1.3 Clear and Distinct Perception, Certainty, and <i>Scientia</i>	47
1.3.1 Compelled Assent	53
1.3.2 Metaphysical Certainty and Normativity	56
1.3.3 Clear and Distinct Perception, and <i>Scientia</i>	60
1.4 Breaking Down the Cartesian Circle.....	68
Chapter Two	75
Understanding and <i>Scientia</i>	
2.1 Understanding as the Principle of <i>Scientia</i>	75
2.2 <i>Intuitus</i> , Understanding, and <i>Experientia</i>	80
2.3 The Objects of <i>Intuitus</i>	86
2.3.1 Simple Natures	89
2.3.2 <i>Compositiones</i> as Objects of <i>Intuitus</i>	99
2.4 The Root of Objective Necessity, and Possibility of <i>Scientia</i>	107
2.5 <i>Deductio</i>	117
2.5.1 Constructing <i>Deductio</i> in Terms of <i>Intuitus</i>	119
2.5.2 Throwing Away the <i>Dialecticorum Vincula</i>	125
2.6 Enumeration.....	147
2.6.1 Approbative and Heuristic Enumeration	147
2.6.2 Enumeration, Sufficiency, and Ordering.....	151
2.6.3 <i>Inductio</i> , <i>Deductio</i> , and <i>Enumeratio</i>	155

Chapter Three	161
The <i>a priori</i> in Descartes: The Mathematical Line	
3.1 Links to Mathematical Contexts	161
3.1.1 Mathematics as a Paradigm of a Universal Method	165
3.1.2 The <i>A Priori</i> in Purely Mathematical Contexts	171
3.1.3 The Method of Analysis in Diophantus and Pappus	175
3.1.4 The “Algebre des modernes”	180
3.2 Analysis in Descartes’ Mathematics	190
3.2.1 A Point of Comparison: Viète’s <i>Logistique Speciosa</i>	191
3.2.2 Descartes’ Algebraization of Geometry	195
3.2.3 Algebra as an Analytical Problem-Solving Procedure	205
3.2.4 Analysis and Synthesis in Pappus	213
3.2.5 Descartes’ Approach	219
3.2.6 <i>Scientia</i> and Imagination in Descartes’ Mathematics	227
Chapter Four	238
Towards a Universal Method of Discovery	
4.1 <i>Mathematicæ, Mathesis Vniversalis</i> and a Universal Method	240
4.1.1 A Textual Problem	242
4.1.2 The Meaning of <i>Mathesis Vniversalis</i> in Descartes	245
4.2 A Talk of the Method: the <i>Discours</i> and the <i>Essais</i>	260
4.3 A Reconstruction of the Universal Method	265
4.3.1 The General <i>Modus Operandi</i>	268
4.3.2 The <i>Præparatio Comparationum</i>	279
4.4 Justification and Possibility of Method	295
4.4.1 The Justification Task	299
4.5 Universality of the Method and the Unity of the <i>Scientiæ</i>	307
Chapter Five	317
The <i>a priori</i> in Descartes: Integrating the Aristotelian Line	
5.1 The <i>A Priori</i> and the <i>A Posteriori</i> in the Aristotelian Tradition	319
5.2 Some Aristotelian Strata in Descartes’ Conception	323
5.3 A Clash with the Aristotelians	326
5.3.1 Analysis as an Approbative Tool in the Aristotelian Tradition	328
5.3.2 Heuristic Analysis in Aristotle	330
5.3.3 Heuristic Analysis in Renaissance Aristotelianism	332
5.3.4 Some Similarities to Descartes on Analysis	337
5.4 Analysis as <i>A Priori</i> in Descartes	339
5.4.1 Culs-de-Sac	339
5.4.2 A Speculative Suggestion	344
5.5 Coda: Synthesis as <i>A Posteriori</i> in Descartes	351

Appendix: Abbreviations.....	356
Bibliography.....	358
General Index.....	373

ACKNOWLEDGEMENTS

The research which underlies this book was facilitated by Czech Science Foundation grants from 2011 to 2015. In 2013—the year crucial to the shaping of this work—I was given a sabbatical by Charles University in Prague, followed by an additional six months free from teaching duties. I owe a great debt of gratitude to both these institutions. Various portions of earlier drafts of the book were presented at meetings of the Charles University Centre for the Study of Classical and Medieval Thought; I wish to thank its participants—that is, my colleagues—for their pertinent and valuable comments, which prompted me to reassess several parts of the book. I also had more than one opportunity to present the central themes of the book to my graduate courses at Charles University; I thank my students for their penetrating questions and stimulating discussions, which helped me to remain sensitive to the complexities and intricacies of Descartes' thought. My thanks go to Michael Pockley, who read the whole manuscript more than once and not only corrected my mediocre English but also raised some important questions concerning my argument. Finally, I am deeply grateful to my partner Mirka, first for putting up with my spending so much time with a great French philosopher instead of with her and our children; but also for the fact that being a philosopher herself, she understands better than anyone else what I have been after in my Descartes project and her deep understanding has greatly helped sustain the work. It is to her that I dedicate this book.

NOTE ON QUOTATIONS AND BIBLIOGRAPHY

The abbreviations I employ are listed in the Appendix. I cite Descartes in original French and Latin, following the canonical *Œuvres de Descartes*, edited by Charles Adam and Paul Tannery, 11 vols. (Paris: J. Vrin, 1897–1913), in the form: AT <volume number (Roman)>, <page number (Arabic)>; in referring to the *Regulæ ad directionem ingenii*, I occasionally indicate also the line number, in the form ... <page number (Arabic)>.<line number (Arabic)>. My insertions in quotations are enclosed in square brackets. I strictly follow the wording and spelling of the standard AT edition with no efforts to amend the texts either in view of modern standards or in order to remove occasional inconsistencies concerning diacritics, accents and similar matters. This includes even the titles of Descartes' works. In referring to Descartes' correspondence, I standardly use the italicized name of Descartes' correspondent preceded by a preposition according to the AT edition (e.g. *A Regius*; *Ad Vætium*). The only exceptions are Descartes' letters to Mersenne and Descartes' famous exchange with the pseudonymous Hyperaspistes; I refer to these items with abbreviations included in the above-mentioned list. The dates of Descartes' texts, if given, are put in square brackets at the end of the reference. In general, I rely on the AT edition as regards dating Descartes' works. The only exception is the *Regulæ ad directionem ingenii*: in dealing with the dating and/or chronology of some passages from this work, I take into account several suggestions made in Descartes scholarship after the appearance of the seminal work by Jean-Paul Weber.

I cite texts by authors other than Descartes in the original, with the following exceptions. One is a commentary on the *Regulæ* in Czech by Jiří Fiala in René Descartes, *Regulæ ad directionem ingenii / Pravidla pro vedení rozumu*, transl. Vojtěch Balík (Prague: Oikoymenh, 2000), which I quote in my own English translation. The other are Greek authors—Aristotle, Sextus Empiricus, Diophantus of Alexandria, Pappus of Alexandria and Proclus Diadochus. I cite Aristotle's works in standard English translations included in *The Complete Works of Aristotle: The Revised Oxford Translation* edited by Jonathan Barnes, 2 vols. (Princeton: Princeton University Press, 1984). Sextus' *Πυρρόνειοι ὑποπλώσεις* is cited in an up-to-date English translation, *Outlines of Scepticism* translated and edited by Julia Annas and Jonathan Barnes (Cambridge: Cambridge

University Press, 2000). Diophantus' *Arithmetica* is quoted in an English translation by J. Winfree Smith which occurs in a translation by the same author of Viète's *In artem analyticem Isagoge*, supplemented to Jacob Klein, *Greek Mathematical Thought and the Origin of Algebra* (2nd ed. New York: Dover Publications, 1992). Pappus' *Συναγωγή* is cited in a Latin translation *Mathematicæ Collectiones* by Federico Commandino (Venice: Francisco de Franciscis Senens, 1588), and Proclus' commentary to Euclid's *Στοιχεῖα* is cited in a Latin translation by Francesco Barozzi (Padua: Gratiopus Perchacinus, 1560); it was these Latin editions in which Pappus and Proclus were presumably read by Descartes. In general, I use italics for Latin single words and phrases inserted in the body of the main text and in footnotes. For all more extended Latin quotations in the main text and footnotes I use normal font. French single words, phrases and quotations are uniformly presented in normal font. I occasionally also use italics to emphasize various words, phrases or sentences in English, both in my text and in quotations. I have chosen to take certain technical terms directly from Descartes' texts and retain them in their original Latin or French form. If such terms are started with a capital letter by Descartes, I keep his capitalization throughout the text. As for transcription of Arabic names, I simply apply the way in which these are transcribed by Chikara Sasaki, *Descartes's Mathematical Thought* (Dordrecht: Kluwer Academic Publishers, 2003), which has been my principal source as regards the history of algebra in the Arabic world.

Finally, given the importance of the *Regulæ ad directionem ingenii* to the main topic of the present book, the somewhat complicated situation concerning the text of the *Regulæ* must briefly be considered. Having never been published during Descartes' lifetime, nor even mentioned by him in his extant correspondence or texts, the original manuscript of the *Regulæ* was lost soon after Descartes' death and serious scholarship is left to work with a few extant versions which are based upon immediate copies of the original manuscript at best, and more probably even upon copies from copies. The *Regulæ* were first published in 1684 in a Dutch translation under the title *Regulen van de bestieringe des verstants* (Amsterdam: Jan Rieuwertsz), which is now customarily referred to as the N-version of the *Regulæ*; an early copy of the original manuscript of the *Regulæ* which served as the base for the translation is lost as well. The Latin edition of the *Regulæ* did not appear until 1701 when it was included in Descartes' *Opuscula posthuma, physica et mathematica* (Amsterdam: P. & J. Blaev). This edition is now referred to as the A-version of the *Regulæ*; it is unknown which copy of the original manuscript served as the base for this edition and whether the copy was identical with the basis for

the N-version. Finally, there is a copy purchased by Leibniz in Amsterdam some time between 1670 and 1678. This copy was discovered among Leibniz's papers in Hanover in the mid of nineteenth century and published in *Œuvres inédites de Descartes précédées d'une introduction sur la méthode* edited by Louis Foucher de Careil, vol. 1 (Paris: Auguste Durand, 1859); this copy is now referred to as the H-version of the *Regulæ*.

It is controversial and in an obvious sense indeterminable which of these three versions stands closest to the unavailable original manuscript by Descartes' own hand. What is important for our purposes is just that the AT editors take the A-version as the basic source, consulting occasionally the H-version whilst ignoring entirely the N-version. Although this approach has been disputed by numerous Descartes scholars and several alternative strategies have been adopted in editing critically the text of the *Regulæ*, for the sake of uniformity I take the AT edition of the *Regulæ* as the basis for this study. Whenever necessary, I deal in the footnotes with suggestions for alternative readings.

The most important critical editions that supersede in various respects the pioneering AT edition of the Latin text of the *Regulæ* include *Regulæ ad Directionem Ingenii: Texte critique établi par Giovanni Crapulli avec la version Hollandaise du XVIIème siècle* edited by Giovanni Crapulli (The Hague: Martinus Nijhoff, 1966); *Regulæ ad Directionem Ingenii / Regeln zur Ausrichtung der Erkenntniskraft: Kritisch revidiert, übersetzt und herausgegeben* edited and translated by Heinrich Springmeyer, Lüder Gäbe and Hans Zekl (Hamburg: Felix Meiner, 1973). I also consult an annotated French translation by Jean-Luc Marion: *Règles utiles et claires pour la Direction de l'esprit et la recherche de la vérité: Traduction selon le lexique cartésien, et annotation conceptuelle par Jean-Luc Marion avec notes mathématiques de Pierre Costabel* (The Hague: Martinus Nijhoff, 1977); and the most recent bilingual Latin-English edition: *Regulæ Ad Directionem Ingenii / Rules for the Direction of the Natural Intelligence: A Bilingual Edition of the Cartesian Treatise on Method* edited and translated by George Heffernan (Amsterdam: Rodopi, 1998). For a detailed account of the situation concerning the history of the text of the *Regulæ* and the sources for its reconstruction, see in particular Giovanni Crapulli, "Introduction," in Descartes, *Regulæ: Texte critique*, xi–xxxviii; Christian Wohlers, "Einleitung," in Descartes, *Regulæ / Regeln*, xxvii–lxxxvii. For a brief and condensed up-to-date survey of the situation, see George Heffernan, "Introduction: A Contextualization of the Text," in Descartes, *Regulæ / Rules*, 47–54.

INTRODUCTION

My chief aim in the present study is to determine and explicate the meaning (or meanings) Descartes associates with the terms “*a priori*” and “*a posteriori*” and explore its (or their) import for relevant aspects of Descartes’ overall philosophical and/or scientific stance. It has been acknowledged by several specialists in the field that while Descartes’ usage of the pair of terms in question is at odds with the now current Kantian meaning of the *a priori*–*a posteriori* distinction, the bulk of evidence points towards the fact that Descartes’ usage does not square well, despite superficial verbal similarities, with the standard Aristotelian-scholastic notion either.¹ However, there is as yet little if any agreement, among those who grant or at least consider the existence of these discrepancies, as to the exact positive meaning Descartes wished to associate with the terms in question and thus, by the same token, as to the exact nature of Descartes’ departure from the Aristotelian conception² and thus to the relationship of Descartes’ and Kant’s views on this score. In view of this, I wish to offer my own suggestions on at least some of these difficult interpretative issues.

It should become clear in the course of the present study that the topic is of considerable interest both to those active in the interpretation of Descartes’ thought and those engaged in the history of philosophy from Aristotelian scholasticism to Kant. As to the former field, we shall see that our questions bear directly, among other things, upon the nature of the method Descartes claims to have discovered and employed in developing his mature metaphysics, physics, and all the other branches of the allegedly unitary *scientia*; and as to the latter, the answers to our questions might help, in the long run, to shed some light upon the challenging and

¹ At least Stephen Gaukroger, *Cartesian Logic: An Essay on Descartes’s Conception of Inference* (Oxford: Oxford University Press, 1989), 99–102 and Roger Florka, *Descartes’s Metaphysical Reasoning* (New York: Routledge, 2001), 69–89 and 109–17 are crystal clear on this negative point.

² Besides the two authors mentioned in the previous footnote, the suggestions of Benoît Timmermans, “The Originality of Descartes’s Conception of Analysis as Discovery,” *Journal of the History of Ideas* 60, no. 3 (1999), 433–47 are worth noting.

strangely neglected question of why Kant decided to employ the *a priori*–*a posteriori* distinction in a way which diverges so dramatically from the meaning so well established in the long Aristotelian-scholastic tradition known to him. Yet it is, of course, one thing to ask what Descartes might have meant by the terms “*a priori*” and “*a posteriori*”, and quite another to ask what if anything about Descartes’ use of these terms actually moved Kant to employ them in the way that he did; and the responses to each of these questions are by no means bound to be coextensive. At any rate, it is solely the former of these queries that I intend to tackle directly in the present study. The latter question is to be understood as acting merely as the chief motivational goal of the entire enterprise: I do not pretend to be in a position to answer it positively even should I succeed in answering the former.

There are fifteen occurrences of the terms “*a priori*” and/or “*a posteriori*” in Descartes’ extant corpus.³ Even a brief initial survey reveals that Descartes *prima facie* employs the terms in a considerably uniform manner: as adjectives or adverbs, respectively, the terms in question modify most frequently (manners of) demonstration,⁴ and occasionally also (manners of) reasoning, proof, explication, deduction, investigation, and (the process of) cognition.⁵ It is the last item of this cluster in terms of which Descartes’ usage of the *a priori*–*a posteriori* pair can be rendered unified in a certain important respect: the general context is clearly that of gaining a (presumably somehow specific sort of) cognition (*connaissance*, *cognitio*); and the other terms of the cluster denote various aspects or moments or kinds of the corresponding cognitive operations or processes.

It will soon become clear that the specific sort of cognition with which Descartes is properly concerned in the contexts in which the *a priori*–*a posteriori* pair enters on stage is what he generally calls *scientia*, i.e. the cognition that provides for certain, evident, and true judgments, or else for

³ Viz. *Mers.*, AT I, 250–51; 489–90; AT II, 31; 432–33; AT III, 82; *a Plempius*, AT I, 476; *au P. Vatier*, AT I, 563; *a M. de Beaune*, AT II, 514; *Hyp.*, AT III, 422–23; *a Regius*, AT III, 505–506; *a Boswell(?)*, AT IV, 689; *Burm.*, AT V, 153; *Resp.* 2, AT VII, 155–57; *Resp.* 5, 358; *Le Monde*, AT XI, 47.

⁴ AT I, 476, AT III, 422: *demonstrare*; AT I, 489: *façon de démonstrer*; AT I, 563, AT II, 31, AT XI, 47: *demonstration(s)*; AT III, 505: *rationes, siue demonstrationes*; AT VII, 155–56: *rationes demonstrandi*.

⁵ AT III, 82: *raison*; 505: *rationes, siue demonstrationes*; AT V, 153: *argumentum*; AT IV, 689: *probatio*; AT I, 476: *explicatio*; AT II, 514: *deduction*; AT VII, 358: *investigatio*; AT I, 250–51: *connaissance*; AT II, 433, AT XI, 47: *connoistre*.

a more or less complex system of such judgments.⁶ Thus it sounds a reasonable point of departure to take the *a priori* and the *a posteriori* in Descartes, as regards their general function, as modifying (either in the process sense or in the product sense) various ways of gaining scientific cognition, and by analogy the resulting product, viz. a gained *scientia* itself.

Unfortunately, the situation is much less straightforward with regard to the question of the very meaning of the *a priori*–*a posteriori* pair in Descartes. This is above all due to two closely interconnected facts. Firstly, while Descartes' usage is thematically and functionally unified in the general way we have just indicated, he employs the terms in question in very different cognitive fields, most importantly in mathematical, physical,⁷ and metaphysical contexts; and it is far from clear that enough common ground could be extracted from these diverse fields to keep the meaning of the *a priori* and/or the *a posteriori* one and the same when passing from one field to another. Secondly, at least two distinct intellectual strains seem to lie in the background of Descartes' notion(s) of the *a priori* and the *a posteriori*, viz. the Aristotelian conception of scientific reasoning on the one hand, and, on the other hand, the mathematical strains involving an ancient tradition of mathematical analysis and modern conceptions of algebra. While it shall turn out clear enough that each of these strains undergoes certain significant transformations in Descartes' hands and that Descartes wishes both of

⁶ Such a general notion of *scientia* comes out particularly distinctly in *Reg. I–IV*. See especially *Reg. II*, AT X, 362: “Omnis scientia est cognitio certa & evidens Atque ita per hanc propositionem rejicimus illas omnes probabiles tantum cognitiones, nec nisi perfectè cognitæ, & de quibus dubitari non potest, statuimus esse credendum.”

⁷ By physics (and its grammatical kin) I will henceforth refer to what Descartes himself normally calls *Physique* or *Physica*, i.e., roughly, (i) to Descartes' fundamental investigation of material reality with respect to motion and rest to be found above all in the bulk of *Princ. II* and in certain portions of *Le Monde*, and (ii) to Descartes' employment of the results of (i) in explaining various material phenomena which can be found above all in the bulk of *Princ. III* and *IV*, in *La Dioptrique* and in *Les Meteores*. Roughly speaking, an essential contrast between Descartes' physics on the one hand and, on the other, mathematics as practiced by him is drawn by Descartes in metaphysical terms; as he puts it in *Burm.*, AT V, 160, “differentia [inter objectum Matheseos et objectum Physices] in eo solùm est, quod Physica considerat objectum suum <non solùm tanquam> verum et reale ens sed tanquam actu et quâ tale existens, Mathesis autem solùm quâ possibile, et quod in spatio actu non existit, at existere tamen potest” (“non solùm tanquam” is a plausible conjecture by the AT editors).

them somehow to interplay in the relevant contexts, it shall turn out far from clear, once again, how exactly he thought this could work and what consequences are to be drawn with regard to the meaning(s) of the *a priori* and the *a posteriori*.

As I see it, the former worry can only be addressed appropriately if it is clarified how Descartes actually proceeds, in relevant respects, in mathematics, physics and metaphysics respectively and also if the latter complication concerning the indicated interplay between the two historical strains is addressed in some detail. In view of the overwhelming complexities which the topic as a whole eventually brings about, and for reasons of space, I deliberately limit myself to the latter of the two aforementioned tasks. This, of course, is likely to amount to the most significant limitation to the present study. Furthermore, before I set out to unravel the conundrums in which the complexities of the relevant tasks are likely to result, it is necessary to outline the essentials of Descartes' general conception of those matters to which, arguably, he ascribes the characterization of *a priori*: that is to say, scientific knowledge (*scientia*), and even more generally, cognition.

The structure of the study is thus roughly as follows. Assuming that for Descartes the *a priori* has to do with gaining a specific kind of cognition, namely the so-called *scientia*, the task of Chapter One is to discuss Descartes' general conception of cognition, explain the sense in which *scientia* counts as a privileged kind of cognition and secure the possibility of *scientia* in view of Descartes' own commitments. The aim of Chapter Two is to discuss the human cognitive faculties that to Descartes are capable of and responsible for the *scientiæ* in the sense specified in the previous chapter, and to consider how those faculties are put to work to bring about *scientiæ*. Chapter Three pursues a salient strain that is arguably at work in the constitution of the meaning Descartes associates with the term "*a priori*", namely deployment of a method derived from his re-interpretation and extension of analysis as a heuristic procedure in mathematics. In Chapter Four I try to provide a general account of how the method of analysis based upon the algebraic paradigm is supposed to be put to work in Descartes. Finally, the aim of Chapter Five is to integrate into the meaning of the terms "*a priori*" and "*a posteriori*", as it will have issued from previous chapters, the causal strata of the Aristotelian meaning of the *a priori*–*a posteriori* distinction.

CHAPTER ONE

COGNITION AND *SCIENTIA*

Familiarly enough, Descartes' concerns with epistemological issues and the ontology of cognition are motivated by his wide-ranging programmatic ambition—itsself framed, however provisionally, by the practical goals of individual happiness (to be attained through “acquerir toutes les vertus, & ensemble tous les autres biens, qu'on puisse acquerir,” *DM 3*, AT VI, 28) and of the envisaged “bien general de tous les hommes” (*DM 6*, AT VI, 61)¹—to provide the entire body of human cognition with solidity and firmness by way of ensuring that, ideally, each speculative cognitive act be marked with certainty, evidence and truth.² According to Descartes, two closely interconnected essential moments are entailed in such a fundamental project: firstly, one is to enter into the labour of overturning all one has thus far admitted as true and rebuild one's body of cognition

¹ As for the individual goals, see in particular the splendid passage concerning the fourth prescript of Descartes' provisional morals in *DM 3*, AT VI, 27–28, and *Reg. I*, AT X, 361: “[Q]uæramus scientias vtilis ad vitæ commoda, vel ad illam voluptatem, quæ in veri contemplatione reperitur, & quæ fere vnica est integra & nullis turbata doloribus in hac vitâ felicitas.” As for the latter, collective goals, see in particular *DM 6*, AT VI, 61–62, and also *ibid.*, 68–69 and 78. However, the present study is surely not the place to get involved in any detailed discussion of the practical framing of Descartes' theoretical intellectual program.

² This point (like those immediately following) is so familiar that it scarcely needs documentation. It comes out concisely e.g. in the first two precepts of the *Regule*. See *Reg. I*, AT X, 359: “Studiorum finis esse debet ingenij directio ad solida & vera, de ijs omnibus quæ occurrunt, proferenda iudicia.” *Reg. II*, AT X, 362: “Circa illa tantum objecta oportet versari, ad quorum certam & indubitatum cognitionem nostra ingenia videntur sufficere” Cf. also *DM 1–2*, especially the first methodical precept in *DM 2*, AT VI, 18: “Le premier [precepte] estoit de ne recevoir iamais aucune chose pour vraye, que ie ne la connusse euidentement estre telle: c'est a dire, d'euter soigneusement la Precipitation, & la Preuention; & de ne comprendre rien de plus en mes iugemens, que ce qui se presenteroit si clairement & si distinctement a mon esprit, que ie n'eusse aucune occasion de le mettre en doute.”

anew on solid and firm foundations;³ and secondly, one is to find a correct and unitary method the employment of which would ensure that the re-building in which one is engaged keeps the prescribed course.⁴

Furthermore, Descartes makes it clear on several occasions that while beliefs concerning the nature of human cognition as such are not, of course, spared the all-embracing meliorative demolition plan, the question of the nature and scope of human cognition is the very first to be dealt with once an attempt at re-building the fabric of our knowledge upon firm foundations is set out. Thus he writes in *Reg. VIII*, AT X, 397–98:⁵

³ See *Med. I*, AT VII, 17: “Animadverti jam ante aliquot annos quàm multa, ineunte ætate, falsa pro veris admiserim, & quàm dubia sint quæcunque istis postea superextruxi, ac proinde funditus omnia semel in vitâ esse evertenda, atque a primis fundamentis denuo inchoandum, si quid aliquando firmum & mansurum cupiam in scientiis stabilire.” See Harry Frankfurt, *Demons, Dreamers, & Madmen* (Indianapolis: Bobbs-Merrill Company, 1970), ch. 2 for a brilliant discussion of the chief interpretative problems that Descartes’ general overthrow of belief brings about.

⁴ One question that will not be considered at all in this study is what exactly motivates Descartes’ conviction that such a radical re-establishment of literally the entire body of human beliefs is needed *semel in vitâ*; Descartes’ intention to offer a viable alternative to Aristotelian natural science via attacks on the basically empirical commonsense epistemology, and Descartes’ endeavour to render at least some types of human beliefs immune to attacks of the then revived radical scepticism, appear to count as the most plausible initial responses which seem, for that matter, not to preclude one another. For the most convincing expositions that emphasize the former motivation (without eschewing the latter altogether, however), see Étienne Gilson, *René Descartes’ Discours de la méthode: texte et commentaire* (Paris: J. Vrin, 1925), part 2, ch. 1; Margaret Wilson, *Descartes* (London: Routledge, 2005), electronic edition, ch. 1; Daniel Garber, “*Semel in vita*: The Scientific Background to Descartes’ *Meditations*,” in *Essays on Descartes’ Meditations*, ed. Amélie Rorty (Berkeley: University of California Press, 1986), 81–116; James Hill, *Descartes and the Doubting Mind* (New York: Continuum International Publishing Group, 2012), ch. 3–4. For classical accounts trading mainly upon the latter motivation, see Edwin Curley, *Descartes against the Sceptics* (Cambridge: Harvard University Press, 1978); Richard Popkin, *The History of Scepticism from Erasmus to Descartes* (Assen: Van Gorcum & Comp., 1960), ch. 9–10.

⁵ Cf. also what Descartes writes a page or two earlier in the same *Regula* (the passage is in fact an earlier attempt at treating the same issue; see ch. 4, fn. 104):

Si quis pro quæstione sibi proponat, examinare veritates omnes, ad quarum cognitionem humana ratio sufficiat (quod mihi videtur semel in vitâ faciendum esse ab ijs omnibus, qui seriò student ad bonam mentem pervenire), ille profectò per regulas datas inveniet nihil priùs cognosci

[C]ùm in his initijs nonnisi incondita quædam præcepta, & quæ videntur potiùs mentibus nostris ingenita, quàm arte parata, poterimus invenire, ... ijsdem priùs vtendum ad alia, quæcumque ad veritatis examen magis necessaria sunt, summo studio perquirenda At verò nihil hîc vtilius quæri potest, quàm *quid sit humana conditio & quousque extendatur*. Ideoque *nunc hoc ipsum vnicâ quæstione complectimur, quam omnium primam per regulas jam antè traditas examinandam esse censemus*; idque semel in vitâ ab vnoquoque ex ijs, qui tantillùm amant veritatem, esse faciendum (my emphases).

It is, as far as I can see, precisely this insight that lies behind Descartes' notorious turn to the question of *quisnam sim ego ille, qui jam necessario sum* in *Med. II*, AT VII, 25:

[O]mnibus satis superque pensitatis, denique statuendum sit hoc pronuntiatum, *Ego sum, ego existo*, quoties a me profertur, vel mente concipitur, necessario esse verum. Nondum verò satis intelligo, quisnam sim ego ille, qui jam necessario sum; deinceps que cavendum est ne forte quid aliud imprudenter assumam in locum meî, sicque aberrem etiam in eâ cognitione, quam omnium certissimam evidentissimamque esse contendo.

Let us have a closer look, therefore, at what constitute the essentials of the positive views at which Descartes arrives concerning the nature and scope of human cognition.⁶

posse quàm intellectum, cùm ab hoc cæterorum omnium cognitio dependeat, & non contrâ; perspectis deinde illis omnibus quæ proximè sequuntur post intellectûs puri cognitionem, inter cætera enumerabit quæcumque alia habemus instrumenta cognoscendi præter intellectum Omnem igitur collocabit industriam in distinguendis & examinandis illis ... cognoscendi modis ..." (AT X, 395–96).

Also cf. *RV*, AT X, 505: "*Poliandre*. –Dites-nous donc aussy l'ordre que vous tiendrés pour expliquer chasque matiere. *Eudoxe*. –Il faudra commencer par l'ame raisonnable, pour ce que c'est en elle que reside toute nostre connoissance; & [par considerer] sa nature & ses effets"

⁶ Anything pretending to count as a full account of the issue is, of course, far beyond the scope of the present study. What follows is just an outline of Descartes' complex conception. I do nonetheless take a stand on several significant points of controversy in contemporary Descartes scholarship and try to defend my interpretative conclusions.

1.1 *Cogitatio* and Its Modes

Descartes conceives of cognition in general as a matter of acts or operations of thinking (*cogitatio*).⁷ *Cogitatio* in the material sense of a faculty, or active potentiality,⁸ plays for Descartes the rôle of the essential attribute of the mind articulated ontologically as a *res cogitans*.⁹ Particular occurrent (and usually temporary) *cogitationes* are then articulated by Descartes as modes or acts or actions (*modi, actus, actiones*) of the

⁷ Of dozens of references, cf. e.g. *Med. III*, AT VII, 37; *ibid.*, 40; *Med.(f) III*, AT IX-1, 29; *Resp. 2*, AT VII, 160; *Princ. I*, 32, AT VIII-1, 17; *Mers.*, AT I, 366.

⁸ See *Notæ*, AT VIII-2, 358: “mens sive cogitandi facultas”; *ibid.*, AT VIII-2, 361: “nomen facultatis nihil aliud quam potentiam designat”. The employment of the Aristotelian conceptual framework here is justified by the fact that Descartes himself invokes it whenever he wishes to seriously discuss the ontology of cognition: cf. in particular *Med. III*, AT VII, 40–42; *Resp. 2*, AT VII, 160–61; *Resp. 4*, AT VII, 232.

⁹ Cf. especially *Med. II*, AT VII, 27; *Princ. I*, 53, AT VIII-1, 25; *Resp. 3*, AT VII, 176; *DM 4*, AT VI, 32–33. At AT VII, 27, Descartes treats “*mens*” as synonymous with “*animus, sive intellectus, sive ratio*”; yet he seems eventually to settle, in the *Meditationes* and elsewhere, on “*mens*” as the most appropriate term. This should come as no surprise since at least *intellectus sive ratio* turns out to count as just one of two principal faculties with which *mens sive res cogitans* is endowed according to Descartes’ final verdicts in *Med. IV* and *Princ. I*, 32–34, AT VIII-1, 17–18; yet erroneous identification of understanding with the principal attribute of Descartes’ *res cogitans* keeps popping out in scholarly literature on Descartes—cf. e.g. Martial Guéroult, *Descartes selon l'ordre des raisons*, vol. 1 (Paris: Aubier, 1953), 63–67, 76–81; Marleen Rozemond, “The Role of the Intellect in Descartes’s case for the Incorporation of the Mind,” in *Essays on the Philosophy and Science of René Descartes*, ed. Stephen Voss (New York: Oxford University Press, 1993), 106–107.—As is rightly noted in Hill, *Doubting Mind*, 65–66, the absence of “*anima*” in the list of arguably synonymous terms is highly significant at any rate as “it is a sign that Descartes does not wish us to equate *res cogitans* with Aristotle’s soul, ‘the first principle of living things’.... So the reference to *mens* at the beginning of the list [of synonyms in AT VII, 27] indicates that we are at least talking of the higher rational functions peculiar to humans.” This is confirmed almost verbatim by *Resp. 7*, AT VII, 491: “[Q]uæsiivi [in *Med. II*] an aliquid in me esset ex iis, quæ animæ prius a me descriptæ tribuebam, cùmque non omnia quæ ad ipsam retuleram in me invenirem, sed solam cogitationem, ideo non dixi me esse animam, sed tantùm rem cogitantem, atque huic rei cogitanti nomen mentis, sive intellectûs, sive rationis, imposui [A]deo ut dubitari non possit quin præcise idem tantùm per illas ac per nomen rei cogitantis intellexerim.” Cf. also Rozemond, “Role of the Intellect,” 101.

essential attribute *Cogitatio*,¹⁰ and he explains them in terms of immediate *conscientia*.¹¹ As for the metaphysical relationship between particular *cogitationes quâ* modes and the mind or *res cogitans*, Descartes makes it clear that while particular *cogitationes* can never exist and never be clearly understood separately of the mind of which they are modes,¹² the corresponding mind can clearly be understood without any of its particular *cogitationes*,¹³ and although it is essential to it that it is modified with *some* particular *cogitatio* (or *cogitationes*)¹⁴ at any moment of its existence, it is not the case that any of the particular *cogitationes* it is actually modified with is essential to it.¹⁵

Descartes' basic classification of the *modi cogitandi* can be extrapolated by way of gathering together several passages from his writings.¹⁶ To begin with, according to him *modi cogitandi* are of two general kinds, viz. *perceptio, sive operatio intellectûs* on the one hand and *volitio, sive*

¹⁰ See *Resp. 3*, AT VII, 174: “[C]ogitatio [sumi solet] interdum pro actione, interdum pro facultate, interdum pro re in quâ est facultas.” For the occurrent *cogitationes* as *modi, actus* or *actiones*, see in particular *Princ. I*, 56; 61; 64–65, AT VIII-1, 26; 29; 31–32; *Med. III*, AT VII, 34–35; *Pour Arnauld*, AT V, 221; *Resp. 3*, AT VII, 175–76.

¹¹ See *Resp. 2*, AT VII, 160; *Princ. I*, 9, AT VIII-1, 7–8.

¹² See e.g. *Princ. I*, 64, AT VIII-1, 31: “[M]odò [plures cogitationes istas] non ut substantiæ, sive res quædam ab aliis separatæ, sed tantummodo ut modi rerum spectentur. Per hoc enim, quòd ipsas in substantiis quarum sunt modi consideramus, eas ab his substantiis distinguimus, & quales revera sunt agnoscimus. At è contra, si easdem absque substantii, quibus insunt, vellemus considerare, hoc ipso illas ut res subsistentes spectaremus, atque ita ideas modi & substantiæ confunderemus.”

¹³ See *Princ. I*, 61, AT VIII-1, 29: “[*Distinctio modalis* inter modum propriè dictum, & substantiam cujus est modus] ex eo cognoscitur, quòd possimus quidem substantiam clarè percipere absque modo quem ab illâ differre dicimus, sed non possimus, viceversâ, modum illum intelligere sine ipsâ.”

¹⁴ See *Burm.*, AT V, 148: “Quod mens non possit nisi unam rem simul concipere, verum non est: non potest quidem simul multa concipere, sed potest tamen plura quàm unum; e.g., jam ego concipio et cogito simul me loqui et me edere.”

¹⁵ See *ibid.*, AT V, 150: “Et mens nunquam sine cogitatione esse potest; potest quidem esse sine cogitatione hac aut illâ, sed tamen non sine omni”

¹⁶ I take *Princ. I*, 32–34, AT VIII-1, 17–18 as the main point of departure, but I take into consideration the other standard *loci* as well, viz. *Princ. I*, 9 and 65, AT VIII-1, 7–8 and 32, respectively; *Med. II, III, and IV*, AT VII, 28 and 34, 37, and 56–57, respectively; *Resp. 2*, AT VII, 160; *Reg. VIII and XII*, AT X, 395–96, 398; and 410–16, respectively.

operatio voluntatis on the other.¹⁷ The two kinds differ, roughly and most generally, by way of the contrast between activity and passivity of the mind: as Descartes tells Regius, “Volitio vero & intellectio ... differunt tantum vt actio & passio eiusdem substantiæ. *Intellectio enim propriè mentis passio est, & volitio eius actio ...*” (*A Regius*, AT III, 372; Descartes’ emphasis), a view which is confirmed a few years later in *Les Passions de l’ame*.¹⁸ The modes of thought Descartes takes as falling under the heading of *intellectus* (or its operations) are sensation, imagination and pure understanding (*sentire, imaginari, & purè*

¹⁷ The classification is clearly stated in particular in *Princ. I*, 32, AT VIII-1, 17: “*Duos tantum in nobis esse modos cogitandi, perceptionem scilicet intellectus & operationem voluntatis. Quippe omnes modi cogitandi, quos in nobis experimur, ad duos generales referri possunt: quorum unus est perceptio, sive operatio intellectus; alius verò volitio, sive operatio voluntatis. Nam sentire, imaginari, & pure intelligere, sunt tantum diversi modi percipiendi; ut & cupere, aversari, affirmare, negare, dubitare, sunt diversi modi volendi*” (Descartes’ italics). Cf. also *Reg. XII*, AT X, 415–16; *Med. IV*, AT VII, 56–57; *A Elisabeth*, AT III, 665. Descartes refers to the two kinds at issue with *modus* in *Princ. I*, 32; it should be clear that this sense of the term “*modus*” (in which it is virtually synonymous with “species” or “kind”) is not to be confused with the sense in which “*modus*” is employed to signify particular *cogitationes* as opposed to the essential attribute *Cogitatio* (in this latter sense, “*modus*” is virtually synonymous with “*actus*” or “*operatio*”).

¹⁸ Cf. *ibid.*, I, 17, AT XI, 342: „[I] ne reste rien en nous que nous devons attribuer à nostre âme, sinon nos pensées, lesquelles sont principalement de deux genres: à sçavoir, les unes sont les actions de l’ame, les autres sont ses passions. Celles que je nomme ses actions, sont toutes nos volentez Comme, au contraire, on peut generally nommer ses passions, toutes les sortes de perceptions ou connoissances qui se trouvent en nous” As has commonly been noticed, this determination of *operationes intellectus* does not contradict Descartes’ standard talk of the particular modes of *operationes intellectus* as acts (*actus*) since the term “act” has two different meanings in Descartes’ hands: in the broader sense, “act” means as much as actuality, as opposed to potentiality; and in the narrower sense, “act” means (the product of) activity, as opposed to passivity. As is remarked by Vere Chappell, “The Theory of Ideas,” in Rorty, *Essays on Descartes’ Meditations*, 196, Descartes sometimes reserves the term “*actus*” for the broader meaning and the term “*actio*” for the narrower meaning (see e.g. *Resp. I*, AT VII, 103 for the former case, and the just quoted AT III, 372 for the latter case); but—as Chappell also notices (*ibid.*)—Descartes is not consistent in this. See Lex Newman, “Descartes on the Will in Judgment,” in *A Companion to Descartes*, ed. Janet Broughton and John Carriero (Oxford: Blackwell Publishing, 2008), 334–36 for a more detailed up-to-date treatment of these matters.

intelligere)¹⁹ and perhaps also memory (*memoria, recordatio*),²⁰ the modes he takes as falling under the heading of *voluntas* (or its operations) are desire, aversion, affirmation, negation, and doubt (*cupere, aversari, affirmare, negare, dubitare*).²¹

Of numerous substantial points implied in this compressed and simplified initial exposition, at least two call for further development with regard to the purposes of the present study: namely (i) the cognitive rôles Descartes attributes to each of both kinds of *modi cogitandi*, viz. *operationes intellectûs* and *operationes voluntatis*, respectively, and (ii) the nature of the types of *operationes intellectûs*, viz. pure intellection, imagination, sensation, and the relations holding between them according to Descartes. I deal with these issues in turn in the following two subsections.

1.1.1 Understanding, Will, and Judgments

Descartes deals with the issue of the respective cognitive rôles of *operationes intellectûs* and *operationes voluntatis* in terms of the pivotal distinction between apprehensions (or *perceptiones* as Descartes usually calls them) of an arguably propositionally structured subject matter on the one hand, and judgments concerning the content thus apprehended on the other. The distinction is most explicitly introduced, though somewhat

¹⁹ Thus in *Princ. I*, 32; cf. also *ibid.*, *I*, 9; *Resp. 2*, AT VII, 160; *Resp. 3*, AT VII, 176; *Reg. VIII*, 395–96; *Mers.*, AT I, 366.

²⁰ *Memoria* is included in the list of cognitive faculties in *Reg. XII*, AT X, 411: “In nobis quatuor sunt facultates tantùm, quibus ad [cognitionem] vti possimus: nempe intellectus, imaginatio, sensus, & memoria.” Cf. also the very precept of *Reg. XII*, AT X, 410: “Denique omnibus vtendum est intellectûs, imaginationis, sensûs, & memoriæ auxilijs ...” and *Reg. VIII*, AT X, 398. However, Descartes mentions memory (under the name of *recordatio*) in a relevant context even in *Princ. I*, 65 (omitting sensory perception instead). Despite these occurrences, the rank of the issue of memory in Descartes’ lists of the *operationes intellectus* is somewhat precarious and I will put memory to one side for the rest of the book since it is not needed to deal with it, as far as I can tell, with regard to the aims I will be pursuing. See Anne Davenport, “What the Soul Remembers: Intellectual Memory in Descartes,” *The New Arcadia Review* 3 (2005), 1–5 for a good basic survey of the issue.

²¹ Thus in *Princ. I*, 32. This last enumeration seems to be complete. Other similar lists of the *modi cogitandi* in question add nothing over and above the items enumerated in it; cf. especially *Med. II*, AT VII, 28 and 34.

tentatively and, in fact, improperly (as we shall see in a moment), in *Med. III*, AT VII, 37.²²

Quædam ex [cogitationibus meis] tanquam rerum imagines sunt, quibus solis proprie convenit ideæ nomen Aliæ verò alias quasdam præterea formas habent: ut, cùm ... affirmo, cùm nego, semper quidem aliquam rem ut subjectum meæ cogitationis apprehendo, sed aliquid etiam amplius quàm istius rei similitudinem cogitatione complector; & ex his ... [quædam] judicia appellantur.

Furthermore, Descartes makes it clear in several places that while it is nothing but understanding—presumably in the generic sense of *operatio intellectûs*—that is responsible for the propositional cognitions of apprehension, judgments are due to a certain sort of joint operation of understanding and volition.²³

Non solum intellectum, sed etiam voluntatem requiri ad iudicandum. Atque ad iudicandum requiritur quidem intellectus, quia de re, quam nullo modo percipimus, nihil possumus iudicare; sed requiritur etiam voluntas, ut rei aliquo modo perceptæ assensio præbatur (*Princ. I*, 34, AT VIII-1, 18)

The proper contribution of the faculty of *voluntas* to the constitution of any judgment is thus clearly that it provides for acts of affirmation or else of denial, conceived of as being what we would nowadays call (the

²² Cf. also Descartes' impatient explanation to Hobbes in *Resp. 3* concerning this passage: "Per se notum est ... aliud esse videre hominem currentem, quàm sibi ipsi affirmare se illum videre" (AT VII, 182–83). As in *Princ. I*, 32, Descartes also includes the conative attitudes of desire and aversion in the list of the *quædam præterea formæ* in the quoted AT VII, 37. However, Descartes himself immediately draws a distinction between *voluntates sive affectus* (i.e. presumably desires and aversions) and *judicia* (i.e. presumably the doxastic, as opposed to conative, operations) there, and I limit my discussion to this latter, doxastic class of Descartes' *operationes voluntatis* from now on as it is only judgments in the indicated sense that are relevant to our purposes. The distinction between *perceptiones* and *judicia* is then clearly at work in Descartes' account of error in *Med. IV* and in *Princ. I*, 32–36.

²³ Cf. also e.g. *Med. IV*, AT VII, 56; *Notæ*, AT VIII-2, 363: "Ego enim, cùm viderem, præter perceptionem, quæ prærequiritur ut iudicemus, opus esse affirmatione vel negatione ad formam iudicii constituendam, nobisque sæpe esse liberum ut cohibeamus assensionem, etiamsi rem percipiamus: ipsum actum iudicandi, qui non nisi in assensu, hoc est, in affirmatione vel negatione consistit, non retuli ad perceptionem intellectûs, sed ad determinationem voluntatis."

doxastic kind of) propositional mental attitudes—attitudes towards a content supplied by the understanding.²⁴

To draw the threads of the present exposition together in the meantime, it clearly emerges that for Descartes the proper *locus* of cognition is judgment, treated along the lines so far explicated,²⁵ while he reserves the term “*perceptio*” for cognition in the narrower sense of apprehension of a given content. Furthermore, while cognition is therefore, like judgment, subject to the process-product ambiguity, Descartes is usually prone to reserving “*judicium*” for acts of cognition and “*cognitio*” for the (more or less retained) products of such cognitive acts.²⁶ I will follow this practice in the present study from now on.

This is not the place to venture any thorough assessment of the merits of Descartes’ *prima facie* somewhat awkward claim that doxastic attitudes such as affirmation or negation (or suspension of judgment for that matter) are matters of free will.²⁷ What is to be addressed now, in view of the main topic of the present study, are several issues concerning the apprehended content, i.e. the objects of *operationes intellectūs*.

To begin, it has been observed and commonly agreed that in so far as Descartes identifies (as he does) judgments as the only *locus* of truth and falsehood (or error) properly so called,²⁸ and in so far as the relevant

²⁴ Cf. *Hyp.*, AT III, 432: “[N]eque enim voluntatis est intelligere, sed tantum velle; ac ... nihil unquam velimus, de quo non aliquid aliquo modo intelligamus” Cf. also *A Regius*, AT III, 372: “[Q]uia nihil unquam volumus, quin simul intelligamus, & vix etiam quicquam intelligimus, quin simul aliquid velimus, ideo non facile in ijs passionem ab actione distinguimus.” Similarly also at *Resp.* 5, AT VII, 377.

²⁵ Cf. e.g. *Med. II*, AT VII, 35: “Nempe in hac primâ cognitione nihil aliud est, quàm clara quædam & distincta perceptio ejus quod affirmo”

²⁶ This tendency of Descartes’ is vividly present especially in *Med. IV*.

²⁷ For an excellent defence of Descartes’ “two-faculty theory” of judgment see David Rosenthal, “Will and the Theory of Judgment,” in Rorty, *Essays on Descartes’ Meditations*, 405–34.

²⁸ Cf. *Med. III*, AT VII, 36–37: “[N]unc autem ordo videtur exigere, ut ... [inquiram] in quibusnam ex [cogitationibus meis] veritas aut falsitas proprie consistat Jam quod ad ideas attinet, si solæ in se spectentur, nec ad aliud quid illas referam, falsæ proprie esse non possunt Nulla etiam in ipsâ voluntate, vel affectibus, falsitas est timenda Ac proinde sola supersunt judicia, in quibus mihi cavendum est ne fallar.” The French translation of this passage (AT IX-2, 29) has “la vérité ou l’erreur” for “veritas aut falsitas.” This is symptomatic of Descartes’ peculiar (and arguably controlled) running together of falsity and error—the point I will touch upon below. Cf. also *Med. III*, AT VII, 43: “[F]alsitatem proprie dictam, sive formalem, nonnisi in judiciis posset reperiri paulo ante notaverim”

mental attitudes towards the perceived content that form judgments (which attitudes he takes as amounting to the *operationes voluntatis*) are, according to him, the acts of assent or dissent, he is committed to treating the perceived content as essentially propositional in nature.²⁹ It is, of course, natural to suppose that these considerations did not elude Descartes and that he does acknowledge the commitment at issue; indeed, direct textual evidence to this effect is strong enough.³⁰ However, two familiar complications, both peculiar to Descartes' treatment, are lurking here. They must now be addressed in turn.

As in the above-quoted AT VII, 37 and elsewhere,³¹ Descartes sometimes seems to imply that the objects of judgments are ideas while he declares, by the same token, that he wishes to reserve the term "idea", taken properly, to denote *things* (and more generally, perhaps in a somewhat broader sense, any sub-propositional items)³² in so far as they are the objects of one's cognitive acts (or, as he usually puts it in scholastic terminology, in so far as the things at issue have so-called

²⁹ Bernard Williams puts the core point cogently in his *Descartes: The Project of Pure Enquiry* (Abingdon: Routledge, 2005), electronic edition, 167: "I can assent only to something of the nature of a proposition: one believes, or refuses to believe, *that such-and-such is the case*" (Williams' emphasis).

³⁰ *Propositiones* in the relevant sense are taken as the proper objects of *cognitio* and *judicio*, respectively, quite standardly throughout the *Regulæ*; for explicit pronouncements to this effect see e.g. *Reg. III*, AT X, 370; *Reg. V*, AT X, 379; *Reg. VI*, AT X, 383; 386–87; *Reg. X*, AT X, 405; *Reg. XI*, AT X, 407; 409; *Reg. XII*, AT X, 410; 421–22; 428; *Reg. XIII*, AT X, 434; *Reg. XIV*, AT X, 438; 449; 452; *Reg. XVII*, AT X, 460. The objects of judgments are explicitly identified with *propositiones* at *Resp. 6*, AT VII, 445. Further, there are numerous places in the *Principia* where *judicium* (or its grammatic varieties) is connected with a proposition (see e.g. *Princ. I*, 11; 66; 68; 70; *Princ. II*, 17; 20; 37; 52; *Princ. III*, 4; *Princ. IV*, 198; 201) while there is none in which *judicium* is connected with *idea*, and just three places in which the object of *judicium* is identified with *res*—a term, however, which is used so loosely by Descartes (as it is indeed in the bulk of the Latin tradition and perhaps even by us) that it might signify both ideas and propositions, depending on circumstances.

³¹ Cf. in particular *Med. IV*, AT VII, 56: "[P]er solum intellectum percipio tantum ideas de quibus *judicium ferre possum*" (my emphasis).

³² This extension seems to be the thrust of Descartes' response to Burman's question concerning the claim in *Med. III*, AT VII, 44 that "nullæ ideæ nisi tanquam rerum esse possunt": "[Burman:] Sed datur etiam idea nihili, quæ non est idea rei. [Descartes:] Illa idea est solum negativa, et vix vocari potest idea; auctor autem hic sumit ideam proprie et stricte. Aliæ etiam dantur ideæ notionum communium, quas non sunt ideæ rerum proprie; sed tum idea latius sumitur" (*Burm.*, AT V, 153).

objective being [*esse obiective*]).³³ Yet it would still be rash to attribute to Descartes the weird view that representations of things *tout court* could ever meaningfully be assented or dissented to in the literal sense. For one thing, his remarks concerning the so-called material falsity of ideas—ideas being *prima facie* taken in the above-established non-propositional sense in this context³⁴—imply that ideas in general may (though some of them perhaps need not)³⁵ “errandi materiam præbere” (*Resp. 4*, AT VII, 231–32);³⁶ and whenever Descartes gives an explanation of what he means by this clause, he incorporates (sub-propositionally conceived) ideas as components in manifestly propositional structures which then become the proper object of the corresponding judgments.³⁷ Furthermore—perhaps

³³ Apart from AT VII, 44 quoted in the previous footnote, cf. e.g. *Med. III*, AT VII, 37: “Quædam ex [cogitationes meis] tanquam rerum imagines sunt, quibus solis proprie convenit ideæ nomen: ut cum hominem, vel Chimæram, vel Cælum, vel Angelum, vel Deum cogito.” Also cf. *Princ. I*, 13–20, AT VIII-1, 9–12; *Resp. 1*, AT VII, 102–103.

³⁴ Cf. *Med. III*, AT VII, 43–44: “Quamvis enim falsitatem proprie dictam, sive formalem, nonnisi in iudiciis posset reperiri paulo ante notaverim, est tamen profecto quædam alia falsitas materialis in ideis, cum non rem tanquam rem repræsentant: ita, exempli causâ, ideæ quas habeo caloris & frigoris, tam parum claræ & distinctæ sunt, ut ab iis discere non possim, an frigus sit tantum privatio caloris, vel calor privatio frigoris, vel utrumque sit realis qualitas, vel neutrum. Et quia nullæ ideæ nisi tanquam rerum esse possunt, siquidem verum sit frigus nihil aliud esse quam privationem caloris, idea quæ mihi illud tanquam reale quid & positivum repræsentat, non immerito falsa dicitur, & sic de cæteris.”

³⁵ Descartes seems to commit himself to the view that some ideas can be materially true when he deals with *veras & immutabiles naturas* at *Med. V*, AT VII, 64–65 and elsewhere.

³⁶ Cf. also *Med. III*, AT VII, 37; *Burm.*, AT V, 152.

³⁷ Thus he says in *Med. III*, AT VII, 37: “Præcipuus autem error & frequentissimus qui possit in [iudiciis meis] reperiri, consistit in eo quod *ideas, quæ in me sunt, iudicem rebus quibusdam extra me positis similes esse sive conformes*; nam profecto, si tantum ideas ipsas ut cogitationis meæ quosdam modos considerarem, nec ad quidquam aliud referrem, vix mihi ullam errandi materiam dare possent” (my emphasis). Clearly enough, the judgment in question is not rendered false by assenting to a given idea *tout court* but by assenting to the propositionally structured item *idea mea rei quædam extra me positæ similis est*, in which the given idea amounts to just a subject. *Mutatis mutandis* similar remarks could be made regarding Descartes’ other explanations, viz. in *Resp. 4*, AT VII, 234, and in *Burm.*, AT V, 152. Williams summarizes the present point aptly: “[Descartes’ remark that there is a certain sense in which ideas can be said to be ‘materially false’] is no real qualification of the doctrine that ideas are not intrinsically true or false, since for the mind to be involved in any actual falsehood on the strength of one of these ideas it must do more than merely have the idea—it must move on to

even more importantly for our purposes—Descartes makes it clear on several occasions that the (presumably sub-propositional) content of at least some (and perhaps even all) ideas is, or at least can be in principle, internally structured, to the effect that the content of a given idea allows for articulation by a propositional clause.³⁸

In the light of this, the apparent conflict between Descartes' sub-propositional treatment of ideas on the one hand and, on the other, his propositional commitment regarding the objects of judgments, is likely to vanish.³⁹ Descartes emerges—at least *prima facie*—as entitled to treat the content of sub-propositional items as in principle capable of propositional rearrangement in either of both ways indicated and he seems to be far from failing (as some commentators complain) to distinguish carefully enough between concepts and propositional structures.⁴⁰ In the course of the

an assertion or judgement that things are in fact as this idea represents them” (Williams, *Descartes*, 116).

³⁸ Here are the most telling passages to this effect: “[V]ostre amy n’a nullement pris mon sens, lors que, pour marquer la distinction qui est entre les idées qui sont dans la fantasie, & celles qui sont dans l’esprit, il dit que celles-là s’expriment par des noms, & celles-cy par des propositions. Car, *qu’elles s’expriment par des noms ou par des propositions, ce n’est pas cela qui fait qu’elles appartiennent à l’esprit ou à l’imagination; les vnes & les autres se peuuent exprimer de ces deux manieres ...*” (*Mers.*, AT III, 395; my emphasis). “[Peto], ut [lectores] examinent ideas naturarum, in quibus multorum simul attributorum complexio continetur, qualis est natura trianguli, natura quadrati, vel alterius figuræ; itemque natura Mentis, natura Corporis, & supra omnes natura Dei, sive entis summe perfecti. Advertantque *illa omnia, quæ in iis contineri percipimus, vere de ipsis posse affirmari*. Ut, quia in naturâ Trianguli continetur ejus tres angulos æquales esse duobus rectis, & in naturâ Corporis, sive rei extensæ, continetur divisibilitas ..., verum est dicere omnis Trianguli tres angulos æquales esse duobus rectis, & omne Corpus esse divisibile” (*Resp.* 2, AT VII, 163; my emphasis). Cf. also the corresponding passage in *Med. V*, AT VII, 65; and *Mers.*, AT III, 383; 417.

³⁹ Also Descartes' presumably most authoritative definition of idea in *Resp.* 2 is thus vindicated vis-à-vis the charge that it renders the extension of the term “idea” much wider—in that it includes propositional items as well—than Descartes is entitled throughout the bulk of the *Meditationes*: “*Ideæ nomine intelligo cujuslibet cogitationis* [my emphasis] *formam illam, per cujus immediatam perceptionem ipsius ejusdem cogitationis conscius sum ...*” (*Resp.* 2, AT VII, 160). This definition is echoed in *Resp.* 3, AT VII, 188: “dicendo me per ideam intelligere id omne quod forma est alicujus perceptionis.” Cf. also *Resp.* 3, AT VII, 181: “[O]stendo me nomen ideæ sumere pro *omni eo quod immediate a mente percipitur*, adeo ut, cum volo & timeo, quia simul percipio me velle & timere, ipsa volitio & timor inter ideas a me numerentur” (my emphasis).

⁴⁰ Cf. e.g. Wilson, *Descartes*, 124 for such a complaint.

present study these conclusions are to be borne in mind whenever sub-propositional items such as concepts, natures, etc. as employed by Descartes are treated in connection with judgments or scientific cognition (i.e. cognition amounting, as we shall see, to a disposition to make judgments of a certain specific type).

The other group of aforementioned familiar complications concerns apparent inconsistencies in Descartes' overall distribution of labour among will, understanding and judgment. One or another inconsistency is implied—so the challenge goes—by the following triad of Descartes' claims: (i) that it is judgments that are the proper *locus* of (formal) truth and falsity;⁴¹ (ii) that every judgment consists of an apprehended content provided by the understanding on the one hand, and of assent or else dissent supplied by the will on the other hand;⁴² and—as has just been established—(iii) that the apprehended content, in so far as it is the object of either assent or dissent, is to be taken as propositionally structured. For (i) and (ii) together clearly rule out the possibility that the contribution of the understanding—the apprehended content—be in itself capable of either truth or falsity in the relevant sense; yet is it not the case that propositionally structured items—which is how Descartes is committed to treat the apprehended content by (iii)—are intrinsically true or false (at least in normal cases),⁴³ independently of whether any mind assents or dissents to them? But if so, then either (i) or (ii) must be discarded; if (i) gives way, then the likely diagnosis is that Descartes unwisely confounds error and correctness (which are properly attributed to judgments) on the one hand, and falsity and truth (which are properly attributed to propositions) on the other;⁴⁴ and if (ii) is to be abandoned, then the likely diagnosis is that contrary to what Descartes holds, voluntary operations are strictly superfluous with regard to the constitution of judgments since as soon as the understanding provides for a given content, affirmation or negation is produced *ipso facto* on the part of the given mind.⁴⁵

⁴¹ Cf. *Med. III*, AT VII, 36–37; 43.

⁴² Cf. in particular *Princ. I*, 34, AT VIII-1, 18.

⁴³ I.e. unless, for example, failure to refer, vagueness or the like come on stage.

⁴⁴ This line of criticism is suggested by Wilson, *Descartes*, 124. As she writes, “What could error be but the affirmation of *what is false*, or the denial of *what is true*?” (ibid.; Wilson's emphases).

⁴⁵ This charge is due to Edwin Curley, “Descartes, Spinoza and the Ethics of Belief,” in *Spinoza: Essays in Interpretation*, ed. Eugene Freeman and Maurice Mandelbaum (La Salle: Open Court, 1975), 159–89; see especially sec. II; Curley himself credits Spinoza with it.

The best response on Descartes' part to this apparently formidable dilemma is, I think, to reject the premise the dilemma hinges upon, namely the claim that it is necessary for propositional structures *tout court* to count as intrinsically either true or false.⁴⁶ For such a premise might sound plausible as long as propositional content is constructed along Fregean lines as an abstract object; yet—so the suggested response goes—it is misguided to attribute to Descartes such a Fregean notion. Firstly, at least one *prima facie* viable alternative seems to be ready at hand, viz. a notion to the effect that propositional content amounts to an integral constituent, or aspect, of the particular occurrent mental acts; and it is far from obvious that one is bound to take such tokens of mental acts as intrinsically true or false in the relevant sense.⁴⁷ Secondly, Descartes' commitments with regard to the ontology of representative *operationes intellectûs* seem likely to license the suggestion that we attribute to Descartes this latter alternative. Briefly and roughly, Descartes conceives of ideas (presumably in the above-established broad sense of representative modes of thought *tout court*), in so far as their ontological constitution is concerned, as complex entities the reality of which is made up, so to speak, of two positive ontological factors, namely the so-called *realitas formalis* and *realitas obiectiva*, respectively. The *realitas formalis* is that reality or perfection⁴⁸ which particular ideas obtain precisely due to the fact that they count as real forms that actually determine the attribute of *cogitatio*.⁴⁹

⁴⁶ I owe this suggestion, as well as the following line of reasoning, to Rosenthal, "Will and Judgment," 419–24.

⁴⁷ This is not the place to assess the systematic merits of the suggested alternative. The issue of the bearers of truth values, and the familiar problems faced by propositions *quâ* candidates in that rôle in view of token-reflexive items, are likely to play a pivotal part in any such assessment.

⁴⁸ Descartes clearly uses "*realitas*" and "*perfectio*" interchangeably throughout the relevant passages of *Med. III* and elsewhere (see in particular *Med. III*, AT VII, 40–44, especially in combination with *Med., Præfatio ad lectorem*, AT VII, 8; and *Princ. I*, 17, AT VIII-1, 11). He also occasionally uses "*realitas*" interchangeably with "*entitas*"—cf. *Resp. 2*, AT VII, 161. In this, Descartes seems just to follow the common scholastic practice of his time: see David Clemenson, *Descartes' Theory of Ideas*, London: Continuum International Publishing Group, 2007, 18–20.

⁴⁹ Cf. *Med. III*, AT VII, 41: "[P]utandum est ... talem esse naturam ... ideæ, ut nullam aliam ex se realitatem formalem exigat, præter illam quam mutuatur a cogitatione meâ, cujus est modus." *Resp. 2*, AT VII, 160–61: "*Ideæ* nomine intelligi cujuslibet cogitationis formam illam, per cujus immediatam perceptionem ipsius ejusdem cogitationis conscius sum [Ideæ] ... mentem ipsam ... informant." That Descartes is indeed prepared to conceive of the attribute of *cogitatio* as of the Aristotelian *materia*, in the sense of what is in itself