The Fate of the Flying Man

Medieval Reception of Avicenna's Thought Experiment

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1. INTRODUCTION

Thought experiments are nowadays an important part of philosophical discourse. They are used to illuminate theoretical arguments and to reveal philosophically significant features of an argument or a problem in a way that aspires to precision. Although the phrase 'thought experiment' itself is quite recent, the use of imagined counterfactual cases which are designed to have a role in philosophical argument can be traced back to Antiquity, and the technique was widely employed in the Middle Ages.¹ One of the most well-known medieval thought experiments is the so-called 'flying man' of Avicenna. The flying man is an imaginary person whose senses do not provide any input but who nevertheless admits his own existence, or the existence of his soul. Avicenna's idea was that this thought experiment helps us to understand that the soul is not identical to the body but an immaterial entity.

Modern scholarship has discussed the Latin reception of this thought experiment to some extent,² but there are a couple of issues that have not

¹ For the role of thought experiments in the history of Western philosophy, see Katerina Ierodiakonou and Sophie Roux (eds), *Thought Experiments in Methodological and Historical Contexts*, History of Science and Medicine Library 19 (Leiden: Brill, 2011), 1–142.

² Dag Nikolaus Hasse, Avicenna's De anima in the Latin West: The Formation of a Peripatetic Philosophy of the Soul, 1160–1300 (London: The Warburg Institute, 2000), 80–92 and 236; Deborah J. Brown, "Aquinas' Missing Flying Man," Sophia 40 (2001), 17–31; Étienne Gilson, "Les sources gréco-arabes de l'augustinisme avicennisant," Archives d'histoire doctrinale et littéraire du moyen âge 4 (1929), 40–2.

received as much attention as they deserve. The first is related to the changes in the argumentative role of the flying man.³ Avicenna's illustration was known to medieval authors in the Latin West through his De anima, which is a translation of the sixth book of his vast scientific and philosophical work Kitāb al-Shifā'. In the first stage of the reception, before the middle of the thirteenth century, medieval authors used the flying man roughly for the same purpose as Avicenna: to show the immateriality of the soul and its existence as something that is distinct from the body. Some authors understood the illustration solely as an argument for the existence of the soul, while others thought that it also revealed the nature of the soul, but it was unquestionably considered to be an ontological argument. The argumentative role of the flying man changed quite radically in the latter half of the thirteenth century, however, when the flying man was brought into an epistemological context and understood as an argument for the soul's ability to be directly aware of itself. Philosophers started to use the flying man as an epistemological argument rather than as an ontological one. In order to see how this change took place, I shall discuss all the known Latin versions of the flying man: Dominicus Gundissalinus (fl. c.1150), William of Auvergne (d. 1249), Peter of Spain (fl. c.1240?), John of la Rochelle (d. 1245), Matthew of Aquasparta (c.1240-1302), and Vital du Four (1260-1327).

The other neglected aspect of Avicenna's thought experiment is closely related to the change in the argumentative role that medieval authors gave to it. Namely, Avicenna and his early thirteenth-century readers agreed that the flying man is directly aware of his soul, but, at the same time, they needed to argue that he is totally unaware of his body. Lack of awareness of the body is one of the main premises in the ontological version of the thought experiment. When the emphasis shifted to the epistemological aspect of the thought experiment, the distinction between the soul and the body became peripheral to the argument. In order to establish that the soul can be directly aware of itself, it was not necessary anymore to hold on to the presupposition that it would be unaware of the body if it did not perceive external objects.

This development is fairly clear in the case of the late thirteenth-century authors. Matthew of Aquasparta does not mention bodily self-awareness or lack thereof at all. Vital du Four mentions it, but he shows some signs of

³ Although Hasse points out that certain Latin authors use the flying man for different purposes than Avicenna, he does not provide a detailed and contextualized analysis of their positions for their own sake. His main aim is to compare the Latin interpretations with Avicenna's original view. See Hasse, *Avicenna's* De anima *in the Latin West*, 89–90.

willingness to go against Avicenna, as he seems to think that even the flying man would be aware of his body. However, there is a more striking example of this trend, namely, Peter of John Olivi's (c.1248–98) thought experiment of a 'man before the creation.' While developing his theory of perception, Olivi illustrated how the soul's cognitive attention functions by asking us to imagine a man who existed before the creation of the world. This thought experiment resembles the flying man in many ways, but the most significant difference is that Olivi's thought experiment requires that the man in this peculiar state is aware of his body and his ability to perceive. In this way, the man before the creation reflects the late thirteenth-century trend of the diminishing centrality of the premise that the flying man is unaware of his body. It also shows how the thought experiment received a new role in the hands of an original philosopher.

My objective in the present essay is to analyze the various versions of the flying man and to trace its fate from its first appearance in Latin philosophy to the dawn of the fourteenth century. I shall begin with a concise explanation of the relevant features of Avicenna's flying man, after which I shall discuss its reception in the Latin West and point out how the various interpretations presented by Latin authors shift the emphasis of the thought experiment and bring new aspects to the fore (sections 2 and 3). Finally, I shall present Olivi's 'man before the creation' and discuss its relation to the flying man tradition (section 4).

2. ONTOLOGICAL FLYING MAN

The *locus classicus* of the flying man is at the end of the first chapter of Avicenna's *De anima*. The flying man appears in a context where Avicenna is striving to establish the existence of the soul as well as to define it and its relation to the body. By employing the thought experiment involving the flying man, he wants to illuminate his dualistic view that the soul is not the whole body or a part thereof.⁴ As we are dealing here less with the original flying man and more with his fate in Latin philosophy, let us have a look at the passage as it appears in the Latin translation, which was prepared by Dominicus Gundissalinus and Avendauth:

⁴ Avicenna does not consider the flying man as a scientific argument in the strict sense. Rather, it is a pedagogical aid or pointer that helps us to grasp the truth without actually proving it. Latin authors often gave it a stronger epistemological role and considered it as a real argument.

We say, therefore, that one of us must imagine himself as created all at once and perfect but with his sight veiled from seeing external things, and created as moving in the air or the void so that the density of the air, which he could perceive, would not touch him, and with his limbs separate in such a way that they neither meet nor touch each other. He must then see if he affirms the existence of his essence. For, he would not hesitate to affirm that he exists, but he would not affirm anything external about his members, anything hidden about what is inside him, neither his mind nor his brain, or anything external whatsoever. But he would affirm that he exists without affirming his length, width, or density. If he were able at that time to imagine a hand or some other member, he would not imagine it to be a part of him or necessary to his essence. Now, you know that what is affirmed is different from what is not affirmed and what is granted is different from what is not granted. And because the essence that he affirms to exist is proper to him in that it is himself and in addition to the body, he who is attentive has the means to be awakened to knowing that the being of the soul is different from the being of the body; indeed, he does not need the body in order to know and perceive the soul.⁵

Modern scholars have presented various interpretations concerning Avicenna's illustration.6 A particular problem that they have tackled arises from the terminology that Avicenna uses. In the original Arabic version he claims that the flying man is aware of his dhāt, but because this term means both 'essence' and 'self,' it is not clear what the main thrust of this claim is. Dag Hasse has argued that Avicenna meant 'essence,' and this reading is one of the cornerstones of his analysis of the Latin reception of the flying man: in effect, he evaluates the Latin versions with respect to their closeness to what he calls "the correct interpretation." Yet, it has been suggested that the ambiguity was intentional on the part of Avicenna and that he deliberately employed a term that denoted both the self and the essence.8 If this is truly the case, the solution of Gundissalinus and Avendauth to juxtapose different expressions, some of which make use of the essence ("affirmat esse suae essentiae") and others that seem to denote self-awareness or awareness of one's existence ("affirmabit se esse"), may be intentional as well. Latin does not have a single word similar to the Arabic dhāt, and thus the translation is actually quite good at conveying the ambiguity.

⁵ Avicenna, *Liber de anima* 1.1, 36–7. See also ibid., 5.7, 162–3.

⁶ See e.g. Jari Kaukua, *Self-Awareness in Islamic Philosophy: Avicenna and Beyond* (Cambridge: Cambridge University Press, 2015), 30–42; Deborah Black, "Avicenna on Self-Awareness and Knowing that One Knows," in S. Rahman, T. Street, and H. Tahiri (eds), *The Unity of Science in the Arabic Tradition* (Dordrecht: Springer, 2008), 63–87; Daniel Heller-Roazen, *The Inner Touch: Archaeology of a Sensation* (New York: Zone Books, 2007), 219–21; Michael Marmura, "Avicenna's 'Flying Man' in Context," *Monist* 69 (1986), 383–95.

⁷ Hasse, Avicenna's De anima in the Latin West, 87–9.

⁸ Kaukua, Self-Awareness in Islamic Philosophy, 38-41.

Whatever Avicenna's original intention was, the thought experiment contains many aspects that are less controversial. The flying man does not have any sensory experiences, he does not perceive any external objects or their qualities, and he does not feel his body through a sense of touch. He is created perfect and, we may assume, without any previous experiences. Even in this state, the flying man would admit his own existence (or the existence of his essence, which is the soul), but he would be completely unaware of his body and would not attribute any bodily quality to himself.

In order to understand the later adaptations of this thought experiment, we may reconstruct its argumentative structure in a simplified form as follows:

- (P1) The senses of the flying man are inactive.
- (P2) The flying man is not aware of his body (from P1).
- (P3) The flying man is aware of his existence/soul.
- (P4) What the flying man is aware of is different from that which he is unaware of. (C1) The soul is different from the body (from P2, P3, and P4).
- [(C2) The body is not needed in order to become aware of the soul (from P1/P2 and P3).]

The first premise P1 is taken as granted in the thought experiment, but it can be explained on the basis of Avicenna's theory of perception. Even though he characterizes sense organs as instruments of the soul, and thus rejects certain aspects of Aristotle's theory in which perception is portrayed as completely passive reception of external stimuli, he nevertheless seems to think that the process of perception is triggered by an external object which acts on the sense organs. Avicenna describes the condition of the flying man in such a way that either there are no external objects or they do not act upon the senses, and thus the senses themselves cannot act. The premise P2 presupposes that direct perception of one's body prior to perceiving external objects is impossible. Avicenna does not provide any further evidence in favor of P3, but his idea is that the initial setting of the thought experiment leads the reader to realize that this kind of self-awareness is part of our experience even though we normally do not notice it. He also assumes the

⁹ See, e.g., Simo Knuuttila, "Aristotle's Theory of Perception and Medieval Aristotelianism," in S. Knuuttila and P. Kärkkäinen (eds), *Theories of Perception in Medieval and Early Modern Philosophy*, Studies in the History of Philosophy of Mind 6 (Dordrecht: Springer, 2008), 8–9.

¹⁰ In accepting this reading of the thought experiment, I disagree with Hasse, who claims that self-awareness does not figure at all in the thought experiment (Hasse, *Avicenna's* De anima *in the Latin West*, 83–6). Most modern scholars think that it does. For a discussion and references, see Kaukua, *Self-Awareness in Islamic Philosophy*, 30–42.

premise P4, which is problematic, because it is not clear whether it is supposed to prove only that the body and the soul are two different entities—in which case, it would prove only the existence of the soul—or whether it proves additionally that the nature of the soul is different from that of the body (i.e. that the soul is incorporeal).¹¹ To be sure, the latter reading is suggested by the flying man's denial of any corporeal quality to himself, but we shall see below that Avicenna's Latin readers sometimes used the thought experiment to prove only the existence of the soul.

On the basis of these premises, Avicenna concludes that the soul is an immaterial entity which is not identical to the body (the conclusion C1). He uses the thought experiment to suggest to the reader that there is something else in a human being other than just the body. In other words, the flying man supports Avicenna's substance dualism, which he will later prove by using other means. 12 The thought experiment ends with what may appear as an additional conclusion, C2: the body is not needed for becoming aware of the soul. Whether this addition is meant to be a further epistemological conclusion, or just a reminder of the role that selfawareness plays in the thought experiment, is not completely clear. In the original Arabic version Avicenna does not present it as a conclusion—in fact, he writes merely that the thought experiment enables us to realize that we are aware of our souls, and the body is mentioned only with respect to C1. Gundissalinus' translation, however, permits an alternative reading in which C2 follows after C1 as a further conclusion.¹³ We shall now see that Gundissalinus himself understands the ending of the thought experiment in the latter way, and thus Latin readers of Avicenna encounter an ambiguity concerning the central outcome of the flying man right from the beginning.

¹¹ It has been argued that the premise is problematic also because it appears to be a fallacy: from the fact that I am aware of X but unaware of Y, it does not follow that X is not Y. See Black "Avicenna on Self-Awareness," 64–5.

¹² Avicenna, Liber de anima 5.2, 81-101.

¹³ Avicenna's original text goes as follows: "Thus, he who takes heed has the means to take heed of the existence of the soul as something different from the body—indeed, as different from any body—and to know and be aware of it." (Avicenna, Avicenna's De anima (Arabic Text): Being the Psychological Part of Kitāb al-shifā', ed. F. Rahman (London: Oxford University Press, 1959), 1.1, 16; translated by J. Kaukua in Self-Awareness in Islamic Philosophy, 35.) Gundissalinus translates: "Ideo expergefactus habet viam evigilandi ad sciendum quod esse animae aliud est quam esse corporis; immo non eget corpore ad hoc ut sciat animam et percipiat eam." (Avicenna, Liber de anima 1.1, 37.) It is possible to understand the word immo as the beginning of an additional conclusion, even though this may not be the most natural reading.

a. Dominicus Gundissalinus

The flying man is well known in modern scholarship but, perhaps surprisingly, it was discussed relatively little in the Latin West during the Middle Ages. Avicenna's *De anima* became highly influential in psychological theories after it was translated into Latin in the latter half of the twelfth century, but there are only a handful of philosophers who repeat the thought experiment. ¹⁴ Generally speaking, they think that it is reliable: the flying man is aware of himself and his soul, but his body is completely oblivious to him, and therefore the soul cannot be identical to the body or any part of it. Yet, a close reading of even the earlier interpretations reveals important differences from Avicenna.

Let us begin with Dominicus Gundissalinus, who was the first Latin philosopher to use the thought experiment. He presents the flying man in his Tractatus de anima, which is a philosophical treatise concerning the nature and powers of the soul. In order to understand what kind of argumentative role Gundissalinus assigns to the flying man, it is necessary to take into consideration the structure of the work. Gundissalinus begins by asking whether the soul exists. After having established its existence, he gives a general Platonic definition of the nature of the soul that is taken from Costa ben Luca's De differentia animae et spiritus: "The soul is an incorporeal substance, which moves the body."15 This definition contains three parts (the soul is a substance, it is incorporeal, and it moves the body), and Gundissalinus proceeds to argue for each of them in turn. He begins by presenting two short arguments that purport to show that the soul is a substance, and then he proceeds to demonstrate its incorporeity. The flying man thought experiment appears at this point in the treatise. It is the first argument in a long series of arguments that Gundissalinus presents in order to prove the incorporeity of the soul. In other words, he understands the flying man as an ontological proof, but he does not use it to establish the existence or substantiality of the soul, because these two are already proved by other means. The role that he assigns to it in his overall argument is to prove that this existing substance is not a body.

Gundissalinus' version of the flying man is very close to the Latin translation of Avicenna's original text—which is not surprising, given

¹⁴ Gilson, "Les sources gréco-arabes," 41–2, was the first to provide a list of Latin authors who quote Avicenna's *De anima* 1.1. It includes William of Auvergne, John of la Rochelle, Matthew of Aquasparta, and Vital du Four. Hasse supplements Gilson's list by adding Peter of Spain and an anonymous author (see footnote 36).

¹⁵ Dominicus Gundissalinus, *Tractatus de anima* 2, 37. Cf. Costa ben Luca, *De differentia spiritus et animae*, 166–9.

that the translation was prepared by him—and he accepts all the premises that are listed above. There is no need to quote the whole passage, but a couple of points are worth mentioning. First, Gundissalinus makes an addition to Avicenna's list of things that the flying man is unaware of: "Indeed, he would not then affirm anything external or internal about his members nor that he is living or capable of sensations (animatum vel sensibilem) or anything like that." ¹⁶ The original flying man is unaware of his own body and all corporeal qualities (the premise P2), but Gundissalinus adds a further detail by saying that the man in this state would not be aware of his ability to perceive, which means that he would not be aware of those functions of the soul that take place in his body. In addition, he would not be aware of being alive. We may assume that Gundissalinus means biological life: the flying man does not notice his body, and therefore he fails to notice that he is living in the sense of being a living body.

Another important point in Gundissalinus' interpretation is related to the argumentative role that he assigns to the flying man. There is no doubt that he sees it primarily as an ontological argument. Nevertheless, at the end of the passage in which the flying man appears, we encounter an additional epistemological conclusion: "Surely, it can be clearly understood that the soul has a different being than the being of the body, and that a human being does not need the body in order to know and perceive his soul." Unlike Avicenna (and more clearly than the Latin translation soul." Unlike Avicenna (and more clearly than the Latin translation), Gundissalinus draws two conclusions: an ontological one that the soul exists independently of the body and is therefore incorporeal (the conclusion C1), and an epistemological one that the body is not necessary in order to be aware of the soul (C2).

Yet, even though C2 is understood as a conclusion, the rationale for making it is somewhat obscure. Arguably, it is nothing but a repetition and reformulation of the premise P3—that the flying man is able to be aware of his existence/soul even though he does not use any cognitive powers that require bodily organs. Gundissalinus accepts this premise in order to establish the ontological conclusion, and the epistemological conclusion does not add anything new to the picture. Thus, even though C2 appears in conjunction with C1 and Gundissalinus seems to consider it as a conclusion, it

¹⁶ Gundissalinus, Tractatus de anima 2, 37.

¹⁷ Ibid.

¹⁸ The differences between the translation and Gundissalinus' own version are small but important: where the translation has it that the flying man does not need the body in order to know his soul, Gundissalinus makes a general conclusion that no human being needs it. Also, instead of the ambiguous *immo*, Gundissalinus uses *et* in order to connect two equally important conclusions.

is difficult to see how it differs from Avicenna's initial assumptions and especially from the premise P3. One might therefore argue that it is nothing but a necessary premise that leads to C1. True enough, C2 contains an idea which is lacking in the premise P3, namely that *the body* is not needed for an awareness of the soul. This addition suggests that the former is not identical to the latter because it states both that human beings are capable of cognizing their souls *and* that they can do so without the body. However, even in this case, it is clear that C2 does not bring anything new to the picture but only repeats the basic assumptions that constitute the thought experiment in the first place.

Moreover, C2 contains an ambiguity, because it is not clear whether it is supposed to result from P1 or from P2. In the first case the claim would be that bodily acts pertaining to external objects are not necessary for being aware of oneself; in the latter case the awareness of the body itself would be the crucial element that is not needed for self-awareness. The choice between these readings depends on the way in which we read the expression non eget corpore, which is puzzling because the flying man does have a body, after all. He just does not use it. It would be more precise to say either that bodily acts are not necessary for being aware of the soul (P1 and P3), or that awareness of the body is not required (P2 and P3). We shall see below that late thirteenth-century authors favored the former interpretation, but Gundissalinus may simply think that there is no difference between the two: awareness of one's soul is possible without bodily acts and without awareness of one's body. What is certain is that he does not explain his idea further, probably because his interest lies in the ontological consequences of the thought experiment. The epistemological conclusion—if indeed it is a conclusion, given that it does not add anything to the premises that are presupposed in the thought experiment—is more like an afterthought, as the main thrust of the argument is to show that the soul is incorporeal.

b. William of Auvergne

We shall see below how the philosophers in the latter half of the thirteenth century emphasized the relation between bodily acts and self-awareness, but the idea that cognitive acts are relevant for self-awareness appeared already during the first half of the century. Namely, William of Auvergne's (d. 1249) interpretation of the thought experiment is based on the idea that even though the flying man does not perceive anything, he has cognitive acts through which he becomes aware of himself:

If we put a man in the air who has his face covered and is without the use of any sense and who has not used any sense, there is no doubt but that it is possible that

this man thinks and understands. Hence, he will know that he thinks or understands, and he will know that he himself exists. And if he asks himself whether he has a body, he will undoubtedly say that he does not have a body, and in the same way he will deny of himself each and every part of a human body.¹⁹

William argues that the flying man is not deprived of intellectual operations of the soul even though he cannot use his senses. In this way, he is able to give a reason for accepting the premise P3: the flying man can think and understand although his senses are inactive (P1), and this cognitive activity makes him aware of his own thinking and existence.

William's argument proceeds from the acts of the soul to the soul's awareness of itself, but he paraphrases Avicenna's thought experiment in order to argue that the soul is not a body and that the soul is completely spiritual. It is therefore clear that his version is an ontological flying man. The aim of the argument is to establish the conclusion C1 and to let us know the nature of the soul. William's emphasis is on the incorporeity of the soul, and he also conserves the Avicennian idea that perception of external objects is necessary in order to become aware of one's own body and its powers.

However, if we read William's version of the thought experiment closely and take heed of the context as well, we find a significant difference from Avicenna. The original flying man is incapable of imagining a hand or any other organ, probably because Avicenna thinks that imagination is a bodily function. Even if he per impossibile were to imagine a hand, he would imagine it without attributing it to himself, seemingly in the same way as we imagine external objects that are not parts of us. The crucial thing is that the flying man would acknowledge his existence but not that he has corporeal qualities or bodily members. He would be indifferent with respect to the imagined hand in the sense that he would apprehend it neither as his part nor as something that does *not* belong to him, as he would just imagine it without recognizing it as a part of himself. To put this point in systematic terms, there are three possible ways in which the flying man might react to the imagined hand: (1) he apprehends it as a part of himself; (2) he apprehends that it is not a part of himself; and (3) he apprehends it without having any prima facie awareness of its being or not being a part of himself.²⁰

¹⁹ William of Auvergne, *De anima* 2.13, 82b–83a. The translation is from William of Auvergne, *The Soul*, tr. R. J. Teske (Milwaukee: Marquette University Press, 2000), 91. For discussion on Avicenna's influence on William of Auvergne, see Roland Teske, "William of Auvergne's Debt to Avicenna," in *Studies in the Philosophy of William Auvergne* (Milwaukee: Marquette University Press, 2006), 232–4.

Another way of expressing the difference between these three attitudes is as follows: (1) feeling of ownness: this is my hand; (2) feeling of alienness: this is not my hand; and (3) feeling of indifference: this is a hand.

The reason why I emphasize the difference between (2) and (3) is that William's wording clearly indicates (2),²¹ whereas the Latin translation of Avicenna's flying man suggests (3). In William's version, the flying man is capable of imagining a body but he thinks that the body does not belong to him. In fact, William goes on to argue that the human soul necessarily knows that it is not a corporeal substance. The soul knows its intellectual acts, it understands that it is the subject of these acts, and it knows evidently that these acts are not corporeal. On the basis of this reasoning, William concludes that every soul which happens to be in a situation similar to the flying man is fully aware of not being a corporeal substance.²² Thus, William's flying man acknowledges, in addition to his existence, that he is not a body. This difference between Avicenna and William may seem insignificant, but it is related to the argumentative roles that these two authors give to the flying man. Namely, Avicenna's main point (in De anima 1.1) is to make the reader realize that the soul exists and is not a body: the illustration is meant to display the nature of the soul, not that of a human being. In contrast, William's aim is to argue that a human being is nothing but the soul, and thus his version of the flying man puts forth a stronger anthropological claim. He thinks that the soul is not a body, but he also argues that the body is not a part of us.

William's position becomes clear if we look at another passage in which he mentions the thought experiment:

But when you look into Avicenna's book, *On the Soul*, you will clearly read in it that a man, without using any bodily sense, but thinking of himself or of his being, grants that he is only spiritual and that he has no body. Avicenna believes that he explains there that a man thinking of himself in that way finds that the body is not a part of him. Hence, he finds that his whole being or whole essence is his soul.²³

William's Platonic conclusion is that the body is a prison and an instrument of the soul. He equates the human being with the soul, and denies that the body is a true part of a human being. His interpretation is not completely faithful to Avicenna's text. It may be a correct interpretation, but Avicenna says nothing to the effect that the body would not be a part of a human being—let alone that the flying man would explicitly reject that he has a body.²⁴

²¹ Obviously the exact wording that William uses may be subject to change once we possess a modern critical edition of his *De anima*.

²² William of Auvergne, De anima 2.13, 83a-b; The Soul, 92.

²³ William of Auvergne, De anima 3.11, 101a; The Soul, 141.

²⁴ To be sure, in *De anima* 5.7, 162–3, Avicenna argues that the bodily organs are nothing but garments of the soul: "haec autem membra non sunt nisi sicut vestes"

c. Peter of Spain

The next flying man comes from Peter of Spain's commentary on Aristotle's *De anima*, which was possibly written in the early 1240s.²⁵ Peter uses the thought experiment in two different but interrelated contexts. In the first instance, he discusses Aristotle's definition of the soul as the perfection of the body and his proof for the existence of the soul, which proceeds from what is better known to less easily knowable things—in the case of the soul, from acts of the soul to the existence of the soul. ²⁶ Following this approach, Peter argues that we have to assume that plants are animated by a vegetative soul and animals by a sensitive soul, because we see that their bodies are alive. Plants live, grow, and take nourishment, and animals perceive external objects in addition to their vegetative functions. The observable actions of plants and animals prove that they differ from lifeless bodies, and the difference is due to their having souls. The argument concerning the intellectual soul is somewhat different, because intellectual operations do not manifest themselves in the body. Peter argues that human beings are capable of understanding essences of things without their matter, and this intellectual ability (among other similar powers) shows that we have an intellectual soul.27

The flying man is taken up as an additional argument that leads us to think that we have intellectual souls. Peter explains the condition of the flying man and claims that the man is aware of himself (the premise P3) but not of his body, because external perceptible objects do not act on his body and bodily senses (P1), and because he does not perceive his body (P2). On this basis, Peter concludes, we must assume that the cognitive subject is something other than the human body—namely, the intellectual soul. Peter's interpretation proceeds from the alleged fact that the soul is capable of being aware of itself without being aware of its body, but there is a slight shift of emphasis with respect to Dominicus Gundissalinus and William of

⁽p. 162). However, even in this context his main point is to argue that the unity of experience cannot be due to the body.

²⁵ The identity of the Peter of Spain who wrote this treatise is not known for certain. For an overview of the problems in identifying the authors who share this somewhat popular name, see Joke Spruyt, "Peter of Spain," in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2012) http://plato.stanford.edu/archives/win2012/entries/peter-spain/». The dating of the work to the 1240s is suggested by R. A. Gauthier, "Les commentaires de la *Vetus*," in Thomas Aquinas, *Sentencia libri De anima*, ed. R. A Gauthier, *Sancti Thomae de Aquino Opera omnia iussu Leonis XIII P.M. edita* 45.1 (Rome: Commissio Leonina, 1984), 239*.

²⁶ Aristotle, De anima 2.2.

²⁷ Peter of Spain, Questiones De anima 2.4.10, 622.

Auvergne, as Peter's main conclusion is not C1 understood as an ontological claim about the nature of the soul, but C1 understood as an ontological claim about the mere existence of the soul.²⁸ It is somewhat telling that he does not mention the premise P4—what the flying man is aware of differs from that which he is unaware of—because that is (arguably) needed in order to conclude that the soul is incorporeal. Peter may well think that it is, but his flying man does not show any evidence for making that inference.

Another notable aspect in Peter's version of the thought experiment is the argumentative role that he gives to the flying man. The larger context of his discussion is the argument for the existence of the soul, but the exact question that Peter is dealing with when he takes up the flying man concerns the way in which we come to imagine the existence of the soul. He seems to realize that Avicenna did not consider the thought experiment as a proof but as a pointer, which leads us to acknowledge (or, as Peter says, imagine) the existence of the soul without actually proving it in a demonstrative way. In this respect, he differs from those Latin authors who think that the flying man actually proves either the nature or the existence of the soul.²⁹

In the other context where the flying man appears, Peter argues that the intellectual soul differs substantially from the sensitive and vegetative souls in a human being. The first argument he presents in favor of the difference refers to Avicenna's thought experiment:

If some human being were suddenly created or made, and he would not cognize his body or his hand or his foot, then if someone were to ask him (by a spiritual inquiry) whether he exists, he would answer (by a spiritual reply) and say that "I exist." And if he were asked: "Are you your hand or your body or your senses or your life?", he would immediately say that he knows nothing about such things—on the contrary, he would be ignorant of all of these, so that he would be none of them. But the power which would say this in him is the intellectual soul. Therefore, the intellectual soul does not have a natural gaze (aspectus) to the body, to the senses, or to the life

²⁸ Peter of Spain, Questiones De anima 2.4.10, 623.

²⁹ "Alia est ratio Avicenne per quam possumus animam intellectivam ymaginari esse in nobis" (Peter of Spain, *Questiones De anima* 2.4.10, 622). Peter claims that the arguments that he has presented for the existence of the soul are demonstrations even though they proceed from the effects of the soul to the existence thereof, but they prove only the existence of the soul as a perfection, not as a substance. He does not seem to count the flying man among these demonstrations, however. See Peter of Spain, *Questiones De anima* 2.4.10, 622–3. Hasse argues that because Peter uses the word *ratio*, he must consider the thought experiment as a proof (Hasse, *Avicenna's* De anima *in the Latin West*, 91). However, it is possible that the expression *ratio Avicenne* is used in a loose sense to mean "Avicenna's account" or "Avicenna's explanation."

given by the vegetative soul. On the contrary, the intellectual soul is ignorant of all these.³⁰

This passage contains several important ideas. The first of them is that here Peter does not care about the flying man's inability to perceive external objects. The crucial premise is—in addition to the obvious one that the flying man is aware of his existence (P3)—that he does not apprehend his own body. In other words, Peter does not deduce P2 from P1. Avicenna's view is (or so I have argued) that the flying man is unaware of his body because he does not have any sensations of external objects. By contrast, Peter appears to think that being aware of one's body is at least theoretically possible without cognizing external objects by acts that take place in bodily organs. Of course, it is difficult to be certain on the basis of a short passage, but it seems that we are witnessing a slight shift of emphasis at the least. Avicenna thinks that the flying man does not perceive external things and is therefore unaware of his body; Peter supposes that the flying man is unaware of his body tout court.

At any rate, Peter goes beyond Avicenna by explaining why the flying man is ignorant of his body (that is, he gives a rationale for P2), and his explanation differs from Avicenna's view. He first identifies the intellectual soul as the experiential subject within a human being and as a kind of experiential center in the soul. The flying man is ignorant of his body and of the sensitive and vegetative parts of his soul, because his intellectual power is not aware of them: *the intellect* says that it knows nothing of the body or of the other parts of the soul. Further, the flying man (or his intellectual soul) is unaware of his life, senses, and body, because the intellectual soul lacks an *aspectus*—which apparently means some kind of attention or intentional directedness—to the body. As a consequence, the flying man is aware only of the existence of his intellectual soul. He knows nothing about his body or bodily functions, and he does not even realize that he is alive, at least in the sense of biological life.³¹

Peter puts the flying man thought experiment to a radically different use from Avicenna³²—or any of the medieval authors discussed here, for that matter—as he thinks that it may be used to establish a substantial difference between the intellectual soul and the other kinds of souls within a single human being.³³ In this way, the conclusion that Peter draws from the

³⁰ Peter of Spain, Questiones De anima 2.6.1, 650.

³¹ We shall see in section 4 that certain elements in this explanation are strikingly similar to Peter Olivi's psychological views.

³² This has been pointed out by Hasse, Avicenna's De anima in the Latin West, 90.

³³ Richard Dales thinks that the author of the *Quaestiones* wrote another treatise, *Scientia libri de anima*. He points out that the author of the former accepts the

thought experiment is highly original. Yet, it is still an ontological conclusion. The flying man experiment is not designed to establish an epistemological idea about human self-awareness, as it only points to the existence of the soul and its relation to the other parts of a human being. From this perspective, Peter does not break with the traditional way of understanding the general meaning and the argumentative role of the thought experiment, even though some of the details are different.

d. John of la Rochelle

Finally, John of la Rochelle (d. 1245) brings up his version of the flying man in his influential *Summa de anima*.³⁴ Unlike Dominicus Gundissalinus and William of Auvergne, who present the thought experiment in order to reveal the incorporeal nature of the soul, John understands it as an ontological proof for the existence of the soul. He asks whether the soul exists and begins his answer by pointing out that we see different kinds of actions in plants, animals, and human beings. These actions are caused by some principle which cannot be the body, and therefore the existence of the soul is a necessity. After this argument John brings up the flying man in order to reach his final conclusion C1: "the being of the soul is different from the being of the body." He seems to think that this conclusion concerns the existence rather than the nature of the soul, and in this respect his version is closer to Peter of Spain than to the other Latin authors. ³⁶

substantial unity of the soul for the sake of the argument (see Peter of Spain, *Questiones De anima* 1.4.3, 263), and that the author of *Scientia* accepts it without qualification. However, on the basis of the present question, the author of the *Quaestiones* does not accept the substantial unity (see Peter of Spain, *Questiones De anima* 1.4.3, esp. p. 656). This doctrinal difference casts further doubts on the identification of these authors.

- ³⁴ Summa de anima was actually written some years before Peter's and William's works, as it has been dated to 1235–6 (Jacques Guy Bougerol, "Introduction," in Jean de la Rochelle, Summa de anima, p. 12). I present these works in reverse chronological order because John's argument includes certain elements that lead to the epistemological version of the flying man in the latter half of the century.
 - ³⁵ John of la Rochelle, Summa de anima 1.1, 51.
- ³⁶ John's use of the thought experiment is also close to an anonymous author, who writes in his *Dubitationes circa animam*: "Suppose that a man perfect in knowledge is created in the air in such a state that he can perceive nothing through the senses. It is clear that, in this state, he would say that he is something. But if it were possible for him to imagine a hand or brain or other such bodily things, it is clear that he would not say that he is those things or that they are a part of him. Therefore, since that which is asserted is distinct from that which is not asserted, there is something in him beyond a corporeal nature. And this is Avicenna's argument." (Anonymous Vaticanus, *Dubitationes circa animam*, Vat. lat. 175, f. 219ra.) This text is also mentioned by Hasse, *Avicenna's* De anima in the Latin West, 89 n. 50.

The wording of John's version is very close to Gundissalinus' translation of Avicenna, and the structure of the argument is roughly the same. John accepts the premises P1 and P2, although it is not clear that he infers the latter from the former. He also accepts P3 and P4, and uses the latter to establish that the soul and body are different entities. However, he makes a small addition to P3. It may be nothing but an innocent paraphrase, but it points toward the epistemological version of the flying man that appears in the latter half of the thirteenth century. The crucial passage is as follows: "It is certain that a man thus created, cognizing himself, would not hesitate to affirm that he exists. However, he would not affirm anything external about his members or anything hidden about what is inside him, such as the brain and the like."37 The other versions of the thought experiment state simply that the flying man is aware of his existence (Avicenna, Gundissalinus, and Peter of Spain) or they base the self-awareness on the soul's ability to apprehend its cognitive acts (William of Auvergne). By contrast, it seems as if John was saying that the flying man admits his existence (or the existence of his soul) because he cognizes himself directly without having any other cognitive acts. Obviously self-awareness is a central premise in the other versions of the thought experiment as well, but John of la Rochelle emphasizes it in a new way. Interestingly, he does not mention anything that could look like the conclusion C2 at the end of the passage in which the flying man is presented. Direct self-awareness functions only as a premise P3, which is used to reach the ontological conclusion C1. By leaving C2 unstated, John, in effect, enables one to see more clearly that the flying man thought experiment does not prove that the soul is aware of itself without bodily acts (or without awareness of the body), but presupposes it.

In itself, the addition to the premise P3 may not be particularly significant, but if we take into consideration the other arguments that John provides for the existence of the soul, the situation changes radically. Namely, right after experimenting with the flying man, John goes on to quote two passages from pseudo-Augustine's *De spiritu et anima*. The central idea in both of these quotations is that the soul is immediately present to itself and thus knows itself. It is clear that John thinks that these passages confirm Avicenna's argument. In this way, he highlights the epistemological aspect of the thought experiment—at least his argument is easy to read in such a way. Given the strong influence that he had on the subsequent generations of Franciscan intellectuals, it is likely that the connection which he establishes between the flying man and the (pseudo-)

³⁷ John of la Rochelle, Summa de anima 1.1, 51; emphasis mine.

Augustinian conception of the soul's direct awareness of itself was taken over by later Franciscans. Nevertheless, the flying man remains an ontological argument for John.

3. EPISTEMOLOGICAL FLYING MAN

When we turn to the latter half of the thirteenth century, we encounter a manifest change in the argumentative role that is given to the flying man. Matthew of Aguasparta (c. 1240–1302) and Vital du Four (1260–1327) use the thought experiment, but they do not understand it as an ontological proof. Rather, they use it in an epistemological context and consider it as an argument for the soul's ability to be directly aware of itself without having any sensory experiences. Although self-awareness had been a part of the thought experiment from the beginning, as a necessary premise P3 for reaching the ontological conclusion C1, the earlier Latin authors did not think that the central meaning of the flying man would have been to prove the soul's ability to be aware of itself. Self-awareness was mainly considered to be a premise—this is especially clear in the case of John of la Rochelle, but applies to the other authors as well. By contrast, in the latter half of the thirteenth century, self-awareness was taken to be the only aspect of the thought experiment that was worth dealing with. The difference from the earlier usage is so radical that it is appropriate to call this version of the thought experiment 'the epistemological flying man,' in contrast to the earlier 'ontological flying man.'

One of the most important reasons for this change is external to the thought experiment itself. The latter half of the thirteenth century witnessed a philosophical debate over human self-awareness, and the main dividing line in this debate was the soul's ability or inability to be directly aware of itself without having any preceding cognitive acts. To simplify the issue slightly, Thomas Aquinas defended an Aristotelian view, according to which self-awareness is indirect. We become aware of our souls only by first apprehending something else (say, an external object), which makes us also aware of the act of cognition. After becoming aware of the act we come to know the subject to which this act belongs. This subject is the soul.³⁸ It is not surprising that the authors who follow this line of reasoning do not

³⁸ See, e.g., Thomas Aquinas, *Summa theologiae* I.87.1; *Quaestiones disputatae de veritate*, q. 10.8. Aquinas' view has been analyzed in modern scholarly literature. One may begin with Therese Scarpelli Cory's recent book, *Aquinas on Human Self-Knowledge* (Cambridge: Cambridge University Press, 2014); and Brown, "Aquinas' Missing Flying Man," 17–31.

appeal to the flying man, because they reject the central premise P3 and with it the whole experiment loses its appeal. By contrast, Aquinas' opponents (mainly from the Franciscan order) were willing to accept that the soul is capable of being directly aware of itself without being first aware of something else.³⁹ Some of them continued to use the thought experiment, but because the discussion centered on the possibility of direct self-awareness, the premise P3 became the whole point of discussion. At the risk of oversimplifying the debate, we may say that the central question turned out to be whether P3 follows, given that P1 is granted. Aquinas and his followers answered in the negative, whereas their opponents accepted Avicenna's positive answer. In this way, the new philosophical debate concerning human self-awareness subsumed Avicenna's thought experiment, and this development contributed to the neglect of the other aspects (indeed, the main point) thereof.

a. Matthew of Aquasparta

The first author to actually establish a connection between the philosophical debate over human self-awareness and the flying man thought experiment is Matthew of Aquasparta. He employs the thought experiment as one proof of the soul's ability to cognize itself directly by its essence:

But the soul would understand itself even if it did not use any of the senses or have any acts of the senses; therefore, it does not understand itself through the mediation of phantasms. The minor premise is clear on the basis of Avicenna's *De anima* [...] where he says that if a human being were created as suspended in air—in such a way that his members are wholly separated and do not touch each other in any way, and he does not perceive anything at all—he would not hesitate to affirm that he exists. After this Avicenna says that [the flying man] does not need the body in order to know the soul and perceive it.⁴⁰

Unlike the earlier authors, Matthew concentrates on the very end of the original thought experiment: the body and bodily acts are not necessary for the soul to be aware of itself. In other words, Matthew thinks that the crucial element in the thought experiment is the premise P3 and what he takes to be its epistemological conclusion C2. He does not draw the ontological conclusion concerning the nature of the soul or the human being and, like John of la Rochelle, he connects the flying man with

³⁹ For an overview of the medieval discussion, see François-Xavier Putallaz, *La connaissance de soi au XIIIe siècle: de Matthieu d'Aquasparta à Thierry de Freiberg* (Paris: Vrin, 1991).

⁴⁰ Matthew of Aquasparta, Quaestiones de cognitione, q. 5, 295.

Augustinian texts—this time genuine—which he reads as proof for the soul's direct self-awareness.

However, Matthew does not accept the argument:

Avicenna wanted that understanding (ratio intelligendi) would be completely from above—namely, from the agent intellect, which is the last in the order of intelligences—and therefore the soul would be able to understand itself without any act of, or service from, the senses; but he erred in this.⁴¹

Matthew thinks that the plausibility of Avicenna's thought experiment depends on the rejection of Aristotelian empiricism. If all knowledge is based on sense experience, the intellectual soul cannot know itself without first perceiving something else. Thus, when Avicenna claims that the flying man is aware of his own existence, he practically suggests that there is one special kind of knowledge that is not empirical. Matthew rejects Avicenna's view, because he thinks that the soul is initially incapable of having intuitive knowledge of itself. In this regard, he approaches Aquinas' position, according to which self-cognition proceeds necessarily from the firstorder acts of the soul, which pertain to external objects. However, Matthew also criticizes the Thomistic view. He argues that only the very first act of cognition must pertain to external perceptible objects. After the intellectual part of the soul has been actualized by an act of understanding which is abstracted from the objects perceived by the senses, it is capable of directly apprehending itself: the soul does not need perceptual acts every time in order to have intuitive cognition of itself. 42 Thus, the flying man would not be aware of himself because he never had any cognitive act that could bring him to realize himself. By contrast, human beings in normal conditions can be directly aware of themselves, because they have had some sensory input.

Matthew's position with respect to the flying man's awareness of his body (or the lack thereof) is not completely clear, because he does not mention the premise P2 at all. He emphasizes instead that the flying man does not have any perceptual acts (the premise P1). However, we may assume that if the flying man does not perceive anything, he does not perceive his body either, and therefore it seems that Matthew accepts the idea that the flying man would not apprehend his own body. He does not say explicitly that this is the case, probably because the awareness of the body is not relevant for his purposes. The flying man functions as an argument for the soul's direct self-awareness and, in this epistemological

⁴¹ Ibid., 312.

⁴² Ibid., 304. For discussion, see Putallaz, *La connaissance de soi au XIIIe siècle*, 42–50; Helen Marie Beha, "Matthew of Aquasparta's Cognition Theory," *Franciscan Studies* 21 (1961), 423–8.

context, the awareness of the body does not play the same central role as it does in the ontological version of the thought experiment. It is nevertheless significant that Matthew is silent about this premise, which is crucial for the ontological flying man.

b. Vital du Four

Vital du Four's version of the flying man is in many ways similar to the one we saw with Matthew. The most obvious similarity is that he understands the flying man primarily as an epistemological thought experiment, which can be used as an argument for the soul's direct self-awareness—that is, he considers the premise P3 as the most important aspect of Avicenna's experiment. Vital begins his analysis of self-awareness by expounding Aquinas' view, according to which the soul cannot cognize itself directly but proceeds from the awareness of its acts to the awareness of itself.⁴³ Vital criticizes this view because it does not recognize the possibility of a direct intuitive cognition that the soul has of itself, and the flying man is one of the arguments that he brings forth to show that Aquinas cannot be right:

Again, if the soul were in a body, which it could not use at all, it would not apprehend sensible species. [...] However, it is certain that such a soul in such a body would apprehend itself, as becomes clear from Avicenna's *Sextus naturalium* 1.1, where he says that if a human being were created and placed *per impossibile* in air in such a way that his members would not touch each other but they all would be separate and he would not perceive anything about his members or about anything else, he would not doubt his existence but he would affirm it.⁴⁴

Vital's description of the situation of the flying man does not differ in any relevant way from his predecessors, as he accepts the premises P1, P2, and P3. Yet, he does not mention the premise P4 at all, probably because it is not relevant for his epistemological purposes. Moreover, the way he uses the illustration raises some questions. Unlike Matthew, who presents the thought experiment as a positive argument for a view that he does not fully accept and which he explicitly criticizes, Vital brings it forth as an argument against Aquinas and seems to accept it. Yet, it is difficult to see how the flying man could work in the context of Vital's own theory. Namely, he argues in the same way as Matthew that we must make a distinction between the beginning of self-awareness and its completion. Self-awareness begins with the acts of the soul, but afterwards the soul can cognize itself

 $^{^{43}}$ Vital does not attribute the view to Aquinas, but there is little doubt that the theory he analyzes comes from him.

⁴⁴ Vital du Four, Quaestiones disputatae de cognitione, q. 4, 242.

directly. ⁴⁵ The problem is that if direct self-awareness is, at first, impossible without any acts of the soul, not even the flying man can be aware of himself unless he acts—and by definition he does not have any acts which could function as the basis for self-cognition.

It seems that there are two possible explanations: either Vital thinks that the flying man is not a good thought experiment (like Matthew did before him) but uses it against Aquinas nevertheless; or he thinks that the flying man has acts, albeit internal ones, which do not require the use of the body. In the first case, the flying man would be nothing but an ad hoc argument, and in the latter case, Vital would be putting forth a radical interpretation of Avicenna's view—an interpretation which resembles, in some respects, William of Auvergne's position. Unfortunately, he does not say what his final view is, but the way the text continues immediately after the thought experiment may be taken as a modest support for the latter reading:

[Although the flying man] would not perceive anything about his members or about anything else, he would not doubt his existence but he would affirm it. Thus, it is clear that the soul in the body apprehends that it exists (*se esse*) without receiving any species. And because after apprehending that it exists (*quia est* ⁴⁶), the soul asks what it is, it does not necessarily need the species of any external object in order to apprehend what it is. It notices itself (*devenit in sui notitiam*)—both that it *is* and *what* it is—through its internal acts such as living, willing, desiring and the like, which it experiences in itself. It can do the same through the acts that it exercises in relation to external objects, but these are not necessary for this, as the [aforementioned] view stated.⁴⁷

Thus, Vital argues that the soul knows that it exists (and even what it is) without any acts that pertain to external objects, but self-cognition begins from the acts of the soul nevertheless. It seems that he understands Avicenna's thought experiment in this light: the flying man is aware of himself because he is aware of these internal acts. Vital seems to think that not only living but also willing and desiring are acts that are not necessarily related to external objects. In the case of living, this seems uncontroversial; the other examples are more problematic.⁴⁸

⁴⁵ Ibid., 243-8.

⁴⁶ Vital uses the expressions *quia est* and *quid est* to distinguish two aspects of self-cognition. 'Quia est' pertains to the existence of the soul or the intellect, and 'quid est' to the knowledge of its essence.

⁴⁷ Vital du Four, Quaestiones disputatae de cognitione, q. 4, 242.

⁴⁸ It is worth noting that desiring and willing are not cognitive acts. Medieval philosophers typically thought that these acts are not related to external objects directly but through, or in relation to, cognitive acts of the soul. Thus, in a sense, one might be able to claim that desiring and willing do not require external objects; but then again,

Vital is not interested in the other aspects of the thought experiment. He mentions that according to Avicenna the flying man is unaware of his body (the premise P2), but he does not draw any ontological conclusions from this premise and there are reasons to believe that he does not accept it. Namely, he explicitly claims further in the text that the soul is aware of being in the body: "Therefore, there is another view, which says that the conjoined soul cognizes [1] that it exists (quia est), [2] that it exists in a certain kind of body, [3] what it is, and [4] it also regards itself and its dispositions intuitively by an interior sense—that is, by an intellectual eye."49 Vital accepts this view, as he also writes that "a united soul cognizes by its internal or external acts, and without a species, that it exists and that it is in the body. [...] And because the soul comes to cognize what it is by cognizing what its acts are, it does not know as certainly what it is, as it knows that it exists or exists in its body."50 On the basis of these passages, it seems clear that the soul is aware of being conjoined to the body. This addition is quite interesting, although it does not play a significant role in Vital's discussion. He does not give any argumentative role to it and he does not relate it to the flying man. He just mentions this ability without discussing it at all.

The addition may be partly explained by the nature of Vital's work. Namely, the titles of his disputed questions reveal that they belong to a genre of philosophical literature that emerged in the latter half of the thirteenth century. In this genre, human cognition is discussed in two sets of questions, one dealing with the activities of a soul that is separated from the body, and the other with a soul when it is conjoined to the body. Vital's questions belong clearly to the latter set, and it is possible that when he mentions—right after performing the flying man thought experiment—that the soul is in the body, he only wants to issue a reminder that he is talking about self-awareness as it happens in a conjoined soul.

However, the other quoted passages cannot be completely explained away by appealing to the genre of the work. It seems, therefore, that Vital really thinks that the soul is aware of being in the body, at least in the case of men who do not fly. This idea may explain partially why he does not draw the ontological conclusion C1 from the flying man: if the premise P2 is rejected, the conclusion C1 does not follow. To be sure, the omission of the ontological conclusion is reasonable already on the basis of the context. The existence and nature of the soul are not relevant for Vital's purposes when he discusses the soul's awareness of itself. Yet, the rejection of P2 bears philosophical

most medieval authors thought that it is not possible to desire or to will without having a cognitive act that provides the object for desiring and willing.

⁴⁹ Vital du Four, Quaestiones disputatae de cognitione, q. 4, 243.

⁵⁰ Ibid., 247.

significance, as it shows how one may be able to reject the ontological conclusion that Avicenna draws even if one accepts the crucial premise P3.

Matthew and Vital reveal that the function of the thought experiment changes in the latter half of the thirteenth century. They are not particularly interested in the flying man for its own sake, and unlike the earlier authors, they do not give it an important position in their discussions. The illustration is taken up only as one possible argument for the soul's ability to have some kind of direct and intuitive cognition of itself. One consequence of this 'epistemological turn' is that the premise P2, which was central for Avicenna and the earlier Latin authors, namely, that the flying man does not apprehend his body, loses its importance. If the thought experiment is meant to show only that the soul can be aware of itself directly, without having previous cognitive acts that pertain to external objects (the premises P1 and P3), and it is not used to reach the ontological conclusion C1, the lack of bodily self-awareness does not matter anymore.

4. MAN BEFORE THE CREATION

The original flying man thought experiment is obviously based on Avicenna's Neoplatonic substance dualism, but it also reveals, as a corollary, his position with respect to the role that the body and the sense organs play in perception. Direct awareness of one's own body is impossible. We become aware of our bodies only by perceiving them through the external senses—we may touch or see our own body just like we touch or see other external objects—or by using the sensory powers that are actualized in bodily organs. In this model the senses function as transmitters of external information, and we apprehend them only when we have sensations through them. If there is no information coming from the external world to the senses, they remain transparent to us. Although this move from P1 to P2 loses its importance as the latter premise becomes less relevant in the epistemological flying man, it is crucial for the ontological version of the thought experiment.

By contrast, the latter half of the thirteenth century witnessed a thought experiment which makes sense only if the opposite of the premise P2 is supposed to be true. This thought experiment is Peter Olivi's 'man before the creation,' which he presents while developing his theory of perception.⁵¹ He illustrates how the soul's cognitive attention functions by asking

⁵¹ I have briefly discussed this thought experiment in Juhana Toivanen, "Perceptual Self-Awareness in Seneca, Augustine, and Peter Olivi," *Journal of the History of Philosophy* 51 (2013), 374–5.

us to imagine a man who exists before anything else is created in the world. This man tries to see his surroundings by directing his attention, but he sees nothing simply because there is nothing to be seen.

The context in which Olivi presents his thought experiment and the argumentative role he gives to it differ from those of Avicenna and the other Latin authors. He does not relate it directly to the nature of the soul or self-awareness, as its purpose is to explain how intentional directedness of the soul takes place in the perceptual process.⁵² In particular, Olivi tackles a problem concerning the effect of mirrors, which is especially challenging for him, not only because he rejects the efficient causality between the power of vision and the object, but also because he denies that there is any real connection between them. When someone sees an object, her sight is intentionally directed to it—to use Olivi's expression, the power has an aspectus which reaches the object virtually—and this intentional relation enables the act of seeing.⁵³

It is fairly easy to understand the strengths of this theory in the case of a direct perception of an object which is in front of the perceiver. However, when perception takes place through a mirror, Olivi's view seems intuitively less plausible, especially as he thinks that we do not see an image of the object in the mirror but the object itself.⁵⁴ Olivi admits that the case of mirrors is strange—strange enough to explain why a mirror is called "a miracle" (*miraculum*) and looking into a mirror "to marvel" (*mirari*) in his native Occitan language.⁵⁵ Thus, in order to defend his theory, he needs to explain how the reflection of the intention of the soul takes place. His explanation is rather complicated and we need not go into the details in this connection. The basic idea is that the *aspectus* of sight that meets the mirror causes the reflected *aspectus* that reaches the object. In order to make this

⁵² However, Olivi's conception of intentional directedness of the soul is central for his theory of self-awareness, and therefore the idea that he defends with his man before the creation is related to the epistemological version of the flying man.

⁵³ My intention here is not to explain Olivi's theory of perception, which has been discussed adequately elsewhere. See Robert Pasnau, *Theories of Cognition in the Later Middle Ages* (Cambridge: Cambridge University Press, 1997), 121–81; Dominik Perler, *Théories de l'intentionnalité au Moyen Âge* (Paris: Vrin, 2003), 43–75; José Filipe Silva and Juhana Toivanen, "The Active Nature of the Soul in Sense Perception: Robert Kilwardby and Peter Olivi," *Vivarium* 48 (2010), 245–78; Katherine Tachau, *Vision and Certitude in the Age of Ockham: Optics, Epistemology and the Foundations of Semantics, 1250–1345* (Leiden: Brill, 1999), 39–54; Juhana Toivanen, *Perception and the Internal Senses: Peter of John Olivi on the Cognitive Functions of the Sensitive Soul*, Investigating Medieval Philosophy 5 (Leiden: Brill, 2013), 115–222.

⁵⁴ Peter Olivi, *Summa II*, q. 73, 69–70.

⁵⁵ Peter Olivi, *Summa II*, q. 73, 67; B. Jansen, "Descriptio codicum—Ratio editionis," in *Summa II*, vol. 3, xix–xx.

solution more plausible, Olivi takes up another case in which one *aspectus* is the cause of another, or in which one *aspectus* gives rise to another when external conditions change: he asks us to imagine the man before the creation.

It should also be said that the powers [of the soul] have a double *aspectus*. The first of them is indeterminate with respect to the objects—as when we tend outward in such a way that the power of vision is applied to seeing by the will or by nature, and the eye is awake but kept closed, or we are in darkness. Because of the unsuitable condition of the medium, or because of the impediment of some obstacle, the power of sight does not determinately tend toward any object. The other *aspectus* is a determination of the first *aspectus* because the first one is related to the second as a root to a branch, and a sensation is caused from the first when an object is present. For example, given that only a man whose eyes are open would have been created before the creation of everything else, and he would strive with all effort to tend to see by his eyes (*toto conatu niteretur per oculos intendere ad videndum*) as if there were external visible things: it is clear that in that case his *aspectus* would not be terminated at or determinately carried to any external object. If, after a while, all the external things (which exist now) were created, the first *aspectus* of the eyes would be thereby fixed at external objects.⁵⁶

Like the flying man, the man before the creation does not have any sensations, because there are no objects that he could perceive. The first major difference from the flying man, however, appears immediately after this initial similarity in the setting of the thought experiment. Namely, Olivi does not derive the premise P1 from the fact that external objects do not act upon the senses. Avicenna supposes that if external objects do not cause changes in the sense organs and sense powers, the senses remain inactive, but Olivi thinks that the senses may be active even when they do not sense anything, as in the exceptional case of the man before the creation—and we may suppose that he would claim that the senses of the flying man would be similarly active. Olivi defends an active theory of perception in which the perceptual process is based on the soul's intentional directedness. The man before the creation could not be prevented from using his senses, because if he were unable to use them when there are no objects present, he would never perceive anything. The sudden creation of external objects cannot cause perception, according to Olivi, because that would make perception a passive process.

Thus, the difference between the man before the creation and the flying man stems partly from Olivi's active theory of perception. At the same time, it reveals that Olivi's attitude toward awareness of one's own body is

⁵⁶ Peter Olivi, Summa II, q. 73, 68-9. See also ibid., q. 59, 543-4.

radically different from Avicenna's position. In contrast to the flying man, who is utterly unaware of his body and bodily functions, Olivi's man before the creation is well aware of his ability to see even though there is nothing to be seen. The man is not only created with his eyes open but he *toto conatu niteretur per oculos intendere ad videndum*—he directs his attention to the external world and tries to see if there is anything, and he does this by using his eyes intentionally.

One might think that the man before the creation is aware only of his ability to see and not of his eyes as bodily organs. However, it seems to me that when Olivi writes per oculos, he really means that the man before the creation is aware not only of his power of sight but also of his eyes. He claims elsewhere that one must pay attention to the senses in order to see (or try to see), and he seems to think that this requires paying attention to the organs in which the powers are seated.⁵⁷ Thus, in order to use his power of sight, the man before the creation must be aware of his eyes on some level. To be sure. this kind of awareness does not need to be reflexive in the sense that the eyes would be *objects* of cognition. Rather, it is sufficient that the eyes are cognized as something that can be *used* for seeing. The man does not need to be aware of the eyes in a similar way as he is aware of other visual objects that he perceives after they have been created—he could perceive his eyes in this way only by looking at them through a mirror—but as instruments that he can use for seeing at will. Without this kind of awareness he could not turn his attention to his eyes and use them in an appropriate way.

It is important to note that Avicenna and his Latin followers also seem to commit to the idea that being aware of one's sensory powers entails awareness of the body. Avicenna's move from P1 to P2 is based on the idea that the flying man is unaware of his sense powers because they are not acting, which in turn entails a lack of awareness of the body. This reasoning involves a transition from awareness of a bodily function to awareness of the body. To be sure, we may question the validity of this move, but in a way it makes sense: it is difficult to understand how one could be aware of the ability to see without being aware that this ability is located in the eyes, that it can be altered by turning the eyes in different directions, and that it gives a perspective on the external world. This experience is especially clear in the case of touch. When someone touches an object, she experiences the

⁵⁷ See, e.g., *Summa II*, q. 58, 510, where Olivi states that "the organ of the common sense is the whole brain, just as the organ of sight is the whole eye with the visual nerves. [...] Different acts are brought about according to the various *aspectus* that the common sense has in the brain. For according to the *aspectus* that it has towards the eyes it apprehends visible things, and according to the *aspectus* towards the ears it apprehends audible things, and so on for the other senses."

touching in a certain part of her body. It makes sense to claim that if she is aware of the location of perceptual acts within her body, she must have some sort of awareness of her body and of the bodily functions as located in it.⁵⁸

My interpretation of Olivi's thought experiment may sound daring, given that it is based on very scant textual evidence, but, in fact, it is compatible with what Olivi says in other contexts. He thinks that the human body is the immediate object of the sense of touch, and some of the formulations that he uses when he discusses the sense of touch come very close to the modern concept of proprioception, the sense by which we perceive our own bodies.⁵⁹ Moreover, he thinks that not only human beings but also other animals are immediately and pre-reflexively aware of the functions of their bodily parts and organs:

When a dog or a snake sacrifices one of its members in order to save its head or sacrifices some part in order to save the whole, then it prefers the whole over the part and the head over the other member. Therefore, these animals must have some common power which shows both extremes simultaneously, their mutual comparison, and the preference of one over the other—although it does not do this with the same fullness and degree of reflective judgment as does the intellect.⁶⁰

Even non-human animals are aware of their bodies, of the functions and mutual values of the various parts. A dog may block a strike with its paw in order to save its head because it is aware that its head is more important for its well-being than the paw. I have argued elsewhere that this kind of immediate bodily self-awareness is a necessary condition for the ability to use the body and the senses appropriately, and it is not learnt but innate.⁶¹

From this point of view, it is significant that Olivi describes the man before the creation immediately and intentionally using his bodily senses. Even though his purpose is not to use the thought experiment as an argument concerning the nature of the soul or its relation to the body, it is based on the idea that the man before the creation actually uses his eyes and therefore is aware of them and their function. A central presupposition

⁵⁸ Olivi points out that we are aware that our acts of seeing are located in the eyes in *Summa II*, q. 73, 94.

⁵⁹ Mikko Yrjönsuuri, "Perceiving One's Own Body," in S. Knuuttila and P. Kärkkäinen (eds), *Theories of Perception in Medieval and Early Modern Philosophy*, 101–16.

⁶⁰ Peter Olivi, Summa II, q. 62, 588.

⁶¹ Toivanen, "Perceptual Self-Awareness," 372–9; Toivanen, *Perception and the Internal Senses*, 281–92. See also Mikko Yrjönsuuri, "Types of Self-Awareness in Medieval Thought," in V. Hirvonen, T. J. Holopainen, and M. Tuominen (eds), *Mind and Modality: Studies in the History of Philosophy in Honour of Simo Knuuttila* (Leiden: Brill, 2006), 153–69.

in the thought experiment is that the man is directly aware of his sensory powers, which entails a certain kind of awareness of the bodily organs as well.⁶² We cannot question this premise without completely undermining the plausibility and effectiveness of the thought experiment; and that is exactly why Olivi's stance toward the soul's awareness of the bodily senses can be inferred from it.

We can now see in detail the central differences between the flying man and the man before the creation. First, Olivi thinks that external senses are active even when they do not perceive anything, and thus he rejects Avicenna's premise P1. On the other hand, if we read P1 as referring to perceptual acts (and not to any kind of activity of the senses), Olivi rejects the inference from P1 to P2: one can be aware of the senses (and have a certain kind of awareness of their organs as well) even when one does not perceive anything through them. In other words, Olivi makes a conceptual difference between P1 and P2—something which Avicenna does not seem to acknowledge. It is possible that Olivi would think that P2 requires P1 if the latter is understood as any kind of activity—that is, if the man before the creation was, for some reason, unable to even try to see and did not have active visual attention toward the void, then he would not be aware of his senses and body. Olivi does not develop the scene enough for us to know his position on this imaginary case, but it is important to note that he considers the kind of activity he attributes to the man before the creation as an inseparable feature of the soul and its cognitive powers.

Thus, although the man before the creation has, at first glance, much in common with the flying man, there is a fundamental difference between these two experiments. The difference is not so much ontological—both Avicenna and Olivi can be understood as defending a qualified substance dualism⁶³—as phenomenological. It reveals a different understanding of the contents of elementary self-awareness that human beings have: to put it

⁶² Olivi thinks that animals must be able to apprehend their sensory powers and the state of bodily organs (for instance, that the eyelids are closed) even when they do not perceive anything through them. See Peter Olivi, *Summa II*, q. 62, 587–9; Toivanen, *Perception and the Internal Senses*, 275–81.

^{63²}See, e.g., Jon McGinnis, *Great Medieval Thinkers: Avicenna* (Oxford: Oxford University Press, 2010), 90–5; Toivanen, *Perception and the Internal Senses*, 25–42. A further similarity is that Olivi accepts the Avicennian idea that the soul is aware of itself directly, without the mediation of the acts of the soul. However, this topic cannot be dealt with in detail here. See Peter Olivi, *Summa II*, q. 76, 145–9; Peter Olivi, "Impugnatio quorundam articulorum Arnaldi Galliardi, articulus 19," ed. S. Piron, in C. König-Pralong, O. Ribordy, and T. Suarez-Nani (eds), *Pierre de Jean Olivi—Philosophe et théologien*, Scrinium Friburgense 29 (Berlin: De Gruyter, 2010), 457; Putallaz, *La connaissance de soi*, 85–133.

simply, the flying man is completely unaware of his body and sensory powers, but the man before the creation is not.

It is impossible to say with certainty whether Olivi was inspired by Avicenna's flying man when he came up with his thought experiment. It is clear that he had a good knowledge of Avicenna's psychology, and occasionally he refers to Avicenna's De anima directly.64 The situation is similar with respect to his familiarity with other Latin authors who use the flying man: we do not have sufficient knowledge of Olivi's use of earlier and contemporary sources, and further research is needed in order to establish historical connections to the flying man tradition. It is nevertheless likely that Olivi was familiar with the works of William of Auvergne and John of la Rochelle, given their importance in thirteenth-century philosophy and especially among Franciscan philosophers. Moreover, it is almost beyond doubt that Olivi knew Matthew's work. After all, Matthew was Olivi's contemporary, who helped to rehabilitate Olivi and appointed him a lector at the highly esteemed studium in Florence, when Matthew was acting as the minister general of the Franciscan order.⁶⁵ Finally, Olivi knew at least some of Vital's works-but question 73 of Summa II was written in the 1280s and therefore Vital cannot have influenced it.66 What is certain is that Olivi does not indicate any source for his idea in the immediate context of the man before the creation. It is possible that he found a similar argument from some earlier Latin author (Augustine would be the usual suspect here) or from his own contemporaries, but we cannot rule out the option that he invented the thought experiment by himself. At any rate, it is safe to say that at least his way of using the experiment was original, because it makes sense only in the context of his theory of perception.

Leaving the historical connections aside, there is yet another doctrinal affinity that is worth mentioning. Peter of Spain's thought experiment bears a striking resemblance to two central aspects of Olivi's philosophical psychology, and this suggests a more general similarity between the psychological theories of these two authors. First, as we have seen, Peter of Spain thinks that the intellectual soul functions as an experiential center of the soul. The flying man is unaware of his body because the intellect does

⁶⁴ E.g. in Summa II, q. 59, 524.

⁶⁵ David Burr, "The Persecution of Peter Olivi," Transactions of the American Philosophical Society 66 (1976), 67.

⁶⁶ For an account of a dispute between Olivi and Vital du Four, see Vincenzo Mauro, "La disputa de anima tra Vitale du Four e Pietro di Giovanni Olivi," *Studi medievali* 38 (1997), 89–138. For dating of Olivi's questions, see Sylvain Piron, *Parcours d'un intellectuel franciscain. D'une théologie vers une pensée sociale: l'oeuvre de Pierre de Jean Olivi (ca. 1248–1298) et son traité* De contractibus (Ph.D. dissertation, École des Hautes Études en Sciences Sociales, Paris, 1999).

not know anything about it. Olivi understands the role of the intellectual power of the soul in a similar way. When he discusses the experiential unity of the soul, he argues that we experience different kinds of acts as our own because the intellect apprehends these acts as belonging to us.⁶⁷ The other similarity is related to the ontological explanation for the ability to cognize various things either within oneself or in the external world. Peter of Spain argues that the flying man does not perceive his body because the intellectual soul does not have a natural aspectus to the body. Olivi's theory of cognition is based on the same principle, namely that the cognitive processes require intentional directedness from the part of the soul.⁶⁸ The only difference is that, in Olivi's case, the soul is capable of paying attention to itself and to the body even in the counterfactual case of the man before the creation. These affinities may be significant, but they alone do not prove that Olivi would have known Peter of Spain's work. The doctrinal similarities or historical connections between these authors have not been studied in modern scholarship, and before we have a better knowledge of Peter of Spain's philosophical psychology and Olivi's familiarity with his work, we cannot make any firm conclusions in this respect.

Is the man before the creation a version of the flying man or an independent thought experiment? The answer to this question depends on the criteria that we use in judging whether two ideas are the same, and therefore the answer will of necessity be controversial. Olivi's thought experiment resembles the flying man so much that it is natural to think that there are connections to the earlier tradition. On the other hand, the context in which Olivi presents his thought experiment and the argumentative role he gives to it differ from Avicenna and the Latin authors. The experiments have different functions, and if the emphasis is laid on the function and the context, it is clear that we are dealing with two different experiments. But then again, the epistemological and ontological flying men serve a different purpose and come up in different contexts as well. One might argue that the question concerning the relation of the man before the creation to the flying man is not very important. By analyzing the man before the creation in connection with the various versions of the flying man, we may arrive at a general picture of medieval variations of a certain kind of thought experiment. Whether or not these experiments are considered to be the same, it is clear that a man who does not perceive

⁶⁷ Peter Olivi, Summa II, q. 51, 112 and q. 54, 280.

⁶⁸ Olivi even uses the same concept, *aspectus*, as we have seen. But then again, this terminological affinity is easy to explain without supposing a historical connection between Peter of Spain and Olivi by appealing to a common source. The concept was not uncommon in medieval philosophical vocabulary.

anything external to him was a part of philosophical imagery in the thirteenth century. It is also clear that medieval philosophers came up with original insights by means of this man.

5. CONCLUSION

The Latin discussion concerning the flying man endured roughly one and a half centuries, from the middle of the twelfth to the beginning of the fourteenth century. During this time it was transformed from an ontological proof to an epistemological remark. Up to the middle of the thirteenth century, Latin authors used it to prove the existence and/or incorporeal nature of the soul. In the latter half of the century it was transferred to an epistemological context and used as an argument for the soul's ability to be directly aware of itself.

The central difference between these two versions of the thought experiment can be presented by using the schematic analysis of the flying man experiment, which I have presented above. The ontological version begins from the inactivity of the senses (the premise P1), which entails a lack of awareness of the body (P2). The flying man does not perceive anything and is therefore unaware of his body. The experiment continues with a supposition that the flying man would be aware of himself or of his soul even in this state (P3). The conclusion that is claimed to follow from these premises is that the soul exists and is incorporeal (C1). When medieval philosophers turn their minds to an epistemological question concerning the soul's ability to be aware of itself directly, the argumentative role of the thought experiment changes. It turns into an epistemological argument, which is supposed to prove that self-awareness is not based on cognitive acts that pertain to external objects. Even in the absence of acts of perception (P1), the flying man would be aware of himself or of his soul (P3). Late thirteenth-century philosophers presented this argument against Aguinas' theory of self-cognition, and they thought that its primary function was to show that self-awareness is not grounded on previous cognitive activity of the soul but must be a primitive feature of the human cognitive system. In this discussion the original conclusion C1 is left aside and the emphasis is solely on the premises P1 and P3.

One may ask why the authors who accepted the epistemological premise P3 did not continue to make the further ontological conclusion C1. The reason for this omission can be partially explained by appealing to their philosophical interests and the context in which they used the flying man: the ontological conclusion is irrelevant or at least peripheral to the discussion

concerning self-awareness. However, this answer begs the question because we would still want to know why they did not use it *also* in an ontological context, when they were discussing the nature of the soul. One possible explanation is that the rise of Aristotelian natural philosophy and Aristotle's aversion to substance dualism made Avicenna's dualistic model seem suspicious and outdated. Even those who considered the flying man as an effective instrument for defending the soul's direct self-awareness tended to soften the dualistic elements in their anthropology, at least to the extent that it was possible without threatening their commitment to the immateriality and immortality of the soul.

By the end of the thirteenth century, the reaction to the premise P2 that one would be unaware of one's body without cognitive acts that pertain to external objects—was reconsidered. Vital du Four seems to challenge it, and when Olivi presents his own thought experiment that resembles the flying man, he presupposes that even in this peculiar condition we would be aware of our bodily senses, at least as powers which we may actively use and which are located in the organs of the body. According to Olivi, our senses do not have to be actualized by an act of perception before we know how to use them. His thought experiment featuring the man before the creation does not make sense without this presupposition. The difference between Avicenna and Olivi stems partly from their differing descriptions of the initial conditions of the man in the void—Olivi allows him to use his senses, whereas Avicenna denies this ability—but it can be traced to more fundamental differences in their understanding of the perceptual process. Olivi thinks that perception is actively caused by the soul, whereas Avicenna thinks that it is initiated by the objects of perception. Moreover, I have argued that this difference reveals the divergent positions concerning bodily self-awareness that these authors have. However, the emerging idea of an ability to be aware of one's body cannot be considered as a general or universal development. It may be nothing but an occasional peculiarity. Before reaching any conclusions on this score, more research needs to be conducted.

Lastly, we may ask why the flying man disappeared from medieval philosophical imagery. There were enough authors who used it in relevant philosophical discussions that it could have lived on. Yet, it seems that fourteenth-century authors stopped using it. The final answer to this question is beyond the scope of this essay, but one important reason may be inherent in the change in the understanding of the nature of the thought experiment. Viewed from the perspective of the epistemological discussion concerning self-awareness, it becomes apparent that the flying man is not an argument. The reasoning behind the epistemological flying man—supposing that one is deprived of perceptual acts (P1), he is nevertheless

aware of himself (P3)—is supported by Avicenna's thought experiment, but, within the experiment, the only reason to accept these two premises is Avicenna's authority. Thus, the thought experiment becomes nothing but an argument from authority in the late thirteenth-century discussions: Avicenna says that the flying man knows his existence or the existence of his soul; therefore, the soul is directly aware of itself. We all know how vulnerable arguments from authority are. Once the authority loses his or her status as an authority, the argument ceases to be appealing. The flying man may have disappeared into the void whence he came due to the combined effect of the waning fame of Avicenna and the intrinsic development of medieval philosophical discourse.⁶⁹

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BIBLIOGRAPHY

- Aristotle. De anima, tr. J. A. Smith, in J. Barnes (ed.), The Complete Works of Aristotle: The Revised Oxford Translation (Princeton: Princeton University Press, 1984), 641–92.
- Avicenna. Avicenna latinus, Liber de anima seu Sextus de naturalibus, ed. S. van Riet (Louvain/Leiden: Peeters/Brill, 1968–72). (= Liber de anima)
- Avicenna. Avicenna's De anima (Arabic Text): Being the Psychological Part of Kitāb alshifā', ed. F. Rahman (London: Oxford University Press, 1959).
- Beha, Helen Marie. "Matthew of Aquasparta's Cognition Theory," *Franciscan Studies* 21 (1961), 1–79, 383–465.
- Black, Deborah. "Avicenna on Self-Awareness and Knowing that One Knows," in S. Rahman, T. Street, and H. Tahiri (eds), *The Unity of Science in the Arabic Tradition* (Dordrecht: Springer, 2008), 63–87.
- Bougerol, Jacques Guy. "Introduction," in John of la Rochelle, *Summa de anima*, ed. J. G. Bougerol, Textes philosophiques du Moyen Âge 19 (Paris: Vrin, 1995), 9–43.
- Brown, Deborah J. "Aquinas' Missing Flying Man," Sophia 40 (2001), 17-31.
- Burr, David. "The Persecution of Peter Olivi," Transactions of the American Philosophical Society 66 (1976), 1–98.
- Cory, Therese Scarpelli. *Aquinas on Human Self-Knowledge* (Cambridge: Cambridge University Press, 2014).
- Costa ben Luca. De differentia spiritus et animae, ed. J. C. Wilcox, in The Transmission and Influence of Qusta ibn Luca's "On the Difference Between Spirit and the Soul," Ph.D. dissertation (Ann Arbor: University Microfilms International, 1985), 143–91.
- ⁶⁹ This research was financially supported by the European Research Council, the Stiftelsen Riksbankens Jubileumsfond, and the Academy of Finland.

- Dominicus Gundissalinus. *Tractatus de anima*, in "The Treatise *De Anima* of Dominicus Gundissalinus," ed. J. T. Muckle, *Mediaeval Studies* 2 (1940), 31–103. (= *Tractatus de anima*)
- Gauthier, René Antoine. "Les commentaires de la *Vetus*," in Thomas Aquinas, *Sentencia libri De anima*, ed. R. A Gauthier, *Sancti Thomae de Aquino Opera omnia iussu Leonis XIII P.M. edita* 45.1 (Rome: Commissio Leonina, 1984), 1*–294*.
- Gilson, Étienne. "Les sources gréco-arabes de l'augustinisme avicennisant," *Archives d'histoire doctrinale et littéraire du moyen âge* 4 (1929), 5–149.
- Hasse, Dag Nikolaus. Avicenna's De anima in the Latin West: The Formation of a Peripatetic Philosophy of the Soul, 1160–1300 (London: The Warburg Institute, 2000).
- Heller-Roazen, Daniel. *The Inner Touch: Archaeology of a Sensation* (New York: Zone Books, 2007).
- Ierodiakonou, Katerina and Sophie Roux (eds). *Thought Experiments in Methodological and Historical Contexts*, History of Science and Medicine Library 19 (Leiden: Brill, 2011).
- Jansen, Bernhard. "Descriptio codicum—Ratio editionis," in Peter of John Olivi, Quaestiones in secundum librum sententiarum, vol. 3, ed. B. Jansen, Bibliotheca Franciscana Scholastica Medii Aevi 6 (Florence: Collegium S. Bonaventurae, 1926), xi–xlviii.
- John of la Rochelle. *Summa de anima*, ed. J. G. Bougerol, Textes philosophiques du Moyen Âge 19 (Paris: Vrin, 1995).
- Kaukua, Jari. Self-Awareness in Islamic Philosophy: Avicenna and Beyond (Cambridge: Cambridge University Press, 2015).
- Knuuttila, Simo. "Aristotle's Theory of Perception and Medieval Aristotelianism," in S. Knuuttila and P. Kärkkäinen (eds), *Theories of Perception in Medieval and Early Modern Philosophy*, Studies in the History of Philosophy of Mind 6 (Dordrecht: Springer, 2008), 1–22.
- McGinnis, Jon. *Great Medieval Thinkers: Avicenna* (Oxford: Oxford University Press, 2010).
- Marmura, Michael. "Avicenna's 'Flying Man' in Context," *Monist* 69 (1986), 383–95.
- Matthew of Aquasparta. *Quaestiones de cognitione*, in *Quaestiones disputatae de fide et cognitione*, Bibliotheca Franciscana Scholastica Medii Aevi 1 (Florence: Collegium S. Bonaventurae, 1957), 199–406.
- Mauro, Vincenzo. "La disputa de anima tra Vitale du Four e Pietro di Giovanni Olivi," *Studi medievali* 38 (1997), 89–138.
- Pasnau, Robert. *Theories of Cognition in the Later Middle Ages* (Cambridge: Cambridge University Press, 1997).
- Perler, Dominik. Théories de l'intentionnalité au Moyen Âge (Paris: Vrin, 2003).
- Peter of John Olivi. "Impugnatio quorundam articulorum Arnaldi Galliardi, articulus 19," ed. S. Piron, in C. König-Pralong, O. Ribordy, and T. Suarez-Nani (eds), *Pierre de Jean Olivi—Philosophe et théologien*, Scrinium Friburgense 29 (Berlin: De Gruyter, 2010), 453–62.

- Peter of John Olivi. *Quaestiones in secundum librum sententiarum*, 3 vols, ed. B. Jansen, Bibliotheca Franciscana Scholastica Medii Aevi 4–6 (Florence: Collegium S. Bonaventurae, 1922–6). (= *Summa II*)
- Peter of Spain. Commentario al "De anima" de Aristóteles, ed. M. Alonso, Pedro Hispano Obras Filosóficas 2 (Madrid: Luis Vives, 1944). (= Questiones De anima)
- Piron, Sylvain. Parcours d'un intellectuel franciscain. D'une théologie vers une pensée sociale: l'oeuvre de Pierre de Jean Olivi (ca. 1248–1298) et son traité De contractibus (Ph.D. dissertation, École des Hautes Études en Sciences Sociales, Paris, 1999).
- Putallaz, François-Xavier. La connaissance de soi au XIIIe siècle: de Matthieu d'Aquasparta à Thierry de Freiberg (Paris: Vrin, 1991).
- Silva, José Filipe and Juhana Toivanen. "The Active Nature of the Soul in Sense Perception: Robert Kilwardby and Peter Olivi," *Vivarium* 48 (2010), 245–78.
- Spruyt, Joke. "Peter of Spain," in E. N. Zalta (ed.), The Stanford Encyclopedia of Philosophy (Winter 2012) http://plato.stanford.edu/archives/win2012/entries/ peter-spain/>.
- Tachau, Katherine. Vision and Certitude in the Age of Ockham: Optics, Epistemology and the Foundations of Semantics, 1250–1345 (Leiden: Brill, 1999).
- Teske, Roland. "William of Auvergne's Debt to Avicenna," in R. Teske (ed.), *Studies in the Philosophy of William Auvergne* (Milwaukee: Marquette University Press, 2006), 217–37.
- Thomas Aquinas. Quaestiones disputatae de veritate, in Opera Omnia Iussu Leonis XIII P.M. edita t. 22 (Rome: Ad Sanctae Sabinae, 1970).
- Thomas Aquinas. Summa theologiae, ed. P. Caramello (Turin: Marietti, 1948–50). Toivanen, Juhana. Perception and the Internal Senses: Peter of John Olivi on the Cognitive Functions of the Sensitive Soul, Investigating Medieval Philosophy 5 (Leiden: Brill, 2013).
- Toivanen, Juhana. "Perceptual Self-Awareness in Seneca, Augustine, and Peter Olivi," *Journal of the History of Philosophy* 51 (2013), 355–82.
- Vital du Four. Quaestiones disputatae de cognitione, in "Le cardinal Vital du Four: Huit questions disputées sur le problème de la connaissance," ed. F. Delorme, Archives d'histoire doctrinale et littéraire du moyen âge 2 (1927), 151–337.
- William of Auvergne. *De anima*, ed. F. Hotot (Paris, 1674; reprinted Frankfurt: Minerva, 1963).
- William of Auvergne. *The Soul*, tr. R. J. Teske (Milwaukee: Marquette University Press, 2000).
- Yrjönsuuri, Mikko. "Perceiving One's Own Body," in S. Knuuttila and P. Kärkkäinen (eds), Theories of Perception in Medieval and Early Modern Philosophy, Studies in the History of Philosophy of Mind 6 (Dordrecht: Springer, 2008), 101–16.
- Yrjönsuuri, Mikko. "Types of Self-Awareness in Medieval Thought," in V. Hirvonen, T. J. Holopainen and M. Tuominen (eds), *Mind and Modality: Studies in the History of Philosophy in Honour of Simo Knuuttila* (Leiden: Brill, 2006), 153–69.