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Article

Stoic-influenced epistemology in Margaret Cavendish's theory of perception

Epistemologia estoica na teoria da percepção de Margaret Cavendish

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ABSTRACT

Recent scholarship has explored various aspects of Cavendish's epistemology and some concepts of her philosophy of nature have been shown to trace back to Stoic mechanics and aetiology. This paper argues that there was also a significant influence of the first Stoa's epistemology on the duchess' theory of perception, made possible by her readings of Thomas Stanley. By comparing key features of Stoic (kataleptic) sense-impression to Cavendishian double (regular) perception, I show that uncovering this influence helps us understand her late philosophical works.

Keywords: Margaret Cavendish, stoicism, perception, sense-impression.

RESUMO

Estudos recentes têm explorado diversos aspectos da epistemologia de Cavendish, e alguns conceitos de sua filosofia da natureza demonstraram remontar à mecânica e à etiologia estoicas. Este artigo argumenta que houve também uma influência significativa da epistemologia da primeira Stoa na teoria da

percepção da duquesa, tornada possível por suas leituras de Thomas Stanley. Ao comparar os traços centrais da impressão sensorial estóica (cataleptike) com a dupla percepção (regular) cavendishiana, mostro que revelar essa influência nos ajuda a compreender melhor suas obras filosóficas tardias.

Palavras-chaves: Margaret Cavendish, estoicismo, percepção, impressão sensorial.

1 Introduction

Stoic cosmology bears some remarkable resemblances to Cavendish's. In recent years, O'Neill¹ (2001, 2013) traced Cavendishian mechanics and cosmology back to the peculiar occasionalist theory of the first Stoa. Following her work, Tonani² (2025) extended further the connections between their thoughts on nature and knowledge, showing that it far surpasses occasionalist aetiology.

This paper will cover the duchess' philosophy of perception and its similarities to early Stoic epistemology defended by Zeno, Cleanthes, and Chrysippus. To accomplish this, some aspects of both theories will be described and then duly compared. Two main points of comparison will be presented: it will be argued that (a) occasionalism is a distinctive feature not only of their discussion of causality, but also of both accounts of perception; and (b) Cavendish's regular perception echoes conditions for the kataleptic representation (φαντασία καταληπτική) of the first Stoics. Another important piece of evidence gathered of such influence is Cavendish's usage of some Chrysippus' of arguments against Hobbes and Descartes in the *Philosophical Letters*. Concerning the viability of this influence, it will be shown that it could have occurred through her reading of the 'Doctrine of the Stoicks' from Thomas Stanley and that this could have been one of the reasons Cavendish brings her theory of perception to the forefront of her late philosophy.

2 Late Cavendish's theory of double perception

Cavendish's reflections on perception vary over time on her multiple philosophical publications. In the *Philosophical Fancies*, published in 1653, 'perception'—as a well-established philosophical concept—is overall absent. Even though the idea that nature is composed of different degrees of rational, sensitive, and inanimate matter is already in this work³ (cf. PhF 32, 35, 36, 39, *passim*), there is no detailed account of perceptive knowledge⁴ in it. By 1655, in the first *Philosophical and Physical Opinions*, some

¹ O'Neill points at this relationship between the Stoics and Cavendish in the introduction of her edition of the *Observations* (2001) and analyses it more thoroughly in her later publication "Margaret Cavendish, Stoic Antecedent Causes, and Early Modern Occasional Causes" (2013).

² It is argued that (a) Cavendishian materialism follows closely Stoic arguments, particularly in her late critique of atomism (2025, p.317), and (b) her considerations on metaphysical concepts like 'vacuum' and 'place' seem to echo Stoic materialistic principles, even radicalising them to postulate nature as infinite matter (p. 344). Also, (c) when attributing 'sense and reason' to all matter, her tripartite matter has some interesting resonance to the all-pervasive Stoic *pneûma* (πνεῦμα), a principle of rationality that exists in all parts of matter (p.353) and even her philosophical theory of the 'complete mixture' of the three degrees of matter closely resembles Chrysippus' theory of blending (p.365).

³ Some of the key concepts in Cavendishian cosmology are present in this work, albeit named differently than in later books. In the *Fancies*, what would later become the concepts of 'animate and inanimate matter' are called 'innate matter' (because it possesses innate motion) and 'dull matter'. Innate matter is also called 'spirit' in this publication; accordingly, the main different degrees of innate matter are called rational and sensitive spirits.

⁴ I consider a detailed account absent because some of the main characteristic doctrines of late Cavendishian perception are not there, such as the idea of perception as patterning out or that there is a double perception in everything that exists. There is, however, plenty of philosophical investigation on knowledge already in this book. PhF 45, 47 and 52 propose that knowledge is not exclusive to humans or animals, PhF 41, 44 and 45 discuss limitations of knowledge of parts of nature and we even have the beautiful poetic image of animate matter dancing itself into figures in the mind on different intellectual activities in PhF 32, 33 and 42.

chapters begin to reflect upon sensitive perception (PPO [55] 4.156, 4.158, 4.160), but there is no fully fledged theory of perception through patterning out; and the idea of patterns as exterior references for perception is only alluded to when dreams and madness are discussed (PPO [55] 4.154, 4.179). In the second edition of the *Opinions* in 1663, Cavendish discussed patterning in perception when thinking about the communication between sensitive and rational knowledge (PPO [63] 2.11, 2.12, 3.21), and once again on cognitive reflections on dreams and madness (PPO [63] 6.20-2, 7.13).

It is only since the *Philosophical Letters*, in 1664, that we find a rather mature theory of perception (PL 1.4, 1.37), in which Cavendish clearly stated that all matter is composed of a special mixture of three degrees, two of which are animated and capable of self-motion, as well as of perceiving. For Cavendish, nature is infinite matter endowed with sense and reason. Everything in nature is, for this reason, capable of perceiving. If all matter has rational and sensitive parts or degrees, then it is capable of a double perception: a sensitive and a rational one. Also in this book, perceiving is clearly characterised as a form of 'patterning out'⁵.

There are also some other important differences between Cavendish's theory of perception before and after the *Letters*⁶ to be taken into consideration. Firstly, the concept of 'perception' is not only very well-established by 1664, but it is also elevated to the status of one of the two 'grounds of [her] opinions' (PL 'To his excellency', 1.4, 1.42). This is reiterated in 1666/8, in the *Observations upon Experimental Philosophy* (OEP 'Argumental discourse', 1.2, 1.35-7), and, in the last version of her philosophy – the *Grounds of Natural Philosophy* from 1668 – there is a whole chapter dedicated to the now fully realised doctrine of double perception:

There is a Double Perception in Nature, the Rational Perception, and the Sensitive: The Rational Perception is more subtil and penetrating than the Sensitive; also, it is more generally perceptive than the Sensitive; also, it is a more agil Perception than the Sensitive: All which is occasioned not onely through the purity of the Rational parts, but through the liberty of the Rational parts; whereas the Sensitive being incumbred with the Inanimate parts, is obstructed and retarded. Yet all Perceptions, both Sensitive and Rational, are in parts; but, by reason the Rational is freer, (being not a painful Labourer) can more easily make an united Perception, than the Sensitive; which is the reason the Rational parts can make a Whole Perception of a Whole Object: Whereas the Sensitive makes but Perceptions in part, of one and the same Object. (GNP 1.10)

Lady Margaret's argument for the existence of two forms of perception in nature stems from her basic ontological commitments. It had been axiom of her philosophy since the *Fancies*⁷ that motion and matter are so entwined that the former cannot exist without the latter. On the other hand, she affirmed that matter, anywhere in the cosmos, existed in a complete blending or mixture of three degrees: inanimate, sensitive, and rational. The sensitive and rational degrees of matter are capable of self-motion

⁵ In PL 4.33, a section dedicated to correcting and explaining certain terminology from her "Book of Philosophy" (the *Opinions*), she even rectifies that, where in her previous book she had discussed the act of 'printing' as regards to the process of perception, she had meant the active motion of 'patterning out' – her own theory of perception. Whether she already interpreted the phenomenon of perception as patterning out and is only correcting her latter choice of words or if she refined and rethought her previous account concerning perception is indeed difficult to detect.

⁶ The rest of the paper will be concerned with could be called the late Cavendishian theory of perception. I consider as works of Cavendish's intellectual maturity the ones published after (and including) the *Philosophical Letters* in 1664. In short, two reasons guide this interpretation of her corpus: (1) there is a significant difference on the importance of perception in her system of thought, accompanied by a change of terminology and language when discussing the topic, (2) a deeper influence of the Stoic tradition is perceptible in her philosophy through the development of doctrines such as the double perception as patterning out and the metaphysical thorough mixture of the different degrees of matter that make 'but one body'.

⁷ The identity between matter and motion were already hinted on by the first chapters of the *Philosophical Fancies* (PhF 1-3) as well as by her subsequent vocabulary of 'innate spirits' (PhF 20, *passim*). In later works, starting from the reworking of the *Fancies* into the first part of the second edition of the *Philosophical and Physical Opinions* (PPO [63] 1.2, *passim*), this will have become the different degrees of matter.

and of patterning out objects. Each of these animate degrees has its own motion and is, therefore, capable of its own kind of perception. Combining these premises, the duchess concluded that everything is capable of a double perception – a sensitive and a rational one. As she would express herself on the *Observations*: “As there is a double degree of corporeal self-motion, viz. Rational, and Sensitive; so there is also a double degree of Perception, Rational, and Sensitive” (OEP 1.35).

There are many differences between rational and sensitive perceptions, and they stem from physical differences between the two degrees of matter. Rational matter is lighter, thinner, more agile and fast, more pervasive and penetrative than the other degrees of matter (PL 1.4, 1.6, 1.35, 2.13, 3.1, 4.4, 4.6, 4.29; OEP ‘Argumental discourse’, 1.1, 1.20, 1.37 (Q.7, Q.14⁸); GNP 1.5, 2.4, 5.16), as well as freer than its sensitive counterpart. This freedom arose from their differing functions: the sensitive must move the inanimate matter along with it, being so ‘incumbred’ with this part of matter that it is considerably more difficult for it to act independently. The rational degree, on the contrary, is freer to act as it wills, ‘voluntarily or by rote’ (OEP 1.25, 1.37 (Q.11, Q.14)). This came with the caveat that, although rational and sensitive perception often work together towards the perception of an outward object, they might not always do so (PL 1.4). The rational act of perceiving is freer and more capable of creating on its own ideas, thoughts, fancies, and mental images than the sensitive matter, whose perceptions were rarely voluntary. Sensitive perception is more strongly associated with sensation and the perceiving of external objects. Nevertheless, it could also be responsible for dreams, hallucinations, and other similar events.

It has been observed that Cavendish broadly distinguished between two kinds of knowledge: self-knowledge and perception (Michaelian, 2009; Boyle, 2015, 2019; Georgescu, 2020). Typically, she used ‘self-knowledge’ to refer to a part of nature or to the entirety of nature knowing itself, while perception regarded one part of nature knowing another⁹. Since the sixties, Cavendish described the action of perception through the language of ‘patterning out’. Perception is a part of nature knowing another through an active extraction of the object’s pattern (PL 1.20, *passim*; OEP ‘To the reader’, *passim*; GNP 5.9, 7.2-4). This is an active ‘patterning out’, since it is considered a particular kind of *self-motion* from the animate and self-moving parts of matter. The object should not be taken as the actual cause of perception, considering that that would make the subject rather passive, but it should be seen as an *occasion* or *indirect cause* of the self-motion of perceiving:

Perception is a sort of Knowledg, that hath reference to Objects; that is, Some Parts to know other Parts: But yet Objects are not the cause of Perception; for the cause of Perception is Self-motion. But some would say, If there were no Object, there could be no Perception. I answer: It is true; for, that cannot be perceived, that is not: but yet, corporeal motions cannot be without Parts, and so not without Perception. (GNP 1.9)

In the Cavendishian cosmos, sensitive and rational matter are responsible for every motion, because every motion is a kind of self-motion and cannot be imparted to another portion of matter. Mo-

⁸ Considering that section 1.37 of the *Observations* might be a bit too long to count as a precise reference location and is subdivided into answers to certain questions, for references to this section, I also mention the number of the question that was being answered in the relevant occurrence.

⁹ Michaelian (2009) inaugurated the discussion with a reconstruction of Cavendishian epistemology based on the differences between exterior and interior knowledge, including the central concepts of self-knowledge and perception. One interesting highlight of his account rests on his interpretation of self-knowledge as a form of ‘knowledge-how’ (2009, p.46 ss.). Boyle expands this analysis and strives for a sort of taxonomy of epistemological terms in order to understand the main concepts of Cavendish’s theory of knowledge (2015 and 2019). Both studies are enlightening and trailblazing albeit relying a bit too much on trying to find consistencies among the usage of certain terms, sometimes expressly showing disappointment where Cavendish does not follow the expected conceptual rigor (Boyle, 2015, p.439-440). Georgescu (2020), from a distinct perspective, argues that self-knowledge and perception should help us understanding Cavendishian metaphysics: self-knowledge being what grounded something as a whole and perception, the foundation of what made something a part of a whole. This focus on mereology and metaphysics as intertwined with knowledge echoes Shaheen (2019).

tion is identical with matter and can only be transferred if there is also transference of matter (PL 1.30, 4.6; OEP 1.17, 1.35). Since matter has two different animate degrees, and they are both self-moving, they are also both capable of their own different perceptions. Therefore, all matter, because it is partly sensitive and partly rational, is capable of a double perception—rational and sensitive. Considering perceiving is patterning out, each degree of matter patterns out their objects in their own way.

One final Cavendishian concept remains to be explained: regular perception. As stated previously, in her epistemology, sensitive and rational perceptions are several types of self-motion and perception. Sensitive perception usually patterns out exterior objects, while rational perception is freer and more prone to move 'voluntarily or by rote'. Considering that perception is an active patterning out by the perceiver, occasioned by external objects, it is entirely possible, in Cavendish's system, for the self-motions of sensitive and rational matter to perceive something that is not actually there. This happens when they act by their own accord without regard to 'patterns' from the external world, such as in dreams (PPO [63] 5.41, 6.21-24; PL 1.7; OEP 'To the reader', 'Argumental Discourse', 1.37 (Q.11); GNP 7.3-4), memories and thoughts (PPO [63] 2.17, 6.11-13, PL 1.8, 2.13; OEP 1.35, 4.5), or other situations like hallucinations or swoons¹⁰ (PPO [63] 6.14, 7.13-15; PL 1.18; GNP 9.8-10). In contrast, regular perception occurs when sensitive and rational matter work together to reliably perceive an external object (OEP 1.36). They do so in distinct ways: sensitive perception patterns out the information from the object while rational matter patterns out the sensitive matter's motion of perceiving. When regular, the rational degree of matter patterns the motions of the sensitive to determine whether it is extracting a copy of an exterior figure or creating sensitive impressions without an outside pattern. This strategy ensures that perceptions triggered by external occasions and objects can be distinguished from those arising from their independent motions, as seen in her *Observations*:

And by this it also evident, that (as I said before) particular, rational and sensitive parts, are not bound to move always together, or to keep constantly to the same parts, no not in the action of perception; for though they most commonly work together when they move regularly; yet many times they do not: as for Example, the sensitive do not always make perceptions of exterior objects, but many times make figures by rote; as 'tis manifest in mad men and such as are in high Feavers and the like distempers, which see or hear, taste or smell such or such objects when none are present; and the Rational Parts being regular, do perceive both the sensitive figures made by rote, and that there are no such exterior objects really present; also the Rational parts make figures by rote, and without any outward pattern; but such voluntary figures cannot properly be named Perceptions, by reason Perceptions are occasioned by outward objects; but they are rather voluntary Conceptions. (OEP 1.37 (Q.22), p.242-3)

According to Cavendish, every motion is a form of self-motion, given that the real cause of motion is the innate ability of parts of matter to move themselves. Yet, to know how to move itself, a creature must be aware of its surroundings, and it does so through the act of perceiving, both rationally and sensitively. Lady Margaret used the expression 'rational perception' in diverse ways to refer to different motions of rational matter. However, in this paper, I will focus on what Boyle (2015) called the 'paradigmatic sense' of rational perception: when rational matter patterns out the motions of the sensitive matter that is patterning out the motions of an external object. In regular perception, both degrees of matter work together "to one and the same perception, and that at the same point of time, and as it were by one act" (OEP 1.36). Although they work together, they do not lose their particularity, each part of matter retaining its own motion and perception. In this case, they work separately, but in tandem. Regular perception obtains when rational matter patterns out the patterning out of the sensitive

¹⁰ Michaelian discusses Cavendish's account of illusions and hallucinations (2009, p. 43-4) and dreams (2009, p. 41), while Boyle analyses perceptual errors and swoons (2019, p.240-3).

matter as it perceives an exterior object. In doing so, the latter can judge if the motions of the former are indeed extracting a copy of an outward pattern or if they are operating independently without an external reference, as in dreams or hallucinations. These considerations on Cavendishian epistemology should give us enough material to compare some relevant points of her thoughts on perception to Stoic *phantasia*. Nevertheless, before the analysis, an overview of Stoic theory of knowledge is paramount to make the comparison possible.

2. Stoic theory of representation: Zeno, Cleanthes, and Chrysippus

Ancient and contemporary scholars on Stoicism agree that Zeno's epistemology was indeed one of his most innovative philosophical reflections. Sedley (2002, p.148) and Long (2006, p.223) have stated this and they are backed up by none other than Cicero:

Vt omittam alia, haec duo de quibus agitur quis umquam dixit aut ueteris Academiae aut Peripateticorum, uel id solum percipi posse quod esset uerum tale, quale falsum esse non posset, uel sapientem nihil opinari? Certe nemo. Horum neutrum ante Zenonem magno opere defensum est.

To omit other points, what member of the Old Academy or of the Peripatetic school ever made these two statements that we are dealing with either that the only thing that can be perceived is a true presentation of such a sort that there could not be a false one of the same sort, or that a wise man never holds an opinion? No one, without a doubt neither of these propositions was much upheld before Zeno. (Acad. pr. 35.113, p. 347).

According to the quote, Zeno argued "the only thing that can be perceived is what is true in such a way that it cannot be false" (*id solum percipi posse quod esset uerum tale, quale falsum esse non posset*). In other words, true perception has an exterior object, and it represents it so reliably that it could not be taken as a false one. As Cicero reports elsewhere, two conditions are necessary for true perception to obtain: "Zeno defined it thus: an impression from what is, stamped, impressed, and moulded just as it is" (*ex eo quod esset sicut esset impressum et signatum et effictum*). Confronted by Arcesilaus, the philosopher of the Porch would have then added a further third condition: the impression "must be such that it could not have come from what is not" (*eo quod est cuius modi ab eo quod non est posset esse*) (Acad. pr. 24.77). These three conditions for a cognitive sense-impression or representation amount to those reported by other important surviving ancient sources for Stoicism: Sextus Empiricus and Diogenes Laertius¹¹. According to Laertius, Zeno (and the following 'Zenonians') believed that reflecting on the several types of human perception is key to understanding the "criteria they admit as a means for the discovery of truth" (κριτηρίων παραλαμβάνουσι πρὸς τὸ τὴν ἀλήθειαν εὐρεῖν). For them, there are two kinds of presentations or sense-impressions: the kataleptic (καταληπτικήν), which apprehends reliably a real object, and the akataleptic (ἀκατάληπτον). The kataleptic or cognitive impression is the "test of reality" (κριτήριο τῶν πραγμάτων) or even the "standard of truth" (κριτήριο τῆς ἀληθείας) (DL 7.54) and "proceeds from a real object (τὴν γινομένην ἀπὸ ὑπάρχοντος), agrees with that object itself and has been imprinted seal-fashion and stamped upon the mind (κατ' αὐτὸ τὸ ὑπάρχον ἐναπνεσφραγισμένην καὶ ἐναπομεμαγμένην)" (DL 7.46). In addition to these two clauses, a bit further in the text, Diogenes reported the third condition for the kataleptic impression: <imprinted seal-fashion and stamped upon

¹¹ Nawar (2014, p.2) shows that the conditions for the kataleptic impression appear at least seven times in our records of Sextus and Diogenes combined, and they have such similar phrasings that it is quite sensible to attribute the conditions to Zeno himself.

the mind> “as would not be the case if it came from an unreal object” (ὅτι οὐκ ἂν γένοιτο ἀπὸ μὴ ὑπάρχοντος) (DL 7.50). Hence, cognitive representations or *phantasiai kataleptikai* are the criteria upon which the wise person relies to differentiate perceptions that have an external object and present it faithfully from those that do not. Characteristic (ιδίωμα) of the cognitive impression are traits that help in distinguishing them from non-kataleptic ones like “their clarity/evidentness (ἐνάργεια) or being clear/evident (ἐναργής, [SE] M. 7.227, 257); their being striking (πληκτική, M. 258, 403); their being intense (ἐντονος, [SE] M. 7.408); their being vivid (τρανής); and perhaps also their being distinct (ἐκτυπος, D.L. 7.46; cf. [SE] M. 7.171)” (Nawar, 2014, p.2),.

Considering the aforementioned originality of Zeno's epistemology, it comes as no surprise that different interpretations of it arose amidst his own school of followers. It is well-attested that Cleanthes and Chrysippus interpreted Zeno's concept of *phantasia* differently (Sedley, 2002; Hankinson, 2003; Dinucci, 2017; Santoro, 2020):

φαντασία οὖν ἐστὶ κατ' αὐτοὺς τύπωσις ἐν ψυχῇ. περὶ ἧς εὐθὺς καὶ διέστησαν· Κλεάνθης μὲν γὰρ ἤκουσε τὴν τύπωσιν κατὰ εἰσοχὴν τε καὶ ἐξοχὴν, ὥσπερ καὶ διὰ τῶν δακτυλίων γινομένην τοῦ κηροῦ τύπωσιν, Χρύσιππος δὲ ἄτοπον ἡγεῖτο τὸ τοιοῦτον.

Presentation then, according to them [the Stoics], is an impression on the soul. But about this they at once began to quarrel; for whereas Cleanthes understood “impression” as involving eminence and depression, just as does the impression made in wax by signet-rings, Chrysippus regarded such a thing as absurd (SE M 7.227-9).

Cleanthes, following Zeno in what Dinucci calls ‘generic Stoic definition of *phantasia*’ (2017, p.21), understood representation as an impress¹² on the soul (τύπωσις ἐν ψυχῇ). He is reported as having taken this definition rather literally, likening sense-impression to the imprints left by a signet-ring on wax. Like a signet-ring that imprints its own form into the molten wax, sense-impressions would create ‘elevations and depressions’ (εἰσοχὴν τε καὶ ἐξοχὴν) in the soul that would recreate the form of the object¹³. Sextus also reported that Chrysippus considered that metaphor “absurd” (ἄτοπον), for a couple of reasons. If *phantasiai* imprinted literal elevations and depressions in the soul, it would be impossible for the soul to retain multiple impressions simultaneously. Furthermore, Cleanthes' metaphor would render impossible to remember something while receiving external representations. Challenging his teacher's position, Chrysippus defended that “presentation is an alteration of the soul” (ἐτεροίωσις ψυχῆς in SE M 7.230; ἀλλοίωσις <ἐν ψυχῇ> in DL 7.50). By his standards, the preferred metaphor for the explanation of sense-impression is the air, which can receive several voices at the same time by altering itself and its form to conform to what it receives (SE M 7.231). This version came with the advantage of highly resonating with Stoic concept of soul as a kind of breath (πνεῦμα). Considering that our ‘ruling part’ (ἡγεμονικόν) is a kind of breath or even something finer and more subtle than breath, it would be further inconsistent with the idea of an impression in our soul consisting of stable depressions and elevations (SE OP 2.70).

In fact, one of the most famous metaphors for the understanding of Stoic representation or sense-impression comes from Chrysippus and was reported on Cicero's *De fato*: the cylinder and the spinning-top (Cicero *Fat.* 18-9.41-3). Cicero explains that Chrysippus used the image of a cylinder and

¹² I follow Santoro (2020, p.1) in translating τύπωσις as ‘impress’ to allow for a clear distinction between τύπωσις and φαντασία, which is translated as ‘representation’, ‘impression’ or ‘sense-impression’, following the translation of Cicero proposed by Sharples (1991). ‘Imprint’ or ‘imprinting’ will also refer to τύπωσις, unless stated otherwise.

¹³ One particularly important consideration to help us understand the Stoic position is that the philosophers of that school asserted that our soul was as material as any other thing in the cosmos. Stoic ontology (or ‘tinology’) is complex, but it follows Hellenistic Athens affirming that things that act and are acted upon should be considered corporeal. It follows that the soul must be a material body of some kind and thus capable of receiving material imprints, similar to Cleanthes' metaphor of the wax.

a spinning-top lying on a table and receiving a small push to explain a particular aspect of his theory of representation. The push received by both is only an indirect or auxiliary cause of their motion, while its primary cause is the cylinder and the spinning-top themselves: they are moved by their own strength and nature (*suapte ui et natura mouebitur*). Neither of them could move unless pushed, although their different motions indicate that their own nature is the perfect cause of their motion. In the text, Cicero quotes Chrysippus arguing that, in nature, there are two distinct kinds of causes, 'perfect and primary' (*perfectae et principales*) and 'auxiliary and proximate' (*adiuuantes et proximae*)¹⁴. The latter are causes *sine qua non*, in the sense that they bring about the former and this cannot be done otherwise. However, what causes something are its primary causes which are only brought about by the auxiliary causes. In the domain of perception and knowledge, this metaphor was used to explain that assent, a key stage of Stoic cognition, can only occur when there is a representation or sense-impression to assent to. Nevertheless, assent's primary and perfect cause is the assenting soul itself. In this sense, assent can properly be said "to be in our power" (*nostra erit in potestate*). Expressing it in a slightly different way, a representation (*uisum*) is the occasion for the soul to give its assent (*adsensio*) to.

According to this position, Chrysippus emphasised the idea that the soul has an active role in the perception process, contrary to the passive understanding of Cleanthes, if we are to believe his¹⁵ metaphor of the wax (Bobzien, 1998b; Dinucci, 2017). Stoic basic psychology, agreeing with Chrysippus, usually underscores the mind's activity in perceiving, particularly its dominant part known as the hegemonic (*ἡγεμονικόν*). The Stoic perspective on the soul as a 'warm breath' (*πνεῦμα ἔνθερμον*) (or our part of the cosmic *logos*) also suggested that it consisted of active elements (air and fire) rather than passive ones (water and earth) (DL 7.157). In Chrysippian occasionalism concerning sensation, the object is also not a perfect cause of sense-impression, but an occasion for the soul to engage in the act of perceiving. This was such a profound commitment in Stoic epistemology that, in fact, in some interpretations (cf. Santoro, 2020), Cleanthes' position on sense-impression would not be of an actual passive imprinting of the soul. In this reading, Chrysippus was just showing his former mentor that his metaphor of the wax was not the best for explaining the Zenonian active understanding of the term, which they both allegedly followed.

Having shown some fundamental principles of Cavendishian and Stoic theories of perception, we shall proceed with the proper comparison and with Cavendish's usage of Chrysippus arguments. It will also be defended that Lady Margaret made acquaintance with Stoic epistemology through Thomas Stanley's *History of Philosophy*, which was read by her between 1660 and 1664, showing a plausible reason for significant changes in her epistemology since the *Letters*.

4 Comparison of the theories and historical viability of influence

O'Neill (2013) has traced doctrines from Cavendish's cosmology back to its Stoic origin, showing

¹⁴ There are varied interpretations of Chrysippian aetiology in contemporary scholarly discussions (Frede [M.], 1987; Bobzien, 1998a, 1998b; Hankinson 1999, 2003b; Frede [D.], 2003; Totschnig, 2013; Vásquez, 2023), but since my interest is in its impact on the late philosophy of Lady Margaret, I will follow O'Neill (2013) in what was the seventeenth-century reading of this Stoic theory of causes. In her study, she shows that the vocabulary of occasionalism and related metaphysical reflections come to early modern Europe through the medical Galenic tradition. Different types of causes could help to bring about a certain effect. Some could be said to be main causes, as they were sufficient in themselves to generate said effect, while others were said to be occasional, indirect, or even 'moral' causes, which would be equivalent to Chrysippus '*proximae et adiuuantes*'.

¹⁵ The metaphor, analogy or example of the wax predates Cleanthes and the whole Hellenistic period and can be found in the *Theaetetus* (190e–196d). Therefore, it is only in a rhetorical way that I call the metaphor Cleanthine, just for the purposes of the opposition in this paper depicted between him and Chrysippus. There is also evidence that the Stoics read Plato and there is support for the claim that the *Theaetetus* influenced Stoic epistemology (Shogry, 2019).

that an occasionalist account of causality survives Late Antiquity and the Middle Ages up until Early Modern England mostly through the Galenic medical tradition. Her paper, albeit solid and inspiring, focused on physical considerations and neglected epistemological ones. It remains to be shown that Cavendish's form of occasionalism was also present in her late theory of double perception. There is relevant evidence to argue that she was indebted to the Stoics in this regard as well.

Two main parallels will be drawn in this section of the paper: (1) firstly, Stoic *phantasía* will be correlated to late Cavendishian perception, and afterward, (2) similarities between Cavendish's regular perception and Stoic kataleptic sense-impression will be discussed.

In the first part of her last publication on natural philosophy, Cavendish argued that the orderliness and perfection of nature, along with its distinct kinds of creatures, would be impossible to exist by chance alone. Drawing on arguments well-known since antiquity, she proposed that nature must possess knowledge to organize its motions. The order and exactness of nature and its "methodical Distinctions" or "distinct Orders" could not arise solely from random chance or "Ignorant motion" (GNP 1.8, 7). This knowledge permeates all matter, dispersed throughout the whole cosmos, not considered a human prerogative. Some of her arguments in defence of this position hark back to the Hellenistic debate between the Stoics' causally and providentially ordered cosmos and the Epicureans' chaotic chance-driven atomism. In this (meta)physical and gnoseological discussion Cavendish sided with the Stoics, advocating for a material universe governed by an organizing material intelligence.

In Stoic theory of perception, representation or sense-impression (*φαντασία*) is an active effort of the hegemonic part of the soul (Dinucci, 2017). As we have seen, the external object is not a proper cause of the sense-perception; rather, similarly to Cavendish's account, it served as an occasion or indirect cause of it. Famous for distinguishing among several types of causes (SE PH 3.15 and Clem. Strom. 8.9.33 in Hankinson, 1999, p.484-6), Chrysippus seems to have endorsed this perspective when discussing perception and cognition. In Stoic theory of sight, the object is clearly an occasional cause for the hegemonic part of the soul to actively extract from it the relevant visible information (Santoro, 2020). The actual cause of perceiving is the soul itself, our part of the cosmic intelligent divine breath. Cavendish's theory of perception apparently follows this aspect of Stoic thought rather closely. In her reflections concerning perception as patterning out, she reiterated more than once that the perceiver's own self-motion is to be regarded as the real cause of perception, not the object. On her mature philosophical works, Lady Margaret strongly favoured such an active conception of perception, contrasting it with the passive understandings of matter published by Hobbes (PL 1.4-5) and Descartes (PL 1.37). According to the duchess, as previously stated, sensitive and rational degrees of matter perceive as they actively 'pattern out' external objects. Perception does not occur through passive reception of emissions coming from the object, but through an action of the perceiver's 'sense and reason' that extracts relevant information from outside. The self-moving matter from the perceiver is the true cause of perception, the external object being no more than an indirect cause or occasion for it. Perceiving is, thus, for the late Cavendish, an active effort of the sensitive and rational parts of the perceiver's matter. To make matters even clearer, she explicitly contrasted this aspect of her philosophy to Descartes' and Hobbes' thought, in which the cause of perception is some kind of flux or emission of particles or of light that came from the object and transmitted this information to the senses through the sense organs (PL 1.4, 1.37). Such an epistemological debate would not be out of place if situated in Hellenistic Athens or Classical Rome, in the ancient disputes between Stoics and Epicureans. The philosophers from the Garden were famous for their defence of a theory of sense-perception caused either by the object itself or from emissions coming from it – the *eidola* (εἰδωλα) (DL 10.46) or *simulacra* (De Rer. Nat. 4) – that carry out the relevant information to the subject. Cavendish, after 1664, decided with her own 'sense and reason' that she agreed with Stoicism against positions resembling a modern kind of Epicureanism.

To argue that a real influence could have taken place, however, more evidence is needed. Firstly, there is additional literary evidence that Cavendish engaged with epistemological ideas related to the

Stoic concept of sense-impression. One instance that shows this engagement is her use of Chrysippus' arguments against Cleanthes' (apparent) understanding of representation (φαντασία):

But that all Motion comes by joining or pressing of other parts, I deny, for if sensitive and rational perceptions, which are sensitive and rational motions, in the body, and in the mind, were made by the pressure of outward objects, pressing the sensitive organs, and so the brain or interior parts of the Body, they would cause such dents and holes therein, as to make them sore and patched in a short time; Besides, what was represented in this manner, would always remain, or at least not so soon be dissolved, and then those pressures would make a strange and horrid confusion of Figures, for not any figure would be distinct; Wherefore my opinion is, that the sensitive and rational Matter doth make or pattern out the figures of several Objects, and doth dissolve them in a moment of time; as for example, when the eye seeth the object first of a Man, then of a Horse, then of another Creature, the sensitive motions in the eye move first into the figure of the Man, then straight into the figure of the Horse, so that the Mans figure is dissolved and altered into the figure of the Horse, and so forth; but if the eye sees many figures at once, then so many several figures are made by the sensitive Corporeal Motions, and as many by the Rational Motions, which are Sight and Memory, at once. (PL 1.5, p.22-3)

In this excerpt, the philosopheress¹⁶ carefully exposed Chrysippus' argument which relies on simultaneous and rapidly successive perceptions to undermine Cleanthes' interpretation of sense-impression (φαντασία) as a literal imprint on the soul (τύπωσις ἐν ψυχῇ) and the latter's imagery of the signet-ring and the wax. Cavendish repurposed this line of thought to argue against Hobbesian mechanism, where motion can be imparted from one object to another through impact without transference of matter. In this letter, she leveraged the activity of the sensitive and rational matter in perception to counter the corpuscularian and mechanistic approach to nature, motion, and knowledge. She even introduced here a new version of Chrysippus' argument against the Cleanthine notion that sense-impressions cause 'elevations' and 'depressions' (εἰσοχὴν τε καὶ ἐξοχὴν) in the soul, reckoning that these 'dents and holes' would inflict continuous pain on the passive recipients of effluxes, 'as to make them sore and patched in a short time'.

To further clarify her stance on perception as an active process of 'patterning out' objects, she explained her own interpretation of the metaphor of the wax on her later discussion with Descartes:

for if a seal be printed upon wax, 'tis true, it is the figure of the seal, which is printed on the wax, but yet the seal doth not give the wax the print of its own figure, but it is the wax that takes the print or pattern from the seal, and patterns or copies it out in its own substance, just as the sensitive motions in the eye do pattern out the figure of an object, as I have declared heretofore. (PL 1.30, p.105)

This far, it seems probable that Cavendish's philosophy of knowledge and perception have undergone relevant influence from Stoic epistemological discussion over the concept of sense-impression not only because of the similarities between their occasionalist and active accounts of perception, but also from the fact that some important arguments from Chrysippus are repurposed by Cavendish to be used against Hobbesian and Cartesian rather passive perception. Interestingly, another intriguing development in her thought within in her mature philosophy was the emergence of doctrine of 'double perception,' which then took centre stage in her philosophical reflections, like the prestigious position of the sense-impression in Stoic epistemology. An important chronological fact is that this influence is rather evident in her post-1664 books on the topic, right after the years she attested having studied the philosophy of the ancient Greek and Latin through her readings of Thomas Stanley (OEP 3 'Introduction').

¹⁶ Cavendishian term, see PL 'To the reader'.

Stoic occasionalism made its way into Early Modern Philosophy mainly through Galenic medicine as is shown in O'Neill (2013) and could have in this way influenced Cavendishian cosmology. Another way in which she encountered Stoic philosophy in general, and Stoic theory of perception and knowledge, in particular, was in Thomas Stanley's *History of Philosophy*. In Early Modern England, similar to what is still true of today, Stoicism was mostly known by its ethical stances and reflections, so it is of quite some importance for this work to establish that Cavendish had contact with the doctrines of the early Stoics presented here¹⁷. In part eight of the work, Stanley presented his own rendition of Diogenes Laertius' seventh book, which focused on the Athenian *portico*. This section is comprised of paraphrased content from numerous ancient sources, organized into four main parts: Zeno's life and work, Stoic philosophy, and the biographies of Cleanthes and Chrysippus. Notably, Stanley followed the same order as Laertius, who presented Stoic philosophy under Zeno's section. The British doxographer even proposed some other titles to enrich the incomplete list of Chrysippus' books and offered brief descriptions of the lives of middle Stoics like Panetius and Posidonius (Stanley, 1656, p.137-8, p.141-2), absent in what was and is left of Diogenes. In the segment dedicated to the 'Doctrine of the Stoicks', Chrysippus' epistemological occasionalism is present, as are *all* the other relevant Stoic doctrines which this paper highlights¹⁸. Since Cavendish attested having acquired knowledge of Ancient Philosophy through the study of Stanley's book, it is reasonable to infer, therefore, that Stoic ideas could have influenced late Cavendishian theory of perception.

Established that some Stoic influence on Cavendish's epistemology is not only possible, but probable, all that is left to do is to investigate a bit deeper the extent of this influence. We shall advance by comparing Cavendishian regular perception with Zeno's kataleptic representation. The kataleptic sense-impression, as was shown, is a Stoic criterion to judge the reliability of information received from outside through the senses. According to Cavendish's theory, the same cognitive function is achieved by regular double perception, when both the sensitive and rational matters of the percipient act regularly and work together to reliably pattern out an outward object. Regular perception occurred when the rational degree of matter perceived the motions of the sensitive to determine whether there was an external pattern and if its motions patterned it reliably. Hence, both Stoic kataleptic impression and Cavendishian regular perception are instances of perceiving acts that are actively capable of telling apart real from deceptive sensations. These parallels can be further explored by comparing the different conditions required for seeing something reliably. In the *Observations*¹⁹, Cavendish stated:

[W]herefore there are these following conditions required to the optick perception of an exterior object: First, The object must not be too subtil, rare, or little, but of a certain degree of magnitude; Next, It must not be too far distant, or without the reach of our sight; then the medium must not be obstructed, so as to hinder our perception; And lastly, our optick sensorium must be perfect, and the sensitive motions regular; of which conditions, if any be wanting, there is either no perception at all, or it is an imperfect perception. (OEP 1.20, p.63, p.82)

¹⁷ This is of particular importance when studying Cavendish's readings and influences, considering that she affirms never have been able to learn another language than English, even though she lived in exile in France and in the Netherlands. Considering this to be true and not only a modesty trope common in female philosophy at the times, she could not have been influenced by reading the classics through the humanistic strategy of learning Latin, Greek and Hebrew very much alive in seventeenth-century Europe. Neither could she have come to know the Stoics through Early Modern Neostoic philosophers, like Joost Lips, for example.

¹⁸ In Stanley's text, Stoic epistemological topics that are relevant for this paper can be found in the following places. The difference between science, apprehension and opinion is in Doct. 1.9, (Stanley, 1656, p.27-8). The three clauses for the kataleptic representation are present in Doct. 1.2 (pp.19-20) and 1.4 (p.22). Cleanthes and Chrysippus' disagreement over sense-impression is described in Doct. 1.4 (pp.20-1) and Chrysippian occasionalism can be found together with the cylinder and cone metaphor in Doct. 1.7 (p.26).

¹⁹ The *Philosophical Letters* are also full of discussions on the conditions of regular or perfect perception. Light, colours, and visual perceptions are debated in PL 1.40, while similar conditions are stated for hearing in PL 1.22 and smelling in PL 1.28.

On the other hand, by Sextus's report:

(7.253) Ἀλλὰ γὰρ οἱ μὲν ἀρχαιότεροι τῶν Στωικῶν κριτήριόν φασιν εἶναι τῆς ἀληθείας τὴν καταληπτικὴν ταύτην φαντασίαν, οἱ δὲ νεώτεροι προσετίθεσαν καὶ τὸ μηδὲν ἔχουσαν ἔνστημα. (...) (7.424) Ἵνα γε μὴν αἰσθητικὴ γένηται φαντασία κατ'αὐτοὺς, ὅτιον ὁρατικὴ, δεῖ πέντε συνδραμεῖν, τὸ αἰσθητὸν καὶ τὸν τόπον καὶ τὸ πῶς καὶ τὴν διάνοιαν, ὥς ἔαν τῶν ἄλλων παρόντων ἓν μόνον ἀπῇ, καθάπερ διάνοια παρὰ φύσιν ἔχουσα, οὐ σωθήσεται, φασίν, ἢ ἀντίληψις. ἔνθεν καὶ τὴν καταληπτικὴν φαντασίαν ἔλεγον τινες μὴ κοινῶς κριτήριον, ἀλλ' ὅταν μηδὲν ἔχη κατὰ τὸν τρόπον ἔνστημα.

But whereas the older Stoics declare that this apprehensive presentation is the criterion of truth, the later Stoics added the clause "provided that it has no obstacle." (SE M 7.253) (...) Moreover, in order that a sense-presentation, such as that of sight, should take place, it is necessary, according to them, that five things should concur: the organ of sense, the object of sense, the place, the manner, the intellect—since if one only be absent though all the rest be present (if, for instance, the intellect is in an abnormal state), the perception, they say, will not be safely effected. Hence, too, some have said that the apprehensive presentation is not a criterion universally, but only when it has no obstacle. (SE M 7.424)

Provided the correct situation and context, on both accounts, perception serves as a means of gaining knowledge of the immediate environment. In the cases where certain conditions obtain (and the conditions are similar), this sense perception can be trusted. This form of reliabilism was a key feature of both epistemologies and was rooted on a specific type of perception that adhered to criteria that are quite alike. We have, thus, further reasons to suggest that late Cavendish's ideas on knowledge and perception closely resemble those of the first Stoics.

In a concluding note, reading Cavendish's late theory of perception as having a reliabilist approach probably influenced by the Stoic kataleptic representation might shed some light on some other important epistemological features of her philosophical work, such as her critique of optical instruments, advanced in her *Observations*.

5 Conclusion

Lady Margaret seems to have been influenced by the Athenian Porch in several ways. Firstly, after 1664, she brought perception to the forefront of her philosophy with an occasionalist approach to it, while using Chrysippus' arguments against Cleanthes to argue that perception is a form of active self-motion of animate matter. Secondly, echoes of the Stoic notion of kataleptic sense-impression are visible in Cavendish's regular perception, as both could serve as reliable sources of knowledge given rather similar conditions. It was defended that Stoic philosophy might influenced Cavendish after her studies of Stanley's *History of Philosophy*, and this influence can be seen in her philosophical texts post-1664. Even though evidence is scarce, there are some and they are not neglectable in our understanding of her late philosophy of nature and knowledge. Furthermore, understanding Cavendishian philosophical sources and inspirations can have a deep impact on our hermeneutical enterprises to interpret her philosophy. This paper has argued that a Stoic influence is not only likely, but probable, and it helps us decipher changes in her thought throughout the 1650s and especially in the 1660s. Assuming this influence can even aid us to better classify and study her philosophical texts. Among the many similarities between her philosophy with early Stoicism (Tonani, 2025), their epistemological accounts seem to become relevantly connected after her studies and hopefully the comprehension of this connection might allow for other insights into the study of her prolific works.

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