Exploring a Phenomenological Approach Towards Understanding the Mind and Body in Robert Grosseteste's Medieval Scientific Treatises

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Abstract

This paper explores the complex relationship between the mind and body in two medieval treatises written by the thirteenth century Bishop of Lincoln, Robert Grosseteste. *De luce seu de inchoatione formarum* (1225-1228) known simply as *De luce*, was Grosseteste's attempt to scientifically explain his theory on how light was the first created corporeal form. *De lineis, angulis et figuris* (1230-1233) or *De lineis* was Grosseteste's experimental approach towards applying geometry to the scientific study of natural phenomenon. The objective of this paper is to seek a new approach towards studying Grosseteste's scientific works by applying phenomenology to discuss how his perception of his mind and body structures his experiences and consciousness, and how he interprets this in his treatises on practicing experimentation in science. In the process of carrying out this task, this paper will also focus on Grosseteste's medieval theological beliefs and how this informs his views on science.

Keywords: Grosseteste, medieval, science, phenomenology, theology

Science is a fitting subject for phenomenological studies into experiences and consciousness because its methodologies utilize first-person observation that can offer insight into how scientists view themselves, their work, and the world at large. This is true even for historical periods that reach as far back into the history of science as the medieval period - which this paper aims to study. The objective of this research is therefore an examination of two of Robert Grosseteste's medieval scientific treatises to reveal and analyze key moments in the texts where he reflects on what it means to perceive the experience of natural phenomenon and consciously engage with it through his mind and body as he is practicing experimentation in science.

It should be noted, however, that performing a phenomenological reading of Grosseteste's treatises is not a simple task to undertake due to several challenges that must be faced. First among these involves coming to terms with the fact that these medieval treatises are not scientific in the modern sense of the word. This is because the experiments described in these works were not conducted upon any formal approach now associated with modern scientific practices which, for example, call for replicable testing done under strictly controlled laboratory conditions. Secondly, these treatises were not objective and (even more importantly) neither were they secular. These treatises were products of Grosseteste's Christian faith imbued with medieval Neoplatonic views that stemmed from his scholastic education as a learned clergyman. This means that his scientific treatises drew from Christian beliefs that preached, for example, a clear separation between the body and the soul. For this reason, any attempt to carry out a phenomenological reading of Grosseteste's scientific treatises must first address how his writings can be considered scientific. Secondly, it must also explain how the mind and body can be seen to relate and work in conjunction with each other considering Grosseteste's own Christian beliefs and its potentially dualistic views on where the cognitive powers of the mind might lie in relation to the body and soul. Both concerns have been previously addressed in a prior research report published under the title *A Paradoxical Place: The Location of Science Within the Sacred Space of Medieval Metaphysics in the Writings of Robert Grosseteste* which was written with the intention of trying to explain how Grosseteste might have used the medieval

Neoplatonic model of cosmology as a *topos* or discursive place to generate his scientific rhetoric. The concern over the applicability of the term "science" to Grosseteste's writings was addressed in the introduction to the research where the idea and definition of science itself was questioned because it is a subject whose practice is often misunderstood. In this regard, both the research report and this subsequent research article share McComas' (1998) view that science has been a victim of its own "myths" like that of scientific objectivity (pp. 10-11) or that there exists a single universal and standardized "scientific method" that is applicable to every branch of science (pp. 4-6). Ultimately, science can be seen as a subject that requires just as much individuality, creativity, and subjectivity in its practice across its many fields as any other discipline within the humanities. It is therefore illogical to continue to limit science to a strict definition and to use that definition as an instrument to gauge whether a work like that of Grosseteste's can be labeled as "scientific" or not.

Nevertheless, a general review of the literature surrounding the analysis of Grosseteste's treatises in the past, show scholars debating this very issue. Crombie (1953) for instance, sees Grosseteste as an important figure that influenced the development of experimentation in the rise of science because the clergyman's natural skepticism towards practicing science without faith is similar to the modern scientific practice of falsification (testing the validity of a theory by being able to eliminate false ones). Eastwood (1968), on the other hand, argues that it would be incorrect to apply the term "science" to Grosseteste's work because his medieval approach towards experimentation did not involve procedural testing, but only citing experiments done by other sources - some of which may be unverifiable. Building on Crombie's argument, Serene (1979) sees Grosseteste's belief in both divine illumination (that only true knowledge of universal causal principles can come from God's grace) and scientific demonstrations that provide empirical evidence, as possibly having both positive and negative influences on the development of science. Oliver (2004), however, argues that Grosseteste was not a "proto-modern experimental scientist" because he pursued experiments for religious purposes related to pursuing God's divine truth and not secular truth (p. 180).

In regard to this debate over the applicability of the term 'science' to Grosseteste's work, this present research article acknowledges that Grosseteste's treatises might be rudimentary in its approach to scientific practices but his desire to pursue knowledge and truth in a systematic way is the same objective shared by that of modern science. The two therefore share the same core values. Many traditional historians of science, however, might choose to overlook this fact as they see the medieval period as being restricted by too many religious beliefs which they believed obstructed true scientific progress. One historian who shared this view was Foucault (2008) who saw the Middle Ages as an age of limitations brought about by the Neoplatonic belief that all things had their rightful place within a strict cosmological hierarchy (p. 15). While Foucault chose to view this practice of medieval emplacement under a negative light, both the previous research report and this current article chooses to view it positively because it can be seen as helping Grosseteste to generate his scientific rhetoric. For Grosseteste, the Neoplatonic model allowed him to place the study of science within medieval theology where he would then be able to advocate for its value and importance while also preventing it from being seen as a secular threat to the Christian faith that the Church must stamp out (Tantikijrungruang, 2020, pp. 9-10).

To return to the second concern that was raised earlier in the introduction to this paper regarding how the interrelationship between the mind and body can be applied towards examining Grosseteste's writings given Christianity's dualistic beliefs and Grosseteste's own profession as a clergyman, the answer ultimately came down to determining to what extent Grosseteste and his scientific treatises were influenced by medieval Christian views of the body and soul because the two concepts can be seen to intersect. It is important to note that Grosseteste was writing his treatises during a time when one of the most paramount theological subjects was being debated in the thirteenth century: that of the body's relationship to the soul and the nature of their union. One of the contested issues that was part of this discussion was the question of where the cognitive powers of the mind reside: is it assigned to the material body (the physical brain) or is it part of the incorruptible soul that consists of the thoughts, decisions, and experiences that constitutes

the individual? If cognition is believed to be tied explicitly to one or the other, what would then happen to the individual when death separates their body from their soul? According to Bieniak (2010), opinions in the debate were divided between theologians who continued to believe in the older dualistic view of the body's distinct and separate existence from the soul, and those who believed in the new thirteenth century unitarian view that preached *unibilitas substantialis* or the belief that the soul retained its ability to remain connected to the body even after its death and decay (p. 3). Around the same time that these debates were taking place in the Latin West, newly imported ideas from the Greek East were also changing the way Christian theologians were thinking about the body and the soul. Among the ideas that were circulated were those inspired by Aristotle's newly translated books on natural philosophy and metaphysics, and the arrival of other non-Christian texts from the Middle East courtesy of great Muslim thinkers like the philosopher Avicenna (Bieniak, 2010, p. 4). As these new non-Christian sources did not believe in the resurrection of the flesh, their view was that all sensitive (sensory), vegetative (involuntary/biological), and rational (cognitive) powers that belonged to the soul during life (including memory) will cease and be lost once it terminates its relationship with the body at the moment of death and the process of decomposition began to destroy organs like the brain (Bieniak, 2010, p. 140). Both Aristotle and Avicenna therefore felt that the soul and the body needed to rely on each other in life to function fully and properly as a complete being. It should be noted, however, that although Aristotle believed in hylomorphism and that all things are a composite of matter and form as such that neither could exist without the other, he also saw the human body and soul as sharing a unique relationship in which the soul takes precedence over the body by serving as the form that actualizes its matter and changes it from a mere potential being into an actual being (Shields, 2022, Living Beings section). Despite his account of the soul's importance, however, Aristotle never gave an explanation as to what he believes happens to it after death. Some scholars, however, contend that Aristotle believed the human soul to possess an active intellect that is separate from the body and not subject to its mortality (which would imply that the human soul is immortal) (Britannica, 2016, "hylomorphism").

For that reason, although Bieniak's above explanation makes a strong statement about Aristotle's belief in the finality of the soul's biological fate, it says nothing about the possible existence of the soul's active intellect nor its transcendental or metaphysical fate. Christianity, of course, firmly believes in the immutability and immortality of the soul because it is seen as sharing the same divine and immortal essence as God and was considered to be the individual's true form, serving as the sentient medium through which they will either experience the eternal pleasures of heaven or the eternal pains of hell.

As a Christian, Grosseteste naturally placed his faith in Church doctrine regarding the precedence of the soul over the body and the promised resurrection of both. However, as a Classical scholar familiar with the philosophies of both Aristotle and Avicenna, Grosseteste likely could not help but entertain the idea of the soul's sensitive, vegetative, and rational powers as being spiritual intermediaries which reside in the body and are dependent upon it. Grosseteste's hesitation can be discerned in a letter which he wrote to his former pupil, Adam Rufus; the details and full analysis of which can be found in the research report. In short, what the letter reveals is Grosseteste's inability to explain to Rufus how a soul in hell can sense pain and punishment when it is no longer connected to a body (Tantikijrungruang, 2020, pp.19-20). The complication for Grosseteste stems from the Church's and St. Augustine's Neoplatonic stance which argued for the inferiority of the body due to its lower position on the terrestrial level of the cosmological scale when compared to the higher and more exalted position of the divine soul on the celestial level. As a result of Neoplatonism, Church theologians believed that the physical body can never be thought of as being capable of exerting any influence on the far superior metaphysical soul - even in terms of relaying sensations and experiences to it (Tantikijrungruang, 2020, pp. 20-21). In his explanation to Rufus, Grosseteste maintains this argument from the Church even though he is aware that it is a concept that he cannot reasonably explain given that it is primarily a matter involving faith that is not explicable by logic. Grosseteste's uncertainty is revealed in the letter when he confesses to Rufus that he is unable to account for the body's relationship to the soul as is explained by Christian catechism.

This confession is revealing because it shows that even though Grosseteste was a clergyman whose primary duty was to uphold and defend church doctrine without question, he could not do it with full confidence and conviction. There was certainly doubt on his part - a doubt that could very well stem from Grosseteste's exposure to the alternative philosophical views espoused by Aristotle and Avicenna whose ideas he was aware of and even influenced by (Tantikijrungruang, 2020, p. 19).

So, was Grosseteste a dualist or a unitarian when it came to the thirteenth century debate over the body and soul? Grosseteste appears to be decidedly neither. Nevertheless, it is quite clear from the rhetoric he uses in his scientific treatises, that Grosseteste shared Aristotle's philosophy on hylomorphism because he consistently talks about form and matter in his analysis. However, as his letter to Rufus demonstrates, Grosseteste will often express ideas that are consistent with the Christian/ dualist separation of body and soul but there would still be internal contradictions in the ideas he puts forth that undoes that separation. Nevertheless, this indecisiveness on Grosseteste's part was beneficial to him because his inconclusiveness on where the sensitive, vegetative, and rational powers lie in relation to the body and soul either as corporeal intermediaries tied to the former or as incorporeal intermediaries tied to the latter, allowed him to entertain both possibilities but not fully commit to either. This lack of clarity regarding the demarcation between body and soul would ultimately benefit Grosseteste because it would "become the ideal space for him to plant the seeds of scientific practice in what could be a potentially hostile religious environment that was medieval England" (Tantikijrungruang, 2020, pp. 22-23).

It would be from within this space between medieval theology and classical philosophy that Grosseteste would create an argument for the epistemological role of the body and its senses in the practice of science. This would prove to be quite challenging for Grosseteste to navigate, however, because Christianity naturally denigrates the body as being too terrestrial and flawed to ever be trusted upon to discover truths (let alone God's divine truth). Science, on the other hand, only believes in the physical body and its bodily senses and so Grosseteste faced the additional challenge of having to maintain the Christian argument regarding the epistemological role of the soul and its incorporeal

intermediaries of the sensitive, vegetative, and rational powers. Indeed, science only assigns value to the empirical data the senses provide precisely because it comes from an established physical body that can confirm that which is tangible, concrete, and real. To argue otherwise and claim, as Christianity does, that the senses belong to a disembodied soul, would be far too abstract a claim for science to accept — especially when it involves a religious concept like the soul. In order for Grosseteste to resolve this conflict between religion and science, he had to find a way in which he could turn this space between the opposing philosophical and theological views of the body and soul, into a place on the Neoplatonic cosmological scale where he could imagine situating or emplacing the body, soul, and the accompanying rational, sensitive and vegetative powers in order to have them function as epistemological tools for gathering scientific knowledge (Tantikijrungruang, 2020, pp. 46-47). The Neoplatonic model of cosmology was the ideal place for this act of emplacement to occur because its scale was literally vast enough to accommodate points as far apart and different as the celestial macrocosm of God and the terrestrial microcosm of the human world. Within this model, the two different worlds could be reconciled and coexist as corresponding points along the same vertical axis while being separated only by degrees of difference. The Neoplatonic model ultimately allowed Grosseteste to maneuver his way around the difficulty of explaining how the corruptible body and its flawed senses could work in conjunction with the immortal soul and its divine intelligence so that he may address the concerns raised by both religion and science whilst serving both their interests (Tantikijrungruang, 2020, pp. 42-43). This was possible in Grosseteste's eyes because he truly believed that performing experiments could not only help humanity to discover scientific truths, but that doing so would also have the added positive effect of helping to guide humanity back towards God by placing it on the path towards understanding divine truth (Tantikijrungruang, 2020, pp. 42-43). It therefore did not matter to Grosseteste what fallen state the human soul or body was found to be in on this earth - this *terra firma* that is humanity's microcosmic banishment and a pale reflection of a far more perfect world that is God's celestial macrocosm. It also did not matter to Grosseteste how limited or flawed the corporeal sensitive, vegetative, and rational powers

are because in the end, imperfect mortal bodies can still use its senses to practice science and gain initial knowledge of immediate singular phenomenon which, through the help of induction, could lead to universal knowledge and even divine knowledge (once humanity's imperfect bodies and souls have been fully transformed into perfection after its resurrection) (Tantikijrungruang, 2020, p. 43). Although the senses on the terrestrial microcosm might be corporeal intermediaries that belonged to the body, its importance is in no way lessened because the body is still considered by Grosseteste to be a corporeal intermediary for the redemption of the incorporeal soul (Tantikijrungruang, 2020, p. 43). Both are therefore connected through a shared purpose and fate. This is the reason why Grosseteste believed that the body here on earth must function ontologically as an important epistemic tool for scientific invention and experimentation that would help guarantee humanity's salvation and entry into heaven.

But what exactly constituted this body that Grosseteste envisioned would occupy a place within the Neoplatonic cosmology? The research report had argued that it was the mind and body functioning conjointly because the report was inspired, in part, by an interdisciplinary research project that was proposed by The Oxford Research Centre in the Humanities (TORCH) entitled "The Mental and Material Laboratories of 13th Century Science." This research sought to explore how the physical and nonphysical environments which a medieval scientist worked in might possibly influence their studies and findings (TORCH, 2019). TORCH's intention was to explore the possibilities in which the mind, body, and environment could be seen to overlap. The research report attempted to address this challenging topic by drawing inspiration from the work of Rickert (2007) whose article *Toward the Chora* builds on Clark's (2003) argument that the concept of the mind, body, and environment divide is being challenged by new perspectives that sees the lines of distinction between the three becoming blurred as each separate category can be seen to bleed into each other (pp. 4-5). Rickert (2007) cites the mind as an example by explaining how it is seen as being less in the head as it has become increasingly reliant upon external environments that lie beyond the physical body and the perimeters of its senses because there are abstract places that the mind creates and reaches out to in order to use as conceptual models to help

organize its thoughts (p. 251). The specific example that Rickert (2007) gives is the mind's use of the rhetorical *topoi* or "commonplace" that he says is an "external symbolic resource" that helps to generate discourse (p. 251). The research report used Rickert's discussion of the *topoi* to argue how Grosseteste had used the Neoplatonic model of cosmography as a *topos* or discursive place in which he could situate the body's ontology and produce discourse that would support its potential role as an epistemic tool for generating scientific knowledge (Tantikijrungruang, 2020, pp. 9-10). The report also tried to approach this argument methodically in the final chapter by first defining the concept of place versus space while also making sure to point out how differently rhetoric and dialectic defines both terms. This clarification was deemed necessary because *topos* is primarily a rhetorical concept and not one typically associated with dialectic — which is primarily used in generating syllogisms that are used in traditional scientific discourse. Nevertheless, Grosseteste had utilized both rhetoric and dialectic in his treatises not only because the two subjects were merged during the medieval period, but also because Grosseteste might have found it necessary to use both rhetoric's appeal and dialectic's practice in his treatises as they helped him to demonstrate science and promote its study within monastic schools and religious universities (Tantikijrungruang, 2020, pp. 40-41).

Having made these necessary clarifications, the research report then shifted its attention towards analyzing two of Grosseteste's scientific treatises: *De luce* (1225-1228) and *De lineis* (1230-1233) to demonstrate how the mind, body, and environment could be shown to function conjointly within his experiments. Grosseteste's objective in *De luce* was to defend the bible's account of how light was the first created form. Using geometry and logic, Grosseteste (1942) reflects on the essence of form by explaining how it can displace matter while also extending itself simultaneously in all directions ("The first corporeal form" section). The point of interest for the research report was not so much on the theory Grosseteste came up with as much as how he came up with it. For instance, did his theorizing involve interactional exchanges between his mind, body, and environment – in the sense that his reflections and experiences within his physical body informed or inspired his

theorizing on the essential nature of form itself (as discussed in *De luce*)? If Grosseteste's body was indeed the starting point for his scientific inquiry, how does he see his conscious mind in relation to his own corporeity within his physical body? These questions should have been asked and addressed in the research report, but unfortunately a phenomenological approach was not part of the proposed methodology at that time. The report therefore failed to truly examine the interrelationship between the mind, body, and environment in any great detail. The same may be said of the report's short analysis of *De lineis* in which Grosseteste's objective was to use geometry to study the phenomenon of light by proposing mathematical calculations that would focus on lines and angles formed externally and internally between subject and object. Externally, there would be lines formed between the eye, the object, and light whereas internally there would be lines that were formed between the receptors in the eye, the brain, the mind, and the metaphysical divine light that Grosseteste believed would extend down from heaven to enter the mind of the subject through the grace of God (Tantikijrungruang, 2020, p. 46). Grosseteste's analysis of sensory perception in *De lineis* makes it a suitable treatise to examine the interconnections between the mind, body, and environment because all three are clearly shown to be entangled within a complex relationship. Despite the realization that the treatise was a promising text to examine, the research report was unable to push for any deep analysis beyond a superficial examination of how the Neoplatonic model represented *topos* as a new spatial paradigm for Grosseteste. This failure unfortunately limited the scope of the research report and hindered the analysis. This present article seeks to rectify this by having as its objective, an analysis of Grosseteste's treatises through the more focused lens of phenomenology.

Research Methodology and Findings

In seeking to apply phenomenology towards a reexamination of Grosseteste's two treatises, it is necessary to first explain what phenomenology is and what a phenomenological approach would entail. According to Gallagher and Zahavi (2008), phenomenology is a study that seeks to understand what the mind is and how it functions (p. 1)

by examining the mind in light of how it "structures" a subject's experience through perception, imagination, and memories that have been added on top of the experience to give it further meaning and significance (pp. 6-7). As the subject's conscious experience is the primary object of study for phenomenology, this naturally requires that any analysis of the subject's account of reality must be done from the first-person perspective which focuses on their singular observations and processing of thoughts and emotions (Gallagher & Zahavi, 2008, p. 7). With these points in mind, attempts to apply phenomenology towards a study of Grosseteste's subjective account of experience in his scientific treatises can be made by first examining his sense of subjecthood as reflected through his first-person point of view and use of pronouns. It should be noted, however, that an analysis which focuses on the use of the first-person pronoun is not commonly done with scientific texts because they tend to employ a style that is objective in tone and has little to no desire to either foreground or acknowledge the author/scientist as a subjective self-conscious being whose presence is represented through their use of personal pronouns. Furthermore, the language that is employed within scientific texts is confined towards discovering facts and uncovering natural truths that should be purged of all emotional sentiments and personal biases. Fortunately, a notable use of pronouns can be found scattered throughout Grosseteste's medieval treatises. For instance, in *De luce*, Grosseteste (1225-1228/1942) is found using both singular first-person subject pronouns and possessive adjectives when he writes, for example, the following: "The first corporeal form which some call corporeity is *in my opinion* [emphasis added] light" ("The first corporeal form" section)[1]. Grosseteste goes on to defend his scientific opinion by explaining how he understands light to obtain its physical existence through its own innate qualities which include the natural ability to automatically self-produce points of light from itself in emanations which, left unimpeded, would extend completely around itself in 360 degrees to form a ball of light ("The first corporeal form" section). Grosseteste believed that this same process of extension would, by default, carry matter along with the light rays as they pushed out

[1] See Appendix A for Grosseteste's explanation in Latin

into space, thereby proving that light precedes matter as the first corporeal form ("The first corporeal form" section).

There is much insight to be gained from an examination of Grosseteste's use of the possessive adjective "my opinion" because it expresses a point of view which is not based upon fact but rests upon personal conjecture formed and concluded from whatever limited information is known by the subject at that time. Grosseteste's theory of light in *De Luce* might require him to practice science through a theoretical approach which relies heavily upon formed opinions and intuitive understandings because the subject he is exploring is one that he cannot physically study, experience, or observe directly. It is also one which focuses on an event that supposedly took place before the creation of the universe itself, and thus naturally precedes Grosseteste and his own lifetime. Although Grosseteste's approach is founded upon that which is entirely conjectural, it is, nevertheless, an approach that is still used by many contemporary scientists today who rely on their intuition to create and propose new theories. Wiltsche (2015) explains that even phenomenologists who might be wary of using the word 'intuition' in their studies, acknowledge that it plays an important role in philosophical and scientific pursuits where direct knowledge of an intended object cannot be sought. This is because indirect knowledge can still be had from propositions and inferences that will give back that opinion or belief as intended with the added benefit of "an epistemic justification that is ultimately direct and non-inferred" (Wiltsche, 2015, p. 66).

In Grosseteste's case, his inability to directly study the first corporeal form of light as an intended object, meant that he had to redirect his intentionality towards consciously experiencing and studying his own intuitive understanding of corporeity instead. In other words, Grosseteste's theory on the corporeity of light and on the nature of corporeity comes from his own bodily experience of it. Otherwise, it would be highly unlikely that Grosseteste would understand what the concept of corporeity is if he did not have a body with which to experience it first. But if a subject like Grosseteste were to study his own subjective experience of corporeity, would the process require him to be self-conscious? Gallagher and Zahavi (2008) say that in general,

all phenomenologists agree that self-consciousness is always present in acts of consciousness as it is built into the experience itself (p. 45). They explain that the fact that individuals are even able to recognize an experience as theirs and not someone else's demonstrates that they automatically identify with said experience through a "first-personal givenness" that unfolds itself progressively in a pre-reflective manner; meaning that the experience does not require the subject to stop and reflect on what it is, who it belongs to, or even who they are (Gallagher & Zahavi, 2008, pp. 45-46). Gallagher and Zahavi are quick to point out, however, that opinions differ slightly with higher-order theorists who believe that consciousness can be divided between that which is transitive and intransitive. The transitive conscious state is one in which the individual processes an experience from an objective "meta-mental state" that views it as lying apart from or outside of them (Gallagher and Zahavi, 2008, p. 52). In other words, the person is conscious of being conscious because a "higher-order mental state" allows them to look down and reflect upon a lower "first-order mental state" (Gallagher & Zahavi, 2008, p. 52). Quoting Peter Carruthers, Gallagher and Zahavi further explain that for an experience to be perceived as subjective, it requires this higher-order awareness or self-awareness as a necessary precondition because the individual would need to be transitively conscious of intransitive consciousness for the latter to function (Gallagher & Zahavi, 2008, p. 52). In other words, subjective experiences can be understood only if they can be differentiated from objective experiences. The two are therefore not mutually exclusive and it appears that there is no true intransitive consciousness either as experiences must still be seen and processed from a transitive perspective. Nevertheless, there is opposition to higher-order theory amongst phenomenologists who argue that thinking subjects cannot step outside themselves or their subjectivity in order to objectify themselves or their experiences (Gallagher & Zahavi, 2008, pp. 52-53). It is simply impossible for human beings to extricate themselves from their own perceiving minds or to remove themselves from their experiences to achieve true objectivity because "[i]n pre-reflective or non-observational self-consciousness, experience is given, not as an object, but precisely as subjective experience" (Gallagher & Zahavi, 2008, p. 54). That being said, although an experience might not be

objective, it certainly is not transparently subjective either; in the sense that it offers subjects "inner perception" or complete "first-person knowledge" of the self, as Gallagher and Zahavi explain by referencing Ricoeur (1966):

> In my everyday life, I am absorbed by and preoccupied with projects and objects in the world, and as such I do not attend to my experiential life. Therefore, it's clear that my pervasive pre-reflective self-consciousness is not to be understood as complete self-comprehension. Thus, one should distinguish between the claim that consciousness as such involves an implicit self-consciousness and the claim that consciousness is characterized by total self-transparency. One can easily accept the first and reject the latter (p. 54).

Taking into consideration that self-consciousness is implicitly built into the consciousness and that this is not always self-evident to the subject, nor does it need to be, where does this leave Grosseteste in regard to his relationship with his intuitive understanding of corporeity? This article believes that the matter simply comes down to the question of whether Grosseteste objectifies his intuition by viewing it from a meta-mental state that sees it as being separate from his consciousness, or whether he treats it as being part of his pre-reflective self-consciousness that he is not necessarily aware of or is made aware of through complete self-knowledge or "complete self-transparency." The critics of higher-order theory make a strong argument, however, when they point out that a subject cannot step outside of their subjectivity; meaning that they can never operate on a true objectification of the self or the intuition. In the case regarding Grosseteste's intuition, it can be said that he actively engages with it as he is practicing science. On the other hand, it cannot be said that he is treating his corporeity as an object separate from himself because being able to do so would suggest that he can step outside a subjective experience of his own body (or imagine that he could). This would mean that Grosseteste would not be able to pre-reflectively recognize or identify with either his body, his experience, or his opinion as his own. On the other hand, Grosseteste's use of the possessive pronoun "my opinion" clearly shows that this is

not the case as he clearly identifies with his intuitive understanding of corporeity and his experience of it.

But can there ever be a situation in which a totally fictional self-transparent consciousness manifests itself explicitly from a meta-mental perspective that self-reflexively reveals this self-objectivity to be the false construct that it is? In examining how Grosseteste uses the pronoun 'I' in Reidl's translation of *De luce*, a particular instance is found which may help shed light on this issue. In the following passage, Grosseteste (1942) uses the pronoun "I" to reflect upon himself and how he had formed his initial argument:

> *But I have proposed* [emphasis added] that it is light which possesses of its very nature the function of multiplying itself and diffusing itself instantaneously in all directions. Whatever performs this operation is either light or some other agent that acts in virtue of its participation in light to which this operation belongs essentially. Corporeity, therefore, is either light itself or the agent which performs the aforementioned operation and introduces dimensions into matter in virtue of its participation in light, and acts through the power of this same light. But the first form cannot introduce dimensions into matter through the power of a subsequent form. Therefore light is not a form subsequent to corporeity, but it is corporeity itself" ("The first corporeal form" section)[2]

Prior to this passage, Grosseteste had proposed that light was the first corporeal form by basing his opinion on logic and intuition, and yet here in this passage, he feels the need to defend his argument by reflecting on his logic and thought process. This need to recount and clarify might stem from Grosseteste's realization that his argument is not completely sound and that although he believes that light came first, it is also plausible that it was light combined with something else that might have given matter its form. The problem for Grosseteste, of course, lies in the contradiction in how light can be said to have "form" and corporeity but not have that form be based upon matter, yet have this immaterial form of light possess the ability to exert some sort of physical influence upon matter by forcing its material form to

[2] See Appendix B for Grosseteste's explanation in Latin

adopt dimensional qualities that occupy space. It is now known that light is not matter because it is a form of energy that has no physical mass, but Grosseteste did not know this at that time. All he knew was that light has to be the primary corporeal form that introduces dimensions into matter because he firmly believes in the Neoplatonic view that light is the form that came first because it is noblest and precedes all other secondary forms that possess actual material corporeity. Light was believed to be celestial in nature and to be far superior to the natural inferiority of physical matter and all material forms associated with the terrestrial world. This illustrates Gallagher and Zahavi's (2008) earlier point on how the mind structures a subject's experience through perception, imagination, and memories (pp. 6-7) because Neoplatonism clearly structures Grosseteste's experience of processing his thoughts even when he is carrying out deductive reasoning. The Neoplatonic position Grosseteste chooses to adopt and defend therefore serves as a cosmological model of higher-order thinking that acts as a conceptual place from which he can literally look down upon material bodies as being at a lower order compared to the more rarified substances of divine light and the divine soul. At the same time, the pronoun "I" Reidl translates him as using here, represents the objectification of his inner self which he manifests to assert the argument he had initially fashioned out of his intuitive understanding of corporeity. This is a social "I" that has been constructed to help Grosseteste bridge the gap between his intuition and the external world that he must process subjectively through sense and experience but must reflect on in a scientific or objective manner. Both the objective self as represented by the "I" and the objective world that the "I" sees are fictional creations of course, because all that the subject knows or will ever know of being and existing in the world is completely subjective. Still, it is evident that it becomes necessary to maintain this illusion of objectivity as it helps the thinking subject to make sense of their selfhood, the world, and their being in the world.

This point about objectivity brings us back to the issue of higher-order theorists and what they say about the transitive-conscious state or meta-mental state. As the transitive-conscious state is one in which the individual processes an experience by mentally positioning

themselves at a distance away from it in order to view it objectively as an observer, the relationship established between the subject and the object mirrors the very grammatical definition of transitivity itself because it likewise becomes "an activity [that] is transferred from an agent to a patient" (Hopper & Thompson, 1980, p. 251). We see this clearly demonstrated in Grosseteste's other treatise *De lineis*. In it, Grosseteste continues to maintain the Neoplatonic view that sees the perceiving subject as having no agency because they are seen as being subjected upon and forced to undergo experiences as a mere "patient" that receives a natural agent's direct line of "action" or influence:

> It is clear the following: a natural agent propagates (multiplies) its power from itself to the patient, the person or thing that undergoes some action, that is, whether it is acting on sense or on matter. This virtue is sometimes called "species", sometimes "likeness", and it is the same, in any way we call it; and the same thing is instilled in the sense and in the matter, or vice versa, when heat makes warm to the touch and gives itself to the cold body. For, it does not act through deliberation and choice; and therefore in one way it acts, whatever it is occurring, whether it is a perception or something else, animated or inanimate. But because of the diversity of the objects of action we have different effects. Moreover, in the perception, this received power produces, in some way, a spiritual and noble effect; on the other hand, when acting on the matter, it produces a material effect, such as the sun produces, through the same power, different effects in different objects of its action. For it hardens the clay and melts the ice (p. 3)[3].

Grosseteste believes sensory experiences to be an act of an agent's power upon the patient's sensitive powers in a process that involves the transfer of said natural agent's power to the patient who receives it automatically. This reception will then result in the patient experiencing that power in a repeat of its effect that is a secondary "likeness" of that initial power - all to be undergone involuntarily without agency or conscious control of what the patient receives/perceives. Grosseteste therefore imagines the experience undergone by the patient to be a nonconscious act that happens to them regardless of whether they want it to or not.

[3] See Appendix C for Grosseteste's explanation in Latin

But can the patient's production of sensory response / reproduction of external stimuli be considered an act truly devoid of any agency? If what Grosseteste is proposing here in terms of patient reception is to be considered a form of transitive consciousness, then the patient cannot be seen as completely lacking agency because being in a higher-order mental state requires the subject/patient to be conscious of being conscious so that the initial passive stage of sensory reception could be supplemented by additional information gleaned from a secondary stage involving reflection of said experience. This second process would express more agency as it would require the patient to look back at the former stage objectively as a first-order state. Grosseteste (1230-1233) (as cited in Sparavigna, 2013, p. 2) does not mention anything regarding a secondary process in the excerpt quoted above, but he does say in the beginning of *De Lineis* that studying natural phenomenon to discover scientific truths about "universal action" will require questioning or reflections that can lead to greater things "ad majora" like greater knowledge. The patient will therefore need to practice more agency if they are to pursue their scientific endeavor and complete their pursuit for natural truths. As Grosseteste (1230-1233) (as cited in Sparavigna, 2013, p.2) explains:

> The utility of considering lines, angles, and figures is huge, because it is impossible to know the philosophy of nature without them. They are valid for the entire universe and, unconditionally, for all its parts. They apply in connecting the properties, such as in straight and circular motions. And they apply in action and passion (reaction), and this is so, whether in the matter or in the capacities of perception; and this is so again, whether in the sense of sight, as it is occurring, or in any other sense in the action of which, it is necessary to add other things on that which is producing vision.

> Then, since we have discussed elsewhere of those things pertaining to the whole universe and to its parts in an absolute sense, and of those which are consequent to straight and circular motions, now we have to tell something concerning the universal action, when it is receiving a lower nature; this universal action is a player able of various features, so far as it happens when it is descending to act in the matter of the world; moreover, other things can be questioned, that can educate us to proceed ad majora (p. 2)[4].

This process described by Grosseteste will naturally require more agency to carry out a secondary reflection on the first-order state of sensory perception. For that reason, although Grosseteste imagines experience and perception to occur either mentally in the patient's "sense" (soul) or physically in their "matter" (body), the two separate entities must nevertheless coexist and work together within the Neoplatonic cosmology that joins the celestial world with the terrestrial in order for the individual to obtain both scientific knowledge of particulars and divine knowledge of God's ultimate truth. Afterall, the body cannot make sense of its environment without the soul's input, and neither can the mind perceive the environment without the body's senses. All three components of mind/body/environment are therefore interwoven, interdependent, and inseparable in Neoplatonism and the mind and body must consciously find its place in this great scale of being and creation if it is to understand the meaning of its existence.

Conclusion

The objective of this paper was to explore a phenomenological approach towards studying how Grosseteste's perception of his mind and body experiences structures his consciousness and experiences in practicing scientific investigations in *De luce seu de inchoatione formarum* (1225-1228) and De lineis, angulis et figuris (1230-1233). The subsequent dissection of the transitive and intransitive consciousness has shown the mind and body to be entangled in a complex relationship that blurs their separation. This is not only because Grosseteste believed the two to intersect within the Neoplatonic cosmology, but also because the

[4] See Appendix D for Grosseteste's explanation in Latin

mind cannot be seen as being separate from the body; much like how the soul cannot be understood as truly separate from the body either. One is not complete without the other and this is especially true for a medieval scientist like Grosseteste who found himself constantly appealing to both as he experimented with the idea of practicing science through theorization and observation inspired by faith.

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Appendices

Appendix A
Referenced sentence from *De luce*

> Formam primam corporalem, quam quidam corporeitatem vocant, lucem esse arbitror
>
> (Grosseteste, 1225-1228/2013, p. 3)

Appendix B
Referenced passage from *De luce*

> Atqui lucem esse proposui, cuius per se est haec operatio, scilicet se ipsam multiplicare et in omnem partem subito diffundere. Quicquid igitur hoc opus facit, aut est ipsa lux, aut est hoc opus faciens in quantum participans ipsam lucem, quae hoc facit per se. Corporeitas ergo aut est ipsa lux, aut est dictum opus faciens et in materiam dimensiones inducens, in quantum participat ipsam lucem et agit per virtutem ipsius lucis. At vero formam primam in materiam dimensiones inducere per virtutem formae consequentis ipsam est impossibile. Non est ergo lux forma consequens ipsam corporeitatem, sed est ipsa corporeitas.
>
> (Grosseteste, 1225-1228/2013, pp. 4-5)

Appendix C
Referenced passage from *De lineas*

> Non enim agit per deliberationem et electionem; et ideo uno modo agit, quicquid occurrat, sive sit sensus, sive sit aliud, sive animatum, sive inanimatum. Sed propter diversitatem patientis diversificantur effectus. In sensu enim ista virtus recepta facit operationem spiritualem quodammodo et nobiliorem; in contrario, sive in materia, facit operationem materialem, sicut sol per eandem virtutem in diversis passis diversos producit effectus. Constringit enim lutum et dissolvit glaciem.
>
> (Grosseteste, 1230-1233,
> as cited in Sparavigna, 2013, p. 3)

Appendix D
Referenced passage from *De lineas*

Utilitas considerationis linearum, angulorum et figurarum est maxima, quoniam impossibile est sciri naturalem philosophiam sine illis. Valent autem in toto universo et partibus eius absolute. Valent etiam in proprietatibus relatis, sicut in motu recto et circulari. Valent quidem in actione et passione, et hoc sive sit in materiam sive in sensum; et hoc sive in sensum visus, secundum quod occurrit, sive in alios sensus in quorum actione oportet addere alia super ea, quae faciunt visum.

Cum igitur in aliis dictum est de eis quae pertinent ad totum universum et partes eius absolute, et de his quae ad motum rectum et circularem consequuntur, nunc dicendum est de actione universali, prout ipsa recipit naturam inferiorum; quae est subiectum susceptivum diversorum actuum, prout ad actionem in materiam mundi contingit descendere; possuntque aliqua in medium adduci, quae erudire possunt procedentem ad maiora.

(Grosseteste, 1230-1233,
as cited in Sparavigna, 2013, p. 2)