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ARTICLE

HENRY MORE ON SPIRITS, LIGHT, AND IMMATERIAL EXTENSION

Andreas Blank

According to the Cambridge Platonist Henry More, individual ‘spirits’ – the souls of humans and non-human animals – are extended but cannot be physically divided. His contemporaries and recent commentators have charged that More has never given an explication of the grounds on which the indivisibility of spirits is based. In this article, I suggest that exploring the usage that More makes of the analogy between spirits and light could go some way towards providing such an explication. More compares the relation between spirit and matter to the relation that, according to Aristotelian theories of light, holds between ‘intentional species’ and matter. I will argue that the purpose of his comparison is to highlight that both intentional species and spirits are existentially independent from matter. The existential independence of intentional species from matter expresses itself in the fact that light is not moved through the motion of the illuminated body. The existential independence of spirits from matter expresses itself in the fact that when a body that is coextensive with a spirit is divided, the spirit is not thereby divided but rather contracts into the remaining living organism.

KEYWORDS: existential dependence; intentional species; emanative causation; Fortunio Liceti (1577–1657)

1. INTRODUCTION¹

The Cambridge Platonist Henry More (1614–87) is famous for proposing a view of the nature of individual ‘spirits’ – animal souls, human souls, and the souls of angels – that offers an alternative to two views of the relation between souls and place that were deeply entrenched in medieval and early modern thought. According to the first of these views – a view that goes back to Plotinus – the soul is present as a whole in the whole body

¹An earlier version of this article was presented at the Philosophy Department of Bogazici University, Istanbul, in March 2012. I would like to express heartfelt thanks to Lucas Thorpe for the kind invitation and to all of those present for their challenging comments.

and as a whole in each part of the body.² As Jasper Reid has documented, More's stance towards this view underwent tumultuous change: his early philosophical poems from the 1640s show that More initially accepted this doctrine; his works from the mid-1650s show that he still considered the view to be a viable possibility but that he was becoming more hesitant about it; finally, in *The Immortality of the Soul* (1659) More has entirely abandoned the view that the soul is present as a whole in the whole body and as a whole in each part of the body (Reid, 'Evolution of Henry More's Theory', 96–8). The second view to which More offers an alternative is the Cartesian conception of immaterial souls that are present in bodies only derivatively, through their operations, without possessing location and extension in the proper sense.³ More proposed consistently from 1659 until his last writings that each individual spirit is immaterial but extended and, hence, located somewhere in space, thereby setting his conception of the soul apart from Descartes. Yet, More believed that each individual spirit does not possess the same powers and qualities throughout each region of the space through which it extends, thus he denies the Plotinian view that the soul is present as a whole in each part of the body. For him, individual spirits are 'heterogeneous' in the sense that they possess spatially distinguishable regions that are characterized by different powers.⁴ Consequently, More maintains that spirits are 'logically' divisible in the sense that it is possible to distinguish different regions of a spirit in thought. At the same time he claims that they are physically indivisible or, as he expresses it, 'indiscernible'.⁵

In More's view, this distinguishes spirits from composite bodies, which he believed to be physically divisible into atoms. However, physical indivisibility is a property that he ascribes to both spirits and atoms. And it is far from clear what he believed to be the difference between the indiscernibility of spirits and the indiscernibility of atoms. Of course, there is evidence that More *wanted* to draw a distinction between the indiscernibility of spirits from the indiscernibility of atoms or 'physical monads'. This is how he puts it in the context of one of the controversies in which he was engaged in his later years:

²On the influence of this view, often dubbed 'holenmerism', in the Neoplatonic and scholastic traditions, see Grant, *Much Ado about Nothing*, 222–5; Des Chene, *Life's Form*, 191–202; Rozemond, 'Descartes, Mind-Body Union, and Holenmerism'; Reid, 'Evolution of Henry More's Theory', 88–9; Kochiras, 'Spiritual Presence and Dimensional Space Beyond the Cosmos', 44–53. For authoritative formulations of the doctrine, see Plotinus, *Enneads*, 4: 418; 4: 294, Ficino, *Platonic Theology*, 1: 237–39; 2: 229.

³On Cartesian views on the location of souls, see Reid, 'Spatial Presence of Spirits among the Cartesians', 105–10. For particularly clear formulations of the Cartesian doctrine, see Le Grand, *Entire Body of Philosophy*, 325b–326a; Clauberg, *Opera omnia*, 1: 222.

⁴For the notion of 'heterogeneity', see *The Immortality of the Soul* (henceforth: *Immortality*), 152. All references to *Immortality* are to the text in More, *Collection of Several Philosophical Writings*. The works in this collection have separate paginations.

⁵For the notion of 'indiscernibility', see *Immortality*, 20.

[T]hose very *Indiscerpibilities* are *Specifically* different. For that of a *Spirit* is an *Indiscerpibility* that arises from the positive perfection and *Oneness* of the Essence, be it never so *ample*; that of an *Atom* or *Physical Monad*, from imperfection and privativeness, from the mere littleness or smallness thereof, so small that it is impossible to be smaller, and thence onely is Indiscerpible.

(More, *Annotations upon the Discourse of Truth*, 211)⁶

Yet, in what is arguably his most important philosophical work, *The Immortality of the Soul* (1655), More holds that there is a sense in which the properties of spirits and atoms cannot be explained any further: 'There are some Properties, Powers and Operations, immediately appertaining to a thing, of which no reasons can be given, nor ought to be demanded' (*Immortality*, 19). Since, according to More, the powers of essences belong immediately to the things whose essences they are, his conception of properties and powers immediately appertaining to a thing seems to imply that the indiscerpibility of spirits belongs to the properties that, in More's view, cannot and need not be explained (Reid, 'Henry More on Material and Spiritual Extension', 534).⁷ Indeed, in a recent article, Jasper Reid has argued that More never provided an explanation of what renders atoms and spirits indiscerpible. If this were the case, More would have failed to draw a conceptual distinction between the indiscerpibility that he ascribes to spirit and the indiscerpibility that he ascribes to atoms.⁸ This, however, would constitute a major failure on More's part because if it remains unclear what the specific indiscerpibility of spirits consists in, then it remains unclear in which sense spirits differ from matter. Thus, the very core of More's immaterialism about spirits depends on whether he can offer an explication of the specific nature of spiritual indiscerpibility.

In what follows, I would like to argue that, in spite of More's disclaimer, we find in several of his writings some scattered but thematically related remarks that indeed could contribute to an explication of the sense in which created spirits are indiscerpible. One such series of remarks concerns the analogy between created spirits and light. This is how, in the *Appendix to the Antidote Against Atheism* (1653), More introduces the analogy:

Suppose a *Point of light* from which rays out a *luminous Orb* according to the known Principles of *Opticks*: This *Orb of light* does very much resemble the *nature of a Spirit*, which is diffused and *extended*, and yet *indivisible*. For wee'l suppose in this *Spirit* the Center of life to be indivisible, and yet to diffuse it self by a kind of *circumscrib'd Omnipresency*, as the *Point of light* is discernible in every point of the Luminous Sphere. And yet supposing the Central lucid Point *indivisible*, there is nothing divisible in all that Sphere of light. For it is ridiculous to think by any Engine or Art whatsoever to

⁶In all quotations, the italics are More's.

⁷The substance of this article is taken up in Reid, *Metaphysics of Henry More*, Chap. 6.

⁸*Ibid.*, 531–7.

separate the luminous rays from the shining Center, and to keep them apart by themselves

(More, *Collection of Several Philosophical Writings*, 150)

The present article will analyse a series of remarks in More's writings that concern this analogy between created spirits and light. Section 2 explores an often neglected aspect of the analogy that More draws between the extension of spirits and the extension of light: it is not his own broadly Cartesian conception of light that fuels the analogy. And, although some aspects of the Neoplatonic tradition inform the analogy that he has in mind, the explicit reference that he gives is to the *Aristotelian* conception of intentional species.⁹ I think that this is an aspect of More's thought that has not yet been well understood. To explicate the analogy that More may have had in mind, I will draw attention to some parallels between the way More uses this analogy and the way it was used by the Late Aristotelian natural philosopher Fortunio Liceti (1577–1657). Liceti is an interesting figure in the history of light theories because in his early writings he took up a Platonising Aristotelianism about intentional species found in Albert the Great. I will be cautious with claims about influence. It is clear that Liceti was on More's intellectual horizon because More refers twice to Liceti's work on monsters (*Immortality*, 174; *Annotations upon Lux Orientalis*, 14–15). Also, Liceti's usage of the analogy between souls and light seems to have enjoyed some prominence in mid-seventeenth-century natural philosophy. For example, in Daniel Sennert's widely read *Hypomnemata Physica* (1636), one finds a precise summary of Liceti's views concerning souls, light, and extension (Sennert, *Hypomnemata*, 225). Hence, it seems to be quite plausible to assume that More could have been acquainted at least with the outlines of Liceti's theory of light. Still, for present purposes settling matters of influence is not essential. Rather, I am interested in some similarities that can be noted between Liceti's well-articulated theory of light and More's scattered remarks on immaterial extension. In particular, I will draw on Liceti's usage of the analogy between minds and light to point out some aspects of More's usage of the light analogy that otherwise might easily go unnoticed. For Liceti, light cannot be divided through the division of illuminated matter because light is existentially independent from matter. Section 3 explores a series of remarks in More's metaphysical writings that indicate that the notion of existential independence of spirits from matter contributes to the sense in which More understands the indivisibility of spirits. I will argue that More's usage of the analogy between the structure of spirits and the Aristotelian conception of light is in fact meant to explicate the sense in which the emanation relation that holds between the 'centre' and the other parts of a spirit implies that a spirit cannot be divided through the division of the body that it animates.

⁹See note 20.

2. LOOKING FOR A CONTEXT

On first sight, it may be tempting to read More's usage of the light analogy against the background of the development of highly innovative theories of light in the decades preceding More's work. Nevertheless, it seems that none of these innovative theories will contribute much to understanding More's usage of the analogy. To begin with, More accepted (with some minor modifications) Descartes's corpuscularian theory of light which regards light as pressure propagated by the particles of a material medium (*Henry More's Manual of Metaphysics*, Chap. 19.)¹⁰ Obviously, the point of the Cartesian theory of light is to render any stipulation of immaterial entities superfluous. Johannes Kepler's immaterialist conception of light rays may seem to be more promising. Yet, Kepler used the technical notion of species to describe processes in the sensory organs but explicitly rejected its application to the processes relevant for the propagation of light (Kepler, *Gesammelte Werke*, 2: 152–3 (sense perception), 2: 57 and 2: 341 (propagation of light)).¹¹ Two other innovative seventeenth-century theoreticians of light, Johannes Marcus Marci (1595–1667) and Athanasius Kircher (1602–80), are more enthusiastic about analysing light in terms of species but, unlike Kepler, they are very far from regarding light as an immaterial entity. Marci develops a chemical theory of light, according to which light is a 'fiery substance' contained in an illuminated body (Marci, *Thaumantias*, 160).¹² In his view, the fiery particles contained in an illuminated body constitute 'physical species' (*species physicae*) that flow from a 'centre' of fire (Marci, *Thaumantias*, 161). And he holds that 'the precision of the figure transmitted arises from the equal flow of all parts',¹³ thereby suggesting that what he calls the 'flow of a species' (*fluxus speciei*)¹⁴ involves a flow of material parts. Similarly, in his *Ars magna lucis et umbrae* (1645) Kircher holds that the 'origin of light is not a simple emanation into the diaphanous body but a true production bound to the action of light'.¹⁵ For him, light is 'a sensible quality physically produced by a lucid body'.¹⁶ Evidently, none of this is very helpful for clarifying More's theory of immaterial extension.

If the innovative theories of light might not provide a helpful context for More's analogy between spirits and light, one might conjecture that More's Neoplatonic background would be more useful, and such a conjecture is not

¹⁰See Descartes, 'La Dioptrique', 81–93; Descartes, 'Les Météores', 325–44. On the Cartesian theory of light and its reception, see Sabra, *Theories of Light*.

¹¹On Kepler's theory of light, see Lindberg, 'Kepler and the Incorporeality of Light'; Pantin, 'Simulachrum, species, forma, imago'.

¹²On Marci's theory of light, see Garber, 'Chymical Wonders of Light'.

¹³Ibid., 162: 'figurae concinnitas ab aequabili omnium partium fluxu ... provenit'.

¹⁴Ibid.

¹⁵See Kircher, *Ars magna lucis et umbrae*, 23: 'originem luminis non esse simplicem in diaphano emanationem, sed veram productionem nixam actione lucis ...'

¹⁶Ibid., 24.

entirely on the wrong track. In *Enneads* 5.3.9, Plotinus compares the relation between the unique intellect and the singular souls with the relation between the sun and the light proceeding from it. As he indicates, the point of this comparison is to make clear that as the light depends on the sun so do the souls depend on the intellect. Due to these relations of existential dependence, neither light nor souls could be understood as beings that exist separately from their origin.¹⁷ Clearly, this is closely similar to what More says about the relation between the ‘centre of life’ of a spirit and what proceeds from it as well as the relation between a ‘point of light’ and an ‘orb of light’.¹⁸

Still, the Neoplatonic metaphysics of light differs significantly from More’s conception of spiritual and material extension. This becomes clear in Plotinus’s sophisticated explanation for why incorporeal entities such as souls or visible species such as coloured light cannot be affected by material objects. As he argues in *Enneads* 3.6.7, the extension of material objects is not a real quality but rather a mere appearance of underlying immaterial entities; and because this applies to everything that appears in matter, even visible species are nothing but ‘images in an image’.¹⁹ And, as he argues in *Enneads* 3.6.18, because matter is a mere appearance, it does not possess any active powers and, hence, also cannot bring about any changes in other entities.²⁰ What makes such a conception of the ‘impassibility’ of incorporeal entities relevant for present concerns is that it could provide an explanation for why incorporeal entities are indivisible through the influence of physical objects. Moreover, Plotinus’s account of the

¹⁷As Ficino renders the relevant passage in his influential translation:

Sic utique reliquum animae est, quod prae se ferre diximus imaginem intellectus lumen ipsius aliquod reservantem, instar luminis, quod post ipsum solis globum proxime micat, circa ipsum ex ipso refulgens. Lumen profecto solis penes se ipsum et circa ipsum nemo concesserit esse solem; ex quo quidem pendens permanet circa ipsum ... Anima vero lumen quiddam est ex mente productum et circa mentem menti connexum: neque sedet in alio, sed exstat prope mentem.

(*Plotini Enneades*, 316)

¹⁸I am grateful to one of the referees for pointing this similarity out to me. On the Neoplatonic strands in More’s usage of the light analogy, see Henry, ‘Cambridge Platonist’s Materialism’, 179–80.

¹⁹Again, in Ficino’s words:

Quapropter in qualibet sui denominatione mentitur et fallit, nempe si magnum excogitetur, interim parvum est, ac si magis, est et minus: atque ens, quod in ejus imaginatione occurrit, non ens est, velut ludicrum quiddam fugiens, adeo ut, quae in ipso fieri videntur, ludicra sint, simulacra in simulacro

(*Plotini Enneades*, 157)

On Plotinus’s theory of matter, see Jevons, ‘Dequantitation in Plotinus’s Cosmology’; Kalligas, ‘Structure of Appearances’.

²⁰As Ficino puts it: ‘Materia ... nullam habeat excutiendi potentiam (nullam enim habet actionem) ...’ *Plotini Enneades*, 166.

‘impassibility’ of incorporeal entities adds a further sense in which the analogy between souls and light could be developed. However, More cannot invoke a theory of extension as a mere appearance to explain the indiscernibility of souls because he regards extension as the paradigm of a real quality – as a quality that defines what kinds of entities can count as substances (More, *Immortality*, 21–2).

In fact, More invokes the analogy between spirits and light because he expects it to provide a solution for the question of how we could understand extension as a real quality and at the same time hold that some extended beings are indiscernible. In the *Appendix to the Antidote Against Atheism*, he discusses the following objection:

Extension cannot be imagined without diversity of parts, and diversity of parts without a possibility of division or separation of them; because diversity of parts in any Substance supposes diversity of substances, and diversity of substances supposes independency of one another ...

More comments: ‘[T]he difficulty is easily taken off, if we acknowledge some such thing to be in the nature of a Spirit as has been by thousands acknowledged in the nature of *Intentional Species*’ (*Appendix to Antidote Against Atheism*, 150). Two things are interesting about this comment: first, to draw an analogy between spirits and light, More uses a notion that he himself does not accept but that is well entrenched in a particular strand of the philosophical tradition. Second, the aim of the analogy between spirits and light is to explicate a sense in which spirits possess extended parts that, however, are not existentially independent from each other. Both points are also relevant for the way in which More uses the notion of intentional species in his remarks on the indiscernibility of spirits in *The Immortality of the Soul* (1655). Here, More is explicit that what he has in mind is an aspect of Aristotelian light theory:

That ancient notion of *Light* and *Intentional species* is so far from a plain impossibility, that it has been heretofore generally, and is still by very many persons, looked upon as a Truth, that is, That *Light* and *Colour* do ray in such sort as they are described in the Peripatetical Philosophie ... [R]ays may indeed be reverberated back towards their Centre by interposing some opaque body, and so this *Orbe of light* contracted; but, according to the *Aristotelian Hypothesis*, it was always accounted impossible that they should be clipt off, or cut from this *lucid point*, and be kept apart by themselves.²¹

(*Immortality*, 25)

But, again, not any late Aristotelian theory of intentional species will serve More’s illustrative purposes. Some influential medieval Aristotelians, such

²¹On Late Aristotelian theories of intelligible species, see Spruit, *Species intelligibilis*.

as Robert Grosseteste (ca. 1168–1253) and Roger Bacon (1214/1220–92), regard light as constituted by corporeal forms. Bacon maintains that the dimensionality of the visible species that constitute light is derived from the dimensionality of the medium that they inform (Lindberg, *Roger Bacon's Philosophy of Nature*, 190–1).²² Grosseteste maintains that light is constitutive of bodily extension (Baur, *Die philosophischen Werke des Robert Grosseteste*, 51).²³ In neither case is the extension of light conceived as being independent of the extension of matter. What is needed for More's purpose obviously is a theory of intentional species as immaterial beings. I suggest that looking into the work of Fortunio Liceti will be helpful at this juncture. This suggestion may be surprising because in a group of writings from around 1640, Liceti took light to be a corporeal and, hence, divisible quality (Liceti, *De natura luminis*, 115–6; Liceti, *De lunae subobscura luce prope coniunctiones*, 328).²⁴ However, it is worth noting that Liceti developed not only one theory but two theories of light. His treatment of light in earlier writings stands from other late Aristotelian works on light because he there explicitly distinguishes corporeal extension from the immaterial extension of mind and light.

Throughout his writings on light, Liceti uses the traditional distinction between light as an entity present in a luminous body and light as an entity present in an illuminated perspicuous body – a distinction that goes back at least to the eleventh-century Arabic Aristotelian natural philosopher Avicenna (Ibn Sina) and in the Latin tradition was expressed in terms of the distinction between *lux* and *lumen* (Avicenna Latinus, *Liber de anima seu sextus de naturalibus*, 170–2). The closest historical antecedent of Liceti's early theory of light can be found in Albert the Great's (d. 1280) highly eclectic *De anima* commentary. Most importantly for present purposes, Albert connects the Aristotelian view that light perfects the body that it illuminates by making it actually perspicuous or 'diaphanous' (Aristotle, *De an.* II, 7)²⁵ with the Platonic notion of emanative causation.²⁶ Albert suggests an analysis of the relation between *lux* and *lumen* that involves only the essence of *lux*:

The soul is said to live causally in itself because it is the cause of life and living in itself, as *lux* is said to be luminous and the cause of *lumen*; and

²²On Bacon's theory of light, see Lindberg, 'Genesis of Kepler's Theory of Light', 19–22.

²³On Grosseteste's metaphysics of light, see Baur, *Die Philosophie des Robert Grosseteste*, 76–84; McEvoy, *Philosophy of Robert Grosseteste*, 151–8.

²⁴On Liceti's late theory of light, see Zoubov, 'Une théorie aristotelicienne de la lumière du XVIIe siècle'. For a short summary on the role of species in Liceti's theory of the active intellect, see Spruit, *Species intelligibilis*, 324–6.

²⁵On Aristotle's notion of the diaphanous and its influence in medieval thought, see Vasiliu, *Du diaphane: image, milieu, lumière dans la pensée antique et médiévale*.

²⁶On the origins of the emanation theory of light, see Lindberg, *Theories of Vision from Al-Kindi to Kepler*, 96–8.

because of this even the higher beings are said to live a more noble life, because in them there is nothing relating to a moving or moved being ...²⁷

Thus, for Albert the relation between *lux* and *lumen* does not involve any motion but rather is a relation of emanative causation. This is how he further explicates this relation:

[*L*]ux is the being and the first actuality of the luminous body, and sending forth *lumen* is its essential secondary actuality, in so far as this is its activity, which consists in some essential diffusion of its form; for each essence has a proper and essential operation, of which it is never deprived, provided it is essential, as *lux* is not deprived of sending forth *lumen* which is its activity.²⁸

In his early theory of light, Liceti accepts certain aspects of Albert's theory. Most importantly, Liceti shares the view that the production of *lumen* involves emanative causation:

Heaven and nature is said to depend on god as an efficient cause ... ; the sun possesses an efficient cause from which it proceeds eternally by simple emanation without any novelty of being; in the same way, from the *lux* of the sun ... *lumen* proceeds eternally through simple emanation as from its proximate and immediate efficient cause ...²⁹

As Liceti makes clear, due to the emanation relation between *lux* and *lumen*, *lumen* is existentially independent of the perspicuous body: '[*L*]umen is said to be external to the air whose assisting form it is since it does not depend on the air, even though it actualizes the innermost parts of the air.'³⁰ The existential independence of *lumen* on the illuminated

²⁷Albertus Magnus, *De anima*, 74:

Anima autem etiam in se dicitur vivere causaliter, quia est causa vitae et viva in seipsa, sicut lux dicitur luminosa et causa luminis; et propter hoc etiam superiora dicuntur vivere nobiliori vita, quia nihil est in eis ex parte motoris vel mobilis ...

Unless otherwise indicated, translations are my own.

²⁸*Ibid.*, 65:

[*L*]ux lucentis est esse et actus primus, et lucere est actus essentialis eius secundus, eo quod haec est actio eius, quae suae formae diffusio quaedam est essentialis; omnis enim essentia propria et essentialis habet operationem, qua numquam destituitur, quando est essentialis, sicut lux non destituitur a lucere, quod est eius actio.

²⁹Liceti, *De animarum rationalium immortalitate*, 154:

A Deo ... , ut a causa efficiente, pendere dicitur caelum, & natura ... ; solem obtinet causam effectricem, a qua per simplicem emanationem absque novitate essendi ab aeterno prodierit; sic a Solis luce ... lumen ab aeterno prodit absque novitate essendi per simplicem emanationem ut a sui causa effectrice proxima, & immediata

³⁰*Ibid.*, 151: '[*L*]umen dicitur esse aeri extrinsecum, cuius est forma assistens, quoniam ab aere non pendet, quamvis intimas quasque partes aeris actuet'.

body has consequences for the relation between *lumen* and the motion of the illuminated body:

Nothing can be moved through the motion of something else unless it exists either in it as something located there as in a place; or as a form, either an accidental form in the subject of inherence, or a substantial form in the subject of inexistence; or as an organ in the potency of the primary agent; or generally not unless it depends for its existence on it in some way. But an assisting form is where its underlying body is located and guides it, but is not in it as in a place, nor as in a subject of inherence or of inexistence, nor as an organ in the potency of the primary agent, and generally does not depend on the body that it assists.³¹

Liceti counts *lumen* among the ‘assisting forms, which are not in a subject as in a place or a container, such that they in no way depend on a subject ...’³² Hence, *lumen* cannot be moved through the motion of the illuminated body. The existential independence of *lumen* from the illuminated body also has far-reaching consequences for the divisibility of *lumen*:

lumen that is not movable through the local motion of the underlying air; shadows that are immobile in moved air indicate this ...; evidently, they cannot be said to be divisible through the division of the underlying air because with real division the local motion of the parts that are divided is necessarily conjoined.³³

Because parts of shadows do not undergo local motion at the separation of parts of perspicuous bodies, also the *lumen* that brings about these shadows does not undergo motion through the motion of the parts of perspicuous bodies. Hence, the perspicuous body that is diffused by *lumen* can be divided without a division of *lumen*.

³¹Liceti, *De intellectu agente*, 184:

[N]ihil moveri potest ad motum alterius nisi in eo insit vel tamquam locatum in loco; vel tamquam forma, sive accidentalis in subiecto inhaesionis, sive substantialis in subiecto inexistentialiae; vel tamquam organum in potestate agentis praecipui, ac omnino nisi quoquopacto ab eo dependeat in esse. Forma vero assistens adest quidem, ac praeest subiecto corpori, sed in eo non inest ut in loco, nec ut in subiecto aut inhaesionis, aut inexistentialiae, nec ut organum in potestate agentis praecipui, atque omnino a corpore non dependet, cui assistit.

³²Liceti, *De vita*, 324: ‘formae assistentes, quae non sunt in subiecto, velut in loco, aut continente, ut quae nulla ratione pendeant a subiecto ...’.

³³Liceti, *De animarum coextensione corpori*, 69:

Lumen etenim, quod non est ad subiecti aeris motum localem loco mobile; quod indicant umbrae stabiles in aere moto ...; plane ad eiusdem substrati aeris divisionem partibile dici non possunt, quia cum reali divisione coniunctus necessario est eorum, quae dividuntur, motus localis.

For a detailed discussion of Liceti’s views on immaterial extension, see Blank, ‘Fortunio Liceti on Mind, Light, and Immaterial Extension’.

This point is highly relevant for the question of the physical divisibility of light: if every division involves local motion and if the local motion of matter does not impart local motion to *lumen*, *lumen* cannot be divided through the division of matter. Liceti uses this insight for a comparison between *lumen* and individual rational souls:

Some forms that are coextensive with their underlying bodies are accidental quanta relative to the quantity of the underlying body, such that their quantity depends on the quantity of the underlying body in every respect; and forms of this kind are accidentally divisible through the division of the underlying body ... But of a different kind are forms that are quanta by themselves that possess some proportional immaterial quantity and that are coextensive with the dimensions of the underlying body; the quantity of these forms by no means depends on the dimensions of the underlying body. This is how forms are that are not accidentally divisible through the division of the underlying body; in themselves they are only divisible through designation and in the mind, but not in reality; and of this kind are *lumen* and immortal souls ...³⁴

To be sure, for Liceti there is also some profound dissimilarity between *lumen* and individual minds. While he takes *lumen* to be an assisting accidental form of the illuminated body, he takes a mind to be the informing substantial form of an organic body (Liceti, *De vita*, 326). And he is clear that, in contrast to assisting forms, which are not necessarily moved through the motion of the body that they assist, substantial forms are necessarily moved through the motion of the organic body that they inform (Liceti, *De intellectu agente*, 240). Thus, the existential independence of minds from organic bodies is not indicated through an independence from bodily motion. In his view, the existential independence of mind from body expresses itself in the fact that when parts are separated from the human body, the mind contracts in the remaining living organism: ‘The mind dilates and contracts itself in the augmentation and diminution of the body independently of the body, such that the proportion of the extension with the body is preserved ...’³⁵ This is why Liceti maintains that the analogy

³⁴Liceti, *De animarum coextensione corpori*, 69:

[F]ormarum subiacenti sibi corpori coextensarum aliae sunt quantae per accidens ad subiecti corporis quantitatem, ut quarum quantitas a substrati corporis quantitate omnino dependet; ac huiusmodi formae revera sunt per accidens divisibiles ad subiecti corporis partitionem ... [A]liae vero sunt formae quantae per se immateriali quadam quantitate, proportionata coextensae subiacentis corporis dimensionibus; quae formarum propria quantitas a subiecti corporis quantitate minime dependet: huiusmodi autem formae sunt, non quidem divisibiles per accidens ad subditi sibi corporis partitionem; sed per se divisibiles sunt sola designatione, ac mente, non reipsa, ut lumen, & immortales animae ...

³⁵Liceti, *De animarum coextensione corpori*, 63: ‘[M]ens extenditur, & contrahitur per se in augmento, & in decremento corporis independenter a corpore, ut servet cum corpore proportionem extensionis ...’

between *lumen* and minds has to do with the existential independence of both *lumen* and mind from body. For him, *lumen* is existentially independent of the illuminated body and, hence, physically indivisible through the division of the body. Analogously, mind is existentially independent of the body animated by it and, hence, physically indivisible through the division of the organic body.

Thus, in Liceti's early theory of light one encounters a clear explication of how the analogy between mind and light can make it clear in which sense immaterial extension is immune to division through bodily motion. I am not suggesting that More wrote about the analogy between spirits and light with any of Liceti's writings on his desk. Rather, what seems interesting to me about Liceti is that he makes explicit a conceptual connection between the notions of emanative causation and existential independence from body that is implicit in the line of thought inaugurated by one of the great medieval theoreticians of light, Albert the Great. Might this conceptual connection be the aspect of Late Aristotelian light theory that More wants to bring out when he compares spirit to light? I think that there is some textual support for such a reading.

3. INTERPRETING MORE'S LIGHT ANALOGY

More analyses both the relation between a source of light and the light rays emitted by it and the relation between the 'centre' of a spirit and the parts fulfilling more particular functions in terms of emanative causation (More, *Immortality*, 208). He characterizes this concept in an entirely traditional way: 'By an *Emanative Cause* is understood such a Cause as merely by Being, no other activity or causality interposed, produces an Effect' (More, *Immortality*, 27). In Axiom 17, he tells us that 'An Emanative Effect is coexistent with the very Substance of that which is said to be that Cause thereof.'³⁶ More gives the following explication:

This must needs be true, because that very Substance which is said to be the Cause, is the Adequate and immediate Cause, and wants nothing to be adjoined to its bare essence for the production of the Effect; and therefore by the same reason the Effect is at any time, it must be at all times, or so long as that Substance does exist.³⁷

From this claim concerning coexistence, More moves to the claim concerning indivisibility: '[W]e are led from hence to a necessary acknowledgement of perfect *Indiscerpibility* of parts, though not intellectuall Indivisibility, by Axiome 17. For it implies a contradiction that an

³⁶Ibid.

³⁷Ibid., 28.

Emanative effect should be disjoined from its originall.’³⁸ This is indeed a central claim in More’s conception of immaterial extension. But it is far from clear why emanative causation by itself implies that it is logically impossible that something that emanates from a source should be spatially discontinuous with its source.

One of More’s most acute critics, the English theologian Richard Baxter (1615–91), raised the problem that More’s theory of immaterial extension by itself does not tell us why it is impossible that spirits are divided through the division of the matter that they animate:

You prove the locality of Spirits by their operation on this or that Body, (And doubtless you may well prove that the Recipient body is *in loco*, and consequently the Agent relatively). But how shall we avoid the division of Qualities or Spirits *ex divisione materiae subjectivae*. *E.g.* If a red hot Iron be penetrated by the heat, yet if this iron be cut in two, while hot, and each part set (*per potentiam superiorem*) at 20 Miles distance. Is not the heat divided with the Iron? So if a mans Head be struck off, and... the Head in a moment were carried far off, while both parts of the body are yet alive, is not the Soul in each Part? And if the Parts were 20 or 100 Miles a sunder, is it still one undivided Soul?

(Baxter, *Of the Nature of Spirits*, 61–2)

As far as I can see, More did not respond directly to this objection in his response to Baxter.³⁹ Yet, More’s usage of the analogy between souls and light provides an answer to Baxter’s challenge. This is so because More’s usage of the light analogy may have one more aspect – an aspect that concerns not only the similarity between the internal structure of light and the internal structure of spirit but also the similarity between the light/matter relation and the spirit/matter relation.

Let us first clarify More’s understanding of the notion of intentional species. In his *Manual of Metaphysics* (1671) he remarks that intentional species ‘are indeed spiritual substances, if they be at all’.⁴⁰ This is how he explicates the relevant sense of substantiality of intentional species:

For in the first place, they belong to substances rather than to accidents since they inhere in no subject. Not in that very visible corporeal object, since they are outside it, and from which they flow as from their emanative principle, of which they are not so much accidents as effects. Not in the medium which they occupy, say in the air, since they are not themselves moved by the motion of the air but by the object alone from which they flow.

³⁸Ibid., 28–9.

³⁹See the ‘Digression’ in More, *Annotations upon the Discourse of Truth*.

⁴⁰More, *Manual of Metaphysics*, 2:147; More, *Enchiridion Metaphysicum*, 241: ‘si omnino essent, ut sint revera substantiae spirituales necesse sit’. All translations from the *Manual* are Jacob’s, with some modifications.

Therefore they are certain secondary substances emanating from their primary substances ...⁴¹

To be sure, describing the consequences of the theory of intentional species in this way leaves out much of the intricacies of Late Aristotelian theories of light. For instance, More seems to have been unaware of the fact that the notion of an ‘assisting form’ played a role in some Aristotelian theories of light. To be sure, he mentions the Aristotelian view that intelligences are ‘Assistant Forms’ of heavenly bodies; but he doubts the usefulness of this view (More, *Explanation of the Grand Mystery of Godliness*, 34). Accordingly, he overlooks that, in Late Aristotelian natural philosophy, existential independence from matter could be captured not only by the notion of substance but also by the notion of assisting accidental form. Still, what More’s usage of the notion of substance is meant to bring out is the view that light does not inhere in matter: ‘And indeed this *Sphere of light* it self, it not inhering in any Subject in the space it occupies, looks far more like a Substance then any Accident’ (More, *Appendix to Antidote Against Atheism*, 150).

There are other striking similarities between More’s and Liceti’s understandings of the structure of light. More holds that when parts are separated from an animal, its immaterial spirit contracts into the remaining organism (More, *Immortality*, 109). And he is aware that the observation that motion of the air does not cause motion of shadows in the Aristotelian tradition was used to argue for the existential independence of light from the medium. In fact, when More discusses the indiscernibility of spirits he uses a concept that resembles Liceti’s notion of a ‘quantum by itself’. More argues in his *Divine Dialogues* (1668) that the connection of the parts of a created spirit is independent of any other created entity. A created spirit needs ‘no other *Vinculum* to hold the parts together but its own essence and existence; whence it is of its own nature indiscernible’ (More, *Divine Dialogues*, 124). In the *Manual of Metaphysics*, he expresses this argument by means of the scholastic notion of ‘being one by itself’ and argues that a created spirit is indiscernible *because* it is one by itself:

A thing is ... one by itself whose essence is one by itself, and not by another thing, that is, whose matter and form are one by themselves, and by no other bond, and so even the parts of both, if indeed it be right to call parts those

⁴¹More, *Manual of Metaphysics*, 2:147; More, *Enchiridion Metaphysicum*, 240–1:

Substantias enim, primo in loco, potius quam Accidentia referunt, propterea quod in nullo inhaerent Subjecto. Non in ipso Objecto visibili corporeo, cum extra ipsum sint, ab eoque fluant tanquam a Causa sua emanativa, cujus non tam Accidentia sunt quam Effecta. Non in Medio quod occupant, puta in Aere, cum ipsae non moveantur ad motum Aeris, sed ad Objecti solius a quo fluunt. Ergo Substantiae secundariae sunt a Substantiis suis primariis ...

things that immediately and by themselves are one and not connected by any other thing, and therefore cannot in any way be dissolved or physically divided.⁴²

Of course, one might suspect that More, tautologically, builds the notion of indivisibility into the notion of being one. This suspicion, however, would not do justice to More's notion of being one: 'Whatever is *One* is so in so far as it is *Undivided* from itself, both with respect to the whole and to the parts, and *Divided* from everything else ...'⁴³ Thus, what is built into the notion of being one is the notion of the absence of actual division; but what is not built into the notion of being one is the notion of the absence of the possibility of division. This is why the claim that More makes with respect to the physical indivisibility of beings that are one by themselves is genuinely informative. In his view, beings that by themselves are undivided from themselves and divided from everything else are indivisible by any other created being because neither the unity of their essence nor the connection between their parts depends on any created being. And if neither the unity of their essence nor the connection between their parts depends on any other created being, it seems plausible to say that also the existence of beings that are one by themselves does not depend on any other created being.

In fact, the existential independence of spirits from matter plays a crucial role in More's explication of the relevant sense of substantiality of the soul. With respect to secondary substance of the soul, he writes:

[T]his *Secondary* or *Emanatory* Substance may be rightly called *Substance*, because it is a Subject indued with certain powers and activities, and that it does not inhere as an *Accident* in any other Substance or Matter, but could maintain its place, though all Matter or what other Substance soever were removed out of that space it is extended through, provided its *Primary Substance* be but safe.

(More, *Immortality*, 28)

Thus, what renders the secondary substance of the soul to be something substantial is that, as light does not inhere in the perspicuous body, so does the secondary substance not inhere in the body and thus does not depend on the body for its existence.

But the passage just cited has a further implication. Also the primary substance of the soul must be capable of continuing its existence even if the matter that occupies the same region of space is removed – otherwise it

⁴²More, *Manual of Metaphysics*, 1:10–11; More, *Enchiridion Metaphysicum*, 11:

Est ... Unum per se cujus essentia est una per se, & non per aliud, hoc est, cujus Materia & Forma sunt unum per se absque ullo alio vinculo, atque etiam Partes utriusque; si modo Partes appellare fas sit quae immediate & per se unum sunt, nec per aliud quicquam connectuntur, ac proinde nullo pacto dissolvi possunt, vel physice dividi.

⁴³Ibid., 1:9; More, *Enchiridion Metaphysicum*, 10: 'Est enim unumquodque *Unum* quatenus *Indivisum* a se & quoad totum & quoad partes, & *Divisum* a quolibet alio ...'.

would be of no help for the continuation of the existence of the secondary substance of the soul. Like the secondary substance of the soul, the primary substance of the soul cannot be thought of as inhering in matter. In fact, More maintains that a soul is

independent of any thing but the Will and Essence of her Creator; which being exactly the same every where, as also his Power is, her emanative support is exactly the same to what she had in the very first point of her production and station the World.⁴⁴

This view seems to apply not only to the secondary substance of a soul but also to the primary substance. More's conception of the existential independence of souls from matter may explain why he takes the analogy between souls and light to provide a sense in which both secondary and primary substances of a soul are indiscernible:

[T]his *Sphere of light* it self, it not inhering in any Subject in the space it occupies, looks far more like a substance then any Accident. And what we fancie unadvisedly to befall *Light* and *Colours*, that any point of them will thus ray orbicularly, is more rationally to be admitted in *Spiritual* substances, whose central essence spreads out into a *Secondary* substance, as the luminous rays are conceiv'd to shoot out from a lucid Point. From when we are enabled to return an Answer to the greatest difficulty in the foregoing Objection, viz. That the conceived parts in a *Spirit* have an inseparable dependence upon the central Essence thereof, from which they flow, and in which they are radically contained; and therefore though there be an *Extension* of this whole substantial power, yet one part is not separable or discernible from another, but the intire Substance, as well *Secondary* as *Primary* or *Central*, is indivisible.

(More, *Appendix to Antidote Against Atheism*, 150)

Thus, what renders both the secondary and the primary substance of the soul to be something substantial is that, as light does not inhere in the perspicuous body, so they do not inhere in the body and thus do not depend for their existence on the body. If an extended soul does not depend on an underlying body in the way in which the qualities inherent in this body depend on it, then the extension of the soul is independent of the extension of the underlying body. Hence, because a soul does not inhere in a body as in a subject, the extension of the soul cannot be divided through the division of the extension of the body. In this way, the notion of the substantiality of the soul could provide More with the means sufficient to give a straightforward answer to Baxter's question of why spirits do not behave in the same way as material qualities in the division of an organic body: both the primary and secondary substances of souls are not divisible through the division of matter because

⁴⁴Ibid., 215.

they do not depend on matter for their existence and hence do not inhere in matter as material qualities do.

More's conception of the substantiality of souls is thus closely analogous to his understanding of the way in which substantiality was ascribed to light in the Aristotelian theory of intentional species. In both cases, substantiality implies existential independence from the matter that occupies the same region of space; and in both cases, existential independence implies that immaterial extension is unaffected by the motion of matter and is therefore not divisible through the division of matter. This idea, I think, lies at the heart of the analogy that More draws between souls and intentional species. If this is what More had in mind, his usage of the light analogy genuinely contributes to the explication of the sense in which the indiscernibility of created spirits has to do with the role of essences: created spirits possess essences that render them existentially independent from matter and, hence, immune to the division of matter.

More's usage of the light analogy concerns a structure that he regards to be specific to immaterial beings. Clearly, he does not intend to apply a similar analogy to atoms. This is one of the reasons why More's atoms are very unlike the atoms conceived by members of the Northumberland circle such as Thomas Harriot, Walter Warner and Nicholas Hill during the period between 1590 and 1620. These early English atomists surmise that atoms possess a certain active potency for which they use the medieval term 'vis radiativa' and which they take to be responsible for the production of material qualities, the self-motion of atoms, and the cohesion between atoms.⁴⁵ As Stephen Clucas has pointed out, both Warner and Hill compare the *vis radiativa* to the way in which the intentional species of light emanate spherically from a centre. But both Warner and Hill understand the nature of spheres of light in a way very different from More because they take light to be a corporeal quality or power (Hill, *Philosophia Epicurea*, 82, 86–7).⁴⁶ By contrast, More denies to atoms any kind of internal activity (*Appendix to Antidote Against Atheism*, 16; *Immortality*, 31). For him, only spirits possess 'self-activity' (More, *Appendix to Antidote Against Atheism*, 15; More, *Immortality*, 31). Hence, the capacity of bringing forth a 'sphere' of secondary substance by means of emanative causation is characteristic of More's spirits, but not characteristic of his atoms.

This difference explains why, for More, the union specific to spirits differs from the union specific to atoms. What is relevant for the union of atoms is only that their parts do not move relative to each other, or as he puts it: '*Rest*

⁴⁵On atomism in the Northumberland Circle, see Jacquot, 'Harriot, Hill, Warner'; Clucas, 'Infinite Variety of Formes and Magnitudes'; Clucas, 'Corpuscular Matter Theory'. On the influence of the *vis radiativa* theory on Francis Bacon, see Manzo, 'Francis Bacon and Atomism'.

⁴⁶Clucas, 'Corpuscular Matter Theory', 198, note 89 cites a related passage from Warner's manuscripts.

is the *Union* or *Unseparateness* of one part of Matter from another' (More, *Divine Dialogues*, 120). This is why atoms do not have an internal principle of union:

Rest and *Union* is all one, and so the Principle of the *Union* of the parts of Matter is the *Union* of their parts.

That is, they have no Principle of *Union* at all, and therefore of themselves are disunited.⁴⁷

By contrast, the essence of a spirit functions as an internal principle of unity, both for the primary substance of a spirit and the secondary substance that emanates from the primary substance. Because its essence alone guarantees the unity of a spirit, the existence of a spirit is independent from the matter that it animates. Due to its existential independence from matter, a spirit cannot be divided through the motion of material parts. If this connection between essence, independence from matter, and indivisibility is what More's usage of the analogy between spirits and Aristotelian intentional species is meant to explicate, then his usage of the analogy in fact provides an answer to the question how the specific difference between the unity of atoms and the unity of spirits could be understood.

4. CONCLUSION

Taking seriously More's comparison between the spirits and some strands in Aristotelian light theory, as I have done in this article, should make it clear that the notions of existential dependence and existential independence play a central role in More's conception of the indiscernibility of individual spirits. To emphasize it again: although there is some plausibility in assuming that More knew at least the outlines of Liceti's conception of spiritual and material extension, what matters for our present purposes are not questions of influence. Rather, the point made here is quite simple: if there are some recognizable similarities between Liceti's quite articulate theory of the indivisibility of immaterial extension of light and minds and More's sketchy remarks on the indiscernibility of light and spirits, then More has a recognizable analysis of the notion of indiscernibility specific to spirits. And this is exactly what seemed questionable at the beginning. In particular, drawing a comparison between Liceti and More helps to make some conceptual connections explicit that indicate why immaterial extension cannot be divisible through the division of material extension. For both Liceti and More, beings that possess immaterial extension cannot be divided through the motion of bodies because they depend for their existence only on their

⁴⁷Ibid., 121.

own essence and therefore are existentially independent from matter. I have used the similarities between Liceti's usage of the analogy between minds and light and More's usage of the analogy between spirits and light to bring out this conceptual connection between the notion of immaterial extension and the notion of existential independence. It is this conceptual connection that provides More with an analysis of the sense in which immaterial extension is physically indivisible. Thus, when More uses the analogy between spirits and light, what he has in mind are some structural properties of immaterial extension that clearly differ from the structural properties of material extension. According to him, the primary substance of a spirit does not require any material entity for its existence because it brings forth all its effects, including secondary substance, by means of emanation from its essence. The secondary substance of a spirit does not require any material entity for its existence because it depends on the essence of the primary substance alone. In this way, the notions of essence, emanation, and existential dependence explicate a sense in which both the primary and the secondary substances of a created spirit cannot be divided through the division of the body. If this is what More had in mind, then his usage of the analogy between spirits and light indeed explicates a sense in which essences matter for the indiscernibility of spirits. And, recall, in his view the role of essences is exactly what distinguishes the indiscernibility of spirits from the indiscernibility of atoms.

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BIBLIOGRAPHY

- Albertus Magnus. *De anima*. Edited by Clemens Stroick. Münster: Aschendorff, 1968.
- Avicenna Latinus. *Liber de anima seu sextus de naturalibus, I-II-III*. Edited by S. van Riet. Leiden: Brill, 1972.
- Baur, L. *Die philosophischen Werke des Robert Grosseteste, Bischofs von Lincoln*. Münster: Aschendorff, 1912.
- Baur, L. *Die Philosophie des Robert Grosseteste, Bischofs von Lincoln*. Münster: Aschendorff, 1917.
- Baxter, R. *Of the Nature of Spirits; Especially Mans Soul. In a Placid Collation with the Learned Dr. Henry More*. London: B. Simmons, 1682.
- Blank, A. 'Fortunio Liceti on Mind, Light, and Immaterial Extension'. Forthcoming in *Perspectives on Science*.
- Clauberg, J. *Opera omnia*. Hildesheim: Olms, 1968.
- Clucas, S. "'The Infinite Variety of Formes and Magnitudes": 16th- and 17th-Century English Corpuscular Philosophy and Aristotelian Theories of Matter and Form'. *Early Science and Medicine* 2(3) (1997): 251–71.

- Clucas, S. 'Corpuscular Matter Theory in the Northumberland Circle'. In *Late Medieval and Early Modern Corpuscular Matter Theories*, edited by C. Lüthy, J. E. Murdoch, and W. R. Newman, 181–207. Leiden: Brill, 2001.
- Descartes, R. 'La Dioptrique'. In R. Descartes, *Oeuvres*, vol. 6, edited by C. Adam and P. Tannéry, 79–228. Paris: Vrin, 1982a.
- Descartes, R. 'Les Météores'. In R. Descartes, *Oeuvres*, vol. 6, edited by C. Adam and P. Tannéry, 229–366. Paris: Vrin, 1982b.
- Des Chene, D. *Life's Form: Late Aristotelian Conceptions of the Soul*. Ithaca, NY: Cornell University Press, 2000.
- Ficino, M. *Platonic Theology*. Translated by M. J. B. Allen with John Warden. Cambridge, MA: Harvard University Press, 2001–2005.
- Garber, M. D. 'Chymical Wonders of Light: J. Marcus Marci's Seventeenth-Century Bohemian Optics'. *Early Science and Medicine* 10(4) (2005): 478–509.
- Grant, E. *Much Ado About Nothing*. Cambridge: Cambridge University Press, 1981.
- Henry, J. 'A Cambridge Platonist's Materialism. Henry More and the Concept of Soul'. *Journal of the Warburg and Courtauld Institutes* 49 (1986): 172–95.
- Hill, N. *Philosophia Epicurea, Democritiana, Theophrastica proposita simpliciter, non edocta*. Coloniae Allobrogum: Officina Fabriana, 1619 (1st ed., 1601).
- Jacquot, J. 'Harriot, Hill, Warner and the New Philosophy'. In *Thomas Harriot. Renaissance Scientist*, edited by J. W. Shirley, 107–28. Oxford: Clarendon Press, 1974.
- Jevons, F. R. 'Dequantitation in Plotinus's Cosmology'. *Phronesis* 9(1) (1964): 64–71.
- Kalligas, P. 'The Structure of Appearances: Plotinus on the Constitution of Sensible Objects'. *Philosophical Quarterly* 61(245) (2011): 762–82.
- Kepler, J. *Gesammelte Werke*. Edited by M. Caspar, vol. 2 of *Astronomia nova*. Munich: Beck, 1938.
- Kircher, A. *Ars magna lucis et umbrae*. 2nd ed. Amsterdam: Janssonius a Waesberge, 1671 (1st ed., 1645).
- Kochiras, H. 'Spiritual Presence and Dimensional Space Beyond the Cosmos'. *Intellectual History Review* 22(1) (2012): 41–68.
- Le Grand, A. *An Entire Body of Philosophy*. Translated by Richard Blome. London: S. Roycroft, 1694.
- Liceti, F. *De vita*. Genua: Pavonius, 1607.
- Liceti, F. *De animarum coextensione corpori*. Padua: Bertellius, 1616.
- Liceti, F. *De intellectu agente*. Padua: Crivellarius, 1627.
- Liceti, F. *De animarum rationalium immortalitate*. Padua: Crivellarius, 1629.
- Liceti, F. *De natura luminis*. Udine: Nicolaus Schirattus, 1640.
- Liceti, F. *De lunae subobscura luce prope coniunctiones, & in Eclipsibus observata*. Udine: Nicolaus Schirattus, 1642.
- Lindberg, D. C. *Theories of Vision from Al-Kindi to Kepler*. Chicago: Chicago University Press, 1976.

- Lindberg, D. C. *Roger Bacon's Philosophy of Nature. A Critical Edition, with English Translation, Introduction, and Notes, of De multiplicatione specierum and De speculis comburentibus*. Oxford: Clarendon Press, 1983.
- Lindberg, D. C. 'The Genesis of Kepler's Theory of Light: Light Metaphysics from Plotinus to Kepler'. *Osiris*, 2nd series 2 (1986): 5–42.
- Lindberg, D. C. 'Kepler and the Incorporeality of Light'. In *Physics, Cosmology, and Astronomy, 1300–1700*, edited by S. Unguru, 229–50. Dordrecht: Reidel, 1991.
- Manzo, S. A. 'Francis Bacon and Atomism: A Reappraisal'. In *Late Medieval and Early Modern Corpuscular Matter Theories*, edited by C. Lüthy, J. E. Murdoch, and W. R. Newman, 209–43. Leiden: Brill, 2001.
- Marci, J. M. *Thaumantias Liber de arcu coelesti deque colorum apparentium natura, ortu, et causis*. Prague: Typis Academicis, 1645.
- McEvoy, J. *The Philosophy of Robert Grosseteste*. Oxford: Clarendon Press, 1982.
- More, H. *An Explanation of the Grand Mystery of Godliness*. London: J. Flesher, 1660.
- More, H. *A Collection of Several Philosophical Writings*. 2nd ed. London: J. Flesher, 1662.
- More, H. *Divine Dialogues*. London: J. Flesher, 1668.
- More, H. *Enchiridion Metaphysicum: sive, De Rebus Incorporeis Succincta & Luculenta Dissertatio*. London: J. Flesher, 1671.
- More, H. *Annotations upon the Discourse of Truth, in Two Choice and Useful Treatises, the One Lux Orientalis, or an Enquiry into the Opinion of the Eastern Sages Concerning the Preexistence of Souls ... The Other, A Discourse of Truth*. London: James Collins, 1682a.
- More, H. *Annotations upon Lux Orientalis, in Two Choice and Useful Treatises*. London: James Collins, 1682b.
- More, H. *Henry More's Manual of Metaphysics. A Translation of the Enchiridion metaphysicum (1679) with an Introduction and Notes*. Translated by A. Jacob. 2 vols. Hildesheim: Olms, 1995.
- Pantin, I. 'Simulachrum, Species, Forma, Imago: What Was Transported by Light into the Camera Obscura?'. *Early Science and Medicine* 13 (2008): 245–69.
- Plotini Enneades cum Marsilii Ficini Interpretatione Castigata*. Edited by F. Creuzer and G. H. Moser. Paris: Didot, 1860.
- Plotinus. *Enneads*. Translated by A. H. Armstrong. Cambridge, MA: Harvard University Press, 1984.
- Reid, J. 'Henry More on Material and Spiritual Extension'. *Dialogue* 42(3) (2003): 531–58.
- Reid, J. 'The Evolution of Henry More's Theory of Divine Absolute Space'. *Journal of the History of Philosophy* 45 (2007): 79–102.
- Reid, J. 'The Spatial Presence of Spirits among the Cartesians'. *Journal of the History of Philosophy* 46(1) (2008): 91–118.
- Reid, J. *The Metaphysics of Henry More*. Dordrecht: Springer, 2012.

- Rozemond, M. 'Descartes, Mind-Body Union, and Holenmerism'. *Philosophical Topics* 31(1/2) (2003): 343–67.
- Sabra, A. I. *Theories of Light. From Descartes to Newton*. London: Oldbourne, 1967.
- Sennert, D. *Hypomnemata Physica*. Frankfurt: Schleich, 1636.
- Spruit, L. *Species Intelligibilis. From Perception to Knowledge. Vol. 2: Renaissance Controversies, Later Scholasticism, and the Elimination of the Intelligible Species in Modern Philosophy*. Leiden: Brill, 1995.
- Vasiliu, A. *Du diaphane: image, milieu, lumière dans la pensée antique et médiévale*. Paris: Vrin, 1997.
- Zoubov, V. 'Une théorie aristotelicienne de la lumière du XVIIe siècle'. *Isis* 24(2) (1936): 343–60.