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# The Philosophy of Vision of Robert Grosseteste

John Hendrix

Last year I presented a paper on the philosophy of intellect of Robert Grosseteste; this year I would like to present a paper on the philosophy of vision of Grosseteste. In the treatise *De Iride*, or *On the Rainbow, or on the Rainbow and the Mirror*, written just after 1230, Grosseteste defined the science of optics, or *perspectiva*, as being based on geometrical figures, which are in turn based on the operations of light. Sources for Grosseteste's theories of optics include the *Meteorologica* of Aristotle, the *Optica* and *Catoptrica* of Euclid, and the *De aspectibus* of Alkindi. Light for Grosseteste is the instrument by which the *species apprehensibilis*, or intelligible form, in the *virtus intellectiva*, or *nous poietikos*, is known as the *species sensibilis*, or sensible form, of the *virtus cogitativa*, or *nous pathetikos*, in perception. The visible *species* is defined as "an assimilating substance of the nature of the sun, lighting and radiating, the radiation of which, conjoined with the radiation of a wholly outwardly illuminating body, completes perception." Thus, "sight occurs through reception from within."

Visual perception is both passive and active, because what is seen is the *species* of an object, as it is imprinted in the *oculus interior*, the mind's eye. But the *species sensibilis* of the object must always already be an intelligible, given by the *species apprehensibilis*, the product of the *virtus intellectiva*, in the *irradiatio* of the *lux spiritualis*, or spiritual light, to form the visible *species*. As impressions are printed by the rays of light upon the *oculus mentis* in the *phantasia*, or imagination, in the *anima rationalis*, or rational soul, the passive part of vision in intromission, they are discerned by reason, subject to the *vis aestimativa*, which is the active part of vision. The *lux spiritualis* "floods over intelligible objects," or *res intelligibiles*, and "over the mind's eye," and "stands to the interior eye," or *oculus interior* "and to intelligible objects as the corporeal sun stands to the bodily eye and to visible corporeal objects." Sensible objects are understood to the extent that they correspond

to the *visus mentalis*, the mental vision of them, which is made possible by the *irradiatio spiritualis* in the *oculus mentis*, as the *lumen solare* of the sun makes sensible objects visible to the corporeal eye.

In the *virtus intellectiva* of Grosseteste, forms are self-generating and self-supporting as the *species apprehensibilis*, intelligible form, and it is in the image of picture thinking, through perception, that the beauty of the sensible form, the *species sensibilis*, is understood. All mental images in the *oculus mentis* are pre-generated by the reasoning process, through perception, as illuminated by *intelligentia*, and the illuminated intelligible, the *species apprehensibilis*, forms the *species sensibilis* in relation to the sensible world, so the beauty of forms in the sensible world is understood as an emanation or emission in extramission through the lines of light in vision as they are projected onto sensible matter, and as they are projected in the form of images according to the classical *perspectiva naturalis*.

In the *Hexaemeron*, the commentary on the early chapters of *Genesis* written by Grosseteste around 1237, pure light is the purest beauty and the purest harmony, because it is completely united with itself, and completely proportioned to itself harmoniously by its homogeneity, though it has no proportion. Beauty results from harmony in proportion, which is “most pleasing to the sight” (II.X.4). Light is beautiful when seen because it corresponds to the pure light in the soul, and harmonious proportions are beautiful when seen because they correspond to the proportions of the senses and the body. Grosseteste defines sense as “a power of receiving and grasping sensible likenesses without matter” (VII, XIV, 1), the reception of the *species* or form of matter, as separated from the material body. The soul or *anima rationalis*, in that it receives the *species* in sense, is not subject to the actions of the human body. When the body is acted on, though, the soul turns its attention towards its passivity, its ability to be effected, and sense occurs. The soul is more attentive to the passivity of the body if the passivity is at odds with the workings of the soul in the body; for example, something hurts more if it disrupts the harmonious functioning of the body as dictated by the soul. When “the passion of the body fits with the working of the soul,” the result is a pleasant bodily sensation.

The “species of sensible forms that are generated in the senses” (VIII, IV, 7), as in the *species sensibilis*, constitute “the union of the bodily with the non-bodily,” the corporeal and incorporeal, body and soul, matter and light. Soul is connected to body in “the inclination of the mind that connects the species that is begotten in the sense with the begetting form that is outside

the sense.” For example, in sight, in which the union of corporeal and incorporeal is most complete, “the color of the colored thing begets from itself a species that is like it in the eye of the seer,” and “the inclination of the soul of the seer connects the species of color that is begotten in the eye with the begetting color outside it.” The thing and the perceived form or *species* of the thing are different entities. What is perceived, the imprint of the form of the thing in the *imaginatio* in the *oculus mentis*, the *species sensibilis*, is a representation of the thing and not the thing itself. In the process of perception, the material body is united with the form of it which is perceived by the senses, as “the apprehension of sight does not distinguish between the begotten species and the begetting color.”

In the *Hexameron*, “the species that is begotten in the particular sense [sight] begets from itself a species that is like to it in the common sense [*sensus communis*],” and the *anima rationalis* “connects and unites this begotten species with the begetting species in one act of imaging.” (VIII, IV, 8). Perception depends on imagination, *phantasia*, in the formation of the *species sensibilis* in the *oculus mentis*, from the *species apprehensibilis*, and the matching on the part of the *anima rationalis* of the *species sensibilis* and the perceived object. The mnemonic residue is a product of the formation of the *species* in the *imaginatio*, as “the species begotten in the fantasy of the common sense begets of itself a species that is like it in the memory” (VIII, IX, 9), and the *anima rationalis* connects “the begotten with the begetting” in *phantasia* and *memoria*.

When *memoria* receives the mnemonic residue of the *species sensibilis*, a connection is not always made with a previous mnemonic residue or a *species apprehensibilis*, but when the connection is made, when *memoria* “passes from not actually remembering to actually remembering” (VIII, IV, 12) in intellection, “it begets and expresses from itself the actual intellection or understanding that is in every way like to itself,” in the understanding of the relation between the sense object, the *species sensibilis*, the mnemonic residue, and the *species apprehensibilis*, which are connected in intellection in the *virtus intellectiva*, through learned intellection in the process of perception, a kind of *intellectus in habitu*, and the illumination of *intelligentia* in the *irradiatio spiritualis*, illuminating the *species apprehensibilis* in the *oculus mentis*. When that happens, “the begetting memory and the understanding that is begotten reflect on each other a mutual and connecting love,” reflecting a desire in intellect, which can be seen as an illustration of the Trinity, based on the *De trinitate* of Augustine.

In the *De Iride*, the visible *species* is the *species* or *virtus* of light, as defined in the treatise *De lineis, angulis et figuris*, but it emanates from the perceiver in extramission, rather than from the surface of the agent. Perception is both passive and active, and requires the participation of the viewer in the illumination of objects. The *species* which is produced by the act of perception itself is the *species apprehensibilis*, a product of the *irradiatio spiritualis* in the *anima rationalis*, as the incorporeal, inner light, and the light of the *virtus intellectiva*. The *species* of the rays of light in extramission in vision forms the *prima forma substantialis* in the same way that the *lux spiritualis* is the first corporeal form. In the same way that the intellection of the *species* as *species apprehensibilis* requires the participation of the intelligible of the *intelligentia* in the *virtus intellectiva*, as in the participation of the active intellect of Aristotle in material intellect, in the formation of the *species sensibilis*, so the perception of the corporeal *species* requires the participation of the *lumen spiritualis* in the illumination of the visible *species*.

As in the *Hexaameron*, the mnemonic residue is a product of the formation of the *species* in the *imaginatio* or *phantasia*, as “the species begotten in the fantasy of the common sense begets of itself a species that is like it in the memory” (VIII, IX, 9), the *anima rationalis* connects “the begotten with the begetting,” the mnemonic residue and the *species sensibilis*, in *phantasia* and *memoria*. In the treatise *De statu causarum* of Grosseteste, the *anima rationalis* is described as an incorporeal intelligence mediating corporeal *virtus*, the motion of which in the senses, caused by light, are the *phantasmata*, mnemonic residues of sense impressions. In the *Hexaameron*, *memoria* is not always active (VIII, IX, 12), but when it is active it produces a *similitudo* of intellection, a simulacrum of the *species apprehensibilis*, as the *ratio*, *virtus cogitativa* or discursive reason (as in memory), mirrors the *virtus intellectiva*.

Light for Grosseteste is the instrument by which the *species apprehensibilis* of archetypal or intelligible knowledge in the *virtus intellectiva* is known as the *species sensibilis* of the *virtus cogitativa* in perception, in discursive reason and sensation. Archetypal forms of knowledge given by the *species apprehensibilis* are the *principia essendi*, existing *ante rem*, as intelligibles or prior causes, while the discursive knowledge in *ratio* in the *anima rationalis*, given by the *species sensibilis*, is composed of the *principia conosciendi*, existing *in re*, in particulars, in alterity. The eternal forms of the *principia essendi* are only known to human reason when they are projected as *principia conosciendi*, in the *irradiatio* of the *lux spiritualis* in the *oculus mentis*. The rays of light of the *lumen spiritualis* have the same relation to the

interior eye, *ad oculum interiorem*, and the intelligible form, the *species apprehensibilis*, as the rays of light of the corporeal sun, the *lumen solaris*, have to the bodily eye, *ad oculum corporalem*, and to the visible form, the *species sensibilis*. As the *principia essendi* are only known as the *principia conosciendi*, so the *species apprehensibilis* is only known as the *species sensibilis*.

As the visible *species* is defined in *De Iride* as “an assimilating substance of the nature of the sun, lighting and radiating, the radiation of which, conjoined with the radiation of a wholly outwardly illuminating body, completes perception,” in the *Commentary on the Posterior Analytics* of Grosseteste, in the same way that rays of light emanate from the sun, intelligibles are illuminated in the mind, in the *oculus interior*. As sensible objects are understood to the extent that they correspond to the *visus mentalis*, the mental vision of them, which is made possible by the *irradiatio spiritualis* in the *oculus mentis*, the *lumen solare* of the sun makes sensible objects visible to the corporeal eye. Intelligibles are more receptive of the spiritual light, as they are not tied to corporeals, and are thus more visible to the *oculus mentis* of the incorporeal *anima rationalis*. The more receptive the intelligible object, the *species apprehensibilis*, is to the *lumen spiritualis*, the more visible it is to the *oculus mentis*. The *lumen spiritualis*, light produced by the *lux spiritualis*, allows the mental sight, the *visus mentalis*, to apprehend the intelligibles in the *virtus intellectiva*, as the light of the sun, the *lumen solare*, makes vision possible. The *lumen spiritualis* is the “first visible” in interior sight, *visus interior*, as the colored body is the first thing receptive of the light of the sun.

For Grosseteste, the power of the mind, the *acies mentis*, is a form of illumination, an *irradiatio spiritualis*, which operates in the *virtus intellectiva* from the *intelligentia* to illuminate the *species apprehensibilis*, and the *virtus* of the illumination is strongest when the sensible object is the least material and conforms most easily to the intelligible. Through the *lumen spiritualis*, the *acies mentis* is able to grasp the *principia essendi*, the intelligibles. When they are illuminated by *intelligentia*, the *principia essendi* become the *principia conosciendi*, accessible to reason through transparency, the principles upon which reason is based, as the *species apprehensibilis* becomes the *species sensibilis*. In the *Hexaameron*, light is the medium by which the *species* apprehended by the particular sense, the *species sensibilis*, corresponds to the *species* apprehended in the common sense, *sensus communis*, as *species apprehensibilis*, in the same way that the transparency of the eye corresponds to

the transparency of the sun in vision. *Phantasia* or *imaginatio* is the process of making that correspondence in the *anima rationalis*.

Intellection for Grosseteste is facilitated by unclouding the lens of the *oculus mentis*, or purifying the soul, so that the mind will be illuminated as much as possible by the *irradiatio spiritualis*, and the least attached to corporeal functions so that it can perceive the least corporeal of forms, the *species apprehensibilis*. The *aspectus mentis* is the ability of the mind to grasp ideas through the perception of visual forms, to grasp the *species apprehensibilis* through the perception of the *species sensibilis*. The function of the *aspectus mentis* depends on the clarity of the lens of the *oculus mentis* in interior vision, *visus interior*. The ability of the *oculus mentis* to “see” the concept, the intelligible connected with the *species apprehensibilis*, is related to the clarity of the vision of the *species sensibilis*, in that the *species sensibilis* is always already a product of the *species apprehensibilis* in intellection in perception.

In the *Hexaameron* (VIII, IV, 9), as “the species begotten in the fantasy of the common sense,” the *species sensibilis* in the *phantasia* of the *sensus communis* in the *anima rationalis*, “begets of itself a species that is like it in the memory,” the *species sensibilis* as mnemonic residue corresponds to the presently perceived sensible object as a simulacrum, and allows the perceiver to immediately perceive a sensible object. The immediate perception of an object is impossible if the object perceived does not correspond to a simulacrum of it in the *oculus mentis* in *memoria*. In the *Hexaameron* (VIII, IV, 10), “the species that can be apprehended by the reason, intellect or understanding,” the intelligible or *species apprehensibilis*, projects its likeness or *similitudo* (but not a simulacrum, because the *species apprehensibilis* is its own begetting power), in the *virtus intellectiva* in the process of perception, illuminated by the *irradiatio spiritualis* through the *intelligentia*, and the *anima rationalis* connects the begotten likeness with both the form perceived, the *species sensibilis*, and the simulacrum of the *species sensibilis* as a mnemonic residue of the form perceived. Thus the form of the sensible object, the memory of the form of the sensible object, and the idea of the form of the sensible object must all converge in order for perception and intellection in vision to be possible, and for “effective apprehension” to be achieved. The form of the object is given by the light of the sun, the memory of the form of the object is given by the light of the eye, and the idea of the form of the object is given by the spiritual light, all of which must also converge for vision itself to be possible.

Grosseteste described imagination or *phantasia* in the *Hexaameron* (VIII, IV, 7) as a process which combines the sensible object, the *species sensibilis*, and the imprint, simulacrum or mnemonic residue of the *species sensibilis* in the *oculus mentis*, in intellection. The union of the *species sensibilis* and the *species apprehensibilis* in *phantasia* is the union of the corporeal and incorporeal, while the *species sensibilis* already contains that union. The converging of the *species sensibilis* and the *species apprehensibilis* in *phantasia* is the first step in intellection from the passive intellect of sense perception, weighed down by the corporeal and the particulars of the sensible world, to the actualized intellect of the *virtus intellectiva*, freed from the corporeal in its vision of the *species apprehensibilis* in the *irradiatio spiritualis*. The lack of corporality in the *virtus intellectiva* corresponds to the lack of corporality in what it is able to “see” in the *oculus mentis* of the *anima rationalis*.

In the sensible world, the clearest instance of the correspondence between *species sensibilis* and *species apprehensibilis* is color, which is visible as both inherent in the sensible object, and as an independent entity in the *oculus mentis*. Color is in fact not an inherent quality of a sensible object, but rather a product of the reflection of rays of light from the sun off the surface of the object; color as a *species sensibilis* is thus given by light, and not the sensible object, which does not exist other than as it is illuminated by the light, and as the idea of it is simultaneously illuminated by the light in the *oculus mentis*, which can see the relation of the color to the object, as a *species apprehensibilis*. Because in the actual act of perception in vision the color as an inherent quality of the sense object is not distinguished from the color as an incorporeal *species* in the *oculus mentis*, the *species sensibilis* is not distinguished from the *species apprehensibilis*, in the function of perception in the *virtus cogitativa*, the “begetter and the begotten” are united, and the perceiving *anima rationalis* is united with the sense object in the act of intellection in perception.

In the *Hexaameron*, through the corporeal and discursive experience of sense perception, the knowledge on the part of the *anima rationalis* of the *phantasmata*, or mnemonic residues of the *species sensibilis*, in the *imaginatio* of the *oculus mentis* is clouded or forgotten, and the *anima rationalis* is not aware of the correspondence being made between the *species sensibilis* and the *species apprehensibilis* in intellection in the process of perception, and takes the sense perception to be immediate of the sensible object, as the *anima rationalis* is weighed down by its corporeity. In the *Hexaameron* (VIII, IV, 12), the “memory, when it has received and retained a memory form



[*phantasma*, mnemonic residue, or simulacrum], is not always actually remembering,” because material intellect is not always illuminated by active intellect, or the *virtus intellectiva* does not always receive the *irradiatio spiritualis* from the *intelligentia*.

But “when it passes from not actually remembering to actually remembering,” when it has been illuminated by *intelligentia*, and the lens of the *oculus mentis* has been cleaned, “it begets and expresses from itself the actual intellection or understanding that is in every way like to itself,” in the actualization of *virtus intellectiva*. In other words, *memoria* is able to articulate a comprehension of the *species apprehensibilis*, the simulacra of which, as the *species sensibilis*, it is composed. Through intellection, and the aspiration of the *anima rationalis* for intellectual development, to see clearly in the *oculus mentis*, in the *virtus intellectiva*, the *anima rationalis* gradually becomes aware of the *species apprehensibilis* in relation to the *species sensibilis* in the process of perception, and of the illusion of “the pre-existence to the seen of a given-to-be-seen,” in its corporeity, and it becomes aware of the relation between itself and the sensible world, of the gap between the incorporeal and corporeal, between the universal and particular.

For Grosseteste the material intellect in the lower part of the *anima rationalis*, the *virtus cogitativa* or *virtus scitiva*, acts according to the impressions received of intelligibles from the *intelligentia*, the *species sensibilis* as it is formed by the *species apprehensibilis*, as the *tupos* in *phantasia*, as it is illuminated by the *irradiatio spiritualis*, the inner light, and reflected as in a mirror. In the *Hexaameron*, the corporeal functions of the body in vision, in the formation of the *phantasmata*, are comparable to the functions of a mirror. The *oculus mentis* functions by means of reflections which are created by the *lux spiritualis*, or the good, illuminating the *anima rationalis* in the *irradiatio spiritualis* in *intelligentia*. The inner light, *lumen spiritualis*, is then reflected in the *virtus intellectiva* and the *virtus cogitativa*, and the *phantasmata* are formed as simulacra or reflections in a mirror. In the *Commentary on the Posterior Analytics*, *ratio* is seen as a mirror reflecting the *virtus intellectiva*.

Sensible objects are seen as mirrors of the *anima rationalis*; the light of the intelligible *species apprehensibilis* is projected onto the object, and the reflected light from the agent as mirror animates the body in perception. The sensible object acts as the mirror described by Plato in the *Timaeus*, where reflections are the result of the coalescing of the internal and external fire, the extramitted light from the eye and the intromitted light of the sun. In this

case the sensible object as mirror coalesces the intelligible light of intellect and the *lumen spiritualis* of the good. The projection of intelligible light from the *oculus mentis* forms a unity at the reflecting surface of the agent, as on Plato's mirror, and the projected intelligible light is reflected back to the *oculus mentis*, where the sensible object is transformed into the *species apprehensibilis* in the *oculus mentis*, in the conjoining of the interior *lumen spiritualis* and exterior *lumen spiritualis*. The reflected *lux spiritualis* is not subject to the optical laws of reflected light wherein the light has less *virtus* in reflection; in fact, the opposite is the case, and the object can be perceived more clearly.

Sensible objects, as *principia essendi*, are thus mirror reflections of the *principia conoscendi* in intellect, as they are projected onto the sensible world through perception. As in corporeal vision, in the combination of the intromission and extramission of light, the existence of the sensible object requires a dialectic of essential being and a definition as given to it by the functions of intellect. The functioning or clarity of the lens of the *oculus mentis* does not effect the functioning of *intelligentia* in the formation of the *species apprehensibilis*, or the extramission of the *lumen spiritualis* from the *anima rationalis*, but the lens of the *oculus mentis* must be clear in order for the intelligible light to be reflected back into the *anima rationalis* from the sensible object as reflective surface. The *species sensibilis* of the sensible object exists in intellect as a reflection of the *principia conoscendi*, not the *principia essendi*, though the *principia conoscendi* are formed from the *principia essendi*, as the *species sensibilis* is formed from the *species apprehensibilis*, which itself does not depend on the clarity of the *oculus mentis*. The active intellect is always functioning, whether or not the potential intellect is able to be actualized by it.

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