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The *Esse similitudinale* of *Species* in Roger Bacon's *Liber de sensu et sensato*

O *esse similitudinale* das *species* no *Liber de sensu et sensato* de Roger Bacon

Resumo

A teoria da percepção de Roger Bacon, fundamentada na sua concepção original das *species* e da sua multiplicação e recepção, foi sempre objeto de uma considerável atenção da parte dos estudiosos. Contudo, os estudos contemporâneos focaram-se tradicionalmente nos textos de maturidade de Bacon. Nestas obras, especialmente em *De multiplicatione specierum*, Bacon advoga uma posição “materialista” forte no que diz respeito ao tipo de ser que as *species* têm no *medium* e nos sentidos. Neste artigo, mostro que uma concepção alternativa da ontologia das *species* é apresentada por Bacon no seu comentário ao *De sensu et sensato* de Aristóteles. Esta obra está situada numa conjuntura crítica no percurso intelectual de Bacon, posto que é o último dos seus comentários aristotélicos e ao mesmo tempo precede todos os seus trabalhos de maturidade. Como argumentarei neste artigo, nestas obras, Bacon atribui às *species* um *esse similitudinale*, o qual ele explicitamente define como a composição entre *esse materiale* e *esse formale*. Resulta disto que Bacon nem sempre considerou que as *species* são meramente compostas por *esse materiale*. Finalizo sugerindo que este achado pode ter algumas implicações na interpretação da ontologia das espécies madura tal como ela é detalhada no *De multiplicatione specierum*.

Palavras-chave: Roger Bacon; *Liber de sensu et sensato*; *species*; percepção; *esse similitudinale*.

Abstract

Roger Bacon's theory of perception, grounded in his original conception of *species* and of their multiplication and reception, has always been the object of considerable scholarly attention. Yet, modern studies have traditionally focused on Bacon's mature works. In these works, especially in the *De*

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multiplicatione specierum, Bacon endorses a strong “materialist” position with respect to the kind of being that *species* have in the medium and in the senses. In this paper I show that an alternative conception of the ontology of *species* is presented by Bacon in his commentary on Aristotle’s *De sensu et sensato*. This work is situated at a critical juncture in Bacon’s intellectual journey, since it is the last of his extant Aristotelian commentaries, while it precedes all his mature works. As I will argue in this paper, in these works Bacon assigns to *species* an ‘*esse similitudinale*’, which he explicitly defines as the composition of *esse materiale* and *esse formale*. As a result, Bacon did not always deem *species* to be merely composed of *esse materiale*. I end by suggesting that this finding might have some implications on the interpretation of Bacon’s mature ontology of *species* as detailed in the *De multiplicatione specierum*.

Keywords: Roger Bacon; *Liber de sensu et sensato*; *species*; perception; *esse similitudinale*.

1. Roger Bacon’s Ontology of *Species*

The *species* of sensible objects¹ are one of the fundamental constituents of the natural world, according to Roger Bacon, and what is more, they are the fundamental element that allows any process of perception to take place. As such, they deserve the utmost attention in any attempt to reconstruct Bacon’s overall natural philosophy and his theory of perception. Although Bacon’s theory of the multiplication of *species* in the medium and of their reception in the senses has received significant attention by scholars over the last century², other aspects have remained comparatively less studied. Among them, one concerns the ontological status of *species* in the medium and in the senses. Moreover, even when this aspect has been discussed by modern scholars, the focus has usually been on the text where Bacon provides the most complete discussion of it, namely, the *De*

¹ According to Bacon, the ‘*species*’ of sensible objects are defined in causal terms, as the first effect of any natural agent (cf. *De multiplicatione specierum* I.1). When I refer to *species* in what follows, I always mean the *species* of sensible objects. Within this category, following Bacon, I include both the accidental *species* of the proper sensibles and the substantial ones of material substances. Although my remarks concerning the ontology of *species* apply primarily to substantial *species*, they can also be extended to accidental *species*, insofar as the latter, like the former, are generated by enmattered forms.

² Probably the best introduction to Bacon’s doctrine of the multiplication of *species* remains K.H. Tachau, *Vision and Certitude in the Age of Ockham. Optics, Epistemology and the Foundations of Semantics. 1250-1345*, (Studien und Texte zur Geistesgeschichte des Mittelalters XXII), Brill, Leiden-New York, NY-København-Köln 1988, pp. 3-26, but see also the introduction of D.C. Lindberg, *Roger Bacon’s Philosophy of Nature. A Critical Edition, with English Translation, Introduction, and Notes, of De multiplicatione specierum and De speculis comburentibus*, Clarendon Press, Oxford 1983, especially pp. liii-xxi.

multiplicatione specierum (henceforth 'DMS'), a work written in the late 1250s or early 1260s, where Bacon seems to support a strong "materialist" stance regarding the ontology of *species*³. In this paper I aim to enrich and add complexity to this picture by considering the ontology of *species* discussed in the latest of Bacon's Aristotelian commentaries, the *Liber de sensu et sensato*, a commentary on Aristotle's *De sensu et sensato* which is situated chronologically between the young Aristotelian commentaries and the mature treatises on natural philosophy, such as the *DMS*.

In particular, after briefly reviewing the ontology of *species* presented in the *DMS*, I show that in the *Liber de sensu* Bacon presents an ontology of *species* which is strongly different from the conception that is usually attributed to him by modern scholars mostly on the basis of the *DMS*. I end by suggesting that the ontology of *species* introduced in the *Liber de sensu* might have some implications on the standard "materialist" interpretation of the ontology of *species* put forth in the *DMS*.

2. The Ontology of *Species* in the *DMS*

A portion of the *DMS* (specifically the second chapter of the third part) is dedicated to the discussion of whether *species* have a material or immaterial being⁴, and Bacon's reply could not be more explicit, since he deems it worthwhile

³ Two recent examples are L. Lička, «The Visual Process: Immediate or Successive? Approaches to the Extramission Postulate in 13th Century Theories of Vision», in E. Băltuță (ed.), *Medieval Perceptual Puzzles: Theories of Perception in the 13th and 14th Centuries*, Brill, Leiden 2020, pp. 73-110, and M. Mantovani, «*Visio per sillogismum*: Sensation and Cognition in 13th Century Theories of Vision», in Băltuță (ed.), *Medieval Perceptual Puzzles*, cit., pp. 111-152. A more nuanced view concerning Bacon's ontology of *species* has been put forth in Y. Raizman-Kedar, «The Intellect Naturalized: Roger Bacon on the Existence of Corporeal Species within the Intellect», *Early Science and Medicine* 14 (1/3) (2009) 131-157, according to which Bacon thought that *species* have different degrees of materiality, a feature which, notably, allows them to exist materially even within the intellect, in agreement with Bacon's rejection of the whole notion of abstraction in his mature works. Kedar's thesis, however, has not gone unchallenged in subsequent years. See especially J. Hackett, «Agent Intellect and Intelligible Species in Roger Bacon and John Pecham», in G. Mensching – A. Mensching-Estakhr (eds.), *Die Seele im Mittelalter: Von der Substanz zum funktionalen System*, (Contradictio. Band 16), Königshausen und Neumann, Würzburg 2018, pp. 149-168. More recently, see also D. Demange – Y. Kedar, «Physical Action, Species, and Matter: The Debate between Roger Bacon and Peter John Olivi», *Journal of the History of Philosophy* 58 (1) (2020) 49-70.

⁴ A fuller understanding of the issue would require a preliminary discussion of Bacon's intricate theory of matter (including his position with respect to universal hylomorphism), something

to adduce four arguments in favour of the materiality (more precisely, Bacon talks of corporeality⁵) of the *species* in the medium and in the senses:

Secondly, it must be considered whether the *species* of a corporeal agent should be called a corporeal or a spiritual thing, for many people used to say that a *species* has spiritual being in the medium and in sense. But it is evident that in truth it is a corporeal thing, since (1) it is neither soul nor intelligence nor the first cause; and everything else is truly corporeal. Also, (2) the *species* of a corporeal agent is similar to the agent in name and definition, as was shown at the beginning [of this treatise; cf. *DMS* I.1], but a spiritual thing cannot be so related to body. Also, (3) a *species* is of the same essence as a complete effect [of its agent], as was proved above [cf. *ibid.*]; but the complete effect of a corporeal agent is truly corporeal, and therefore so too is its *species*. Also, (4) no agent and source of generation is less noble than the thing generated, as Aristotle says in *Metaphysics*, Book IV, and *De anima*, Book III; therefore, if a *species* is a spiritual thing, it cannot have a corporeal cause; and consequently, no *species* would be produced by bodies, which is contrary to fact⁶.

Moreover, Bacon also provides an explanation as to why, apparently, many *auctoritates* derived from Aristotle, Avicenna and Averroes seem to claim that the *species* of material objects are transmitted and received by the senses in an immaterial way. Indeed, according to Bacon, ‘spiritual’ is a mistranslation of ‘insensible’, and, since both *species* and spiritual entities are insensible (insofar as *species* are not themselves perceptible, rather they make perceptible the objects

which, however, it is not possible to do here. For such a discussion see, most recently, N. Polloni, «Roger Bacon on the Conceivability of Matter», in N. Polloni – Y. Kedar (eds.), *The Philosophy and Science of Roger Bacon: Studies in Honour of Jeremiah Hackett*, Routledge, London 2021, pp. 76-97.

- ⁵ The two terms, however, are not synonyms for Bacon, since *species* are said, especially in *DMS* I.1, to have some kind of material being without, however, being bodies in their own right. The fact that Bacon obliterates this distinction in this passage from *DMS* III.2 should already suggest that the passage, which is charged with a strong polemical connotation, must be treated with caution.
- ⁶ *DMS* III.2: «Secundo considerandum an species agentis corporalis debeat dici res corporalis vel spiritualis, propter hoc quod multi solebant dicere quod species habet esse spirituale in medio et in sensu. Et patet quod est vere res corporalis, quia (1) non est anima nec intelligentia nec prima causa; sed omne aliud ab illis est vere res corporalis. Item (2) species agentis corporalis est similis ei nomine et diffinitione, ut in principio ostensum est; sed res spiritualis non est huiusmodi respectu corporis. Item (3) species est eiusdem essentie cum effectu completo, ut prius probatum est; sed effectus completus corporalis agentis est vere corporale, ergo et species. Item (4) nullum agens et generans est ignobilius generato, ut dicitur quarto *Metaphysice* et tertio *De anima*; si igitur species est res spiritualis, non habebit causam corporalem; ergo nulla species fieret a corporibus, quod falsum est» (Lindberg, *Roger Bacon's Philosophy of Nature*, cit., p. 186, l. 3-p. 188, l. 16; all English translations from the *DMS* are the ones provided by Lindberg, whose edition I follow also for the Latin texts).

from which they are generated), the Latin translators of these passages replaced 'insensible' with 'spiritual', therefore engendering a dangerous confusion⁷.

Nevertheless, Bacon, since the first chapter of the first part of the *DMS*, characterises the being of *species*, albeit material, as "weakened" or "incomplete" (Bacon calls it '*esse incompletum*'), when compared to the one of the objects from which *species* are generated, and with which they share a fundamental similarity in essence⁸. This is the reason why, in Bacon's analysis throughout the *DMS* (and not only there), *species* are ontologically dependent on the object from which they are generated, and without whose causal action (be it direct, in the case of the first *species* produced, or indirect, in the case of *species* produced after the first one) they could not come into existence.

3. The Ontology of *Species* in Bacon's *Liber de sensu et sensato*: *Esse similitudinale* as a Composition of *Esse materiale* and *Esse formale*

A different ontology of *species* is presented by Bacon in the *Liber de sensu et sensato*, a work that he composed at a younger age than the *DMS*⁹. Such a work, which can most probably be dated to the first half of the 1250s¹⁰, has been

⁷ Cf. *DMS* III.2, p. 192, ll. 83-98.

⁸ *DMS* I.1: «Si igitur contra hoc obiciatur quod tunc species solis erit sol et species hominis erit homo, et sic de omnibus rebus, quod omnino absurdum est, dicendum quod ista nomina homo et sol et asinus et planta et huiusmodi imponuntur rebus in esse completo, et ideo non dicuntur de illis que habent esse incompletum, quamvis sint eiusdem essentie; ut embrio in ventre matris non dicitur homo et maxime ante receptionem anime intellective» (p. 10, ll. 147-153).

⁹ The *Liber de sensu et sensato*, which is extant (anonymously) only in ms. London, British Museum, Add. 8786, ff. 62r-84r, has been edited, together with the *Summa de sophismatibus et distinctionibus*, in the series *Opera hactenus inedita Rogeri Baconi* as Rogerus Bacon, *Liber de sensu et sensato. Summa de sophismatibus et distinctionibus*, ed. R. Steele (Opera hactenus inedita Rogeri Baconi, fasc. XIV), Clarendon Press, Oxford 1937. The Baconian authorship of the work has been generally accepted. Already Lindberg noted that in the *Liber de sensu* Bacon «makes frequent reference to the multiplication of species, even if it [i.e., the *Liber de sensu*] contains no fully worked-out doctrine on the subject» (Lindberg, *Roger Bacon's Philosophy of Nature*, cit., pp. xxxi-xxxii).

¹⁰ Concerning the dating of the *Liber de sensu*, see especially Lička, «The Visual Process...», cit., p. 88, who, contrary to S.C. Easton, *Roger Bacon and His Search for a Universal Science: A Reconsideration of the Life and Work of Roger Bacon in the Light of his own Stated Purposes*, Columbia University Press, New York 1952, pp. 59-61 and 232-235 (who favours a dating of the commentary in the 1240s), supports a dating of the *Liber de sensu* in the early 1250s, thus later than Bacon's other Aristotelian commentaries, mostly based on his knowledge (evident in the *Liber de sensu*, but not in his previous Aristotelian commentaries) of Alhazen's *De aspectibus*.

almost forgotten by modern scholars¹¹. This is to be regretted, especially since it is situated at a critical juncture in Bacon's intellectual journey, being the last of his extant Aristotelian commentaries (following the others by an interval of some years), while at the same time preceding all his mature works, and, as such, provides an ideal place to look for the early stages of the development of Bacon's mature thought.

In the eighth chapter of his commentary, dedicated to the proper sensible of sight, colour, and to the role of light in its perception (a topic especially dealt with in the third chapter of the *De sensu*) Bacon inserts a "digression" on the ontology of light itself and, especially, of *lumen*, i.e., emanated light (considered as a *species*), in opposition to the source of such light (*lux*). In this context, Bacon provides an original characterisation of the mode of being of *lumen*, using an expression that seems to represent a *hapax legomenon* in the extant Baconian corpus, that is, that of 'similitudinal being', '*esse similitudinale*':

From which it is clear that light (*lumen*), if taken properly, is not a body but the similitude of light (*lux*), which is an accidental form in body. However, that whole which is multiplied there is a similitude of the whole body, [a similitude] composed of both material and formal being (*similitudo totius corporis aggregata ex esse materiali et formali*), because *species* have a somehow material being in the medium, and a less material [one] in the sense. Hence such as the action of every natural entity is by itself of the same composite, although [it acts] according to the nature of form, so also the similitude multiplied is the expressed image of the whole composite, and not only of [its] form. The form, indeed, can be the cause of the multiplication of itself and of matter under similitudinal being (*sub esse similitudinale*), a being which, moreover, although it is called 'spiritual' (*spirituale*) with respect to the being of the same object, from which the multiplication happens, still in itself is somehow material (*materiale*), because it is evident from both the second Book of the *Metaphysics* and the seventh, both according to Aristotle and according to Averroes, that no immaterial entity can change a material one without the mediation [of a material entity], so as to perform material natural operations, especially those which happen with passion, pain and corruption, which certainly [a sensible object] causes in the sense by the operation of sensation, according to what is proven in the first Book of the *Perspectiva*¹².

¹¹ A recent exception is Lička, «The Visual Process...», cit., pp. 87-95. Still, Lička maintains a strict dichotomy between the views presented by Bacon in the *Liber de sensu* concerning the fact that *species* do not have a (merely) material being in the medium, and the "materialist" views put forth in the *DMS*, and he also connects this theoretical shift to the fact that, at the time of the *Liber de sensu*, Bacon still accepted a traditional Aristotelian theory of abstraction that he eventually came to reject by the time of the *DMS*. In what follows, I suggest that the situation (at least for what concerns *species*) might be more nuanced than Lička portrays it.

¹² *Liber de sensu* 8: «Ex quo patet quod lumen ut proprie accipitur non est corpus set similitudo lucis, que est forma accidentalis in corpore. Illud tamen totum quod ibi multiplicatur est

The fundamental aspect of the passage is the fact that Bacon characterises the being of *lumen*, and, by extension, presumably, of all *species*, as the result of the composition of material and formal (immaterial) being. According to Bacon, as the objects from which the *species* are generated are composed both by matter and by a formal (immaterial) principle, the same holds true for *species*, although, in their case, both the material and the immaterial being are “incomplete” or “reduced”, when compared to those of the objects from which they are generated. Indeed, Bacon makes it clear that, although *species* are generated by the form of an object, and not by its matter, they bear a resemblance to the whole hylomorphic composite.

More than this, Bacon seems to assume that the ratio of material to immaterial being in the *species* changes depending on the entity in which they exist. If, indeed, they exist in the medium, the material aspect of their being seems to prevail. The importance of the material aspect, however, diminishes in the senses, in favour of the immaterial one.

Therefore, the notion of *esse similitudinale* seems to amount, in the *Liber de sensu*, to a composition between *esse materiale* and *esse formale*, one that allows the two aspects to dynamically integrate when considering the problem of the ontology of *species*.

4. Conclusion

In this paper I have argued that Bacon has not always adhered to the strong “materialist” ontology of *species* presented in its fullest form in the *DMS*. In particular, I have shown that Bacon, in his earlier *Liber de sensu*, claimed that *species* are endowed with *esse similitudinale*, a kind of being resulting from the composition of *esse materiale* and *esse formale*. Of course, it is certainly possible (and

similitudo totius corporis aggregata ex esse materiali et formali, quia species habet esse materiale alico modo in medio, et minus materiale in sensu. Unde sicut actio omnis rei naturalis est per se ipsius compositi, licet per naturam forme, sic et similitudo multiplicata est totius compositi expressa ymago et non solius forme. Forma enim potest esse causa multiplicationis sui et materie sub esse similitudinali, quod quidem esse, licet dicatur spirituale respectu esse ipsius objecti, a quo fit multiplicatio, tamen in eo est quodam modo materiale, quoniam patet ex secundo *Metaphysice* et septimo, tam secundum Aristotelem quam secundum Commentatorem, quod nullum immateriale transmutat materiale immediate ita ut faciat operationes naturales materiales maxime que fiunt cum passione et dolore et corruptione, quas quidem operationes sensibile facit in sensu, secundum quod probatur primo *Perspective*» (Rogerus Bacon, *Liber de sensu*, cit., p. 27, l. 34-p. 28, l. 15). The English translation is mine.

even natural) to interpret the view of the *Liber de sensu* as the result of the theoretical ambiguities that a young Bacon had not yet been able to overcome. Yet, there might be reasons to seriously consider whether the view presented in the *Liber de sensu* left some traces also in Bacon's mature works such as the *DMS*. Indeed, the premise of Bacon's claim in the *Liber de sensu* that *species* possess *esse similitudinale*, i.e., the fact that they are a similitude of to the whole hylomorphic composite from which they are generated, clearly features also in the *DMS*¹³. Evidently, the general ontological landscape of the *DMS* is utterly different from the one of the *Liber de sensu*, insofar as in the *DMS* a fundamental dichotomy between the material and the immaterial realm (a dichotomy that is largely absent from the *Liber de sensu*) orients and informs the whole work. Nevertheless, remarks such as the one just mentioned suggest that the *DMS* (and Bacon's mature natural philosophy in general) might still bear some traces of his earlier "gradualist" ontology. Be that as it may, the ontology of *species* presented in the *Liber de sensu* shows, at the very least, that even though Bacon always believed that *species* have a material being in the medium and in the senses, he did not always believe that they *only* have a material being in the medium and in the senses.

¹³ Cf. *DMS* I.2: «Tertio considerandum est quod species substantie non est tantum ipsius forme, sed materie et totius compositi [...]. Quapropter generatio speciei erit ipsius compositi, et ideo species est similitudo totius compositi» (p. 28, ll. 138-139; ll. 143-145). See also *DMS* III.2, p. 191.