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A Case of Mistaken Identity: John Pecham and the Cogitative Power's Use of Universals

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Abstract: John Pecham distinguishes between the sensory and intellective soul. However, his *Tractatus de Perspectiva* states that the cogitative power, an internal sense belonging to the sensory soul, operates with universals. The question I will try to answer in this paper is: How can an internal sense operate with universals? If this is indeed the case, a set of three other questions arises: What is the relationship between the intellect and the cogitative power? Is the cogitative power a rational sense? Does it borrow universal content from the intellect? After considering several possible solutions, I will settle on the rather unconventional solution that the universal he uses are not abstract universals at all, but sensory ones.

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Introduction:

In 13th-century medieval thought, philosophers distinguished between the sensory and intellective domains. In this framework, the sensory soul engages directly with particulars, while the intellect abstracts universals from these particulars. Yet, John Pecham appears to disrupt this clear-cut division. Although he differentiates between the senses and the intellect, he asserts that the cogitative power, an internal sensory faculty, engages with universals, a function traditionally reserved for intellective cognition. This raises a question: How can some sensory faculty process universals?

To the best of my knowledge scholars have not addressed this issue directly. This leaves out a crucial aspect of Pecham's epistemology. If the cogitative power operates independently, without being intellectualised, how does it access universals? To address the issue, I examine several passages from Pecham's work and explore three systematic interpretative options. The first suggests that the cogitative power associates universals, already formed by the intellect, with sensory particulars. The second posits that the cogitative power functions synchronously with the intellect, uniting particulars when the intellect unites universals without direct interaction. The third suggests that the cogitative power is elevated by the rational soul, acquiring quasi-intellectual capacities

Since none of these readings solves the puzzle in an adequate manner, I propose an alternative solution: The cogitative power has direct access to universals. However, these are not abstract, intellective universals. They are sensory universals: intermediary forms or "perceptual stencils" that are between the concrete particular and the abstract universal. Drawing on a tradition that includes Alhacen and Roger Bacon, I argue that sensory universals allow the cogitative power to compare particulars without any rational abstraction.

1. The cogitative power as an internal sense

In this part of the paper, I focus on demonstrating that, according to Pecham, the cogitative power functions as an independent internal sense, distinct from intellective faculties.

Imagine you encounter a bear. According to John Pecham, your internal sense of imagination perceives the bear's entire physical appearance, registering its colour, shape, and size. These perceived features are what Pecham refers to as "imagined forms (*formas imaginatas*)." Now, consider that you have had past encounters with bears and recall them as dangerous. Your estimative power, another internal sense, grasps the bears' threat to you. These features, which go beyond mere physical appearance, are known as "intentions." The cogitative power, yet another internal sense, operates by merging imagined forms with the intentions. It merges the bear's physical characteristics with your grasping of its dangerous nature. This process does not involve forming logical propositions, it integrates sensory information and creates a perceptual act. Thus, the cogitative power enables you to form a picture of the bear, recognising it as a dangerous and avoidable threat on top of being big and brown.

By all accounts, the cogitative power is, according to Pecham, an internal sense. This aligns with Pecham's description of cogitation:

> T1. "Concerning the question of cogitation, it should be known that the name "cogitation" is said from bringing together (*coactio*). Bringing together is either an action or a passion. Cogitation arising from the passion that excites the consideration of phantasms of imaginable things belongs to the sensitive part and is the operation of the power, located in the middle of the brain, which composes imagined forms with intentions and estimations. For example, the imaginative power apprehends the species of Peter, and the form and figure and the like, and these are called imagined forms. The imaginative or estimative power apprehends the reason for friendship or enmity in someone, or that of advantage and disadvantage, which the philosophers call intentions, because they do not move the sense, but are joined with sensible things and are the objects of the estimative power. The cogitative power combines sensible things not by forming propositions, but by merging (*confundendo*) imagined forms and intentions, because its relation (*proportio*) is to these two, forms or intentions, namely to the image (idolum) of the thing and the intention of that image (*idoli*), just as the relation of common sense is to the intentions of the five senses, as the Commentator says. Therefore, this cogitation belongs to the sensitive part." (Pecham 1918, I, q. VII, re)[1]

This passage makes clear that the cogitative power functions within the realm of particulars, by merging intentions and forms through a sensory operation that does not rely on intellectual abstraction or propositional judgement. Pecham explicitly states that the cogitative power does not abstract concepts or form logical propositions. His description suggests the cogitative power is an internal sensory faculty whose operation is complete in its own sensory mode and does not cross into the intellectual act.

But if the cogitative power is a sensory power, which seems to be clear from T1, then how should one make sense of the following passage:

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[1] "Ad quaesitum de cogitatione sciendum quod nomen cogitationis dicitur a coactio. Est autem coactio-actio et coactio-passio. Cogitatio enim proveniens ex passione excitante revolutionem phantasmatum imaginabilium est in parte sensitiva et operatio virtutis, quae est in medio cerebri, componens formas imaginatas cum intentionibus et aestimationibus. V. g. virtus imaginativa apprehendit speciem Petri, et formam et figuram et huiusmodi. Talia dicuntur formae imaginatae. Virtus imaginativa vel aestimativa apprehendit rationem amicitiae vel inimicitiae in quocumque, seu commodi et incommodi. Quae dicuntur

T2. In distinguishing visible things the cogitative power (*ratione*) operates imperceptibly. But no visible is cognised without either a distinction of the intentions of visibles, or without comparison or a relation to universals of things known previously abstracted from sensible things, both of which cannot occur without reasoning (*ratiocination*). (Pecham 1970, I.57a [60a])[2]

Before proceeding with the analysis of this passage, it is necessary to clarify the translation of *ratione* as referring to the cogitative power. One could object that *ratio* should be rendered by reason in the intellectual sense. However, in *Perspectiva communis* I, 57a (60a), Pecham is clearly concerned with the internal sense he calls the discriminative power, (Silva 2017, pp. 29–60) which is a sensory power, an internal sense, which he elsewhere names reason or natural reason. The terminology alone cannot justify treating *ratio* here as intellect. The passage itself reinforces this point by distinguishing the intellect from the discriminative power: the discriminative power operates immediately and by nature, whereas the intellect operates discursively and in time. I examine the implications of this distinction in the analysis of T3.

This reading also aligns with the surrounding discussion of *Perspectiva communis* I, 57 (60). Pecham is concerned with the senses and the apprehension of the twenty-two visible intentions, asking whether they are perceived by sense alone or through cooperation among the senses. He holds that only light and colour are apprehended by sense alone, and, in 59 (62), that only the discriminative faculty distinguishes light from colour, which sight receives without differentiation. Since light and colour, as visible intentions, fall among the objects of the discriminative power, its activity concerns sensory rather than intelligible objects. This situates the discriminative power within the domain of the sensory. It follows that even where Pecham employs *ratio*, it should not be taken to signify the intellect but an internal sense.

Returning to T2, if the cogitative power is indeed capable of cognising visibles by relating them to universals of known things abstracted firstly from sensible things, and this process necessitates some form of reasoning, one is compelled to question whether the cogitative power can truly be classified as a mere sensory faculty. The issue here lies in understanding how a sensory power, typically confined to the realm of the senses, can engage with universals, entities abstracted from sensory particulars, in a manner that suggests an intellectual mode of operation, reasoning. The simple fact that the cogitative power operates through a form of argument points towards a faculty that goes beyond sensory towards the intellectual. Thus, the cogitative power, as it relates sensory particulars to abstracted universals, seems to blur the lines between senses and intellect. Its operations seem intellectually elevated or influenced, if not wholly intellectual. But this poses a problem for the strict hierarchy of powers preferred by medieval authors.

2. How could a sensory power engage with universals? Three possible scenarios

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a philosophis non formae sed intentiones, quia non movent sensum, sed sensibilibus coniunguntur et sunt obiecta virtutis aestimativae. Componit autem cogitativa sensita non formando propositiones, sed confundendo formas imaginatas et intentiones, quia porportio eius est ad has duas formas sive intentiones, scilicet ad idolum rei et ad intentionem idoli, sicut proportio sensus communis ad intentiones quinque sensuum, ut dicit Commentator. Haec igitur cogitatio est sensitivae."

[2] "In distinctione visibilium rationem imperceptibiliter operari. Nullum enim visibile cognoscitur sine distinctione intentionum visibilium vel sine collatione aut relatione ad universalia cognitorum prius a sensibilibus abstracta, que fieri non possunt absque ratiocinatione."

Imagine you are in an art gallery looking at different paintings. You stop at one and perceive the different colours and hues, shapes and forms. You form an image of the thing and, by abstracting from that image, you form a universal, thus recognising the piece in front of you as a portrait. By returning to your image of the painting, you recognise it to be the portrait of an old lady. Now, when you look at the second painting, you immediately recognise it as depicting a human portrait, this time of a child. This recognition involves a universal concept abstracted from sensory experience and is usually performed by the intellect. But Pecham seems to say that this operation – comparison of a particular with a universal by a form of arguing – can be performed by the cogitative power as well. However, this presents the aforementioned challenge: how can a sensory power, the cogitative faculty, engage with a universal, which properly belongs to the intellect? How can some sensory faculty access universals, recognise them as such, and operate with them? Is the cogitative power in some way intellectualised by the rational soul? Does the rational soul elevate the cogitative power beyond its purely sensory function?

This problem can be tackled by considering three scenarios: 1. The cogitative doesn't perform an argument *per se*, but has the power to associate universals with particulars, 2. The
cogitative power doesn't perform an argument *per se*, just happens to be acting simultaneously with the intellect but without a direct interaction, allowing thus the cogitative power to relate a particular to a universal, and 3. The cogitative power is elevated by the intellect, allowing it to access universals and thus it performs an argument *per se*. I arrived at these three solutions by engaging with the discussion regarding Aquinas' conception of cogitative power and its relation with the intellect in perceptual processes (Perler 2020, pp. 213–237; De Haan 2020, pp. 238–268; Rubini 2020, pp. 269–303; Silva 2023, pp. 136–160; Amerini 2023, pp. 110–135). Each solution strives to reconcile the apparent contradiction in Pecham's account of the cogitative power as a sensitive power operating with universals. However, all of them face challenges when measured against Pecham's texts and his metaphysical commitments.

3. Possible solutions

a. Association:

Say the intellect is responsible for the formation of universals, while the sensory soul, through the cogitative power, provides the particular image of the perceived object. In addition to this, the cogitative power functions as the faculty that associates a universal with a particular, without abstracting a universal from a particular.

This reading aligns with Pecham's statement in T2: "no visible is cognised without a relation to a universal of known things." If we understand this relation as an association rather than abstraction, the cogitative power does not generate universals but only links them to particular images. For instance, suppose the intellect has formed the universal concept of redness, while the cogitative power retains the image of a lipstick. The cogitative power then associates the redness with the lipstick, thereby recognising the object in front of me as a red lipstick. In this process, a visible is cognized by virtue of its connection to a universal.

However, this reading leaves unanswered an important question: how can a sensory faculty like the cogitative this interpretation. Furthermore, Pecham's remark in T1, "the cogitative power combines sensible things

[…] because its relation is to these two, forms and intentions, namely the image of the thing and the intention of the image," explicitly states that the cogitative power operates within the realm of sensory forms and intentions. This implies that the cogitative faculty does not access universals at all, lacking both the capacity to access them and the ability to associate them with particulars. Given this limitation, this associative reading appears untenable.

b. Simultaneity

The simultaneity reading proposes that the sensory soul presents particulars while the intellective soul generates universals independently. These two processes occur synchronously, ensuring that, for instance, the cogitative power forms the image of a specific sheep (Molly) while the intellect supplies the universal (sheep-ness). The reasoning is coincidental rather than actively coordinated by any one power. And this is exactly where this model fails: it does not explain how the cogitative power actively relates particulars to universals rather than merely them arising the same time. While this solution makes some steps toward avoiding the problem of how a sensory faculty has access to universals, it ignores another aspect of the cogitative power, that it actively relates particulars to universals. Remember that Pecham states "no visible thing is cognised [by the cogitative power] without […] a relation to known universals abstracted firstly from sensible things," suggesting that the cogitative power is the one performing this relation between particulars and universals. According to the simultaneity reading, the cogitative power does nothing but provide the particular at the same time that the intellect provides the universal. However, the simultaneity solution falls short in explaining the mechanism by which the cogitative power relates particulars with universals. It merely asserts a synchronicity, but this synchronicity alone does not account for the necessary relating of particulars to universals by the cogitative power. Indeed, it raises some extra problems. For example, how does it happen that the two processes take place simultaneously? What is the mechanism behind the correct association between the universal with its corresponding particular? Simply put, a juxtaposition is not an answer to the issue of the relation of particulars with universals.

c. Intellectual elevation:

The third solution is that the cogitative power has a quasi-intellectual ability due to its elevation by the rational soul. According to this view, the cogitative power operates distinctly from other sensory faculties, as it is, in some sense, "rationalised" by its proximity to the intellect. This proximity enables it to function at a level superior to the other internal senses, allowing it to relate particulars to universals. One advantage of such an account is that it explains why Pecham occasionally refers to the cogitative power as *ratio*. However, it is important to keep in mind that here the cogitative power does not attain the status of a fully intellectual faculty, but it occupies an intermediate position between sense and intellect.

Nonetheless, this intellectualist reading of the cogitative power raises several concerns. First or all, it risks collapsing the distinction between the intellect and the senses. Second, it creates more problems as it necessitates inquiry into the precise mechanism by which the rational soul elevates the cogitative power. Is this elevation realised by some sort of influence? If so, what is the nature of this influence, and what are its implications for the metaphysics

of the soul? Such questions remain unresolved, mirroring the interpretative challenges found in Filipe Silva's reading of Pecham's account of the cogitative power. In *John Pecham's Theory of Natural Cognition: Perception,* Silva states:

> T3. The difficulty in dealing with this issue [of having hybrid powers] is that we are not used, in medieval faculty psychology, to hybrid powers that are both sensitive and rational or that cannot be clearly classified as either sensitive or rational. Instead of suggesting a break with tradition on very thin evidence, it is best for now to consider the distinctive power as being sensitive in nature – i.e. as belonging to the sensitive soul – but also as being such a power that under certain circumstances it functions in a rational way, capable of performing inferences. I take it that to function in a rational way means that in some operations and in human beings, the distinctive power is commanded or governed by reason. (Silva 2021, p. 303)

Silva begins by emphasising the difficulty of postulating a hybrid power within medieval philosophical frameworks. However, his ultimate position appears to approximate such a notion – one in which a power, in certain conditions, operates rationally under the command of the intellect. While I can see the advantages of such a reading, I ultimately find it problematic for two reasons: one, Pecham explicitly states in T2 that the cogitative power is a sensory faculty that operates on a purely sensory level, with no influence from above, and two, his metaphysical commitments regarding the soul.

Allow me to focus on the second reason. Pecham, in alignment with the Franciscan tradition, rejects the unitary position advanced by Aquinas, which holds that a single, rational soul informs the prime matter that will constitute the body. Instead, Pecham is committed to substance pluralism (Colley 2015, pp. 59–80; Colley 2014; Saccenti 2021, pp. 311–326; Hackett 2006, pp. 1231–1239) and maintains that the body and the soul are each a substance, therefore are informed by their respective substantial form: the natural form responsible for physical change, and the three substances: the vegetative, sensory, and intellective, out of which only the intellectual one is properly called soul (*Quaestiones de anima*, p. 362, quoted in Saccenti 2021, p. 321). This modular framework (Silva 2020 and Perler 2020, Pecham 1918, q. 3, p. 37[3]), in which there are more substances that each acts like an independent module, implies there is no hierarchical integration, like in the model Boyle, and Perler after Boyle, calls additive (Perler 2020; Boyle 2016). This ontological framework entails that each soul, or at the very least each substantial component of the soul, functions independently, operating as a discrete module that does not interfere with the operations or powers of the others. (Perler 2020, pp. 213–237) Given this metaphysical structure, it follows that the cogitative power, insofar as it belongs to the sensory soul (according to T2), must remain confined within the domain of sensory operations. It cannot, therefore, be influenced by the intellect, as Silva's reading suggests. A reading like Silva's would work if Pecham spoke of one soul, the rational one, like Aquinas', which permeates and influences all its sensory powers. However, Pecham's commitment to a modular, functionally distinct ontology of the soul resists the kind of hierarchical integration presupposed in Silva's reading.

Therefore, none of these three readings solves the issue of how the cogitative power has access to universals and relates them to universals. What all these solutions have in common is that they suggest, in one way or another, an involvement of the rational soul in the operations of the cogitative power, either directly or as a simultaneous

[3] "Ergo secundum hoc dici potest unam esse in homine animam plene eum vivificantem, compositam ex triplici substantia et vita, scilicet vegetativa, sensitiva et intellectiva."

process. However, not only does the metaphysics of the soul complicate these solutions, but also how Pecham continues T2:

> T2c: But in the case of things commonly apprehended, the cogitative (*distinctiva*) power does not require perceptible time, because it argues (*arguit*) by reference to what is most familiar to it, and it *does not argue by comparison and arrangement of propositions*, *because* the cogitative (*distinctiva*) power is borne to argue *without difficulty*, and this aptitude is *naturally exercised*. This is also evident in children, who prefer more beautiful things to less beautiful things, solely by a natural reasoning made through their comparison. (my emphasis) (Pecham 1970, I.57a [60a])[4]

Unlike the process of discursive reasoning, which involves comparing and arranging propositions and unfolds over perceptible time, the cogitative (*distinctiva*) power operates with immediacy, without effort, and naturally. Its discernment is not mediated by propositional inference but is grounded in a direct apprehension of appearances, relying on an aptitude that is naturally and immediately exercised. This faculty enables the immediate merging of forms with intentions not the abstract manipulation of concepts. Such immediacy is evident in how children make these kinds of choices. When presented with two apples, a child naturally prefers the more beautiful one, not through rational deliberation and argumebtation or an explicit comparison of universal properties. The instinctive choice is a natural response to the perceptual features of the apple. The child's choice is thus an instance of the cogitative power in action: a form of perception-based argument that does not require propositional mediation but is a natural, spontaneous synthesis of perceptual and intentional content. As I read this passage, it delineates four differences between the cogitative power and the operations of a rational soul:

(1) Object – The rational soul operates with propositions, while the cogitative power does not.

(2) Operation – The rational soul functions by comparing and arranging, while the cogitative power operates by merging.

(3) Temporality – The operations of the rational soul unfold in time, while those of the cogitative power occur instantaneously.

(4) Effort – The rational soul operates with difficulty, while the cogitative power functions effortlessly and naturally.

If the rational soul were involved in the functioning of the cogitative power, it would necessarily alter its object, operation, or at least its mode of working. However, since these remain distinct, the influence of the rational soul on the cogitative power appears improbable. The solution to how the cogitative power relates particulars to universals needs to be searched for somewhere else.

2. The solution: Sensory universals

[4] "Sed tempore non indiget perceptibili vis distinctiva in hiis communiter comprehensis, quia arguit per aspectum ad sibi notissima, nec arguit per comparationem et ordinationem propositionum, vis enim distinctiva nata est arguere sine difficultate, que etiam aptitudo naturaliter exeritur. Unde etiam in pueris apparet qui magis pulcra minus pulcris solent preponere, non nisi ratione naturali facta eorum comparatione."

Given Pecham's quotes, it seems difficult to make the case that the cogitative power employs directly abstract universals in the way the rational soul does. If the rational soul does not influence the cogitative power, can it operate with universals independently? How can a sensory power operate with universals? This leaves us, as far as I see, with only one other solution: Pecham's cogitative power operates with a "sensory universal", something like a pattern discernible through experience but not something abstracted by reason. This possibility offers a way to preserve the cogitative power's status as a sensitive faculty. At the same time, it accounts for its ability to compare particulars with universals in a meaningful way. Let me explore this solution further.

To begin with, the notion of a sensory universal is not as far-fetched as it might initially seem. Roger Bacon spoke of something similar to Pecham's universal in his *Perspectiva*:

> T3: It must be considered that when it was said that sight cognises universal colour or light by sense alone and not the particular [light], what is excluded is the particular insofar as it lies lower in the predicamental line, for example a species of colour. Again, determinate particulars of a certain species, such as the light of the sun and the light of the moon, are excluded, perhaps because light does not have species. But what is not excluded is the vague particular (*particulare vagum*), for this is as common as the universal and is convertible with it, such as "some colour", "some light", "some person", or "some ox." (Bacon 1996, I.10.3; see also Bălțuță 2025, pp. 374–390)[5]

Of particular interest in this passage is, of course, Bacon's notion of the *particulare vagum* – vague particular. (Oelze 2018, pp. 82–87) This category occupies an intermediate position between the fully individuated particular and the universal. Unlike a singular, concrete entity, such as this cat or this mouse, the *particulare vagum* remains unspecified while still retaining a degree of determinacy, as in the expressions "some cat" or "some mouse". It allows a reference to a general kind without invoking the full abstraction of a universal such as *cat-ness* or *mouse-ness*. One way it is easy to conceptualise this notion is through the metaphor of a stencil: the *particulare vagum* is the outline that can be instantiated in multiple ways, each giving rise to a distinct particular. A more illustrative example can be drawn from animated cartoons in which various cats, while individually distinct, repeatedly pass through a solid object, such as a boulder or snow, leaving behind similar feline-shaped gaps. Over time, these impressions coalesce into a generic cat shape, no longer attributable to any single individual but still retaining the specificity of a cat. Bacon's assertion that the *particulare vagum* is "as common as a universal and convertible with it" suggests that it functions analogously to universals in its applicability across multiple instances. However, unlike a true universal, it remains tied to particularity, albeit in a vague manner. Bacon's next lines are very similar to Pecham's:

> T3c: Therefore, to cognise universals from one another and from particulars, as well as particulars from one another, by comparison of the seen thing to the same thing previously seen, by recollecting that it had

[5] "Considerandum autem quod cum dictum est quod visus cognoscit colorem vel lucem universalem solo sensu et non particularem, excluditur particulare quod est inferius in linea predicamentali, ut species coloris. Iterum particularia signata speciei alicuius, ut lux solis et lux lune, quia forsan lux non habet species. Sed non excluditur particulare vagum, nam illud est ita commune sicut suum universale, et convertitur cum eo, ut aliquis color, aliqua lux, aliquis homo, aliquis bos."

previously been seen and known to the one seeing. This process takes place here according to the mode of comprehension through vision. (Bacon 1996, I.10.3)[6]

If one understands the universal in this context as a vague particular, as I propose, then the passage presents no conceptual difficulty. Vision is capable of differentiating "some cat" from "some mouse," just as it can distinguish "this cat" from "this mouse," through a comparative process that engages an additional internal faculty, namely, memory or recollection. Crucially, this entire operation remains within the domain of perception, occurring independently of the intellect.

Still, someone might object that Pecham does not speak of a vague particular but only of a universal. Addressing this concern requires taking a step further back in time to Alhacen, who serves as a common source for Pecham and Bacon. It is well established that Pecham was influenced by Alhacen, as evidenced by his access to *De aspectibus* and the fact that his *Perspectiva communis* is often regarded as a commentary on Alhacen's work. (Lindberg 1965, pp. 16–17) Alhacen's *De Aspectibus* desribes universal forms that emerge through repeated perceptual recognition. His model suggests that vision generates sensory universals by identifying patterns in multiple instances. This idea is similar to Pecham's claim that the cogitative power compares particulars to universals without engaging in propositional reasoning. This suggests that Pecham is adapting Alhacen's visual cognition framework into his epistemology. Although long, I cite Alhacen's passage in full:

T4: The arrival of universal forms of visible kinds in the soul and their representation in the imagination occurs because each mode of visible things, such as form and figure, is that in which all individuals of that kind are made equal, while those individuals are diversified by particular intentions grasped through the sense of sight. Perhaps there is one colour common to all individuals of that kind; however, form, shape, colour, and all the intentions from which the form of any individual of the species is composed together constitute the universal form of that kind. Sight comprehends the form and figure of those individuals, as well as every intention in which the individuals of the species are made equal. At the same time, sight also grasps the particular intentions by which those individuals are distinguished from one another. Thus, through the intention of comprehending individuals of the same kind, the universal form is repeated in sight, along with the diversity of particular forms of those individuals. When the universal form is repeatedly apprehended by the soul, it becomes fixed and remains there. From the variety of particular forms that accompany the universal form in this process, the soul grasps that the form in which all individuals of the same kind are made equal is the universal form of that kind. Therefore, this is the process by which universal forms arise in the soul and imagination from the apprehension, through sight, of those kinds of visible things. (Alhacen 2001, 4.16)[7]

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[6] "Cognoscere igitur universalia ab invicem et a particularibus, et particularia ab invicem per comparationem rei vise ad eandem prius visam, recolendo quod prius fuerit visa et nota videnti, facit hic secundum modum comprehendendi per visum."

[7] "Perventus autem formarum universalium modorum visibilium in anima et figuratio earum in ymaginatione est quia quilibet modorum visibilium, sicut forma et figura, sunt in quibus equabuntur omnia individua illiusmodi, et illa individua diversantur intentionibus particularibus comprehensis per sensum visus. Et forte erit color in omnibus individuis illius modi unus; et forma, et figura, et color, et omnes intentiones ex quibus componitur forma cuiuslibet individuorum speciei est forma universalis

The passage describes the formation of universal forms or sensory universals through the process of visual perception. To clarify this process, I will address two key questions: How are universal forms formed? And why are universal forms sensory rather than intellectual?

Regarding the first question, T4 suggests that the repeated apprehension of certain visible features, such as form, shape, and colour, leads to the emergence of a universal form through a process of perceptual recognition. This process can be broken down into three key stages:

1. Reception – Vision perceives individual objects, registering their particular features, such as shape and colour.
2. Differentiation – Sight discerns the commonalities and differences among particulars. This generates a general form, distinct from any one individual but grounded in sensory experience.
3. Reinforcement and Fixation – The universal form is reinforced through repeated encounters, then fixed in memory.

Consider the example of encountering multiple cats: a short-tailed black cat, a fat tabby cat, and a slim red cat. Through repeated visual experience, the mind discerns a general form of 'cat' that is not tied to any single instance but emerges from their shared sensory properties. A useful analogy here is not merely the imprinting of stamps on paper but rather the emergence of a composite image, like a blurred overlay, where distinct instances coalesce into a perceptual generality. This aligns with Bacon's account of how a vague particular arises, though Alhacen's framework suggests a more immediate role for sight in shaping the formation of universals.

To answer the second question, of why the universal form remains sensible rather than purely abstract, I identify three key reasons:

1. It arises through the repeated apprehension of particulars via sight.
2. It represents the common sensible features among individuals of a kind, rather than an abstract essence divorced from perception.
3. It becomes fixed in memory, an internal sense, through repeated encounters, allowing it to function as a cognitive representation.

All these three reasons point toward an understanding of the universal as a sensory, not an intellectual one. This implies that Alhacen's theory implies an ontological category distinct from strict Aristotelian universals: the sensory universal, which is general but not fully universal. This intermediary entity maintains a connection to the sensory world and works as a foundation for universal concepts.

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illiusmodi. Et visus comprehendit illam formam et illam figuram et comprehendit omnem intentionem in qua equabuntur individua speciei in omnibus individuis que comprehenduntur ex individuis illius speciei. Et comprehenduntur ex individuis illius speciei etiam intentiones particulares per quas diversantur illa individua. Per intentionem ergo comprehensionis individuorum uniusmodi a visu iterabitur forma universalis que est in illa specie cum diversitate formarum particularium illorum individuorum. Et cum forma universalis iterabitur in anima, figetur in anima et quiescet, et ex diversitate formarum particularium venientium cum formis universalibus apud intuitionem comprehendit anima quod forma in qua equabuntur omnia individua illiusmodi est forma universalis illiusmodi. Secundum ergo hunc modum erit proventus formarum universalium quas visus comprehendit ex modis visibilium in anima et in ymaginatione."

3.3. Back to Pecham's universal

If I am correct in my interpretation and Alhacen speaks in *De aspectibus* 4.16 of a sensory universal, akin to Bacon's vague particular, this directly informs the initial question: How can, for Pecham, a sensory power like the cogitative have access to and engage with universals? The answer lies in the nature of these universals themselves. The senses do not work with abstract concepts, nor do they operate at a linguistic or propositional level. Instead, the universals they engage with are proto- or quasi-universals that emerge directly from perception rather than from intellectual abstraction. A sensory universal is thus not a real universal, but a recurrent sensory form that is generated by repetition of images, which retains the structural features in which several particulars coincide. It remains materially conditioned and located in the internal senses and serves as a pattern against which sensibles are compared.

So, there is a historical line between Alhacen, Bacon, and Pecham, and the universal may be, in the case of the cogitative power, not an abstract universal but a sensory one. But does this also fit with Pecham's texts? Let us recall:

> T2 and T2c. The cogitative power (*ratione*) operates imperceptibly in distinguishing visible things. But no visible thing is cognised without either a distinction or a comparison of visible intentions, or a relation to known universals abstracted firstly from sensible things, which cannot occur without a form of argument (*ratiocination*). But the cogitative (*distinctiva*) power does not require a perceptible time in these things commonly understood, because it discerns (*arguit*) by the appearance of things which it knows well, and it does not discern by comparison and arrangement of propositions, because the distinctive power is borne to discern without difficulty, which is an aptitude naturally exercised. (Pecham 1970, I.57a [60a])

This passage states that visible things are cognised either (a) by a distinction or comparison of visible intentions, or (b) by a comparison between visible intentions and known universals abstracted, in the first instance, from sensible things, an operation that takes the form of a reasoning and is performed by the cogitative power. The cogitative power's operation requires no perceptible time, suggesting that the universals it engages with must be sensory rather than intellectual, because in T3 Pecham states that the intellect requires time in performing its operation. This immediacy of the cogitative power can be explained by three core features of its functioning: (1) it compares things directly, staying within the perceptual domain; (2) it does not rely on propositional reasoning, unlike intellective universals; and (3) it operates naturally as a naturally exercised faculty. These elements reinforce the idea that Pecham is referring to sensory universals, patterns discerned through experience, and not to concepts abstracted by reason. These features suggest a sensory form of discernment or argument. By contrast, if the comparison involved intellectual universals, it would necessarily presuppose propositional mediation and a temporally extended process of abstraction, features absent in the passage. Thus, to borrow Sherlock Holmes' method, once we eliminate the impossible, whatever remains, however improbable it might initially seem, must be the truth. The only remaining conclusion is that the universals in question are not intellectual but sensory.

Therefore, when Pecham speaks of the cogitative power comparing visible intentions to known universals, he is referring to sensory universals, those that, as I have described earlier, function like perceptual stencils or like the general cat shapes repeatedly imprinted in boulders in cartoons when cats dash through them. The immediate

implication of this theory is that the cogitative power operates independently from the intellect at the sensory level with an object that is ontologically intermediate between the particular and the universal.

4. Possible objections:

Despite the arguments I have advanced for my reading, there are two possible challenges. I call the first challenge the terminology challenge. It stems from the elevation interpretation, according to which someone might object that if Pecham uses terms such as *ratiocination*, *ratio distinctiva*, and *ratio*, he might mean to say that the cogitative power is elevated by the intellect when operating with universals. The second is the parsimony challenge, which could state that my reading overly complicates Pecham's epistemology and ontology by introducing a sensory universal where other theories make do with particulars and universals only.

The terminology challenge appears not in the scholarship on Pecham but in the scholarship on Roger Bacon, who defends a similar position, as I have shown. Such a reading is supported by Mattia Mantovani in two of his papers, "Visio per sillogismum: Sensation and Cognition in 13th Century Theories of Vision" (Mantovani 2020, pp. 111–152; for a different position, see XXX in press) and "The First of All Natural Sciences: Roger Bacon on *Perspectiva* and Human Knowledge." (Mantovani 2021, pp. 186–214) He argues, starting from *Perspectiva* I 9, 2, 131-133, that there is a distinction in kind, and not only one in degree, between human and animal vision. He presents three arguments for his reading: 1. Bacon uses different terminology when describing human and animal cogitative power. 2. In humans, the syllogistic operation is truly inferential because the human cogitative power is immediately and primarily united with the rational soul. 3. When describing the syllogistic operation of the human cogitative power, Bacon uses the word *arguo*, which suggests the rational nature of this operation. However, I find that such a reading lacks systematic support in Bacon and also lacks textual evidence. In many instances, Bacon uses *cogitare* to describe both animal and human cogitative power, (Bacon 1996, I.1.4; II.3.9) contradicting Mantovani's first argument. The same applies to the term *arguo,* which Bacon uses in rational and non-rational animal contexts. (Bacon 1996, II.3.9) The issue here is not to prove or disprove Mantovani's reading, but to see whether something like this might apply to Pecham's cogitative power as well.

The number one argument why I think a reading like the one suggested by Mantovani, a reading of an elevated cogitative power, would not work in the case of Pecham, is because of his metaphysics of the soul. A pluralist conception of the soul as the one defended by Pecham operates on the principle that each faculty is able to function independently, as modules of a whole. Or the elevated reading implies a sort of influence of the intellect on the cogitative power, an infusion of one power over another, which is impossible in a pluralist framework. That being said, a pluralist position does not imply that there is no interaction between the faculties, but that the faculties keep their sensory or intellective character. Other arguments against this reading are the T2 and T2c, and the historical line from Alhacen to Pecham through Bacon.

Regarding the second challenge, the parsimony challenge, it is important to recognise that Pecham is building his theory on a tradition initiated by figures like Avicenna and Alhacen and later developed by Bacon and Albert the Great. Pecham's own texts reveal that the cogitative power uses "universals." These universals could, in principle, be understood as either abstract intellectual universals (e.g., "cat-ness") or as sensory universals (e.g., "some cat"). Although the former option might seem more ontologically economical, it fails to capture the immediacy of the

cogitative power's operation, an immediacy that Pecham clearly emphasises. When abstract universals are involved, the process would necessarily be discursive and temporally extended, contradicting the observed swift and natural functioning of the sensory faculties.

Moreover, if the cogitative power were to operate with fully abstract universals, it would erode the distinction between the sensory and the intellectual faculties, a distinction that is central to Pecham's account of the soul. Therefore, what may appear as an ontological "inflation" by introducing sensory universals is, in fact, indispensable. They are essential to explain adequately how the cogitative power can compare immediately and effortlessly sensory particulars with their sensory universals. Consequently, rather than being an unnecessary complication, the concept of sensory universals is a necessary refinement that preserves the internal consistency of Pecham's epistemology.

5. Conclusion:

My intention was to defend the thesis that when Pecham states that the cogitative power relates particulars to universals, he is referring to sensory universals rather than abstracted, intellective ones. To defend this view, I have first shown that alternative interpretations fail to provide a convincing account of the phenomenon. I considered three possible interpretations. The first, arguing that the rational soul is solely responsible for forming universals while the sensory cogitative power merely associates a preformed universal, such as the universal "redness," with a particular sensory image like that of a lipstick, falls short because it does not explain how a sensory faculty could have direct access to an abstract universal. The second interpretation, which suggests that the simultaneous operation of the cogitative and intellective powers results in a synchronicity where the particular and its corresponding universal are produced at the same time, lacks the resources to explain the mechanism by which this synchronicity takes place; it just posits a coincidence in time without clarifying the process of association. Finally, the third solution, according to which the cogitative power is elevated by the rational soul to operate in a quasi-intellectual manner, ultimately fails to align with Pecham's metaphysical commitments, especially his insistence on the distinct nature of the sensory, vegetative, and intellective souls.

In response to these minuses, I have proposed a reading according to which the universal is a sensory universal, a notion that finds its roots in the historical tradition from Alhacen to Bacon. Since Pecham was well acquainted with the works of both Alhacen and Bacon, who speak of universals in a sensory vein (or as vague particulars that emerge directly from perceptual experience), it is reasonable to assume that he adopted a similar stance. This interpretation preserves the cogitative power's status as a sensory faculty, while maintaining the medieval distinction between the sensory and the intellective domains. This allows us to understand how the cogitative power can perform such acts without intellectual influence. Moreover, the notion of sensory universals captures the immediacy and effortlessness of the perceptual act, which, as evidenced in T2 and T2c, stands in contrast to the operation of the intellect which is extended in time and proposition-based.

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