I. ARISTOTLE: OUT OF THE MOUTH OF BABES

At the end of the opening chapter of his *Physics*, Aristotle observes that "a child begins by calling all men father, and all women mother, but later on distinguishes each of them." This observation is intended to make the methodological point that physical investigation should begin from the more general and obvious and advance towards a more precise and refined knowledge of the principles and causes of the natural world. Such a method reflects the natural progression of human knowledge, for our perceptions—as evidenced in the linguistic development of children—advance from the more general and confused to the more particular and precise.

In the medieval Islamic world, Avicenna offered a unique interpretation of Aristotle's example which focused upon what he called the "vague" or "diffuse individual" (shakhş muntashar, rendered into Latin as individuale/singulare vagum). Through his discussion of the vague individual Avicenna presented a suggestive though inchoate account of how the human mind is able to comprehend singulars in the material world. Avicenna's remarks were in turn taken up by a number of philosophers and theologians in the Latin West for whom the problem of knowledge of the singular was a far more pressing concern than it was for Avicenna himself. In this paper I begin by examining Avicenna's own account of the vague individual and the function that it plays in his metaphysics and cognitive theory. I then examine the adaptations of the Avicennian vague individual offered by four of Avicenna's Latin readers: William of Auvergne (ca. 1180–1249);

Albert the Great (ca. 1200–1280); Henry of Ghent (d. 1293); and John Duns Scotus (ca.

1266–1308). This examination reveals a gradual yet unmistakeable intellectualization of the vague individual by Latin authors, all of whom, with the exception of Albert, transform the vague individual from a sensible percept into an intelligible concept.

II. THE AVICENNIAN VAGUE INDIVIDUAL

The basic idea behind the Avicennian vague individual is most easily captured linguistically: a vague individual is one signified by phrases such as "some x":

What is understood from the expression "vague individual" in the primary meaning is that it is some individual from among the individuals of the species to which it belongs, without it being specified what condition it is in or which individual it is—and "some man" and "some woman" are [expressions] of this sort.³

The vague individual is contrasted by Avicenna with the "determinate" or "designated individual" (*al-shakhṣ al-mu'ayyan*), which is picked out and differentiated from all other members of its class.⁴ Inasmuch as the child who calls all men "father" is unable to differentiate its progenitor from all other male humans, then, its perception is of a vague rather than a designated individual.

The vague individual plays two distinct but related roles in Avicenna's philosophy, one metaphysical and the other epistemological. The metaphysical side pertains to the place of the vague individual in natural teleology. While the particular is naturally prior to the universal inasmuch as all natural processes have as their ultimate aim the production of individuals, Avicenna argues that it is not designated individuals, such as Socrates and Plato, that nature intends, but rather, merely vague individuals. In other words, the sole aim of natural teleology is to ensure that every genus and species be

instantiated in some individual, without regard to which individual that may turn out to be:

For what is intended in nature is not that animal taken absolutely exist, nor body taken absolutely, but rather, that the natures of the species should exist; and if the specific nature exists in singulars, it is some individual. ... So what is most evident is that what is intended is for the nature of the species to exist as an individual, even if it is not designated. And this is the perfection and the universal end [of nature]. So what is better known according to nature is this.⁵

From the perspective of natural teleology, then, the vague individual serves to justify the relative unimportance of the particular in the physical world. Nature aims to produce individuals because natural species can only actually exist when they are instantiated in and multiplied by matter. But the individual *as such* is of no importance in the physical order. From an Avicennian perspective, of course, this is not entirely unexpected; it is the obvious counterpart to Avicenna's infamous denial of divine providence over particulars, which Avicenna here implicitly evokes. Just as God's providence is perfected so long as he knows particulars "in a universal way," so is the natural order completed so long as the species are exemplified in merely vague individuals. In neither case is the particular of intrinsic significance in its own right:

From the existence of body nature only intends to arrive at the existence of human being and what is akin to it, and from the existence of the general and corruptible determinate individual she intends for the nature of the species to exist. And whenever it is possible for her to bring this decree to pass in a single individual, whose matter is not susceptible to change and corruption, then there is

no need for another individual belonging to the species to exist, as for example the sun, the moon, and other things like these two.⁷

The epistemological function assigned to the vague individual partakes of the same ambiguity as its metaphysical function. On the one hand, Avicenna will appeal to the vague individual and its function in the cognitive development of children to explain how the senses are able to aid the intellect in its acquisition of universals. On the other hand, Avicenna is adamant that the grasp of the vague individual is *entirely* a matter of sense perception, and he takes pains to emphasize that intellectual cognition seeks only the knowledge of universals: "And when knowledge terminates in specific natures and their accidents, investigation ceases, and it will not attain what eludes it of knowledge of individuals, nor do our souls incline to this at all." To the extent that the intellect has any contact with individuals, this happens only if "the five internal [sense] faculties cooperate with it:"

But there [i.e., in the internal senses], individuals (*al-shakhşiyyāt*) are better known to us than universals (*al-kulliyyāt*), for individuals are imprinted in the internal sense power, and then the intellect takes from it the similarities and differences and abstracts the natures of the specific universals. ... Nonetheless, even sensation and imagination, in their perceptions of particulars, begin in the first place from an individual conceptualization (*min taṣawwurin shakhṣṣin*) which is more akin to the common intention (*li-l-ma'nā al-'āmmiyy*), until they arrive at the conceptualization of the individual which is a pure individual (*shakhṣṣarf*) in every respect. ¹⁰

While the senses remain restricted to the realm of particulars, like the intellect they too move from an indeterminate comprehension of their proper objects to a gradually more refined and precise knowledge. In the case of the intellect, cognitive perfection is reached when the nature of the species and its properties is fully understood; in the case of senses, the parallel perfection is attained when the pure or designated individual is conceived.

Still, the claim that sensation moves from the general to the particular remains problematic: some account needs to be given in this context of how it is that the senses can grasp what is common. In the *Physics* Avicenna argues for this claim by an appeal to the underlying metaphysical structure of the sense object, drawing on his standard account of the common nature, which in itself is neither universal nor particular, but which has the capacity to be multiplied in individuals outside the soul:¹¹

And as for the evidence of how this is so, it is that body is a common intention, and insofar as it is body it possesses [the capacity] to be individuated, and thus to be this body.... And if we relate these ranks to the perceptual capacity, and consider the two types of ordering in them, we will find that what is most like the common and most closely related to it is better known. For it is not possible to perceive through sensation and imagination that this [thing] is this animal, unless one also perceives that it is this body; nor to perceive that it is this human being unless one also perceives that it is this animal and this body; whereas one may perceive that it is this body if one sees it from afar and does not perceive that it is this man. ¹²

Avicenna uses examples of designated rather than vague individuals here ("this" rather than "some" x) because the point he is making pertains to all relations of the more common to the less common. There is, he is arguing, an inbuilt priority of the common to the specific grounded in ontological structure of material individuals in the natural order. Hence, what is most cognizable *per se* in the physical world will always be what is most common, as much for the senses as for the intellect: "And it has already been shown and made clear that the state of sense is also in this respect like the state of the intellect, and that what is related to the common is also better known in itself in sensation."¹³

Avicenna's own notion of the common nature, then, provides the theoretical underpinnings that allow him to explain Aristotle's observation that the vague individual is also temporally prior in the order of sense perception:

As for [what is better known] in time, the imagination only acquires from sensation an individual from the species which is not defined by anything proper to it. For the first thing which is inscribed in the imagination of the child from the forms which it senses, by way of an impression of these forms in the imagination, is the form of an individual man or an individual woman, without differentiating a man who is its father from a man who is not its father.... Afterwards a man who is its father is differentiated for it from a man who is not its father...; and then individuals continue to be distinguished by it bit by bit. And this image which is inscribed in it, for example, of the human individual taken absolutely without specification, is the imagined intention (*khayāl al-ma'nā/imaginatio intellectus*) which is called "vague" (*muntasharan/incertus vel vagus*). 14

For Avicenna, then, the vague individual is an *image* which represents a random token of a determinate type or species without differentiating it from other individuals sharing the same specific form. *Qua* image, the vague individual offers a defective and incomplete representation of its object, one which attains neither the universality and abstractness proper to intelligibles, nor the determinate particularity proper to sense perception.

There is also a second conception of the vague individual which Avicenna mentions in passing in his account of the metaphysical foundations of the vague individual in the common nature. This sort of vague individual is produced when we perceive something from a distance and recognize its more generic features, while failing to discern its specific nature—for example, when we discern only "this body" or "this animal" and cannot make out whether it is a human or a horse. While Avicenna's Latin readers made extensive use of this extended notion of vagueness, Avicenna himself insists that such perceptions are "vague individuals" only equivocally:

And when an individual is said to be "vague" for this reason, and when it is [also] called a "vague individual" on account of what is impressed in sensation—no doubt from a distance—whenever it is impressed that it is a body without the perception of animality or humanity, then the name of "vague individual" is only applied to these two equivocally. ¹⁶

It is important for Avicenna that this notion of vague individual be recognized as a secondary and equivocal one, precisely because the vague individual is an object of sense perception, and thus its vagueness is to be measured by the extent to which it falls short of the proper cognitive end of sensation itself—it offers an imperfect representation of an indeterminate individual. By contrast, in the case of the equivocally vague individual the

senses do succeed in their proper operation of grasping a determinate individual. The cognitive failure here appears to involve the incidental perception of the class to which the perceived individual belongs. When I perceive "this body," my perception picks out a determinate individual of whose nature I have a merely confused grasp; when I perceive "some human," my perception picks out a random instance of a nature which I have determinately identified. For this reason, vague individuals in the proper sense can stand in for any individual within the species; in the equivocal sense, they are able to represent only that individual which is actually present to the percipient, whatever sort of thing it might be:

Where the vague individual in the first meaning is suited in the mind to apply to any individual in existence there may be from this one genus or species, in the second meaning it is not suited in the mind to be any individual from this species, but rather, it is nothing but this designated singular (*al-wāḥid al-mu'ayyan*). 17

It is clear from the *Physics*, then, that Avicenna views the vague individual as an object of sense perception construed in the broad sense as including both the external and the internal senses. Yet he says little here regarding the mechanics of how the vague individual is grasped by the senses—there are broad allusions to the impression of sensibles in the imagination, and the reference to the vague individual as an imagined *intention* (*khayāl al-ma'nā*) suggests a role for the estimative faculty in their perception. Elsewhere, in a text not available in Latin translation, Avicenna elaborates further on the mechanisms by which the vague individual is grasped, and on its ultimate contribution to the process of acquiring universal intelligibles.

In the final chapter of the *Demonstration (Burhān)* of the *Healing*, which corresponds

to *Posterior Analytics* 2.19, Avicenna employs the vague individual in his account of how the intellect derives the principles of demonstration from the senses. The specific occasion for introducing the vague individual into the discussion is to provide an interpretation of Aristotle's metaphor likening the process of grasping a universal to the reformation of a battle line after a rout. Avicenna argues that since the nature is fully instantiated in and represented by its concrete singulars, sensation too will perceive the corresponding specific and generic universals in some way whenever it grasps a vague individual which embodies them:

And this is also [possible] because that which senses the particulars in some respect senses the universal, for what senses "Socrates" also senses "human," and likewise whatever [else] it conveys. For it conveys to the soul "Socrates" and "human," except that it is a vague human (*insān muntashar*) mixed with accidents, not pure human. Then if the intellect peels and removes from it the accidents, there remains of it the abstract human from which Socrates and Plato are not distinct. And if it were the case that sensation did not perceive "human being" in some way, then estimation in us and in the animals would not [be able to] distinguish between the individuals of one species and [those of] another species, so long as there was no intellect. But neither does sense distinguish these, but rather, estimation, although the estimation only distinguishes one thing, and the intellect something else. ¹⁹

According to this picture, the vague individual differs from the true universal because it does not simply represent the nature or essence itself —"humanity"— but includes with it the sensible accidents that accrue to the nature when individuated in a particular

instance—such as baldness in "Socrates." It is these accidents that render the vague individual concrete rather than abstract, and they are what must be "peeled away" in order for the intellect to grasp the universal.²⁰ As Avicenna presents the vague individual here, it is not merely a failed or inchoate perception of a particular. It is instead a constituent ingredient included within all successful perceptions of designated individuals, and its perception is a function of the internal sense power of estimation. From this, then, it seems legitimate to infer that the vague individual should be counted as one of the non-sensible "intentions" which accompany the perception of sensible forms such as colour and shape, and constitute the proper objects of the estimative faculty. This is why Avicenna is able to call upon the vague individual here to provide another argument for the existence of a distinct estimative faculty within the sensitive soul. His argument based on the fact that non-rational animals are able to discriminate not only between individuals whose sensible qualities differ—as when they distinguish a white thing from a blue thing—but also between individuals differing in species or genus. Since animals can and do differentiate between "some white human" and "some white rabbit," this is evidence that their perceptual powers include the capacity to grasp something akin to the specific universal. The estimative faculty is posited by Avicenna as the faculty which accords the animal soul this and analogous capacities.²² Under optimal conditions, this capacity to differentiate amongst natural kinds is embedded within the perception of a fully designated, particular token of some species. When conditions are less than optimal, the estimative faculty is left with an indeterminate member of the species, the vague individual, as its sole object.

To sum up, for Avicenna the vague individual in the proper sense is "vague" primarily because it falls short of picking out a designated, determinate individual; as such it is an incomplete sensation, since the senses have individual particulars as their proper objects. In the *Physics*, Avicenna presents the vague individual as the first temporal stage in the imagination's processing of the information it receives from the external senses, and this is ultimately why it is relevant to the interpretation of Aristotle's example. In the *Demonstration*, the vague individual is viewed as a pre-intellectual perception by the estimative faculty of the specific or generic nature which some sensible object exemplifies, and as such it is also integral to any perception of designated individuals. In an extended sense, a sensation can also be said to have a "vague individual" as its object if it succeeds in referring to a determinate individual while failing to grasp its nature. In this case, the cause of the vagueness appears to derive from the percipient's viewing the object under less-than-ideal conditions. But in all of his accounts of the vague individual, in both its proper and its equivocal senses, Avicenna is adamant that the perceptions to which he is referring remain sensibles, and in no case do they rise to the level of pure, abstract intelligibles.

III. THE VAGUE INDIVIDUAL IN THE LATIN WEST

Despite the pervasiveness of the vague individual in the linguistic, psychological, and metaphysical writings of medieval Latin authors from the second quarter of the 13th century onwards, little attention has been paid by modern scholars to the Avicennian origins of this concept. Oftentimes discussions of the vague individual simply trace its inspiration to the first chapter of Aristotle's *Physics*, even though the phrases *individuale* and *singulare vagum*²³ are unique to the Latin Avicenna and have no counterpart at all in

any of the versions of the *Physics* found in the Aristoteles Latinus.²⁴ No doubt one reason for this neglect is that many medieval Latin authors themselves assimilate the Avicennian vague individual to the Aristotelian example of the child who calls all men "father," without explicitly differentiating between the two sources. And once the *singulare vagum* had become fully entrenched in the philosophical vocabulary and conventions of the later middle ages, the presence and significance of its Avicennian roots were easily overshadowed by the interests of the Latin philosophers who had appropriated the doctrine for their own purposes.

1. William of Auvergne: Vague Individuals as Universals

The Avicennian vague individual plays a small though prominent role in the philosophy of one of Avicenna's first and harshest critics in the Latin West, William of Auvergne. While William is known for his adamant rejection of the very notion of an Agent Intellect—construed in Avicennian terms—he is nonetheless heavily dependent on Avicenna for his understanding and interpretation of Aristotelian psychology. Much of William's open animosity to Avicenna stems from his aversion to the idea of the Agent Intellect as an extrinsic cause of human knowledge and the direct source of intelligible forms in individual human minds. Ironically, the vague individual is among those Avicennian doctrines adopted by William without attribution as part of his very critique of the Agent Intellect. It makes an appearance in two key passages—one in chapter 7 of William's *De anima*, and the other in his *De universo*, to which the *De anima* itself refers.

In the section of his *De anima* in which the vague individual appears, William is arguing that the human intellect is an active power, and thus in no need of help from an

external Agent Intellect. His task, therefore, is to show how the human intellect, once possessed of first principles, is able to generate knowledge for itself on the basis of its contact with the lower world of the senses.²⁸ In this text William presents "abstraction" as the second of three ways in which the intellect can acquire knowledge from the lower world:²⁹

The second way [that the intellect receives information] is by abstraction, and I have already explained to you what abstraction or stripping or laying bare means. This is nothing but the removal of the apprehension of individuating or individual forms, and I gave you an example of this in an image of Hercules exactly like him. I mean one which could represent only Hercules to someone who sees clearly and looks at it from nearby. But if one were removed from it a good distance, the apprehension of such forms would decrease until it got to the point that the image would represent only a vague human being (homo vagus), not one person rather than another. This, then, is the way of abstraction or the stripping away of forms coming to the fantasy or imagination from sensible things, and as a result of these one should have no doubt that the intellect is occasionally inscribed by forms that are more separate and more appropriate to its nature. But how this inscription takes place, namely, whether by the fantasy or by the intellective power or by some other means involves a question which I have resolved for you in part elsewhere. ... 131

For William, then, the act of abstracting the vague individual is a process whereby an image that would normally pick out a determinate, denotable individual—not just "this human being," but "Hercules"—gradually has its individuating features removed so that

Avicenna, such an abstraction results in the representation of a random token of some species or genus. The mechanism by which this abstractive process works is one of peeling away the individuating forms that are received into the imagination from sensible things. The main advantage of the resultant abstraction—which for William is impressed in the *intellect*—is its ability to represent *all* individuals in virtue of representing none *properly*. Apart from that, however, this process of intellectual abstraction appears to add nothing positive to what it produces—the vague individual does not represent the necessary and essential features of genera and species to the mind. Though William suggests that through this process the intellect may occasionally receive forms that are more immaterial and compatible with its own nature, he never indicates how that could occur.

While the negative overtones of the role assigned to the vague individual in human knowledge are merely implicit in the *De anima*, in the earlier *De universo* William appears to revel in the limitations of an abstractive process whose final products are merely vague and indistinct representations of individuals:³²

Know then that our intellective power removes nothing, takes away or subtracts nothing at all from sensible signs, but rather something is taken from it, since such signs do not reach it in their totality, but only a part of them, as it were, and they do not reach it with their integrity or totality. Rather, it is as I shall tell you. Suppose that someone sculpts or paints an image of Socrates and makes it like Socrates to the point that, for everyone who knows Socrates and looks at it close up, it is obviously seen as an image of Socrates. It is clear that for someone who

looks at it from afar it would not be seen as an image of Socrates in particular, but an image of a man indeterminately or indefinitely, that is, in the universal. ...

Know that the intellective power behaves in the same way toward particular sensible signs as someone looking at the image of Socrates from a distance, and this is the meaning of stripping and laying bare, namely, the shortsightedness (*brevitas*) of the intellect because of which it cannot attain to the particular conditions by which those signs are proper to the particular things they signify, as I told you with regard to the person looking at the previously mentioned image of Socrates from afar. And this is shortsightedness of our intellect, while it is here in the body, unless it is illumined by prophetic brightness or by another light coming to it from above.³³

It is clear from the *De universo*, then, that for William the universal is nothing but an Avicennian vague individual. It is simply an indefinite image that results from the intellect's myopia in the present life. We cannot even properly say that intellectual abstraction extracts or reveals something that is present in the sense image but obscured by sensible accidents or accompaniments. The intellect is constrained by its reliance on sensation, and the senses appear to do a better cognitive job than the intellect because their capacities are fully aligned with the natures of the objects that we encounter in the physical world. Sensation is actually able to grasp its objects as integral wholes and as signs of actual beings in the world. By contrast, the abstract universals available to the intellect—at least in this life—do not attain the status of true intelligibles, but instead remain mere phantasms.³⁴

In its fundamental details, then, William's account of the vague individual is quite close to Avicenna's own. William shares with Avicenna the view that sensible abstraction alone cannot produce true intelligibles, but only vague individuals. Yet while Avicenna is able to fill in the gap left by the vague individual with the emanation of the corresponding intelligibles by the Agent Intellect, William has no such recourse open to him, at least not within the natural order. For William there is a gap between the universal and the intelligible that defines our present cognitive condition, and it can only be remedied by divine intervention or liberation from the body. Ironically, it's this very negativity in William's attitude towards abstraction that permits and even demands that he accord to the vague individual an important place in his account of knowledge acquisition, since on his view no higher level of abstraction is available to human knowers.

2. Albert the Great: The Vague Individual and the Internal Senses

Albert the Great is one of the few medieval authors who, like Avicenna, restricts the vague individual to the sensible realm. In his own commentary on Aristotle's *Physics*, Albert includes a lengthy digression on the question of "how the universal is more known to us in sensation" in which he elaborates on the mechanisms which explain how the internal senses grasp the vague individual.³⁵ Albert's analysis centres around a distinction among the three different types of perception of which the senses are capable:

(1) perceptions by one of the five external senses operating in isolation; (2) perceptions which involve the common sense working in concert with the external senses; and

(3) perceptions of the senses combined with reason or one of the quasi-rational internal sense powers:

These things being presupposed, it should be understood that our reception according to sensation is threefold. For there is the reception according to the particular sense alone; and there is the reception according to the particular and common sense together; and there is the reception according the particular and common sense and some cognition of reason mixed with sense, or [some cognition] of the cogitative [power],³⁶ which takes the place of reason and is called by some people the estimative power, and which is part of the sensible soul.³⁷

Each one of these sensible receptions is in turn responsible for conveying to the percipient distinct information about the features of objects in the physical world. Most basically, "the reception of particular sensation is nothing but a proper sensible like colour or sound or smell or one of the others." More significant for the understanding of Albert's conception of the vague individual are the respective functions he assigns to the common sense on the one hand, and to reason or its internal sense surrogates on the other:

But the reception of the common sense is of the subject in which the proper sensibles are united, and therefore it composes and divides the proper sensibles, saying that this white is sweet and this yellow is bitter, like bile. But the reception of reason mixed with the senses, or of estimation in brute animals, is concerned with the nature of the thing in which the accidents that are the objects sensed by the proper senses, and to which belongs the magnitude subject to the proper sensibles which are received through the common sense, inhere (*in qua sunt*). And through this the boy understands that the male human being is his

father, and not the ass, and the lamb understands that the sheep is her mother, and not the wolf.³⁹

In this passage Albert calls upon the common sense to explain the basic capacity of sensation to grasp the particular as particular, inasmuch as the common sense is the power which perceives the *subject* in which the proper sensibles inhere as accidents. Ultimately Albert seems to assign this perception to the common sense because of the basic collative and discriminating functions associated with it in Aristotle's *De anima*, functions which also enable us to perform those acts of incidental perceptions in which one proper sensible is perceived through a special sense not proper to it, as when we "see" something bitter. 40 That collative capacity is a necessary condition for our forming a complex yet unified picture of the sensible object, one which includes both proper and common sensible qualities. In particular the common sensible *magnitude*, as Albert indicates, plays a key role in allowing the senses to grasp the individual as the underlying subject or bearer of properties—a point that seems intended to evoke the traditional association of quantity and magnitude with the individuation of material particulars in the natural world. On Albert's account, then, it appears that the common sense is the faculty that is primarily responsible for the ability of the senses to perceive the designated or determinate individual, and that the grasp of a merely vague individual indicates a deficiency primarily in the operations of this faculty, a point to which I will return shortly.

By contrast, the estimative faculty is the key to Albert's explanation of the capacity of sensation to grasp what is "common" or quasi-universal, that is, to differentiate one nature or essence, rather than one individual, from another. This is a link that Albert

forges on the basis of the similarities between the Aristotelian example of the child recognizing any male human as its father, and the standard Avicennian examples of estimative intentions involving the instinctive reactions of animals to their environment. The sheep's perception of a wolf as "hostile" or of a lamb as "something to be nurtured" displays the same grasp of the nature as does the human child's seeing all human females as "mother." In all these cases the percipient does not differentiate amongst the individuals who exemplify the relevant intention—the sheep senses hostility in every wolf and reacts to each one accordingly; it does not fear one wolf rather than another. By the same token, in their earliest developmental stages, before reason has become fully active, children grasp natures not as true universals, but only as estimative intentions, and this is why the "more common" perception is prior in time even in the senses. The child's responses, like those of irrational animals, are purely instinctual, and its survival at this stage depends primarily on its realizing that human females, rather than ewes and cows, are suitable objects of its trust and affection.

On the basis of this initial sketch of the types of sensibles and their correlation with the internal and external senses, Albert proceeds to explore how the perceptions of vague and designated individuals differ from one another, and how those differences in turn require different cognitive inputs from the various sense powers he has just enumerated. The focus of Albert's analysis here is the meaning of "vague" when it is used to describe perceptions of the form, "some x." According to Albert, it is not the grasp of the nature or essence that is vague in such perceptions, since "some human" and "some cow" express perceptions of something whose nature is entirely determinate. Rather, vague individuals are vague because no specific individual "this" is picked out by its sensible accidents:

"Therefore we call something a 'vague' individual whose contracted and particularized nature is realized (*certificatur*) through an indeterminate supposit. [We call] that 'designated' whose nature is contracted and particularized while being realized (*certificata*) in a determinate, demonstrable supposit, such as 'this human demonstrated as Socrates.'"

This seems, then, to reinforce the suggestion that in the perception of the vague individual, the estimative faculty and reason succeed in performing their normal cognitive tasks, but the common and proper senses are in some way impeded.

Albert's subsequent analysis of the vague individual under the rubric of incidental perception confirms this impression. Albert argues that all forms of *cogitatio*⁴²—a term he employs here for any "perception of sensation mixed with something of reason or estimation"— represent instances of incidental perception (*sensibile per accidens*). Since these sensibles are incidental, their perception must be occasioned by an object that is not sensible *per se*, which Albert identifies as "a common nature in a diffuse supposit." Because it involves the grasp of an essence or nature instantiated in a particular, then, there is an element of universality in cogitation that is not, strictly speaking, sensible. And this, in turn, is what requires the senses to draw on reason in the case of mature humans, and estimation in the case of animals and children.

On the basis of this analysis, Albert attempts to forge a close connection between the two senses of the vague individual recognized by Avicenna, the second of which, as we've seen, Avicenna himself considers "vague" only equivocally. By contrast, Albert sees the processes of perceiving both "some x" and "this x" as illustrating the core Aristotelian idea that the most general is always cognitively prior for us. In order to make his point, Albert draws on Avicenna's observation that the more precise the content of

any perception, the more embedded information it presupposes: if I cognize *this man* as *father*, then I also cognize him as human, animal, animate, and ultimately, substance.⁴⁵ For Albert, this is the ultimate import of Avicenna's example of perception at a distance:

For such a sensible cognition falling upon something common, which is diffuse and confused in its supposit, first falls on the most general of individuals rather than upon any other, and it first falls upon an individual of the genus rather than on an individual of the species. But Avicenna proved this most excellently through [the example of someone] whom we see from afar. For we first judge this to be a substance, and because we grasp his motion, we know that he is an animal; and then after this, from the uprightness of his stature we know that he is some human, and finally, through the comparison of individuating features which it is impossible to find in another, we understand that it is Socrates or Plato. But just as in the case of the person whom we see from afar, the distinct cognition is always below the confused, so too it is the case in everything which we cognize sensibly, in accordance with the nature of such sensible cognition, although we are not aware of it (*licet non percipianus*). 46

Perception from a distance, like the perception of "some *x*," requires us to call upon common sensibles (e.g., motion) and estimative intentions (e.g., uprightness of stature) in order to classify a perceived object appropriately. It is important to note that Albert does not take these perceptions to be inferential or even conscious, since he indicates that we need not perceive that we are subsuming more and more distinct notions under common ones. This is just the way the senses work.

While Albert's fusion of the proper and equivocal notions of the vague individual

represents a departure from Avicenna's original account, the point that Albert makes is nonetheless in keeping with the spirit of Avicenna's theory. For there is an obvious sense in which both notions of the vague individual converge in the determinate knowledge of a designated individual, all of whose perceived properties are subsumed under their appropriate essential natures. While Avicenna himself seems uninterested in explaining how this sort of cognition of the singular can come about, in the foregoing passage Albert suggests that all cognition becomes more perfect to the extent that it becomes more precise. Thus, even if it is important to differentiate the sources of vagueness between expressions like "that animal" and "some male," it remains the case that both fall short of complete knowledge of the singular. It is for this reason that cognition under adverse conditions mirrors the stages in the cognitive development of children:

But what has just now been said regarding the person whom we look at from a distance is also suitably clear in the cognition of infant children. For so long as they do not have integrated (*adunatam*) cognition on account of the fluidity of their brains, they do not perceive the differences amongst the sensibles, and therefore their cognition in the common [sense] remains indistinct. But when the brain is gradually dried out, cognition is integrated, and the proper sensibles, through which the things cognized through sensation are distinguished, persist in them, and then their cognitions are made determinate.⁴⁷

Given that Albert, like Avicenna, has placed the perception of the vague individual squarely in the realm of sensation, it is not surprising that he provides a physiological explanation for why infant perception mirrors adult perception under poor conditions. In both cases, what the perceiver is ultimately unable to do is to *differentiate*

amongst the proper sensibles which permit us to make accurate identifications of designated individuals. This, then, suggests that what is at issue here is some incapacity of the common sense to perform its collative and discriminate activities. Presumably in the case of adults perceiving at a distance, the problem in the common sense results from a simple failure of the object to affect the external sense organ strongly enough. In the case of infants, though, Albert's references to the physical state of the brain indicate that he is not so much worried about the underdevelopment of their sense organs (e.g., their inability to focus their eyes), but rather, about the incapacity of the common sense to differentiate among, and then reintegrate, the various proper sensibles. This, then, reflects the view that while the external senses are necessary for perception, they are not sufficient—not even for a complete grasp of the proper sensible. That occurs only in the brain, once the common sense has done the necessary "processing" of the data.

Albert, then, remains close to Avicenna in his understanding of the nature and significance of the vague individual as a cognitive object. Vague individuals for Albert lie primarily within the scope of the external and internal senses, and as sensibles they have a corporeal as well as a psychological manifestation. If Albert displays any propensity to intellectualize the vague individual, it must be viewed as a mere by-product of the underlying account of what Albert in this text calls *cogitatio*. For Avicenna the grasp of the vague individual is a function of the estimative faculty's capacity to perceive intentions, and intentions are at best inchoate universals. By contrast, Albert, like most Latin authors, views the grasp of the common nature or essence that is implicit in acts of incidental perception to be a function of reason itself, at least in mature human beings.⁴⁸
Thus, even in his focus on the role of the internal senses in this process, Albert too

reflects the general tendency of Western authors to see an intelligible core within the vague individual.

3. The *De anima* Commentary of Duns Scotus: A Precursor to Intuitive Cognition?

The works of John Duns Scotus contain numerous references to the Avicennian vague singular in diverse contexts. ⁴⁹ In this section I focus on the role played by the vague individual in question 22 of Scotus's *Questions on Aristotle's De anima*. ⁵⁰ In the following section I consider Scotus's critical response to an intriguing attempt by his predecessor, Henry of Ghent to find an analogue of the *individuale vagum* in angelic cognition. ⁵¹

Question 22 of his *De anima* commentary offers one of the earliest treatments of an issue of great importance to Scotus, "Whether the singular is intelligible to our intellect in itself?" This is a question that is at the core of Scotus's later accounts of intuitive cognition, of course, and Scotus's overall position in this text does not differ radically from the position he will carve out in his more mature writings. He first establishes that the singular is intrinsically intelligible to human intellects (*a nobis intelligibile secundum se*), and he then argues that this holds even in our present, embodied state (*pro statu isto*). Nonetheless the singular remains unknowable to any of our cognitive powers "under the proper notion of singularity" (*sub propria ratione singularitatis*). What is unique about this text, however, is the final account that Scotus provides of the *mode* by which we are able to gain a limited grasp of the singular, where the Avicennian distinction between the *singulare vagum* and the *singulare signatum* plays a pivotal role.

In order to understand why Scotus turns to the vague individual to provide the underlying framework for his account, it is necessary to understand his rationale for

claiming that singularity as such, while intelligible *per se*, is not something *our* cognitive faculties can apprehend. While Scotus denies the principle of the identity of indiscernibles on the ontological level—Scotus believes that it is in principle *possible* for two distinct singulars to possess the identical set of accidental properties—he nonetheless claims that the cognitive powers of human beings depend upon accidental differences to enable them to discern one individual from another:

If two white things are placed before vision, or if any two singulars whatsoever are placed before the intellect, which [singulars] are essentially distinct in reality but nonetheless have entirely similar accidents with regards to place—for example, two bodies in the same place or two rays in the medium—and they have shape, magnitude, color, and the rest [of the sensible accidents] which are in every way similar, neither the intellect nor sense would distinguish between them, but each would judge them to be one; therefore neither of these [powers] knows anything of these singulars according to the proper notion of singularity.⁵⁴

Scotus then follows this empirical observation with a theoretical explanation of why human cognition is subject to such limitations. His argument is based on the maxim that all action, including cognition, is effected through the assimilation of the object to the agent. For this reason, Scotus claims, human cognition is in principle incapable of penetrating the singular as such, since things are not assimilated to one another inasmuch as they are uniquely singular. The singular, then, is a principle of differentiation or distinction, and "it is more the common nature, in which the singulars agree," that enables any agent, including our cognitive powers, to assimilate a patient to itself.⁵⁵

Though we cannot know the singular as such, we are possessed of alternative cognitive mechanisms that permit us to grasp not only universals, but also both vague and designated individuals. Scotus's ensuing account of how those mechanisms actually function is complicated by his decision to offer an explanation of our knowledge of the singular that is neutral with regard to the thorny issue of whether or not the intellect requires intelligible species in its operations. Thus Scotus presents two versions of this account, the first of which eliminates species and the second of which includes them.⁵⁶ In the species-free version, Scotus begins by rehearsing the Avicennian principle that the vague individual is the primary aim of natural teleology. He then argues that just as art imitates nature, so too does cognition in general mirror natural teleology in its move from the vague individual to the common nature, returning finally to the designated individual:

Just as nature in acting does not intend the universal, ... nor does it first intend the designated and definite (*expressum*) singular, ...but it primarily intends to produce the nature in some supposit (and this is the vague individual), so too in representing the species in the imagination it first represents the vague singular, toward which the cognition of the intellect is first directed (and this is clear, because sometimes we understand some singular, while being ignorant to which species it belongs);⁵⁷ secondly it represents the nature absolutely (when, namely, the intellect is directed towards the nature by not considering its singularity); thirdly, by reflecting the consideration of the nature back on the circumstances designating it (by determining [the singular] through them), we can understand the designated individual, namely, that it is here and now and with a certain shape and magnitude and color, etc.⁵⁸

Here Scotus preserves the original developmental overtones of the Avicennian vague individual by treating it as the object first presented to the intellect by the imagination. On this account the vague individual provides the intellect with the raw material it needs first to understand and abstract the common nature, and later to perceive the designated individual as a unique singular. While Scotus explicitly names Avicenna as an ally in this account of how we cognize individuals, the Scotistic vague singular here is an intelligible object, not a sensible.⁵⁹ It is only as an intelligible that it is able to represent the common nature, and more importantly, it is only through its direct availability to the intellect that the vague individual is able to ground the conclusion that Scotus wishes to establish, namely, that by means of the intellect's initial contact with vague individual, the designated singular becomes intelligible to us in this life.⁶⁰

The intelligible status of the Scotistic vague individual is clearer in Scotus's second account of this process, which presupposes intelligible species in the intellect itself. In this case, Scotus argues that even though intelligible species are characterized by their status as abstractions of the nature from its individuating conditions, the intelligible species initially represents the nature to the intellect as inhering in an indeterminate supposit. In other words, in this scenario, the original representational content of an intelligible species *just is* a vague individual:⁶¹

But if we posit species in the intellect, it must be said that a species of this sort has a twofold singularity: for it has one from the subject, because it is in a singular subject, and this it always has; and another from the object from which it is imprinted, at least at first, although through the operation of the agent intellect it is abstracted from individuating conditions. And in this way it first represents

the nature in a vague supposit, because that offers itself first to the intellect; secondly, the nature absolutely; thirdly, the intellect determines it by adding to it the aforementioned singular circumstances. And in this way it understands the designated singular, but not under the proper notion of singularity, as has been said.⁶²

The presumption behind Scotus's argument here is, I take it, that the original representational content of intelligible species is never diminished, though the intellect may use a single species in different ways to represent various aspects of its objects.

Since the vague individual represents the nature instantiated in an indeterminate subject, that same intelligible species can also represent the nature itself without reference to any supposit. And because the species has the capacity to represent the nature as belonging to some individual, the intellect is ultimately able to reconstruct the designated individual out of the various intelligible species in which its nature and its accidents were originally represented.

As was the case with William of Auvergne, the most striking feature of Scotus's appropriation of the Avicennian vague individual in this text is its transformation from a sensible into an intelligible. By treating the vague individual as first in the order of intellectual as opposed to sense cognition, Scotus is able to provide a foundation for the intelligibility of the singular. But this was not a function to which the vague individual was inherently well suited, and it is no doubt for this reason that it fails to reappear in Scotus's mature accounts of singular knowledge. The reason cannot be that Scotus abandoned the view that in this life we cannot grasp the singular as such, for as is well known, Scotus never conceded that human knowers could grasp the individual difference

in statu viae. So the process described in this text, whereby designated individuals are reconstructed in their singularity by the mind, no doubt remains the principal means whereby we are able to differentiate one determinate individual from another.

What Scotus does have available in his later works, however, is his account of intuitive cognition, which he eventually came to believe was possible for human knowers in this life, at least to some degree. While intuitive cognition for Scotus bears upon the quiddity or nature of the object rather than on its individuality or singularity *per se*, it nonetheless permits the intellect to grasp that nature as present and existing, something which is possible only through direct contact with individuals. Once such an intuitive act of cognition is admitted into the intellect as such, the Avicennian vague individual becomes superfluous in Scotistic psychology as a means for upholding the initial presence of singulars to the mind.

4. From Vague Individuals to Vague Concepts: Henry of Ghent and Duns Scotus on Angelic Cognition

Perhaps the most intriguing medieval interpretation of the Avicennian vague individual is Henry of Ghent's appeal to vague concepts as part of his effort to account for certain features of the angelic cognition of singulars. While Henry is, of course, Scotus's predecessor, I have left consideration of his views to the end of this study since they provoked a critical response in Scotus's *Lectura* and *Ordinatio*, both of which postdate his *Questions on De anima* considered in the previous section.⁶⁵

Question 15 of Henry's fifth *Quodlibet* contains three articles, all of which bear upon the general question of whether one angel can know (*cognoscere*) anything new (*de novo*) from another. Henry subdivides knowing into "illumination" on the one hand and

"speech" (*locutio*) on the other, and it is under the rubric of angelic speech that the vague individual enters Henry's account.⁶⁶ That is, Henry's account focuses on the role that the vague singular plays in an angel's ability to convey to another angel some conceptual or intelligible content which that other could not conceive in its own right.⁶⁷ This narrows the scope of the discussion considerably, since Henry holds that natural angelic knowledge takes place through an innate habit that embraces not only common natures, but also any singulars instantiating or participating in them, "which it knows immediately when [those singulars] are among really existent things (*sunt in rerum existentia*)."⁶⁸ Natural knowledge of singulars, then, cannot be communicated through speech, since any such communication would involve a superfluous duplication of what the angel already knows.⁶⁹

Nonetheless, even angelic cognition of singulars is subject to certain natural limitations: it cannot extend to future contingent singulars "which depend upon divine will and foreknowledge alone." In order to know future contingents, angels require a special illumination, and that falls under the category of supernatural rather than natural knowledge. Moreover, since such knowledge must be granted to an angel through a special divine revelation, it will be knowledge that is *exclusive* to her alone and thus unknown to other angels. It thereby meets the condition for being communicable through speech, since its expression will increase the knowledge of the angel to whom it is addressed: "None of the other [angels], however, can naturally see future contingent particulars and the conceptions to be formed concerning them, when they are revealed to one [angel]."⁷⁰

Having established the possibility of angelic speech about future contingents, Henry proceeds to offer a model for understanding angel-to-angel communication based on the role played by vague singulars in human communication. This model in turn presupposes a certain metaphysical and epistemological framework consisting of an account of individuation on the one hand, and an account of how singulars are cognized on the other. Henry presents a detailed overview of this framework in the latter part of the article; in what follows I sketch only those features of his account that bear directly upon the vague individual.

Fundamental to Henry's account here is the claim that in both human and angelic cognition, the singular itself is known under its universal notion (*ratio*). When I know a singular of some species, for example, Socrates, this adds nothing new to my knowledge of the specific nature, humanity, which Socrates instantiates. Henry supports this claim metaphysically by arguing that the principle of individuation is "an attached *negation* by which the form that is universal of itself has this being in this thing in this way" (my emphasis). The universal and particular differ thus only "in intention," the former being indeterminate, the latter designated. Hence nothing new in reality (*secundum rem*) needs to be added to transform universal into particular knowledge. 72

While Henry claims that this basic picture holds for both angelic and human knowledge, the way in which universal and particular knowledge are related in the two cases is quite distinct. In humans, of course, universal knowledge is not primary, since we are dependent upon abstraction from phantasms to acquire universals. ⁷³ Angels, by contrast, do not require a prior abstraction from singulars in order to understand the universal. ⁷⁴ Henry also invokes the traditional metaphor of singular cognition as a

"bending back" or "reflection" on the phantasm to explain how humans know actually existent particulars under their universal *rationes*. Angelic singular cognition, however, involves no bending back or reflection (since there is no prior sensation of the singular), but is instead likened to a straight line extending directly to the singular (*linea recta protensa*). 75

On this model of singular cognition, then, Henry argues that the angelic intellect knows singulars neither "universally and in the universal," nor even by *applying* the universal form to the extramentally existing singulars (which presumably would require sensation). Rather, the angel's knowledge of all existing singulars is immediately included in its knowledge of the universals under which they fall. The main difference between our cognition of singulars and the angelic, then, is that we require direct physical contact with singulars through sense and imagination, whereas the intelligible form in the angelic soul directly confers to the angel knowledge of the universal and of all its actual instances simultaneously.

Henry's account of the angelic cognition of singulars as presented in this article shares certain features with the later Scotistic model of intuitive cognition. Like intuitive cognition, angelic singular cognition pertains primarily and *per se* to the quiddity or essence, though in Henry's case there is no additional individual difference which accounts for singularity itself. More importantly for my present concerns, however, both angelic cognition of singulars in Henry, and intuitive cognition in Scotus, grant knowledge of the cognized object inasmuch as it is *present* and *existing*. It is this limitation which Henry believes requires something like the vague individual to permit singular knowledge to be extended to future contingents.

According to Henry, as we've already noted above, even angelic cognition does not extend to singulars that are not yet existent, though through divine revelation an angel can come to know some future possible existent, such as the Antichrist, in its singularity. Henry is not clear on exactly how divine revelation is supposed to work in such cases; what is clear is that since such knowledge is the product of a special revelation from the divine will, it extends exclusively to that individual angel whom God has chosen to receive it. Thus, "when that human being who will be the Antichrist is revealed to one angel, and this has not been revealed to another, then neither is that other able to know this by a natural cognition." But the angel who has received the revelation is able to communicate it to another through speech. To do so, however, she must have recourse to the vague individual:

That which [one angel] sees concerning that designated particular in an indivisible individual (*in atomo indivisibili*) through revelation, under the notion (*ratio*) of its universal, without the innovation of any concept and knowledge which he adds to the singular known as a singular, over and above (*super*) the universal known as a universal, forms for him, of a vague particular, one new intellectual concept which the other can naturally conceive, in order to express that designated particular. For just as we cannot express to another by speaking the designated singulars known by us under a designated notion (*sub ratione signati*), unless they are expressed by words indicating vague singulars along with some sort of designating and determining properties, in a similar way an angel cannot express to another by speaking a designated singular known by it through the aforesaid revelation, unless through its words (*per verba sua*), which

are concepts indicating a vague singular. In this way it is the case that speech concerning designated singulars always comes about through vague singulars; nor can one angel manifest to another through the same designation (*sub eadem signatione*) under which it was revealed to him. Indeed, the other angel sees such a concept of this sort of vague singular in the intellect of the first angel, and forms in his own intellect a similar vague concept of that particular under the notion of his own universal.⁸⁰

On Henry's account here, designated singulars can only be known properly through some sort of direct acquaintance, whether the knower in question is human or angelic, and whether the knowledge is natural or supernaturally revealed. Knowledge of designated individuals *qua* designated is thus incommunicable by its very nature, ⁸¹ though the content of such knowledge can be conveyed to another by applying definite descriptions to a vague singular. Unfortunately Henry does not provide an actual example of how such a vague individual is to be construed—he does not, for example, indicate whether its linguistic expression would take the form of "some x" or "this x." The general picture, though, seems to be similar to the one outlined in Scotus's De anima commentary: the vague individual represents the supposit or subject, e.g., the Antichrist, to which various designating properties are added in order to communicate to another, as precisely as possible, the content of the designated knowledge that has been revealed directly to the speaker, e.g., when and where the Antichrist will be born, who his parents will be, and so on. 82 Henry insists, however, that the object of cognition is the same in both cases, though the concepts by which the objects are grasped are diverse, "one is a vague [concept], the other a designated one, of the same thing."83 Nonetheless, the vague

concept which one angel formulates in order to communicate to another is a new concept and a new item of knowledge, and in this way it differs radically from the angel's natural knowledge of singulars, which Henry insists adds nothing new to the angel's natural universal knowledge of the essence which that singular exemplifies.

Given the similarity between the picture that Henry paints here of angelic communication via vague singulars, and Scotus's own understanding in the *De anima* commentary of the role that vague singulars play in human cognition, it is not surprising that Scotus's rejoinders to Henry in the *Lectura* and *Ordinatio* do not repudiate Henry's account of the vague individual itself. Rather, on the basis of his rather different views on angelic cognition, Scotus argues that the role that Henry assigns to the vague individual in the foregoing account is superfluous.

Scotus's summary of Henry's position is generally accurate and concise, though there are a couple of points in his interpretation that are noteworthy. First, Scotus forges a clear distinction between the vague *particulars* of human cognition, and the vague *concepts* that angels possess, a distinction which is at best only adumbrated by Henry. Secondly, Scotus interprets Henry's account of vague concepts in the light of Henry's earlier discussion of angelic illumination. On this reading, vague concepts do not allow one angel to illumine another directly (since only God can do that); rather, in forming a vague concept, one angel offers something luminous to another, by which the other is then able to see on its own:

Concerning the third article, namely, how one angel can speak to another and manifest [what is hidden] to him, [Henry] says that just as when we wish to speak of some singular, we formulate (*formamus*) a vague particular of the singular

through its accidents (and therefore I do not produce a distinct cognition in you in the same way as I do in myself), so too an angel, when it speaks to another about some singular, forms in itself a vague concept so as to be a sign of that singular of which he speaks; and in this way to formulate (*formare*) is to propose to him such a sign as a sort of book in which he can read, and this is for him to speak. ... [Henry also says] that to illume occurs in four ways... [the second of which is] to offer light (as one who offers a candle illumines a house).... In the second way, [one angel] can offer [another] something luminous, by making a vague concept which he shows to the other.

As Scotus presents the vague individual here, its cognitive function now appears to be extremely limited even for humans. For we humans only employ vague particulars to communicate our distinct knowledge of designated singulars to others. This contrasts sharply with Scotus's own *De anima*, where the vague individual appears to constitute an integral stage in all acts of coming to know singulars. Whether this restriction is simply a reflection on Henry's own focus on angelic speech, or whether it instead indicates that intuitive cognition has already supplanted the function assigned to the vague singular in Scotus's earlier work, is difficult to discern.

In the case of angelic cognition, it is clear that Scotus views the vague concept to be superfluous because he sees no need "to deny that the intellect of an angel directly and immediately knows the singular." And if the angelic intellect has such direct knowledge available to it, then any vague concept it acquires through another angel "speaking" to it will simply duplicate, in an imperfect and indistinct way, knowledge already available to it distinctly and directly. Moreover, while Henry's original evocation of vague concepts

was meant to solve the particular problem of one angel communicating to another some item of knowledge that had been supernaturally revealed to her by God to the exclusion of other angels, Scotus also rejects Henry's implicit claim that the supernaturally revealed contents of one angel's mind are opaque to other angels. Thus, just as angels can know singulars directly, so too can they know directly the contents of another angel's mind, without the latter needing to convey those contents through vague concepts:

Moreover, we [humans] make and form a vague singular to express some unknown singular through known signs. But if I can immediately cause in your intellect an act of understanding that determinate singular, or even a principle for understanding [it], it would be superfluous for such a vague [singular] to be formed. Therefore, since one angel can cause knowledge of a revealed singular in the intellect of another, it will be superfluous to form that vague concept.⁸⁸

In this passage it is again clear that the vague individual has been greatly demoted from the position it held in accounting for our knowledge of singulars in Scotus's *Questions on De anima*. Nor is the demotion simply a return to the original role assigned to the Avicennian vague individual in explaining Aristotle's example of the child who calls all men "father." For both Avicenna and the early Scotus recognized the vague individual not only as a stage in human cognitive development, but also as an essential ingredient within many of our more advanced cognitive activities, both those directed towards the singular and those which culminate in intellectual abstraction. Here in the *Lectura*, by contrast, the vague singular seems to represent a sort of cognitive crutch to which we resort only in the absence of direct access to determinate singulars. Its sole function now seems to be to facilitate the signification of "unknown singulars" to others. As such, the

vague singular has become purely a communicative and linguistic tool which contributes nothing in its own right to the knowledge of the person who conceives it. My knowledge, as a speaker, is of the designated individual. Since I, unlike an angel, cannot reveal the contents of my mind directly to you, the only expression of my singular knowledge that remains possible will take the form of a vague individual, suitably attired in whatever designating properties I may care to dress it up.

IV. CONCLUSION

We have come a long way from the Avicennian vague individual and its Aristotelian inspiration. What began as an item of sense cognition underwent a series of intellectualizing transformations that eventually brought the vague individual into the realm of angelic cognition, a development that would no doubt have greatly astonished Avicenna himself. Nor can it be said that the various intellectualizing trends in the Latin interpretations of the vague individual generally served to elevate its importance in medieval theories of cognition, despite the shared assumption of the superiority of the intellect to the senses. Where the Avicennian vague individual has a small but central role to play in explaining both the sensible cognition of singulars and the ability of the senses to contribute to the acquisition of universals, by the time that Scotus was commenting on the Sentences its role had been severely marginalized and diminished. While it would come into greater prominence once again in the linguistic theory and cognitive psychology of John Buridan and his successors, 89 the vague individual, like many of the less well-known legacies of Arabic philosophy in the West, remained an Avicennian doctrine in name and lineage alone. Its philosophical functions and significance underwent a complete makeover at the hands of Latin authors, and the end product was

one that Avicenna himself would, I believe, have found almost unrecognizable.

NOTES

¹ Aristotle, *Physics* 1.1, 184b11–12. All translations of Aristotle are from Barnes 1984.

² Later in the 13th and 14th centuries, Avicenna's *singulare/individuale vagum* made its way into accounts of the signification of singular terms. Here too Avicenna's Latin readers departed from Avicenna's own emphasis in their accounts of the vague individual. Whereas Avicenna makes expressions of the form "this *x*" a derivative type of vague individual (see below at nn. 15–17), Latin authors considered "this *x*" as the paradigmatic case of the vague individual, and they relegated expressions of the form "some *x*" to secondary status. (Ashworth 2004, §2; 2006, 127–28).

³ Avicenna, *Physics* 1.1, A10; L12–13.

⁴ There is some variation in the Latin terminology employed to translate Avicenna's contrast between vague and determinate (or designated) individuals in the various texts available to the West. In the *Physics* Avicenna most often contrasts the "vague" (*muntashar*) individual with the "determinate" (*mu'ayyan*) individual; "definite" (*mahdūd*) and specified (*mukhaṣṣaṣ*) are also employed as synonyms for "determinate." In this text Avicenna does not use the normal technical term for "designated," *al-mushar ilay-hi*, that is, the Arabic equivalent of the Greek *tode ti*. Nonetheless the Latin translation of the *Physics* consistently employs *signatum* (occasionally qualified by *expresse*) and sometimes *designatum*—the standard Latin equivalents for *al-mushar ilay-hi*—to render *mu'ayyan* and synonymous terms. In the parallel discussion of the vague individual and natural teleology in the *Metaphysics*, however, Avicenna does contrast *al-shakhṣ al-muntashar* with *al-shakhṣ al-mushar 'ilay-hi*; here he also describes the vague individual as "indeterminate" (*ghayr mu'ayyanin*) (*Metaphysics* 6.5, §22, A222.6–9). The Latin translation of the *Metaphysics*, however, misses this contrast entirely, since it renders *muntashar* inaccurately as *perpetuum*, reflecting the context of the passage, which concerns the eternity of the species: "Prima igitur intentio naturae est ut permaneat natura humana et alia huiusmodi vel individuum perpetuum non designatum" (*Metaphysics* 6.5, L334.38–39). So in this case Avicenna's Latin readers simply picked up the

connections between the two discussions through their own ingenuity, without any direct help from the Latin versions of the text.

⁵ Avicenna, *Physics* 1.1, A8–9; L5–6. Avicenna reiterates this point in his discussion of final causality in *Metaphysics* 6.5, §§22–23, A226.

⁶ Avicenna, *Metaphysics* 8.6, §15, A288. For discussion of Avicenna's accounts of God's knowledge of particulars, see Marmura 1962; Adamson 2005.

⁷ Avicenna, *Physics* A9; L10; cf. *Metaphysics* 6.5, §22, A226.5–22. In spite of its obvious association with his controversial position on particular providence, the teleological function of the vague individual is frequently invoked by Latin authors, often approvingly, or at least without any negative overtones. See, for example, Albert the Great, *Physics* 1.1.6, 12b–13a; Duns Scotus, *Questions on De anima*, q. 22, cited a n. 58 below.

⁸ Avicenna, *Physics* A9; L9–10.

⁹ Ibid., A9: L9–10

¹⁰ Ibid., A9: L10–11.

The main texts on the common nature or pure quiddity are *Metaphysics* 1.5 and 5.1–2, as well as *Isagoge* 1.12, the latter of which is translated and discussed in Marmura 1979. In commenting on *Physics* 1.1 Albert also invokes the various modes of existence of the common nature as outlined in Avicenna's *Isagoge*, though he treats the doctrine as Platonic rather than Avicennian. See Albert the Great, *Physics*, 1.1.6, 10ab.

¹² Avicenna, *Physics* A9–10; L11. Avicenna is not assuming here that any perception of an object, O, that possesses features p, q, and r is *necessarily* a perception of p, q, and r. That is, his argument does not presuppose that every perception entails complete awareness of all of the features of the perceived object. His point is rather that if a sense perceives *this* p, and the perception of q is necessarily entailed by the perception of p, then the sense must also perceive p. For example, if I see *this human*, that is, I am

consciously aware of her as human, then I must also see this animal.

¹³ Avicenna, *Physics* A10; L12.

¹⁴ Ibid., A10; L12. Note here the rendering of *khayāl al-ma'nā* as *imaginatio intellectus* rather than *imaginatio intentionis*, as we might expect. Perhaps this simple linguist point contributed to the intellectualizing of the vague individual by Latin readers of Avicenna's *Physics*.

¹⁵ See the text cited at n. 12 above.

¹⁶ Avicenna, *Physics* A10; L12.

¹⁷ Ibid., A11; L14.

Aristotle, *Posterior Analytics* 2.19, 100b10–13: "Thus the states neither belong in us in a determinate form, nor come about from states that are more cognitive; but they come about from perception—as in a battle when a rout occurs, if one man makes a stand another does and then another, until a position of strength is reached." Avicenna interprets this remark as follows: "And the First Teacher compared the state of assembling (*ijmā*') universal forms in the soul with the state of assembling a battle line. For whenever a rout occurs, one person stands his ground, then another one goes straight to him and stops next to him, then a third person follows the two of them and joins the formation (*al-amr*). So one by one they do this and return, and the line is arrayed a second time. So the line is arrayed bit by bit. Likewise knowledge, and the intelligible universal form, are impressed in the soul bit by bit from sensible units. Whenever [these units] are assembled, the soul acquires the universal forms from them and then sends them forth" (*Demonstration* 4.10, 332).

¹⁹ *Demonstration* 4.10, 332.

²⁰ The *Demonstration* describes the acquisition of universals in fairly standard abstractive terms and emphasizes the role played by sensation in the process. This does not mean, however, that Avicenna here repudiates the emanative account of the acquisition of intelligibles that he provides in his *Psychology*, and in fact he explicitly alludes to the need for "divine emanation" (4.10, 331) to be attached to the sensory

preparations in order for the principles of knowledge to be obtained.

- ²¹ For an overview and analysis of Avicenna's account of the estimative faculty, see Black 1993; for other recent accounts see Hasse 2000, 127–153; Hall 2006.
- ²² Here as in his other accounts of estimation, Avicenna assigns these judgments not only to non-rational animals, but also to humans when they make sensible judgments without drawing on their intellectual powers.
- ²³ This also includes the more specific tag *homo vagus*, which is often given as the example of a vague individual.
- The *translatio vetus* of James of Venice reads as follows: "Unde ex universalibus in singularia oportet provenire; totum enim secundum sensum notius est, universale autem totum quiddam est; multa enim comprehendit ut partes universale. Sustinent autem idem hoc quodammodo et nomina ad rationem; totum enim quiddam et indiffinitum significat, ut circulus, diffinitio autem ipsius dividit in singularia. Et pueri primum appellant omnes viros patres et matres feminas, posterius autem determinant horum unumquodque" (*Aristoteles Latinus* 7.1, 1.1.8). The anonymous *translatio Vaticana* reads: "Totum enim secundum sensum est notius. Sed uniuersale totum quid est; multa namque comprehendit quemadmodum partes uniuersale. Passa sunt autem hoc idem modo quodam et nomina ad rationem. Totum enim quid et indefinite significant, vt circulus, eius uero diffinitio diuidit in singularia. Et pueri hic quidem uiros omnes patres existimat et mulieres matres. Posterius uero horum diffinit utrumque" (Ibid., 7.2, 1.1.3).
- ²⁵ Apart from his negative attitude toward the Agent Intellect, William's dependence on Avicenna has generally been recognized by contemporary scholars, though many specific borrowings are often overlooked, in part because William tends to attribute to Aristotle himself theses that are in fact derived from Avicenna's *Healing*, something he does in the case of the vague individual. For other examples of this phenomenon see Hasse 2000, 44–45.

²⁶ Nonetheless, because William also holds that the soul is absolutely indivisible, he also rejects the

doctrine of an intrinsic agent intellect functioning as a faculty within the soul (*De anima* 7.3, 205a-206b). For an overview of William's views on the Agent Intellect, see Teske 1995.

²⁷ At no point does William mention Avicenna as a source for his conception of the vague individual. Yet just two chapters prior to his own account of the vague individual in the *De anima* (7.5, 210a), William argues that the absence of any reference to the Agent Intellect in the opening of Aristotle's *Physics*, where there is an account of "the principles, causes, and elements of natural things," shows that the Agent Intellect plays no useful role in the explanation of knowledge-acquisition.

²⁸ For William's account of how the intellect knows first principles, see *De anima* 7.6.

²⁹ William uses the terms *abstractio*, *spoliatio*, and *denudatio* to describe this operation. The other two methods to which William is referring here are: (1) sense perception; and (2) inferring causes from their effects.

³⁰ Here William is referring back to the account of the *De universo* that I discuss below.

³¹ William of Auvergne. *De anima* 7.5, 213ab, trans. Teske 2000, 449–50.

³² The context here helps to explain William's negative tone: William is addressing the general efficacy of Aristotelian abstraction as a rejoinder to the Platonic thesis of a world of archetypal Forms. While William does not believe that the human intellect in this life has any unaided access to the world of intelligible archetypes, he also rejects the Aristotelian claim that the intellect's natural process of abstraction can yield truly intelligible objects. The negative picture of abstraction as a process which yields only a vague individual is thus evidence of the natural limitations that affect embodied minds.

³³ De universo 1a-2ae, 14, 821b-822a, trans. Teske 1998, 168–9.

³⁴ Cf. Teske 1995, 214.

³⁵ Albert the Great, *Physics* 1.1.6, 9b–13a.

³⁶ Reading *cogitationis* for *cognitionis* at line 57.

³⁷ Albert the Great, *Physics* 1.1.6, 11b.

³⁸ Ibid. 1.1.6, 11b.

³⁹ Ibid.

⁴⁰ Cf. Aristotle, *De anima* 3.1, 425a30–b10.

⁴¹ Albert the Great, *Physics* 1.1.6, 11b. Albert uses the term *certificata* and its cognates throughout this discussion to indicate that the supposit in which the nature is instantiated is determinate. This terminology echoes the Latin version of Avicenna's *Metaphysics* 1.5 (L35), in which *certitudo* is used to translate *ḥaqīqah*—reality—when used as a synonym for the quiddity or essence (*unaquaeque res habet certitudinem propriam quae est eius quidditas*). The meaning is therefore that the nature has been "made real" or "realized" in a concrete particular.

⁴² Albert, *Physics* 1.1.6, 11b–12a. The edition reads: *cognitio*, *quae est perceptio sensu cum permixtione aliqua rationis vel aestimationis*. Once again I read *cogitatio* for *cognitio*, since the former is in keeping with the standard terminology employed in medieval discussions of the internal senses.

⁴³ Albert, *Physics* 1.1.6, 12a.

⁴⁴ Ibid.: "et casus eius est supra naturam communem in supposito diffusam; haec enim natura communis est universale acceptum in re secundum esse."

⁴⁵ Ibid.: "Cum autem omnis distinctio cognoscibilis necessario sit facta sub aliquo communi. quod prius accipitur secundum cognitionem, oportet, quod antequam distincte cognoscatur hic vir esse pater, cognoscatur vir esse pater, et antequam cognoscatur vir esse pater. oportet, quod homo cognoscatur esse pater. Et cum iterum cognitio patris hominis sit cognitio aliquo modo distincta, oportet quod ante eam sit cognitio communis, sub qua est distinctio illa quae est cognitio animalis. Et per hunc modum ante illam est cognitio animati et cognitio substantiae." On the Avicennian background cf. above at n. 12. It is worth recalling that in this context Avicenna himself uses examples of the form "this *x*," since the point is not confined to the properly vague individual.

⁴⁶ Albert, *Physics* 1.1.6, 12a.

- ⁴⁸ Infant perception may be an exception to this general point. Albert seems to indicate that an infant's grasp of the vague individual is more akin to the judgments of animal estimation. For a discussion of some of the differences between the Latin and Arabic understanding of the internal senses, see Black 2000.
- ⁴⁹ Thanks are due to my friend and colleague Stephen Dumont of the University of Notre Dame for searching his database of Scotus texts on my behalf; he is also the person who alerted me long ago to the interest in this Avicennian text among Latin authors. For the vague singular in Scotus's corpus see also Wolter 1990, 121.
- ⁵⁰ Duns Scotus, *Questions on De anima*, q. 22, 227–240.
- ⁵¹ Henry's account is found in *Quodl*. V, q. 15; Scotus's responses are found Bk. II, d. 9, qq. 1–2 of both the *Lectura* and *Ordinatio*.
- 52 Questions on De anima, q. 22, 227: Utrum singulare sit ab intellectu nostro per se intelligibile?
- The differences between q. 22 of the *Questions on De anima* and Scotus's other discussions of our knowledge of individuals led Bérubé to question the authenticity of this text (Bérubé 1964, 134–234, esp. 209, 221–224). The comprehensive overview of this and other arguments regarding the authorship of these questions in the Introduction to the recent critical edition nonetheless comes down strongly in favor of authenticity (*Questions on De anima*, 121*–137*).
- Questions on the De anima q. 22, n. 27, 234. Pasnau 2003, 296, also cites this passage from Scotus. Pasnau argues that it points to the fact that we need to cognize some additional feature, i.e., the individual difference, in order to grasp the singular as such, although Scotus consistently denies that we have cognitive access to the individual difference in this life. While I agree that this is the direction in which Scotus is leaning, such a solution does not yet emerge in this early text. For later texts that also deny the identity of indiscernibles, see *Questions on Metaphysics*, Bk. VII, q. 15, n. 20; trans. in Etzkorn and Wolter 1998, 259. On this point cf. also Wolter 1990, 112.

⁴⁷ Ibid., 1.1.6, 12a.

- ⁵⁵ *Questions on De anima*, q. 22, n. 27, 235: "Cuius causa est principium agendi-assimilandi, quia agens intendit assimilare patiens sibi, et hoc specialiter est verum in cognitione quae fit per assimilationem; sed principium assimilandi non est singulare ut singulare est, immo magis distinguendi (quia in singularitate differunt), sed magis natura communis in qua singularia conveniunt; igitur singulare ut singulare non est principium agendi nec in sensu nec in intellectu." The principle that Scotus articulates here—that all cognition proceeds by way of what is in some way common—is also invoked by Albert the Great at *Physics* 1.1.6, 12a.
- ⁵⁶ The response *si non ponamus speciem in intellectu sed tantum in phantasia* is given in nn. 34–35, 237–38; the response *si vero ponamus speciem in intellectu*, is given in nn. 36–37, 238.
- ⁵⁷ This seems to indicate that Scotus here takes the vague singular to be of the form "this x," i.e., the equivocal Avicennian sense (cf. above at n. 17), since he seems to have in mind cases where a definite individual is picked out, though we remain unsure what *kind* of thing it is.
- ⁵⁸ *Q. in De anima* q. 22, n. 34, 236–237.
- ⁵⁹ Ibid., q. 22, n. 35, 237: "modum autem praedictum intelligendi singulare ponit Avicenna *I Physicorum*." While this passage initially appears to treat the vague individual as a sensible object—a *species in phantasia*—this point is necessitated only by Scotus's concession to those who deny the existence of *intelligible* species in this part of the argument. The remainder of the passage clearly envisages the vague singular as an object which the intellect itself considers.
- ⁶⁰ Scotus thus concludes that we know designated individuals by something like definite descriptions (Ibid., n. 35, 237–38): "Dictus autem modus intelligendi singulare non est simplex, ut dictum est, sed est compositus ex conceptibus multarum circumstantiarum universali conceptui additarum. Et hoc patet experimento: sicut enim res intelligimus, sic eas significamus et aliis exprimimus; sed conceptum singularis signati nullo alia modo exprimimus quam praedicto nec alios aliter scimus docere. Unde dicimus 'Socrates est unus homo albus, crispus, longus, blaesus' et huiusmodi, ut quilibet experitur in seipso et

ceteris."

Although Avicenna does not address our cognition of the designated individual in the *Physics* passage which deals with the vague individual, in *Isagoge* 1.12 and *Metaphysics* 5.8 he presents accounts of our knowledge of individuals which are quite similar to the one that Scotus offers here. Like Scotus, Avicenna too appears to reject the identity of indiscernibles and accept that it is possible, at least in principle, for two distinct individuals to have all of the same properties. See *Isagoge* 1.12, 70; trans. in Marmura 1979, 50–51. Avicenna reiterates this point in *Metaphysics* 5.8, §§6, 7–8, 188–89).

The fifth objection in *Questions on De anima*, q. 22 (n. 5, 228) argues that the same species cannot represent both the universal and the singular, since universality and singularity are incompatible. In reply to this objection, Scotus argues that for those who do uphold intelligible species, both the universal and singular are represented, but in different ways: "Ad aliud dicendum quod per eandem speciem, aliter tamen consideratam, intelligimus universale et singulare, quia illa species repraesentat naturam primo in aliquo supposito vago; secundo, naturam absolute; tertio autem cum designationibus particularibus circumstantibus naturam et singulare signatum." (n. 40, 240).

⁶² Ibid., n. 36, 238.

⁶³ For the development of Scotus's thinking on intuitive cognition, see Dumont 1989, and chapter 5 of Wolter 1990. Question 22 of the *Questions on De anima* contains one brief reference to the distinction between intuitive and abstractive cognition in a response to an objection, but the distinction does not figure further in the main response to the question. See *Questions on De anima*, q. 22, n. 33, 236.

⁶⁴ On this see, for example, *Ordinatio* II, d. 3, pars 2, q. 2, nn.318–321, 552–54; *Lectura* II, d. 3, pars 2, q. 2, nn. 285–88, 3321–22; *Questions on Metaphysics* VII, q. 15, n. 18, trans. in Etzkorn and Wolter 1998, 258.

⁶⁵ The editors of the recent critical edition argue that the *Questions on De anima* should be dated to the early 1290s (143*).

Third, 180V; cf. 180ZA. Henry evokes what is essentially an Avicennian point to make this case, when he argues that once our intellect has abstracted a universal from a phantasm, then so long as that universal remains in our intellect, nothing new will be added to our universal knowledge if we should encounter that same nature in another phantasm. All we would perceive is "an old perception under a new respect, as in this phantasm" (antiquuum perceptum perciperet sub nouo respectu, ut in hoc phantasmate, 182C). The Avicennian version of this principle is found in Psychology 5.1, A236–37, L129–131: "For whenever sensation presents some form to the imagination, and the imagination presents it to the intellect, the intellect takes an intention from it. But if the imagination presents to it another form of this species which is other only numerically, then in no respect will the intellect take from it a form that is other than one that it had taken [previously]. ... The meaning of this is that once the preceding image has made the form of humanity, [for example], known to the soul, the second one does not make anything known at all. Rather,

⁶⁶ Henry of Ghent, *Quodl*. V, 15, 179GH.

⁶⁷ Ibid., 180Q: "Dicitur autem loqui inquantum ordinatur ad indicandum alteri rem quae in ipso verbo concipitur: quam ille secundem se non potest concipere, quemadmodum nos quia non possumus indicare alteri homini verbum mentis nostrae utimur verbo corporis ad illud indicandum pro ipso."

⁶⁸ Ibid.

⁶⁹ Ibid., 180R: "De eis quae naturaliter cognita sunt ab angelis beatis, siue in verbo siue in propria natura, non sit proprie locutio. Quia omnia illa quilibet angelus vident, licet differenter secundum maiorem et minorem lympiditatem. ... Vanum enim videtur angelum angelo indicare quod ex se nouit...."
⁷⁰ Ibid., 180R.

⁷¹ Ibid., 180T. For individuation as a form of negation, cf. also 182C, 183F. Henry's account of individuation is complex and different elements are emphasized depending on the context; Henry does not always limit individuation to a negative principle. For an overview of Henry's various accounts see Brown 1994; Pickavé 2005.

the intention imprinted on the soul is one which comes from the first image, and the second image makes no impression. Either one of the two [images] would, however, be able to precede the other and to produce this very same impression in the soul, which would not be the case with two individuals, one of which was a human and the other a horse."

⁷³ *Ouodl.* V, 15, 182AB.

⁷⁴ Ibid., 182C.

⁷⁵ Henry develops the metaphors of the straight and bent lines at considerable length at 182DE.

⁷⁶ Ibid., 182–83F. With this claim Henry is clearly trying to distance his account of angelic cognition from the notorious Avicennian claim that the divine intellect knows particulars only "in a universal way."

⁷⁷ *Quodl.* V, 15, 182GF. Henry argues that this is possible because physical quiddities or essences include not only form, but also matter.

⁷⁸ Henry's account leaves unanswered the question of what mechanisms angels have that allow them to know existent singulars *as existent*, in the absence of direct physical or sensible contact with them. This lacuna is one that Henry's account of vague concepts shares with the Scotistic account of intuitive cognition, which Scotus himself upholds by appealing to the maxim that whatever a lower power can do, a higher one can do better (*Ordinatio* II, d. 3, pars 2, q. 2, n. 321). On the general problem of medieval explanations of *how* singular thought can occur, see King forthcoming.

⁷⁹ *Quodl.*, V, 15, 181S.

⁸⁰ Ibid., 181S.

⁸¹ The act of divine revelation appears to be the sole exception to this claim.

⁸² Ouodl. V. 15, 183I.

⁸³ Ibid., 181S.

⁸⁴ Lectura II, d. 9, qq. 1–2, nn. 29–30; Ord. II, d. 9, qq. 1–2, n. 29, 145–46.

⁸⁵ While Henry clearly views angelic vague singulars as *concepts*, there is no indication that human vague

singulars are not also conceptual for Henry, though Henry differentiates between the purely intelligible "speech" of angels and the physically embodied, vocal utterances of humans.

⁸⁶ Lectura II, 9, 2, n. 29, 23; cf. Ordinatio II, 9,2, n. 29, 145–46. Scotus omits the link between this mode of illumination and vague singulars in the later Ordinatio discussion. The point of the analogy, I take it, is that when one angel describes a vague individual to another angel, the "listening" angel will draw on the divinely illumined concepts she already has to form a new concept of the revealed future contingent.

selloid., n. 44, 28–29. Cf. *Ordinatio* II, 9, 2, n. 44, 154–55: "Praeterea, superfluum videtur ponere istum conceptum vagum. Non enim exprimimus singular determinatum, nobis notum, per singular vagum, quia scimus nos non posse causare conceptum in intellectu illius cui loquimur et scimus ei notas esse condiciones universales particularis vagi: si possemus facere conceptum distinctum de illo de quo exprimeretur, singulare determinatum nobis notum, per vagum particulare; igitur cum angelus possit immediate facere conceptum distinctum singularis distincti sibi noti, in intellectu alterius ... frustra ponit conceptum vagum indeterminatum." In the *Lectura* Scotus also refers the reader to own account later in this article of how angels can reveal the contents of their own minds to other angels through voluntary acts of communication (nn. 86–88, 43–44). In n. 86 Scotus specifically identifies such an act of cognition as intuitive, *if* the object is present and existent. In the case of revealed objects such as those that are the focus of Henry's original discussion, it obviously cannot be a case of intuitive cognition, as Scotus makes clear in his response to an objection (n. 121, 54): "Sed angelus non potest causare talem visionem intuitivam, quia non habet in se rem praesentem existentem, sed tantum praesens est in actu suo..." (n. 129, 56–57).

⁸⁷ Lectura II, 9, 2, n. 37, 27.

⁸⁹ See Lagerlund 2004 and Ashworth 2004 for detailed accounts of these developments.

References

Primary Sources:

ARISTOTLE

Physica: Translatio vetus, ed. F. Bossier and J. Brams; Translatio Vaticana, ed. A. Mansion.
Veneticus (trans.) Aristoteles Latinus 7.1–2. Leiden: Brill, 1990.

ALBERT THE GREAT

Physica: ed. P. Hossfield. Opera omnia 4.1, ed. B. Geyer. Westfalen: Aschendorff, 1987.

AVICENNA

Demonstration: . Al-Shifā': Al-Burhān, ed. A. E. Affifi and I. Madkour. Cairo, 1956.

Isagoge: Al-Shifā': Al-Madkhal, ed. G. Anawati, M. El-Khodeiri, F. al-Ahwani, and I. Madkour. Cairo, 1952.

Metaphysics: The Metaphysics of The Healing (Al-Shifā': Al-Ilāhiyyāt), ed. and trans. M. E. Marmura. Provo, Utah: Brigham Young University Press, 2005 (=A); Medieval Latin version: Avicenna Latinus: Liber de Philosophia Prima sive Scientia Divina, ed. S. Van Riet. Leiden: Brill; Peeters: Louvain, 1977 (=L).

Physics: Al-Shifā': Al-Ṭabī'īyāt., Part One: Al-Samā' Al-Ṭabī'īy, ed. Said Zayed and Ibrahim Madkour. Cairo, 1983 (=A); Medieval Latin version: Avicenna Latinus: Liber Primus Naturalium: Tractatus Primus de Causis et Principiis Naturalium, ed. S. Van Riet. Leiden: Brill; Peeters: Louvain, 1992 (=L).

Psychology: Al-Shifā': Al-Nafs, ed. F. Rahman, Avicenna's De anima, Being the
Psychological Part of Kitāb al-Shifā'. London: Oxford University Press, 1959 (=A).
Medieval Latin version: Avicenna Latinus: Liber de anima, seu sextus de naturalibus, ed.
S. Van Riet. 2 vols. Louvain: Éditions Orientalistes; Leiden: Brill, 1968 (=L).

HENRY OF GHENT

Quodl.: Quodlibeta, ed. J. Badius Ascensius. 2 vols. Paris, 1518; rpt. Louvain, 1961.

JOHN DUNS SCOTUS

- Lectura: B. Ioannis Duns Scoti Opera Omnia, vol. 19. Ed. C. Baliç et al. Vatican City: Typis Polyglottis Vaticanis, 1950–.
- Ordinatio: B. Ioannis Duns Scoti Opera Omnia, vol. 8. Ed. C. Baliç et al. Vatican City: Typis Polyglottis Vaticanis, 1950–.
- Questions on De anima: B. Ioannis Duns Scoti Quaestiones super secundum et tertium De anima, ed. C. Bazán et al. Opera Philosophica vol. 5. Washington, D. C.: The Catholic University of America Press: St. Bonaventure, N. Y.: St. Bonaventure University, 2006.
- Questions on Metaphysics: Quaestiones super libros Metaphysicorum Aristotelis, ed. R. Andrews, G. Etzkorn, et al. Opera philosophica vols. 3–4. St. Bonaventure, NY: Franciscan Institute, 1997–98.

WILLIAM OF AUVERGNE

De anima; De universo: Guillielmi Alverni Episcopi Parisiensis Opera Omnia. 2 vols. Orléans-Paris, 1674; rpt. Frankfurt am Main: Minerva, 1963.

Translations and Secondary Sources:

- Adamson, Peter 2005. "On Knowledge of Particulars." *Proceedings of the Aristotelian Society* 105: 273–94.
- Ashworth, E. 2004. "Singular terms and Singular Concepts: From Buridan to the Early Sixteenth Century." In *John Buridan and Beyond. Topics in the Language Sciences*, 1300–1700, ed. R. L. Friedman and S. Ebbesen. Copenhagen: The Royal Danish Academy of Sciences and Letters.

- Barnes, Jonathan. 1984 (editor). *The Complete Works of Aristotle: The Revised Oxford Translation*. Princeton: Princeton University Press.
- Bérubé, Camile. 1964. *La connaissaince de l'individuel au moyen âge*. Montreal: Presses de l'Université de Montréal.
- Black, D. L. 1993. "Estimation in Avicenna: The Logical and Psychological Dimensions." *Dialogue* 32: 219–58.
- Brown, Stephen. 1994. "Henry of Ghent." In *Individuation in Scholasticism: The Later Middle Ages and the Counter-Reformation*, 1150–1650, ed. J. J. E. Gracia. Albany: SUNY Press, 195–219.
- Etzkorn, G. J. and A. B. Wolter. 1998 (trans.) *Questions on the Metaphysics of Aristotle by John Duns Scotus*. 2 vols. St. Bonaventure, NY: Franciscan Institute, 1998.
- Marrone, Steven P. 1983. William of Auvergne and Robert Grosseteste: New Ideas of Truth in the Early Thirteenth Century. Princeton: Princeton University Press.
- ——— 2001. The Light of Thy Countenance: Science and Knowledge of God in the Thirteenth Century. 2 vols. Leiden: Brill.
- Dumont, S. D. 1989. "Theology as a Science and Duns Scotus's Distinction between Intuitive and Abstractive Cognition." *Speculum* 64: 579–99.
- Hall, Robert E. 2006. "The Wahm in Ibn Sina's Psychology." In Intellect and Imagination in Medieval Philosophy, ed. M. C. Pacheco and J. F. Meirinhos. 3 vols. Turnhout: Brepols. 1: 533–49
- Hasse, Dag. 2000. Avicenna's De anima in the Latin West. London: The Warburg Institute.
- King, Peter, forthcoming. "Thinking About Things: Singular Thought In The Middle Ages." In *Intentionality, Cognition, and Representation in Medieval Philosophy*, ed. G. Klima.

- Fordham: Fordham University Press.
- Lagerlund, Henrik. 2004. "Vague Concepts and Singular Terms in a Buridian Language of Thought Tradition." *Proceedings of the Society for Medieval Logic and Metaphysics* 4: 25–36.
- Marmura, M. E. 1962. "Some Aspects of Avicenna's Theory of God's Knowledge of Particulars." *Journal of the American Oriental Society* 82: 299–312.
- Marrone, Steven P. 1983. William of Auvergne and Robert Grosseteste: New Ideas of Truth in the Early Thirteenth Century. Princeton: Princeton University Press.
- ——— 2001. The Light of Thy Countenance: Science and Knowledge of God in the Thirteenth Century. 2 vols. Leiden: Brill.
- Pasnau, Robert. 2003. "Cognition." *The Cambridge Companion to Duns Scotus*, ed. Thomas Williams. Cambridge: Cambridge University Press, 285–311.
- Pickavé, Martin. 2005. "Henry of Ghent on Individuation." *Proceedings of the Society for Medieval Logic and Metaphysics* 5: 38–49.
- Teske, William. 1991 (trans.) William of Auvergne: The Universe of Creatures. (Selections).
 Mediaeval Philosophical Texts in Translation, no. 35. Milwaukee: Marquette University
 Press.
- ————2000 (trans.) *William of Auvergne: The Soul.* Mediaeval Philosophical Texts in Translation, no. 37. Milwaukee: Marquette University Press.

Wolter, Allan B. 1990. The Philosophical Theology of John Duns Scotus, ed. Marilyn Adams.

Ithaca, NY: Cornell University Press.