Forthcoming in: Martin Pickavé & Lisa Shapiro (eds.), *Emotions in Medieval and Early Modern Philosophy*, Oxford: Oxford University Press.

Why is the Sheep Afraid of the Wolf?

Medieval Debates on Animal Passions

I

Suppose that you are on a hiking tour in the Swiss Alps. After long hours of strenuous walking you take a break and rest on a meadow, surrounded by peacefully grazing sheep. All of a sudden a wolf appears between two rocks. You realize that it is quickly approaching you and you run away, just like the sheep next to you, trying to reach a safe place. Why are you running away? There seems to be a simple explanation. You see that it is not just any animal but a wolf that is approaching, and you judge that it is a dangerous predator that could hurt you. This cognitive activity triggers an emotion, namely fear, which in turn triggers an action, namely fleeing. To put it in a nutshell: there are intimate causal relations between cognition, emotion and action. But why are the sheep running away? One might answer that they are nothing but complex living machines, programmed to run away whenever they receive a certain sensory input – they have no cognition and no emotion. But there is also an alternative answer. Just like human beings, sheep are cognitive animals that are able to apprehend objects in their environment, to compare and evaluate them as either useful or dangerous. This complex cognitive activity triggers an emotion which, in turn, triggers an action or at least a goal-directed behavior. If we intend to explain animal behavior, we need to analyze the causal relations between cognition, emotion and behavior, exactly as we do it in the case of human beings.

Medieval philosophers in the Aristotelian tradition chose the second line of answer. They all subscribed to the thesis that animals have cognitions and emotions because they are endowed with a sensory soul. Thanks to this soul they have two types of capacities: "apprehensive" capacities that enable them to grasp particular objects and their properties, and "appetitive" capacities that make it possible to have positive or negative emotional states, so-called "passions." That is why it would be mistaken to reduce animals to complex machines. When explaining their behavior, one should appeal to specific sensory capacities, not simply

to material parts, and one ought to explain how and why animals actualize them in a given situation.[1]

This well-known theoretical framework raises a number of questions. The first concerns the cognition that is supposed to occur when apprehensive capacities are actualized. What type of cognition do animals have? One can hardly claim that the sheep recognize a wolf or that they even know that a wolf is approaching. Since they lack intellectual capacities, they are utterly unable to form the general concept of wolf and then to apply it to the particular thing they are facing. This is why they cannot recognize the grayish, growling thing as a wolf. Nor do they have the concept of danger. Consequently, they cannot come up with the predicative judgment that the wolf is dangerous, and they cannot justify this judgment by appealing to other judgments. So, in what sense is it possible to say that the sheep apprehend the wolf and that they evaluate it as either useful or dangerous?

A second problem concerns the structure of the emotion that is supposed to be caused by a cognition. In the case of human beings, it seems clear that most emotions have an intentional structure: they are directed at an object under a certain aspect. Thus, the fear you are experiencing is directed at the wolf insofar as it looks dangerous to you. There might be exceptions, for instance states of anxiety or elation that are not directed at a particular object. But in most cases, there is an intentional object that can be specified and distinguished from other possible objects. Are animal passions also intentional? If so, what exactly are they directed at? Obviously, sheep cannot focus their fear on the wolf as a conceptually conceived object. Nor can they specify the aspect of danger if they are unable to form the concept of danger. Does this mean that their fear is simply directed at a set of sensory properties? Or are they somehow able to single out an object and to characterize it in a non-conceptual way?

Finally, there is a third problem that concerns the nature of the relation between cognition, emotion and behavior. In the case of human beings, it is plausible to assume that emotions play an important causal role, but not the only one. Thanks to their intellectual capacities, human beings can assess a situation, modify or change their judgments and thereby modify or change their emotions, which will eventually lead to a change of action. Upon seeing a wolf, you can ask yourself if it is really a wild wolf or an Irish wolfhound. If you come to the conclusion that it is in fact a harmless wolfhound, your fear will gradually disappear,

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[1] On the metaphysical background of this theoretical framework, which dominated Aristotelian discussions up to the seventeenth century, see Simo Knuuttila, *Emotions in Ancient and Medieval Philosophy* (Oxford: Clarendon Press, 2004), 24-47, and Dennis Des Chene, *Life's Form. Late Aristotelian Conceptions of the Soul* (Ithaca & London: Cornell University Press, 2000).

perhaps it will even be replaced by joy or affection for this wonderful animal. Consequently, you will not flee. Of course, not all kinds of emotions can be controlled or changed in this way. Not all of them are "cognitively penetrable," as philosophers nowadays say.[2] For instance, a person suffering from arachnophobia will not make his or her fear disappear simply by judging that spiders are cute and harmless little animals. But in many cases, intellectual judgments do "penetrate" our emotions, enabling us to adjust or correct them. What about animals? Can they assess a situation and arrive at new cognitions that enable them to change their passions and consequently their behavior? Can the sheep somehow reach the conclusion that the wolf was tamed by the shepherd and that it intends to protect them, even though they lack the capacity to make intellectual judgments? And can they thereby influence their fear, or is it utterly impenetrable and therefore unchangeable?

In the following, I would like to discuss these problems by focusing on three medieval philosophers: Avicenna, who famously introduced the sheep example into the debate, Thomas Aquinas and Gregory of Rimini. Of course, I can only cover a small part of the extensive debate about animal passions.[3] But I hope my reconstruction and analysis will make clear that there was no unified doctrine, despite the common theoretical framework of an Aristotelian faculty psychology.[4] I also hope that this analysis will shed some light on how medieval authors explained the nature and genesis of human passions. For it is precisely in their discussions of animal passions that they attempted to explain what is distinctive about human beings who are endowed with rational capacities.

II

In the first as well as in the fourth book of his *De anima*, which had a strong impact on later debates in the Latin West, Avicenna mentions the example of the sheep that is afraid of the wolf and flees.[5] He pays particular attention to the genesis of this animal passion. On his view, two cognitive activities are required. First, the exterior senses need to apprehend the

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[2] On the limits of cognitive penetrability, see Peter Goldie, *The Emotions. A Philosophical Exploration* (Oxford: Clarendon Press, 2000), 74-78.

[3] I will neither discuss the medieval attempts to classify various types of animals nor analyze their ways of establishing a taxonomy of animal passions. For a helpful overview of animal psychology in the Middle Ages, see Jacques Voisenet, *Bêtes et hommes dans le monde médiéval. Le bestiaire des clercs du V^e^ au XII^e^ sièce* (Turnhout: Brepols, 2000), and *Micrologus* 8 (2000), a special issue on "The World of Animals."

[4] Moreover, the faculty psychology itself was subject to heated debates. For an overview, see Dag N. Hasse,"The Soul's Faculties," in: *The Cambridge History of Medieval Philosophy*, ed. by R. Pasnau (Cambridge & New York: Cambridge University Press, 2010), 305-319.

sensible forms, i.e. perceivable qualities, and transmit them to the common sense, one of the interior senses, where all the qualities are put together so that the animal is able to perceive a distinct object. Thus, the sheep needs to apprehend the wolf's color, its shape and size, and it has to unify all of these qualities so that it can have a sensory image of the particular object it is facing. Second, it needs to use its estimative power, another internal sense, which apprehends a so-called "intention" (*intentio*). What is that supposed to be? Avicenna gives the following explanation:

> "… an intention is that which the soul apprehends with regard to the sensible object, even though the exterior sense has not previously apprehended it. For example, a sheep apprehends the intention which it has of the wolf, namely that it ought to fear it and to flee from it, even though its sense does not apprehend this in any way."[6]

This passage contains two crucial points.[7] First, Avicenna makes clear that an intention is not some kind of additional sensible quality that is first apprehended by one of the five external senses and then transmitted to an internal one. It is rather immediately grasped by the estimative power.[8] Second, an intention is a normative feature. It is something that indicates to the sheep that it ought to fear the wolf and flee it. In this case, Avicenna calls it "enmity" (*inimicitia*), but he also mentions positive cases. For instance, when a sheep sees its fellow sheep it apprehends their "sociability" (*concordia*) which indicates that it ought to like them and stay with them.[9] At first sight, it looks as if these intentions were nothing but the content of an act of evaluation, say, of the act of taking the wolf to be an enemy. This would mean, of course, that an intention would be something formed by the sheep and existing exclusively

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[5] See Avicenna latinus, *Liber de anima seu Sextus de naturalibus* (= *De anima*), ed. by S. van Riet (Louvain & Leiden: Peeters & Brill, 1972), I.5 (vol. 1, 86 and 89) and IV.1 (vol. 2, 7).

[6] *De anima* I.5 (vol. 1, 86): "… intentio autem est id quod apprehendit anima de sensibili, quamvis non prius apprehendat illud sensus exterior, sicut ovis apprehendit intentionem quam habet de lupo, quae scilicet est quare debeat eum timere et fugere, quamvis non hoc apprehendat sensus ullo modo."

[7] Note that this passage only mentions the psychological function of an intention. For other functions, which will not be discussed here, see D. Black, "Estimation (*Wham*) in Avicenna: The Logical and Psychological Dimensions," *Dialogue* 32 (1993), 219-258.

[8] See also *De anima* IV.1 (vol. 2, 7): "… sunt res quas apprehendit anima sensibilis ita quod sensus non doceat eam aliquid de his; ergo virtus qua haec apprehenduntur est alia virtus et vocatur aestimativa."

[9] When providing a general list of intentions in *De anima* II.2 (vol. 1, 118), Avicenna mentions "bonitas vero et malitia et conveniens et inconveniens et his similia."

inside it.[10] However, it would be mistaken to characterize an intention in this way. Avicenna makes clear that an intention exists outside the sheep, namely in the wolf itself. He unmistakably says that it is "linked to the sensible form"[11] or even "mixed up with sensibles"[12] and therefore not simply created by the perceiving sheep. Like color and shape, enmity belongs, as it were, to the wolf's metaphysical make-up.[13] Avicenna's point is not to distinguish between external and internal features, but between two types of external features for which different apprehending powers are required: the five external senses as well as the common sense for sensible forms, and the estimative power for intentions.

But why does Avicenna claim that an intention is not apprehended by an exterior sense if it is mixed up with sensible qualities? Does not everything that is sensible or connected to sensible features need to be grasped by the senses? One can make sense of Avicenna's claim if one understands him as saying that an intention is not designed to be apprehended by a particular external sense (like color that is designed to be apprehended by sight) or by a particular combination of external senses. Since it is mixed up with sensible qualities, it is somehow transported along with them and passes through the exterior senses, but it is not the appropriate object for these senses. To put it metaphorically, one could say that the exterior senses are just a gate through which the intention passes. Once it has entered this gate, it can be grasped by the inner sense that is the right kind of cognitive respondent to be activated, namely the estimative power.

If one takes into account this characterization of intentions, one can understand how Avicenna deals with the first problem I mentioned. What kind of cognition does the sheep have? Obviously, it has a complex cognition that is focused on sensible qualities as well as on intentions, which are normative features. Only when grasping both types of features will an animal's appetitive capacities be activated and bring about a passion which, in turn, causes a certain behavior. The decisive point is that both features are in the object and need to be transferred to the sensory soul. That is why it is not up to the sheep to apprehend the wolf as a hostile or a friendly companion. The wolf is inevitably hostile – that is how it is made by nature –

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[10] This is how E. Ruth Harvey characterizes it in *The Inward Wits. Psychological Theory in the Middle Ages and the Renaissance* (London: The Warburg Institute, 1975), 45.
[11] *De anima* II.2 (vol. 1, 119): "ligatam cum forma."
[12] *De anima* IV.3 (vol. 2, 38): "… apprehendit aestimatio intentiones quae sunt commixtae cum sensibilibus de eo quod obest vel prodest…"
[13] Dag N. Hasse already made this point, calling an intention a "connotational attribute," i.e. a feature that is connotated by the sensible forms in the external object, not by the internal sense. See his *Avicenna's De anima in the Latin West* (London & Turin: The Warburg Institute & Nino Aragno Editore, 2000), 132-134. However, this label still leaves open the question of how and why this feature is related to sensible forms.

and needs to be apprehended as such. And the sheep's estimative power inevitably apprehends this feature.

The appeal to a double apprehension also enables Avicenna to respond to the second problem I mentioned. Is an animal passion intentional? Yes it is, because it is directed at a particular object, namely at the perceived thing that is present due to a unified bundle of sensible qualities, and because it is focused on this object under a certain aspect, namely as harmful or useful. To do this, an animal does not need to conceptualize its object as belonging to the categories "harmful" or "useful." The mere presence of the apprehended intention indicates that the object is harmful or useful. That is why the sheep cannot deliberate or change its opinion about the object, saying to itself: "Well, perhaps I am not perceiving a dangerous wolf but a harmless circus animal. Let me check and see whether or not I should be afraid." By natural necessity, it grasps the intention enmity, which triggers fear. It is therefore not surprising that Avicenna claims that "every sheep is afraid of the wolf, even if it has never seen it and not suffered anything bad from it."[14] With this statement he is not saying that every sheep is permanently petrified with horror, regardless of whether or not it is seeing a wolf. He is simply pointing out that every sheep is built in such a way that it *necessarily* grasps the intention enmity when being confronted with a wolf. A sheep cannot and need not evaluate its experience and reach the conclusion that it has suffered from the wolf's aggressive behavior.

Given this necessary causal chain, it is clear how Avicenna would respond to my third question, namely of whether or not an animal passion is cognitively penetrable. There are no deliberations and judgments that could "penetrate" a passion and change it. An animal has, as it were, one-way cognitions and consequently also one-way passions. Once it has apprehended the sensible and normative features, it cannot but have a certain type of passion, which gives rise to a certain type of behavior. Only another naturally caused passion could weaken this passion. To be sure, Avicenna occasionally talks about animal judgments.[15] But these are nothing but natural judgments that consist in an association of sensible qualities and intentions. Strictly speaking, the sheep does not come up with the judgment "This wolf is dangerous" but merely forms an aggregate of various features which we, using concepts, would call "grayish, big, growling, hostile." That is why one could speak about *associative* judgments in animals as opposed to *predicative* ones in human beings. All associative judgments are naturally formed, stored in the memory and eventually reactivated in an act of imagination.

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[14] *De anima* IV.3 (vol. 2, 38-39): "... omnis ovis pavet lupum, etsi numquam viderit illum nec aliquid mali pertulerit ab illo."

The fact that judgments and their components can be stored and reactivated is important for Avicenna's explanation of learning processes. Animal learning does not consist in the comparison and evaluation of conceptualized information, but simply in the reactivation of intentions that have previously been apprehended. Avicenna cites the example of dogs that learn to avoid sticks and stones.[16] They do this not because they compare these objects with others, thereby understanding that these things might be dangerous or even more dangerous than others. The reason is rather simple. The dogs were beaten with sticks and stones and therefore apprehended the negative intention harmfulness. Whenever they see sticks and stones again, they reactivate the previously apprehended intention, even if they are no longer beaten. This causes fear which, in turn, makes them run away. So, their learning to flee is due to the fact that the dogs associate actually apprehended sensible qualities with a previously apprehended intention. The better they have stored the intention, the quicker they make this association and run away. Here, again, the causal chain between apprehension, passion and behavior is inevitable – there is no deliberation and no choice.

The dog example gives rise to a simple, but crucial question. What does it mean for the intention harmfulness to be located in sticks, stones and many other objects? And in what sense can Avicenna claim that it simply needs to be transferred from the objects to the sensory soul in order to cause a passion? After all, sticks and stones are harmful only when used as weapons. When used as tools in a game they may be entertaining or even useful, and taken in themselves they are neither good nor bad. That is why a so-called intention can hardly be an absolute feature of an object, regardless of the way it is used. A similar remark applies to the sheep-and-wolf example. After all, the wolf is not hostile per se. When playing with fellow wolves it might be friendly or even caring. It is only hostile when in contact with sheep and other potential prey. Of course, there is also a difference between sticks or stones and the wolf because material things are mere instruments that have no capacity to do anything harmful or useful, whereas the wolf is a living thing that is to some extent a self-moving animal, capable of doing harmful or useful things. But neither material nor living things are good or bad in themselves. So, in what sense can an intention be said to be *in* an object? Does its existence not depend on the perceiving animal?

As far as I see, Avicenna never discusses this problem in detail. But he makes a short remark that helps to understand how he could deal with it. He points out that both animals and human beings have different dispositions and therefore react to the same objects in different

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[15] For instance in *De anima* IV.3 (vol. 2, 40).
[16] *De anima* IV.3 (vol. 2, 39).

ways. His example is a hungry person who has the disposition to see a piece of food as something positive and appealing, whereas a satiated person lacks this disposition.[17] That is why food is good for a hungry person, but not for a satiated one. This example shows that Avicenna is aware of the difference between absolute and relational properties, even if he does not explicitly use this terminology. Being good is a property which food has in relation to a person with a certain disposition, not just in relation to any person. Nevertheless, it is a property food has by its nature, and is therefore something objectively given. It is not a property simply invented by the hungry person and arbitrarily ascribed to food. Likewise, being harmful is a relational, but nevertheless an objectively given property: a property wolves, sticks and stones have in relation to animals with specific dispositions. As in every case of a relational property, one needs to take into account both its foundation and its terminus, i.e. the thing *in* which this property is given and the thing (or perceiving animal) *for* which it is given. In light of this fact, one needs to specify the claim that an intention belongs to the metaphysical make-up of a thing. It belongs to it insofar it is somehow anchored in its nature. But it does not exclusively belong to it because it has a terminus outside that thing.

Avicenna's claim that an intention is literally in the object and "linked to sensible forms" poses yet another problem. Is it really necessary to posit such an additional property? Duns Scotus was one of the first to criticize the claim that there is a special property in the object of a perceiving animal. He phrased his critique by presenting a fictitious scenario:

> "… if a sheep, while retaining its nature and its natural affection towards a lamb, were miraculously changed so that it looked like a wolf in all sensible accidents like color, figure and sound, the lamb would flee this changed sheep as it flees a wolf, even though there would be no hostile intention in the sheep, only a peaceful one. Therefore, the estimative power of the lamb would not track it down in order to discover the intention of something useful under the sensible forms, but it would move according to its sensitive desire in the way as the sensible accidents move it."[18]

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[17] See *De anima* IV.4 (vol. 2, 55).

[18] *Ordinatio* I, dist. 3, pars 1, q. 1-2, ed. Vaticana III (Vatican City: Typis Polyglottis, 1954), 43-44: "… si maneat ovis in eadem natura et in eodem affectu naturali ad agnum, mutaretur tamen – ut esset similis lupo – per miraculum in omnibus accidentibus sensibilibus, puta colore, figura et sono et ceteris huiusmodi, agnus fugeret ovem sic mutatam sicut fugeret lupum, et tamen in ove sic mutata non esset intentio nocivi, sed convenientis. Ergo aestimativa agni non suffoderet ad inveniendum intentionem convenientis, sub speciebus sensibilibus, se praecise ita moveretur secundum appetitum sensitivum sicut accidentia sensibilia moverent."

This entertaining example is intended to show that it is quite superfluous to posit an intention in addition to the sensible qualities. When seeing the sheep in disguise, it is nothing but the apprehension of wolf-like sensible qualities that creates fear in the poor lamb. It does not need to grasp some kind of hidden intention, i.e. a feature transported along with sensible qualities but not accessible to an external sense. How could Avicenna respond to this objection? He could concede that an intention normally becomes accessible only when linked to certain sensible qualities, but that it does not depend on them. It is rather anchored in the nature of an object and therefore depends on its essential properties – a peaceful sheep remains peaceful by nature, no matter how much it changes its outward appearance. This intention plays an important role because it determines the behavior of an object – the sheep disguised as a wolf keeps acting in a friendly way, no matter how gruesome it looks. But why then does the lamb flee? Well, it falls prey to a deception. Because of the misleading sensible qualities, the sheep looks threatening, and the lamb falsely takes it to be dangerous. So there is an *appearing* intention, somehow created by the deceiving qualities, that causes fear, which in turn causes the movement of running away. Whether apparent or real, there is an intention that is responsible for the rise of a passion. The mere bundle of sensible qualities is insufficient, for it is not just the wolfish outlook of the sheep that causes fear, but the appearing intention harmfulness. The only problem in this case is that the real intention peacefulness is almost inaccessible because it is covered, as it were, by the deceiving sensible qualities. Would the lamb spend more time with the disguised sheep and play with it, it would realize that it has preserved the intention peacefulness, and an apprehension of this real intention would give rise to the passion of joy. In short, the problem is not that the intention is superfluous, as Scotus suggests, but that the lamb cannot distinguish between the apparent and the real intention.

To be sure, it is only possible to make a reasonable guess about how Avicenna could have dealt with Scotus' objection. In any case, the objection makes clear that the status of normative features was at stake. Avicenna took a realist position, claiming that these features are literally *in* the perceived objects and that they become accessible along with the sensible qualities, even if they do not depend on them but on the essential qualities. Scotus, by contrast, opted for an ontologically more parsimonious position, affirming that one can fully explain normative features by referring to the essential and sensible qualities of an object without introducing a third category of qualities. That is why Scotus did not appeal to intentions in his account of animal passions. On his view, it is the mere perception of sensible qualities, which are all grounded in essential qualities, that makes the lamb fearful. When spelling out

the special mixture of these qualities and the disposition of the lamb one indicates everything that is needed in order to explain why the lamb has this particular passion.

III

Thomas Aquinas was certainly not the first Latin author to be inspired by Avicenna's analysis of animal passions. But he was one of the first who integrated it in a comprehensive theory of cognition and emotion. His starting point was exactly the Avicennian thesis that animals are endowed with an estimative power that enables them to apprehend intentions. In a famous passage he states:

> "But it is necessary for an animal to seek or flee from things not only because they are or are not agreeable to the senses, but also for the sake of some further benefits and uses, or harms. Thus the sheep flees when it sees the wolf, not because its color or shape is unattractive, but as if because the wolf is harmful to the sheep's nature. Likewise, a bird collects straw, not because that pleases its senses, but because it is useful for nest building. Therefore it is necessary for an animal to perceive intentions of this sort, which the external senses do not perceive."[19]

In this statement we find exactly the three points that were already of crucial importance to Avicenna. (1) Intentions are not apprehended by the external senses, but by a special faculty that is part of the internal senses. (2) Intentions are non-sensible but nevertheless cognitively accessible features of external objects. (3) Their being apprehended triggers a behavior. In other passages Aquinas makes clear that this triggering is only possible because the intention gives rise to a passion. Thus, he claims that the sheep is full of fear when it grasps the wolf's enmity and that a dog is filled with anger, which makes it bark.[20] What he emphasizes in the

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[19] *Summa theologiae* (= *STh*) I, q. 78, art. 4, corp., ed. by P. Caramello (Rome & Turin: Marietti, 1952): "Sed necessarium est animali ut quaerat aliqua vel fugiat, non solum quia sunt convenientia vel non convenientia ad sentiendum, sed etiam propter aliquas alias commoditates et ulititates, sive nocumenta. Sicut ovis videns lupum venientem fugit, non propter indecentiam coloris vel figurae, sed quasi inimicum naturae. Et similiter avis colligit paleam, non quia delectat sensum, sed quia est utilis ad nidificandum. Necessarium est ergo animali quod percipiat hujusmodi intentiones quas non percipit sensus exterior." Translation by R. Pasnau, *The Treatise on Human Nature. Summa Theologiae 1a75-89* (Indianopolis: Hackett, 2002), 75.

[20] See *Quaestiones disputatae De veritate*, q. 24, art. 2, corp, ed. Leonina XXII (Rome & Paris: Commissio Leonina & Cerf, 1970-75).

Avicennian picture is the teleological component: animals need to apprehend intentions in order to reach their natural goal, namely the maintenance of their organism and the preservation of life. Would the sheep not apprehend the wolf's harmfulness, it would not run away and, consequently, not save its life.

But how does the sheep's apprehension differ from a human one? It is in his answer to this question that Aquinas goes beyond the Avicennian explanation. Aquinas emphasizes that an animal has nothing but an estimative power that enables it to receive an intention; it is entirely passive. Human beings, on the other hand, have a so-called "particular reason" that "compares individual intentions just as intellective reason compares universal intentions."[21] And they do not simply store individual intentions, but inquire "as if syllogistically into memories of past events, in light of individual intentions."[22] So, in contrast to animals, human beings are active and go through a process of quasi-reasoning. Let me illustrate this crucial claim with an example.

When a dog sees its master, it simply apprehends the feature of friendliness and eventually reactivates other features it has grasped earlier. It is therefore pleased and runs toward its master – a cognitive input triggers a passion and a behavioral output. The dog can even make a judgment about its master, but this is simply a natural judgment based on a spontaneous association of sensible qualities and intentions. When I see the very same person, I also spontaneously receive qualities and intentions, but in addition I make comparisons, thinking for instance "This person is as friendly as the one I met ten minutes ago" or "This person's face looks friendly, but her gesture is a bit frightening." I even go into reasoning such as "When I met her yesterday we exchanged some nice words; so I can expect a pleasant talk now even though her gesture looks frightening." I draw conclusions from what I apprehend now and what I grasped yesterday and am therefore not the mere recipient of information. To be sure, the conclusions are not based on an act of full-fledged syllogistic reasoning. As long as I confine myself to comparing particular features, I do not come up with a statement like "Every person having a nice chat with me is friendly," which I could use as a general premise. Nevertheless, I combine a number of apprehensions in a well-ordered way. Since I can come up with different combinations, I am able to reach different conclusions, which will lead to different passions and actions. I could, for instance, put more emphasis on my apprehension of the frightening gesture, which would lead me to the conclusion that I should be afraid of

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[21] *Sth* I, q. 78, art. 4, corp.: "… est enim collativa intentionum individualium, sicut ratio intellectiva intentionum universalium." (Transl. Pasnau, 76)

[22] *Ibid*.: ".. quasi syllogistice inquirendo praeteritorum memoriam, secundum individuales intentiones." (Transl. Pasnau, 76)

this person. Herein lies the crucial difference to the dog. Although it has an apprehension and even some form of judgment, it has no freedom in its judgment – it is determined to take its master to be friendly. Consequently, it has no freedom in its passion and behavior either – it is determined to be joyful and to run towards its master. Since it cannot consider alternative actions, an animal only has what Aquinas calls a "likeness of reason" (*similitudo rationis*) and a likeness of freedom.[23] It only looks as if a dog were reasoning about its master's friendliness, and it equally looks as if it were freely deciding to approach him. But in fact the dog is by nature designed to approach him.

However, Aquinas' talk about particular reason looks a bit puzzling, given that he is describing the human equivalent to animals' estimative power. How can there be a faculty that makes some form of reasoning possible as long as we are dealing with cognitive activities on the sensory level? Does reasoning, even if confined to particulars, not always involve the intellect? And does our freedom therefore not always have its source in the use of intellectual capacities? This is a tricky problem. On the one hand, Aquinas certainly does not want to invoke a full-fledged intellectual activity because he makes clear that no universal concepts and judgments are at stake. And he stresses that the particular reason is not an immaterial faculty like the intellect, but a material one that is localized in the middle part of the head.[24] On the other hand, it is clear that the particular reason does not work in complete independence from the intellect. For as soon as individual judgments like "This person is friendly" and "This gesture looks frightening" are made, some form of conceptualization and predication is taking place. And as soon as these statements are brought into some order, basic logical operations like making conjunctions and disjunctions are required. That is why there is more going on than the non-conceptual association of qualities and intentions, but less than syllogistic reasoning. Perhaps one could say that the intellect is already in play and that it conceptualizes the sensory input (that is why there is *reason*), but that its activity is in an initial state only, not providing any clearly determined universals (that is why there is *particular* reason). In any case, cognitive activities on the sensory level are shaped by intellectual activities. Aquinas does not hold an "add on" theory according to which human beings first have mere sensory apprehensions to which intellectual ones will eventually be added only in a second stage.[25] He

[23] See *De veritate*, q. 24, art. 2, corp.
[24] See *Sth* I, q. 78, art. 4, corp.
[25] An "add on" theory is already excluded by the unity thesis: there is just one soul in a human being, not an accumulation of three different souls, and the so-called intellectual soul is nothing but the soul, including all so-called lower parts (see *STh* I, q. 76, art. 4). Thus, it would be inconsistent for Aquinas to claim that there is first an independent activity of the sensory soul

points out that the intellect is "the horizon and common boundary" for human beings, somehow permeating all their activities.[26] From the very beginning, senses and intellect work together, even though the intellect may only be active on a low level. For this reason, cognitive activities of animals and adult human beings differ from the very beginning. My perceiving of the dog's master involves conceptual patterns, even if I simply glance at him without judging that this is a particular thing falling under the concept of man and without consciously going through a sequence of judgments or even a process of syllogistic reasoning.

This entails a consequence for the problem of the control over passions. Animals never have control, no matter how distinctly they apprehend an object. Nor can there be individual differences – every sheep is afraid when seeing a wolf, and every dog is joyful when meeting its master. Some kind of causal program is built into their nature, linking a certain type of apprehension to a certain type of passion. Since animals cannot decide to change or erase their passions, they cannot be blamed for them either: passions are natural, unavoidable reactions. Nevertheless, passions are more than reflexes like the blinking of the eye or a hiccup because they are intentional and even aspectual: the sheep's fear is directed at the wolf under the aspect of something harmful. It is important to note that this does not involve focusing on the very nature of this aspect. The sheep's fear is not directed at harmfulness (this would require an understanding of an abstract category) but simply at this or that harmful thing. Aquinas makes this point very clear:

> "But the lower appetite of the sensory part, which is called 'sensuality', is directed at the desirable thing itself, insofar as the defining feature of desirability is found in it. It is not directed at the defining feature of desirability itself, because the lower appetite is not inclined to goodness or usefulness or pleasure itself, but to this useful thing or that pleasurable thing."[27]

Only when switching to a higher level and thinking about what precisely makes the useful thing the way it is can one focus on the defining feature (*ratio*), i.e. on the usefulness that is

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and then only an eventually added activity of the intellectual soul. Whenever the soul is activated, it is active as a whole.

[26] See *Summa contra gentiles* II, cap. 68, n. 1453, ed. C. Pera (Turin & Rome: Marietti, 1961), vol. 2, 203.

[27] *De veritate* q. 25, art. 1, corp.: "Appetitus vero inferior sensitivae partis, qui sensualitas dicitur, tendit in ipsam rem appetibilem prout invenitur in ea id quod est ratio appetibilitatis: non enim tendit in ipsam rationem appetibilitatis, quia appetitus inferior non appetit ipsam bonitatem vel utilitatem aut delectationem, sed hoc utile vel hoc delectabile."

responsible for the fact that this thing is useful. This is something only human beings can do because only we can form an abstract concept like "usefulness." Thanks to this intellectual capacity, we can take a reflective stance when dealing with our passions. Thus, when I am afraid of the wolf I can ask myself what causes my passion, and I can realize that it is in fact harmfulness that is present in the wolf and that makes me apprehend it as something dangerous and threatening. But of course, I can ask myself if there really is harmfulness or if I mistakenly attribute this feature to the wolf. Perhaps, when I look at the wolf more carefully, I see that it is on a leash and that it is not making any frightening noises or gestures. This will diminish my fear or even make it disappear. In this way, I can change my passion. Since I obviously have some control over it, I can be taken to be responsible for it.[28] To be sure, I cannot be taken to be responsible for my initial passion; it is as spontaneously and naturally aroused as the sheep's passion. But I am responsible for the sustaining of my passion because I could do something to evaluate it and to change my misperception. If I neglect to fully activate my intellectual capacities I can be blamed.

Given this possible control, it is not surprising that Aquinas repeatedly claims that human passions are subject to reason: "And this is something anyone can experience for himself," he remarks, "for by adducing certain universal considerations, one calms (or else incites) one's anger, fear, etc."[29] At first sight, this looks like a bold and hardly convincing claim. Simply saying to myself that wolves on a leash are in principle not dangerous will hardly calm me down. My immediate impression of a huge, growling animal and my memories of voracious predators are still present and keep my initial fear alive. I need to adjust to the situation, thus finding a balance between my spontaneous impressions and my universal considerations. Whether or not my fear will disappear depends on how I weigh the universal considerations against my impressions and memories. But Aquinas would certainly concede that this is not a simple affair; one cannot turn a passion on or off by appealing to universal premises.[30] One rather needs some kind of intellectual training that enables one to subsume a particular apprehension under a general principle, to search for alternative apprehensions and

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[28] There are, of course, other ways of controlling it, for instance by making use of the will. For a detailed discussion of various forms of possible control, see Claudia Eisen Murphy, "Aquinas on Our Responsibility for Our Emotions," *Medieval Philosophy and Theology* 8 (1999), 163-205.

[29] *Sth* I, q. 81, art. 3, corp.: "Hoc etiam quilibet experiri potest in seipso: applicando enim aliquas universales considerationes, mitigatur ira aut timor aut aliquid huiusmodi, vel etiam instigatur."

[30] That is why he points out that reason does not have an absolute control over passions but dominates them only "by a political rule," i.e. a rule that inevitably faces opposition. See *STh* I, q. 81, art, 3, ad 3.

to reassess a given situation. And even if one is successful in all these intellectual activities, a passion only gradually changes or disappears.

Animals are utterly incapable of initiating this gradual change. Nor can they deliberately bring about a new passion in the way that humans can. Aquinas claims that we can do it by choice, namely by using "a judgment of reason."[31] This can easily be illustrated. Suppose that you feel depressed but that you want to overcome this awful state. You decide to call an old friend, knowing that she will cheer you up. In this case it is not an additional apprehension and the reception of a new intention that causes your passion, but your own intellectual activity. Here, again, there is a crucial difference to animals. Lacking intellectual judgments, they can never create a passion by themselves. All they have are associative judgments which are based on immediate apprehensions. If one wants to change their passions, one needs to provide them with new sensory inputs that will lead to new natural judgments. In any case, it is always an external cause that needs to initiate a change in them.

Aquinas' claim that human passions can be (and in fact often are) controlled by reason may create the misimpression that he defends the strong anti-Humean thesis that passions inevitably are and ought to be the slave of reason. However, it would be inappropriate to reduce his position to this crude slogan. He is perfectly aware that there are situations in which reason is either completely or partly overwhelmed by passions. He describes the first case as follows:

> "… reason is totally tied up so that a human being does not have the use of reason, as happens in the case of people who become crazy or maddened through vehement anger or desire. This also happens because of another bodily disorder, for passions of this kind do not occur without a bodily change. The explanation for these cases is the same as for brute animals: the impulse of their passions follows by necessity, because there is no movement of reason within them and consequently none of will."[32]

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[31] See *Sth* I-II, q. 24, art. 3, ad 1.

[32] *Sth* I-II, q. 10, art. 3, corp.: "… totaliter ratio ligatur, ita quod homo usum rationis non habet: sicut contingit in his qui propter vehementem iram vel concupiscentiam furiosi vel amentes fiunt, sicut et propter aliquam aliam perturbationem corporalem; huiusmodi enim passiones non sine corporali transmutatione accidunt. Et de talibus eadem est ratio sicut et de animalibus brutis, quae ex necessitate sequuntur impetum passionis: in his enim non est aliquis rationis motus, et per consequens nec voluntatis."

The crucial point is that a person can become slave of his or her passions when the intellectual capacities are, as it were, switched off. There is no possible change or control in this situation. That is why it would be absurd to see a person's intellect as a sailor who is safely sitting in his boat and steering all the passions. All a person can do is try to regain his or her intellectual capacities, thus finding a balance between immediately aroused passions and intellectual judgments – sometimes with success, sometimes without. In any case, it is not the intellect as an inner ruling power that does something with the passions, but the entire person who uses a number of capacities, among them the intellectual ones, attempting to modify the naturally caused passions. Animals do not have such capacities and are therefore, as it were, on a one-way road: a certain type of apprehension necessarily causes a certain type of passion which, in turn, necessarily causes a certain type of behavior.

IV

It is precisely this opposition between persons who can modify their passions and animals that simply follow a necessary causal chain that made later philosophers reexamine the question of animal cognition and passion. Why should an animal have just one option when seeing or smelling an object? Gregory of Rimini asked this question when critically examining Adam Wodeham's position. Like Aquinas, Wodeham had claimed that animals simply receive a sensory input which causes a passion and consequently a behavior. But unlike Aquinas, he refrained from ascribing them some process of receiving intentions.[33] According to his view, all we can affirm with certainty is that animals move in a certain way when they apprehend sensible qualities. They are utterly unable to come up with autonomous cognitive activities: they neither deliberate nor decide via any form of complex judgment that they should avoid harmful things and seek beneficial ones. That is why, according to Wodeham, one should say that animals "are acted upon, rather than acting themselves."[34] This does not amount to deny-

[33] Neither in his general description of sensory activities nor in his account of these activities as they occur in animals does he refer to intentions. When he explains the causes for animal behavior, he only mentions sensory apprehension, memory and imagination. See Adam Wodeham, *Lectura secunda in librum primum Sententiarum*, ed. by R. Wood (St. Bonaventure, N.Y.: The Franciscan Institute, 1990), prol., q. 4, § 8 (vol. 1, 100). A marginal note in a manuscript states that Wodeham agreed with Scotus on this point (see editorial note 4 on p. 100). As it has become clear at the end of section II, Scotus explicitly rejected intentions.

[34] *Lectura* secunda, prol., q. 4, § 8 (vol. 1, 99): "Dico igitur aliter, quantum mihi videtur rationabilius, quod bruta 'aguntur magis quam agunt.' Id est non solum non libere prosequuntur ac fugiunt proficua et nociva, sed nec deliberant nec iudicant aliquid iudicio complexo obiective conveniens exsistere vel nocivum de fugiendo vel [proficuum de] prosequendo. Sed statim ad simplicem apprehensionem istius quod est nocivum fugiunt et illius quod est conveniens prosequuntur." For a detailed exposition of Adam's position, see Dominik Perler, "Inten-

ing that animals are able to have *simple* apprehensions of external objects, namely a grasp of qualities like color, size and shape. But Wodeham is not willing to admit that they also come up with *complex* apprehensions, i.e., with sensible judgments in which particular qualities would be related to each other, referred to certain objects and evaluated. Only such an activity would give them the freedom to determine their own actions.

Wodeham's restriction to simple apprehensions became the target of Gregory of Rimini's critique. On his view, there is good evidence for ascribing complex apprehensions to animals – apprehensions which enable them to react differently to one and the same sensory input. He adduced a number of arguments for this thesis. His first is the following:

> "… as we see, an animal sometimes apprehends something sensible like a piece of bread and moves toward it; sometimes it apprehends the very same thing and does not move toward it. Therefore this movement, which is due to an animal appetite, which in turn follows [from] an apprehension, presupposes besides the simple apprehension of the sensible thing a judgment by which it is judged that this thing (or that one or that one) is useful or necessary."[35]

Gregory's point is that animals have more than a mere grasp of color, size and shape, even if they have less than conceptual judgments. They put sensible and normative features together, thereby judging that x is useful or that y is harmful. That is why they have *complex* apprehensions on a sensory level. And they are not determined to come up with one and only one such apprehension in a given situation. Since they can form different judgments not only about different objects, but even about the very same object, they have a certain range of options. An animal seeing a piece of bread can judge either that it is useful or that it is useless; consequently it can have a desire for it or not; consequently it can go for it or not. In any case, animals do not have one-way cognitions. Their ability to combine features in various ways opens more than one route.

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tionality and Action. Medieval Discussions on the Cognitive Capacities of Animals," in: *Intellect and Imagination in Medieval Philosophy*, ed. by M. Cândida Pacheco & J. F. Meirinhos (Turnhout: Brepols, 2006), 73-98.

[35] Gregory of Rimini, *Lectura super primum et secundum Sententiarum*, ed. by A. D. Trapp & V. Marcolino (Berlin & New York: W. de Gruyter, 1981), I, dist. 3, q. 1 (vol. 1, 304): "… sicut videmus aliquando brutam apprehendit aliquod sensibile, ut puta panem, et movetur ad ipsum; aliquando vero apprehendit idem, et non movetur ad ipsum. Ergo motus iste, cum sit per appetitum animalem et talis appetitus sequatur apprehensionem, praesupponit praeter simplicem apprehensionem sensibilis iudicium quo iudicatur illud utile vel necessarium aut tale vel tale."

One might object that this ability is simply due to a certain disposition which, strictly speaking, does not open a range of possibilities. If an animal judges that a piece of bread is useful, it does so when hungry; and if it judges that the very same piece is useless, it does so when it is satiated. The relevant disposition determines the apprehension, which in turn determines the rise of a certain passion and a behavior – there is no choice and no freedom to come up with alternative judgments. That is why the so-called complex apprehension is nothing more than a causally determined association of given features.

Gregory would certainly concede that the animal's disposition plays a role, but he would not grant that it completely determines the complex apprehension. Even an animal that is not hungry can judge that a piece of bread is useful. Its judgment depends on many factors (on the comparison with other objects, on memories, on needs for oneself and for one's offspring, etc.) and not only on the feeling of hunger in that particular situation. There is no unique disposition that determines the way a set of simple apprehensions leads to a complex apprehension. This is the reason why an animal has the possibility to come up with different complex apprehensions. Even if it is not absolutely free (after all, the number and content of simple apprehensions sets limits to the complex apprehensions), it needs to perform a cognitive activity that goes beyond the mere reception of given features. It needs to pick out some features, combine them and draw some kind of conclusion. Gregory points this out in his second example:

> "Second, sometimes an animal that is striving for something sweet or that is in some other way going for a thing because of its taste after apprehending the color of that particular thing, is moved toward this thing. But it seems that this would not happen if it did not judge that this thing is sweet. And this is confirmed by the following fact: when it later tastes it and does not find it to be such as it took it to be when going for it, it flees it."[36]

Obviously, there is more going on than the apprehension of sweetness, which automatically triggers a passion. The animal rather apprehends the color and then judges somehow in the following way: "What has this color also has sweetness and is useful; therefore I should go for this thing." And when it later finds out that the thing is not sweet, it judges along the fol-

[36] *Ibid*. (vol. 1, 304-305): "Secundo, quia aliquando animal appetens dulce vel aliter aliquale secundum saporem apprehenso colore alicuius rei determinatae movetur ad illam. Hoc autem, ut videtur, non contingeret, nisi iudicaret rem illam esse dulcem. Et istud confirmatur ex eo quod, si postea gustans non reperiat esse talem qualem quaerebat, fugit ab illa."

lowing line: "Things having this color normally are sweet; but this thing is not sweet; therefore I should not go for it." The animal makes judgments by establishing a relation between various features (color and sweetness) and by drawing some kind of conclusion. That is why it does more than receive given features and form a sensory image. It is precisely this kind of activity that is required for learning, as Gregory emphasizes: without complex cognitions (and hence judgments) there would be no teaching and no learning.[37]

Now one might protest that Gregory is falling into the trap of naïve anthropomorphism. After all, an animal does not literally judge "What has this color is sweet" and it does not literally conclude "Therefore I should go for this thing." Following a behaviorist line, one might say that there is nothing more than a stimulus-reaction pattern. The more you expose an animal to a certain stimulus and the more you reinforce the stimulus with reward, the better the animal will show a certain reaction – no complex apprehension is taking place. However, it would be too easy to criticize Gregory with this kind of argument because he emphasizes that it is of crucial importance to make mistakes and to learn from mistakes. This is exactly what contemporary cognitive ethologists also point out when they emphasize that animals have cognitions and therefore more than stimulus-reaction patterns.[38] Consider, once more, the second example Gregory mentions. What exactly is the animal doing? First, it automatically associates a certain color with a certain taste. This might be due to a simple combination of stimuli that, in the past, were always present together. But then it learns to distinguish color and taste by finding out that the stimuli might be separated. And then it adapts its behavior; it no longer displays the behavior appropriate to the second stimulus (sweet taste) when it is given the first stimulus (color). This dissociation of stimuli requires cognitive activity that goes beyond simple apprehension, i.e., the reception of stimuli. Gregory calls this "making complex apprehension" or even "judging" and insists that it is this activity that enables animals to learn. If they had nothing but simple apprehensions and some kind of inner program that automatically relates a certain apprehension to a certain movement, they would not be able to change their behavior. Only complex apprehensions that allow them to dissociate simple apprehensions enable them to change their desires and consequently their behavior as well. Gregory does not delineate the consequences of this learning process for a theory of passions, but it is clear that there are immediate consequences. If an animal can come up with different complex apprehensions, it can also come up with different passions. Thus, the ani-

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[37] *Ibid*. (vol. 1, 305): "Quarto, quia disciplina sine complexis notitiis non fit. Sed quaedam animalia sunt disciplinibilia, ut experientia docet; ergo etc."

[38] See Colin Allen & Marc Bekoff, *Species of Mind. The Philosophy and Biology of Cognitive Ethology* (Cambridge, Mass., & London: MIT Press, 1997), 148-153.

mal that learns to separate color and taste thereby also learns to dissociate the respective passions and is not tied to having the passion of joy each time it sees a certain color. It only reacts with joy when associating color with sweet taste; when dissociating them it reacts with another passion. In any case, it is not on a one-way road when seeing the thing.

It is at this point that one can see a clear difference between Aquinas and Gregory. Aquinas conceded that animals are able to have complex apprehensions, so-called natural judgments, and he also agreed that these apprehensions trigger passions. But he did not consider that an animal might dissociate a given bundle of features, thus rearranging its apprehensions. He rather took an animal to be some kind of cognitive automaton that inevitably comes up with the same apprehensions when it faces a certain object. Consequently, he did not take into account that an animal might change its passion. If a change is possible at all, it can only be brought about by an external agent, for instance by a human trainer who teaches an animal to focus on new objects, which will give rise to new apprehensions and consequently to new passions. But an animal is utterly unable to bring about a change on its own. This becomes clear in Aquinas's explanation of hope. He first concedes that animals are able to have this passion but then hastens to add that it is not the same kind of hope human beings have. Animals simply strive for good objects they apprehend, but they cannot fix their goal on their own, nor can they change it. Their goal is always fixed "by a natural instinct" given to them by God.[39] By contrast, human beings can fix their goal and eventually change it when they come up with new evaluations. So, what animals lack is self-determination: they are unable to apprehend a given object in a different way, which would enable them to assess it in a different way. This is exactly the claim Gregory challenges. He affirms that animals can indeed modify their apprehensions by dissociating given bundles of features. The decisive point is that they do it by themselves, not because an external agent makes them focus on a different object or because God somehow changes their instinct.

However, Gregory's talk of a complex apprehension or cognition (*notitia complexa*) to be found in animals gives rise to the question of what structure this cognition has. How does it differ from cognition reached on the intellectual level? Gregory does not go into details, but his explanation of human cognition makes clear what he is after. Human beings can form mental sentences that signify states of affairs, so-called *complexe significabilia*.[40] Thus, when I see and smell a fresh loaf of bread I can form the sentence "This bread is delicious," which signifies the state of affairs That-the-bread-is-delicious. In Gregory's ontology, this is a spe-

[39] See *STh* I-II, q. 40, art. 3, ad 1.
[40] See *Lectura* I, prol., q. 1, art. 1 (vol. 1, 4-10).

cial entity that should not be conflated with simple substances or qualities.[41] The important point is that it is only my capacity to form a sentence with a predicative structure that enables me to grasp this complex entity in which a substance (bread) is combined with a quality (delicious). By contrast, an animal is unable to grasp this structure. That is why it cannot pick out a state of affairs in the strict sense. Nevertheless, it is able to combine or separate various features and to ascribe them to an object, which enables it to form complexes like "This-white-sweet-useful" or "That-white-bitter-harmful." So, there is more than a simple apprehension of isolated features but less than the full-fledged grasp of states of affairs. Restricted and modest as this complex apprehension may be, it is adaptable and sufficient to cause a passion. And it is also sufficient to count as a judgment because it includes the element of combining and separating.

V

I opened this paper with the claim that medieval philosophers in the Aristotelian tradition took animals to be cognitive animals, not just complex machines, and that they attempted to explain the rise of passions by appealing to cognitive activities. To what kind of activity were they referring? I hope it has become clear that they were not appealing to the active process of forming representations in the brain, as many contemporary philosophers and cognitive psychologists would say, but rather to the passive reception of qualities that exist in external objects. While agreeing on this passivity thesis, they disagreed on the question of what exactly perceiving animals receive. Some philosophers, among them Avicenna and Aquinas, defended a strong realist position, claiming that both sensible and normative qualities are somehow in the objects and can be transferred to perceiving animals. Others, for instance Duns Scotus and Adam Wodeham, pleaded for ontological parsimony and refrained from positing normative qualities as a special category of features. This disagreement had an immediate consequence for the explanation of animal passions. The first group thought that animals have positive or negative emotional attitudes towards things because the things themselves have positive or negative qualities. Their emotional reactions mirror, as it were, the structure of the world. The second group was more cautious, merely claiming that certain bundles of sensible qualities give rise to certain passions. They did not want to anchor, as it were, emotional reactions in special normative qualities. Consequently, they did not postulate a one-to-one relation

[41] For an analysis of this ontological claim, see Dominik Perler, "Medieval Ontologies of Facts," *The Monist* 77 (1994), 149-169, and Pascale Bermon, *L'assentiment et son objet chez Grégoire de Rimini* (Paris: Vrin, 2007).

between positive or negative passions in the perceiving animals and positive or negative qualities in the perceived objects.

But how free are animals in their emotional reactions if they are simply acted upon by external objects and if their cognitive process merely consists in the reception of given qualities? To some extent, all medieval philosophers (or at least those I have discussed) agreed that there is no freedom. The reception of sensible qualities (and perhaps also of normative ones) determines animals to apprehend things as useful or harmful and to have the appropriate passion. No autonomous evaluation, no individual conceptualization and no reflection upon alternative passions is possible. This lack of freedom, which is due to a lack of intellectual capacities, is the crucial difference between animals and human beings. We are also acted upon by external objects and also receive a number of qualities, but in addition we are able to conceptualize what we perceive and assess it. That is why we can modify or even control our emotions. To put it in a nutshell: since we have intellectual capacities that go beyond the sensory ones which we share with animals, we have a cognitive autonomy that enables us to steer our emotions.

This position, which obviously appealed to a hierarchy of capacities, still left open the possibility of disagreeing about the cognitive achievements below the level of conceptualization and reflection. Do animals simply take in various qualities and immediately react with passions? Or do they combine qualities, eventually re-combine them and thereby learn to show new passions? Avicenna and Aquinas chose the first option, thereby conceiving of animals as cognitive automata that display a necessary connection between simple apprehensions and passions. Gregory of Rimini, on the other hand, tried to open a space of cognitive activity that is more than the mere reception of qualities but less than the formation of predicative judgments. When ascribing complex apprehensions to animals, he struggled with the problem of finding something that gives them a reason to change their passion. To be sure, this reason is not a full-fledged proposition, but nevertheless it is something that has a complex content and that enables animals to learn. In different contexts, they can associate and dissociate given qualities in different ways, thus coming up with different complex contents that give them different reasons for producing a passion.

The important point is that the lack of concepts does not reduce animals to the status of mere automata. This attempt to find a middle position between human beings who have conceptualized reasons and plants that have no reasons at all is precisely what Gregory has in common with contemporary philosophers who take animals to be cognitive beings. In an illuminating paper, Susan Hurley characterizes this middle position as follows:

> "It is possible for such creatures to act for reasons while doing very little in the way of conceptually structured inference or theorizing. They can be intentional agents even if the normativity of their non-conceptual intentional agency plays no role in an epistemological project. Animals can occupy islands of instrumental rationality, without being in the business of trying to justify their beliefs, or of trying to understand others as engaged in justifying their beliefs."[42]

Gregory's appeal to complex sensory apprehensions was an attempt to make sense of the "island of instrumental rationality" that animals occupy, and to explain how they can cognitively penetrate their passions without needing concepts. Of course, one might be dissatisfied with the meager characterization of these apprehensions as an association or dissociation of perceived qualities. Moreover, one might wonder what freedom animals have in this activity. But it was at least a start to go beyond an explanation that presents animals as mere recipients of sensory inputs, and it was a serious attempt to study learning processes that enable them not only to be affected by passions, but also to change and adapt them to new situations.

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[42] Susan Hurley, "Making Sense of Animals," in: *Rational Animals?*, ed. by S. Hurley & M. Nudds (Oxford & New York: Oxford University Press, 2006), 167.

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Keywords

action
animal
- animal passion

apprehension
cognition
- complex cognition
- sensory cognition
- simple cognition

complexe significabile
concept
disposition
estimative power
form
- sensible form

intention
intentionality
intellect
judgment
- natural judgment
- predicative judgment

learning
passion
property
- relational property

reason
- particular reason