

Estimation (*Wahm*) in Avicenna: The Logical and Psychological Dimensions*

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1. General Introduction¹

One of the chief innovations in medieval adaptations of Aristotelian psychology was the expansion of Aristotle's notion of imagination or *phantasia* to include a variety of distinct perceptual powers known collectively as the internal senses (*hawâss bâtinah*).² Amongst medieval philosophers in the Arabic world, Avicenna (Ibn Sînâ, 980–1037) offers one of the most complex and sophisticated accounts of the internal senses. Within his list of the internal senses, Avicenna includes a faculty known as 'estimation' (*wahm*), to which various functions are assigned in a wide variety of contexts. Although many philosophers in the Arabic world as well as in the Latin West accepted Avicenna's positing of an estimative faculty, Avicenna's best known critics, al-Ghazâlî (1058–1111) and Averroes (Ibn Rushd, 1126–1198), found Avicenna's arguments in support of a distinct estimative faculty problematic. For different reasons, Averroes and Ghazâlî both raised the basic question of whether one needed to posit a distinct faculty of estimation to supplement the perceptual abilities of the other internal senses, and whether the notion of an estimative power as defined by Avicenna was internally coherent. Such criticisms suggest that the Avicennian conception of estimation is not entirely unambiguous, and that a correct understanding of Avicenna's motivations for delineating an estimative power requires a careful study of the diverse activities assigned to it throughout Avicenna's philosophical writings.

However, the scattered efforts of modern scholars to explicate the central principles underlying Avicenna's view of the estimative sense, like the critiques of Ghazâlî and Averroes, have tended to focus almost exclusively on what I shall term the 'canonical' presentation, found in Avicenna's introductory enumeration of the internal senses in the psychological portions of Avicenna's best known philosophical works, the *Shifâ'* (Healing) and the *Najâh* (Salvation).³ Yet Avicenna appeals to the notion of a distinct estimative faculty in many other contexts as well: in the epistemic classification of premises found in several of his logical writings; in discussions of the division of the sciences; and in discussions of religion and prophecy, where the estimative faculty's pernicious influence is often noted. Estimation is also called upon to explain animal apperception and awareness, the formation of fictional ideas, and the epistemic status of ethical precepts.⁴ In this paper, I would like to argue that an adequate understanding of Avicenna's reasons for positing the existence of an estimative faculty demands an integrated analysis of all these dimensions of Avicenna's theory, and that such an integrated analysis can mitigate many of the objections of Avicenna's critics, even if it

raises new questions for the Avicennian perspective.

2. Overview of the Canonical Presentation of Estimation

It will be helpful, however, to begin with a brief overview of the basic principles upon which Avicenna bases his positing of an estimative sense in the canonical texts themselves. In these contexts, Avicenna argues for the existence of five distinct internal senses on what are essentially Aristotelian grounds: the faculties or powers of the soul, as the principles of the soul's operations, are to be distinguished according to the distinctions amongst their objects. Whenever a distinct object of cognition is discerned, a distinct faculty will have to be posited as coordinate with that object.⁵ But, Avicenna argues, the objects of internal sensation comprise not only the images of sensibly perceptible forms or qualities (*suwar al-mahsûsât*),⁶ but also “the intentions of the sensibles” (*ma'ânî al-mahsûsât*), intentions being properties which are not essentially material, but which nonetheless adhere or attach to sensible forms and can be perceived through them.⁷ The estimative sense (*al-wahm*; *qûwah al-wahmîyah*) is the name that Avicenna gives to the internal sense power that has such intentions as its object.⁸ In providing examples of what sorts of properties count as intentions, Avicenna tends, in the canonical texts, to cite properties related to appetite and affection, such as pleasantness, painfulness, friendship, and hostility. His favourite examples are the sheep's perception of hostility in the wolf, or her perception of her offspring as an object of love.⁹ Finally, when he discusses the degrees of abstraction within the soul's perceptual powers, Avicenna simultaneously maintains that intentions themselves are non-material and non-sensible—on the grounds that the properties in question, such as goodness and evil, can also exist apart from matter—and that they are nonetheless perceived by a corporeal sense power, since, in the cases in question, the intentions are always particularized, insofar as they are concomitants of individual sensible forms.¹⁰

Now, most considerations of Avicenna's notion of estimation, including the critiques of Ghazâlî and Averroes, tend to be based upon the features of the canonical treatment of estimation that I have just outlined. One notices, however, that in these canonical texts, Avicenna tends by and large to focus on the activities of estimation which are *common* to both humans and animals, and which as a consequence are concerned primarily with the practical activities of motion and appetite. But this practical orientation by no means exhausts the functions which Avicenna assigns to the estimative faculty, particularly as it exists in human beings. If we are to understand

Avicenna's insistence on the need to posit a faculty of estimation in both animals and humans, and assess the coherence and consistency of the account he provides, all these various functions and their various contexts must be taken into account.

3. A Sketch of the Critiques of Ghazâlî and Averroes

Since Ghazâlî and Averroes focus their criticisms upon the canonical account of estimation, however, it will be useful to consider these criticisms first, before we explore the other explanatory functions which Avicenna assigns to estimation in his philosophy.¹¹

In his *Tahâfut al-falâsifah* (Incoherence of the Philosophers), Ghazâlî charges Avicenna with inconsistency in his treatments of estimation and intellect. While his target is not principally Avicenna's notion of an estimative faculty, but rather, Avicenna's claim to have proven rationally the immateriality and eternity of the intellect, his remarks do raise questions regarding the possibility of a bodily faculty whose objects are non-sensible intentions.¹² He argues that if the estimative power, while inhering in a material substratum (i.e., a ventricle of the brain),¹³ is able to grasp an immaterial, indivisible intention, such as hostility, the same would appear to be logically possible for the power by which intelligible forms as such are apprehended. Ghazâlî, then, questions whether a corporeal internal sense faculty like estimation can be assigned as its proper object something that is not itself essentially corporeal or material; and if it can, then according to Ghazâlî, all Avicenna's rational demonstrations for the immateriality of the intellect are nullified.¹⁴

In his presentation of Avicenna's views, however, Ghazâlî focuses his attention exclusively upon Avicenna's example of estimation as it occurs in the sheep's perception of enmity in the wolf, envisaging estimation primarily as an animal power, or at least, pertaining only to the practical activities shared by humans and animals.¹⁵ The critique is based solely upon the metaphysical and psychological underpinnings of Avicennian estimation, while its epistemological applications are ignored altogether. Moreover, even as confined to the canonical account, Ghazâlî's criticism faces several difficulties.

In the first place, if Ghazâlî's objection to the corporeality of estimation held, it would apply not only to the inherence of intentions in a corporeal, organically-based perceptual faculty, but also to their inherence in the corresponding extramental things. If the indivisibility of hostility alone prevents it from being perceived in any way by a corporeal faculty, then by the same token that indivisibility would also prevent hostility from inhering in a potentially divisible corporeal being, such as a wolf.¹⁶

Moreover, to the extent that Ghazâlî's argument implies an inconsistency within the Avicennian notion of estimation, it appears to rest upon a misrepresentation of Avicenna's views. For it presupposes that it is the non-material character of the estimative intentions that is the basis for Avicenna's claim that a separate power is required to apprehend them. But in fact Avicenna only argues that since intentions are *different* from sensible forms, and since only sensible forms are directly apprehended by the senses and the imagination, then another power besides sense and imagination is needed to apprehend intentions. Non-materiality is only an *indication* of the autonomy of intention with respect to form, a sign that intentions cannot themselves be aspects of sensible forms.¹⁷ Indeed, when Avicenna discusses the specific differences between intentions and forms, he does *not* say that intentions are essentially *immaterial*, but rather, only that they are *not essentially material*. Thus they can be material accidentally, but this need not be the case:¹⁸ '[Estimation] receives intentions which are not in their essences material' (*laysat hiya fî dhawâti-hâ bi-mâddatin*).¹⁹ It follows, then, that since intentions *can* exist both in matter and apart from it, intentions themselves cannot be essentially determined to either mode of existence. Therefore, simply to say that a faculty has intentions as its proper object gives no determinate information about the essential character of that faculty itself, and to this extent, Ghazâlî's appeal to the estimation in his criticisms of Avicenna is a *non sequitur*.²⁰

Ghazâlî's critique is important to the extent that it focuses our attention upon the need to understand exactly what an Avicennian intention is, if we wish to understand fully Avicenna's justification for positing an estimative faculty. But Ghazâlî's critique fails to the extent that it assumes that if an intention is non-sensible, then necessarily it is also universal, indivisible, and intelligible. And on such a reading, an intention by its very nature is something that cannot be particularized, or attached to bodily particulars, under any circumstances. But this is not how Avicenna views the non-sensible character of intentions, nor is it, for that matter, how he views intelligible universals in general.

In this regard, it is helpful to note the parallels between Avicenna's view of an estimative intention, as a non-sensible property which can inhere in both material and non-material substrata, and his well-known doctrine of the pure quiddity or essence (*mâhîyah*), the 'common nature,' to use the term coined for it by the Latin scholastics. Like an intention, an Avicennian quiddity considered in itself has neither a real existence in concrete, extramental things (*fî a'yân al-ashyâ'*), nor a conceptual existence within a mind (*fî al-tasawwur*), nor does it have in itself any of the properties attendant upon

either of these two modes of ‘affirmative existence’ (*al-wujûd al-ithbâtî*).²¹ To use Avicenna’s example from the *Metaphysics* of the *Healing*, the pure quiddity ‘horseness’ (*al-farsîyah*), considered in itself, is neither universal nor particular, one nor many, actual nor potential, although it exists both in particular horses in the material world, and in the universal concept ‘horse’ found in human minds. In a similar way, an Avicennian estimative intention is in itself neither material nor immaterial, but rather, can be found existing in both material and immaterial things.²² Hence, when Avicenna contrasts an intention with a sensible form, he does so not because the intention is, in itself, a universal, whereas the sensible is a particular, but simply because the intention is not to be counted among the objects of perception proper or common to any of the five senses. Ghazali’s objection, then, turns on the false assumption that in Avicenna’s philosophical vocabulary, ‘non-sensible’ simply means ‘universal,’ and Ghazâlî fails thereby to address Avicenna’s claim that one must not confuse what is true of the nature of any object taken in itself, with those characteristics that belong to it only as an object of perception, and in relation to a determinate cognitive act.

Where Ghazâlî’s critique of estimation turns on its apparent parallels with intellection, the critique of Averroes is more concerned with the close ties between imagination and estimation. Unlike Ghazâlî, then, Averroes accepts with Avicenna that it is possible for sensible faculties to perceive non-material intentions. Thus in his reply to Ghazâlî, the *Tahâfut al-tahâfut* (Incoherence of *The Incoherence*), Averroes rejects the underlying assumptions of Ghazâlî’s attack on Avicenna, and actually defends his predecessor against Ghazâlî. Nonetheless, in this same context Averroes himself ultimately repudiates the estimative faculty as an Avicennian innovation, arguing that it is at best superfluous. Since the imagination as envisaged by Aristotle is a perceptive and critical faculty, it is capable of discerning all the properties in its object which are particularized and perceived in conjunction with sensible qualities. Imagination alone, then, can account for the perception of both intentions and forms, and no distinct estimative faculty is required. Averroes probably has in mind here the familiar Aristotelian view that even the external senses perceive their objects as pleasant or painful, and so they can convey that information directly to the common sense and imagination.²³ At bottom, then, Averroes rejects Avicenna’s claim that an intention, insofar as it is embodied in a particular, can count as a distinct perceptual object, and so serve as the basis for a division of faculties according to either Aristotle’s or Avicenna’s

own models of faculty differentiation.²⁴

The criticisms of Avicenna's successors, then, different though they may be, share a common concern with the basic principles by which Avicenna argues that a distinct faculty of estimation is required in the animal soul. I have suggested that a satisfactory reply can be made to Ghazâlî's criticisms, to the extent that they are based upon misrepresentations of Avicenna's arguments in support of an estimative faculty. Nonetheless, these criticisms, taken in conjunction with those of Averroes, suggest that Avicenna's doctrine of estimation places him within the horns of a dilemma. If he plays up the uniqueness of intentions in order to counter Averroes, he will be more easily open to Ghazâlî's charge that he has made estimation into a kind of corporeal intellect, violating his own claim that intellect and body are mutually incompatible, or at best, opening himself up to the charge that the functions assigned to estimation really belong to the intellect.²⁵ But if he emphasizes the particularity of estimative intentions, he would seem to lose the basis for positing estimation as a faculty distinct from imagination itself, and thus be forced into a more strictly Aristotelian position like that of Averroes.

But is it the case that the epistemological phenomena which the estimative faculty is meant to account for can be fully explained by reference either to intellection or to imagination? In what follows, I wish to argue that the broader picture of estimation provided by Avicenna's other writings gives a better sense of exactly what is at stake for Avicenna epistemologically when he asserts the existence of an estimative faculty. For even if the activities that Avicenna assigns to the estimative faculty in animals *could* be accounted for by other sense faculties, such as the imagination, it is clear that Avicenna views the interplay between the sensible and the intelligible in actual *human* cognition to be sufficiently intricate to demand the positing of a power like estimation, which is poised on the threshold between the two realms.²⁶

4. Estimation in Animal and Human Cognition: The Broader Psychological Picture

Within the broader context of Avicenna's psychological works themselves, there are a number of areas within which estimation is assigned a more complex psychological role. Four in particular are worth noting: the link between estimation and incidental perception; estimation's status as the judgemental faculty within the animal soul; its role in the creation of fictional ideas; and the identification of a special class of estimative judgements, upon which Avicenna bases his notion of estimative propositions in his logical writings.

Incidental Perception: It is perhaps best to begin the consideration of estimation's role in human cognition with the extension of the definition of estimative intentions that occurs within the canonical account found in Avicenna's *Healing*, since this provides some important indications of what it is that unites the various functions which Avicenna assigns to estimation in humans. In this context, Avicenna counts as intentions not only non-sensible properties like love and hostility, but also all sensible properties associated with some form, but not actually apprehended by any sense power at the time of perception, as when something yellow is 'seen' to be sweet. In this sense, intentions also include the sensible objects that Aristotle calls "incidental."²⁷

Now, from our overview of the canonical account of estimation, it initially seemed that for Avicenna the principal feature of estimative intentions that determined their status as distinct perceptual objects was their non-sensible character, that is, the fact that intentions cannot, like the proper and common sensibles, be perceived by any of the five external senses, operating either in isolation or in concert. But the further link between estimation and incidental perception seems to call this assumption into question. For it is not immediately clear how the type of incidental sensibles mentioned by Avicenna here can be included amongst intentions thus understood. The Aristotelian incidental sensibles that Avicenna does not mention—e.g. perceiving this white thing to be Diare's son—could arguably be assimilated to intentions, for in these cases what is perceived incidentally—e.g. being a son, being related to Diare—is not something that affects any external sense organ as such.²⁸ But the sort of incidental sensibles that Avicenna actually mentions here seem to be incidental only in relation to a specific act of perception, rather than in themselves. That is, even though I may incidentally 'see' something sweet, sweetness itself remains a sensible quality, perceptible to the tongue. If this sweetness counts as an intention, then this would appear to threaten the basic principle of faculty differentiation according to objects.

In order to salvage the claim that the objects of estimation are distinct from sensible forms, then, it will be necessary to show that when we 'see' something sweet, we are perceiving something over and above the sensible form of sweetness as such, and that this additional thing can in some way be counted as an intention. And a first step in establishing this possibility will be to discover some defining characteristic of an intention other than that of not being a sensible form. Now, incidental percepts have in common with non-sensible forms the fact that they are not conveyed to the percipient by whatever sensible form is the occasion of their being apprehended at this particular time.

For this reason, in a number of texts Avicenna defines intentions not primarily in terms of their non-sensible character, but rather, as properties that are not conveyed to or perceived by the external senses.²⁹ In the example of seeing something sweet, since the eye itself only perceives colour, the quality of sweetness cannot be conveyed to the percipient by the sense of vision; and since the sense of taste is not affected by the object at all in this case, neither can it be the percipient. Thus there is no external sense capable of explaining such cases of incidental perception, just as there is none capable of explaining the perception of non-sensible properties; nor can imagination or common sense be the percipient, since these internal senses only perceive what the external senses themselves have perceived. So the estimative sense must be called upon to fill the explanatory gap.

For Avicenna, then, the status of an object as a form or an intention is not absolute, but determined by the relations that obtain in a given act of perception between the subject and the object perceived. Some percepts, like friendliness and hostility, will always be intentions, because they can never affect any of the five external senses as such; incidental percepts, however, become intentions whenever their perception is not conveyed by their own sensible form itself, e.g., by the sweet taste of the honey to the tongue, but instead, by some other form which they accompany, such as the honey's yellow colour.

Does this, however, threaten the notion of intentions as distinct perceptual objects, and hence, undermine Avicenna's operative principle of faculty differentiation?³⁰

If not, then there ought to be some element in the incidental perception which explains its affinity to the perception of properties such as hostility and friendliness. Such a link seems to be provided by the necessary element of memory and experience involved in any act of incidental perception. If, upon seeing something yellow, I perceive it as sweet, it must be because in the past I have also tasted something sweet that looks just like this yellow thing that I am presently seeing. That memory of some sort comes into play in certain types of estimative perception is in fact an explicit part of Avicenna's theory of estimation, although it is never brought to bear upon the problem of incidental perception as such. Elsewhere, however, Avicenna argues that apart from the instinctual perception of intentions evidenced in the sheep's fear of wolves even before she has encountered them, there is a second type of estimation that is 'on account of something like experience,' as when a dog comes to fear a stick after he has been repeatedly beaten by it.³¹ Avicenna explains this estimative phenomenon as involving a complex process in

which the estimative sense, with the aid of memory, sensation, and the formative sense (*al-musawwirah*), reunites the forms and intentions perceived from a given object into the perception of a concrete whole.³² As a result, the estimative faculty is able to ‘perceive the entirety of these things together,’ and to judge the object as an individual whole.³³ Applying this argument to the case of incidental perception, we can see that estimation and estimative memory must be invoked to explain the association of one sensible form with a particular object, and through that object, with its other sensible forms and qualities: images must be associated with the intentions that make them icons of particular, concrete individuals.³⁴ Thus it seems that we can infer from this that the incidental perception of one sensible form (sweetness) through a sense other than its own (vision) implies a perception of intentions insofar as it involves a grasp of an object as a concrete individual whole, and through this a grasp of all the properties associated with it in the memory. And this is an act which, like the perception of hostility and other non-sensible intentions, requires the intervention of estimation.³⁵

Estimation as a Judgemental Faculty: An important element in Avicenna’s linkage of estimation and incidental perception is the need in incidental perception of a coordinating faculty in the animal soul that can unite all the intentional and formal properties of an object together into the perception of a concrete whole. The assignment of such a function to estimation is clearly tied to what is the most prominent characterization of estimation that we encounter in Avicenna’s psychological writings, namely, the identification of estimation as the principal critical or judgemental faculty (*al-hâkim*) within the animal soul, including the complex of animal functions within humans themselves.³⁶ Avicenna frequently uses the language of control, disposal, employment, and so on to describe the estimative sense’s relation to the other internal sense powers, particularly the common sense, the formative imagination, and the compositive imagination (*al-mutakhayyilah*). In some texts, Avicenna even attributes to estimation, as the soul’s chief judgemental power, responsibility for all acts of sensible perception.³⁷ In others, he attributes to estimation a kind of opinion or assent on the level of sense cognition.³⁸ Thus, estimation is said to ‘judge decisively whether the thing is or is not such,’ and its independence is emphasized as follows: ‘For the estimative faculty does not retain what some other faculty has assented to, but rather, assents to it through itself.’³⁹ The estimative power is also said to seize command of (*istawlat ‘alâ*) the images that are in the imaginative storehouse, producing non-veridical images, as occurs in dreams.⁴⁰ And in general estimation is said to be the faculty that directs the compositive

imagination whenever it produces images and imitations which are not properly cogitative, that is, are not in service to reason.

Estimation, Compositive Imagination, and Fictional Ideas: Avicenna's view of the relations between estimation and the compositive imagination (*al-mutakhayyilah*), that is, the ability to put together a composite image without any necessary reference to its extramental sources, plays a prominent role in his extension of the functions of estimation, and may provide further reasons why a separate estimative faculty needs to be posited. For Avicenna appears to view the compositive imagination as incomplete and indeterminate in its own right: by its very nature, it is ceaselessly active in combining and dividing images and intentions, but to no clear purpose.⁴¹ Thus, Avicenna stipulates that if its creative capacities are to be harnessed, then this faculty must operate in conjunction with some other judgemental faculty, and this accounts for its two aspects or manifestations. As imagination proper, it is under the control of estimation, and is proper to the animal soul.⁴² The second aspect of the power comes about when reason uses this power, and in these cases, the compositive imagination is called the cogitative faculty (*al-fikr; al-qûwah al-mufakkirah*).⁴³ One might argue, then, that once creative or compositive imagination is viewed as essentially a random, or as we might say, subconscious, process, one needs to resort to other powers to explain the ability to control and harness its functions voluntarily.⁴⁴

The link between estimation and compositive imagination is also reinforced in other contexts by Avicenna's discussion of estimation's role in the creation of fictional ideas or 'vain intelligibles,' such as the phoenix. Now while compositive imagination entails a number of activities common to both animals and humans—including those activities that lead to the formation of estimative experiences, such as the dog's learning to fear a stick—the voluntary creation of fictional images would appear to constitute a peculiarly human aspect of estimative judgements. And indeed, while Avicenna is insistent that estimation must play a role in such activities, he is equally adamant that even fictional creations involve the intellect and entail a corresponding intelligible concept.⁴⁵ Creative imagination, then, presents us with an activity of human estimation which opens up the possibility of interaction between estimation and intellect, even if its results are merely 'vain' ideas.

Estimative Propositions: The role of estimation in the creation of fictional concepts is the counterpart of another epistemological function that Avicenna links with human estimation in his psychological writings.⁴⁶ It is this function which provides the

underpinnings for Avicenna's use of estimation in his logical writings, and which illustrates most clearly why Avicenna holds that human estimation is sufficiently autonomous as a cognitive power to necessitate its distinction from both imagination and intellect.

Avicenna tells us in the *Psychology of the Healing* that it is possible to observe in humans 'special judgements' (*ahkâm khâssah*) that reflect estimation's peculiar position as the apex of the animal soul's perceptual faculties.⁴⁷ To quote Avicenna directly, these judgements are such that the estimative sense 'denies and refuses assent to the existence of things which cannot be imagined and are not imprinted in the imagination.'⁴⁸ By the same token, estimation is able to urge a human percipient to affirm judgements that, intellectually, she knows to be false, 'for it judges the way to provoke the imaginative faculty without this being authenticated, as what happens to the person who considers honey unclean because of its resembling bile. For the estimative sense judges that it is of such a kind, and the soul follows this estimation, even if the intellect falsifies it.'⁴⁹

In instances such as these, the estimative faculty of human beings, in its role as the highest judge for the animal faculties, is responsible for a certain class of purely speculative judgements, that is, judgements which are not meant to terminate at all in practical activity. Admittedly, Avicenna does not seem especially sanguine about the existence of such judgements: here, as elsewhere, he tends to view them primarily as a source of error, and in conflict with the intellect. But their cognitive force is sufficiently unique, and sufficiently important, to warrant an entirely separate consideration in epistemological terms, as the source of a distinctive class of logical propositions which may serve as syllogistic premises.

5. Estimative Premises in Avicenna's Logical Works

One of the most distinctive features of Avicenna's logical writings is his presentation of an exhaustive classification of premise-types at the beginning of the sections of his works that correspond to Aristotle's *Posterior Analytics*.⁵⁰ The purpose of these classificatory schemes, though never explicitly stated by Avicenna, is quite clearly to determine what sorts of propositions are suitable for use in demonstrations, and to assign those propositions found unsuitable for such use to their proper syllogistic art. While many different criteria are employed in the course of Avicenna's classifications, Avicenna's overall classificatory principle remains constant: he ranks the various types of premises

he discerns according to the degree and strength of assent that they evoke in a human knower.

While Avicenna devotes considerable attention to estimative premises (*al-wahmîyât*) in all the versions of this classificatory scheme, their exact place in his overall presentation is somewhat difficult to determine. This is a direct result of the ambiguous place of their estimative source-faculty as the supreme judge in the animal soul, a faculty which is subordinated to no other animal faculty, and yet lacks entirely any ability to grasp the intelligible as such. Thus Avicenna is insistent that propositions based on the judgements of the estimative faculty evoke assent *necessarily*, and must be yielded to, even though they are, in most cases, false.⁵¹ We therefore have an apparent oxymoron here, a false necessity. And for this reason, Avicenna tends to suggest that estimative premises are employed primarily in sophistical syllogisms, though this is clearly not the whole story in Avicenna's view.⁵²

Estimative premises, then, as beliefs or judgements derived from the evidence of the estimative faculty, necessarily preserve that faculty's limitation to the sensible, and so present their subjects as if they were all bodies of some sort. When properly used, that is, when applied to truly sensible objects, they induce a necessary belief which is, in fact, reliable: 'As for that which is external to the intellect, these are the judgements of the estimative faculty by which it judges a body, and with estimative necessity whenever these judgements are concerned with things about which the intellect has no primary judgement.'⁵³ Avicenna, however, is far more interested in cases of what he calls in the *Remarks and Admonitions* "pure estimative propositions" (*al-qadâyâ al-wahmîyah al-sirfah*), in which the estimative sense extends its judgement to non-sensible matters, and thereby yields false propositions.⁵⁴ In these cases, the estimative sense treats intelligibles as if they were sensibles, and so "judges [them] after the manner of its judgement of the sensibles,"⁵⁵ and "takes them to be among the judgements of what is sensed."⁵⁶ Avicenna has a stock of common examples he uses to illustrate the sorts of beliefs he has in mind: the belief that every existent must occupy place; the belief that every existent is physically ostensible; the belief that the universe terminates in the void; and other similar propositions.⁵⁷ This, of course, explains why Avicenna rails against the estimative faculty's influence in his *Proofs of Prophecy*, for judgements such as these would clearly lead to an anthropomorphic, materialist conception of the nature of the deity, as well as a purely physical aspiration after happiness and salvation.⁵⁸

The overwhelming impression one gleans from Avicenna's initial descriptions of

estimative premises, then, is that their hold on the soul is strong, almost irresistible, though for the most part entirely misleading.⁵⁹ Yet Avicenna is not content merely to delineate and describe the harmful effects of these propositions on human knowledge: he also provides detailed explanations of how such judgements come about, explanations which suggest that Avicenna himself was to some degree cognizant of the apparent contradiction between his pessimism about the veridical character of estimative judgements, and his simultaneous claim that they are nonetheless necessary in some sense.

First of all, one should note that Avicenna clearly limits these erroneous estimative judgements to the human estimative faculty.⁶⁰ One assumes that other animals which possess an estimative faculty only possess it insofar as it is infallible in its own sphere, for they have no access at all to intelligible concepts which could mistakenly be judged by estimative criteria.⁶¹ The erroneous application of estimation thus would seem to depend in some way upon the Avicennian claim that the human soul is a unity, whose faculties can interact, and so be open both to potential conflict and to cooperation.⁶² Nonetheless, the estimative sense's ability to go its own way also rests in part upon the soul-body dualism for which Avicenna is well-known, for only this is sufficient to explain the degree of autonomy enjoyed by the estimative sense which permits it to mimic the sort of strong assent given by the intellect to first principles, an assent that does not even admit the possibility of a contrary.⁶³

The estimative sense, then, as the supreme judge within the animal soul, functions like a source for sensible first principles, but its sensible limitations make it impossible for it to "conceptualize anything apart from the sensibles."⁶⁴ In fact, while the estimative sense does have a proper, indeed necessary, role to play in the cognition of sensible reality, it is by its very nature ill-equipped to function independently even as the arbiter of sensible first principles. Because the sensitive soul is not, in fact, an independent entity in its own right, and because the sensible world is not the ultimate measure of reality, the sensibles themselves, and hence the estimative faculty which judges of them, depend upon principles which are non-sensible, to the extent that they are prior to the sensibles. This point is made most forcefully in the *Remarks and Admonitions*:

It is known that if the sensibles have principles and foundations, then these are prior to the sensibles, and are not themselves sensed, nor is their existence according to the mode of the existence of sensibles. So it is not possible for us to represent this existence in the estimation. So for this reason, neither the estimation

itself, nor its activities, are represented in the estimation.⁶⁵ Avicenna's comment on the absence of self-awareness in the estimative faculty here helps to explain further why the estimative sense is unable to rein itself in, and so leads to the sorts of errors with which Avicenna charges it. Reflectiveness, and therefore self-correction, are marks of the intellect alone, because only the intellect can perceive the non-sensible as such, and all faculties of the soul are, in themselves, non-material.⁶⁶ For this reason, the intellect must act as an external control over the other perceptual faculties of the soul. This explains in turn why Avicenna holds that even if the intellect denies or repudiates the false judgements of the estimative sense, a human subject will continue to feel the tension within herself, and even if she manages to follow the lead of the intellect, her estimative faculty will resist: "And estimatives are very powerful in the mind, and what is vain among them is only nullified through the intellect, yet despite its nullification, it continues in the estimation."⁶⁷

In addition to the representation of the estimative faculty itself and its activities, however, Avicenna also lists a wide variety of other pre-sensible principles of sensible judgements which are beyond the ken of the estimation: the concepts of existent, thing, cause, principle, universal, particular, end, matter, form, intellect, Creator, finite, infinite, cause and effect.⁶⁸ The sweep of Avicenna's list, and the fact that its contents seem to include all fundamental ontological concepts, casts serious doubt on the general possibility of estimation attaining any adequate judgements of even the entities falling in its own sphere of influence, without some contribution and guidance by the intellect.⁶⁹ But the nature of this list is also significant for the interpretation of Avicenna's claim in the psychological texts regarding the non-material nature of estimative intentions. For clearly the primary metaphysical concepts listed in the present context are of the same order and character as good and evil, pleasure and pain, used as examples of intentions in the psychological texts. They are, it would seem, the theoretical counterparts of the psychology's practical concepts. Like pleasure and pain, good and evil, the notions of existence, thing, cause, and so on are not themselves material properties, but neither are they by nature purely immaterial, that is, incapable of inhering in sensible matter at all.⁷⁰ Rather, the estimative faculty must perceive them in, or in relation to, sensible qualities, and as particularized in concrete singulars. It is not the case, then, that estimative errors occur because the estimation does not perceive things, causes, existents, and similar intentions; rather, these errors are attributable to the fact that estimation interprets these concepts as if they were sensible, in accordance with its own necessary bias. If this is

indeed the import of Avicenna's list of the pre-sensible foundations of estimation, then Ghazâlî's reading of the psychology can again be called into question: for when Avicenna says that estimative intentions are by nature not material, he does not mean that the estimative sense perceives intentions *qua* immaterial, but rather, that it represents under a sensible guise the natures that ground the reality of its own sensible realm. Just as the sheep does not perceive hostility as such, but only *this* hostile wolf, so too the human knower who follows the estimation does not perceive existence as such, but *this* existent body, and so assumes that existence as such means nothing but the spatio-temporal being of a body.

These erroneous, yet natural, judgements which Avicenna attributes to the estimative faculty reinforce, by their very fallibility, my claim that for Avicenna not only the practical behaviour of animals, but also the speculative behaviour of humans, requires the positing of a faculty that is more than imagination, but less than intellection. For on Avicenna's principles, the phenomenon of judgements that encroach upon the intellect's provenance, even in the face of the intellect's resistance, cannot be accounted for by the imagination alone. This is because the driving force behind the innate human resistance to the reality of the immaterial is not simply the perception of the sensible qualities of things, but rather, their perception as combined with "intentions" which are, in themselves, prior to the sensible. But Avicenna cannot, conversely, attribute these perverse judgements to an error of the intellect, without involving the impossibility of a simultaneous affirmation of contraries by a single cognitive power. The simple fact that materialism is rampant among the human race requires an explanation, and its appeal even in the face of intellectual dissent effectively prohibits that explanation from deriving from the side of the intellect alone.⁷¹

6. Estimative Necessity and the Integrity of Nature

Yet one ultimately must question the price that Avicenna has asked us to pay in upholding the autonomy of the estimative sense in this respect. For even if we have avoided assigning simultaneous contradictory judgements to the intellect, are we any better off assigning simultaneous contradictory judgements to two faculties of the soul? And what are we to make of a faculty that seems to yield, by its very nature, judgements that are both necessary and false?⁷² Avicenna appears to be aware of this problem to some degree, and attempts to address it by appealing to the difference between the soul's mature and immature judgements. Thus, in the *Demonstration* of his *Healing*, Avicenna

describes false estimative judgements as pertaining to the soul's judgement "from the first moment when it exists as discriminative, before it has been trained through beliefs and speculation" ⁷³ It is in the *Salvation*, however, that Avicenna devotes the most attention to this problem, in his attempt to explain the use of the term "nature" (*fitrah*) to refer to the testimony which we take from our estimative faculties. ⁷⁴

And the meaning of 'nature' is that a human being imagines himself arising in the world all at once, and intellectually mature, but having heard no beliefs, not believing any doctrine, not living in a nation, unacquainted with government, but observing the sensibles and taking images from them. Then something occurs to his mind, and he is in doubt concerning it. For if doubt is possible for him, then nature does not testify to it, whereas if doubt is not possible for him, it is something which nature necessitates. But not everything which human nature necessitates is true; rather much of it is false. Only the nature of the power which is called intellect is [necessarily] true. ⁷⁵

In this passage, Avicenna's criterion for something being natural is a negative, not a positive, one: any judgement occurs naturally to the extent that it does not, upon being entertained by a human knower, give rise to doubts. The implication is that each faculty will, when operating in isolation, simply assent to what is in harmony with its own perceptual abilities: no doubt will arise so long as the beliefs formulated by each faculty are internally coherent and consistent. In order for doubt to arise, one must go beyond nature to the extent that comparisons must be made between the autonomous observations and testimonies of various faculties; one faculty must transgress what is natural to it, and intrude on what is natural to another.

Such a conception of nature seems rather atomic, however, and not entirely in harmony with Avicenna's efforts in his psychology to argue for a unitary conception of human nature. Moreover, the estimative sense still seems to present a difficulty. For if, as Avicenna's psychological writings assert, the estimative faculty has a *proper* concern with intentions, but these intentions are not fully consonant with its own sensible nature, and so lead it along a path to inevitable falsehood, then we seem to be faced with a power which, when operating in accordance with nature, fails for the most part to reach its goal. Here nature appears not only to labour in vain, but even for a bad end! One cannot help but suspect that Avicenna is ultimately hindered in this regard by his soul-body dualism. ⁷⁶ On the one hand, he wishes to claim that estimation and intellect have two distinct natures, each of which can go its own way, and form its own judgements

independently of the other. At the same time, Avicenna implies that the only true nature in the human soul is its intellectual power, for only its judgements are fully in accordance with reality, and fully able to lead human beings to the fulfillment of their proper, intellectual end, i.e. certain knowledge of the truth.⁷⁷

I have suggested, however, that Avicenna appears to have been led to such a position at least in part by his observation of human nature: it is simply a fact that human beings will follow a purely materialist conception of the world, no matter how strong and compelling the demonstrative, intellectual arguments to the contrary.⁷⁸ Something must, therefore, be posited to account for these very real contradictions in human cognitive behaviour, and this is what ultimately explains the tensions in Avicenna's conception of estimation. Yet it would be misleading if we were to conclude that Avicenna's final perspective on the estimative faculty is simply to resign himself to its negative and anomalous character. For Avicenna does, as we have noted, recognize a positive side to the estimative faculty's operations in accordance with its own nature, and although this side of estimation is generally downplayed by Avicenna, it must nonetheless be examined if we are to obtain a complete picture of the estimative faculty's functions in human percipients.

7. Estimation in the Division of the Sciences

Despite the focus on the sophistical propensities of estimation in his discussions of estimative premises, Avicenna will occasionally admit in these contexts that estimative premises are not entirely perverse: rather, given their direct attendance to the underlying natures of sensible things *qua* sensible, they are indispensable in the formation of certain judgements that pertain to what it means to be a sensible and material thing. And in these cases, estimative premises do aid the intellect in its task of forming true principles about the physical world. This emerges most clearly in the formulations of the *Salvation*. After providing the reader with two examples of false estimative judgements which assume the materiality of all existence, Avicenna adds that 'there may be true [propositions] among them which the intellect follows, such as that just as it is not possible to imagine (*yatawahhamu*) two bodies in one place, so too a single body cannot exist nor be understood [to be] in two places simultaneously.'⁷⁹ What we have in this example is a fundamental principle of physics which is based directly upon the possibility or impossibility of the estimative faculty forming a conception of bodies in a particular state. Of course, Avicenna denies that it is the estimative judgement *per se* that enters

into the speculations of natural philosophy, since on Avicenna's principles the animal faculties assist the intellect and prepare it for its own tasks, but do not contribute directly to the formation of intellectual judgements.⁸⁰ Nonetheless, the evidence provided by estimation from its proper activities is valuable for the intellect's formation of a necessarily true judgement: 'But the nature of estimation with respect to the sensibles and their properties, insofar as they are true sensibles, follows the intellect, or rather, is a tool for the intellect with regard to the sensibles.'⁸¹ In such cases, one assumes that Avicenna would place the estimative premises on a par with the empirical, observational, and intuitive premises, in which a sensible faculty works in conjunction with the intellect to aid it in its proper judgement.⁸²

That Avicenna takes seriously the positive, as well as the negative, contribution of estimation to the demonstrative sciences is especially evident in his discussion of the divisions of the theoretical sciences in Book 1, chap. 2 of the *Isagoge* of the *Healing*. While the topic of the division of the sciences is not proper to my present concerns, this text does merit brief mention. For in this context, Avicenna makes explicit reference to the estimative power in order to enable him to differentiate between the physical and mathematical perspectives on natural being. Indeed it is not intellectual conceptualization alone, but conceptualization in the estimative power, that Avicenna cites throughout this discussion as demarcating physics from mathematics. For example, Avicenna notes that although the subjects of both sciences are things that by nature exist in conjunction with matter and motion, physics can be distinguished from mathematics to the extent that its subjects cannot be separated from a determinate matter either in their own extramental existence, or in the way they are present in the estimative faculty of human knowers. Abstract mathematical entities, by contrast, can be conceived in the estimative power without reference to any particular kind of matter, although in their own proper subsistence they are only found existing in beings susceptible to both motion and matter: 'The existents that have no existence unless undergoing admixture with motion are of two divisions. They are either such that, neither in subsistence nor in the estimation would it be true for them to be separated from some specific matter . . . ; or else, this would be true for them in the estimation but not in subsistence . . .'⁸³ The estimative faculty is mentioned again in the further development of this distinction, in order to establish the difference between the conception of physical entities as tied to a particular type of matter (e.g., the physical conception of 'human being' must include the conception of flesh and blood), and the conception of mathematical entities as generally

related to matter and motion, but not to matter of any determinate kind: 'The [latter] is of two divisions. It is either the case [(a)] that that accident cannot be apprehended by the estimative faculty as existing except in conjunction with being related to specific matter and motion, . . . or [(b)] that that accident, even though it cannot occur except in relation to matter and mixed with motion, is such that its states can be apprehended by estimation (*qad tutawahham*) and discerned without looking at the specific matter and motion in the aforementioned way of looking.'⁸⁴

In addition to this key text concerning the division of the theoretical sciences, Avicenna also uses the capacities of estimative apprehension in the *Metaphysics* of the *Healing* to establish the claim that arithmetic (*'ilm al-hisâb*) is not part of metaphysics. For arithmetic does not study number in every respect, since number can be found in both the separated and the physical realms. Rather, arithmetic studies number insofar as it is posited in the estimation, and abstracted from all the accidents that accrue to it, even if number never actually exists in such an abstracted state. Thus the speculation of arithmetic is, like estimation, tied to number insofar as it exists in nature and is subject to the material states that human estimation ultimately depends upon.⁸⁵

What it is important to note for our purposes is that all of these passages clearly show that Avicenna believes that the evidence provided to the intellect by the estimative faculty is essential to the abilities of both the mathematician and the physician to grasp their respective objects under their proper perspectives. The general principle involved here is in itself quite simple: given that there are entities whose proper mode of existence naturally entails the possession of material attributes, when the intellect undertakes a theoretical investigation of such entities, it can only attain a proper and adequate knowledge of them by consulting that power in the soul which alone is able fully to grasp and to judge its objects in their enmattered state, namely, the estimative sense. Upon reflection, such a perspective on Avicenna's part is hardly surprising: for if the intellect is, by its very nature, immaterial and incapable of being affected by matter, then the intellect's knowledge of the conditions of matter *qua* matter, even on an abstract level, requires some consultation with the sensitive soul. An Avicennian intellect, by virtue of its very superiority to the senses in general and to the estimation in particular, is shut off from a direct acquaintance with what is material and movable, and so is forced to descend to the level of estimation in order to pursue both physical and mathematical studies.

8. Estimation and Apperception

There are two important aspects of Avicenna's application of the notion of an estimative faculty to epistemological problems that remain to be considered. The first is the role of estimation in apperception; the second is its bearing upon ethical judgements.

In discussing Avicenna's explanations for the estimative sense's tendency to impede the intellect's better judgement, I have already alluded to Avicenna's general principle that there is no truly reflective knowledge within the sensible soul, owing to its immersion in matter and its dependence upon a corporeal organ.⁸⁶ This principle is applicable to estimation as much as it is to any of the other external or internal senses. Nonetheless, while not apperceptive in itself, estimation has a special role to play within apperception, not only on the level of the sensible soul, but even on the level of the intellectual soul's privileged awareness of itself, as enacted in Avicenna's famous thought-experiment known as the 'Flying Man.'⁸⁷

In the two works that are generally acknowledged to be Avicenna's latest writings, the *Notes* and *Discussions*, Avicenna devotes several passages to the problems of apperception, and develops an account of the estimative sense as the apperceptive faculty within the animal soul.⁸⁸ The *Discussions* alludes several times to animal apperception as a function of estimation in the context of establishing that true self-awareness in humans is *not* a function of a bodily organ, nor of estimation. Avicenna acknowledges that if animals do have some sort of perception of themselves, it will be through estimation, because estimation 'takes the place of reason in animals.' But in the non-animal soul, Avicenna reiterates the position of his earlier works: 'Estimation is not the primary agent of awareness (*al-shâ'irah al-ûlâ*), because estimation cannot have an estimation of itself, nor establish itself, nor is it aware of itself.'⁸⁹

In the *Notes*, Avicenna is more definite that animals must have some sort of self-awareness.⁹⁰ As in the *Discussions*, he assigns this capacity for self-awareness to estimation because estimation plays a role analogous to intellect in the animal soul.⁹¹ And here, as in the *Discussions*, it is also clear that Avicenna wishes to assign both apperception, in the sense of awareness of the sensible soul's perceptual activity, as well as self-awareness, to the estimative faculty.⁹² In the *Notes*, moreover, it becomes clear that Avicenna links both of these apperceptive capacities of estimation to its basic characterization as the true judge and percipient in the animal soul, and he appears to view the process underlying this self-awareness as akin to the process underlying estimation's control over incidental perception.⁹³ As we have seen, Avicenna holds that

in the animal soul estimation alone is able to make judgements about the external world, that is, to judge whether or not some sensible form actually exists in a real body. This in turn is a function of its ability to grasp intentions and to synthesize the various perceptions of the sensible faculties, linking the intentions of things with their proper physical descriptions. This is implicit in the passage in the *Notes* where Avicenna discusses the role of identity and otherness in self-awareness, comparing and contrasting the awareness of others with the awareness of self. In this context, he compares the awareness of others manifested in our ability to unite the perception of Zayd with his sensible description, or to associate the colour of honey with its flavour, with the identity between the one aware and the thing of which she is aware that is peculiar to self-awareness. Although estimation is not explicitly mentioned in this passage, the comparison of self-awareness in general with the two species of incidental perception strongly implies that estimation's role in animal awareness is rooted in the same capacities that lead Avicenna to assign to it the ultimate responsibility for incidental perception.⁹⁴ In the *Discussions*, moreover, Avicenna explicitly links the estimation's role in animal apperception to its status as the faculty which perceives 'the intention which is not sensed, insofar as it has a connection to the sensible,' comparing this awareness to the senses' awareness of other things.⁹⁵ Here Avicenna stresses the organic and corporeal basis for estimative awareness, emphasizing the otherness and indirectness that this introduces into the act of awareness. For given its dependence upon a bodily organ, this act cannot be an awareness of the essence of the soul through its essence, but rather, it is through some other thing.⁹⁶

Estimation, then, limited as its truly reflective capacities may be, still plays an important role in Avicenna's system in accounting for sensible awareness in general, and self-awareness in particular. As with many of the other roles assigned to estimation, this role is a function of estimation's place as the analogue of reason in the animal soul, and its limitations in the human soul are in turn a function of the subordination of animal to intellectual functions prompted by Avicenna's dualism. But despite these limitations, estimation also has an important, if indirect, role to play even in the intellect's awareness of itself through itself.

In the *Discussions*, Avicenna considers one possible role that estimation might play in human self-awareness, a role suggested once again by estimation's capacity to grasp intentions, which are non-sensible, and yet particularized through their attachments to sensible forms. If it is through estimative intentions that we are able to grasp concrete

individuals as amalgams of their sensible forms and non-sensible intentions, then shouldn't it be through estimation that we grasp ourselves insofar as we are particular essences? Alluding to the Flying Man argument, Avicenna rejects this possibility, since estimative intentions are always tied to corporeal images, whereas our self-awareness is not.⁹⁷ His answer turns on the claim that while it is true that only the intellect can perceive universal meanings, and that only a bodily faculty can perceive particulars that are individuated solely through material accidents, 'it has not been shown at all that the particular is not perceived without a body,' not, at least, if the particular is not individuated by means of corporeal accidents like magnitude and place, and if 'the form entailing individuation is not itself a material form.'⁹⁸

Since the human soul is not, in Avicenna's eyes, a material form individuated by material accidents, the estimative faculty's grasp of particularized intentions cannot account for any essential awareness it has of itself. Nonetheless, in the process by which the human mind is alerted to its own awareness of itself, estimation appears to play a very prominent role. This is possible because Avicenna distinguishes between the soul's awareness of its own essence, which is something innate and primary, and its awareness of that awareness, which must be acquired.⁹⁹ This acquisition takes place, not by way of a purely intellectual demonstration, but rather, by way of a process of alerting (*al-tanbih*) such as is embodied in the thought-experiment of the 'Flying Man.'¹⁰⁰

The role that estimation plays in this process is indicated chiefly by Avicenna's choice of terminology for setting up his thought-experiment. At the beginning of the versions of the Flying Man experiment in Book 1, chap. 1 of the *Psychology of the Healing*, and in the *Remarks and Admonitions*, Avicenna urges the experimenter to return to his true self by 'imagining himself in estimation (*an yatawahhama/law tawahhamta*),' created all at once, in a mature and perfect state, but suspended in such a way as to be deprived of all sensory experience. In such a state, Avicenna argues, one would continue to be aware of the existence of his own self. However, given the suspension of corporeal and estimative self-awareness that the thought-experiment simulates, this lingering self-awareness cannot be dependent on any corporeal or sensible perception; hence, the experimenter becomes cognizant of the fact that his self-awareness is a purely immaterial and intellectual act.¹⁰¹

The role of estimation suggested by Avicenna's language in this argument is twofold. The most obvious role is a negative one, conditioned by estimation's function as the agent of animal awareness. Since the Flying Man requires a suspension of all sensible

self-awareness in order for the self's true intellectual awareness to manifest itself, the cooperation of estimation is obviously required to ensure the enactment of this suspension. But estimation is important here for a second reason, in virtue of its role as the director of animal compositive imagination, since the thought-experiment requires separating sensible forms from the intentions that accompany them in reality.¹⁰² To this extent, estimation's role here is more than a function of its special status as the apperceptual faculty in the animal soul, and the deliberate suspension of that awareness in the thought-experiment. Rather, this points to the centrality of estimation for any argument that employs the technique of a thought-experiment, and thus adds another important area in which estimation is able to cooperate with the intellect.¹⁰³ We have already seen some indication of this more general role, ironically in Avicenna's interpretation of the meaning of *fitrah* as it is applied in different ways to the judgements of the intellect and the estimation. For the passage from the *Salvation* in which Avicenna explains what *fitrah* means contains clear and intentional echoes of the Flying Man; it differs from the latter, however, in that Avicenna only asks the experimenter to imagine herself in a natural, that is, non-societal and uneducated, state, but possessed of sense perception and full intellectual maturity.¹⁰⁴ But in both cases, by invoking the ability of estimation to control the activities of the animal faculties and manipulate the images that it has acquired from experience, the estimative sense is able to alert us to our true nature, and separate it from what is accidental. Somewhat paradoxically, then, estimation plays a positive role in these cases precisely to the extent that it alerts human knowers to the fact that, in virtue of their possession of a rational soul, they are able to transcend the limitations of estimation itself.

9. Estimation and Ethical Judgements

Since one of the principal contentions that I have made in this discussion is that a full understanding of Avicenna's views on the estimative sense requires a consideration of its peculiar place in the human soul, I have focused almost exclusively on the purely cognitive and perceptive roles assigned by Avicenna to the estimative faculty. But as I noted in my opening allusions to the canonical presentations of estimation, Avicenna continually emphasizes estimation's role in animal motion and emotive responses. We are told in the *Psychology* of the *Healing* that 'from [the estimation] most animal actions emanate,'¹⁰⁵ that animals and 'their like among people' impulsively and unreflectingly follow the judgements of estimation in their actions,¹⁰⁶ and that in general, all judgements

involving emotions, such as grief, anger, sorrow, hope, desire, and so on ‘are judgements belonging to the estimation.’¹⁰⁷ Yet even on the level of emotive responses and practical activity, one would expect estimation to have a special role in humans parallel to its role in their speculative activities. In his psychological writings, Avicenna does suggest some sort of parallel with estimation’s negative and obstructing propensities when he remarks that most people’s actions tend to be governed by their estimative senses rather than their intellects. But is there not a more positive sense in which estimation’s ability to grasp affective non-sensible intentions is able to aid the intellect in its judgements about what is and is not truly desirable for human agents?

Avicenna appears to reject this possibility in a thought-experiment which is similar to the Flying Man, found in his discussions of a class of premises he calls ‘widely-accepted’ (*al-mashhûrât*).¹⁰⁸ These premises are more or less equivalent to Aristotle’s endoxa and refer to those ethical dicta which we accept owing to the consensus of our society and religion.¹⁰⁹ Here the thought-experiment is employed to affirm the purely conventional character of such dicta, referring both to the estimative sense and to the intellect to show that human beings would neither affirm nor deny such premises by nature, without socialization:

These are opinions such that if the human being has his pure intellect, his estimative power and his senses free [from them; if] he is not educated to accept and acknowledge their judgments; [if] induction does not incline his strong opinion to make a judgment due to the multiplicity of particular cases; and [if] they are not called for by that which is in the human nature of mercy, abashment, pride, zeal, etc.; then the human being does not assert them due to abiding by his intellect, his estimative power or his sense. . . . If a human being imagines himself (*law tawahhama*) as created at once with a complete intellect, without education and without abiding by the psychological and moral sentiments, he would not assert any such propositions.¹¹⁰

It is important to note that Avicenna’s principal concern in this and parallel passages is to distinguish these premises from primary premises or first principles (*al-awwalîyât*), such as the proposition, ‘The whole is greater than the part,’ on the grounds that many of these ethical dicta are open to doubt, and hence, subject to argument and demonstration. The important element that makes these propositions distinct and defines them as widely-accepted is the fact that the grounds on which people assent to them is their notoriety, that is, the fact that they are popularly acknowledged to be true. Avicenna is adamant,

however, that such propositions are not by definition false: some may be, but others may be true. So Avicenna is not simply attacking the objective or intelligible status of all ethical beliefs. What he is attacking is their claim to be intuitively true, either on the level of estimative cognition or intellectual understanding, a claim that many people make because of the force of their upbringing and the customs of their society and religion.¹¹¹

The role of estimation in this thought-experiment, then, is similar to its role in the Flying Man: the estimative sense's ability to control imagination enables one to isolate what is innately known (*al-fitrî*) from what is acquired or conventionally believed. It is no accident, then, that the *Salvation's* discussion of widely-accepted propositions explicitly invokes a contrast with *fitrah* along these lines, but in this case, the *fitrah* is both intelligible and estimative.¹¹² Here estimation cooperates with the intellect to show that neither it, nor the intellect, necessitates the truth of widely-accepted beliefs.

There is, however, a further complication here. For although the parallels with the Flying Man and the discussion of estimative *fitrah* lend an air of consistency to the role of estimation in this thought-experiment, the link of estimation to the emotive judgements of the animal soul raises some difficulties for Avicenna's claims regarding the result of his thought-experiment. For initially Avicenna admits the role of emotional responses in inculcating the acceptance of widely-accepted premises: mercy, shame, pride, zeal, love, and so on. Yet in the thought-experiment itself, as it is presented in *Remarks and Admonitions*, one is asked to use estimation in order to imagine oneself removed from these 'psychological and moral emotions' (*infi'alan nafsânîyah aw khulqan*). This implies that the connection between emotional responses and the perception of intentions can be severed.¹¹³ Yet this seems to be contrary to what Avicenna's psychological writings, and other related texts, imply.

This very charge of inconsistency was made by the jurist and theologian, Ibn Taymîyah (d. 1328), in his critique of Avicenna's view of widely-accepted premises in his *Al-Radd 'alâ al-mantiqîyîn* (Refutation of the Logicians). After quoting Avicenna's description of estimation in the *Remarks and Admonitions*, Ibn Taymîyah argues that it implies that estimation is the faculty which 'inclines towards an individual whom it knows to be just, friendly, and good, and shrinks away from the one whom it knows to be false, unjust, and wicked.' Ibn Taymîyah goes on to argue that the thing that the nature (*fitrah*) of the estimative faculty loves is precisely the intention of being good (*huwa alma'nâ bi-kawni-hi husnan*), and what it feels hostility towards is the intention of being bad.¹¹⁴ In the following chapter of the same work, Ibn Taymîyah turns to a later portion

of the *Remarks and Admonitions*, in which Avicenna discusses the nature of joy and happiness. In this text, Avicenna attempts to argue against the popular estimative judgements (*al-awhâm al-'âmmî*) that the strongest and best pleasures are sensible ones. His argument attempts to establish a hierarchy of pleasures, with sensible pleasures as the lowest, estimative ones intermediate, and intellectual ones the highest. The evidence that Avicenna presents consists of drawing our attention to situations in which humans and animals will deliberately turn away from the lower sensible pleasures of food and sex, in favour of the higher pleasures of 'estimative victory' (*al-ghalabah al-wahmîyah*). This shows, Avicenna argues, that these estimative pleasures of internal sensation are naturally and essentially preferable to those of the external senses. And if this is so, surely the pleasures of the intellect are even loftier still?¹¹⁵

Ibn Taymîyah's case is strengthened considerably by the examples Avicenna gives of estimative pleasures: the love of victory in games like checkers and backgammon; the love of modesty and chastity, and control over one's body; the pleasures of acting beneficently; the magnanimous person's love of honour over the fear of death; and among animals, the hunting dog who does not eat the prey he fetches; and the nursing animal's love of her offspring's life over her own. As Ibn Taymîyah is quick to point out, these examples of estimative pleasures all seem suspiciously drawn from the realm of moral virtue, or its analogue in animals:

For you have noted that human beings—or even animals—take pleasure in praise and laud; and that they take pleasure in victory, and in being beneficent and acting kindly and mercifully, much greater than the pleasure they take in eating and drinking. And it is known that the pleasure of eating and drinking is one of the things known by the external sense. But this is internal pleasure, which is known through internal sensation and estimation. So how can you say that one does not know through sensation, estimation, or intellect the goodness of the good and the badness of the bad? And what you have mentioned concerning human pleasure in altruism, and rejection of food that one desires for the sake of decorum, and things of this type, these are only due to the belief that this is ugly, and that beautiful; and one takes pleasure in doing what is beautiful through an internal pleasure which senses these things. So how can he say that the noble and the base are not acquired by any of the soul's powers, and that one only assents to them owing to sheer repute alone, without any sensible, estimative, or intellectual necessity?¹¹⁶

Is Ibn Taymîyah correct in arguing that Avicenna's remarks on widely-accepted premises conflict with the role Avicenna assigns the perception of estimative intentions in animal motion and human moral virtue? In order to determine this, it will be helpful to look at the examples of widely-accepted premises which Avicenna gives. Most of them involve what would seem to be universally accepted ethical maxims: Lying is ugly; stealing the wealth of others is ugly; justice is beautiful, injustice ugly.¹¹⁷ As Ibn Taymîyah points out, each is also a universal statement (*lafz* 'âmm) which may be false under certain conditions: one may steal justly in some cases.¹¹⁸ Avicenna himself remarks that widely-accepted premises are often true only with the addition of certain subtle conditions which popular opinion often ignores.¹¹⁹ Moreover, many of these examples involve considerations pertaining to the conditions of conventional human society and culture: lying, stealing, and even justice presuppose that human relations are governed by specific conventional contexts, precisely of the sort that the thought-experiment abstracts from. And in this way, they differ in an important and relevant respect from the sorts of intentional judgements evidenced in the standard examples of fearing a natural enemy and loving one's offspring.¹²⁰

Perhaps most telling, however, is a specific example that Avicenna provides only in the *Remarks and Admonitions*, drawn from religious law. Right before embarking on the thought-experiment in this text, Avicenna gives as an example of a widely-accepted premise the prohibition against slaughtering animals. He adds that such an act is antecedently present in the estimative senses of many human beings, whereas the Law opts to follow the more compassionate instincts of some people, rather than this majority inclination. This example is significant precisely insofar as it rests upon the possibility that estimative pleasures differ from one individual to the next. In the present example, estimation varies to the extent that some people are more sensitive to violence than others, and in this case, the law opts to inculcate that sensitivity or to reinforce it.

But how does this resolve the objection of Ibn Taymîyah? According to Ibn Taymîyah, Avicenna is inconsistent because, within a single work, he both denies estimation a role in ethical judgements (in the logic sections of *Remarks and Admonitions*) and later makes estimative pleasures the basis for ethical virtue (in its discussion of joy and happiness). But under closer examination, Avicenna's thought-experiments in his logical works do not deny that estimation has some role to play in ethical judgements, as the example of animal slaughter shows. What they do deny is that the link between estimation and ethical judgements is a natural one, stemming from

estimative *fitrah* and giving ethical judgements a status analogous to the primary principles of the intellect. If human ethical judgements were of this sort, Avicenna claims, then they would be on a par with the instinctive fears and loves of animals, and impossible to doubt or to alter. Moreover, they would not vary from one individual to the next, at least, not in any great degree. But in fact, the thought-experiment illustrates that estimation's role in such judgements is not to offer instinctive sanction of what they enjoin, but rather, such judgements are akin to the quasi-empirical, acquired instincts of animals, as when dogs learn to fear sticks. The estimation is conditioned and educated to love and to hate certain things which a given society has deemed acceptable or unacceptable; its grasp of intentions is molded to fit the conventions of a given society, and to take into account factors that transcend estimation's natural limitations to the sensible order. Thus, by giving estimation this sort of role in ethical behaviour, Avicenna is able to take into consideration the place of conventional societal structures in defining the context of ethical behaviour, and the fact that there is consensus on certain ethical beliefs, even though individuals vary widely in their instinctive estimative reactions to some of the acts in question.

Estimation's role in ethical judgements thus remains intact, and offers yet another important possibility for cooperation between the intellect and the estimation. But for good reason, Avicenna is unwilling to extend the concept of estimative *fitrah* to the ethical realm: ethical beliefs are not merely a function of an estimative grasp of intentions, even if estimative instincts may contribute to the intellect's ability to inculcate these beliefs. Ultimately, Avicenna upholds this limitation of estimation because of an essentially Aristotelian conviction that ethical beliefs, while based on nature, are radically dependent upon the cultural context in which they unfold. Hence, neither estimation nor intellect can necessitate such beliefs without undermining the importance of their conventional elements. But it also stems from a conviction that, while ethical beliefs are not self-evident, many of them are nonetheless rational. If the majority of ethical premises are essentially sound, to consign their appeal to estimative necessity is to admit that they are ultimately instinctive and irrational. And this, in turn, would threaten Avicenna's claim that the intellect as well as the estimative faculty plays an important role in establishing ethical beliefs.

10. Conclusion

When viewed in the context of his philosophy as a whole, the internal sense power of

estimation assumes a necessary and prominent place within the Avicennian account of the natural course of human cognition, both practical and theoretical. Once the nature of Avicennian intentions, as non-sensible properties capable of assuming both material and immaterial existence, is properly understood, it becomes clear why Avicenna needs a faculty distinct from both imagination and intellect to account for the ability of animals and humans alike to perceive them. In all of the areas in which estimation plays a central explanatory role within Avicenna's epistemology—the perception of affective qualities; incidental perception; the creation of fictional ideas; the formation of materialist propositions; the process of mathematical abstraction; apperception; and the formation of ethical beliefs—there is evidence of some sort of pre-intellectual grasp of non-sensible intentions at the core of the judgements in question, which precludes either a purely sensible, or a purely intellectual, explanation. By positing estimation as the highest power among the soul's animal faculties, holding a place analogous to reason within the intellectual soul, Avicenna provides himself with the cognitive structures necessary to bridge the epistemological gap created by all these types of complex judgements. The estimative faculty's role in Avicenna's epistemology and psychology is, then, entirely consistent with Avicenna's general approach to knowledge and human nature. And it participates, for that reason, in some of the tensions inherent within Avicenna's basic philosophical approach. His dualist tendencies create a rift between sensible and intellectual cognition that necessitates the positing of estimation as a bridge between the two orders. And those same dualist tendencies sometimes lead him to overemphasize the possible points of conflict between the intellectual and sensible operations of the soul, even while admitting the intellect's dependence on sensible faculties, and the unitary composition of the human person as a whole. The critiques of Avicenna's theory of estimation raised by Ghazâlî, Averroes, and Ibn Taymîyah thus reflect more upon the basic tensions between Avicenna's approach to philosophical issues as a whole and those of his successors, than upon any inherent ambiguities in the notion of an estimative faculty itself.

Notes

- * Earlier versions of this paper were presented at the 24th annual meeting of the Middle East Studies Association of North America in San Antonio, Texas on November 12, 1990; and at the Congress of the Canadian Philosophical Association in Kingston, Ontario, May 27, 1991. I would like to thank the audiences at both presentations for helpful comments and discussion; in particular I would like to thank Richard Bosley of the University of Alberta, who commented on the paper at the CPA Congress.
- 1 Throughout this paper, all Arabic texts will be cited initially by their Arabic titles, with an English translation of the title given in parentheses. In subsequent citations, a shortened version of the English

translation will be used. Where medieval Latin versions of Arabic texts are available, I have in most cases provided references to these as well as to the Arabic original. References are also provided in initial citations to translations of the Arabic text into Western languages other than English, but subsequent citations are not provided to these translations.

- 2 I accept the contention of Fazlur Rahman that each of the internal senses is a 'differentiation of Aristotle's *phantasia*.' See *Avicenna's Psychology* (1952; rpt. Westport, Conn.: Hyperion, 1981), p. 83. Recently, J. P. Portelli has attempted to refute Rahman's claim and the related views of other scholars, in 'The 'Myth' that Avicenna Reproduced Aristotle's 'Concept of Imagination' in *De anima*,' *Scripta Mediterranea* 3 (1982): 122–34, esp. 123. But in *Al-Ta'liqât 'alâ hawâshin kitâb al-nafs li-Aristû* (Marginal Glosses on Aristotle's *De anima*), ed. A. R. Badawi, in *Aristû 'inda al-'Arab*, p. 75–116 (Cairo: Maktabah al-Nahdah al-Misriyah, 1947), Avicenna himself explicitly identifies Aristotle's *phantasia* as a term covering all of the internal senses except the common sense: 'And what [Aristotle] brings together here under the term 'imagination' (*al-takhayyul*) can be divided into a number of active powers, such as estimation and cogitation, and retentive powers, such as the formative faculty and memory' (p. 97, commenting on *De anima* 3.3.428b11ff.). On estimation in particular, cf. also *Qanûn fî al-tibb* (Canon of Medicine), ed. Ali Zay'ur and Idwar Al-Qashsh (Beirut: Mu'assasah Izz al-Din, 1987), p. 97: 'And some people who speak loosely call this faculty [of estimation] 'imagination' (*takhayyulan*).'
- 3 The canonical Avicennian presentations are found in *Kitâb al-Najâh* (Salvation), ed. Majid Fakhry (Beirut: Dar al-'Afaq al-Jadidah, 1985), p. 200–202, 207–13; English translation by Fazlur Rahman, in *Avicenna's Psychology*, 79–83; and *Al-Shifâ': Al-Nafs* (Healing: Psychology), ed. F. Rahman, *Avicenna's De anima, Being the Psychological Part of Kitâb al-Shifâ'* (London: Oxford University Press, 1959), 1.5, p. 43–45; 1.2, p. 58–61; 4.1, p. 163–69. The medieval Latin translation of this work has been edited by S. Van Riet in the Avicenna Latinus series, *Liber de anima, seu sextus de naturalibus*, 2 vols. (Louvain: Peeters; Leiden: Brill, 1968), vol. 1, p. 85–90, 114–20; vol. 2, p. 1–11; there is also another edition with French translation by Jan Bakoš, *La psychologie d'Ibn Sina (Avicenne)*, 2 vols. (Prague: Éditions de l'Académie Tchecoslovaque des Sciences, 1956).
- 4 The principal texts on the epistemic classification of premises are: *Salvation*, 97–103; *Al-Shifâ'*: vol. 1, *Al-Mantiq* (Logic), part 5, *Al-Burhân* (Demonstration), ed. A. E. Affifi and I. Madkour (Cairo: Organisme Général des Imprimeries Gouvernementales, 1956), p. 63–67; *Al-Ishârât wa-al-tanbîhât*, ed. J. Forget (Leiden: Brill, 1892), p. 55–64; English translation by S. C. Inati, *Remarks and Admonitions Part One: Logic* (Toronto: Pontifical Institute of Mediaeval Studies, 1984), p. 118–28; French translation by A.-M. Goichon, *Le livre de directives et remarques* (Paris: Vrin, 1951). Estimation's role in the division of the theoretical sciences is alluded to in *Al-Shifâ'*: vol. 1, part 1, *Al-Madkhal* (Isagoge), ed. G. Anawati, M. El-Khodeiri, F. Al-Ahwani and I. Madkour (Cairo: Al-Matba'ah al-'Amiriyah, 1952), p. 12–16; English translation with commentary by M. E. Marmura, 'Avicenna on the Division of the Sciences in the *Isagoge* of his *Shifâ'*,' *Journal for the History of Arabic Science* 4 (1980): 239–50. The principal text decrying the estimation's influence on religious beliefs is *Ithbât al-nubûwât* (Proof of Prophecies), ed. M. E. Marmura (Beirut: Dar al-Nahar, 1968); English translation, idem, 'On the Proof of Prophecies and the Interpretation of the Prophets' Symbols and Metaphors,' in R. Lerner and M. Mahdi, eds., *Medieval Political Philosophy: A Sourcebook* (Ithaca, N.Y.: Cornell University Press, 1963), p. 112–21. Estimation's role as the apperceptive faculty within the animal soul is outlined by Avicenna most explicitly in two late works, *Al-Mubâhathât* (Discussions), ed. A. R. Badawi, *Aristû 'inda al-'Arab*, 118–239; and *Al-Ta'liqât* (Notes), ed. A. R. Badawi (Cairo: General Egyptian Book Organization [GEBO], 1973). Its place in the creation of fictional or 'vain' ideas is treated in a short work, *Al-Risâlah fî al-nafs* (Letter on the Soul), ed. and trans. (French) J. R. Michot, 'L'Épître sur la disparition des formes intelligibles vaines après le mort' d'Avicenne,' *Bulletin de philosophie médiévale (BPM)* 29 (1987): 153–70; English translation idem, 'Avicenna's 'Letter on the Disappearance of the Vain Intelligible Forms After Death,' *BPM* 26–27 (1984–85): 94–103. The role of estimation in ethical precepts is also developed within the context

of Avicenna's epistemic classification of premises, within the discussion of the premises known as 'widely-accepted' (*al-mashhûrât*).

- 5 For the Aristotelian background, cf. *De anima* 2.4.415a14–22; cf. 2.5.417a14–20.
- 6 I. e., the proper and common sensibles of Aristotle, such as colour, sound, motion, magnitude, etc.
- 7 For the distinction between form and intention as the basis for a distinction of faculties, see, for example, *Salvation*, 200; Rahman trans., p. 32.
- 8 Cf. *Healing: Psychology*, 4.1, p. 167; Van Riet, vol. 2, p. 8: 'It has been customary to call the thing apprehended by the sense a form, and the thing apprehended by the estimation an intention.'
I have opted throughout to retain the traditional translations of 'estimation' for *wahm* and 'intention' for *ma'nâ*, both of which are derived from the medieval Latin renditions of the terms, and both of which are somewhat controversial as translations. I believe that these terms, while not literal renditions of the Arabic, do in fact capture their technical philosophical connotations for the Islamic philosophers, although for the sake of brevity I do not intend to argue that point here. Rather, the traditional terms will be used simply for the sake of convenience.
- 9 Avicenna gives these examples in almost all of his initial enumerations of the internal senses. See, for example, *Healing: Psychology*, 4.1, p. 165–67; Van Riet, vol. 2, p. 6–7; *Salvation*, p. 200–202; Rahman trans., p. 30–31; *Remarks and Admonitions*, p. 125; *Maqâlah fî al-nafs* (Treatise on the Soul), ed. and trans. (German) S. Landauer, 'Die Psychologie des Ibn Sina,' *Zeitschrift der deutschen morgenländischen Gesellschaft* 29 (1876): 339–72, esp. 359–60; *Sources of wisdom*, 38; *Al-Mabdâ' wa-al-ma'âd* (Genesis and Return), ed. A. Nurani (Montreal: McGill University Press; Tehran: Tehran University Press, 1984), p. 95; *Canon of Medicine*, 96; *Fî al-quwâ al-insânî wa-idrâkât-hâ* (On Human Faculties and their Perceptions), in *Tis' Rasâ'il*, (Nine Treatises), p. 42–48 (Constantinople: Matba'ah al-Jawa'ib, 1880), p. 43.
- 10 See *Salvation*, 209; Rahman trans., p. 39–40; *Healing: Psychology*, 2.2, p. 60–61; Van Riet, Vol. 1, p. 118–19; *Sources of Wisdom*, p. 42; *Genesis and Return*, p. 103; *On Human Faculties*, p. 44.
- 11 For the sake of convenience, both Ghazâlî's critique of Avicenna in the *Tahâfut al-falâsifah*, and Averroes's reply, will be cited from Averroes's *Tahâfut al-tahâfut* (Incoherence of *The Incoherence*), ed. M. Bouyges (Beirut: Imprimerie Catholique, 1930), p. 543–53; English translation by Simon Van Den Bergh, *Averroes' Tahafut at-Tahafut*, 2 vols. (Oxford: Oxford University Press, 1954), p. 333–41; medieval Latin translation edited by Beatrice Zedler, *Averroes's Destructio Destructionum Philosophiae Algazelis in the Latin Version of Calo Calonymos* (Milwaukee: Marquette University Press, 1961), p. 423–32.
- 12 Commenting on his overview of Avicenna's division of the soul's powers, Ghazâlî says: 'Nothing of what we have mentioned need be denied on religious grounds, for all these things are observable facts whose habitual course has been provided by God. We only want now to refute their claim that the soul being an essence subsistent by itself can be known by demonstrative rational proofs . . .' (*Incoherence*, p. 548; Van Den Bergh trans., p. 336).
- 13 All of Avicenna's presentations of the internal senses include their assignment to a particular organ or ventricle of the brain. In the standard account, the estimative sense is assigned to the posterior part of the middle ventricle of the brain, giving it ready access to the imagination and memory. See, for example, *Salvation*, p. 202; Rahman trans., p. 31. In some works, however, Avicenna suggests that the estimative faculty can be said to have the whole brain as its organ generally, and this ventricle as its special seat. See, for example, *Treatise on the Soul*, p. 360; *Remarks and Admonitions*, p. 125.
- 14 *Incoherence*, p. 549; Van Den Bergh trans., p. 337–38. On this point, cf. T.-A. Druart, 'Imagination and the Soul-Body Problem in Arabic Philosophy,' *Analecta Husserliana* 16 (1983): 327–42, esp. 337.
- 15 Ghazâlî, of course, is well aware of Avicenna's use of estimation in logical contexts, and Ghazâlî himself freely employs estimative premises in his own logical works, the *Mi'yâr al-'ilm* (Standard for Knowledge) (Beirut: Dar al-Andalus, 1964), p. 151–52, and the *Maqâsid al-falâsifah* (Intentions of the Philosophers), ed. S. Dunya (Cairo: Dar al-Ma'arif bi-Misr, 1961), p. 104–5; medieval Latin version of the latter work edited by C. H. Lohr, 'Logica Algazelis: Introduction and Critical Text,' *Traditio* 21

- (1974): 223–90, esp. 276 (the term ‘estimative’ is rendered into Latin as *opinabiles*).
- 16 It might be objected that most of the properties which Avicenna cites as examples of intentions are relational properties, and hence need not inhere in the extramental thing: wolves are not inherently hostile, but only so in relation to sheep. But Avicenna’s view of relational properties requires that they have some external ground in a particular accident of a particular substance, even if some aspect of the notion of a relation is a purely conceptual construct. On Avicenna’s views on relations, see M. E. Marmura, ‘Avicenna’s Chapter ‘On the Relative,’ in the *Metaphysics of the Shifâ*,’ in G. F. Hourani, ed., *Essays on Islamic Philosophy and Science* (Albany: State University of New York Press, 1977), p. 83–99.
 - 17 In the *Salvation*, for example, Avicenna initially appeals only to the fact that the intentions are not perceived by *both* internal and external sense faculties (201; Rahman trans., p. 30); only when he comes to establish a hierarchy of abstraction among the soul’s apprehending powers does he explicitly characterize estimative intentions as non-material (209; Rahman trans. 39–40). For other discussions of estimation’s place in the hierarchy of abstractive powers, see, *Healing: Psychology*, 2.2, p. 60–61; Van Riet, Vol. 1, p. 118–19; *Sources of Wisdom*, p. 42; *On Human Faculties*, p. 44; *Genesis and Return*, p. 103.
 - 18 Cf. Ushida, *Étude comparative*, p. 159: ‘Ainsi les significations des objets ne sont elle-mêmes ni purement sensibles, ni purement intelligibles. . . . Par conséquent, Avicenne les détermine comme entités immatérielles en elles-mêmes, mais engagées par accident dans le matière.’
 - 19 *Salvation*, p. 209; *Healing: Psychology*, 2.2, p. 60; Van Riet, Vol. 1, p. 119. Avicenna’s proposition is thus of the form, ‘Not necessarily p’ (\sim Lp), whereas Ghazâlî appears to be assuming a proposition of the form, ‘Necessarily not-p’ (L \sim p). The only exception to this careful way of describing intentions is in the early *Genesis and Return*, p. 103, where intentions are referred to as intelligibles: ‘As for the estimation, it abstracts from matter the most, because it understands non-sensible, intelligible intentions, although it does not understand them as intelligible universals, but rather, as bound to sensible intentions.’
 - 20 However, in Ghazâlî’s initial presentation of Avicenna’s account of the soul’s powers, he does represent Avicenna’s claims accurately. See *Incoherence*, p. 544; Van Den Bergh trans., p. 334, where he says that the meaning of an intention is ‘that which does not require a body for its existence, although it can happen that it occurs in a body.’
 - 21 The Avicennian quiddity or common nature is discussed in *Healing: Isagoge*, 1.2, p. 15; the passage is translated and discussed in Marmura, ‘Avicenna on the Division of the Sciences,’ 247–50; see also *Shifâ: Ilâhîyât* (*Healing: Metaphysics*), ed. I. Madkour, M. Musa, S. Dunya, and S. Zayid, 2 vols. (Cairo: GEBO, 1960), 1.5, Vol. 1, p. 31–32; 5.1–2, Vol. 1, p. 195–212; medieval Latin version edited by S. Van Riet, *Liber de philosophia prima*, 3 vols. (Leiden: Brill; Louvain: Peeters, 1977–83), Vol. 1, p. 34–36; Vol. 2, p. 227–45; French translation by G. C. Anawati, *La métaphysique du Shifâ*, 2 vols. (Paris: Vrin, 1978, 1985). For a discussion of this doctrine and its influence on the Latin West, see Joseph Owens, ‘Common Nature: A Point of Comparison Between Thomistic and Scotistic Metaphysics,’ *Mediaeval Studies* 19 (1957): 1–14.
 - 22 I am not suggesting that an estimative intention is itself a common nature; my point is simply that the notion of a property undetermined to any specific mode of existence is not peculiar to Avicenna’s doctrine of estimation, and is in fact central to his entire metaphysical outlook.
 - 23 *De anima* 3.7.431a8–14. On the difference between Avicenna and Averroes with regard to this point, cf. Rahman, *Avicenna’s Psychology*, 82.
In the *Summa theologiae* (1a.87.4), Thomas Aquinas supplies an implicit defense of Avicenna on this point, arguing that there is a difference between the pleasures and pains attendant upon perceptions, which involve a sort of aesthetic harmony or discord between the object and the percipient—e.g., when a colour is pleasing to the eye, or a sound cacophonous to the ear—and the perception of pleasure and pain under the guise of harmfulness or utility to the percipient’s well-being, which Avicenna’s examples of animal estimation imply.

- 24 See Averroes, *Incoherence*, p. 547; Van Den Bergh trans., p. 336. This rejection of estimation is already implicit in a work as early as Averroes's *Epitome of the 'Parva naturalia.'* In this text, Averroes mentions estimation only once, saying that it is an ability in animals which has no name, but which Avicenna has called 'estimation.' See *Talkhîs kitâb al-hiss wa-al-mahsûs*, ed. H. Blumberg (Cambridge, Mass.: Mediaeval Academy, 1972), p. 39. In the rest of the text, Averroes refers only to the discriminative faculty (*al-mumayyizah*), which is a human faculty equivalent to cogitation, to which Averroes assigns the role of analyzing and synthesizing images. Blumberg's translation of this text is misleading in this regard, since he renders *al-qûwah al-mumayyizah* as 'estimation' or 'estimative faculty' throughout. See *Epitome of Parva naturalia*, trans. H. Blumberg (Cambridge, Mass.: Mediaeval Academy, 1961).
- 25 Averroes's acceptance of cogitation in humans, and his rejection of animal estimation, suggests that this is part of his own position (cf. the preceding note). Any real grasp of something like an intention is attributable to humans in virtue of their access to the intellect; in animals, the reactions Avicenna alludes to are purely instinctual, and thus presumably involve no authentic perception of the intention itself.
- 26 My contention here is that it is principally the phenomenon of certain peculiarly human types of cognitive judgements that best illustrates why imagination alone cannot, on Avicenna's view, fulfill the functions that he assigns to the estimative faculty, and why those same activities cannot be assigned to the intellect. I do not intend to deny the presence of estimation in animals, a point on which Avicenna is insistent. Rather, I am arguing that human cognition best exemplifies Avicenna's underlying rationale, even though the activities in question can be shown to have their counterparts in non-human, non-rational animals as well.
- 27 For incidental perception in Aristotle, see *De anima* 2.6.418a20–25; 3.1.425a14–b4. For estimation and incidental perception in Avicenna, see especially *Healing: Psychology*, 4.1, p. 166; Van Riet, Vol. 2, p. 6–7: 'Then we may judge concerning the sensibles through intentions which we do not sense, which are either not sensibles in their natures at all, or which are sensibles, but we do not sense them at the time of the judgement. . . . As for those which are sensibles, we see, for example, something yellow, and we judge that it is honey and sweet. For the sense does not convey this to it at this moment, though it is of the genus of the sensible, even if the judgement itself does not take place through anything sensible at all. . . .'
- 28 Cf. *De anima* 2.6.418a20–24; 3.2.425a24–27.
- 29 For this formula, see, for example, *Salvation*, 201: 'And the distinction between the perception of form and the perception of intention is that the form is something which both the internal soul and the external sense perceive together, but the external sense perceives it first and conveys it (*wa-yu'addî-hi*) to the soul; . . . whereas the intention is something which the soul perceives from the sensibles (*min al-mahsûs*), without the external sense perceiving it first'; and *Remarks and Admonitions*, 124: 'For rational and irrational animals perceive in the particular sensibles particular non-sensible intentions which are not conveyed by way of the senses. . . (*wa-lâ muta'addîyah min tarîq al-hawâss*).
- 30 Even Aristotle, from whom the principle of faculty differentiation according to a difference in objects derives, locates the actualization of perception in the patient or percipient, and hence, argues that the object of perception is in some way defined in terms of its effect on a percipient. See, for example, *De anima* 2.7.419a17–18; and especially 3.2.426a15–26. This principle too would allow the same object to count as a form at one time, and an intention at another, depending on which perceptual faculty it was affecting, in much the same way as the same object is visible if it affects sight, but tactile if it affects touch.
- 31 *Healing: Psychology*, 4.3, p. 184–85; Van Riet, Vol. 2, p. 39. Rahman emphasizes this facet of estimation in his commentary on the *Salvation*. See *Avicenna's Psychology*, p. 81.
- 32 In Avicenna's scheme of internal senses, the formative faculty acts as a kind of sense-memory, where the sensible forms or images are stored, whereas memory proper is the storehouse of estimative intentions.

- 33 *Healing: Psychology*, p. 165; Van Riet, Vol. 2, p. 49–50.
- 34 I am using ‘icon’ here after Aristotle’s use of the Greek *eikôn* at *De memoria* 1.450a22–451a14, to indicate a depiction that is taken in its special function of portraying a particular individual, e. g. Coriscus, rather than simply as a picture of a man who happens to have this particular physical form.
- 35 Two passages in Avicenna’s *Notes*, reinforce my claim that estimation is the agent of incidental perception because of its ability to grasp concrete individuals in their individuality. In the first passage, Avicenna addresses the question of how we perceive that the sensible forms which we perceive have an external existence (*wujûdan min khârij*), that is, how we distinguish real percepts from those in dreams, since the senses themselves have only discrete sensations, touch, for example, only feeling heat or weight, not a hot or heavy body. Avicenna answers that this is done by either the estimation or the intellect (68–69). In a later passage, he likens the awareness that this collection of sensible qualities belongs to this individual, Zayd, to the incidental perception that allows us to be aware of the flavour of honey when we perceive its colour (p. 147).
- 36 *Healing: Psychology*, 4.3, p. 182; Van Riet, Vol. 2, p. 34–35; *Canon of Medicine*, 97; *Treatise on the Soul*, p. 359, 363; in the latter passage, Avicenna provides an elaborate analogy between the division of labour amongst the servants of a prince, and the functions of the soul’s faculties. Here estimation is likened to the vizier in the animal soul. In *Remarks and Admonitions* (p. 124), Avicenna likens the estimative sense’s judgement of intentions with the external sense’s judgement of what they observe. On estimation as a judge, cf. Michot, *La destinée de l’homme*, p. 148–49.
- 37 See *Canon of Medicine*, p. 96, where Avicenna calls estimation ‘the power which is in reality the internal percipient in the animal’ (*qûwah hiya bi-al-haqîqah al-mudrikah al-bâtinah fî al-hayawân*).
- 38 See the *Treatise on the Soul*, p. 359, where Avicenna call the estimative sense ‘opinionative’ (*al-zânnah*).
- 39 *Treatise on the Soul*, p. 359, 360. Here Avicenna also refers to imagination being controlled by whatever estimation ‘sanctions and assents to (*istaswaba-hu . . . wa saddaqa-hu*).’
- 40 See *Healing: Psychology*, 4.1, p. 164–65; Van Riet, Vol. 2, p. 4, for the interplay of estimation and common sense in dreams; the language of authority, control, and obedience recurs in relation to estimation in Avicenna’s consideration of sleep and dreams at 4.2, p. 171; Van Riet, Vol. 2, p. 14–16; and in his discussion of estimation and memory at 4.3, p. 184–85; Van Riet, Vol. 2, p. 38–40. On this point one should also recall the text from the *Notes* cited in n. 35 above, in which estimation is said to determine whether or not perceptual objects have an external existence.
- 41 See especially *Sources of Wisdom*, p. 39: ‘And the peculiar characteristic of the imaginative faculty is its continuity of motion, so long as it is not controlled. And its motion is imitations of things through their likenesses and contraries.’ The random and unconscious nature of compositive imagination is also emphasized by Nasr al-Dîn al-Tûsî (d. 1274), a commentator on Avicenna’s *Remarks and Admonitions*. Replying to the charge made by an earlier commentator, Fakhr al-Dîn al-Râzî (d. 1209), that compositive imagination is superfluous because estimation alone is able to account for the ability to compose and divide images and intentions, ûsî argues that compositive imagination is a faculty ‘which has free disposal over two things whose presence it does not perceive.’ ûsî’s commentary, along with that of Qutb al-Dîn al-Râzî (d. 1374), can be found in the anonymous edition of the *Ishârât wa-tanbîhât*, 3 vols., 2d ed. ([Tehran]: Daftar Nashr Kitab, 1983), Vol. 2, p. 45. Fakhr al-Dîn al-Râzî’s criticisms are repeated in several works: *Sharh ‘uyûn al-hikmah* (Commentary on *Sources of Wisdom*), ed. A. H. A. Al-Saqa, 3 vols. (Cairo: Maktabah al-Anjlu al-Misriyah, [1986]), Vol. 2, p. 252; *Lubâb al-Ishârât* (Core of the *Remarks and Admonitions*), ed. M. Shahaby, in *Al-tanbihat val-Esharat* (Tehran: Tehran University Press, [1960]), p. 237; and *Sharh al-Ishârât* (Commentary on *Remarks and Admonitions*), ed. A. J. Khalaf (Cairo: np, 1907), p. 151–52. (Râzî’s commentary is printed in the margins of this edition.)
- 42 This does not mean that humans do not possess this power, but that they possess it in virtue of having an animal soul, not in virtue of being rational.
- 43 In *Remarks and Admonitions*, Avicenna even suggests that the intellect itself can only use the

compositive imagination with the help of estimation: ‘And it is as if [the compositive imagination] were a faculty belonging to estimation, and, through the mediation of estimation, to the intellect’ (p. 125).

- 44 In this regard, it is interesting to note that Averroes, in his early *Talkhîs kitâb al-nafs* (Epitome of the *De anima*), ed. A. F. Al-Ahwani (Cairo: Maktabah al-Nahdah al-Misriyah, 1950), seems to run into problems precisely in his attempt to assign the controlling and combining powers to a single imaginative faculty. Thus we find Averroes claiming in his chapter on the imagination in this work both that the imagination is necessary and involuntary (p. 64) and that it is under our control (p. 60, 64).
- 45 For the hint that the estimative power has a role to play in the creation of fictional images, see the *Letter on the Soul*, p. 159: ‘The second premise is that it is not possible for these forms, which are contrary and opposed to the real, to arise in the soul, unless through the mediation of imagination, sensation, and estimation. For estimation indeed also has some influence upon this’ (my translation; cf. Michot trans., p. 101). Avicenna argues that it is false to hold that such fictions as the phoenix are only images, on the grounds that any idea which can be entertained in such a way as to involve commonality (*al-shirkah*) is universal and intelligible. But one is able to imagine many individual phoenixes sharing many traits in common, so there must be a universal idea of phoenix, as well as images of particular phoenixes. Similar activities of estimation are described in chap. 13 of *Ahwâl al-nafs* (States of the Soul), ed. A. F. Al-Ahwani (Cairo: Issa El Baby el-Halaby, 1952), where Avicenna speaks of how estimation, with the help of imagination, governs one’s activities when one is overcome by emotions like fear, causing one to perceive ‘eerie things’ (*‘umûran mûhishatan*; p. 119, 121); French translation by J. R. Michot, ‘Prophétie et divination selon Avicenne,’ *Revue philosophique de Louvain* 83 (1985): 507–35. Also related to estimation’s link with fictive creations is Avicenna’s suggestion of the possibility of estimative felicity and misery in the afterlife for those who pursue material pleasures in this life. Such people may, Avicenna suggests, use other bodies, perhaps the celestial ones, to continue an imaginary life amongst the forms and intentions in which their estimative senses once delighted. On this point, see the *Genesis and Return*, chap. 15, p. 114–15. It is important to note that Avicenna explicitly reports these views as those of serious philosophers, although he does not endorse them openly in this text. Avicenna’s notion of an imaginal or estimative afterlife is the principal subject of Michot’s *La destinée de l’homme*. See especially chap. 1, p. 22–56, for the context of Avicenna’s consideration of this topic.
- 46 For further discussion of the role of estimation in poetic creativity, see my *Logic and Aristotle’s ‘Rhetoric’ and ‘Poetics’ in Medieval Arabic Philosophy* (Leiden: Brill, 1990), p. 204–7.
- 47 *Healing: Psychology*, 4.1, p. 166; Van Riet, Vol. 2, p. 8.
- 48 *Ibid.*, 4.1, p. 166; Van Riet, Vol. 2, p. 8.
- 49 *Healing: Psychology*, 4.3, p. 182–83; Van Riet, Vol. 2, p. 35. The metaphor of honey and bile is a favourite one, especially in Avicenna’s discussions of poetic premises. It may be an allusion to Aristotle’s remarks on incidental perception at *De anima* 3.1.425a30-b4. For discussion of the honey-bile metaphor, see my ‘The ‘Imaginative Syllogism’ in Medieval Arabic Philosophy,” *Mediaeval Studies* 51 (1989): 243–67; and *Logic and Aristotle’s ‘Rhetoric’ and ‘Poetics,’* p. 231–38, esp. 237 n. 75.
- 50 See n. 4 above for the principal texts.
- 51 See *Remarks and Admonitions*, p. 59; Inati trans., p. 123; *Healing: Demonstration*, 64; *Salvation*, p. 98.
- 52 In the *Sources of wisdom*, p. 12, Avicenna explicitly makes the link between some estimative premises and sophistic; the same is true of the Persian work, *Dânesh-nâmeh ‘Alâ’î* (Book of Science), French translation by M. Aghena and H. Massé, *Le livre de science*, 2 vols. (Paris: Belles Lettres, 1955–58), Vol. 1, p. 75. The *Remarks and Admonitions* likens the estimative premises to ‘resembling’ or ambiguous propositions, which are assigned to sophistic, although Avicenna admits that estimatives

would be widely-accepted (*mashhûrât*), and thus dialectical or rhetorical, were it not for philosophy and religious law (p. 60; Inati trans., p. 123–24). In the *Demonstration* of the *Healing*, Avicenna makes no positive assignment of estimative premises to any logical art, but he does explicitly exclude estimative necessity as a ground for demonstrative certitude (p. 65).

- 53 *Healing: Demonstration*, p. 64; cf. *Salvation*, p. 98.
- 54 *Remarks and Admonitions*, p. 59; *Sources of wisdom*, p. 12. Inati's claim (p. 124 n. 24 of *Remarks and Admonitions*) that 'pure' here refers to the purity of the objects of estimation, i.e. the immateriality of intentions, is probably incorrect. Avicenna's comments in his various discussions seem to indicate that the purity in question is the estimative sense's independence, that is, its failure to be guided by the intellect.
- 55 *Sources of Wisdom*, p. 12.
- 56 *Healing: Demonstration*, p. 64. Cf. *Notes*, p. 22–23, where Avicenna suggests that estimation's cooperation with the intellect produces epistemic confidence, whereas its obstruction of the intellect produces perplexity and impedes the attainment of certitude.
- 57 For these examples, see *Salvation*, p. 98; *Healing: Demonstration*, p. 64; *Remarks and Admonitions*, p. 60; Inati trans., p. 124.
- 58 See *Proof of Prophecies*, sec. 38–39, p. 56–59; Marmura trans., p. 119–20. Here Avicenna argues that since the estimative sense is prone to deny the reality of immaterial beings, particularly in people whose intellects are weak, it is the source for materialist views of God and the afterlife: 'Indeed, all who have perished have suffered thus because they have conformed with the estimative faculty, which is the animal faculty that gives false judgments regarding abstracted form (*al-sûrah al-mujarradah*) when the senses are dormant' (56; Marmura trans., p. 119, slightly modified).
- 59 Cf. *Healing: Demonstration*, p. 67; *Remarks and Admonitions*, p. 60; Inati trans., p. 123–24; *Salvation*, p. 99. The first two texts emphasize that estimative propositions are even stronger in their influence than widely-accepted propositions, i.e., those with widespread social sanction.
- 60 *Remarks and Admonitions*, p. 59; Inati trans., p. 123.
- 61 Of course, animals can fall prey to errors in incidental perception, as when a bird mistakes the scarecrow for a real person (my example), but Avicenna makes no claim that incidental perception in general partakes of estimative necessity. On the issue of estimation and sense error, cf. the discussion of Ushida, *Étude comparative*, p. 163–68.
- 62 On the soul's unity, cf. the discussion in the *Salvation*, chap. 15, p. 228–30; Rahman trans., 65–68.
- 63 *Remarks and Admonitions*, p. 59–60 (my translations); *Sources of Wisdom*, p. 12; *Salvation*, p. 99. On Avicenna's dualism, see Druart, 'Imagination and the Soul-Body Problem,' 330–35; and 'The Soul-Body Problem: Avicenna and Descartes,' in idem, ed., *Arabic Philosophy and the West: Continuity and Interaction* (Washington, D. C.: Center for Contemporary Arab Studies, Georgetown University, 1988), p. 27–49; esp. 41–42.
- 64 *Salvation*, p. 98; cf. *Remarks and Admonitions*, p. 59: "Because estimation is consequent upon sensation, and what does not agree with the sensible the estimation does not accept" (my translation).
- 65 *Remarks and Admonitions*, p. 59–60 (my translation); cf. *Healing: Demonstration*, p. 64: "[The intellect] draws the conclusion that the sensibles have principles which are different from the sensibles [themselves]." On the estimation's inability to represent itself, cf. *Book of Science*, Achena-Massé trans., Vol. 1, p. 70.
- Along the same lines, Avicenna emphasizes in his *Notes* that the estimative faculty is tied to the temporal realm, so that time cannot be removed from its conceptions. Moreover, because time itself is not in time, estimation has no cognizance of the nature of time itself, just as it has no ability to imagine its own nature, or the nature of its other principles: 'Estimation establishes a 'when' for everything; and it is impossible for time itself to have a 'when' '(p. 142). See *Notes*, p. 138–39 and 141–42 for further consideration of estimation and temporality.
- 66 Cf. *Salvation*, p. 218; Rahman trans., p. 52, on the lack of self-awareness in the sensible soul. For the Greek background, see Rahman's commentary, *Avicenna's Psychology*, p. 103–4; and S. Pines, 'La

conception de la conscience de soi chez Avicenne et chez Abu'l-Barakat al-Baghdadi, *Archives d'histoire doctrinale et littéraire du moyen âge*, 29 (1954): 21–98, esp. 36–43. Cf. also *Remarks and Admonitions*, p. 179. Avicenna's views on estimation's role in self-awareness and apperception in general are discussed in section 8 below.

- 67 *Salvation*, p. 99; cf. *Remarks and Admonitions*: “But if [the intellect and estimation] reach a conclusion together, the estimative power will recoil and impede the acceptance of that whose necessity was granted” (p. 60; my translation).
- 68 *Healing: Demonstration*, p. 65; *Salvation*, p. 99. This list is divided between the essential non-sensibles, such as the Creator and the Intellect, and things ‘more general’ than the sensible, that is, the principles of sensible things which are themselves prior to what is sensible.
- 69 One should not forget in this regard that the function of the sensible soul in the formation of all rational judgements is for Avicenna totally preparatory and ancillary. See for example *Salvation*, chap. 11, p. 220–22; Rahman trans., p. 54–56.
- 70 There are some exceptions in the list of the *Salvation*, which includes the [Agent] Intellect and God as Creator. But these are the only principles which Avicenna openly identifies as *essentially* non-sensible, as indicated in n. 68 above.
- 71 Ultimately, then, Avicenna needs estimation to account for these judgements because attributing them to the intellect would represent a violation of the principle of non-contradiction: the intellect would have to affirm simultaneously both ‘S is P’ and ‘S is ~P.’ There are two specific features of estimative propositions that implicitly lead Avicenna to hold that attributing them to the intellect would produce this result: (1) The fact that these propositions have the psychological force of *primary* propositions or first principles; and (2) the fact that most people continue to feel the pull of these materialist views, despite their intellectual convictions to the contrary. Together, these two phenomena make it impossible for Avicenna to claim that false beliefs of this sort are secondary intelligibles, arrived at as conclusions of faulty processes of reasoning. These propositions have the feel of intuitive first principles; because they are false, they cannot truly be first principles of the intellect; the only remaining alternative is to make them principles, but on some pre-intellectual level.
- 72 Concerns similar to these may be behind the criticisms of Fakhr al-Dîn al-Râzî, which revolve around the alleged ‘equality in force’ between the true necessity of first principles, and the psychological compellingness of estimative premises. See *Commentary on ‘Sources of Wisdom,’* Vol. 1, p. 198–99; 201–2; *Core of ‘Remarks and Admonitions,’* p. 197–98.
- 73 *Healing: Demonstration*, p. 64.
- 74 *Salvation*, p. 99. In the *Notes*, Avicenna also applies the term *fitrah* to estimation: ‘A human being is constituted by nature (*fitira*) to acquire knowledge and to apprehend things naturally (*tab’an*), from the direction of the senses, and then from the direction of the estimation, which is a copy (*nuskhat-hâ*) of them’ (p. 22).
- 75 *Salvation*, p. 99.
- 76 On Avicenna’s dualism, cf. n. 63 above.
- 77 It is not entirely clear to me whether Avicenna’s use of the Qur’anic term *fitrah* and not the Aristotelian term *tab’*, is meant to overcome the obvious appearance that Avicenna has indeed allowed nature in the Aristotelian sense to labour in vain. In the passage from the *Notes* cited in n. 74 above, *tab’* seems to be confined to the sensible soul, since Avicenna goes on to refer to the process of acquiring intelligibles as a ‘non-natural acquisition (*iktisâb lâ tab’an*)’ (p. 22). Still, the use of *fitrah* to refer to estimation as well as intellection is not, on the whole, especially comforting, given its place of honour in other contexts, in particular Avicenna’s doctrine of intuition (*hads*). According to Dimitri Gutas, *Avicenna and the Aristotelian Tradition* (Leiden: Brill, 1988), p. 170, Avicenna uses *fitrah*, as ‘a concept of natural intelligence providing innate, *a priori* knowledge,’ as the theological equivalent to *hads*, the ability for intellectual intuition which, in its highest form, is prophetic. That *fitrah* could be used both for such an infallible noetic activity, and for the erroneous judgements of estimation, certainly creates ambiguity, and raises serious epistemological problems as to *how* innateness and

- connaturality can be used as guarantors of knowledge and truth. For if estimative *fitriah* and intuitive *fitriah* differ so radically in their reliability, then any appeal to something's being in accordance with *fitriah* must of necessity be epistemologically irrelevant: it can tell us nothing in itself about whether or not we can trust our cognitive instincts.
- 78 The practical analogue of this is, of course, the Socratic problem of weakness of will: how can the intellect be overcome by the passions and fail to follow its own dictates? See Aristotle's formulation of the problem in *Nicomachean Ethics* 7.3.1145b21–31.
- 79 *Salvation*, p. 98–99.
- 80 Cf. n. 69 above.
- 81 *Salvation*, p. 99.
- 82 See for example *Remarks and Admonitions*, p. 56–58; Inati trans., p. 120–21.
- 83 *Healing: Isagoge*, p. 12–13; trans. in Marmura, 'Avicenna on the Division of the Sciences,' 243. For a discussion of the passage, and the role of estimation in it, see Marmura, 243–44.
- 84 *Healing: Isagoge*, p. 13; Marmura trans., p. 245.
- 85 *Healing: Metaphysics*, 1.3, Vol. 1, p. 23–24; Van Riet, Vol. 1, p. 26–27. There are several other places in the *Metaphysics* where Avicenna alludes to the nature of estimative apprehension in order to establish similar points. Below is a summary of the more important references:
1. Matter cannot be divided in the estimation (2.3, Vol. 1, p. 75; Van Riet, Vol. 2, p. 87).
 2. Surface can be separated from body in the estimation, to the extent that the estimation does not attend to its relation to a body, but recognizes that there cannot be a surface without one (3.4, Vol. 1, p. 111–15; Van Riet, Vol. 1, p. 122–27).
 3. Estimation is called upon to refute the denial of the existence of the circle among the atomists: 'And all of this is something about whose destruction there is no doubt intuitively (*'alâ al-badîhah*), nor does estimation, which is the rule (*al-qânûn*) concerning sensible things and what is attached to them, as you know, conceptualize it (*yatasawwaru-hu*)' (3.9, Vol. 1, p. 148; Van Riet, Vol. 1, p. 167–68).
 4. Mathematical objects (*al-'umûr al-ta'limiyah*) can be separated from matter in the estimation, although such objects are necessarily considered in the estimation according to the division and configuration (*al-tashakkul*) they have in matter (6.5, Vol. 2, p. 11–13; Van Riet, Vol. 2, p. 347).
- 86 See above at n. 66.
- 87 On the 'Flying Man' see Druart, 'The Soul-Body Problem,' p. 31–38; M. E. Marmura, 'Avicenna's 'Flying Man' in Context,' *Monist* 69 (1986): 383–95; Pines, 'La conception de la conscience de soi,' p. 21–56.
- 88 Cf. Ushida, *Étude comparative*, p. 170–72, on the estimative sense as the apperceptive faculty within the sensible soul, with reference to *Healing: Psychology*, 2.2, p. 67; Van Riet, Vol. 1, p. 130: 'As to perceiving that it perceives, this does not belong to the sense, for the perception [in question] is not a colour which is seen, nor a sound which is heard. Rather, this is only perceived through intellectual activity or the estimation. . . .'
- 89 *Discussions*, sec. 305, p. 184.
- 90 *Notes*, p. 161: 'This is not peculiar to human beings, but rather, all animals are aware of themselves in some way.'
- 91 *Ibid.*, p. 82.
- 92 *Discussions*, sec. 421, p. 220–21, attributes awareness that I am seeing or hearing to the estimative faculty or the rational soul; cf. *Notes*, p. 147: 'The perception that one is perceiving is either through the intellect or through the estimation. For other animals perceive that they are perceiving through estimation.'
- 93 Thus here, as in the discussions of incidental perception, aspects of animal awareness that are usually associated with Aristotle's common sense come to be assigned to estimation, although Avicenna still views the common sense as a necessary, though insufficient, condition for both sensible apperception and incidental perception. The reason for this shift is obvious: once intentions have been identified as distinct perceptual objects from sensible forms, sensible awareness cannot be completed by any faculty

that is limited to the perception of forms and unable to grasp intentions, like the Avicennian common sense.

For a discussion of the relations between common sense, estimation, and incidental perception in Avicenna and Averroes, see Michael Blaustein, *Averroes on the Imagination and the Intellect* (Ann Arbor, Mich.: University Microfilms, 1984), p. 80–81, esp. 81 n. 15. For a consideration of the common sense as the faculty of consciousness for Aristotle, see D. K. Modrak, ‘An Aristotelian Theory of Consciousness?’ *Ancient Philosophy* 1 (1981): 160–70; and *Aristotle: The Power of Perception* (Chicago and London: University of Chicago Press, 1987), p. 133–54.

- 94 *Notes*, p. 147–48; cf. n. 35 above.
- 95 *Discussions*, sec. 365, p. 204. The topic of self-awareness is considered throughout sec. 365.
- 96 On the indirectness of estimative awareness, cf. *Discussions*, sec. 423, p. 221, which raises the question of whether the estimative faculty could be aware of the intellective faculty, just as the intellect is aware of estimation, since in both cases the awareness would be through something else, not through the thing itself that is aware.
- 97 *Discussions*, sec. 371, p. 208: ‘He was asked, ‘By what faculty do we perceive our particular essences (*dhawât-nâ al-juz’îyah*)? For the soul perceives intentions (*al-nafs idrâk-hâ li-al-ma’ânî*), either through the intellective faculty—but the awareness of the particular essence is not something that is intellected—or through the estimative faculty—but the estimative faculty perceives intentions conjoined to images, whereas it has been shown that I can perceive my essence, even if I do not perceive it through my limbs, and do not imagine my body.’
- 98 *Discussions*, sec. 371, p. 208. This passage and those that follow it are translated and discussed in Pines, ‘La conception de la conscience de soi,’ p. 46–53. Avicenna’s views on the relationship between the soul and body in relation to individuation are developed in *Healing: Psychology*, 5.4, p. 227–34; Van Riet, Vol. 2, p. 113–26; *Salvation*, p. 223–27; Rahman trans., p. 50–63 (chap. 13). Briefly, while Avicenna maintains that the generation of a body provides the occasion for the initial individuation of the soul, it is not a cause of that individuation, except accidentally and by way of preparation. Rather, the separated intelligences create an immaterial, individual soul whenever a body which is suited to be used as that soul’s instrument comes about.
- 99 See *Notes*, p. 30; 79–80; 147–48. The latter two passages emphasize that the acquisition of the awareness that one is aware of oneself does not imply that one is ‘aware of oneself twice,’ because one act of awareness is innate, the other acquired. Avicenna also suggests that this secondary awareness must always be acquired, to the extent that the primary awareness involves a pure identity between subject and object, whereas the secondary awareness seems to imply some element of distance or otherness. On this point, cf. Marmura, ‘Avicenna’s ‘Flying Man’ in Context,’ p. 386–87.
- 100 For the importance of the notion of *tanbîh* in the Flying Man, see Marmura, ‘Avicenna’s ‘Flying Man’ in Context,’ p. 386–88.
- 101 See *Healing: Psychology*, 1.1, p. 16; Van Riet, Vol. 1, p. 36–37 *Remarks and Admonitions*, 119. In the shorter version of the argument found in 5.7 of the *Psychology* of the *Healing* (p. 255; Van Riet, Vol. 2, p. 162), Avicenna does not use verbs alluding to estimation. A translation of all three versions of the argument is provided in Marmura’s ‘Avicenna’s ‘Flying Man’ in Context.’
- 102 Various forms of the verb associated with compositive imagination—*takhayyalnâ*, *natakhayyalu*—are also employed in the two versions of the argument in the *Healing*.
- 103 This ability also seems to be at work in the role of estimation in the processes of physical and mathematical abstraction discussed in section 7. For like a thought-experiment, such acts of abstraction draw upon the estimative sense’s ability to direct the attention of the sensitive soul to particular features of an object, to the exclusion of its other features.
- 104 Cf. the passage cited at n. 75 above.
- 105 *Healing: Psychology*, 4.1, p. 167; Van Riet, Vol. 2, p. 8.
- 106 *Ibid.*, 4.3, p. 183; Van Riet, Vol. 2, p. 35–36.
- 107 *Ibid.*, 4.3, p. 187; Van Riet, Vol. 2, p. 43–44. On the centrality of estimation to animal appetite, see

Rahman, *Avicenna's Psychology*, p. 82.

108 This parallel was noted by Pines, 'La conception de la conscience de soi,' p. 27.

109 See *Remarks and Admonitions*, p. 58–59; Inati trans., p. 122; *Salvation*, p. 99–100 (here the term 'widespread' [*al-dhâ'i'ât*] is used, but these are then defined as 'widely-accepted, esteemed beliefs' [*âra' mashhûrah mahmûdah*]); *Healing: Demonstration*, p. 65–66; *Sources of Wisdom*, p. 12; *Book of Science*, Achena-Massé trans., Vol., 1, p. 70–71. All of these discussions contain some version of the thought-experiment, and most also allude to estimation's role in it.

The link with *endoxa* is evident in the standard division of widely-accepted premises according to whether all people, the majority, or the wise, accept them. Cf. *Topics*, 1.2.100b21–23.

110 *Remarks and Admonitions*, p. 58–59; Inati trans., p. 122.

111 This point is evidenced, for example, Avicenna's reference in the quoted passage to the possibility of inductive establishment of such premises. In the *Healing: Demonstration*, Avicenna speaks of the need for some argumentation (*hujjah*) in order to make true propositions of this sort certain (p. 66); in the *Sources of Wisdom*, he alludes to the possibility of establishing some widely-accepted propositions by demonstration (*burhân*), distinguishing these from widely-accepted premises established through custom alone (p. 12).

In this regard, it is also important to note that Avicenna uses the term 'widely-accepted' in broad and narrow senses. In the broad sense, any proposition accepted on the basis of its popular appeal is widely-accepted, and on this construal, all primary premises, such as 'The whole is greater than the part,' are widely-accepted as well, as are many sensible, estimative, and empirical premises, since unreflecting people often believe them because of popular consensus. On the narrow meaning, the term 'widely-accepted' is reserved for the 'esteemed' or 'praiseworthy' (*al-mahmûdât*) premises, that is, for ethical dicta, and excludes the primary propositions and others which are necessary of acceptance. It is this narrower meaning that concerns us here: in the *Remarks and Admonitions*, Avicenna says that on this construal, 'the widely-known propositions are concerned with either obligations, reformative education, and those things on which divine laws agree, character and sentiments or inductive conclusions' (p. 59; Inati trans., p. 123).

For a discussion of ethical premises in Avicenna and Ghazâlî, see M. E. Marmura, 'Ghazâlî on Ethical Premises,' *Philosophical Forum* 1 (1969): 393–403; this article contains a translation of Ghazâlî's discussion of widely-accepted and related premises in his *Standard for Knowledge*.

112 *Salvation*, p. 100. In this context, Avicenna notes that on the broad construal of 'widespread,' not only all primary propositions, but also all estimative ones, are also widespread. Cf. *Remarks and Admonitions*, p. 60; Inati trans., p. 123–24, cited in n. 53 above. For the contrast with *fitrah*, cf. also *Healing: Demonstration*, p. 66.

113 *Remarks and Admonitions*, p. 58–59; Inati trans., p. 122.

114 *Kitâb al-radd 'alâ al-mantiqîyîn*, ed. A. S. S. al-Kutubi (Bombay: Qayyimah Press, 1949), p. 428–29. My attention was first drawn to the passage by Marmura, 'Ghazâlî on Ethical Premises,' p. 397–98 n.9.

115 *Remarks and Admonitions*, Eighth *Namat*, p. 190–91; quoted by Ibn Taymîyah, *Refutation of the Logicians*, p. 431–32.

116 *Refutation of the Logicians*, p. 432.

117 The terms *qabîh* 'ugly,' and *jamil* or *husn* 'beautiful' or 'noble' are used for both aesthetic and ethical judgements in Arabic.

118 *Refutation of the Logicians*, p. 428.

119 *Healing: Demonstration*, p. 66; *Salvation*, p. 100.

120 This difference is akin in some ways to the difference between natural law and positive law in Thomistic ethics.

D L Black, Estimation (wahm) in Avicenna : the logical and psychological dimensions, *Dialogue* 32 (2) (1993), 219-258. O M Bogolyubov and V O Gukovich, On the thousandth anniversary of the birth of Ibn-Sina (Avicenna) (Ukrainian), *Narisi Istor. Prirodozn. i Tekhn.* 29 (1983), 35-38. E Craig (ed.), *Routledge Encyclopedia of Philosophy* 4 (London-New York, 1998), 647-654. O V Dobrovolskii and H F Abdulla-Zade, The astronomical heritage of Ibn Sina (Russian), *Izv. Akad. Nauk Tadzhik.*