

Avicenna

SELECTIONS ON ESTIMATION AND COGITATION

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I. *Maqālah fī al-nafs* (Treatise on the Soul)

**Chapter Five: On the Division of the Animal Powers and the Need
for Each of Them (L352.11-353.16/A158-60)**

Since most of the arrival at knowledge of what is incompatible and what is appropriate only occurs through experience, Divine Providence necessitated the positing of the common sense, that is, the formative faculty in animals, in order to preserve by means of it the forms of the sensibles. And it posited the retentive memorative faculty, in order to retain through it the intentions perceived from the sensibles; and it posited the imaginative faculty in order to prepare by means of it what has been effaced from the memory by a kind of motion; and it posited the estimative faculty in order to know by means of it the verification of what the imagination has discovered; and its weakness is a type of opinionative knowledge until one restores it in cogitation

[... Discussion of the motive faculties intervenes]

(353.3) As for the internal [senses], like the formative faculty, the imaginative, the estimative, and the memorative, and the motive faculty, they are only moved in the presence of an determinate indication from the estimative faculty, by enlisting the service of the imaginative faculty. And the motive faculty in non-rational animals is the end, and this is because the motive faculty is not placed in it in order for the causes of sensation and imagination to be suitable to it by means of it, but rather, the sensitive and imaginative faculties are posited in it in order that the causes of motion should be made suitable for it by means of them. As for the rational species, it is the converse, because the motive faculty is only placed in it in order for the things most suitable for the rational, intellectual, perceptual soul to be prepared for it by means of it, and not the converse. So the motive faculty in non-rational animals is like the prince (*amīr*) who is served, and the five senses are like the scattered spies, and the formative faculty is like the master of the messenger of the prince to whom the spies return; and the imaginative faculty is like the courier running between the messenger and the master of the messenger; and the estimative faculty is like the vizier; and the memorative faculty is like the secret storehouse. And the sensitive and imaginative faculties have not been placed in the heavenly bodies and plants: even each all of them have a soul and have life. As for the heavenly bodies, it is on account of their loftiness; as for the plants, it is on account of their inferiority.

**Chapter Six: On the Division of the Internal Senses
and their Motive Powers (L358.17-361.3/A168-9)**

The external senses have nothing in them which gathers together the perception of colour and of smell and of softness; whereas we sometimes encounter a yellow body, and perceive that it is sweet, pleasant /L359 smelling, liquid, honey, while we have not tasted it, nor smelled nor touched it. So it is clear that there is a faculty in us in which the perceptions of these four senses is collected, and their collection come to be under one form. And if it were not the case, then we would not know that the sweet, for example, is different from black, since the distinction between two things occurs when we know both of them together. And this faculty is called the common sense and the formative faculty. And if it were derived from the external senses, their dominion would be confined to the waking state alone,

whereas observation confirms the opposite of this, for this faculty may perform its activity in the two states of both sleeping and waking.

Then in the animal there is a power which combines what has been collected together in the common sense in the way of forms, and distinguishes between them, and knows the differences amongst them, without the forms leaving the common sense. And without a doubt this power is different from the formative faculty, since the formative faculty has nothing in it but true forms bestowed by sensation. Whereas it is possible that the thing in this faculty be the opposite of this, for it can conceptualize vainly and falsely, so long as it does not accept is according to its form from sensation. And this power is called the imaginative.

Then in the animal there is a power which judges of the thing, that it is such or not such, with a decisive [judgement], and by; which the animal flees from what is dangerous, and tends towards what is good. And it is clear that this power is different from the formative power, since the formative power conceptualizes the sun in accordance with what it has received from the sense, after the measure of its round, flat appearance. Whereas the nature of this faculty is the opposite of this. And likewise the predatory animal encounters its prey from a distance, of the size of a small bird, but its form and its extent are not represented for it, but rather, it seeks/intends it. And it is clear too that this faculty is different from the imaginative; this is because the **/A167** imaginative faculty performs its action without any belief (*i'tiqād*) from them that matters are in accordance with how they have been conceptualized. And this faculty is called the estimative and the opinionative faculty (*al-mutawahhimah wa-al-zānnah*).

Then there is a faculty in the animal which retains intentions (*ma'ānī*) which the senses have received, for example, that the wolf **/L360** is an enemy, and one's offspring is an object of love and friendship. For it is clear that this faculty is other than the formative, and this is because the formative has no form in it except what has been bestowed upon it by the senses. Then the senses do not sense the enmity of the wolf, nor the lovableness of the offspring, but rather, the form of the wolf and the features (*khilqah*) of the offspring. As for loveableness and harmfulness, only estimation grants them, then it stores them in this faculty. And it is clear that this faculty is other than the imaginative, and this is because one does not imagine anything other than what estimation sanctions and assents to, and has discovered from the senses. And this faculty is other than the estimative faculty, and this is because the estimative faculty does not retain what some other faculty assents to, but rather, it assents to it through itself. And as for this faculty, it does not assent to through itself, but rather it retains what another thing has assented to. And this faculty is called the retentive and memorative. And if the estimative faculty uses the imaginative faculty independently (*bi-infirādi-hā*), it is called by this name, that is, the imaginative faculty; whereas if the rational faculty uses it, it is called the cogitative faculty.

And the heart is the source of all of these faculties according to the philosopher Aristotle. But their dominion is in different faculties. As for the dominion of the external senses, it is in their known organs. And as for the dominion of the formative faculty, it is in the front ventricle of the brain. And as for the dominion of imaginative faculty, it is in the middle ventricle.

And as for the dominion of the memorative faculty, it is in the rear part of the brain. And as for the dominion of the estimative faculty, it is in the rear ventricle of the brain. And as for the dominion of the estimative power, it is in the whole of the brain, and especially in the sphere of the imaginative faculty in it. And to the extent that these ventricles are affected by some injury, the activities of these faculties is [also] affected. And if it were the case that they were subsistent in themselves and active in themselves, they would not need anything in the way of organs in their proper activities. And for this reason we know

that these faculties are not self-subsistent, but rather, the immortal faculty is the /L361 rational soul, as we shall explain next. But it may appropriate the core of these faculties for itself in a kind of appropriation, and so make them exist through itself. And the proof of this shall be rendered shortly, if God wills.

II. *Genesis and Return (Al-Mabdā' wa-al-Ma'ād)*¹

3.3 (pp. 93–4): And another faculty follows the imaginative faculty, which is called the cogitative faculty if it is in people (*al-nās*), and the intellect uses it; whereas if it is in animals or in people, and the estimation uses it, it is called the compositive imagination. And the difference between it and the imagination is that there is nothing in the imagination except what it has taken from sensation, whereas the compositive imagination may compose and divide and create (*tuḥadithu*) forms which have not being sensed and are not sensed at all. For example, a flying human being, and an individual half human and half tree.

III. *On the States of the Soul (Aḥwāh al-Nafs)*²

(p. 62): Then the power which is called imaginative in relation to the animal soul, and cogitative in relation to the human soul. And it is the power which is seated in the middle ventricle of the brain, in the vermiform [part], whose role is to compose some of the things in the imagination (*khayāl*) with others, and to separate some of them from others voluntarily (*bi-ḥasab al-ikhtiyār*).

IV. *Sources of Wisdom ('Uyūn al-ḥikmah)*³

Chap. 14 (pp. 38–9): And there is a power which acts on the images by composing and dividing, which conjoins some of them with others and separates some of them from others. And likewise it conjoins them with the intentions which are in the memory, and separates them. And if the intellect uses this power, it is called the cogitative; whereas if the estimation uses it, it is called the imaginative. And its organ is the vermiform part, which is in the middle of the brain.

V. *Al-Shifā' (Healing)*

2.2 (p. 67): As to perceiving that it perceives, this does not belong to the sense, for the perception here is not a colour which is seen, nor a sound which is heard, but rather, this is only perceived through the estimative faculty.

VI. *Canon of Medicine*⁴

Book 1, Section 1, Lesson 6, chap. 5: On the perceptual psychological faculties

/96.7

And the psychological faculties comprises two types of faculties, that are like their genera: one of them is perceptual faculties, and the other is motive faculties. And the perceptual faculty is like a genus

¹ Ed. A. Nurani (Montreal: McGill University Press; Tehran: Tehran University Press, 1984).

² *Aḥwāl al-nafs (Les états de l'âme)*, ed. A. F. Al-Ahwani (Cairo, 1952).

³ Ed. A. R. Badawi, 2d ed. (Beirut: Dar al-Kalam, 1980).

⁴ *Qanūn fī al-ṭibb*, ed. A. Zi'ur and E. Al-Qashsh (Beirut: Mu'assasah Izz al-Din, 1987).

for two faculties: an external perceptual faculty, and an internal perceptual faculty. ...

/96.13 And the internal perceptual faculty, that is, the animal faculty, is like the genus for five powers:

One of them is the faculty which is called the common sense and imagination (*al-khayāl*), which is a single faculty according to the physicians, whereas according to the wise they are two faculties. ... And the common sense is that to which all of the sensibles are conveyed, and it is affected by their forms and assembles them together; whereas the imagination is that which retains them after their assemblage, and holds on to them after their absence from the sense. And the receptive faculty of the two is different from the retentive. And the truth verified in this is also in accordance with the philosophers. And however it may be, the seat and principle and activities of these two is the front ventricle of the brain.

And the second is the power which the physicians call cogitative, and those who know the truth sometimes call it imaginative, and sometimes cogitative, for if the animal estimative faculty, which we will discuss later, uses it or arouses it, it is through itself and on account of its own action called imaginative. And if the rational faculty occupies itself with it and diverts it to what is useful for its ways, it is called cogitative. And the difference between this faculty and the first faculty, however it may be, is that the first is receptive or retentive of what has been conveyed to it of the sensible forms; whereas this faculty has free disposal over what has been stored in the imagination (*al-khayāl*), in such a way that it composes and divides. So it can re-present (*tastahḍīru*) a form in accordance with the way in which it has been conveyed from the sense, as well as a form different from it, like a man who flew and a mountain of emerald. And as for the imagination, nothing is present in it except on account of the reception from sensation. And the seat of this faculty is the middle ventricle of the brain. And this faculty is a tool for a faculty which is in reality the internal percipient in the animal, namely, estimation, which is the faculty which judges in the animal that the wolf is an enemy, and the child is to be loved, and the one offering food is a friend, and so he does not flee from him in an irrational way. And enmity and friendship are non-sensible, so the animal's sense does not perceive them. Therefore another power alone judges them and perceives them. And it is not by means of a rational perception, for it is without a doubt a perception which is non-rational. And human beings also use this power in many of their judgements, and in them they follow the course of the irrational animals. And this faculty is different from the imaginative (*al-khayāl*), because the imaginative takes the sensibles as established, whereas this faculty judges of the sensibles through non-sensible intentions. And it differs from the faculties which are called cogitative and imaginative in that some judgement does not follow their activities, whereas **197** some judgement does follow the activities of this faculty, or rather, they are certain judgements. And the activities of those faculties are composed from sensibles, whereas the activity of this faculty is a judgement concerning the sensibles from an intention external to the sensible. And just as it is the case that sensation in the animal is a judge (*hākim*) of the forms of the sensibles, so too the estimation is a judge over them of the intentions of these forms which have been conveyed to the estimation, and which are not conveyed to sensation. And some people, speaking loosely, call this power imagination (*takhayyulan*), and they can have it this way, since there is no use fighting over names, but rather, it is necessary to understand the meanings and distinctions. And the physician does not contradict this through his study of this. This is because harm to the functions of this power follows upon harm to the actions of the other powers prior to it, such as imagination, compositive imagination, and memory, which we shall speak of afterwards. And the physician only speculates about the powers which, when harm accrues to them in their actions, these are harmed. For harm accrues to the action of a power because of a harm which attaches to an action prior to it. And this harm follows upon either the temperament of this organ or its corruption, until someone cures it through a remedy or it is preserved from it. And it is not proper to him to know the state of the faculty which only attaches to it without mediation. And the third thing with which physicians are concerned—and it is fifth or fourth in reality—is the retentive or memorative

faculty, which is the storehouse for what has been conveyed to the estimation from the intentions in the sensibles which are other than the sensible forms. And its subject is the rear of the ventricles of the brain. And there is a subject of philosophical consideration (*naẓar hikmīy*) as to whether the retentive or memorative power which retrieves what is absent from the preservation of the storehouses of estimation is one power or two powers. But his is not one of the things which is required of the physician, since the organs which belong to these two things are organs occurring in the rear faculty of the brain, either from the genus of mixture/temperament, or from the genus of composition. And as for the remaining faculty from among the perceptual faculties of the soul, it is the rational human soul. And the reason why the speculation of physicians omits the estimative faculty has been explained by us from its causes; so it omits this faculty even more so, but rather, their speculation is confined to the actions of the three faculties, and nothing else.

VII. *Mubāḥathāt (Investigations)*⁵

1. §305, 184.3–9:

He was asked: What is the demonstration that we are aware of ourselves with an intellectual awareness, and not through a bodily organ or an estimative faculty (*quwwah wahmīyah*)? The demonstration of this is that it is possible for us to abstract the universal meaning ourselves (*min dhawāti-nā*), and to understand it. Moreover, if this were a bodily organ in which the true subsistence (*qawām ḥaqīqah*) of our essences is, then it would be necessary that we would not be aware of ourselves at all, except as blended [i.e. with the body]. And if it is not, then it is necessary for there to be something else leading to our essences for this; and so our essences would be repeated in our essences. And as for the animal's perception of itself, if there is self-awareness here, and it is sound, then it is through estimation—which it has in place of the rational perceptive faculty—blended [with the body], and impossible to separate and abstract. But outside the animal soul (*ghayr al-naḥs al-ḥayawānīyah*), estimation is not the primary faculty of awareness (*al-shā'irah al-ūlā*), because estimation cannot imagine itself, nor establish itself, nor is it aware of itself.

2. §359, p. 199:

Cogitation requires conjunction with the principles in the procurement of definitions and their conceptualization, and in the procurement of the middle [term]. As for [their] composition, this belongs to [cogitation], which it sometimes does well, and sometimes poorly.

3. §367, 204.11–19:

An answer to objections to him concerning our self-awareness: Know that the soul of a human being is aware of its own essence through its own essence, and that the soul of other animals is aware of its essence through its estimative [faculty], in its estimative organ, just as it is aware of other things through its sense faculty and its estimation in their organs. And the thing which perceives the intention which is not sensed, insofar as it has a connection (*'alāqah*) to the sensible, is the estimative faculty in the animals. And it is that by which the soul perceives its essence, not through its essence, nor in that organ which is the heart, but rather, in the organ of estimation, through the estimative faculty, just as it perceives, also through its organ, other intentions.

3. §421, 220–21:

He was asked, “By what faculty am I aware that I see or that I hear?” The answer: “By the animal soul /221 or the rational soul, by way of the estimative faculty, whenever the sensible form passes

⁵ Ed. A. R. Badawi, in *Ariṣṭ 'inda al-'arab* (Cairo: Maktabah al-Nahdah al-Misriyah, 1947).

quickly from the external sense to the common sense to the formative faculty to the estimation, one concept after another being repeated.”

4. §468:

And if by the cogitative faculty one means [the faculty] which is seeking, it belongs to the rational soul and it is of the species of the habitual intellect, especially when it adds a perfection by way of surpassing the habit. And if one means by it the moving faculty which presents the forms, it is the imaginative faculty insofar as it is moved with the desire of the rational faculty.

VIII. On the Human Faculties and their Perceptions
(*Fī al-quwā al-insānī wa-idrākāt-hā*)⁶

pp. 43–44:

And a faculty called estimation, which is that which perceives from the sensibles what is not sensed, like the faculty which is in the sheep which, when the form of the wolf is represented in the sense of the sheep, represents its enmity and wickedness, since the sense does not perceive this. And a faculty called the retentive, which is the storehouse of what the estimation has perceived, just as the formative faculty is the storehouse of what sensation has perceived. And a faculty called cogitative, which is that which has mastery over what has been deposited in the formative and retentive storehouses, and mixes some of them with others and separates some of them from others. And it is called cogitative if the spirit and intellect of the human being (*rūh al-insān*) uses it, but if estimation uses it, it is called imagination.

IX. Al-Ta'liqāt (Notes)⁷

/68 But as for the fact that we know that the sensible has an external existence, it is due to the intellect or to estimation. And the proof of this is that a form which the person who is mad, for instance, sees in his common sense does not [in fact] arise in it, and it has no external existence, whereas he says what these visions are which he sees. But since he does not have any understanding (*'aql*) other than these which knows that they have no external existence, he supposes (*tawahhama*) that they are in fact seen. And likewise, someone sleeping sees in his sleep things in his common sense that have no reality, and the cause of this is the occurrence of this form in his common sense; so he imagines of it (*fa-yatakhayyalu*) that he sees it in reality; and this is owing to the absence of the intellect from reflecting upon it⁸ and being acquainted with it. And likewise if our hands, for example, are affected by heat, and sense it, they have nothing but the sensation of it. But as to knowing that this heat is without a doubt in a warm body, this belongs only to the intellect. And likewise, if it carries something heavy, it only senses heaviness, and if affected by heaviness, while the soul, or the estimative power, judges that this weight is without a doubt in the body of the thing, for it is not affected by something like it (*shabīh-hu*), just as fire is not affected by fire, for example, and likewise body is not affected by body, but rather, the thing is only affected by its opposite, as cold is affected by heat. And if our hands sensed a nearby heat, for example, by means of an increasing heat, it would sense and be affected by it, **/69** but if the heat were [the same as] its heat, then it would not sense it, because something does not arise in something twice. But the heat arising in it is a likeness of the new heat. But if it increases [the heat], then the hand is affected by it, for the thing arising in it is not like it.

⁶ In *Tis' Rasā'il (Nine Treatises)* (Constantinople: Matba'ah al-Jawā'ib, 1880). According to Michot, this text is probably an excerpt from a longer text, possibly the ps.-Fārābīan *Seals of Wisdom ('Uyūn al-ḥikmah)*.

⁷ Ed. A. R. Badawī (Cairo: Al-Hay'ah al-Misriyah al-'Ammah li-al-Kitāb, 1973).

⁸ Ed. S. Landauer, "Die psychologie des Ibn Sina." *Zeitschrift der deutschen morgenländischen Gesellschaft* 29 (1876): 339–72.