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articles

AVICENNA : MEDICINE AND SCEPTICISM ¹

by

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I would like in this paper to appraise the relationship between the interpretation of Avicenna's theory of knowledge, and Avicenna's view of medicine in so far as the latter is an empirical science. I shall merely state, rather than defend this interpretation of Avicenna's theory of knowledge, and then I shall try to address myself to what might at first sight appear to be an inconsistency between this interpretation and the medical method of inquiry.

Avicenna did not think that rational (philosophical) inquiry can lead to the acquisition of knowledge. It is not humanly possible, Avicenna says in one of his works, to stand upon the reality of things. What we stand upon are merely aspects or qualities of things. We do not know the reality of substance, for example. What we do know is that something exists independently of something else. Similarly, we do not know the reality of the body. What we do know is that an underlying something, or substratum, has the qualities of depth, width and length. Also, we do not know the reality of Animal. But we do know that an underlying principle has the specific qualities of cognition and action. However we do not know substance itself or the body itself, or the animal itself.

1. This paper is based on the lecture "Notes on Avicenna's philosophy of medicine" which was delivered at a symposium on Avicenna organised by the School of Medicine at the Hebrew University and the Van Leer Foundation in November 1980.

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Now, if this rational scepticism is a fundamental part of Avicenna's theory of knowledge, as I think it is, then how, it may be asked, can one reconcile it with Avicenna's life-long association with, and practice of medicine? Is it possible for him to have been a rational sceptic and an empiricist at one and the same time²?

Before I attempt to answer this question, there are two remarks that I would like to make concerning it. First, I would like to remark that this question is not an existential question about historical possibilities — about whether anyone at all has actually seen it fit to combine scepticism with empiricism. The English philosopher John Locke is an excellent example of someone who attempted such a combination. He is an excellent example not only because his scepticism accompanied the fact that he was the founder of British empiricism, but also because of the temptation and historically rather suggestive circumstance that he knew Arabic, had studied Avicenna's medical works officially at Oxford and had probably (though I have not yet verified this) read Avicenna's available texts in philosophy. Secondly, I would like to allude briefly to the difference of attitude toward the so-called scientific method of inquiry between the one which exists now, and that which existed, say, when the Athenian historian Thucydides attempted to revolutionise the writing of history by incorporating into it the germane inductive aspects of the then fast-developing natural sciences, including medicine, in the belief that by such a method it is possible to arrive at a true understanding of historical development.

2. *al-Ta'liqāt*, ed., Abd al-Rahman Badawi (Cairo, 1973) 34. This question has not to my knowledge been posed before, simply because no one has attributed to Avicenna the particular interpretation of his theory of knowledge which is presented in this paper.

Nowadays we are all too aware of the limits of the inductive method of scientific inquiry.

Empirical research and experiment, we now feel, allows us merely to formulate a theory or a hypothesis or an explanatory model, but it does not allow us to conclude that this theory is truly what reflects the natural structure of the universe. Indeed, it is not even uncommon to find arguments proposed by philosophers of science to the effect that there is no such natural structure after all, but only models or hypotheses or theoretic constructions. Under such circumstances the value of a theory is determined, not insofar as it is true, but because it is simple, and therefore aesthetically pleasing.

In Avicenna's period, it is probably wiser to assume that this articulation of the limitation of scientific inquiry did not exist in the form I have presented it. However, it may be worthwhile pointing out the prevalence in Avicenna's period of an articulated distinction and a methodological conflict between a so-called Platonic, dialectical, and even inductive method of inquiry, and a so-called Aristotelian, deductive, syllogistic method.

If one disregards the intrinsically problematic nature of this distinction, one may find that it is possible to ascribe these two opposite methods of inquiry — the deductive method and the inductive method — in the Islamic period to two opposing intellectual schools of thought, *falsafah* and *Kalam*. Given that these two opposing methods of inquiry existed in the Islamic period, and given also that Avicenna, perhaps more than many other Moslem philosophers, seems to have been conscious of *Kalam*, and seriously interested in its divine arguments, it may be thought that what is perhaps distinctive about Avicenna's own, so-called Oriental Philosophy is precisely his preference for the inductive method of inquiry over the deductive method of the Peripatetics. Such a suggestion

would appear to be consistent with a number of observations³. But most important of all, it would appear to be consistent with Avicenna's medical mind, that is, with his empirical and inductive practices as a physician. Once again, if we disregard the prevalent philosophic attitude to the inductive method which I mentioned earlier, and consider only the optimistic attitude toward it, as this attitude is evident in, or ascribed to Plato and Thucydides, then this suggestion would seem to pose for us an irresolvable task of trying to reconcile the induction-minded physician and the sceptically minded philosopher. Now in order to appraise this suggestion, I shall consider two separate but related issues. I shall first consider Avicenna's view of medicine, and then I shall address myself to Avicenna's theory concerning the formation of general ideas.

a) A cursory look at Avicenna's various remarks about medicine immediately reveals to us the rather condescending attitude he took towards it. When he mentions it in his autobiography, he says that it is not at all strange that he was able to excel in it in a very short period of time, and at a very early age, since medicine is not one of the difficult sciences⁴. This rather odd remark by Avicenna is explained in his Canon of Medicine.

Speaking there about how knowledge, including medical knowledge, must be knowledge of four kinds of causes of

3. See A.M. Goichon's introduction to her translation of Avicenna's last major work, *Livre des Directives et Remarques* (Beyrouth and Paris: Librairie philosophique J. Vrin, 1951) 1-74. The author presents a number of different reasons for her thesis, which it would be difficult to appraise within the confines of this paper.
4. See Avicenna's autobiography and biography (Autobiography) as this is reported in Ibn Abi Usaibi'ah's *'Uyun al-Anba' fi Tabaqat al-Atibbā'*, ed. N. Rida (Beirut: Dar Maktabat al-Hayat, 1965) 437-459. The particular reference here is to *Autobiography* 438.

an object, he continues by saying that this explanation of what knowledge is was clarified in the "real sciences"⁵. The obvious hint here is that medicine is not what is called a "real science". Further on, and in the same work, Avicenna calls medicine a "particular" (as opposed to a universal) science, and he adds that, as in the care of all other particular sciences the principles of medicine are imported from worthier sciences, and must be accepted in medicine without clarification or verification as given axioms. He says that this is the case with regard to each science until one has reached the worthiest of all the sciences, namely, "First Philosophy", or metaphysics as it is sometimes called. Avicenna then gently rebukes Galen by saying that if the latter had tried in his medical works to address himself to the question of clarifying or verifying the principles of medical science, then he would have done so not in his capacity as a physician but in his capacity as a philosopher discussing the natural parts of philosophy⁶. In order to appreciate the importance of Avicenna's remarks concerning the axiomatic nature of medical principles, it is necessary to consider his related distinction between theoretical and practical medicine⁷. Avicenna insists that the distinction between theoretical and practical medicine is not what most people have taken it to be, namely, a distinction between knowledge of medicine and practice of medicine. It is rather a distinction between statements of the principles of medicine (descriptive statements) and statements of guidance concerning how to bring about a condition of health from a given condition of illness (prescriptive statements). The theoretical statements of medicine, which are considered by Avicenna as constituting the foundations or roots of medical science, are

5. *al-Qanun fi'l-Tibb* (Rome, Medicea Press, 1593) p. 1.
6. *Ibid.* 2.
7. *Ibid.* 1.

statements which characterize or describe the various elements, and the relations between them, the human anatomy, as well as the various sociological and environmental elements which affect that anatomy. They are theoretical in so far as they do not guide one to a particular action, but are purely descriptive. Those of them that are particular, and which pertain to particular illnesses, symptoms and remedies, are statements which must be verified within the medical profession. But those of them that are general statements are imported from the other sciences, and are verified in those sciences. Statements for example concerning the natural elements of which the human body is constituted, concerning the humours or the various faculties of the soul, are all statements which may be accepted in medicine without clarification or verification.

Therefore, the distinction between theoretical and practical medicine is a distinction on the whole between descriptive statements of principles and prescriptive statements of practice. And the most distinctive feature of this distinction, in the present context, seems to be the axiomatic and independent status of general statements of the first category. In other words, the general theoretical statements of medicine are not statements which are clarified, proved or even reached on the basis of medically empirical practice. Rather, they are imported from other sciences as axioms, and this process of importation continues until we have reached the science of First Philosophy which is — indisputably I think — a deductive science par excellence in the Avicennian system. This picture does not of course mean that a practising physician cannot add to the body of practical statements of medicine something of his own which he reached on the basis of his empirical experimentation. Indeed, Avicenna's biographer and friend attributes to Avicenna many such discoveries⁸. But it is

8. *Autobiography*, 443.

important to appraise correctly the status of these empirical discoveries. It is not the particular, and empirically oriented medical experiments which lead one inductively to the formulation of the general theoretical statements of medicine. Rather, it is the latter statements which constitute the roots of medicine. This means that if a relationship is to be formulated at all between statements of theoretical medicine and statements of empirical medicine, this relationship must be such as to show that empirical statements can be made meaningful, only against the background of an already given theoretical model. When Avicenna's biography recounts how he prevented the development of an abscess by applying crushed ice to his forehead, it is assumed that Avicenna was acting on a number of assumptions concerning what in human anatomical structures can cause an abscess, what their constitution is, and what their possible relations with the natural elements are. It is this already existing explanatory model which makes sense of medical practice.

I would like to add one final note to my remarks about Avicenna's view of medicine. Medical knowledge, whether of theoretical or of practical statements, is described by Avicenna by what I consider to be a suggestive epistemic vocabulary which it is well-worth considering. He says, in distinguishing between theoretical and practical medicine: "We mean by the theoretical part of it that part where instruction is useful for (the acquisition of) a belief . . . and we mean by the practical part of it that part where instruction is useful for (the acquisition of) an opinion which is related with the clarification of how to perform an action¹⁰." Both words, "belief" and "opinion", seem to me to describe epistemic states which fall short of knowledge properly so-called. They are more

9. *Loc. cit.*

10. *al-Qanun*, 1.

akin to the Greek *doxa* than to *episteme*. Avicenna's use of them in this context, where he is defining the aims of practical medicine, suggests to me that he did not think that the medical, inductive method of investigation can lead to knowledge, however empirical this method contrives to be. It is almost as if Avicenna is telling us that medical science is hypothesis and that a scholar of medicine must treat it as such.

A scholar of medicine, and however empirical his studies are, can only hope in the end to arrive at or come to possess a set of statements of beliefs.

In sum, then, it seems to me that Avicenna defines the aim of medicine as the formulation of a set of beliefs, and that his assessment of the inductive and empirical aspect of the medical method of inquiry is that the statements which are generated by this method can only be understood against the background of an already existing theory, and that they themselves are not what lead to the formulation of that theory. More generally, it seems to me that Avicenna's emphasis of the roles of opinion and belief in the specific field of the knowledge of medicine is consistent with his emphasis on them in the wider domain of philosophic and rational inquiry; and it may be interesting to note in this context Avicenna's parallel use of the word "opinion" when he is describing the aim of theoretical philosophy in his *al-Shifā'*¹¹. More generally still, it seems to me that this overall rational scepticism of Avicenna is consistent with the passage I quoted earlier from his work *al-Ta'liqāt* concerning this impossibility of having knowledge as a human being, and it is precisely such an impossibility, it seems to me, that explains why the perfection of the soul in the Avicennian

11. *al-Madkhal (al-Shifā')*, G. C. Anawati et al. eds., with introduction by A. J. Madkour (Cairo, 1952) 12.

theory is attainable, if at all, only after death.¹² If the acquisition of true knowledge is not humanly possible, then an al-Fārābi type theory concerning intellectual perfection of a living philosopher ceases to make sense.

B) I shall now consider very briefly Avicenna's theory concerning the acquisition of a general idea. One can think of the inductive method in two senses. In one sense, the inductive method helps one to arrive at a general conclusion from a number of statements about particular events. A more basic sense, however, is the sense in which one is helped to arrive at a general idea on the basis of the observation of a number of particulars. Obviously, if the more basic sense of induction is denied, one cannot uphold the more sophisticated sense: statements about particular events, after all, are themselves particular objects from which one infers a general statement.

Avicenna's position with regard to the inductive nature of the formation of general ideas is very clear¹³. It tends to draw to him the criticism of being an epistemic passivist. In what follows, I shall very quickly re-state Avicenna's position, and then put in a good word for him against those criticisms.

According to one theory, let us call it "the inductive theory", after seeing or observing 'x' number of horses, I eventually am able to formulate the idea of 'Horse'. It is as if the successive empirical observation of one particular after another which belong to the same class finally enables

12. *al-Ilahiyyat (al-Shifā')*, 2 Vols., G. G. Anawati et al. eds., with introduction by I. Madkour (Cairo, 1960) II: 423-432. Avicenna's emphasis on the soul in his works, and his ascription to it of a role normally associated with the intellect in the *falsafah* tradition, reflects his general convictions that the hereafter is a necessary culmination of human endeavour.

13. *Ibid.*, I: 210. See also Avicenna, *De-Anima* ed. F. Rahman (Oxford: Oxford University Press, 1959) 237.

the observer to abstract the general idea of which all those particulars partake. If not that, then I extract the idea 'Horse' from the first horse I happen to come across, and then my observations of other horses will help me consolidate that initial idea, as if the first imprint is consolidated and made more perspicuous with each additional observation.

In contrast, Avicenna's view is that one does not form a general idea by extracting it from a particular. Nor does the observation of a second particular consolidate the idea formed with the help of the first particular. Instead, according to Avicenna's view a particular merely performs the function of the agent or catalyst which enables the mind to be inspired by the idea in question. Having been inspired by it to begin with, and concomitantly with the observation of one of those particulars, nothing else or additional happens to the mind on the observation of any of the other particulars in that class. Any one of those particulars is simply characterised as being such that, had it been the first to have been observed by the mind, it would have performed exactly that catalytic function which was performed by the first particular.

Avicenna thus seems to define the relationship between a particular and a universal (or the relationship of class-membership) not in terms of an abstract quality or general property which a given particular possesses, and which an observer can extract or abstract from that object by studying it and other objects like it. Rather, this relationship is defined by him in terms of a catalytic function, which can perhaps be briefly stated as follows: an object is a particular of a certain universal (or is an instance of a certain kind) either if its observation acted as an intermediary for the occurrence of that universal to the mind, or if it could have acted as an intermediary had it been observed first. Two objects that fall in the same class, or partake of the same universal only if their respective catalytic functions coincide, that is, if

it is true of at most one of them that it performed the mediating role, and of at least one of them that it could have performed that role.

It must be immediately emphasized that Avicenna does not consider the mediating role of a particular to be either necessary or sufficient for the acquisition of a general idea. Quite the contrary, he claims both that a universal can occur to the mind without the mediating role of a particular, and that the observation of a particular does not guarantee that a general idea will occur to the mind. Thus, the relationship between a particular and a universal is merely one of conjunction.

According to Avicenna, then, a particular (and natural philosophy more generally) is defined in terms of a universal (and metaphysics more generally), and is epistemically posterior to it. The categorisation of a particular as being an instance of a certain kind is a function, not of the internal structure of that particular but of an abstract idea whose source is not the natural world in the first place. (I am talking here about epistemology, or how an observer comes to categorise the world, and not about ontology, or how the world is categorised in itself).

It is obvious from this description of Avicenna's position that he was an anti-inductivist. According to him, ideas *occur* to the mind, but they do not occur *in* matter. They are not extracted from matter, nor is their acquisition a question of the empirical consolidation of an initial observation. Ideas, rather, are inspirations from the Active Intellect.

It seems to me that given such a theory concerning the acquisition of ideas, Avicenna cannot by any stretch of the intellect be considered to have favoured induction as a method of inquiry. Nor can such a method seriously be considered to have been Avicenna's distinctive and orientalist mark.

Now for the good word: I do not think that Avicenna was an epistemic passivist or an anti-empiricist just because of his theory concerning ideas. On the contrary, it seems to me that what he was proposing was the theory that, although it is finally an inspiration which solves one's problems, it is necessary to prepare oneself on the empirical and intellectual ground in order to receive such inspiration. It is in this spirit, one feels, that Avicenna approached his meditative experiences on finding it impossible to untangle a given problem. It is in this spirit also, one feels, that Avicenna, talking about the function of a physician in his *Metaphysics*¹⁴, claims that it is not the physician who provides the patient with good health, but a worthier principle and that the physician's job is merely to prepare the matter and the instrument. In the final analysis, this is the approach of someone who believes that while it is necessary to spend hours trying to solve a mathematical problem, the answer, when and if it comes, will not have been extracted from some dark corner of the problem itself, but will simply have occurred to one in the process of observing the problem. It is this intuitive and inspirational source of ideas which explains Avicenna's esteem of revelational knowledge on the one hand, and his scepticism of rational knowledge on the other.

14. *al-Ilahiyyat* II:395.

של אבן סינא, קולט את ה"כללים" כהשראה מן השכל הפועל. בעוד שפרטים עשויים למלא תפקיד של קטליזטור בתהליך זה, אין לצפות מהם שימלאו תפקיד יצירתי.

המתבונן אינו מוציא את המבנה הטבעי של הפרט, או תופס את הסוג הטבעי, שפרט זה מהווה לו דוגמא, מהאנליקט הפיסיקאלי עצמו. למעשה לאובייקט הפיסיקאלי חסרה מלכתחילה אוניברסליות כזאת.

אבן-סינא דוחה אפוא אותה האינטרפרטציה של התיאוריה האינדוקטיבית המדגישה את התפקיד של החקירה הניסיונית ובוחר במקומה בשיטה דדוקטיבית: שיטה של סיווג האובייקטים הפיסיקאליים שבה מיוחס לאובייקט הפיסיקאלי תפקיד של קטליזטור.

בסיכומו של דבר, מאמר זה מנסה להראות אפוא שהשקפתו של אבן-סינא על מדע הרפואה עולה בקנה אחד עם דעתו על האינדוקציה ועם תורת ההכרה שלו בכלל, הווה אומר: חקירה ניסיונית-רציונלית אינה מובילה להשגתה של מערכת אמונות, שיסודותיה הם, ביסודו של דבר, מטאפיסיים — ולא טבעיים, ושהצדקתם היא אפוא התגלותית (אמונה) ולא רציונלית (הגיון).

פארי נוסייכה

ירושלים

אבן-סינא: רפואה וספקנות

סיכום המאמר האנגלי

מאמר זה מנסה להראות שאבן-סינא לא סבר כי הקירות רפואיות נסיון-ניות עשויות להוביל להשגת ידיעה על העולם. מדע הרפואה, אליבא דאבן-סינא, הינו מערכת של משפטי-אמונה, חלקם פרסקריפטיבי וחלקם תיאורי. משפטים תיאוריים כלליים מהווים את יסודות מדע הרפואה. אלא שמשפטים אלו אינם מנוסחים על בסיס של משפטים חלקיים או תיאוריים בתוך מדע זה, קרי מדע הרפואה, ואף אינם ניתנים לאימות או לבירור במדע זה. אלא משפטים כאלה מיובאים ממדעים אחרים, ומדע הרפואה מתיחס אליהם כאקסיומות.

הילכך, מנקודת ראותם של חוקרי הרפואה, משפטים תיאוריים כלליים מתקבלים כאמתיים אם-כי אינם ידועים, במובן המדויק של המלה, כאמתיים. יתר על כן, מאחר שמשפטים תיאוריים כלליים הינם היסודות של משפטים פרסקריפטיביים חלקיים, ומהווים מסגרת של התיחסות בה המשפטים האחרונים יכולים לקבל משמעותם, הרי משפטים פרסקריפטיביים חלקיים געשים אובייקטים של אמונה ולא של ידיעה ממש. לסיכום: הספקטרום של המשפטים הרפואיים כולו מהווה תיאוריה, או דגם היפותטי, חרף העובדה שמדע הרפואה הוא לפחות בחלקו מדע נסיוני.

בהמשך המאמר נעשה ניסיון להראות שהשקפתו של אבן-סינא על מדע הרפואה — ובמיוחד החלק הנסיוני והאינדוקטיבי של מדע זה — משתלב למעשה בהשקפתו על האינדוקציה, כשהמדובר הוא על אינדוקציה כאמצעי להשגת ידיעה. אחת האינטרפרטציות של תורת הכרה אינדוקטיבית קובעת שחקירה נסיונית של תופעות טבעיות חלקיות יכולה להוביל לניסוח, ומשום כך לידיעה של משפטים כלליים על אודות תופעות אלו. (מדע הרפואה יכול לעצמו להיחשב לאינדוקטיבי במובן זה).

עם זאת, התיאוריה של אבן-סינא אודות היחסים בין "פרטים" ל"כללים" מראה בבירור שה"כללים" אינם גובעים מ"פרטים". המתבונן, לפי השקפתו