The "Kitab al-Shukuk' alas Jalinus" of Muhammad ibn Zachariya al-Razi

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Abū Bakr Muhammad ibn Zachariya al-Razi, known as the "Galen of the Arabs,"1 "the Physician par excellence of the Muslims,"2 and "Learned Master (Allamah) of the Sciences of the Ancients,"3 was one of the most widely-recognized and encyclopaedic philosophers ever to appear in the Islamic world. He read with a number of teachers from Khurāsān, al-Nishaburi,4 Abu Zayd al-Balkhi,5 and Ali ibn Rabban al-Tabari.6 He made a thorough study of medical practice in the hospitals of Rayy and Baghdad, finally achieving the rank of "resident surgeon" ("al-tabib al-maristanī").

Al-Razi debated with many outstanding personalities of his time. He discussed metaphysics and the problem of time with Abu al-Qasim al-Ka'bi al-Balkhi;8 the question of the pre-existence of matter with Ahmad ibn al-Hasan al-Masma'i;9 the problem of pleasure with Abu al-Abbas al-Nashi al-Akbar;10 the imamate with Ahmad ibn Muhammad Abu Tayyib al-Sarakhsi;12 and the inanimate with Ahmad ibn Kayyal.13

The esteem in which al-Razi was held is indicated by the Fihrist (bibliography) of his writings compiled by Abu Rayhan al-Biruni, another great learned man of the 5th/11th century.14 Al-Biruni undertook the work despite his strong disagreement with al-Razi on a number of philosophical and religious issues. The Fihrist is divided by subject; some of the various headings include medicine, the natural sciences, logic, mathematics, astronomy, commentaries and summaries by al-Razi of predecessors, works, metaphysics, alchemy, and heresiography.

Among al-Razi’s works on the natural sciences al-Biruni mentions the al-Shukuk ala Jalinus (Doubts concerning Galen).15 Unfortunately only three manuscripts of this valuable work have survived; all three, moreover, seem to be descended from one copy. Nor has the al-Shukuk, despite its importance for the history of medicine, ever been published. It is my aim in this modest essay to bring al-Razi's critique of Galen to the attention of scholars of the history of medicine.

It is first necessary to point out that the Arabic term "shakk" (Lit: "doubt") contained in the title is equivalent to the Greek term "aporia" which gives the sense of "difficulty, hardship, confusion." In philosophical dialectics it indicates a difficulty, problem, or enigma. The addition of the Arabic preposition "alā" (here parallel to the Greek "pros") further indicates objection and critique.16 Thus al-Razi, brings up certain "doubts" or "objections" to problematic points in which Galen has apparently entangled himself in his writings.

Galen himself was born several centuries before al-Razi, in the year 130 C.E. in the town of Pergamon (known to the Arabs as "Farghamus" or "Farghamun") in Asia Minor. He died in Sicily in 200 C.E., leaving behind numerous treatises not only on medicine and philosophy, but on many other subjects as well. He also compiled an autobiography, called in Arabic "Finaks,"17 or "Binaks,"18 from the Greek "pinax" meaning "catalogue", along with another treatise laying down the proper order in which his books were to be studied.19 After his death his fame only increased. His students had a great following; they travelled to many lands and taught in various schools and centres of religious learning. As time passed the Greek originals of Galen's works became hidden away in the corners of the academies, where they lay for centuries nearly forgotten. By this time, however, most had been rendered by Muslim translators either into Syriac or Arabic. In the Middle Ages they were subsequently translated from Arabic into Latin,20 and finally in the Renaissance with the renewed influence of Greek thought further into Latin and then into other European languages.

Many translators shared in the Arabization of Galen’s works. Chief among these was Hunayn ibn Ishaq al-‘Abādī, known as “Hunayn the Translator”
Hunayn's translations of Galen are listed in one of his own treatises, and it was through these that Galen became known in the Islamic world. His name finally became synonymous in the Islamic literatures with perfection in the art of medicine. The well-known Arabic poet al-Mutanabbi says:

When I found the cure for my illness with my beloved;  
Even Galen seemed to me little in comparison.  

Although many Islamic scholars studied Galen and used his writings, al-Razi was probably the most learned among them. He even makes mention of several of Galen's works listed neither in Hunayn ibn Ishâq's bibliography nor that of Galen himself.  

His admiration for Galen is obvious; he followed the Greek physician not only in his medicine, but also in his philosophy and ethics. It is no wonder then that he begins the *Kitâb al-shukuk* with the following declaration:

[In writing this book] I am faced with opposing one who is in my eyes the greatest of men, and who has benefitted me more than any person. It was through him that I was guided; I trod in his footsteps, and drank of his knowledge as if from an ocean! I am faced with this knowing that the slave must not oppose his master, nor the student his teacher, nor he who receives grace the one who granted it.  

We also see that the titles of several of al-Razi's works coincide with those of Galen's, for example "al-Burhân" (The Demonstration); "Fi-mâ yaqiduhu ra'y( an)) (On the Beliefs Held [by Galen]); and "Fi manāfi-a'da" (On the Usefulness of the Parts of the Body).  

Al-Razi also summarizes a number of Galen's important works: thus his "Summary of the Greater Book of the Pulse" (*Ikhtisâr kitâb al-nabd al-kabîr* and "Précis of the Stratagem for Recovery" (*Talkisî hilat al-bur*), the "Précis of Causes and Accidents" (*Talkhis ilal wa-al'a'rad*) and the "Précis of Painful Members" *Talkhis al-a'dâ' al-ālimah*.  

Al-Razi states in the *al-Shukuk* that Galen is, in his opinion, even greater than Aristotle:

There was in the City of Peace [that is Baghdad] a certain man who used to read the works of Galen with me. He himself favoured Aristotle. Whenever he came across passages [in which doubts could be applied against Galen] he would vigorously censure me for setting him above Aristotle. God knows that I was many times quite put to shame by the elegance of his arguments on such occasions.  

It is worth mentioning here that al-Razi sided with Plato rather than Aristotle concerning many of the questions on which Galen himself agreed with Plato. Examples of these are the problem of pain and pleasure, and the three souls. Thus al-Sâ'dî' al-Andalûsî (d. 462/1069-1070) says concerning al-Razi: He strongly disagreed with Aristotle, censuring him for splitting from his teacher Plato and others of the ancient philosophers in the matter of many of their beliefs.  

Thus having read all of Galen's important works and finding a number of inconsistencies and dubious points, al-Razi set about composing his *Kitâb al-Shukuk*. Al-Bîrûni calls the book *al-Shukuk alâ Jâlinus* while Ibn Abî Usaybi’âh gives it a longer title: *al-Shukuk wa-al-munâqadat allati fi kutub Jâlinus* (Doubts and inconsistencies in the Books of Galen).  

The manuscript which I have used (described below) bears a longer title still: *Kitâb al-shukuk lil-Razi alâ kitâb fâdîl al-attibâ Jâlinus fi al-kutub alladhi nusibâ ilay(hi) (AL-Razi’s Book of Doubts Concerning the Treatise of the Most Eminent of Physicians, Galen, on the Works Attributed to Him).  

It should be recalled here that Alexander of Aphrodisias (fl.early 3rd C.A.D.) also opposed certain of Galen's beliefs32 before al-Razi; thus Yahyâ al-Nahwî al-Iskandârînî (John Philoponus, fl.c.A.D. 490 –c.570) also wrote a work which he called "Doubts", in which he clarified what he believed to be Galen's errors.  

The Ismâ'îli philosopher Muhammad ibn Surkh al-Nishâbûrî (fi. A.H. 4th or 5th C./A.D. 10th or 11th C.) also mentions al-Razi's *Shukuk* in a book which he wrote as a commentary on the *qasidah* of his contemporary Abu al-Haytham al-Jurjâni-going on to note that another man living at the time wrote a book which he called "Doubts Concerning Muhammad ibn Zakariyyâ." It is reported that when al-Razi saw the latter book he said," It seems that he holds me in the same high regard as I do Galen himself" he then proceeded to confess his own errors.  

The story may be apocryphal. It is certain, however, that Ibn Abî Sâdiq, 33 Ibn Rîwân al-Misrî, 34 and Abu al-Alâ ibn Zuhr35 each wrote a book called "Solution to al-Razi’s Doubts Concerning the Works of Galen" (*Hall shukuk al-Razi ala kutub Jâlinus*). Ibn Maymun al-Qurtubi ("Maimonides", d. 1204-1205) also mentions Ibn Rîwân’s and Ibn Zuhr’s refutations of al-Razi’s Book of Aphorisms *Kitâb al-fusûl*).  

Ibn Abî Usaybi’âh actually had Ibn Rîwân’s treatise in his possession39, but it is unfortunately lost to us. Ibn Zuhr’s work, however, is extant, in the form of a manuscript in the library of the Madrasat Nawwâb in Mashhad40. The title reads al-Bayân wa-al-tadyin fi al-intîsâr li-Jâlinus (Explanation and Elucidation in support of Galen). Ibn Zuhr thinks that either one of the Islamic "sceptics" (al-Sufasta‘iyâh) contrived the work and then fathered it.
on al-Rāzī, or that al-Rāzī wrote it either when he was still young and had not yet properly understood Galen, or at the end of his life when he was preoccupied with alchemy and had been overcome by the fumes of arsenic and sulfur.\footnote{Maimonides's observation, however, must be rejected, for Galen himself also enquired in his medical works into questions of philosophy such as createdness and pre-existence, generation and corruption, time and place, matter, and plenum and void. The ancients believed that medicine and philosophy complemented each other. Some even said that medicine was "the philosophy of the body" and philosophy "the medicine of the soul." Galen himself wrote a book with the title: "That the Good Physician must be a Philosopher." The Islamic physicians took the same view: they discussed philosophical questions in their medical works on the principle that they affected the medicine of the body and the soul. We see this approach in the \textit{Firdaws al-hikhmah} ("Paradise of Wisdom") of Ali ibn Rabban al-Tabari (d. after 895/1489-1490), and also in the \textit{Kitab al-mu'alijat al-Bugraqiyah} ("Book of Hippocratic Treatments") of Abu al-Hasan al-Tabari.}

Al-Rāzī himself begins the \textit{al-Shukuk} with the following comment "I know that many people will think me ignorant for writing this book..."\footnote{Al-Rāzī replies: This is a statement such as a common person would make! For the pronunciation of words of any language become light and sweet through habituation. The Arabic language seems to the Arabs as does Greek to the Greeks; and the language of the Byzantines seems gross to the Arabs just as that of the Arabs seems gross to the Byzantines. Ibn Hazm has this to say in reply to Galen: "This is extreme ignorance; anyone who becomes aware of a language not his own which he does not understand will see it in the way Galen describes, and no differently."} He then goes on to defend himself: "The practice of science and medicine does not allow that one surrender, as it were, to its pre-eminent practitioners, or simply accept what they say. One should not defer to them and refrain from questions—nor does the [true] philosopher approve of such an attitude on the part of his students". He then replies to those who reproach him as follows:

As for those who censure me and call me ignorant for having produced this Book of Doubts - I do not consider them philosophers. They have turned their backs on the way of the philosophers. They have taken up the ways of ignorant upstarts, blindly imitating (\textit{q-l-d}) authority and refraining from raising any objection against it. Aristotle says: Plato and the Truth are at odds, and both are friend to me - but the Truth is a friend dearer still than Plato.\footnote{AI-Razi brings up "doubts" relating both to Galen's medicine and philosophy. Maimonides objects in his \textit{Book of Aphorisms} that he has devoted all his efforts to philosophy, and consequently neglected medicine.}

\begin{quote}
Al-Rāzī continues:

Asked why modern scholars should attach [such critiques] to [the works of] the ancients, I cite several reasons. Among these is that error is inherent in human beings; and that sometimes passion overwhelms reason. For passion may perhaps affect the steady gaze of reason in the case of a certain man concerning some matter or other, to the extent that he may pronounce an error in regard to it, whether he be aware of that error or not. Thus it may be that when another man free from prejudice carefully examines the statement of such a person he may not come to the same conclusion, and the passion which motivated the first man will not lead him [to that error]. Another reason I cite for such critiques is that the sciences continually grow and are refined as time passes... If it then be said that this is tantamount to claiming that modern scholars are better than the ancients, I reply: that I do not see that this statement is valid except on condition that the moderns improve on that which has been laid down by the ancients.\footnote{It is interesting that on one occasion in the \textit{Shukuk} al-Rāzī makes an objection to a doctrine of Galen concerning language, thus stepping outside the realm of both medicine and philosophy. He reports Galen’s statement that, "The language of the Greeks is the sweetest, while those of some other peoples resemble the squealing of pigs and the croaking of frogs." Al-Rāzī replies: This is a statement such as a common person would make! For the pronunciation of words of any language become light and sweet through habituation. The Arabic language seems to the Arabs as does Greek to the Greeks; and the language of the Byzantines seems gross to the Arabs just as that of the Arabs seems gross to the Byzantines. Ibn Hazm has this to say in reply to Galen: "This is extreme ignorance; anyone who becomes aware of a language not his own which he does not understand will see it in the way Galen describes, and no differently."}

The works of Galen to which al-Rāzī applies his doubts are some of his most important, among them the "Opinions of Hippocrates and Plato"; the "Ethics"; the "Simple Drugs", the "Elements (\textit{ustuqssāt}) according to Hippocrates"; the "Types of Fever"; "Painful Members"; "Foods"; "Critical Illnesses"; "The Crisis"; "The Demonstration"; "Medical Experience"; "The Treatment of Healthy Persons"; "Anatomy of Animals"; "Commentary on Hippocrates"; "Book on the Nature of Man"; "Commentary on the Book of Aphorisms"; "Preface to knowledge"; "The Movement of Muscles"; "Stratagem for Recovery"; "Atrophy"; "Tremors and Shivers"; "The Lesser Practice"; "Causes and Symptoms"; "Qātājānus"; "The Natural Faculties"; "That the Faculty of the Soul follows on the Temperament of the Body"; "On the Opinions [of Galen]"; "The Temperament"; "The Usefulness of the Members"; "the Semen"; "al-Mayāmir"; and The Greater Book of the Pulse.
\end{quote}
Al-Rāzi mentions the views on nature and philosophy of Greek thinkers such as Plato, Aristotle, Hippocrates, Theophrastus, Chrysippus, Empedocles, Diocles, Thales, Asclepiades, Dioscorides, and Erasistratos. Among Islamic scholars he names Hunayn ibn Ishaq and Muhammad ibn Musā, he also mentions, without giving his name, a prominent man and noble friend who used to read the works of Galen with him. In the course of his discussion of Galen, al-Rāzi also records the names of a number of his own works no longer existant. These names allow us to at least determine the subject-matter of the lost treatises. In one passage, for instance, he mentions the *Sam al-Kayyān*, evidently from its title an essay on the oral teaching of the natural sciences: "I have devoted a chapter of the *Sam al-Kayyān* to the opinion of those who assert that changes are either hidden or apparent. Whoever reads it will become convinced that this doctrine has shortcomings." Other titles of lost works of al-Rāzi are:

"Refutation of al-Sarakhsi on the Matter of Bitter Taste" (*Fi al-radd ala al-Sarakhsi fi amr al-tam al-murr*). In the course of a discussion of a proof that the efficacy of a medicine may be determined through its taste al-Rāzi writes: "I have discussed these matters in a treatise which I have devoted to refutation of Ali Ahmad ibn-Tayyib al-Sarakhsi (d.286-899) concerning bitter taste". Other titles of lost works of al-Rāzi are:

*That the Source of Cold is the Center of the Earth* (*Fi anna markaz al-ard yanbugh al-bard*). Galen, says al-Rāzi, held that the source of cold was at the centre of the earth. This, however, would necessitate that the earth be absolutely cold and there is nothing colder than absolute cold. Thus it would be colder than ice, which is contrary to the sense of touch. Much discussion would be needed to solve this problem, to which I have devoted a whole treatise.

*On the Mechanism of Sight* (*Fi kayfiyat al-absār*). Al-Rāzi says in the *Shukuk*: I have devoted a very large treatise to this matter. It is evident that sight results through the projection of shapes onto the eye. Galen is extremely partisan in what he has to say concerning this matter, both in the Book of Proof and his other works but I will only state here that which is relevant to the discussion at hand.

*On Seasons and Climates* (*Fi al-azmina wa-al-ahwiyah*). In setting out Galen's view that some natures are better in summer al-Rāzi comments: The doubts which may be raised as to Galen's statements on seasons may not be discussed here, for they are many. We would need many times the space of this book to cover them. In fact I do intend (success depending on God alone) to write a book devoted to the subject of seasons which I would enquire exhaustively into this doctrine of Galen and his book on climates, God willing.

15- al-Biruni, al-Risâlah, no.88 (in both editions).
19- This was known in Arabic as Famarâtîb girot at kutub (îhi), and in Latin as De Ordine Librorum.
27- al-Râzi, Kitâb al-shukuk, p. 16.
29- al-Biruni, al-Risâlah, no. 88.
30- Ibn Abi Usaybi‘ah, Uyun al-anbâ, p. 422.
33- Ali ibn Ridwân al-Misri writes in a letter to Ibn Butlân al-Baghda’di: I am much astonished to see that Yahyâ al-Nahawî has written a book which he calls al-Shukuk in which he clarifies what he asserts to be the errors (ughûtât) of Galen (Khamas rasâ’il Ibn Butlân wa-Ibn Ridwân, ed. Schacht & Meyerhof (Cairo: 1937), p. 75).