PULMONARY TRANSIT AND BODILY RESURRECTION:
THE INTERACTION OF MEDICINE, PHILOSOPHY AND RELIGION
IN THE WORKS OF IBN AL-NAFĪS (D. 1288)

A Dissertation

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Traditionally, historians of science have only been interested in Islamic science because of its relationship to Greek science, and in the ways in which it was instrumental in transporting Aristotle, Ptolemy and Galen to the West. Moreover, the successes and failures of Islamic science have been judged according to the metric of the Scientific Revolution. As such, the actual context of the works of Islamic scientists and physicians has been overlooked, thereby producing a skewed picture of science in Islamic societies. This dissertation seeks to correct this picture by placing Islamic medicine firmly within its context. In the process, it provides a new framework with which to understand the relationship between reason and revelation in Islamic societies, and suggests new ways to revisit the entire problem of the decline of Islamic science.

The dissertation specifically examines the corpus of writings of an Egyptian physician-jurist, Ibn al-Nafīs (d. 1288), best known to Western historians of science as the discoverer of the pulmonary circulation of blood. Although his discovery has been
known for a century, there has been no study that situates Ibn al-Nafīs’s discovery within the context of his time. This dissertation seeks to fill that lacuna. Focusing on his views on the soul (nafs) and spirit (rūḥ)—two concepts central to theological discussions about the afterlife and medical physiology, this dissertation positions Ibn al-Nafīs’s philosophical and physiological discussions against the background of earlier and contemporary philosophical, medical and theological works. Through this contextualization, this study reveals that Ibn al-Nafīs’s new theory of the pulmonary transit of blood is the offspring of his new psychology and physiology. It also reveals that on the basis of his new physiology, Ibn al-Nafīs rejected the Galenic theory of pulsation and posited a new theory in its stead—an important point that has hitherto been missed by historians. Moreover, this work reveals that Ibn al-Nafīs’s new physiological and psychological theories are themselves the direct result of his solution to the thirteenth century debates over reason and revelation. Consequently, the dissertation problematizes existing historical accounts, and seeks to replace historical models that posit an antagonistic and destructive relationship between reason and revelation during this period.
To Papa and Mummy,
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A NOTE ON TRANSLITERATION AND DATING

This dissertation follows the simplified scheme derived from the *Encyclopaedia of Islam* used in the *International Journal of Middle Eastern Studies*. Arabic works have been fully transliterated in the footnotes and in the bibliography with the following exceptions: 1. macrons and dots have been left out of the transliteration of the names of modern authors and editors; 2. macrons and dots have been left out of the subsequent, short forms of references. In the case of Arabic names, the definite article *al-* has not been capitalized, unless it appears at the beginning of a sentence.

Following *IJMES*, only common era dates have been provided.
CHAPTER 1

BUILDING A NICHE FOR ISLAMIC SCIENCE
IN THE HISTORY OF SCIENCE

My primary goal in this dissertation is to understand more adequately the relationship between medicine, religion and philosophy within medieval Islamic civilization by analyzing the works of the Egyptian physician-jurist, Ibn al-Nafīs (d. 1288), best known for his discovery of the pulmonary circulation of blood. Even though historians have known of Ibn al-Nafīs’s work for almost a century, there has been no scholarly attempt as yet to situate his discovery within the larger corpus of his writings or the larger context of his time. This dissertation fills that lacuna by uncovering Ibn al-Nafīs’s unique physiological, philosophical and theological understandings of the soul and spirit, which underlie his anatomical discovery. Moreover, it presents Ibn al-Nafīs’s departures from earlier ideas as a direct outcome of his engagement with twelfth and thirteenth century discussions on the relationship between reason and revelation, especially on the topic of bodily resurrection. Consequently, it challenges the standard historiography, which tends to see the thirteenth century as a period of decline in Islamic thought and explains that decline by appealing to a conflict between reason and revelation. This study, on the other hand, provides a new framework with which to
examine the relationship between reason and revelation in Islamic societies, and suggests ways to reexamine the notion of “decline” itself.

Historians of science have traditionally considered the thirteenth century only as a period of decline in Islamic societies. As a result, they have tended to overlook this important era in medieval Islamic civilization. However, this traditional, “declinist” scholarship has come under considerable scrutiny in recent times, especially with regards to the mathematical sciences. Revisionist historians have proposed an alternative chronology to illustrate that science continued to flourish well into the sixteenth century in Islamic lands. ¹ They have also shown that some of the most important developments in the mathematical sciences, especially astronomy, took place around the turn of the thirteenth century. Moreover, we also know that the thirteenth century played host to a number of other important intellectual developments—in philosophy, theology, mysticism and even the traditional religious sciences—that were extremely important for subsequent generations. ² Hence, in order to understand adequately the historical trajectory of science in Islamic civilization, we need to be firmly grounded in the way in which many of these intellectual developments in the sciences, philosophy and religion


² The most influential text on the hadīth sciences dates from the thirteenth century (see chapter 2). The “ṭariqa-based Ṣūfīsm” crystallized during this period and paved the way for the meteoric rise of Ṣūfī mystic orders in subsequent centuries; see Erik Stefan Ohlander, “Abū Ḥāfṣ ‘Umar al-Suhrawardī (D. 632/1234) and the Institutionalization of Sufism” (PhD diss., University of Michigan, 2004). New philosophical mystical traditions that had a lasting impact on Islamic intellectual discussions also emerged in the thirteenth century; see John Walbridge, “Suhrawardī and Illuminationism,” in The Cambridge Companion to Arabic Philosophy, ed. Peter Adamson and Richard Taylor (Cambridge: Cambridge University Press, 2005), pp. 201–223; and Sajjad Rizvi, “Mysticism and Philosophy: Ibn ‘Arabī and Mullā Ṣadrā,” in Adamson and Taylor, eds., Cambridge Companion, pp. 224–246. Finally, long-lasting developments in kalām and falsafah, and the way in which they define their relationship to one another and the rest of the religious sciences, date from this period as well (see chapter 3).
were coming together in the thirteenth century. My limited goal in this dissertation is to understand the manner in which the various intellectual developments in medicine, philosophy, and the religious sciences came together in the works of Ibn al-Nafis.

Nonetheless, I hope that through the window of Ibn al-Nafis’s works, I will also be able to illuminate, to a certain extent, the manner in which these disciplines were being unified in the works of Ibn al-Nafis’s predecessors, contemporaries and successors.

This study also seeks to critique the traditional, over-simplified understanding that considers “Islam” to be antagonistic towards science. A received historiography sees philosophy and science as independent and marginal activities within Islamic civilization and portrays Islamic religious sciences as being antithetical to all rational activity.3 As seen through the window of Ibn al-Nafis’s works, however, religion, philosophy and science emerge as incontrovertibly engaged with one another in discussing and solving issues of prime importance for Muslims and Islamic societies. As a result, this study illuminates the complex nature of the interactions between science and religion, or more accurately, between reason and revelation, during this period. Furthermore, it provides

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the groundwork to explore and compare the different trajectories of Islamic and Western science, based on their different concerns and contexts. As such, it paves the way towards gaining a better understanding of the real reasons behind the different fates of Islamic and Western science, rather than assuming, *a priori*, that the scientific enterprise came to a complete standstill in one tradition.

In order to accomplish the goal of analyzing the relationship between medicine, religion and philosophy, I shall focus on specific concepts and illustrate how they are used by Ibn al-Nafīs, in contradistinction to how they are used by his predecessors and contemporaries. In particular, I shall focus on his views on the soul (*nafs*) and spirit (*rūḥ*)—two concepts that are not only central to the philosophical and religious discussions on the afterlife (chapter 3), but also to the medical physiological discussions of his time (chapter 4). My aim is to place Ibn al-Nafīs’s discussions of soul and spirit against the background of an extended analysis of the distinct, yet interdependent, Islamic intellectual traditions: medicine, philosophy and the religious sciences. These discussions will enable me to illustrate how his subtle departures from these traditions bore upon his discovery of the pulmonary transit of blood. Moreover, they will also enable us to develop a better understanding of the complex relationship between reason and revelation in the medieval Islamic context.

The relevance of physiological debates for philosophical and theological discussions of soul and spirit, and vice-versa, should hardly be surprising. After all, Nancy Siriasi’s excellent study on Renaissance medicine has already revealed how the Western physiological, philosophical and theological discussions on soul and spirit
“resemble one another closely.”

Given that in the Islamic case the same author was often writing tracts in physiology, philosophy and theology, it is indeed remarkable that historians have traditionally failed to situate the Islamic physiological discussions of soul and spirit within the larger philosophico-theological context. However, as we shall see below, there is a general lack of historical studies that situate Islamic medical discussions within the context of Islamic societies. Thus, for example, even though historians have been aware of Ibn al-Nafīs’s discovery of the pulmonary transit of blood since the early part of the twentieth century, there is yet to be a study that situates his discovery within the corpus of his own medical writings, let alone the larger Islamic socio-intellectual context. Instead, historians have been more concerned with addressing questions related to priority disputes: should Ibn al-Nafīs be considered the true discoverer of the pulmonary circulation of blood? Did his Latin successors in the field of anatomy, namely Servetus, Colombo and Harvey, develop their own theories using Ibn al-Nafīs’s works? Or, were his Latin successors entirely unaware of Ibn al-Nafīs and proposed the pulmonary transit of blood independently? The consistent absence of contextualizing

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Islamic medicine is also apparent in the lack of any scholarly work that attempts to trace the fate of Ibn al-Nafis’s discovery in the works of his Islamic successors. Instead, Max Meyerhof’s *a priori* judgment of his discovery—that it was a “happy guess”—continues to frame the discussions of his work.

Unfortunately, the failure to situate isolated medical tracts within the larger context of Islamic medicine, or the medical context within a larger socio-intellectual context, is indicative of a general trend that has systematically limited the scope of investigation in the field of history of Islamic science over the last century. Once we recognize the extent to which certain assumptions have been entrenched in the discourse—assumptions that firmly ground this restrictive framework of investigation, we can then place ourselves in a position to pose new questions and offer new interpretations. These new interpretations may, in turn, provide us with an alternative understanding of Islamic science and civilization. The limited goal of this chapter is to address these assumptions in order to begin to understand the development of Islamic Circulation—Who Should Get the Credit: Ibn al-Nafis or William Harvey,” *Journal of the International Society for the History of Islamic Medicine* 1 (2002): 46–48.

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6 The only work that tries to trace the quotations on the discovery of the pulmonary transit in later Arabic commentaries on Ibn Sinâ’s *Canon of Medicine* is Albert Iskandar, *A Catalogue of Arabic Manuscripts on Medicine and Science in the Wellcome Historical Medical Library* (London: Wellcome Historical Medical Library, 1967), especially pp. 43–51. The work restricts itself, however, to manuscript citations of the works that mention Ibn al-Nafis’s discovery in the Wellcome Medical Institute’s collection of Islamic Medical Manuscripts. Since then no one has ever attempted to study these later commentaries in any detail.

medicine within Islamic societies, without resorting to crude reductionisms and precursorisms.

Before we proceed, I need to defend my use of the term “Islamic science.” Historians of pre-modern science have started to replace the term “science” with “natural philosophy,” in an attempt to stick closely to the terms used by the historical actors themselves. However, the various disciplines that can be grouped under “natural philosophy,” along with other disciplines, such as medicine and mathematics, are all referred to in Arabic as ‘ilm (pl. ‘ulūm)—a word that can certainly not be translated as “natural philosophy.” Moreover, even the religious sciences use the term ‘ilm, as in ‘ilm al-ḥadīth (the science of traditions). Consequently, the closest counterpart to the Arabic ‘ilm is the German Wissenschaft. However, to avoid the cumbersome injection of German on a regular basis, I have chosen to use the term “science” for ‘ilm, albeit with the German understanding of Wissenschaft in mind.

As far as historians of Islamic science are concerned, there is a move now amongst them to prefer the term “Arabic science” to “Islamic science,” as is evident in the title of Roshdi Rashed’s edited encyclopedia, Encyclopedia of the History of Arabic Science. Although I agree that Arabic was the lingua franca for science in the medieval Islamic world, I have still preferred to use the term “Islamic science” for the following

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8 For a critique of such views and how they have adversely affected the history of Islamic science, see A. I. Sabra, “The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary Statement,” History of Science 25 (1987): 223–243.


reasons. Firstly, a non-Islamicist is very likely to understand from “Arabic science” that scientific activity in the Islamic world was carried out mainly by those of Arab descent, which, as Islamicists well know, is incorrect. Secondly, since there were many works written during this time period in languages other than Arabic, especially from the thirteenth century onwards, this underrepresented sector of research is bound to be further marginalized by employing the term “Arabic science.” Finally, and most importantly, the change is being suggested by historians in order to break away from the reified, Orientalist assumptions about Islam that have truly hampered historical research—assumptions that present Islam as being antithetical to rationality, freedom and democracy.\(^{11}\) Even though moving away from essentialist understandings of Islamic science is a noble goal, the unfortunate consequence of this change has been a move towards systematically excluding religion from any discussion of scientific activity—a move that itself can prove to be detrimental for a better understanding of the science of this period (see below). Thus, since we refer to the civilization of this time as “Islamic civilization,” the preferred term for science stemming from this civilization should be “Islamic science.”

1.1 The Theoretical Obstacles to Studying the History of Islamic Science

The history of Islamic science, as a discipline, has been crippled throughout its own history by two assumptions that have severely limited its scope of investigation: the

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\(^{11}\) The term “Orientalism” refers to the Western academic tradition of studying Islamic societies as described, and criticized, by Edward Said in his, *Orientalism*, 1st ed. (New York: Pantheon Books, 1978). In this dissertation I am only concerned with that part of the tradition that essentializes the characteristics and attitudes of Islam and Islamic societies over their entire course of history and sets them against those values that the Orientalists want to reflect on to the West by means of such a contrast, namely: rationality, secularism and the freedom of expression.
assumption that only one path emanates from Greek science whose terminus is, and can only be, the Scientific Revolution; and the essentialist, Orientalist assumption that assumes that “Islam” is inherently irrational, authoritarian, and against scientific enquiry. Although these assumptions are rarely stated so overtly, their more subtle forms hold wide currency. For example, consider the assumption that the Scientific Revolution is the oak tree that emerges from the acorn of Greek science. Many historians of science deem the non-emergence of the Scientific Revolution in Greek times to be an enigma in itself. This is clearly a subtler form of the aforementioned assumption. Consequently, since Greek science was transmitted to the Islamic world, the fact that the Scientific Revolution did not take place there becomes a problem in and of itself for historians of science. They deem it “fair (and important) to ask why . . . Arabic-Islamic civilization did not succeed in its march towards the development of this universal institution of modernity [i.e. ‘modern science’ via the Scientific Revolution].”

The theoretical pitfalls of such an approach, and the problems it creates for the history of science and the history of ideas, have already been pointed out by Thomas Kuhn and Quentin Skinner. I shall restrict myself solely to illustrating precisely how

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12 For a survey of the literature on this enigma, see Cohen, *The Scientific Revolution*, pp. 241–259. The subsection is entitled, “Why Did the Scientific Revolution Not Take Place in Ancient Greece?”

13 See, for example, Cohen, *The Scientific Revolution*, pp. 378–409; Grant, *The Foundations of Modern Science*, pp. 176–182; and Toby Huff, *The Rise of Early Modern Science: Islam, China and the West*, 2nd ed. (Cambridge: Cambridge University Press, 2003). Huff, in fact, even calls it “the problem of Arabic science” (p. 47). Though Huff is a sociologist, he presents his analysis as a comparative history of science (p. xiv). Moreover, he relies heavily on the works of historians of science. For this reason, in this study, he has been grouped with the historians of science.


firmly rooted this assumption is in the literature, and how it allies itself naturally with Orientalist assumptions and conclusions to perpetuate certain myths about Islamic science. It is important to illuminate the nature of this alliance because even though Islamicists have thoroughly critiqued Orientalist conclusions over the last three decades, Orientalist views still dominate the non-expert literature on Islamic science. The revisionist critiques continue to fall on deaf ears because historians of Islamic science have failed to grasp the true nature of these alliances.  

One of the defining features of history of science as a discipline has been its analysis of the period known as the Scientific Revolution. Historians of early modern science generally concur that the discovery of older Greek systems of natural philosophy

(1969): 3–53. As Kuhn makes his argument against the belief that science is a cumulative enterprise, he also indicates that in the aftermath of scientific revolutions there is a “persistent tendency to make the history of science look linear or cumulative . . .” (p. 139). This fallacious representation is assisted by the fact that “new paradigms are born from old ones” and, as a result, “they incorporate much of the vocabulary and apparatus” of the older paradigm. “But they seldom employ the borrowed elements in quite the traditional way. Within the new paradigm, old terms, concepts, and experiments fall into new relationships one with the other” (p. 149). A similar point about the changing expressions and relationships of words and meanings is made by Skinner in the context of the history of ideas (p. 36–39). Moreover, the futility of pronouncing the failure of an author(s) to arrive at some conclusion based on a teleological understanding of history is adequately summed up by Skinner: “[I]t cannot (logically) be a correct appraisal of any agent’s action to say that he failed to do something unless it is first clear that he did have, and even could have had, the intention to try to perform that action” (p. 29). In a nutshell, the entire enterprise of trying to answer why the Scientific Revolution did not take place in Greece, and, by extension, in the Islamic world, is philosophically naïve and misguided. And since it has also hampered our understanding of Islamic science per se (see below), these questions should be discarded.

16 For example, Dimitri Gutas and A. I. Sabra have lamented, on separate occasions, the survival of Orientalist, essentialist understandings of Islam in the literature on Islamic science. Yet, their renewed critiques of Orientalist theses still fail to make an impression on non-Islamicist historians of science. Thus, even though H. Floris Cohen and Toby Huff are familiar with, and even cite, Sabra and Gutas’s critiques respectively, they still continue to adhere to an essentialist understanding of Islam and Islamic societies; see Sabra, “The Appropriation and Subsequent Naturalization”; Sabra, “Situating Arabic Science”; Gutas, “Certainty, Doubt and Error”; Cohen, The Scientific Revolution, pp. 384–394, 416–417; Huff, The Rise of Early Modern Science; and Dimitri Gutas, Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early ‘Abbasid Society (2nd–4th/8th–10th centuries), (London: Routledge, 1998), pp. 166–175.

17 Cohen, The Scientific Revolution: “[T]he professionalization of the history of science as an academic field crystallized intellectually around [Koyré’s] account of the Scientific Revolution” (p. 100).
and mathematics was an extremely important, if not the most important, pre-condition for the occurrence of the Scientific Revolution.\(^\text{18}\) That the translation of Greco-Arabic texts into Latin was an “indispensable, pre-condition for the Scientific Revolution” is not in question.\(^\text{19}\) The problem is that it is usually assumed that Greek science was potentially modern science. To employ an Aristotelian analogy, just as the context can inhibit the acorn from developing into a full-blown oak tree, so too the historical context is assumed to have inhibited Greek science from sprouting the branches of modern science. As H. Floris Cohen states categorically:

> In our outline the Scientific Revolution has been taken as an event inherent as a developmental possibility in the Greek corpus of science. That is to say, the Greek corpus was inherently capable, as its Chinese counterpart was not, of yielding in the end something more or less akin to early modern science as we have come to know it. Whether or not this potential outcome was ever to be realized—that was the issue at stake throughout.\(^\text{20}\)

Given this assumption about the inherent potentiality of Greek science, from the perspective of an Islamicist, it does not matter at all whether historians of the Scientific Revolution argue for a continuity between modern science and the medieval Western tradition or affirm a sharp break from it.\(^\text{21}\) Regardless of the position they adopt on this important question, they will still converge on the claim that Islamic science was by-and-


\(^\text{21}\) See Cohen, *The Scientific Revolution* for a detailed overview of these positions.
large merely a repository of Greek science.\textsuperscript{22} It is important to realize how deeply this assumption is entrenched in the literature of the history of science, for it continues to affect the views of those historians who are consciously attacking such an understanding of Islamic science. For example, while discussing the indisputable necessity of the translation of Greco-Arabic works into Latin for the advent of the Scientific Revolution, Edward Grant, a historian of medieval science, states:

\textit{Because of the importance of the translated works}, the civilization of Islam must be allotted a considerable share of the glory for the Western achievement in science. Centuries before, Islamic scholars had translated a large part of Greek science into Arabic and then had \textit{added} much that was original, to form what is conveniently referred to as Greco-Arabic (or Greco-Islamic) science, at the core of which lay the works of, as well as the commentaries on, Aristotle.\textsuperscript{23}

Ironically, Grant is attempting to move away from the notion that Islamic societies merely preserved Greek science during the Dark Ages of Europe and conveyed it to Europe at the time of the Renaissance. However, his reference to “original additions” of Islamic scholars betrays his adherence to the assumption that Greek science was potentially modern. Based on this assumption, Grant can only see Islamic science as Greek science plus matters of fact, whose conglomerate falls short of the Scientific Revolution. That is, since Islamic science springboards off of Greek science, it can only move in the direction of modern science. Based on this understanding, Grant cannot conceive of Islamic science as taking a trajectory whose end-point is not Copernicanism or Newtonianism. Consequently, since Islamic science did not give birth to the Scientific Revolution, it must have declined, and that too before or around the time of the Arabo-

\textsuperscript{22} For a recent survey of the Scientific Revolution that makes such claims, see James Jacob, \textit{The Scientific Revolution: Aspirations and Achievements, 1500–1700} (Atlantic Highlands, NJ: Humanities Press, 1998), pp. 14–15.

\textsuperscript{23} Grant, \textit{The Foundations of Modern Science}, p. 171, my emphasis.
Latin translation movement. The logic of this general argument can be clarified further by referring to the standard historiography of the Arabo-Latin translation movement.

According to the standard historical accounts of the Arabo-Latin translation movement, the real importance of Islamic science lay in its preservation of Greek science. For example, Marie Thérèse d’Alverny, a historian of medieval science and the Arabo-Latin translation movement, states, without reservations, that:

> [t]he desire to recover Plato, Aristotle, Euclid, Galen, and Ptolemy was the main incentive that provoked the flood of translations from Greek and Arabic into Latin. The “Arabic additions,” important as they might be, were frequently presented as commentaries derived from the main stream of Greek ancestors.\(^{24}\)

Similarly, another historian of the period, David Lindberg, explains the dearth of translations from Arabic into Latin in Sicily and southern Italy by maintaining that these regions “never had an Islamic culture as vigorous as that of Spain and because learned Sicilians and Italians preferred to drink from the original sources and made their greatest contribution in translating from Greek to Latin.”\(^{25}\)

Thus, throughout this literature, there is a considerable emphasis on the role of Islamic science as a preserver of Greek science. Its indigenous contributions are seen as “Arabic additions.” Islamic science means Greek science, **tout court,** albeit as translated into Arabic, with perhaps some added matters of fact or theory. These historians do not envision Islamic science as an enterprise with a trajectory different than that of Greek science, or even that of late medieval Western science that led to the Scientific

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Revolution. Naturally, since Islamic science never gave birth to the Scientific Revolution, it must have declined and arrested entirely after its promising start. The result has been a historiography that accepts, either explicitly or implicitly, older essentialist claims about the inevitable decline of Islamic science with the rise of religious orthodoxy around the twelfth century.

As mentioned above, nineteenth and twentieth century Orientalists tended to essentialize the nature of Islam or Islamic society. With regards to science, for example, they tended to adhere strongly to the “Marginality Thesis.” This thesis states that “strict orthodoxy always looked with some mistrust” on those engaged in Greek science and philosophy. “Orthodox Muslims harbored a strong suspicion against the secular sciences taken from the heathen Greeks,” and, as a result, these sciences could only be cultivated at the margins of Islamic society. Or, as Gustav von Grunebaum states:

No matter how important the contribution Muslim scholars were able to make to the natural sciences . . . [these] sciences . . . had no root in the fundamental needs and aspirations of their civilization. Those accomplishments of Islamic mathematical and medical science which continue to compel our admiration were developed in areas and in periods where the elites were willing to go beyond and possibly against the basic strains of orthodox thought and feeling. For the sciences never did shed the suspicion of bordering on the impious which, to the strict, would be near-identical with the religiously uncalled-for. This is why the pursuit of the natural sciences as that of philosophy tended to become located in relatively small and esoteric circles and why but few of their representatives would escape an occasional uneasiness with regard to the moral implications of their endeavors . . ..

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26 For a thorough statement of this thesis and the detrimental effect that it has had on the scholarship on Islamic science see Sabra, “The Appropriation and Subsequent Naturalization.”


The major problem with the received historiography on the decline of Islamic science is that it buys into the details of the Orientalist arguments, if not their actual assumptions. It accepts uncritically the Orientalist assertion that the theologians who denied necessary causation, attacked Aristotelian logic, and were generally suspicious of Greek science and philosophy were the “true,” “orthodox” theologians. However, as Islamicists have shown over the last few decades, this particular group of scholars comprised only one group amongst the many, diverse theological and scholarly groups, all of whom were vying for the badge of “orthodoxy.” Nonetheless, even in the aftermath of the critiques of the problematic usages of “orthodoxy,” Orientalist arguments continue to inform the works of H. Floris Cohen and Edward Grant, amongst others. For example, even though Cohen acknowledges that von Grunebaum belongs to an “old-fashioned, school of German thought,” and rejects von Grunebaum’s treatment of “Western civilization” as a “homogeneous entity,” he is still unwilling to criticize and reject von Grunebaum’s treatment of Islamic civilization and orthodoxy as comprising a homogenous, unchanging entity. Similarly, although Grant’s life-long research has convincingly shown the positive effects of the Paris Condemnations of Aristotelianism in 1277 for the development of medieval science, he not only considers the anti-philosophical attitudes of individuals like al-Ghazālī and Ibn Khaldūn to be

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30 Grant, for example, states: “By contrast, most Muslim theologians believed, on the basis of the Koran, that God caused everything directly and immediately and that natural things were incapable of acting directly on other natural things. Although secondary causation is usually assumed in scientific research, most Muslim theologians opposed it, fearing that the study of Greek philosophy and science would make their students hostile to religion” (The Foundations of Modern Science, p. 178).

31 For a recent critique of the Orientalist use of the unchanging “orthodoxy” and its antagonism to science, see Gutas, Greek Thought, Arabic Culture, pp. 166–175

32 Cohen, The Scientific Revolution, p. 393, pp 389–394,
representative of Islam in general, but also believes that they dealt a death-blow to Islamic philosophy and science.33

The unfortunate consequence of this historiography has been the failure of historians to situate Islamic science within its own context. The fascination with the Scientific Revolution has led historians to focus primarily on the Arabic “texts and translations.”34 As such, they have been pre-occupied with “the reception, transformation and transmission of earlier scientific ideas.”35 Moreover, the assumption that a religious orthodoxy was antagonistic to science has forced historians to conceptualize the medieval Islamic context of Islamic science in purely negative terms. Consequently, the study of this context and its broader impact on the philosophical and scientific ideas of the time have been traditionally marginalized. Thus, we can appreciate how difficult it has been

33 Grant, The Foundations of Modern Science, pp. 81–83: “By emphasizing God’s absolute power to do anything short of a logical contradiction, the articles condemned in 1277 had a curious, and probably unintended, effect: they encouraged speculation about natural impossibilities in the Aristotelian world system, which were often treated as hypothetical possibilities. . . . Although these speculative responses did not lead to the overthrow of the Aristotelian world view, they did, as we shall see, challenge some of its fundamental principles and assumptions. They made many aware that things might be quite otherwise than were dreamt of in Aristotel’s philosophy.” In the case of Islamic civilization, after summarizing al-Ghazālī and Ibn Khaldūn’s criticism of philosophy, Grant states: “I do not wish to suggest that the attitudes of al-Ghazālī and Ibn Khaldun were universal among religious leaders and the educated. Islamic civilization was hardly monolithic. . . . Nevertheless, a general uneasiness about natural philosophy seems to have been widespread” (p. 181). Further on, Grant adds: “Because of a fear that natural philosophy was potentially dangerous to the Muslim faith . . . Islam never institutionalized natural philosophy, never made it a regular part of the educational process. . . . The open hostility . . . of Islamic theologians and religious authorities provides at least one major reason why an institutional base comparable to the universities in the West failed to develop” (pp. 184–185). By the end of the discussion, Grant has rhetorically arrived (for he hardly cites any evidence) at the oft-repeated conclusion: “Thus in Islamic society, where religion was so fundamental, the absence of support for natural philosophy from theologians, and, more often, their open hostility toward the discipline, might have proved fatal to it and, eventually, to the exact sciences as well” (p. 186).


for revisionist historians to live up to Emilie Savage-Smith’s optimistic vision for the study of Islamic science:

The next decade [i.e. the nineties] should see a growing awareness and application of other historical methodologies and the somewhat belated joining with contemporary historians of other areas, who have for some time displayed more interest in the broader background of scientific development. In addition, the effects should soon be felt of those calls, by Sabra among others, to understand Islamic science in its own terms rather than as a subsidiary of ancient Western science.  

1.2 Revisionist Historiography: Its Successes and Limitations

Over the last few decades, the drive to understand Islamic science in its own terms has borne considerable fruit. Revisionist historians, like Roshdi Rashed, George Saliba and A. I. Sabra, among others, have pioneered studies that have revealed how and where Islamic science broke away from its Greek predecessor. They have had considerable success in demolishing the myth that Islamic science was merely Greek science in Arabic, by highlighting developments in mathematics, astronomy and optics. The immediate consequence of these studies has been that the traditional periodization of Islamic science and the standard claims about the “decline of Islamic science” are now being critically assessed by Islamicists.

36 Ibid., p. 266.

37 For a quick survey of the achievements in a wide variety of fields, see Rashed, ed., Encyclopedia.

38 For a shift in the traditional chronology of decline, see Rashed, ed., Encyclopedia; and Saliba, A History of Arabic Astronomy. For the current trend in shifting away from this discourse of “decline” altogether, see Saliba, “Seeking the Origins of Modern Science?” However, this literature has had little impact on the broader field of history of science.
The Marginality Thesis has also come under severe attack and has been shown to be an inaccurate characterization of Islamic science, from its inception to its fruition. Historians of science have generally appealed to the “absence of an institutional base for science and natural philosophy,” as the reason for the marginalization of Islamic science. Nevertheless, this much relied upon “fact” has also been thoroughly critiqued by comparing the medieval Islamic biographical accounts about education in the rational sciences with those about education in the religious sciences. Moreover, revisionist historians have made important strides in situating the sciences within the Islamic context. They have even traced some of these developments diachronically within Islamic societies. For example, we no longer speak of isolated astronomers and their achievements but rather of an entire group of astronomers—including the famous “Maragha school” and its successors—who shared certain basic agendas and continually


40 Grant, The Foundations of Modern Science, p. 185. The alleged lack of institutional support for the rational sciences is also assumed by Huff; see his, The Rise of Early Modern Science.

41 Sonja Brentjes, “On the Location of the Ancient Or ‘Rational’ Sciences in Muslim Educational Landscapes (AH 500–1100),” Bulletin of the Royal Institute of Inter-Faith Studies 4 (2002): 47–71. Brentjes’s argument relies on the shifts in seventh century in the use of the terms ‘ulām al-awā’il (the sciences of the ancients) and ‘ulām al-‘aqīyya (the rational sciences). She shows how the secular sciences, including logic and other philosophic disciplines, were allied with the religious disciplines by the end of the seventh century Hijri/thirteenth century Common Era (p. 55). The rhetorical dominance of the latter positive term in later biographical dictionaries, along with the similarity with which educational networks in religious and rational sciences are described, shows that these sciences were not excluded from the Islamic education landscape.
worked off of each other.\textsuperscript{42} Similarly, Roshdi Rashed has shown that such research schools also developed in the fields of algebraic arithmetic and algebraic geometry from the tenth century onwards.\textsuperscript{43} Revisionist historians are also more concerned with how certain ideas or aspects of a work connect with the larger corpus of writings of a particular author and/or the immediate intellectual milieu, rather than tracing them back piecemeal to the works of different Ancient authors. For example, after a careful study of the entire extant corpus of Ibn al-Haytham’s works on optics, A. I. Sabra has concluded that Ibn al-Haytham’s program in optics was novel and unique when compared to the works of his predecessors and contemporaries.\textsuperscript{44}

There has also been a healthy shift towards local studies in recent scholarship on Islamic science. Using anti-essentialist methods employed in the larger discipline of Islamic history, historians of Islamic science have started to study concrete cases of the interaction between religious and scientific knowledge. Thus, against the Orientalist claim that the Greek sciences were considered religiously-suspect and so persecuted throughout Islamic history, revisionists have tried to study the nature and consequences of those attacks in particular situations. As a result, the “relationship between religious


and scientific knowledge in Islamic culture” is now perceived as being multi-faceted and complex.⁴⁵ For example, George Saliba has traced the development of a new branch of Arabic mathematical astronomy (‘ilm al-hay’a) through a multi-faceted—religious, philosophical and medical—attack on astrology. He argues that because astrology was associated with Greek astronomy this new branch of astronomy was consciously created by astronomers to free themselves from such attacks. Consequently, over time, they were able to accommodate themselves comfortably into religious spheres.⁴⁶ On a contrasting note, Ahmad Dallal has investigated the influence of astronomy on the discipline of kalām during the fourteenth century. He has shown that, as a direct result of developments in planetary astronomy, kalām was theoretically adjusted and consciously disengaged itself from other sciences by limiting its own scope of investigation.⁴⁷

However, as is evident in my survey of the revisionist literature, this revisionist historiography is almost entirely absent from works on the history of medicine in Islamic societies.⁴⁸ Instead, in this subfield, historians are still primarily interested in

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⁴⁸ The lack of revisionist history in the sub-field of medicine can be gleaned from the under-representation of the field in Rashed, ed., Encyclopedia. In the three edited volumes, meant to bring non-experts up to speed with revisionist historiography, only one article is devoted to medicine within the Islamic world. Similarly, in Hogendijk and Sabra, ed., The Enterprise of Science in Islam—a collection of articles on the state-of-the-art in the field, once again only one article is devoted to medicine, and that too is on pharmacology.
determining how a certain Islamic medical tract relates to its Greek predecessor. Over the past few decades, some historians have tried to shift away from this obsession with reducing Islamic medicine to Greek medicine. Nonetheless, studies that try to place Islamic medicine within the context of the Islamic societies have been few and far between. The literature is even more barren in its analysis of the relationship between medicine and other disciplines, especially philosophy. The failure to consider such relationships is all the more puzzling, given that many physicians of the Islamic world—e.g. Ibn Sīnā, Ibn Rushd and Maimonides—were first-rate philosophers as well as great physicians. As Vivian Nutton states,

It is no coincidence that Ibn Sina, like Ibn Rushd . . . and the Jewish physician Moses ben Maimon (Maimonides), . . . was famous as a philosopher as well as a physician, for Galen had encouraged the study of philosophy and logic, and his method of argumentation invited philosophical enquiry . . .

Perhaps the reason for the absence of revisionist studies in medicine should also be sought in the assumptions of the earlier generation of historians. The Orientalists, as

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51 Vivian Nutton, “The Rise of Medicine,” p. 68. Here too we see that the only reason one should expect these physicians to be philosophers is because their Greek master Galen was also a philosopher, and not for any other reason indigenous to their cultures or religious situations.
well as the pioneers of the discipline of history of science, shared a common assumption:
they both maintained a sharp distinction between science and non-science. For the
Orientalists, this divide is most prominent in their positivist attacks on religion.\textsuperscript{52} For
historians of science like Alexander Koyré and Edwin A. Burtt, this distinction is most
prominent in their focus on the “mathematization of nature” as the “central distinguishing
feature of the new science” of the Scientific Revolution. For that reason, they also tended
to focus almost exclusively on the history of the exact sciences.\textsuperscript{53} The dominance of the
exact sciences in the revisionist studies on Islamic science can then be considered a
product of this mentality. For example, even the revisionist historians, Sonja Brentjes,
seems to be committed to this hard dichotomy since she feels very uneasy with the
medieval classification of \textit{uṣūl al-dīn} (the foundations of religion) and \textit{uṣūl al-fiqh} (the
foundations of law) as rational sciences.\textsuperscript{54}

It is important to recognize that this divide is not necessarily postulated on the
basis of the medieval writings themselves. Rather, the uneasiness with medieval
classifications of sciences is due to distinctions and definitions that are alien to the
categories of the historical actors themselves, as is evident in the following statement of
Dimitri Gutas:

\begin{quote}
\end{quote}

\begin{quote}
\textsuperscript{53} Cohen, \textit{The Scientific Revolution}, p. 99. Also see Gary Hatfield, “Was the Scientific Revolution Really a Revolution in Science?” in \textit{Tradition, Transmission, Transformation: Proceedings of Two Conferences on Pre-Modern Science Held at the University of Oklahoma}, ed. Jamil Ragep and Sally Ragep (Leiden: E. J. Brill, 1996), pp. 489–525. This view of the history and philosophy of science is no longer considered tenable in the profession. However, the fact that these views continue to influence historians of Islamic science (see below), shows that the latter have found it hard to break free from the constraints of the older narratives.
\end{quote}

\begin{quote}
\textsuperscript{54} Brentjes admits to being “surprised” and continues to use the term rational in quotes throughout her article; Brentjes, “On the Location of the Ancient or ‘Rational’ Sciences.”
\end{quote}
[W]e see that [the Islamic scientists’] epistemological foundation was not very different from that of scientists everywhere: applied science resting on experience and observation . . . informed by a theory that was argued for in strict terms of mathematical and logical procedures and by a healthy attitude of skepticism and questioning of authority.\(^{55}\)

The legacy of Koyré and Burtt is truly alive in Gutas’s definition of science. So too is the Orientalist legacy of a positivist antagonism to religion. For while proposing a program for future research in Islamic science, Gutas states:

> Through [David King’s] efforts, the fundamental research on the . . . chapter on the sciences addressing directly issues of concern to the Islamic community . . . has been accomplished. This is very felicitous because it enables us to remove from consideration “Islam” as a meaningful category in future research on the social history of Arabic science and philosophy.\(^{56}\)

Consequently, in order to guide future historians of Islamic science, Gutas proposes a model that not only creates a sharp distinction between science and non-science, but also between “scholars whose purposes and methods were scientific . . . and those who had other aims—personal, theological, etc.”\(^{57}\) Thus, for example, Gutas distinguishes between the “scientific merits” of Ibn al-Haytham’s criticisms of Ptolemy and the theological, “non-scientific” criticisms of Maimonides against Aristotle’s theory of the eternity of the world. He considers Maimonides’s aim to be “not scientific” because “his aim in the *Guide* in criticizing Aristotle is to discredit the theory of the eternity of the world because it is unacceptable to Judaism.”\(^{58}\) Nonetheless, on what

\(^{55}\) Gutas, “Certainty, Doubt and Error,” p. 285, my emphasis. This positivist understanding of science has come under considerable attack over the past few decades; see, for example, Kuhn, *The Structure of Scientific Revolution*.


\(^{57}\) Ibid., p. 283.

\(^{58}\) Ibid., pp. 284–285.
grounds can one consider Aristotle’s theory “scientific,” such that Maimonides’s critique would not be considered to be so on those same grounds? Or, what makes Ibn al-Haytham’s critique of Ptolemy more “scientific” than Maimonides’s critique of Aristotle? Is it because Maimonides relies on authority (Biblical authority) while Ibn Haytham only argues using mathematics and observations? But that is not entirely true, for even Ibn al-Haytham relies on Aristotle as an authority to criticize Ptolemy’s models, and unquestioningly adheres to the Aristotelian cosmos. Similarly, on what grounds can we call Galen’s original, yet false, assertion about the pores in the septum wall, “scientific,” and Ibn al-Nafīs’s correct denial of such pores “unscientific,” even if we assume that he never actually performed dissection? What we need instead is a richer understanding of science—one that is not constrained by a hard dichotomy between science and non-science.

As the recent history of the philosophy of science shows, universal criteria for demarcating science from non-science are highly elusive. Thus, as historians of Islamic science, we would be better off focusing on what the historical actors themselves considered scientific and non-scientific, bearing in mind that their own heralding of something as scientific or non-scientific could also be for polemical purposes. In this regard, we Islamicists have much to learn from our Europeanist colleagues in the history of science. The latter have slowly moved away from employing universal criteria and towards basing their studies on the terminology of the historical actors themselves. As a result, we now have a far richer understanding of the historical development of Western science than ever before.59

59 There have of course been many works that have challenged a universal science/non-science divide and have instead relied on the terms and definitions of the historical actors themselves to provide us with a
1.3 Extending the Scope of Revisionist Studies

First and foremost, through this study, I intend to bring the critical revisionist scholarship to bear on the study of Islamic medicine. Thus, rather than de-contextualizing Ibn al-Nafīs’s discussion of the pulmonary transit of blood, by comparing it with the views of Galen or Harvey—the only way his discovery has been studied so far, I will attempt to place his scientific theories within the context of his thirteenth century religious and intellectual milieu. In particular, I shall analyze his works from the perspective of the vexing physiological and philosophical questions of his time. Using his works and those of his contemporaries, I will try to map out Ibn al-Nafīs’s “intellectual terrain” by tracing out his “linguistic context” and the landscape of the inter-relations between words and their meanings at that time. The analytical tool of a “linguistic context”, known to historians of science as “actor’s categories,” has already been successfully employed by revisionist historians. For example, Ahmad Dallal uses it in his study on the influence of astronomy on kalām, and Sonja Brentjes uses it in her study on the integration of the rational sciences into the religious curriculum. Once the intellectual landscapes have been mapped out, we will be in a better position to ascertain where and in what way Ibn al-Nafīs differs from his predecessors in dealing with the fuller picture of the richness of scientific discourse during the Renaissance and the Scientific Revolution. As an example, see Charles Webster, From Paracelsus to Newton: Magic and the Making of Modern Science (Cambridge: Cambridge University Press, 1982).


See Cunningham, “Getting the Game Right.”

Dallal, “The Adjustment of Science”; and Brentjes, “On the Location of the Ancient or ‘Rational’ Sciences.”
physiological, philosophical and theological questions that continually vexed the greatest minds in Islamic civilization.

However, this study also seeks to extend the scope of revisionist historiography by taking its cue from studies that have sought to dissolve the hard dichotomy between science and non-science. More importantly, it relies on recent attempts by historians of Western science to understand the complexities in the interaction of science and religion, rather than presenting them in “essentialist terms of conflict or harmony.” As noted above, historians of Islamic science have been slow in embracing recent developments in the history of science and the historiography of science and religion. By relying on the semantically cogent, but historically inaccurate, reifications of “science” and “religion,” historians of Islamic science and philosophy have been largely unsuccessful in suggesting fruitful ways to analyze the relationship between reason and revelation. Thus, for example, medieval attempts at reconciling the two are either seen as dishonest verbal concessions by philosophers under the threat of persecution, or as the subsuming of

63 See, for example, Kuhn, The Structure of Scientific Revolutions; and Helen Longino, The Fate of Knowledge (Princeton: Princeton University Press, 2002).


66 Geoffrey Cantor has suggested that even separating the two categories for a historical analysis makes one guilty of essentializing a separation between science and religion that may not even exist in the actual works themselves; see his, “Quaker Responses to Darwin,” Osiris 16 (2001): 321–342.

reason under the authority of revelation to save the appearances of religious dogma.\footnote{See, for example, Gerhard Endress, “The Defense of Reason: The Plea for Philosophy in the Religious Community,” Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften 6 (1990): 1–49.} However, neither of these essentialist appraisals completely captures the complex maneuvers used by the historical actors to defend their beliefs in a harmony between reason and revelation. Nor can these appraisals illuminate the nature of the polemics in which competing intellectual groups engaged; polemics that generally led one group to assert their rationality or religious orthodoxy over the other(s). In order to gain a better insight into the role of reason and its relationship with revelation in medieval Islamic societies, we need to move beyond the polemics of the historical actors themselves. Consequently, not only do we need to start with a more integrationist perspective that allows the historical texts to “rearrange our [own] categories” of “science” and “religion,”\footnote{Stephen Wykstra, “Religious Belief, Metaphysical Beliefs, and Historiography of Science,” Osiris 16 (2001): 29–46, 46.} but we also need a more robust understanding of “rationality” itself—one that does not prejudice us towards any particular group or actor.

1.3.1 Rationality and the Authoritative Resources Model

We noticed earlier that Gutas’s model calls for distinguishing between non-scientific and scientific motives in the works of medieval Islamic authors. His model assumes that rationality is merely a positivist heuristic of logic and pure empirical observation. However, contemporary philosophers and historians of science have a far more robust view of rationality. Thus, against earlier positivist views on the debate between Galileo and the Aristotelians, Helen Longino asserts:
If rationality is, at least in part, the acceptance or rejection of beliefs on the basis of evidence, then theory and hypothesis choice is, when based on evidence, rational. Rationality, however, is not the infallible road to truth or away from error that it is often claimed to be. *Both the Aristotelian and the Galilean are being rational when they defend their respective accounts of the swinging stone.* What explains why it serves as evidence for different hypotheses is not that the two see it differently and in ways determined by those hypotheses in question but that they hold different background assumptions in light of which its evidential relevance is differently assessed. . . . It is . . . easy to see that both parties are being perfectly rational. *It is rational to take some state of affairs as evidence for a hypothesis in light of background assumptions one accepts.*

Based on this understanding of rationality, the different ways that the various historical actors understand the exact relationship between reason and revelation in Islamic science and philosophy can be seen as solutions stemming from different background assumptions and ideological commitments. The rationality of their positions depends merely on whether or not their specific integration of reason and revelation coheres well with their original assumptions and ideological commitments. It is also important to note that what I have termed “reason” here is not reason as logical argument and neutral observation, but rather the coming together of secular, philosophical authority, logic and observations that are not necessarily paradigm-neutral. As a result, reason, in this broad definition, faces internal contradictions that are themselves a result of the different varieties of emphases placed on authority, logic and observation, e.g. the debate between the Aristotelians and the Ptolemaic astronomers. As for revelation, in this dissertation I am primarily interested in the importance of two Islamic sources of

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71 Alasdair MacIntyre, “Epistemological Crises, Dramatic Narrative, and the Philosophy of Science,” *The Monist* 60 (1977): 54–74. MacIntyre is specifically concerned with the perceived irrationality of a Scientific Revolution within Kuhn’s critique, and his paper provides a fruitful way to conceive of it as a rational process. I find his analogy between a narrative and a rational argument very persuasive and useful.
revealed authority: the Qur’an and the hadith (traditions of the Prophet). Hence, within the sphere of revelation, internal conflicts also arise based on variegated emphases on these two scriptural sources, even without taking into account other sources of religious authority (e.g. biographies of the Prophet, consensus of the community and, for Shi‘ite Muslims, the reports of the infallible Imams).

Furthermore, as Brooke and Cantor have argued elsewhere, even this analytical separation of reason and revelation overly simplifies the dialectical relationship between the two in religious contexts. As we shall see, Islamic philosophers and physicians took their religious views seriously and competed with religious scholars for the authority to interpret revelation itself. On the other hand, the Islamic sources of revelation themselves appeal to teleological arguments for the existence of God and, in general, emphasize the role of reason and incorporate its sources—a fact that Ibn Rushd (lat. Averroes, d. 1198) makes prominent use of in his treatise On the Harmony between Philosophy and Religion. Thus, a fruitful way to engage with the texts from this period is to assume that regardless of whether or not scholars within this period identified themselves as traditionalists (those who considered themselves as being foremost committed to the sources of revelation) or rationalists (those who considered themselves as being foremost committed to the sources of reason), they still had to confront both sources—those of reason and those of revelation. Consequently, in this particular case, it

72 Brooke, “Religious Belief”; and Cantor, “Quaker Responses to Darwin.”

may be more fruitful to speak of the “intra-action” between “reason” and “revelation” rather than the “inter-action.”

Since all scholars from this time period had to confront the sources of reason and revelation, and since it was, and probably always is, impossible to place equal confidence on all these sources (i.e. individual philosophical authorities, logical arguments, observation, Qur’an, ِ‪ḥadīth‬, consensus of the community, individual religious scholars, etc.), they had to place different emphases on each of them. Additionally, we may also assume that the resources available to be allocated to these different factors are somewhat limited. The difference between the traditionalists and the rationalists can then be explained, for example, by illuminating the latter’s diminishment of the authority of ِ‪ḥadīth‬. As a result, the rationalists have more resources available to assign to other sources of revelation and the sources of reason. Thus, the conflict is then not necessarily between reason and revelation in general, but rather, it lies in a competition for these “authoritative resources” amongst all the various factors. Naturally, how these resources are assigned is itself a result of the historical development of particular groups and schools, all the while leaving open the possibility for differences amongst individuals belonging to the same group.

In order to apply this model, one needs to dig deep into the texts of an author(s) and situate them within the historical context(s) in order to ascertain the background assumptions and ideological commitments that inform these texts and influence how the author(s) allocates these resources amongst the sources of reason and revelation. The goal is to construct a reasonably coherent narrative that can illuminate how, if possible,

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all these commitments come together in the works of an author(s). Of course, it is implausible to expect that the result will be an entirely coherent and closed system. Also, one must not overlook certain aspects of a text or author merely to construct a fully coherent narrative. Rather, the aim should be to understand how particular authors reduce the dissonance resulting from bringing together these factors in their work(s).

1.4 Chapter Summaries

In what follows we shall see how Ibn al-Nafīs allocates his resources to individual sources of reason and revelation in establishing the harmony between the two. However, the subtleties of his particular position cannot be understood without taking into account the larger social and intellectual context of the time. A fruitful way of engaging this context is to compare Ibn al-Nafīs to groups of scholars that sit at the opposite ends of the reason/revelation debate within medieval Islamic societies. Thus, in chapter two, I compare Ibn al-Nafīs to the most stringent traditionalists who adhere closely to the literal meaning of the Qurʾān and the hadīth (traditions of the Prophet). By doing so, we shall see that even though he accepts the authority of hadīth like other traditionalists, Ibn al-Nafīs does not cling to every word of the hadīth corpus and requires that each hadīth be rationally acceptable. As such, he allocates his resources to reason and revelation more even-handedly than at least some of the stricter traditionalists.

75 For the pitfalls of engaging in such intellectual history, see Skinner, “Meaning and Understanding in the History of Ideas.”

76 I have borrowed the notion of “dissonance reduction” from J. R. Moore; see his, The Post Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870–1900 (Cambridge: Cambridge University Press, 1981). However, not all the details of Moore’s analysis apply here since he is looking at a period where the historical actors themselves employ the terminology of a conflict between science and religion.
Chapter three compares Ibn al-Nafīs primarily to the rationalists. It reveals the differences between Ibn al-Nafīs and other rationalists in their allocation of the sources of reason and revelation. For example, by comparing him to Ibn Sīnā we come to realize that the different allocation of these resources permits Ibn al-Nafīs to introduce concepts and arguments from revelation into what Ibn Sīnā classifies as demonstrative, philosophical arguments. In the case of the immortality of the human soul, for example, Ibn al-Nafīs in fact believes that revelation is necessary for a rational solution to that vexing problem. The fact that Ibn Sīnā would have considered that to be a non-sensical, irrational claim illustrates how the different background assumptions and commitments structure the rationality of each discourse. Ibn al-Nafīs is able to rationalize bodily resurrection using the hadith corpus, because, unlike Ibn Sīnā, he is neither committed to a division between dialectical and demonstrative discourses, nor to certain aspects of Aristotle and Galen that underlie Ibn Sīnā’s physiology. Thus, we not only see how Ibn al-Nafīs can rationally defend a particular position, but also how his even-handed allocation of the sources of reason and revelation forces him to reject earlier philosophical and physiological understandings of the soul and spirit.

Chapter four examines closely Ibn al-Nafīs’s new physiological system. The discussion reveals that Ibn al-Nafīs’s physiology differs significantly from the physiologies of Aristotle, Galen and Ibn Sīnā. More importantly, it shows that his physiology is a direct result of his new understanding of the soul and spirit, which in turn is derived from his distinct approach to the problem of bodily resurrection and the thirteenth century debates over reason and revelation. The pulmonary transit of blood is merely an anatomical corollary to this new physiological scheme, which also leads him to
posit a new theory of pulsation. Other historians have missed these connections between the pulmonary transit, the new theory of pulsation, the new physiology and his new philosophical understanding of soul. Consequently, they have claimed, incorrectly, that Ibn al-Nafī’s discovery of the pulmonary transit was a “happy guess” that is not to be found in any of his other works.

Chapter five draws together the individual discussions from the previous three chapters in order to reemphasize the importance of studying the works of Islamic physicians and philosophers using the historical “actors’ categories.” It claims that it is improper and unfair to judge the subsequent fate of Islamic science using the metric of the Scientific Revolution. Thus, the mere fact that Ibn al-Nafī’s Islamic successors did not latch on to his theory of the pulmonary transit, in and of itself, does not imply any decline in Islamic medicine. A more fruitful way of engaging in the analysis of the fate of Islamic science and medicine is to closely examine why Ibn al-Nafī’s new theories of physiology, pulsation and the pulmonary transit were not taken up by subsequent Islamic scholars. The chapter makes an initial foray into this deeper examination. It analyzes the relationship of the pseudo-Ibn al-Nafīs work, Mūjaz al-Qānūn (The Epitome of the Canon) and the emerging genre of Tibb al-Nabī (Medicine of the Prophet). The chapter makes some initial suggestions regarding how these two texts turned attention away from Ibn al-Nafīs’s new theories and concludes by emphasizing the importance of contextual studies of Islamic science in order to understand the true extent and causes of “the decline of Islamic science.”
CHAPTER 2

IBN AL-NAFĪS: A RATIONAL TRADITIONALIST
OR A TRADITIONAL RATIONALIST?

As we saw in the last chapter, the study of Islamic science has been hampered by certain assumptions regarding the irrationality of “Islam” and “Islamic society.” At the root of these assumptions lies a post-Enlightenment belief in an eternal conflict between reason and revelation. Rather than understanding the emergence of this model within the context of the history of Western science and Western societies, and so questioning its universal validity, historians of Islamic science and philosophy have generally taken this conflict for granted. As a result, their understanding of the interaction between religion and science in Islamic societies has tended to ignore the complex, contextual subtleties and variations. Thus, for example, the emergence of the tradition of Tibb al-Nabī (Medicine of the Prophet) has been regarded incorrectly as a rival tradition to Galenic medicine and as an example of the conflict between reason and revelation.1 Similarly, historians of Islamic philosophy have generally believed that the attempts by the falāsifa—a specific group of philosophers who were committed to a Neoplatonic

Aristotelian cosmological and metaphysical system—to illustrate the harmony between reason and revelation were superficial. Since these historians believe in a perennial conflict between the two, they cannot fathom how any philosopher in the Islamic world could honestly profess a harmony between reason and revelation. As a result, they assume, a priori, that the falāsifa were probably driven to do so publicly under threat of persecution.²

Moreover, even those historians who take these philosophical attempts seriously do so while maintaining a post-Enlightenment attitude that progress in science is only possible when there is a conflict between reason and revelation. Thus, they believe that harmony is only possible if reason submits to religious dogma and is only used “to ‘save the phenomena’ of . . . theocracy.”³ As such, though the attempts by the falāsifa and other groups to reconcile reason and revelation are deemed honest, these historians believe that, by submitting to dogma, conservation came to supersede innovation and, thus, over time, suffocated scientific progress within Islamic societies.⁴

However, if we shelve this assumption and carefully examine these texts within their intellectual and socio-cultural environment, a significantly different and murkier

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picture emerges. This is not to claim that no one in the Islamic world ever rejected revelation and prophecy—Abū Bakr al-Rāzī (lat. Rhazes, d. 925) clearly did, nor does this imply that there were never any religious scholars who saw all forms of reason and rational inquiry as anti-Islamic. Rather, we shall see that there were more options available to medieval Islamic scholars than simply choosing reason over revelation, or vice-versa. Ibn al-Nafīs is an example of a medieval scholar who tries to remain faithful to the sources of reason and revelation in his own unique way. Yet, the subtleties of his arguments for the harmony between these two groups of sources cannot be understood except within the social, political and intellectual context of his time.

2.1 The Socio-Political Context of Thirteenth Century Cairo and Damascus

Ibn al-Nafīs (1210–1287) lived during a time of great socio-political change in the Islamic world. During the previous century, the Islamic world had witnessed its first major political setbacks in the form of the Crusades and the Reconquista. The small Muslim states in Syria and Spain were independent principalities and, as a result, were unable to stop European advances. In Syria, at least, the Muslims had managed to reclaim Jerusalem by the end of the twelfth century and united most of Syria and Egypt under the leadership of Saladin (d. 1193). However, by the turn of the century a new and graver threat to the Islamic world had emerged in the East: the Mongols. Over the course of the next few decades, the Mongols wreaked havoc over the Eastern lands of the Islamic world, culminating in the destruction of Baghdad, the capital of the central "Abbāsid caliphate, in 1258—midway through Ibn al-Nafīs’s career. Their westward

advance was finally stopped in Syria by the new Mamluk Sultanate of Cairo, under the leadership of Sultan al-Ẓāhir Baybars al-Bunduqdārī (d. 1277). As a result, the urban centers of Syria and Egypt survived the Mongol onslaught, whereas the eastern centers were not as fortunate.⁶

The two primary urban, cultural centers of Syria and Egypt were Damascus and Cairo, respectively. Although both were old, established centers of high culture, they were revitalized by a sudden surge of refugees from the Eastern and Western Islamic lands. These refugees included a substantial number of civilian elites, ranging from physicians and philosophers to the ‘ulamā’ (religious scholars) and Ṣūfī mystics. As a result, Cairo and Damascus became the intellectual centers of the Islamic world, bringing a number of rival intellectual and religious groups into close proximity with each other.⁷

This intellectual efflorescence of Cairo and Damascus was only further aided by the peculiarities of the Mamluk sultanate. Since the sultanate was not hereditary, the state was always in the midst of a power struggle amongst the ruling military elite. The unfortunate consequence of ending up on the losing side of such a struggle was that the elite household usually lost its wealth and sources of income. In order to secure their own future, ruling families made use of religious endowments (waqf) that could not be


usurped under Islamic law. As a result, a number of institutions were established in order to secure the monetary future of the ruling family by assigning supervisory posts to members of that family. The most common type of institution that was built was the *madrasa* (school of law). Although the *madrasas* also benefited the population at large, the ones who benefited the most from them were the ‘*ulamā*’ who were appointed to the teaching posts of these institutions and, thus, gained considerable power, prestige and wealth. Other groups of intellectual elites also benefited tremendously. The physicians, for example, were appointed to posts in the endowed hospitals (*bīmāristān*). Šūfī mystics similarly benefited from Šūfī *khāniqāhs* (establishments) and *ribāṭs* (inns for travelers). As a result, the military elites were able to secure strong support amongst the civilian elites and, thus, amongst the masses over whom the civilian elites exerted power. Furthermore, given that these endowments were additional to the vast amounts of intellectual patronage that already existed at the courts of the ruling elite, we see that intellectual activity was heavily funded and esteemed during this period.⁸

One of the major consequences of these endowments was a surge in Sunnī religious scholarship, what has been termed “the victory of the new Sunnī internationalism” by Marshall Hodgson.⁹ During this time, the four legal schools of Sunnī Islam—the Ḥanafī, Mālikī, Shāfī’ī and Ḥanbalī schools—crystallized and triumphed over all other existing schools.¹⁰ There was also a substantial increase in

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scholarship on *hadīth* (traditions of the Prophet), and calls for returning to the *sunna* (custom of the Prophet). The emphasis on the *sunna* was also driven by a conservative group of Sunnī scholars who understood the socio-political turmoil of the period as divine punishment for the general society’s deviations from the *sunna*. Ibn al-Nafīs, himself, proposes society’s deviations from the *sunna* as a reason for the Mongol invasion.\(^\text{11}\) Naturally, given this over-arching paradigm and the close proximity of various religious and intellectual groups, this period witnessed a significant increase in polemical attacks amongst rival groups striving for authority. The group of scholars that bore the brunt of these attacks were the proponents of the “ancient sciences” (*‘ulūm al-awā‘il*), who seemed easy targets because of their transgressions of the *sunna* as well as their rejection of certain traditional religious dogmas. The main attackers were the *hadīth* scholars, who saw themselves as the inheritors of the Prophet’s literal words and intentions, and their primary targets were the *falāsifa* and, at times, those who practiced *kalām* (see below).\(^\text{12}\)


Simultaneous with, and abetted by, this increase in ḥadīth scholarship in the twelfth and thirteenth centuries is an explosion in biographical dictionaries—texts whose primary purpose is to provide biographies of individuals. Since much of ḥadīth scholarship relies primarily on establishing the trustworthiness of individuals found in the chains of transmissions of ḥadīth, biographical dictionaries played a significant role in ḥadīth scholarship and vice-versa. Of course, during the Mamluk period the biographical dictionaries also proliferated because of their importance in establishing and maintaining the status of civilian elite households across generations. Moreover, biographical dictionaries were not merely restricted to the ‘ulamā’. Rather, they increasingly specialized in sub-groups of the ‘ulamā’, e.g. ḥadīth scholars or Shāfī’ī jurists, as well as non religious sub-groups, such as poets and physicians. This increased specialization of biographical dictionaries not only reflects the “progressive intellectual and cultural development of the Islamic community . . .”, but it also illustrates the rise in status and prestige of all these intellectual pursuits.

A stand-out feature of Cairene and Damascene societies was the prevalence of non-Muslim elites. Though by virtue of being non-Muslims they did not have access to elite society via the religious networks of madrasas, they were still able to achieve high

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status through their participation in the secular arts and sciences, especially medicine.\textsuperscript{16} In fact, the disproportionate dominance of non-Muslim physicians led \textit{ḥadīth} scholars to create the genre of \textit{Tibb al-Nabī} (Medicine of the Prophet) in order to encourage more Muslims to take up medicine. The problem, as \textit{ḥadīth} scholars saw it, was that non-Muslim physicians were prone to prescribing alcohol and other illegal substances as medications. Moreover, they also subscribed to a philosophical world-view that was in direct conflict with a traditional religious paradigm. The \textit{ḥadīth} scholars were also wary of the increasing number of quacks, some of whom were at times affiliated with Ṣūfī saint shrines. As a result, they sought to appropriate Galenic medicine by combining it with traditions of the Prophet, in order to bring medical practice in line with Islamic law and conservative dogma.\textsuperscript{17} Nonetheless, the \textit{ḥadīth} scholars’ accommodation of a branch of the ancient rational sciences, medicine, does not imply that they warmly welcomed all rational sciences. In fact, they were quite averse to some, especially falsafa and, at times, \textit{kālim}.

Traditionally, the discipline of \textit{kālim} (\textit{ṭilm al-kālim}) has been rendered into English as “theology” or “speculative theology,” whereas falsafa has been translated as “philosophy.” Though the primary aim of \textit{kālim} is theological,\textsuperscript{18} it “does, strictly speaking, differ from theology . . . [in that] its subject matter . . . includes several topics, for example logic, epistemology, cosmology, and anthropology which properly belong to

\begin{itemize}
  \item[\textsuperscript{17}] See Perho, \textit{The Prophet’s Medicine}.
\end{itemize}
philosophy.” Falsafa, on the other hand, does not refer to “philosophy” broadly speaking, but rather to “a body of doctrine and a style of thought that was dominated by a Neoplatonized Aristotelianism carried over from Aristotle’s late Greek commentators.”

Moreover, theological topics (ilāhiyyāt) were explicitly discussed by the falsāifa in their texts and formed a significant part of their system. Hence, the falsāifa and the mutakallimūn (practitioners of kalām) are best seen as “intellectual rivals” competing for the right to claim the space for rational discourse on religion within Islamic societies. The other kind of religious discourse that prevailed in Islamic societies is best described as traditional—one that upheld the unequivocal authority of traditional sources, in particular, the Qurʾān and the ḥadīth.

According to Binyamin Abrahamov, the “principal theological struggle” in Islamic societies was between the rationally-oriented kalām, and to a lesser extent falsafa, discourses on religion and the scriptural based traditional religious discourses of the ḥadīth and legal scholars. He illustrates the variegated nature of this struggle using the analogy of a spectrum: at one end lie the most conservative ḥadīth scholars who reject all


21 Dhanani, The Physical Theory of Kalam, p. 3.

22 In fact, Sabra has even gone as far as suggesting that the falsāifa and the mutakallimūn are best seen as rivals in developing a comprehensive philosophical world-view; see his, “Science and Philosophy in Medieval Islamic Theology,” pp. 11–12. Ahmad Dallal has recently rebutted Sabra’s claims that kalām represented a complete philosophical system to rival that of the falsāifa; see his, “The Adjustment of Science,” Bulletin of the Royal Institute of Inter-Faith Studies 4 (2002): 97–107, p. 101. Earlier, Richard Frank had made a similar point to that of Dallal regarding the universality of kalām versus that of traditional philosophy; see his, “The Science of Kalām,” p. 16.

forms of rational arguments in religion; at the other end, we may place the falāṣifa since they were a group of thinkers who, in religious arguments, were first and foremost committed to upholding a Neoplatonic Aristotelian metaphysical and cosmological system. This does not mean that the falāṣifa entirely rejected revelation, for, as we shall see in the next chapter, they were committed to defending the general authority of revelation, as well as certain specific religious dogmas. However, the falāṣifa were not that interested in defending literal readings of scripture and, for the most part, rejected ḥadīth outright. The various groups of kalām scholars fall towards the rational end of the spectrum, with the Muʿtazilīs being closer to the falāṣifa than the Ashʿarīs, based on the latter group’s privileging of the literal readings of scripture and the ḥadīth.24 Jurists and legal theorists fall closer to the end of the ḥadīth scholars as they recognize the authority of ḥadīth and downplay the role of rational speculation. Throughout this dissertation, the term traditionalist will refer to those religious scholars who accept the validity of ḥadīth in theological discourse. The ḥadīth scholars or traditionists are the most conservative sub-group within this larger group of traditionalists as they were historically most averse to the use of rational arguments in all forms of religious discourse.25

As a physician and a Shāfīʿī jurist, Ibn al-Nafīs was clearly a member of the civilian elite class. Thus, he was at the center of polemical arguments within, and

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24 See Abrahamov, Islamic Theology. The most famous example of the Ashʿarī reliance on literal readings is their famous doctrine of bilā kayf (without asking how) with regards to anthropomorphism. Though they reject anthropomorphism, they also refuse to indulge in taʿwil (figurative interpretation) of those verses and advocate adhering to the literal text bilā kayf; see The Encyclopaedia of Islam, New edition (Leiden: E. J. Brill, 1954–2003), s.vv., “ilm al-kalām” (by L. Gardet) and “Ashʿariyya” (by W. Montgomery Watt). Henceforth, EI².

life in the aftermath of the great socio-political turmoil of the twelfth and thirteenth centuries. While Ibn al-Nafis’s training as a physician would have brought him into touch with falsafa and the other Greek sciences, his training as a jurist would have firmly grounded in him traditionalist values and concerns. As such, Ibn al-Nafis’s intellectual life brings together the religious sciences and the “ancient sciences” into one mind. An analysis of his life and works thus opens up new avenues of research into the relationship between reason and revelation during this fertile period.

2.2 Problems in Reconstructing the Life of Ibn al-Nafis

Unfortunately, we know very little about the life of Ibn al-Nafis since, apart from his own works, no extant contemporary source mentions him. This silence is most conspicuous in Ibn Abi Uṣaybi’a’s (d. 1270) biographical dictionary of physicians, and in the biographies of the Mamluk Sultan, al-Zahir Baybars al-Bunduqdārī (d. 1277), since Ibn al-Nafis has been claimed to be a personal physician to the Sultan (see below). Ibn Abi Uṣaybi’a’s omission is striking because later biographical dictionaries unanimously maintain that Ibn al-Nafis studied medicine under Muhadhdhib al-Dīn al-Dakhwār (d. 1230), who was also the teacher of Ibn Abi Uṣaybi’a. Moreover, while Ibn al-Nafis was still at Damascus, one of his students was Abu ’l-Faraj Amīn al-Dawla al-Karakī (d.


1286) who had earlier studied under Ibn Abī Uṣaybi’a as well. Thus, there is no doubt that Ibn Abī Uṣaybi’a would have been aware of Ibn al-Nafīs and his skills as a physician and medical writer, and given that Ibn Abī Uṣaybi’a devotes the last part of his work to contemporary renowned physicians, Ibn al-Nafīs’s omission is clearly noteworthy. Whatever the reason may be for this omission, judging from Ibn Abī Uṣaybi’a’s other entries, e.g. his long entry on al-Dakhwār, we are certainly worse off for having no recourse to a similar entry on Ibn al-Nafīs.

Similarly, later biographical entries claim that Ibn al-Nafīs was appointed the Chief Physician of Egypt. Given that this office was usually assigned on the basis of an official governmental decree, Schacht and Meyerhof argue that Ibn al-Nafīs was quite possibly appointed by Sultan Baybars himself—especially since, based on the vivid and accurate description of Baybars in one of Ibn al-Nafīs’s texts, they conclude that he was the “personal physician of Baybars.” However, no surviving biographies of Baybars link Ibn al-Nafīs to him and, as a result, they cannot provide us with any information on


29  Schacht and Meyerhof claim that this “strange silence must be the result of personal enmity or professional jealousy or both.” They also show that the one surviving manuscript of Ibn Abī Uṣaybi’a’s work that has an additional section on Ibn al-Nafīs is a much later addition (*Theologus*, p. 10). Moreover, they claim that the fact that Ibn Abī Uṣaybi’a is incorrectly cited as a source of information about Ibn al-Nafīs in two manuscripts of al-Umarī’s biography illustrates that medieval biographers of Ibn al-Nafīs also found Ibn Abī Uṣaybi’a’s omission puzzling (p. 12). A recent dissertation on Ibn Abī Uṣaybi’a concurs with Schacht and Meyerhof’s judgment that professional envy was the reason for Ibn al-Nafīs’s exclusion; see Franak Hilloowala, “An Analysis of Ibn Abī Uṣaybi’a’s ‘Ūyūn al-anbā’ fi ṭabaqāt al-aṭibbā’” (PhD Diss., University of Arizona, 2000), p. 90.


31  *Theologus*, pp. 18–19.
the life of Ibn al-Nafīs himself. Thus, for the earliest sources on the life of Ibn al-Nafīs we have to turn to later biographical dictionaries written during the fourteenth century.\footnote{For a list of texts that contain notices on Ibn al-Nafīs, see *Theologus*, pp. 10–22.}

One of the glaring problems with these entries is that they give us almost no insight into the course of his life. Thus, the two long, approximately identical, entries of Ibn Faḍl al-ʿUmarī (d. 1349) and Khalīl al-Ṣafadī (d. 1363) refer to much anecdotal information about his manners and customs, but barely provide any details regarding his schooling in the various sciences, his patrons, and other relevant biographical material.\footnote{The entries of al-ʿUmarī and al-Ṣafadī are almost identical. Schacht and Meyerhof provide the Arabic text and translation of al-Ṣafadī’s entry in *Theologus*, pp. 12–17, 143–146. Zaydān provides the Arabic text of al-ʿUmarī’s entry in full in his *ʿAlaʿ al-Dīn*, pp. 39–45.}

For example, we are informed that he grew up in Damascus and that he “built himself a house in Cairo” and died there, but they provide us with no information regarding when or why he moved from Damascus to Cairo. On the other hand, there are a number of anecdotes that inform us about his outstanding productivity and mastery over various sciences.\footnote{*Theologus*, pp. 12–16.} Similarly, we are informed that he was attached to the Mansūrī Hospital in Cairo and that he also taught religious law at the Masrūriyya madrasa (school of law) in Cairo, but once again we do not know when he was appointed to the madrasa or for how long he held this position. Moreover, we do not even know why he came to be known by the sobriquet, Ibn al-Nafīs. This question is pertinent in light of the fact that all manuscripts of his works from the thirteenth and early fourteenth centuries refer to him as
merely, ‘Alā’ al-Dīn Abu ’l-‘Alā’ ‘Alī ibn Abī ’l-Ḥaram al-Qarashī. Yet, all the biographical entries state that he was known as Ibn al-Nafīs.\(^{35}\)

Nonetheless, there is still much that we can extract from these entries. One way is to collate the anecdotal information in these entries with Ibn al-Nafīs’s own writings. For example, by consulting the works of Ibn al-Nafīs, Schacht and Meyerhof concur with the biographies that claim that Ibn al-Nafīs was indeed a profuse writer and that he did indeed write from memory.\(^{36}\) Similarly, we know that he was well trained in the religious, philosophical and medical sciences because the anecdotes refer to his mastery over these subjects and his surviving works attest to that as well. In fact, we can go a step further. That is, by paying close attention to how and by whom he is remembered, and by checking that against Ibn al-Nafīs’s own works, we can firmly ground Ibn al-Nafīs’s own philosophical and religious commitments. This, in turn, should provide us with some insights into the reasons behind Ibn al-Nafīs’s departures from religious (this chapter and chapter 3), philosophical (chapter 3) and medical traditions (chapter 4). Moreover, such an analysis will also provide us with an opportunity to perceive the changes that were taking place in the intellectual scenery of thirteenth and fourteenth century Egypt.

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\(^{35}\) The biographical entries also list him as Abī ’l-Hazm and not Abī ’l-Haram; see, *Theologus*, pp. 75; and Zaydan, ‘Ala’ al-Dīn, pp. 30–32, 62. Zaydan argues that the name, “Ibn al-Nafīs,” was incorrectly assigned to Ibn al-Nafīs after his death. However, the manuscript of a commentary on the *Canon of Medicine* of Ibn Sīnā by a contemporary called, Qutb al-Dīn al-Shīrāzī (1236–1311), refers to Ibn al-Nafīs as “Ibn al-Nafīs,” as well as “Abī ’l-Hazm”; see A. Z. Iskandar, *A Catalogue of Arabic Manuscripts of Medicine and Science In the Wellcome Historical Medical Library* (London: Wellcome Historical Medical Library, 1967), p. 45. Iskandar, however, does not provide the date for this manuscript of al-Shīrāzī.

\(^{36}\) *Theologus*, p. 17, 22; and *EJ*, s.v. “Ibn al-Nafīs.”
2.3 **Ibn al-Nafīs: A Traditionalist-Philosopher-Physician?**

Ibn al-Nafīs’s participation in religious circles stands out in all the biographical discussions. He is claimed by the Shāfi‘ī legal scholars, who include him in their biographical dictionaries. For example, Tāj al-Dīn al-Subkī (d. 1370) not only includes Ibn al-Nafīs among the Shāfi‘ī scholars but he even claims that he composed a commentary on the *Tanbih* of Abū Ḫāq al-Shīrāzī (d. 1083)—a “well-known treatise of religious law, according to the Shāfi‘ī school.” Similarly, even the more secular biographical dictionaries of al-Ṣafadī and al-ʿUmarī maintain that he explained the *Tanbih* to students. His mastery over law is also highlighted by Jalāl al-Dīn al-Suyūṭī (d. 1505), even though al-Suyūṭī includes Ibn al-Nafīs in a section on the representatives of “the ancient sciences” (ʿulūm al-awā’il) and not in his section on Shāfi‘ī scholars. Moreover, al-ʿUmarī and al-Ṣafadī maintain that Ibn al-Nafīs held a teaching position at

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39 *Theologus*, pp. 13–14. I am using the term “secular biographical dictionary” to refer to the works of those scholars who were not part of the traditionalist movement, i.e. they did not have an overt and strong traditionalist agenda in writing their dictionaries. However, as we shall see below, this does not mean that al-ʿUmarī and al-Ṣafadī were not interested in religious issues or concerned with medieval discussions on the harmony between reason and revelation. I would like to thank Prof. Wadad Qadi for bringing this to my attention.

the Masrūriyya madrasa, though curiously this is not mentioned in the biographical dictionaries of Shāfiʿī scholars.  

In addition to his being described as a jurist, he is also commended for his adherence to religious strictures and overall piety in two concrete ways. First, al-ʿUmarī and al-Ṣafadī both preserve an anecdote related to his last illness that portrays him as a strict observer of religious laws. Thus, according to the anecdote, when Ibn al-Nafīs is advised to drink some wine in the likelihood that it may cure him, he refuses by saying, “I will not meet God, the Most High, with any wine in me.” His portrayal as a physician who refused wine, even for curative purposes, would have been extremely important for the religious scholars, for it allowed them to claim him as they attempted to reconcile revealed knowledge with medicine in the emerging genre of Tibb al-Nabī (Medicine of the Prophet). Moreover, this anecdote would have also shielded Ibn al-Nafīs from the rebuke of religious scholars who believed that those who participated in philosophical discussions and the ancient sciences turned away from prescribed religious duties, specifically “religious rites pertaining to the . . . avoidance of prohibited things.” Of course, Ibn al-Nafīs’s own characterization of the Mongol invasion as a God-sent recompense for the increase in sinful activities in the Muslim community (especially drinking), reinforces his image as a God-fearing, sunna-abiding Muslim.

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42 Theologus, p. 145; and Zaydan, ʿAlaʾ al-Dīn, p. 41.


45 Theologus, pp. 98–100.
Second, al-ʿUmarī and al-Ṣafaḍī both preserve a description of Ibn al-Nafīs’s *Risālat Fādil ibn Nāṭiq* (The Book of Fādil ibn Nāṭiq), in which the book is correctly described as defending “the system of Islam and the Muslims’ doctrines on the missions of Prophets, the religious laws, *the resurrection of the body*, and the transitoriness of the world.”  

Although Ibn al-Nafīs’s book is mistakenly taken to be a response to the work of Ibn Sīnā (lat. *Avicenna*, d. 1037), the connection would have been significant for medieval readers. For, Ibn Sīnā was known to have postulated a spiritual resurrection on the basis of rational arguments and was attacked for doing so by al-Ghazālī (lat. *Algazel*, d. 1111) in his *Incoherence of the Philosophers*. Yet, al-Ghazālī never offered a rational defense for bodily resurrection himself. Thus, Ibn al-Nafīs’s rational arguments for bodily resurrection would have been seen as exemplifying the proper use of reason and the harmony between reason and revelation. That is why the biographical dictionaries assign “excessive intelligence” and “a skillful intellect” to Ibn al-Nafīs and document his participation in the religious sciences, e.g. *ḥadīth* (traditions) and *fiqh* (jurisprudence), and the ancient sciences, e.g. *マンチック* (logic), in the same breath. As a result, Ibn al-Nafīs emerges as an Ibn Sīnā that even *ḥadīth* scholars could accept, though not Ibn Sīnā the metaphysician, but Ibn Sīnā the physician.

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46 Ibid., p. 14, my emphasis; and Zaydan, ʿAlaʾ al-Dīn, p. 42.


48 For more on this see chapter 3.

Ibn al-Nafīs’s mastery over medicine is repeatedly emphasized by all of his biographers. A number of his medical works are listed by al-ʿUmarī and al-Ṣafadī along with the fact that they are multi-volume works, in order to stress his proficiency in medicine. In fact, they also refer to the long commentaries he wrote on Ibn Sīnā’s medical works. The biographies of traditionalist scholars emphasize the fact that one of his texts, al-Shāmil fī ’l-Ṭibb (The Comprehensive Book on Medicine), was scheduled to be completed in 300 volumes but fair copies were made of only 80 of them. Given that they also maintain that he wrote from memory, Ibn al-Nafīs’s mastery over medicine evokes considerable admiration, especially since Ibn Sīnā proclaimed that he knew all there was to know about medicine and yet his Canon is much smaller in size than this massive work of Ibn al-Nafīs.

The attempts to compare Ibn al-Nafīs and Ibn Sīnā as physicians, even to the point of elevating the former over the latter, are quite explicit. For example, al-ʿUmarī and al-Ṣafadī record that he was known as “the second Ibn Sīnā.” Similarly, just after referring to Ibn al-Nafīs’s al-Shāmil fī ’l-Ṭibb, al-Subkī states:

As for medicine, there has never been anyone on this earth like [Ibn al-Nafīs]. Some say that after Ibn Sīnā there has never been one like [Ibn al-Nafīs], while some say that he was better than Ibn Sīnā in practical treatment.

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50 Theologus, pp. 12, 15; and Zaydan, ‘Ala’ al-Din, pp. 40, 44.


53 Zaydan, ‘Ala’ al-Din, p. 44; and Theologus, p. 15.

In a similar vein, Ibn Taghrībirdī (d. 1469) claims that “during [Ibn al-Nafīs’s] time there was no one that could compare to him in medicine—practical [‘īlāj] or theoretical [‘ilm].”\(^{55}\) Al-Dhahabī (d. 1348) and al-Isnawī (d. 1370), likewise, maintain that he was unsurpassed in medicine during his lifetime and unparalleled in his preparation of medicinal treatments (\textit{istihḍāran}) and medical inferences (\textit{istinbātan}).\(^{56}\) His ability to infer logically and the claims of his superiority over Ibn Sīnā are also combined in an unknown biography of Ibn al-Nafīs that is preserved by al-‘Umarī and al-Ṣafadī:

He wrote a commentary on the \textit{Qānūn} in twenty volumes, in which he elucidated the scientific problems, pointed out the logical conclusions, and explained the medical difficulties.\(^{57}\)

The authority of Ibn al-Nafīs, in comparison to that of Ibn Sīnā, is further stressed in two important ways. First, while referring to his commentary on the entire \textit{Canon} of Ibn Sīnā, al-‘Umarī and al-Ṣafadī add that it was through Ibn al-Nafīs’s referral to the \textit{Canon} that the people (\textit{al-nās}) were led to reading that book.\(^{58}\) Thus, Ibn al-Nafīs is presented as bestowing respect upon Ibn Sīnā the physician, and so being in an elevated and authoritative position. Second, the conservative traditionalists, e.g. al-Dhahabī, Ibn Kathīr and al-Suyūṭī, present him as the Chief Physician of Egypt.\(^{59}\) This title is not to be


\(^{57}\) \textit{Theologus}, p. 15; and Zaydan, ‘\textit{Ala’ al-Dīn}, p. 44.

\(^{58}\) \textit{Theologus}, p. 16; and Zaydan, ‘\textit{Ala’ al-Dīn}, p. 44.

found in the early biographies of al-ʿUmarī or al-Ṣafadī, even though within their entries on Ibn al-Nafīs they use the exact same title to refer to another physician who used to be present in the gatherings (majālis) at Ibn al-Nafīs’s house.⁶⁰ As mentioned above, since this was an official post and because we do not have any other records that refer to Ibn al-Nafīs by this title, including his own texts, or those of his students or contemporaries, one may conjecture that al-Dhahabī first assigned this title to Ibn al-Nafīs to ground his authority firmly and to complete his comparison between Ibn al-Nafīs and the shaykh al-raʾīs, Ibn Sīnā. All in all, there is no doubt that the biographies, specifically those of the traditionalist scholars, portray Ibn al-Nafīs as a physician of equal, if not greater merit than Ibn Sīnā. Additionally, they also present Ibn al-Nafīs as a devout, orthodox Muslim: first, by emphasizing his religiosity (see above) and, second, by passing over his commitment to falsafa.

Not a single biographical entry on Ibn al-Nafīs uses the term falsafa while documenting his intellectual pursuits.⁶¹ This absence is noteworthy because, as we shall see in the next chapter, Ibn al-Nafīs was well-read in falsafa. In fact, both, al-ʿUmarī and al-Ṣafadī, record his familiarity with Ibn Sīnā’s Shifāʾ—the great compendium of falsafa.⁶² Yet, when describing Ibn al-Nafīs’s participation in the various sciences, the conservative traditionalists prefer the milder term mantiq (logic) to falsafa.⁶³ This choice

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⁶⁰ Theologus, p. 16; and Zaydan, ‘Ala’ al-Din, p. 44.

⁶¹ In a similar vein, his knowledge of kalām (speculative theology) is also never stated in the biographies. This is striking because Ibn al-Nafīs was well-versed in kalām and makes a number of references to kalām scholars and their views in his works (see below).

⁶² Theologus, p. 15; and Zaydan, ‘Ala’ al-Din, p. 43.

is understandable given that during the thirteenth and fourteenth centuries there was a growing concern over falsafa’s “potential to . . . threaten the afterlife of the believer.” As a result, it was considered suspicious. Yet, al-Dhahabī—a conservative hadīth scholar upon whom subsequent traditionalist biographers rely—makes the effort to use the milder term “logic” only in the case of Ibn al-Nafīs. Indeed, by contrast, he documents clearly and explicitly the participation of Ibn Sīnā, al-Ghazālī and Fakhr al-Dīn al-Rāzī in falsafa, kalām and related sciences. Moreover, in each case he correlates falsafa with a turning away from the sunna and hadīth. Thus, in the case of al-Rāzī, al-Dhahabī links his “deviation from the sunna” (inhīrāfāt ‘an sunna) to his following the path of the falāsifa. In his entry on al-Ghazālī, after summarizing his autobiography, al-Dhahabī proceeds to caution the reader against meddling in falsafa and excess Śūfism and refers to the propensity of al-Ghazālī to include false hadīth in his texts. Above all, towards the end of his entry on Ibn Sīnā, al-Dhahabī states:

I have buttressed in my Ta’rīkh al-Islām that which I have summarized [here], e.g. that he was the leader of the Islamic falāsifa. After al-Fārābī, there has never been anyone like him and, for [the sake of] Islam and the sunna, thank God for that!

Thus, it is clear that al-Dhahabī downplays Ibn al-Nafīs’s training in, and commitment to, falsafa intentionally.

66 Ibid., vol. 21, p. 501.
68 Ibid., vol. 18, p. 535. Al-Dhahabī also goes on to mention that al-Ghazālī declared Ibn Sīnā a kāfir (heretic).
Along with other biographers, al-Dhahabī presents Ibn al-Nafīs as an intelligent, rational, yet strict observant Muslim physician who sticks closely to the *ḥadīth* and the *sunna* of the Prophet. To be fair, such a characterization may not be too far off the mark, for we have already noted that Ibn al-Nafīs wrote an entire treatise defending orthodox religious practices and beliefs (see above and also chapter 3). Furthermore, he also wrote an entire treatise on the sciences of *ḥadīth* (*‘ulūm al-ḥadīth*), *Mukhtasar fī ‘ilm usūl al-ḥadīth* (A Short Summary on the Science of Principles of *Ḥadīth*).\(^69\) Therefore, Ibn al-Nafīs certainly lends himself to being claimed as a traditionalist. Moreover, since the more rationally oriented theologians, whether they be the *falāsifa* or the Mu‘tazilī *mutakallimūn*, were prone to rejecting *ḥadīth* and/or dealing with them poorly, as Binyamin Abrahamov has argued elsewhere, Ibn al-Nafīs’s simultaneous adherence to *ḥadīth* and philosophical precepts would sit uncomfortably with traditionalists and *ḥadīth* scholars.\(^70\) Hence, al-Dhahabī soothes the dissonance by sliding over Ibn al-Nafīs’s commitment to *falsafa* while emphasizing his traditionalist leanings. Thus, as noted above, he emphasizes Ibn al-Nafīs’s gift to write from memory—a gift highly valued by *ḥadīth* scholars and other traditionalists. He also reports on Ibn al-Nafīs on the authority of “the Imam Abū Hayyān al-Andalūsī,”\(^71\) who is listed by later scholars as a *ḥāfīz*\(^72\) (pl. *ḥuffāz*) himself, and one on whose authority the most important religious scholars and

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\(^{70}\) See Abrahamov, *Islamic Theology*.

\(^{71}\) al-Dhahabī, *Ta’rikh*, vol. 51, p. 312.

\(^{72}\) *Ḥāfīz* is the term used “to distinguish the truly exceptional and indispensable men of learning from the thousands of trustworthy transmitters” of *ḥadīth*. It is seen by *ḥadīth* scholars as “an unambiguous stamp of religious authority . . .”; Lucas, *Constructive Critics*, p. 376.
And since a great traditionalist like Abū Hayyān studied under Ibn al-Nafīs and spoke highly of him, in the eyes of al-Dhahabī, Ibn al-Nafīs must be a strict follower of the sunna.

Nevertheless, al-Dhahabī does not entirely claim Ibn al-Nafīs as one of the ahl al-hadīth, i.e. a person who is an authority in the science of hadīth and on whose authority hadīth may be reliably transmitted. For example, neither al-Dhahabī nor any other biographer ever lists the hadīth scholars under whom Ibn al-Nafīs studied. Moreover, they do not even mention when or under whom Ibn al-Nafīs studied the canonical collections of hadīth. Similarly, the specifically Shāfiʿī scholars never mention the names of Ibn al-Nafīs’s Shāfiʿī teachers. Additionally, though al-Dhahabī and others mention that Ibn al-Nafīs wrote a text on the sciences of hadīth, they never cite the name of the book nor do they mention the fact that it is a brief summary. In fact, the only additional information about this text comes from the entries in al-ʿUmarī and al-ṣafadī where they cite the ḥāfīz Abū Hayyān as having said that, “[Ibn al-Nafīs] also wrote on the principles of jurisprudence [usūl al-fiqh] and on applied law [fīqh], on Arabic languages, traditions [hadīth], rhetoric and other subjects; but in these sciences he did not stand in the front rank, he only took part in them.”74 This off-hand judgment in fact provides an interesting insight into the delicate relationship between Ibn al-Nafīs and his traditionalist biographers. For, regardless of the validity of Abū Hayyān’s judgment, there is clearly something about Ibn al-Nafīs’s text on hadīth that did not sit well with the hadīth

73 See, for example, Ibn Qadi Shuhba, Tabaqat, vol. 3, pp. 88–89, 91–92.

74 Theologus, p. 13; and Zaydan, ʿAlaʿ al-Dīn, p. 41, my emphasis.
scholars and other traditionalists, forcing them to distance themselves from Ibn al-Nafīs’s views on ḥadīth.

In what follows, I shall carefully compare Ibn al-Nafīs’s text on ḥadīth with the treatise that was, and still is, considered the unsurpassed classic in this field, in order to illustrate why Ibn al-Nafīs could not be unreservedly accepted by traditionalists as a ḥadīth scholar. Nonetheless, in the process we shall also see that Ibn al-Nafīs was deeply committed to certain core principles of the sciences of ḥadīth. Consequently, in light of these commitments, we will be able to improve our understanding of Ibn al-Nafīs’s larger project in his philosophical/theological fable, Risālat Fādil ibn Nāṭiq (chapter 3).

2.4 The Place of Reason in the Study of ḥadīth

The discipline known as ʿulūm al-ḥadīth (sciences of ḥadīth), which deals with the classification of the disciplines of ḥadīth, goes back to the time of the first canonical collections. The Ṣaḥīḥ (Sound ḥadīth) of Muslim b. al-Ḥajjāj (d. 874) contains an introduction that is seen as the first treatise on this topic.⁷⁵ Though there were a few significant works on this topic between the time of Muslim and the thirteenth century, the treatise on uṣūl al-ḥadīth by the Shāfiʿī scholar Ibn al-Ṣalāḥ al-Shahrazūrī (d. 1245), known as the Muqaddima of Ibn al-Ṣalāḥ, “eclipsed all previous efforts toward the classification of the ḥadīth disciplines, [and] has remained unsurpassed, and enormously

influential, in the field to this day.” Its emergence as “the ‘canonical’ work of Sunnī hadīth disciplines” can be gleaned from the fact that there were “seventeen abridgements of, commentaries on and supplements to” this work in the following two centuries alone. On the other hand, Ibn al-Nafīs’s text, though written within a few decades of the Muqaddima, did not have any influence on later scholars and, as we noted above, is not even named by subsequent traditionalists. Although explaining why Ibn al-Ṣalāḥ exerted such influence over subsequent traditionalists is beyond the scope of this dissertation, nevertheless, if we take that as a fact then we can illustrate why embracing Ibn al-Nafīs’s treatise would have proven to be problematic for those same scholars.

Ibn al-Ṣalāḥ begins his treatise by praising the science of ḥadīth as the best of all sciences and the most beneficial of all the arts. He proceeds to elevate it above fiqh (applied law), claiming that those involved with fiqh have to engage with the ḥadīth sciences in order to pick out mistakes within fiqh writings. He then states that he has collected in this book “the knowledge of the disciplines of the science of ḥadīth” and revealed its secrets, established its rules and explained its principles, among other issues. The introduction ends with a list of all the chapters, referred to as anwāʾ (disciplines). These chapters have been neatly grouped into the following disciplinary categories by Scott Lucas: a. grades of ḥadīth; b. types of ḥadīth according to isnād

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76 Lucas, Constructive Critics, p. 27.
77 Ibid., p. 28; and Ibn al-Ṣalāḥ, Muqaddimat Ibn al-Ṣalāḥ, ed. ‘A’isha bint al-Shati’ (Cairo: Dar al-Ma’ārif, 1990), pp. 52–62.
78 Ibn al-Salah, Muqaddima, p. 145.
79 Ibid., p. 145.
80 Ibid., p. 146.
(chains of transmission); c. types of hadīth according to matn (content) and/or isnād; d. arts and techniques of hadīth transmission; e. isnād criticism, known as ‘ilm al-rijāl.\textsuperscript{81}

The introduction of Ibn al-Nafis’s text, on the other hand, has an entirely different feel. Rather than merely praising the science of hadīth as an important science and one that stands before and above fiqh, Ibn al-Nafis actually proceeds to provide a classification scheme of the sciences that rationally places hadīth over fiqh.\textsuperscript{82} First, he begins by classifying all the sciences into two categories: sam‘iyya (transmitted sciences) and ‘aqliyya (rational sciences), stating that the former differ from the latter in that they use in their arguments (hujjaj) premises transmitted authoritatively along with rational premises, whereas the rational sciences only use rational premises.\textsuperscript{83} He then divides the transmitted sciences into those that take their premises from authorities whose veracity is established, i.e. God, His messenger and the consensus of the community, and those whose transmitted premises are not necessarily true. The former sciences are called the religious sciences (‘ulūm al-shar‘iyya) while the rest are known as the literary sciences (‘ulūm al-adabiyya).\textsuperscript{84}

Next, he proceeds to classify the various literary and religious sciences in a coherent, logical order. Thus, for the literary sciences he begins with a distinction between individual words and compound words, and the ways in which the different

\textsuperscript{81} Ibid., pp. 147–150; and Lucas, \textit{Constructive Critics}, pp. 29–33.

\textsuperscript{82} Ibn al-Nafis, \textit{Mukhtasar}, pp. 95–98.

\textsuperscript{83} Ibid., p. 95.

\textsuperscript{84} Ibid., p. 95.
sciences analyze them to classify the sciences of rhetoric, grammar, prosody, etc.\textsuperscript{85} For the religious sciences, he begins by distinguishing between those sciences that deal with practical applications (\textit{fiqh}) and those that do not. In the latter case, he further subdivides them into whether they deal with the meaning of the texts or not, and also according to whether the text is of God or His messenger. Within this context, he refers to the science of the meaning of \textit{hadīth} as the science that deals with the meanings of the words of the Prophet, and the rest of the sciences of \textit{hadīth} as those that deal with verifying that the transmissions are indeed reliably related on the authority of the Prophet.\textsuperscript{86} The purpose of Ibn al-Nafis’s book, as that of Ibn al-Ṣalāḥ’s to an extent, is to introduce the reader to these last categories of sciences/disciplines and their principles.

Ibn al-Nafis concludes this introductory section by establishing a hierarchical system within these religious sciences:

The science of \textit{kalām} is concerned with the essence of God and the attributes [\textit{sifāt}] attributed to him and the like. For that reason it is the most honorable of these sciences. After it come those that are concerned with the words of God, such as the science of recitation and exegesis [\textit{tafsīr}]. After these come those that are concerned with the words of the Prophet, his actions and his decisions, and these are the sciences of \textit{hadīth}, which share with the science of the principles of jurisprudence [\textit{‘ilm usūl al-fiqh}], and similarly with the science of legal disputation [\textit{‘ilm al-jadal al-fiqhī}], their examination of these things.

However, the \textit{hadīth} scholar [\textit{muḥaddith}] examines these things in order to establish the soundness of the \textit{hadīth} transmission or to understand the meaning of the [transmitted] sayings. In the meantime, the legal theorist [\textit{al-usūlī}] examines them to elucidate how to extract legal issues from them, while the disputant [\textit{al-jadalī}] examines them to elucidate how to use them to maintain the opinion of a [particular] legist [\textit{mujtahid}]. For that reason, these sciences are close in dignity, but the science of \textit{hadīth} is nobler because it strives to get to the essence of these things [i.e. the words, actions and deeds of the Prophet] and the reports [about

\textsuperscript{85} Ibid., pp. 95–96.

\textsuperscript{86} Ibid., p. 96.
them], as opposed to the legal theorist and the disputant who only examine these things in order to elucidate how to use them for other things. . . .

[Moreover,] the [science] of the principles of jurisprudence, the [science] of disputation, and fiqh only use the words, actions and decisions of the Prophet after the science of hadīth has established their soundness. Thus, all these sciences are in need of this science. Hence, the science of hadīth is nobler than them on this account as well.87

Although the conclusions of Ibn al-Nafīs and Ibn al-Ṣalāḥ are identical, there is a considerable difference in the manner in which they arrive at their conclusions that illuminates their latent commitments. Ibn al-Nafīs’s text resembles a philosophical treatise on the classification of sciences, with its reasoned arguments and logical ordering scheme,88 whereas Ibn al-Ṣalāḥ’s text is merely a pious defense of the virtues of the hadīth sciences. Hence, whereas Ibn al-Ṣalāḥ merely asserts the superiority of hadīth to fiqh, Ibn al-Nafīs seeks to demonstrate it rationally.

It is also important to note the central role that reason plays for Ibn al-Nafīs even in the religious sciences. Religious sciences are based on rational and authoritative premises together, and not the latter alone. It is indeed worthwhile to compare this definition of the transmitted sciences (sam‘iyya) from Ibn al-Nafīs, to one offered by the famous historian, Ibn Khaldūn (d. 1382) in his Muqaddima:

It should be known that the sciences . . . are of two kinds: one that is natural to man and to which he is guided by his own ability to think, and a traditional kind that he learns from those who invented it. . . . The second kind comprises the traditional, conventional sciences. All of them depend upon information based on the authority of the given religious law. There is no place for the intellect in them,

87 Ibid., pp. 96–98.

save that the intellect may be used in connection with them to relate problems of detail with basic principles.\textsuperscript{89}

Thus, we see that Ibn al-Nafīs is certainly placing a heavier emphasis on the role of reason in religious sciences than was commonly accepted by his contemporaries and successors.

This persistent appeal to reason and rational argumentation is characteristic of Ibn al-Nafīs’s entire tract and has no counterpart in Ibn al-Ṣalāḥ’s treatise. For example, immediately after the short introduction, Ibn al-Ṣalāḥ proceeds to explain the three broad categories of ḥadīth: šaḥīḥ (sound), ḥasan (good) and ḍaʿīf (weak). Ibn al-Nafīs, on the other hand, follows up the introduction with another section on classifying the various kinds of reports (akhbār, sing. khabar) into four logical categories: a. decidedly true (maʿlūm al-ṣidq); b. decidedly false (maʿlūm al-kadhb); c. probably true (yuẓannu bihi ‘l-ṣidq); d. probably false (yuẓannu bihi ‘l-kadhb).\textsuperscript{90} Moreover, within this classification scheme, reason plays a major role in judging the veracity or falsity of a report:

As for the report whose truthfulness is certain but not on account of the veracity of the reporter, [it is of the following types]: it may be congruous to a report known to be true. For example, if one reports something that is in agreement with a report of God, or the Prophet, or is something that [all] Muslims agree upon. . . . Likewise, what is reported may be known to be true on account of its agreement with fact. The knowledge of that may be self-evident, for example if it is said that two is half of four, or that the whole is greater than the parts. Or it may not be self-evident, for example when one says that since we have a creator, the world must be created. As for the report that is known to be false, it may be due to knowing the truth about another report that contradicts it, either by being its opposite or by being incompatible with it. For example, if one reported something that contradicted the saying of God, or his Prophet or the saying of the consensus of Muslims. \textit{It may also be false if it is known to contradict facts.}


\textsuperscript{90} Ibn al-Nafīs, \textit{Mukhtasar}, p. 99. This categorization is found regularly in the works of fiqh scholars and jurists.
Knowledge of that kind could be theoretical speculation such as the reports that the innovators disseminate in texts on anthropomorphism . . . or it could be self-evidently false, for example if one were to say, ‘The part is greater than the whole!’

The vast majority of hadīth for Ibn al-Nafīs fall under the last two categories—probably true and probably false, including those that Ibn al-Ṣalāḥ classifies as saḥīḥ. That is, Ibn al-Nafīs classifies a report on the authority of an upright person (al-ṣādil) about a highly likely event as merely “probably true,” and so not definitively authoritative. In contrast, Ibn al-Ṣalāḥ identifies a select group of transmitters as huffāz, on whose authority hadīth, as well as hadīth transmitters, are instantly classified as sound, authoritative and definitively true/reliable. In this regard, Ibn al-Ṣalāḥ starts with the assumption that the two canonical hadīth collections, those of Bukhārī and Muslim, are sound and authoritative, and the goal of the entire treatise is to determine how to classify the rest of the material. In fact, the authoritative nature of the Ṣaḥīḥayn (Bukhārī and Muslim’s collections of hadīth) came to be the standard trope of the most influential traditionalists in the thirteenth and fourteenth century, including Ibn al-Ṣalāḥ and al-Dhahabī. For these scholars, the institutionalization of the canon of the Ṣaḥīḥayn

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91 Ibid., pp. 100–101, my emphasis.

92 Ibid., p. 102.

93 See Ibn al-Salah, Muqaddima, pp. 151–173, 288–311; and Lucas, Constructive Critics, especially pp. 63–112, 375–376. The supreme authority of a select group of transmitters in classifying hadīth as saḥīḥ is also maintained by later hadīth scholars, e.g. Ibn Ḥajar al-ṣ-Asqalānī (d. 1449); see Ibramsa, The Development of the Science of Hadith.

94 Ibn al-Ṣalāḥ adheres explicitly to the absolute validity and authority of these collections and argues that every Muslim should necessarily adhere to them as well; Muqaddima, pp. 169–171.

served too many important functions, pushing them to the extremes of defending these texts as sacrosanct and above reproach. Ibn al-Nafīs, on the other hand, denies the absolute, unconditional validity and soundness of the Ṣaḥīḥayn that was becoming the norm during his time. Thus, even though he maintains that a report emanating from the Prophet is definitively true on account of his veracity, he claims that since most ḥadīth do not actually reach us directly from the Prophet, they can merely be classified as “probably true” or “probably false,” based on their isnāds (chains of transmissions). The only exceptions are those that are multiply transmitted at each stage of their transmission, known as mutawātir. And since the ḥadīth in the Ṣaḥīḥayn do not meet the criteria of multiple transmission, in stark contrast to Ibn al-Ṣalāḥ and the majority of thirteenth and fourteenth century traditionalists, Ibn al-Nafīs rejects the absolute soundness of Bukhārī and Muslim:

As for the reports that are at our disposal now, most of what we adhere to are only highly probable [ghālib al-zann] and not indubitable knowledge [al-ʿilm al-muḥaqqaq], contrary to [the majority of] people [qawm] who say: “Everything that Muslim and Bukhārī agree upon is decidedly certain because the scholars agree on the soundness of these two books.” But the truth is that that is not the case! For the agreement is only over the permissible actions that are found in these two [texts], but that does not preclude what is in these two from being suspect in its soundness [idh al-ittifāq innāmā waqāʿ ‘ala jawāzi ’l-ʿaml bi-mā fiḥumā wa dhālika lā yūnāfī an yakūn mā fiḥumā maẓnūnān bi-ṣīḥāṭīlī].

Ibn al-Nafīs’s reservations against the canonical collections, due, in particular, to his heavy emphasis on mutawātir reports, places him within the legal scholars’ camp in

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96 See Brown, “The Canonization of al-Bukhari and Muslim.”


98 Ibid., p. 100.

99 Ibid., p. 115.
the disciplinary rivalry between *fiqh* and *hadīth.* For example, Ibn al-Ṣalāḥ explicitly postulates such a difference when he claims that the *hadīth* scholars do not use the special term *mutawātir,* and so do not distinguish between them and *hadīth* that are known through multiple chains (*mashhūr*). As a result, *mutawātir hadīth* do not have a special epistemological status for the *hadīth* scholars. On the other hand, as Wael Hallaq has shown, legal scholars only accepted *mutawātir hadīth* as being definitively authoritative, and considered all remaining *hadīth* to be merely “probably true.” Thus, the fact that *hadīth* scholars like al-Dhahabī do not accept Ibn al-Nafīs as a *hadīth* scholar may partly be due to this disciplinary rivalry between them and the legal scholars.

Nevertheless, Ibn al-Nafīs’s heavy emphasis on reason, in particular in his attacks against anthropomorphism, would not have endeared him to his fellow legal theorists either. This is because all traditionalists—be they legal theorists or *hadīth* scholars—tended to stay away from and criticized the use of rational arguments with regards to anthropomorphism. They tended to define themselves against their rationalist opponents, the *mutakallimūn* and the *falāsifa,* both of whom adhered to a “figurative interpretation of the Qur’ān and the Sunna” with regards to anthropomorphic texts. Thus, traditionalist theologians generally rebuked figurative interpretation of anthropomorphic religious texts and instead called for them to be accepted “without interpretation.” More importantly,

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100 Ibn al-Nafīs himself seems to be aware of this rivalry; see, for example, *Mukhtasar,* pp. 122, 124.


103 Abrahamov, *Islamic Theology,* p. 18, 23.

104 Ibid., p. 24.
even if they did engage in discussing these issues, they would not have considered an *uṣūl al-ḥadīth* text as an appropriate place for such discussions.

Ibn al-Nafīs, on the other hand, not only posits figurative interpretation as a necessary principle with respect to anthropomorphic texts, he also incorporates that discussion into his *uṣūl al-ḥadīth* text and uses it to set up a metric by which to judge the authenticity of a report. Thus, he places reports on anthropomorphism under the category of “decidedly false.”

Furthermore, he begins the last section of the treatise entitled, “On What Diminishes the Validity of a ḥadīth,” by stating that a ḥadīth may be rejected if there is a known liar among its transmitters. He then explicitly states that a person responsible for widespread reports on anthropomorphism (*tashbīḥ*) has to be a liar (*kādhīb*) because “we know for sure that the Prophet” could not have uttered such things.

Finally, he concludes this section by stating:

> As for lies in the meaning of a ḥadīth, that is as if one said: “The messenger of God said such-and-such,” when the messenger of God actually said, “I do not say that.” Likewise, when something transmitted on the authority of the messenger of God seems absurd *rationally* [*ʿaqlan*] or through law [*ṣharʿan*], then it is permissible to interpret it and reduce it to a likely meaning.

Thus, there can be no doubt that, unlike other traditionalists, Ibn al-Nafīs categorically denies anthropomorphism for its rational absurdity, and advocates figuratively interpreting such texts to bring them in line with reason. As such, he adheres to his

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105 Ibn al-Nafis, *Mukhtasar*, p. 101. Of course, he means here anthropomorphic reports ascribed to the Prophet in ḥadīth collections and not verses from the Qurʿān, which he would not classify as false but in need for interpretation (see chapter 3).

106 Ibid., p. 175.

107 Ibid., p. 175, my emphasis.
definition of the religious sciences as being based on revealed as well as rational premises (see above).

This emphasis on reason throughout the treatise also forces him to highlight the importance of examining the content and meaning of hadīth along with the isnād. Although content analysis (ʿilm al-dirāya) was elevated as a principle in hadīth texts, hadīth scholars rarely engaged in it. In most classical ʿusūl al-hadīth texts, discussions on the content and meaning of hadīth are noticeable only insofar as they are almost entirely absent.108 For example, in Ibn al-Ṣalāḥ’s lengthy elucidation of saḥīḥ hadīth, he only considers the isnād of the hadīth and never their meaning or content.109 Ibn al-Nafīs, on the other hand, takes content analysis more seriously. Firstly, he defines al-khabar al-saḥīḥ (sound report) as a report that “is free from being challenged on account of its transmitters [rijālihi], its content [matnihi] and its meaning [ma’nāhi], while having a continuous chain of transmitters.”110 Secondly, as we have already seen, he questions the unconditional soundness of all hadīth in the canonical collections. Finally, he rejects anthropomorphic traditions outright. Furthermore, in chapter three we will see a clear example of hadīth content analysis that will confirm that Ibn al-Nafīs truly believes in this principle.


110 Ibn al-Nafīs, Mukhtasar, p. 122.
Another important example of Ibn al-Nafḥī’s emphasis on reason and the content of ḥadīth is found in his discussion on singular reports (khabar al-wāḥid). We have already seen that Ibn al-Nafḥī classifies reports as being either definitively true or false or probably true or false. Moreover, he places mutawāṭir reports under the category of reports that yield certain knowledge. All other reports are referred to as singular reports and can only lead, at best, to probabilistic knowledge.¹¹¹ Thus, all the various types of ḥadīth listed by Ibn al-Ṣalāḥ and Ibn al-Nafḥī, including saḥīḥ, hasan, mashhūr, etc., are referred to by Ibn al-Nafḥī as kinds (anwār) of singular reports that can only lead to probabilistic knowledge. However, there is one important caveat. If the singular report presents a rational argument, then it leads to definitive knowledge and, at that point, ceases to be classified as a singular report.¹¹² In fact, the entire section on the importance and need for singular reports is worth quoting at length as it emphasizes the role reason plays in religion for Ibn al-Nafḥī:

Suppose someone said, “Since the singular report only conveys probabilistic knowledge, and since probabilistic knowledge is not at all sufficient for truth, then how can the action of this report be permissible in law?” We say: The reason for requiring people to perform these deeds is obvious in the case where the singular report is related to . . . worldly affairs, e.g. the permission to enter the house and the like. That is because in such cases it would be very cumbersome for people to resort to mutawāṭir reports . . . . All scholars agree on that.

As for the case of legal rulings, the Prophet was sent to teach them to the people. Since, in his case, he was sent for all mankind, he was required to convey these rulings to all of them. But it is impossible for him to verbally convey these rulings to every single person. Thus, it was necessary for him to dispatch messengers to the people conveying the message. Moreover, it is impossible to send to every

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¹¹¹ Ibid., p. 119. Ibn al-Nafḥī defines the singular report in the following way: “What is meant here by the singular report is not that only one person relates it, but rather that its transmitters at every stage (tābaqa) have neither attained a multitude to the extent that the report would be classified as mutawāṭir, nor has its truth or falsehood been ascertained” (p. 120).

¹¹² Ibid., pp. 120, 121.
region messengers such that what is obtained from their words would classify as *mutawâtir*, for that would require a considerable number [of them to be sent to every region]. Therefore, there is a need for the message to be conveyed to the people through singular reports and so there is a need to make the performing of the deeds contained within these reports obligatory. Otherwise, the deed delegated to the people through these messengers would not be obligatory and they would be disadvantaged [by that] and the Prophetic mission would not be completed in that manner. For that reason, there is a need for deeds contained within singular reports to be a part of the law.

[However], this is for those reports for which probabilistic knowledge is sufficient. As for those that require certain knowledge [*yaqîn*], like the knowledge of God and His attributes, in that case it is not permissible to act on what is in these reports because it does not convey [certain] knowledge, and probable knowledge in that case is not permissible. [One may ask], “How is it possible to convey these things to all the people?” We say: *That is also possible through singular reports, but only through those reports in which the speech is oriented towards rational proof* [*yaṣūrū fī kalāmihī ila 'l-burhānī 'l-'aqîf*]. . . . And if one were to ask, “Why isn’t the job of the Prophet to do that for all, i.e. to make all the legal rulings rational?” Its response is: This is not possible . . . since it is difficult for people to arrive demonstratively at all the secondary rulings [*al-ahkâm al-farîf*], for these deeds are considered to be too great . . . . Therefore, the law-giver deems probabilistic knowledge, and hence singular reports, to be sufficient for these. As for those precepts [*ahkâm*] where certainty is required, i.e. precepts upon which the faith rests [*wa hîya allatî yatawaqqaf‘alayhā ‘l-îmân*], the law-giver points to rational proofs. 113

Thus, as we can see, Ibn al-Nâfîs holds that rational proofs alone can elevate the status of a singular report to that of a definitively true report. On the other hand, all other singular reports, including those that classify as *saḥîh*, and hence the most authoritative for traditionalists like Ibn al-Ṣâlahî and al-Dhahabî, cannot obtain that high rank by virtue of their transmission alone. Hence, Ibn al-Nâfîs is clearly at odds with these traditionalists in placing such a high emphasis on reason while classifying *hadîth* and in dealing with the *hadîth* sciences. As a result, it is easy to see why al-Dhahabî, al-Suyûṭî and others were wary about appropriating Ibn al-Nâfîs for their traditionalist cause.

113 Ibid., pp. 119–120, my emphasis.
The above passage is also interesting in that it closely resembles the discussion of singular reports by the Mu'tazilī theologian, Qāḍī ʿAbd al-Jabbār’s (d. 1025). As a matter of fact, a number of things in Ibn al-Nafīs’s treatise suggest that he was well acquainted with Mu'tazilī thought, and kalām more generally, even to the point of suggesting that he might have been a Mu’tazilī himself. For example, he places kalām at the head of all the religious sciences. That this is not merely verbal homage is evident from his rejection of anthropomorphism and his conviction that anthropomorphic reports need to be reinterpreted and reduced to likely meanings. Moreover, he places a heavy emphasis on rationally evaluating hadīth—something for which the traditionalists were incessantly attacked by Mu’tazilī critics. Finally, he often refers to Mu'tazilī scholars and their views or, like in the passage above, argues in ways that closely resemble Mu'tazilī arguments.

Ibn al-Nafīs’s genial treatment of kalām, coupled with his acceptance of ta’wil (figurative interpretation) for anthropomorphic texts, would certainly not have endeared him to traditionalists like al-Dhahabi. In fact, it should have led these traditionalist biographers to rebuke him severely. However, we have already seen that they do not

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114 See Qāḍī ʿAbd al-Jabbār, Faḍl al-Ṭīzāl wa ṣabaqāt al-murtazila, quoted in Abrahamov, Islamic Theology, pp. 45–46.

115 Schacht and Meyerhof suggest that Ibn al-Nafis’s theological fable is in the Mu'tazili mold of writings based on the doctrine of aslah (that which is most proper); Theologus, p. 32. For a brief introduction to the main theses of Mu’tazilī thought see EF, s.v. “Mu’tazila” (by D. Gimaret).

116 See Abrahamov, Islamic Theology. For how the earlier Mu'tazili criticisms themselves played a part in the subsequent canonization of the Ṣaḥīḥayn, see Brown, “The Canonization of al-Bukhari and Muslim.”

117 See, for example, Mukhtasar, pp. 105, 107–108, 165, where Ibn al-Nafis explicitly refers to Mu’tazili scholars.

118 We have already seen that al-Dhahabi criticizes Fakhr al-Dīn al-Rāzī and al-Ghazālī for their participation in kalām and falsafa, even though al-Rāzī and al-Ghazālī were both Ash'arī mutakallimūn and,
do that. The reason for that is that Ibn al-Nafīs is really not a Muʿtazilī mutakallim. Moreover, he has so much in common with traditionalists that they cannot entirely exclude him from their circle.

There are many reasons that lead me to proclaim confidently that Ibn al-Nafīs was not a Muʿtazilī mutakallim. First, for the most part, the Muʿtazilīs were committed to an atomistic framework while Ibn al-Nafīs sides with the falāsifa’s Aristotelian cosmology (see chapter 3).<sup>119</sup> Second, he explicitly claims that the secondary legal rulings cannot be arrived at purely rationally, which is why revelation and, in particular, singularly transmitted reports are necessary.<sup>120</sup> The Muʿtazilīs, on the other hand, argued that legal rulings could be rationally determined based on the notion that God always does that which can be rationally shown to be better—a doctrine known as aslāḥ.<sup>121</sup> Thus, Ibn al-Nafīs clearly sides with the traditionalists against the Muʿtazilīs on this point. Finally, Ibn al-Nafīs denies the Muʿtazilī attitudes towards the companions of the Prophet that form the basis of one of their five basic principles.

The fourth central principle of Muʿtazilī kalām is the theory of the “intermediate state” between believers and disbelievers.<sup>122</sup> This thesis was central to the historical development of Muʿtazili kalām and its perception by contemporaries. Historically, Muslims vociferously debated over the relative probity of those companions of the

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<sup>119</sup> See Dhanani, *The Physical Theory of Kalam*.

<sup>120</sup> Ibn al-Nafis, *Mukhtasar*, p. 120. Also see chapter three.


<sup>122</sup> See *EI*², s.v. “Muʿtazila.”
Prophet who participated and fought each other during the first civil war. The Mu'tazilī scholars rejected the collective probity of all the companions and formulated their theory of the “intermediate state,” in contradistinction to the traditionalists who accepted the probity of the companions, tout court. Ibn al-Nafis explicitly rejects the Mu'tazilī position in favor of the traditionalist tenet:

The reason for the moral probity [‘adāla] of the companions is due to [the fact that] God praises the companions in his glorious book, and due to the saying of the Prophet: “My companions are like the stars, emulate every one of them and take them as models.” And it is only permissible to emulate those who have moral probity. . . . Some say, “Originally they possessed moral probity, but after that they came into conflict with one another and spilled each other’s blood [during the 1st civil war], and so their condition became like the condition of others [i.e. their moral probity no longer remained above suspicion].” Many of the Mu'tazila say, “Indeed, ‘Ā’isha, may God be pleased with her, Ťalха, Zubayr and all of the people of Syria and Iraq [who participated in the 1st civil war] should be declared sinners (fāsiq) [and hence their testimonies should be rejected in matters of ḥadīth].” . . . The truth is that all that occurred among the companions—may God be pleased with them all, with regards to their differences, fighting, cursing, etc., was only in order to rigidify amongst themselves the religion and to strive for the welfare of Muslims. He who corrects their errors need not reject their religion nor their moral probity. This is our belief concerning them.

Clearly then, Ibn al-Nafis upholds the most fundamental tenet of the traditionalists: the collective probity of the companions. That, in itself, is enough to explain why al-Dhahabī, al-Suyūṭī, and other conservative scholars are so keen on counting him as one of their own.

123 For the various theological positions that were articulated to understand and explain these incidents in the historical memory of Muslims, including the positions of the Mu'tazila, see W. Montgomery Watt, The Formative Period of Islamic Thought (Edinburgh: Edinburgh University Press, 1973).

124 For the history and evolution of this central traditionalist tenet of the “collective probity of the companions,” see Lucas, Constructive Critics. For the Mu'tazilī rejection of ḥadīth and how it was related to their rejection of the collective probity of the companions, see Abrahamov, Islamic Theology, pp. 43–48.

Although I have chosen to highlight the important differences between Ibn al-Nafīs’s *ḥadīth* text and that of Ibn al-Ṣalāḥ so far, in fact, the majority of Ibn al-Nafīs’s text is quite similar to Ibn al-Ṣalāḥ’s treatise. For example, both works deal with the following basic topics of *ḥadīth* sciences in almost exactly the same way: the kinds of *ḥadīth* based on *isnād*; the different ways of referring to reports on the authority of the companions; the different ways in which a report may be passed on from one to another and the phrases appropriate for each, and so on. Hence, there is no doubt that Ibn al-Nafīs had much in common with the traditionalists. Yet, we have also seen that he shared a number of commitments with the rationalists. As such, the strict, destructive dichotomy between reason and revelation upon which historians of Islamic science and philosophy have traditionally relied, is incapable of truly deciphering Ibn al-Nafīs’s seemingly equal commitment to both. We need, instead, a more robust way of navigating the complex terrain of reason and revelation debates during the medieval Islamic period, as suggested in the previous chapter.

2.5 Conclusion

One thing that stands out in the analysis of this chapter is that Ibn al-Nafīs accepted the validity and authority of *ḥadīth*. Nonetheless, he was also unwilling to grant absolute authority to the literal texts of the now-established canonical collections of *ḥadīth*. Instead, he specifically called for the use of rational premises and argumentation in the study of *ḥadīth* and all other religious sciences. To that end, he even transferred the authority of the *ḥuffāz* to declare a *ḥadīth* sound, to the rational evaluation of the content of a *ḥadīth*. Thus, whereas for other *ḥadīth* scholars the presence of *ḥuffāz* in a
narrative chain is enough to establish the *hadīth* as sound and, thus, authoritative, for Ibn al-Nafīs only rational proofs can elevate the status of a *hadīth* to that level. This aspect of Ibn al-Nafīs’s views would certainly have troubled his traditionalist biographers, since the whole enterprise of *hadīth* that they subscribed to had specifically evolved the way it had to diminish the role of rational speculation that had caused such divisions in the faith community over the years. In their view, by pushing for a rational evaluation of the content of *hadīth*, Ibn al-Nafīs was reopening the door to increased solitary interpretations and sectarian divisions—a door that traditionalists had worked so hard to close. Thus, due to his advocacy of rationalism within the religious sciences, the traditionalist biographers were hesitant and uneasy about presenting Ibn al-Nafīs as a traditionalist.

On the other hand, Ibn al-Nafīs upheld one of the basic dogmas of Sunnī traditionalism—the collective probity of the companions. That alone ensured that Ibn al-Nafīs could never be maligned by traditionalist scholars. But, as it turns out, Ibn al-Nafīs also upheld another central tenet of traditionalism that was denied by the *falāsifa* and, to a large extent, by the Muʿtazīlī *mutakallimūn*: the impossibility of arriving at the central beliefs and ethical rulings of revealed religion through reason alone. Unfortunately, Ibn al-Nafīs’s prose in his theological fable has misled some scholars into thinking that Ibn al-Nafīs actually believed in the possibility of such autodidactic learning. Nothing could be further from the truth; he rejects autodidactic learning unequivocally. Once we understand the delicate interplay between reason and revelation in Ibn al-Nafīs’s works, we can truly decipher and appreciate his subtle departures from traditional religious,

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126 See Brown, “The Canonization of al-Bukhari and Muslim.”
philosophical and physiological understandings of the soul and spirit. We shall see that in balancing the authority he allocates to the various sources of reason and revelation, he is forced to sever the connection between the soul, spirit and the heart, which has some important repercussions for physiological theory and his theory of the pulmonary transit of blood.
CHAPTER 3

RATIONALIZING REVELATION, REJECTING AUTODIDACTISM:

IBN AL-NAFĪS’S RESPONSE TO THE FALĀSIFA

We have already seen in the last chapter that traditionalist scholars were hesitant about claiming Ibn al-Nafīs as one of their own. One of the reasons I suggested to explain this hesitancy was the central role Ibn al-Nafīs assigns to the sources of reason in religious discussions. On numerous occasions within his usūl al-ḥadīth text, Ibn al-Nafīs calls for critically evaluating the content of ahadīth in order to ensure that their contents are rational. For that reason, he categorically rejects the validity of anthropomorphic ahadīth. As such, he shares certain basic ideological commitments with the mutakallimūn as well as the falāsīfa, both of whom called for rationally evaluating the content of religious texts.

The falāsīfa, in fact, went a step further in demanding that all religious texts be interpreted so as to cohere with the “established truths” of their Neoplatonic Aristotelian system.1 In the event of a conflict between the literal meaning of scripture and this system, the falāsīfa rejected the literal meaning. That is to say, they were highly committed to the authority of the Neoplatonic Aristotelian system and so placed little

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value in the literal meanings of scriptural texts. They justified privileging the truths of
their system over scripture by claiming that since revelation must appeal to the masses,
and since it is impossible to communicate “deeper truths . . . to the multitude” fearing that
they may lose their religion, revelation can at best only be an “imitation of philosophy.”
For that reason, Ibn Sīnā (d. 1037, lat. Avicenna) denied the use of scriptural sources in
philosophical arguments concerning the most central religious doctrines, e.g. bodily
resurrection. Instead, he argued that the falāsifa alone had access to the truth about these
doctrines, thus undermining the authority of all other religious scholars. More
importantly, the falāsifa’s self-avowed access to these truths was not through revelation
but independent of it. That is, they argued that reason is self-sufficient and capable of
arriving at religious truth independently. As such, they rejected the very foundation of
traditionalist thought: that revelation must ground all religious discussions, ranging from
law to complex theological discussions on the nature of God, the creation of the universe
and resurrection.

However much Ibn al-Nafīs was committed to falsafa, and we shall see that he
was indeed very committed to it, he was also an avowed traditionalist and, so, indisposed
to accepting such an undermining of the authority of revelation. Thus, he took up the
 gauntlet on behalf of the traditionalists to attack the falāsifa’s belief in the superiority and

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2 Fazlur Rahman, Prophecy in Islam: Philosophy and Orthodoxy (London: George Allen & Unwin, 1958), p. 42; and Marmura, “The Islamic Philosophers’ Conception of Islam,” p. 97. Al-Fārābī is the first faylasūf who lays down this principle, which not only forms the cornerstone of al-Fārābī’s own political philosophy, but it is also central to the philosophical system of his successors, including Ibn Sīnā, Ibn Ṭufayl and Ibn Rushd.

3 Rahman, Prophecy in Islam, pp. 42–45.

self-sufficiency of reason with respect to revelation. His critique was necessitated by the
appearance of Ibn Ṭufayl’s (d. 1186) Hayy ibn Yaqẓān, in which Ibn Ṭufayl defends the
possibility of autodidactic learning5 through rational inquiry and a Ṣūfī-style mystical
union with God.6 The particular kind of Ṣūfism that Ibn Ṭufayl advocates as rational is
very similar to the Neoplatonic Ṣūfism of Ibn al-ʿArabī (d. 1240)7—a Ṣūfism that was
constantly under fire during the course of the thirteenth century as it was seen as arguing
for a monistic conception of God and the universe.8 This dangerous mix of falsafa and
monistic Ṣūfism in Ibn Ṭufayl’s work is what specifically elicits Ibn al-Nafīs’s forceful
attack on autodidactic learning.

In the process of denying the possibility of autodidactic learning in religious
matters, Ibn al-Nafīs also proceeds to argue that exoteric revelation can be rational and,
as such, should not be ruled out of philosophical arguments a priori. In fact, he goes so
far as to suggest that Ibn Sīnā’s difficulty in establishing the individuality of a human

5 This self-sufficiency of reason or of a rational mysticism, which entails an individual’s ability to arrive
at religious truth independent of revelation, will be referred to as “autodidactic learning” or
“autodidactism” in the rest of this dissertation. This usage is consistent with the Latin translation of Ibn
Ṭufayl’s text and the English translation of Ibn al-Nafīs’s text (see below).

Companion to Arabic Philosophy, ed. Peter Adamson and Richard Taylor (Cambridge: Cambridge
University Press, 2005), pp. 155–179. Ibn Ṭufayl’s treatise was first translated and published in the West
under the title, Philosophus autodidactus; see Edward Pococke, Philosophus autotdidactus, sive epistola

7 Bernd Radtke, “How Can Man Reach the Mystical Union? Ibn Ṭufayl and the Divine Spark,” in The
World of Ibn Ṭufayl: Interdisciplinary Perspectives on Hayy ibn Yaqẓān, ed. Lawrence Conrad (Leiden: E.

8 Frederick De Jong and Bernd Radtke, “Introduction,” in Islamic Mysticism Contested: Thirteen
Centuries of Controversies and Polemics, ed. Frederick De Jong and Bernd Radtke (Leiden: E. J. Brill,
1999), pp. 1–21, 7. Ibn al-ʿArabī’s philosophical theology has been notoriously difficult to grasp, and has
led many commentators to label him as a “monist” or “pantheist.” Certainly the thirteenth and fourteenth
century traditionalists understood him as advocating an ontological monism. For a recent attempt at
elucidating Ibn al-ʿArabī’s understanding of the relationship between the Creator and the creation in non-
monistic terms, see Salman H. Bashier, Ibn al-ʿArabī’s Barzakh: The Concept of the Limit and the
soul after death can only be solved using scripture, implying that bodily resurrection can
be rationally defended. Thus, in stark opposition to the *falāsifa*, Ibn al-Nafīs proffers a
model whereby reason itself points to the necessity of revelation and revelation appeals to
reason to establish its own authority. That is, unlike the *falāsifa*, Ibn al-Nafīs distributes
his authoritative sources more evenly between reason and revelation, which is why, for
example, he is not firmly attached to an eternal, Aristotelian universe nor to aspects of
Galenic physiology. As such, his texts assume a complex interplay between reason and
revelation.

3.1 *Falsafa* in the Thirteenth Century and the “Heritage of Ibn Sīnā”

As indicated in chapter two, the thirteenth century was an intellectually vibrant
period that witnessed many interesting developments in a wide variety of fields: from
*fiqh* and *hadīth* scholarship, to Ṣūfism, and extending even to the secular, foreign
sciences. Although the long-standing myth that al-Ghazālī’s (d. 1111, *lat*. Algazel)
attack on Ibn Sīnā resulted in the decline of philosophy in this period is still frequently
invoked, it is an unwarranted conclusion. Philosophical thinking continued to flourish
in the aftermath of al-Ghazālī’s attack and religious scholars engaged with *falsafa* even
more, now that al-Ghazālī had made the ideas of the *falāsifa* more accessible to them.11

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9 In the case of astronomy, for example, see George Saliba, *A History of Arabic Astronomy: Planetary Theories During the Golden Age of Islam* (New York: New York University Press, 1994).


In fact, due to the remarkable “originality and depth of philosophical thinking” and the “diffusion of philosophical work and [its] influence on society in general . . . ,” Dimitri Gutas has gone so far as to declare the “period from 1000 to about the middle of the fourteenth century” as the “golden age of Arabic philosophy.”

The most important figure of this period by far is Ibn Sīnā, whose importance throughout this period cannot be underestimated. All religious, theological or philosophical scholars of any merit had to contend with his rich philosophico-theological system, be they Şūfīs, mutakallimūn, falāsifa, or even fiqh scholars interested in discussions on ‘aqīda (creed). There are two main reasons for Ibn Sīnā’s central position in twelfth and thirteenth century philosophical and theological discussions. Firstly, Ibn Sīnā had succeeded in reconciling the two existing schools in falsafa, “the Neoplatonism of the Kindī circle . . . and the Aristotelianism of the Fārābī school,” into a “theoretically cogent system.” As a result, subsequent falāsifa had to contend with and respond to Ibn Sīnā, including the great Peripatetic commentator, Ibn Rushd (d. 1198, lat. Averroes). In fact, falsafa came to be identified with Ibn Sīnā himself, making all other philosophers before him, including Plato and Aristotle, superfluous. So great was his appeal that some twelfth century traditionalist scholars even lamented that “people nowadays

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15 Ibid., p. 84. ‘Abd al-Laṭīf al-Baghdādī (d. 1231), himself a philosopher of considerable merit, noted in his earlier years that “he initially did not think much of more ancient philosophers, such as al-Fārābī and Themistius, because he ‘believed that Ibn Sīnā [had] digested the entirety of wisdom and stuffed it in his books’”; Shihadeh, “From al-Ghazali to al-Razi,” p. 142.
[believe] that truth is whatever [Ibn Sīnā] says, that it is inconceivable for him to err, and that whoever contradicts him in anything he says cannot be rational.”\textsuperscript{16}

Secondly, Ibn Sīnā made falsafa relevant to the “intellectual concerns of Islamic society.”\textsuperscript{17} Unlike his predecessors, he was deeply engaged in contemporary discussions on the most pressing theological problems. For example, he immersed himself in the kalām arguments for the existence of God and formulated his own novel argument based on a distinction between “the necessarily existent in itself” (\textit{wājib al-wujūd bi-dhātihi}), “the necessarily existent through another” (\textit{wājib al-wujūd bi-ghayrihi}) and “the contingent being in itself” (\textit{mumkin al-wujūd bi-dhātihi}). This Avicennian proof subsequently became the central proof for the existence of God in kalām and other religious texts.\textsuperscript{18} Similarly, his arguments for the immortality of the individual human soul were also shaped by his engagement with kalām discussions, and these too had a lasting impact on subsequent eschatological discussions.\textsuperscript{19} That is why even Ibn Taymiyya (d. 1328), an outspoken critic of Ibn Sīnā and falsafa, acknowledges that Ibn

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Sīnā’s attempt to reconcile reason and revelation was indeed sincere. The problem, according to Ibn Taymiyya, was that Ibn Sīnā’s religious training came from heretics:

... Ibn Sīnā... discussed about issues in metaphysics, prophethood, resurrection, and laws—issues which his predecessors did not discuss and neither their minds nor knowledge could attain. He acquired these views from Muslims, or rather from heretics who affiliated themselves with Muslims, such as the Ismā‘īlīs... . . . As Ibn Sīnā was somewhat familiar with the religion of Muslims, . . . he wished to combine what he learned through reason . . . with what he had acquired from his predecessors. Among the doctrines he himself fashioned are those concerning prophethood, the secrets of miracles and dreams, as well as some aspects of physics, the Necessary Existent, etc. . . . Ibn Sīnā partially reformed this faulty philosophy [of Aristotle and his followers] so that it found acceptance among thinkers who were versed in the religion of Islam. He demonstrated to them some of its contradictions, and they went on to write about it, each in his own way.²⁰

Below, we shall see the extent of Ibn Sīnā’s influence on the thought and systematic philosophy of Ibn Ṭufayl and Ibn al-Nafīs. For the time being it is important to note that Ibn Sīnā’s defense of prophecy, religious law, arguments for the existence of God, etc., had a lasting and positive influence on subsequent religious discussions on these topics. Post-Avicennian kalām especially benefited from, and appropriated, many aspects of Ibn Sīnā’s system, ultimately giving the impression that kalām and falsafa had merged into one philosophical system by the middle of the fourteenth century.²¹


²¹ See, for example, Gutas, “The Heritage of Avicenna,” p. 89; and A. I. Sabra, “Science and Philosophy in Medieval Islamic Theology,” *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften* 9 (1994): 1–42. The starting point for most of these discussions is Ibn Khaldūn’s (d. 1382) observation that, during his time, kalām and falsafa had become so intertwined that they were “no longer distinguishable”; Ibn Khaldūn, *The Muqaddima: An Introduction to History*, tr. Franz Rosenthal, 3 vols. (New York: Pantheon Books, 1958), vol. 3, p. 53.
Similarly, post-Avicennian Ṣūfism engaged with, rejected, appropriated, and further developed strands within Ibn Ṣīnā’s philosophical system.22

In the case of Ṣūfism, it is also important to note that Ibn Ṣīnā’s own system, especially in its epistemological aspects, is “quasi-mystical,” to borrow Robert Hall’s phrase.23 As Hall shows, his theory of intellection is especially conducive to mysticism, as is his defense of Prophetic revelations and dreams.24 Commentators have naturally latched on to these aspects of Ibn Ṣīnā’s thought, especially as it unfolds in the later Persian tradition, to argue that Ibn Ṣīnā was a genuine Ṣūfī or a mystic of some sorts.25 Regardless of whether or not Ibn Ṣīnā was a true mystic, the fact is that medieval commentators identified a strong mystical current in his thought. A good example is Ibn Ṭufayl himself.26 When we add to that the fact that some Ṣūfīs proceeded to appropriate


central aspects of Ibn Sīnā’s philosophical system, we can understand how attacks against
one group could have come to be identified as attacks against the other.

Even though aspects of Ibn Sīnā’s system were appropriated and developed by
subsequent religious scholars, much of Ibn Sīnā’s philosophical system posed a
significant challenge to twelfth and thirteenth century traditionalism. For example, Ibn
Sīnā rejects some of the central traditional religious tenets, e.g. bodily resurrection and
the temporal creation of the universe. The gravity of these rejections can be gleaned from
the fact that al-Ghazālī pronounces Ibn Sīnā and the falāsifa heretics on account of their
rejection of these tenets.27 The fact that Ibn Sīnā then actually proceeds to rationalize his
rejection of these tenets further compounds the problem. Relying on the Fārābīan notion
that “revelation is the imitation of philosophy,”28 Ibn Sīnā makes a strong case for
rejecting the use of revelation in philosophical arguments. He argues that since
revelation speaks to the masses, and since the masses are unable to grasp higher truths,
revelation must contain incomplete and inaccurate descriptions about, for example, the
true nature of God and the afterlife, so as not to confuse the masses.29 He then proceeds
to claim that these verses can only be truly interpreted and understood by the falāsifa,
who, after all, already have access to the truths of revelation through reason.30 As a
result, twelfth and thirteenth century scholars were faced with a substantial paradox. On
the one hand, Ibn Sīnā was seen as the epitome of rationality; he was seen as one who


had “digested the entirety of wisdom and stuffed it in his books.”\textsuperscript{31} His reputation in medicine and the other foreign sciences only furthered his aura of philosophical infallibility, given the close connections between falsafa and the other sciences in this period.\textsuperscript{32} As such, his philosophical defense of the existence of God, prophets, revelation, etc., was particularly attractive to religious scholars, and, as Ibn Taymiyya notes, was quickly taken up by them.\textsuperscript{33}

On the other hand, Ibn Sīnā categorically rejected some of the fundamental tenets of orthodox religion and was labeled a heretic by many for doing so. Yet, since Ibn Sīnā also epitomized rationality, were thirteenth century scholars to assume that revelation cannot be rational? Much of the twelfth and thirteenth century “intellectual confusion” stems from this basic conflict.\textsuperscript{34} Although there was an entire range of negative attacks against Ibn Sīnā’s philosophico-theological system, the thirteenth century intellectual climate was desperate for some positive reconciliations between falsafa and traditional beliefs. Otherwise, religious scholars would either have to concede that revelation is irrational, or that the sole authority to interpret scripture lies with the falāṣīfa. In this climate, Ibn al-Nafīs suggests a possible way to reconcile falsafa with revelation by

\textsuperscript{31} Shihadeh, “From al-Ghazali to al-Razi,” p. 142.

\textsuperscript{32} The close association of falsafa and the rest of the foreign sciences, like mathematics, astronomy, medicine, etc., can be traced back to the Hellenistic period. In the Islamic context, the tie was strong enough that accepting truths in physics and medicine, for example, meant lending credence to falsafa; see Sabra, “Science and Philosophy in Medieval Islamic Theology,” p. 1–5. At times, however, this association also had a negative effect in that those who rejected falsafa had the tendency also to reject the physical and mathematical sciences, including logic. Thus, al-Ghazālī devotes some space to defending the rest of the foreign sciences and cautions religious scholars against rejecting all of them (Incoherence of the Philosophers, pp. 2–9).

\textsuperscript{33} Ibn Taymiyya, \textit{Ibn Taymiyya Against the Greek Logicians}, p. 65; and Shihadeh, “From al-Ghazali to al-Razi,” pp. 142, 148–150.

\textsuperscript{34} Shihadeh, “From al-Ghazali to al-Razi,” p. 178.
rejecting the *falāsifa*’s belief in the self-sufficiency of reason. In so doing, he creates the possibility of a more dialectical relationship between reason and revelation, whereby reason itself needs revelation to arrive at the fundamental theological truths, and revelation itself appeals to reason to validate its own authority.

### 3.2 Autodidactic Learning and *Falsafa*’s Challenge to Traditionalism

Ibn al-Nafīs’s treatise is entitled, *The Treatise Relating to Kāmil on the Life-history of the Prophet*.\(^{35}\) However, in biographical entries on Ibn al-Nafīs, this work is referred to only by the name of the narrator in the story—*Risālat Fādil ibn Nāṭiq* (The Book of Fādil ibn Nāṭiq).\(^{36}\) The alternate title is significant as it illustrates that Ibn al-Nafīs’s account was received by his audience as a reaction to *Ḥayy ibn Yaẓān*—Ibn Sīnā’s recital about a hermit and Ibn Ṭūfayl’s narrative about a philosophical mystic.\(^{37}\) In fact, Ibn al-Nafīs’s biographers say so explicitly:

> [Najm al-Dīn al-Ṣafadī has] seen a small book of [Ibn al-Nafīs] which [Ibn al-Nafīs] opposed to the *Treatise of Ḥayy ibn Yaẓān* of Ibn Sīnā and which he called the *Book of Fādil ibn Nāṭiq*. In it he defends the system of Islam and the Muslims’ doctrines on the missions of the Prophets, the religious laws, the resurrection of the body, and the transitoriness of the world (*kharāb al-‘ālam*).\(^{38}\)

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\(^{36}\) Ibid., p. 14.


The changes in the names of the central characters from the tales of Ibn Sīnā and Ibn Ṭufayl to that of Ibn al-Nafīs are important, a point to which I shall return shortly. For now, it is important to emphasize that the biographers not only pick out religious theses that are defended by Ibn al-Nafīs; they also single out precisely those theses that the *falāsifa* rejected as being irrational. Bear in mind, that the *falāsifa*’s denials of bodily resurrection (*al-ba’th al-jismānī*) and of the temporality of the world (*kharāb al-‘ālam*), were what led al-Ghazālī to declare Ibn Sīnā and the *falāsifa* to be heretics.

It is also important to note here that the biographers confused Ibn Sīnā’s and Ibn Ṭufayl’s narratives with each other, and assumed incorrectly that Ibn al-Nafīs’s tale was a response to Ibn Sīnā’s narrative (both Ibn Sīnā and Ibn Ṭufayl entitled their works, *Ḥayy ibn Yaqẓān*). Yet, the biographers’ error in confusing these two works reflects the complicated manner in which these texts are intertwined, and does not merely represent a factual error. Firstly, Ibn al-Nafīs’s own contemporaries were in the habit of confusing Ibn Ṭufayl and Ibn Sīnā’s treatises. Ibn Khallikān (d. 1282), for example, assumed that perhaps Ibn Sīnā “wrote it [i.e., *Ḥayy ibn Yaqẓān*] in Persian, and so we may have an Arabic translation of it, made by Ibn Ṭufayl.”

The matter is further complicated by the fact that the theory of emanation found in Ibn Ṭufayl’s text “is, transparently, another

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39 Ibn al-Nafīs also defends some other religious theses that are not brought up by these biographers, e.g. the Sunnī understanding of the caliphate and the events leading up to resurrection.

40 See al-Ghazali, *Incoherence of the Philosophers*.

outline of Avicenna’s system.” Additionally, Ibn Ṭufayl’s mysticism could also have been confused with the quasi-mystical elements in Ibn Sīnā’s writings, especially since Ibn Ṭufayl himself suggests that Ibn Sīnā was a true mystic. In fact, Ibn Ṭufayl’s main claim—that a person may autodidactically arrive at the truths of religion—also builds off of Ibn Sīnā’s Fārābian argument for the self-sufficiency of reason. Hence, as we take a closer look at Ibn al-Nafīs’s Risāla and compare it to Ibn Ṭufayl’s Ḥayy, we should continuously bear in mind that Ibn al-Nafīs is also attacking the central core of the Avicennian system.

At the beginning of the treatise, Ibn al-Nafīs states that his “intention in this treatise is to relate what Fādil ibn Nāṭiq transmitted from the man called Kāmil concerning the life-story of the Prophet and the ordinances of religious Law [al-sunan al-shariyya] . . .” What is significant even in this short opening statement is the close association of reason and exoteric revelation. The word fādil is used to describe a person who is virtuous. Nāṭiq is the term used to signify rationality in the philosophical discourse, as in nafs nāṭiga (rational soul) or the Aristotelian logos of man as a rational

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43 *Ḥayy* (English), pp. 95–97, 100–103.


45 *Theologus*, p. 38.
animal (ḥayawān nāṭiq).46 Kāmil means “the perfect one” and its various forms had much currency in the thirteenth century, especially in the much-maligned, Neoplatonic philosophical mysticism of Ibn al-ʿArabī.47 Finally, the religious virtues, on the one hand, and rationality and perfect intellection, on the other, are being associated with aspects of religion known to every lay Muslim: the biography of the Prophet and the religious ordinances. There is no reference in Ibn al-Nafīs to some hidden or esoteric truths.

On the other hand, Ibn Ṣufayl’s treatise is filled with references to esoteric and hidden truths from the outset. For example, he begins his treatise by stating that he has been “asked . . . to unfold . . the secrets of the oriental philosophy” to the best of his ability.48 Further on in the introduction, he claims that those who acquire this truth [al-ḥaqq] can “speak of it publicly only in riddles [ramz], because our true, orthodox and established faith [al-milla al-ḥanīfa waʾl-sharīʿa al-muḥammadīyya] guards against a hasty plunge into such things.”49 By the end of the introduction, Ibn Ṣufayl has pretty much laid out his program to be, as Hasanali phrases it, “to assist [his] readers in their ‘unveiling the secrets’” through the method of “rational philosophy.”50 Thus, unlike Ibn al-Nafīs’s introduction, the entire emphasis of Ibn Ṣufayl’s introduction is on a hidden,

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47 See EI², s.v. “Insān al-Kāmil” (by R. Arnaldez).

48 Hayy (English), p. 95.


50 Hasanali, “Texts, Translators, Transmissions,” p. 75.
mystical, esoteric wisdom (hikma) that needs to be discovered by the reader through the riddles (ramz) provided within the tale.

Nonetheless, even in the introduction he suggests that there might be a disparity between the “orthodox and established faith” and this esoteric wisdom, as emphasized in the quote above. This concern is even more prominent during his discussion of al-Ghazālī’s belief in a “tripartite division of ideas into those held in common with the masses, those exhorting all who seek the truth, and those a man keeps to himself and divulges only to the people who share his beliefs.” For even though Ibn Țufayl maintains that al-Ghazālī’s texts are confusing because “he preached to the masses,” he condones this practice and appreciates al-Ghazālī’s use of “hints and intimations” for those who “have found the truth by their own insight . . .” Thus, already in the introduction, Ibn Țufayl suggests that the exoteric religion of the masses and the mystical, yet rational, wisdom of the initiated appear to be in conflict. The last part of the book is then devoted entirely to illustrating that the esoteric truths that Ḥayy arrives at independently are, in fact, in harmony with revealed religion, even though they may not appear to be so at first. As Ibn Țufayl states:

[Absāl53] related all the religious traditions describing the divine world, Heaven and Hell, rebirth and resurrection, the gathering and the reckoning, the scales of justice and the strait way. Ḥayy understood all this and found none of it in contradiction with what he had seen for himself from his supernal vantage point [maqāmihi ’l-karīm].54

52 Ibid., p. 101.
53 Absāl is an additional character in the tale who seeks solitude on Ḥayy’s deserted island, without knowing beforehand that Ḥayy lives there. Absāl proceeds to communicate to Ḥayy all knowledge of the outside world, including its rules, customs and religious traditions.
54 Ḥayy (English), p. 161, my emphasis; and Ḥayy (Arabic), 93.
Notice the *falāsifa’s* (and the Ṣūfīs’) elitism in the quote above. Ibn Ṭufayl clearly suggests that Ḥayy’s independent path to the truth is better than revelation (“supernal vantage point”). Subsequently, Ibn Ṭufayl claims that even though Ḥayy recognizes the inherent harmony between his autodidactic, rational mysticism and exoteric revelation, Ḥayy could not fathom why a prophet of God would rely for the most part on symbols to portray the divine world, allowing mankind to fall into the grave error of conceiving the Truth corporeally and ascribing to Him things which He transcends and is totally free of . . . instead of simply revealing the truth [*wa adrabā ‘an mukāshafa*]?

Ḥayy is even more baffled by the religious accommodation of material “inanities”:

> Property meant nothing to [Ḥayy], and when he saw all the provisions of the Law to do with money . . . or those regulating sales and interest . . ., he was dumbfounded. All this seemed superfluous. If people understood things as they really are, Ḥayy said, they would forget these inanities and seek the Truth. They would not need all these laws.

Thus, according to Ibn Ṭufayl, Ḥayy’s method is not only superior to revelation for arriving at the ultimate truths; he also implies that revelation leads people astray by allowing them to indulge in material “inanities” and by providing them with anthropomorphic descriptions of God that are grossly incorrect.

At this juncture, we see the underlying conflict between the *falāsifa* and the Ṣūfīs, on the one hand, and the traditionalists on the other, rearing its head: revelation is superfluous for the elite because it speaks of a reality that has already been grasped at a higher level. Moreover, only these elites who have access to the underlying truth through

55 *Hayy* (English), p. 161; and *Hayy* (Arabic), 93–94.

a more powerful means than revelation have the right to interpret religious texts.\footnote{Ibn Rushd even tries to argue that revelation condemns revealing the elite understanding of theological issues to the masses; see his, \textit{The Book of the Decisive Treatise: Determining the Connection Between the Law and Wisdom & Epistle Dedicatory}, tr. Charles Butterworth (Provo: Brigham Young University Press, 2001).} Thus, Ibn \textit{Ṭufayl’s} proposed harmony between Ḥayy’s knowledge and that of the masses would frustrate and annoy the traditionalists, not only because it considers revelation an inferior way of arriving at the truth, but also because far from conceding some interpretive authority to traditionalists themselves, Ibn \textit{Ṭufayl actually calls them “irrational animals.”}

\textit{Ibn Ṭufayl adds that, when Ḥayy recognized that people were focusing too much on the literal text and losing the underlying reality towards which the metaphors were beckoning people, he started to teach a group of men that “approached nearest to intelligence and understanding” from amongst the masses.\footnote{\textit{Hayy (English)}, p. 162.} However, “the moment he rose the slightest bit above the literal . . . they recoiled in horror from his ideas and closed their minds.”\footnote{Ibid., p. 163.}}

Finally, Ḥayy is said to have concluded “that most men are no better than unreasoning animals \textit{[aktharuhum bi-manāziliṭi ʿl-ḥayawān ghayr al-nāṭiq]}, and realized that all

\footnote{Ibid., p. 163.}
wisdom and guidance, all that could possibly help them was contained already in the words of the prophets and the religious traditions.”

Notice that Ibn Ṭufayl not only equates the masses with irrational animals, but even the elite traditionalists. The group that Ḥayy communicates his wisdom to initially, and the people who recoil in horror, are not the masses per se, but rather those that approach “nearest to intelligence and understanding” from amongst the masses. Ibn Ṭufayl thus is emphasizing that the traditionalists are like “unreasoning animals” since they are incapable of rising “above the literal [al-ẓāhir].” Consequently, he suggests, in effect, that the literal text of revelation must also be irrational, for it is precisely the literal text to which the traditionalists adhere strongly. This is indeed the legacy of Ibn Sīnā’s sophisticated philosophico-theological system with which the thirteenth century scholars were struggling.

To be fair to Ibn Ṭufayl, he recognizes ultimately that even though revelation speaks of the truth in irrational and metaphorical terms, it still serves an important purpose: it helps the intellectually inferior attain some measure of happiness in the afterlife. After all, Ḥayy’s parting comment to the people of the island is to hold fast to the law and the literal texts of revelation. Thus, like Ibn Sīnā before him, Ibn Ṭufayl accepts the necessity of revelation, and of revelation to speak in metaphorical and, ultimately, inaccurate terms of the underlying reality, for the masses. However, he cannot concede to the traditionalists that revelation is necessary for the elite because, quite literally, it is irrational. Therefore, far from being a Straussian move to avoid

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61 Ibid., p. 164; and Ḥayy (Arabic), p. 96.

62 Ḥayy (English), p. 163; and Ḥayy (Arabic), p. 95.
persecution, Ibn Ṭūfayl’s treatise reaffirms Ibn Sīnā’s Fārābīan tenet that since “revelation is the imitation of philosophy,” it cannot be adduced as evidence in philosophical discussions on religious doctrines. Such an explicit rejection of the
authority of scripture was bound to frustrate the traditionalists.

Thus, it is not surprising that a traditionalist would take up the challenge
presented by Ibn Ṭūfayl, in order to show that those who cling to the literal word of
revelation are also being rational. That, in a nutshell, is the entire purpose of Ibn al-
Nafīs’s treatise. Schacht and Meyerhof are thus wrong in entitling the book Theologus
Autodidactus, since the title is a misnomer. Ibn al-Nafīs’s goal is not to show how a
person can independently arrive at all the exoteric truths of revelation—that would run
counter to his traditionalist belief in the necessity of revelation for arriving at the Truth.
Rather, the goal is to show that exoteric revelation is itself rational and, consequently,
should be accepted within the confines of a demonstrative, philosophical argument.

We now return to the change in the title of the work from Hayy ibn Yaẓān to
Fādīl ibn Nāṭiq. The word Fādīl in the title is derived from the word faḍl (virtue)—the
word Ibn Ṭufayl uses to describe the masses (ahl al-faḍl) of the island who are no better
than unreasoning animals (bi-manzilati `l-hayawān ghayr al-nāṭiq). By calling his
character Fādīl ibn Nāṭiq, Ibn al-Nafīs is directly responding to the last part of Ibn

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64 Hasanali, “Texts, Translators, Transmissions,” p. 106.

65 Hayy (Arabic), pp. 89, 96, my emphasis. Of course, Ibn Ṭufayl’s purpose in using the term “faḍl” would have been to connect with al-Fārābī’s notion of a virtuous city (al-madīna al-faḍīla) and the Fārābīan belief to not disclose philosophical truth to the non-philosophers; see Marmura, “The Philosopher and Society.”
Ṭufayl’s text. He means to show that the virtuous, religious masses (ahl al-fāḍl) of Ibn Ṭufayl’s island are not irrational but rational for believing in exoteric scripture. His entire allegory is one long argument against what he and his contemporary traditionalists took to be the main purpose of Ibn Ṭufayl’s text: that traditionalism is irrational.

3.3 Rejecting Autodidactic Learning, Accommodating Falsafa

We have already seen that Ibn al-Nafīs states that his aim in the text is to convey, on the authority of the narrator, Fāḍil ibn Nāṭiq, what Kāmil came to learn about the Prophet and his life-history. The story itself begins in a manner comparable to that of Ibn Ṭufayl’s fable: with a description of a deserted island and the spontaneous birth of a human—Kāmil in the case of Ibn al-Nafīs and Ḥayy in the case of Ibn Ṭufayl. Both, Kāmil and Ḥayy, then proceed to observe the natural world and, in the process, arrive at a belief in God as the creator of the universe. However, there are important differences in both accounts that bear directly on Ibn al-Nafīs’s rejection of, and Ibn Ṭufayl’s advocacy of, autodidactic learning.

Ibn Ṭufayl’s Ḥayy observes the natural world in order to progress systematically to the knowledge of the spiritual world. Ḥayy’s dissections lead him to speculate on the nature of spirits, souls and the Platonic notion of forms, ultimately causing him to turn

66 Hasanali seems to think that the parallels in Ibn Ṭufayl and Ibn al-Nafīs’s texts are limited to the first part, and so misses out on the reason why Ibn al-Nafīs names his character Fāḍil ibn Nāṭiq; see Hasanali, “Texts, Translators, Transmissions,” pp. 107–108.

67 There are also significant differences in the accounts of spontaneous generation, as well as of the early lives of Ḥayy and Kāmil that are not important for our current purposes. I will touch on them briefly later in this chapter, and more thoroughly in chapter four.

away from the natural towards the spiritual world. He “learns to dissociate the soul, which he honors as master, from the body, . . .” whose parts he sees as simply the soul’s “servants or agents.” This Platonic disgust for matter and the sub-lunar world rears its head fully later in the tale when Hayy dissociates himself from bodily functions and requirements as much as possible, in order to focus on the celestial and spiritual side of things.

Ibn al-Nafis’s Kāmil, on the other hand, does not dwell upon anything spiritual during his dissections and observations of the plant and animal kingdom. The philosophical and metaphysical systems that are so prominent in Ibn Ṭufayl’s account are entirely missing from that of Ibn al-Nafis. Instead, Kāmil stays away from larger metaphysical questions as much as possible. The most that he indulges in such larger questions is to affirm, on the basis of his observations, “that all parts of . . . animals and plants exist for certain purposes and uses, and that nothing of them is superfluous and useless.” By making Kāmil stay away from metaphysical and theological speculations, Ibn al-Nafis is making a subtle point about how little the natural world can reveal about the divine, spiritual world—a point that comes to the fore in his dramatic shift in the narrative a few paragraphs later.

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69 Hayy (English), pp. 115–127.

70 Ibid., p. 9, 117.

71 Ibid., p. 143.

72 Theologus, pp. 40–43; and Hasanali, “Texts, Translators, Transmissions,” p. 115. Moreover, as Hasanali points out, instead of focusing on “spiritual notions,” Ibn al-Nafis chooses to highlight Kāmil’s observations of “aggressive predators and timid victims” in the animal world. “These observations are not incidental. The lessons that Kāmil learns is that the human animal is helpless and needs to live within the norms of society” (pp. 115–116). See below.

73 Theologus, p. 43.
Of course, the discussions about the natural and celestial world in both texts are meant to lead up to arguments for the existence of God. Yet, the similarity between the two texts at this point is merely superficial. Ḥayy and Kāmil’s “knowledge of the Creator and His attributes” is not identical. Moreover, Ḥayy and Kāmil are not led to their respective knowledges through the same process of reasoning either. Rather, Ibn Ṭufayl and Ibn al-Nafīs part ways sooner than has hitherto been suggested by the commentators on Ibn Ṭufayl and Ibn al-Nafīs. These scholars have failed to notice these subtle, yet important, differences because they have tended to ignore the larger context. Once we take that into account, we can uncover the real purpose behind Ibn Ṭufayl and Ibn al-Nafīs’s discussions of the natural and celestial worlds. Ibn Ṭufayl’s entire argument for the possibility of autodidactic learning hinges on his belief on the eternality of the universe, while, as a staunch traditionalist, Ibn al-Nafīs categorically denies both. The respective discussions on the natural worlds of both authors reflect these unique purposes and perspectives.

We have already seen evidence to support the claim that Ibn Ṭufayl’s purpose behind his detailed description of Ḥayy’s observations of the natural and celestial world is to illustrate just how much Ḥayy came to learn about the spiritual world from them. Moreover, we also know from the latter parts of the text that Ibn Ṭufayl is committed to: 1. a theory of emanation, and; 2. the possibility of being guided by the unchanging celestial beings and intelligences towards the unchanging Divine in order to accomplish a mystical union during which Ḥayy can envisage “the whole structure of spiritual

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74 Schacht and Meyerhof claim otherwise; ibid., p. 30.

75 Hayy (English), pp. 152–155.
intelligences, bodies and matter that emanates from the Divine.”" Thus, for Ibn Ṭufayl, Ḥayy not only needs to infer the existence of God from his observations, but he also needs to find in these observations a path to the unchanging, eternal One. For that reason, Ibn Ṭufayl is committed to the eternality of the universe because, in his mind, only an unchanging, eternal universe that is most like the Platonic eternal forms can lead Ḥayy to meditate on the Divine. As a result, his proofs for the existence of God are more proofs for the possibility of an eternal universe than for the existence of God, for he is forced to confront al-Ghazālī’s charges of heresy against Ibn Sīnā for believing in an eternal universe.78

As Sami Hawi shows, Ibn Ṭufayl presents a number of arguments for the existence of God in his treatise, of which three are rational and one mystical.79 Of the three rational arguments, only two of them are presented in an uninterrupted manner, and these are the ones that are predicated on Ḥayy’s observations of the universe.80 The first of these is short and argues for the necessity of a Being that is the cause of all being and who is the one that brings about all acts that emerge from forms.81 However, as

78 Al-Ghazālī’s “Fourth Discussion” specifically targets the falāṣifa’s contention that the world is simultaneously eternal and created; see his, The Incoherence of the Philosophers. He explicitly accuses them of heresy on this count at the conclusion of the treatise as well (p. 230).
81 Ḥayy (English), p. 127; and Ḥayy (Arabic), pp. 55–56.
Goodman points out, this is not really a very powerful proof on its own. To a certain extent, Ibn Ṭufayl does not intend it to be so, because it is related to his next, more elaborate, argument.\(^82\)

The second argument is less of a proof for the existence of God and more a demonstration to show that regardless of whether the universe is created or eternal, one would still arrive at the same concept of God.\(^83\) However, these “alternative choices,” as Hasanali puts it, are not provided for the reader as real, viable “options,” nor do they somehow illuminate Ibn Ṭufayl’s undogmatic approach.\(^84\) Ibn Ṭufayl believes in an eternal universe through and through.\(^85\) He wants, in fact, to show that regardless of whether the universe is created in time or is eternal, it still requires a “non-corporeal Author . . ., a Being neither in contact with matter nor cut off from it, neither within nor outside it.”\(^86\) Or, more explicitly, “The whole Universe . . . is His work and creation, ontologically, \textit{if not temporally}, posterior to Him.”\(^87\) Thus, since an eternal universe and a temporal universe both imply a God that is ontologically prior to creation, Ibn Ṭufayl contends, albeit implicitly, that al-Ghazālī’s charge of heresy against the \textit{falāsifa} for believing in the eternity of the universe is unwarranted.\(^88\) Once an eternal universe is deemed religiously acceptable, Ibn Ṭufayl can proceed to describe Ḥayy’s ascent to the

\(^82\) \textit{Hayy} (English), p. 203, n. 131; and Hawi, “Ibn Ṭufayl,” p. 61.

\(^83\) \textit{Hayy} (English), pp. 130–133; and Hawi, “Ibn Ṭufayl,” p. 61.


\(^85\) Hawi, “Ibn Ṭufayl,” p. 61.

\(^86\) \textit{Hayy} (English), p. 133.

\(^87\) Ibid., p. 133, my emphasis.

Divine as a result of his meditation on, and imitation of, the eternal rotation of the unchanging heavens. Thus, the whole point of these two arguments is not really to establish the existence of God as much as it is to support Ibn Ṭufayl’s contention that it is possible to understand the will of the unchanging, eternal God by examining the unchanging, eternal celestial rotations.

The third argument is by far the most philosophically cogent one, yet it is the one that is never presented “in an uninterrupted chain of reasoning in the treatise.” This is the classic Avicennian argument from contingent beings to that Being which is necessarily existent (wājib al-wujūd). Nevertheless, Ibn Ṭufayl never really focuses on this proof, and basically assumes at the conclusion of the previous two proofs that the God who is “the non-corporeal Author” necessarily exists. This further strengthens the claim that Ibn Ṭufayl is far more interested in making a point about the eternality of the universe than he is in deploying a proof for the existence of God that would actually be received well within the larger, Sunnī community in the thirteenth century. For it is the eternality of the universe, not the mere existence of God, that grounds Ḥayy’s quest for, and self-discovery of, the Divine. His understanding of the will of God, the proper means

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89 Hayy (English), pp. 145–147.

90 Hawi, “Ibn Tufayl,” p. 59. Hawi goes on to reconstruct the argument using Ibn Ṭufayl’s scattered statements throughout the treatise.

91 For the history and evolution of this classic Avicennian argument see Wisnovsky, Avicenna’s Metaphysics in Context; and Wisnovsky, “Avicenna and the Avicennian Tradition.”

92 Hayy (English), p. 135; and Hayy (Arabic), p. 65.

93 See Wisnovsky, “One Aspect of the Avicennian Turn in Sunnī Theology.”
of worshipping Him, and, finally, the means of perceiving Him, are all dependent on Ḥayy’s imitation of the eternal motion of the unchanging heavens.⁹⁴

Ibn al-Nafīs, on the other hand, wants to shut down all avenues to autodidactic learning. Thus, in the first part of the treatise, he intentionally blocks off Ibn Ṭūfayl’s proposed path towards autodidactic learning at three places. First, as has already been mentioned, Ibn al-Nafīs sticks to an empirical description of the natural world and stays away from all metaphysical language. This is so even though Ibn al-Nafīs subscribes to Aristotelian physics and metaphysics generally, i.e. the distinction between matter and form, and body and soul.⁹⁵ Second, he passes over any description of the celestial world.⁹⁶ He does not want to open up the possibility for Kāmil to postulate an unchanging, eternal heaven, based on the seemingly incessant, identical daily rotation of the stars and planets. Since Kāmil never posits an eternal, unchanging world, he cannot use that as a means to understand and relate to the eternal, unchanging God. Hence, Kāmil has no need to contemplate the possibility of an eternal universe and the problems that such a universe would create for a traditionalist understanding of a willing, creator-God.⁹⁷ Thus, he concludes this section using the classic Avicennian proof for the existence of God, based on the distinctions between the necessarily existent and

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⁹⁴ Ḥayy (English), pp. 145–148.

⁹⁵ See, for example, Theologus, pp. 109–111. These Aristotelian distinctions are also found in all his medical works.

⁹⁶ Theologus, p. 43: “Then [Kāmil] passed on to the celestial bodies and observed their movements and their respective positions, and their revolutions and the like, as we have explained in another book.” Though it would be nice to locate such a book, if indeed Ibn al-Nafīs ever wrote it, the real point is that Ibn al-Nafīs wants to undercut Ibn Ṭūfayl’s main argument at its source.

⁹⁷ As it is, Ibn al-Nafīs firmly denies the eternality of the universe; see his, Mukhtasar fīʿilm usūl al-ḥadīth, ed. Yusuf Zaydan (Cairo: al-Dar al-Misriyya al-Lubnaniyya, 1991), p. 121. He also rejects the stability and unchanging nature of celestial motions later on in his discussion of events leading up to the last day in Theologus (pp. 89–91).
contingent beings, that was becoming part and parcel of theological discussions during the thirteenth century.\textsuperscript{98}

Finally, the sharpest break with autodidactic learning takes place with a complete shift in the narrative that occurs immediately after Kāmil becomes aware of the existence of God:

When . . . Kāmil had reached in his knowledge the degree described . . ., he desired to know what are the claims of the Creator on His servants, and he reflected whether it was convenient that the Creator should be worshipped and obeyed, and which was the method of knowing the worship concordant with His Majesty, and he continued to think about this for some time. \textit{Then it happened that the winds threw upon the island a ship in which [there were] a great number of merchants and other people.}\textsuperscript{99}

This shift is important because it shows that Kāmil actually never resolves these issues on his own. Instead, Kāmil becomes enamored with the visitors, their food, clothes, and other details of their lives, and proceeds to learn about their communities, their cities, and their language.\textsuperscript{100} Only after he has mingled with these visitors and learnt their ways does Kāmil return to reflect upon God. However, by that point, the problematic has completely changed. Kāmil is no longer interested in deriving the “claims of the Creator,” or “the method of knowing the worship concordant with His Majesty.” Rather,

\textsuperscript{98} The argument states that the necessarily existent in itself (\textit{wājib al-wujūd bi-dhātihi}) brings into being all beings that are contingent in themselves (\textit{mumkin al-wujūd bi-dhātihi}), and that there can only be one such being; \textit{Theologus}, pp. 43–44. Also see Wisnovsky, “One Aspect of the Avicennian Turn in Sunni Theology.”

\textsuperscript{99} \textit{Theologus}, p. 44, my emphasis.

\textsuperscript{100} Ibid., p. 45: “Then [Kāmil] became friendly with them; they covered him with clothes, he ate their food and was pleased with them. They endeavoured to teach him their language and he learned much of it. They informed him of the condition of their cities and what was eaten in them. . . . So they took him to a city near to that island. He ate of the food of the inhabitants, and put on their clothes and it gave him enormous pleasure. He remembered how miserable his life had been because he was always naked in cold and heat, and had to confine himself to natural foodstuffs, and the animals always attacked and bit him.”
Kāmil sets aside his earlier questions, and immediately proceeds to rationalize the necessity of prophethood, Divine revelation and the progressive nature of prophecy:

[M]an can live well only if he is with a community who keep between them a law by which all disputes are settled. This is possible only if that law is met with obedience and acceptance, and this is the case only if it is believed to come forth from Allah, and this is the case only if it emanates from a person whom they regard as truthful when he informs them that it comes from Allah. Then he reflected on the beneficial role of this prophet, and found it threefold. Firstly, he transmits to mankind Allah’s law . . .; secondly, he makes known to mankind the majesty and other attributes of Allah; thirdly, he makes known the resurrection and the happiness and unhappiness which are prepared for them in the world to come. . . . These things are accepted only with difficulty by the natures of many people . . . Had not men in our time become acquainted with the precepts of the law, and accustomed to its doctrines, they would at once disapprove of it and disbelieve the prophets. As the acceptance of these things is difficult, men would, if the prophet revealed them at once, without having been preceded by other prophets . . ., be very much deterred from him and would strongly declare him to be a liar. Therefore it is fitting that at first some prophets should reveal that part of these things which is most easily accepted and most urgently needed for the preservation and the good life of mankind, namely the transmission of Allah’s law to men. . . .

Kāmil for this reason believed that the purpose of prophecy cannot be realized by one prophet, but that there must be several prophets of whom the first bring the (doctrines) which prepare men for the understanding of those (doctrines) which the later prophets bring. Every one of the later prophets must repeat what his predecessor brought and add to it until the beneficial function of prophecy is completed with the last prophet. Therefore the last one must know all that his predecessors brought, and must be able to reveal all that his predecessors had revealed. Therefore the prophet who is the Seal of the Prophets must be the most excellent of them . . . .

Ibn al-Nafīs’s argument for prophecy is very similar to that of the falāsīfa. Both, al-Fārābī and Ibn Sīnā, had earlier established the validity of prophecy based on an Aristotelian understanding of humans as inherently social beings. Ibn al-Nafīs’s use of

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101 Ibid., pp. 45–48, parenthetical emendations are in the original translation.

their arguments, whether for prophecy or the existence of God, emphasizes the point that Ibn al-Nafīs was somewhat committed to falsafa. His only real concern was the falāsifa’s belief in the self-sufficiency of reason as far as religious truths are concerned. Although Ibn al-Nafīs accepts their claim that one can prove the existence of prophets and their missions through reason alone, that is as far as he is willing to go. For Ibn al-Nafīs, all subsequent religious inquiry, whether into the nature of the laws, the attributes of God or the nature of the afterlife, must proceed by taking into account both reason and revelation. That is, either the inquiry proceeds with scripture stating these truths explicitly that are then post facto shown to be rational, for example the biography of the prophet, the religious laws, etc; or, it proceeds with scripture providing enough hints so that the rational elite can extract from its symbols and metaphors the underlying truths. Therein lies Ibn al-Nafīs’s disagreement with the falāsifa. For Ibn al-Nafīs, unlike the falāsifa, reason has no independent path to discovering religious realities. Ibn al-Nafīs’s commentators have generally failed to understand this important distinction.

The prose of Ibn al-Nafīs’s text has posed significant problems for modern interpreters of his text.103 The majority have converged on the opinion that Ibn al-Nafīs’s prose is to be taken literally. For example, when he claims that Kāmil reflected upon particular topics on his own, scholars have interpreted Ibn al-Nafīs as having literally argued for an autodidactic or self-sufficient element in Kāmil’s reasoning. That is precisely why Schacht and Meyerhof entitle their edition and translation of this work, Theologus Autodidactus. They also claim in their introduction that Kāmil “discovers for

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103 The notable exception is Hasanali, “Texts, Translators, Transmissions.”
himself not only the duties of man in worship and social relations, but also the periodical development of prophecy, the life-history of the last Prophet, the subsequent fate of the community of this Prophet, and the end of this world with the signs preceding it."\textsuperscript{104}

Similarly, Remke Kruk also believes that Kāmil “arrives at knowledge of the religious truths” by “independent reasoning.”\textsuperscript{105} However, if we place Ibn al-Nafīs’s work in the context of his time and other works, and pay close attention to the subtleties in his text, we can see that Ibn al-Nafīs is staunchly opposed to any possibility of autodidactic learning with regards to all religious truths.

The fact that Ibn al-Nafīs rejects the possibility of the self-sufficiency of reason with regards to every religious truth is supported by a number of passages in the text. We have already seen that he breaks the narrative at precisely the point where, if Kāmil were to follow in the footsteps of Hayy, Kāmil would have independently arrived at the means to worship the Creator. Kāmil, instead, is forced to come into contact with humans and to become a part of human society, which he ultimately ends up extolling: “[Kāmil] remembered how miserable his life had been because he was always naked in cold and heat, and had to confine himself to natural foodstuffs, and the animals always attacked and bit him.”\textsuperscript{106} Once acquainted with human culture and history, Kāmil then returns to his rational contemplations. However, it is quite evident at this point that Kāmil is not independently “discovering” past historical events. Rather, he is merely rationalizing the occurrence of events that have been narrated to him. That explains why Ibn al-Nafīs so

\textsuperscript{104} Theologus, p. 31.

\textsuperscript{105} Kruk, “Neoplatonists and After,” p. 82.

\textsuperscript{106} Theologus, p. 45.
carelessly refers to actual names of places, religions and figures over the course of the narrative. For, if Ibn al-Nafīs was serious about presenting Kāmil as a *theologus autodidactus*, he would certainly have not made such elementary mistakes. Schacht and Meyerhof record these slips but fail to see their significance.\(^{107}\)

Ibn al-Nafīs’s goal to rationalize religious history and truths, as opposed to rationally discovering them, is also evident in his discussion of the biography of the Prophet. At every step of the biography, Ibn al-Nafīs provides arguments to illustrate that the details, events and the character of the Prophet are in absolute conformity and harmony with reason. Take, for example, the manner in which he rationalizes the genealogy of the Prophet. Ibn al-Nafīs’s readers would agree with the statement that the “noblest possible genealogy” is that which goes back to Abraham since he “is held in equally high esteem by all religions.”\(^{108}\) Thus, in order for the Seal of the Prophets to be the “most excellent of the prophets,” under Arab notions of character and lineage,\(^{109}\) he too must be a descendant of Abraham. Furthermore, since this prophet brings new revelation and completes the mission of prophecy, he cannot be part of another religion prior to preaching this new revelation. That is because if he were a part of another religious tradition, then he would be considered an apostate by the followers of that

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\(^{107}\) Ibid., p. 35: “As regards the general plan of the work, Ibn al-Nafīs . . . refrains from pointing out himself the concordance between the results of the reasoning of his hero and the actual facts, but leaves that to the reader; nevertheless the word *Islām* escapes him . . .; it is also inconsistent, given his premisses, that he should mention Abraham, Ishmael, Jacob, and Jesus, the Jews, the Christians, and the Zoroastrians, as well as the Banū Hāshim, in connexion with the genealogy of the Last Prophet . . ., Mecca and the Ka‘ba . . ., and Yemen in connexion with the Last Things . . ., apart from other minor facts of this kind.”

\(^{108}\) Ibid., pp. 49, 124–125.

\(^{109}\) For the importance of genealogy and lineage in judging the nobility of people in Islamic societies, see *EF*, s.v. “nasab” (by F. Rosenthal).
religion after he brings forth the new scripture, thus inviting “people to shun him.” For this reason he cannot be a Jew or a Christian and so he cannot be from the descendants of Jacob or Esau. Thus, he must be from amongst the descendants of Ishmael, and since the noblest of them are the Hāshimites, he must also be a Hāshimite. As it turns out, this entire genealogy of the Prophet that Kāmil provides is in fact the agreed upon genealogy of the Prophet amongst Muslims.

It should be evident from these texts that Ibn al-Nafīs is not even trying to suggest that Kāmil constructed this genealogy independently or autodidactically. The numerous errors committed by Ibn al-Nafīs in actually referring to the historical figures, along with the form of the argument itself, suggest that he is only interested in showing that these events are in perfect harmony with reason. The liberal use of the phrase “necessarily (lā budda wa-ān)” throughout the text is meant to bring into sharp focus the inner logic and rationality of the sequence of events. It is not meant to suggest some absolute notion of necessity. Even less should it be seen as an example of Ibn al-Nafīs’s adherence to the doctrine of “ašlaḥ, ‘that which is most right and proper.’” This specific notion was developed by Mu'tazilī mutakallimūn to express how certain things were necessarily incumbent upon God, such as to create His creatures in the best possible way.

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10 Theologus, p. 124.

11 I disagree with Schacht and Meyerhof’s understanding that Ibn al-Nafīs meant Jesus (ʾĪsā) here and not Esau (ʿĪsā) (Theologus, p. 49, fn. 2). Medieval Muslims considered Jews to be the descendants of Jacob (Israel) and Christians to be the descendants of Esau; see Ibn Manẓūr, Lisān al-ʿArab, New ed. version (Beirut, 2000), vol. 9, pp. 308, 499. Besides, Muslims accept the traditional Christian belief that Jesus led a celibate life, so it would be impossible for Ibn al-Nafīs to claim that Christians are the physical descendants of Jesus.

12 Theologus, p. 32.

Although Ibn al-Nafīs subscribes to this doctrine for a few specific things,\textsuperscript{114} it certainly does not shape Ibn al-Nafīs’s entire treatise. The concept of ʿaslāḥ was invoked by the mutakallimūn to argue that God has no other choice but to act in certain ways. That is, it was used to remove multiplicity from God’s actions by suggesting that God has recourse to only the most proper course of action that can be known \textit{a priori}. One consequence of this understanding of God’s actions was that the mutakallimūn believed that one could arrive at the furūʿ (secondary rulings of Islamic law) purely rationally—a position that Ibn al-Nafīs rejects explicitly in his text on hadīth (see chapter two). However, Ibn al-Nafīs’s entire discussion of the life of the Prophet is filled with contingent details whose ordering and succession can only be rationalized and deemed “most proper” \textit{a posteriori}. The difference is subtle, yet important, for the proper \textit{kalam} sense of ʿaslāḥ leaves the door ajar for autodidactic learning, whereas the other one bolts that door shut. All Ibn al-Nafīs wants to allow is that there is an inherent rational order to the major events that occurred during the Prophet’s life—from his birth into a particular family, to his migration to Medina, to his takeover of Mecca and then to his death in Medina.\textsuperscript{115}

Therefore, a person who believes in the literal details of the biography of the Prophet cannot be considered anything but rational.\textsuperscript{116}

\textsuperscript{114} For example, he certainly believes that it is necessary for God to send Prophets to reveal His law, and he also believes that God must “necessarily take the greatest care of everything” (Theologus, p. 44).

\textsuperscript{115} Ibid., pp. 120–125.

\textsuperscript{116} The rationality of the exoteric details of the life of the Prophet is most clearly illustrated by Ibn al-Nafīs in his discussion of the Prophet’s physical and moral characteristics. Herein, Ibn al-Nafīs takes great care to emphasize the harmony between the Prophet’s known temperament and health-related problems and the science of medicine and physiognomy; ibid., pp. 116–121. For the status of physiognomy as a science in the medieval Islamic period, see Youssef Mourad, \textit{La physiognomonie Arabe et le Kitāb al-Firāsa de Fakhr al-Dīn al-Rāzī} (Paris: Geuthner, 1939); and Robert Hoyland, “Physiognomy in the Muslim World,” \textit{Jerusalem Studies in Arabic and Islam} \textbf{30} (2005): 361–402.
Thus, by going over the basic outline and certain intimate details of the Prophet’s life, Ibn al-Nafīs has hoped to have shown that the figure of the Prophet, his mission, his character, and his life-history are all in harmony with reason. Moreover, Ibn al-Nafīs is not, strictly speaking, relying on aslah. That would require him to believe in the possibility of arriving at all this information from first principles, i.e. for Kāmil to be a true autodidact—a possibility he clearly rejects. What he has shown, however, is that the literal and exoteric aspects of religion that the masses adhere to are not contrary to reason. In fact, if anything, they can be shown to be in perfect harmony with reason. Thus, Ibn Ṭufayl is unjustified in calling the masses “irrational animals.” They are, rather, the virtuous followers of a rational plan—symbolized by the name, Fāḍil ibn Nāṭiq (Virtuous son of the Rational).

3.4 Anthropomorphism and the Authority of Revelation

Thus far, Ibn al-Nafīs has tried to argue that Ibn Ṭufayl assumes incorrectly that one can discover religious truths without recourse to revelation. Unlike Ibn Ṭufayl’s Ḥayy, Ibn al-Nafīs’s Kāmil is unable to discover rationally anything apart from the existence of God. Instead, Kāmil rationalizes the various religious rituals and practices, only after he has learnt of them through the shipwrecked crew (here symbolizing a civilization in possession of a Divine revelation, or perhaps even Divine revelation itself). Consequently, he has also been able to argue successfully against Ibn Ṭufayl’s claim that the exoteric aspects of revelation, to which the masses adhere, are irrational.

117 The translation of the narrator’s name as “Virtuous son of the Rational” is found in Mahdi, “Remarks on the Theologus.” However, Mahdi does not attach the same meaning and significance to the name change.
However, Ibn al-Nafīs has still not addressed Ibn Ṭufayl and the *falāṣīfa*’s primary concern that an exoteric scriptural understanding of the nature of God and the afterlife is fundamentally irreconcilable with a philosophical understanding of these issues. Of course, the *falāṣīfa* assume that they have arrived at a demonstrative understanding of these issues—an assumption that al-Ghazālī and other thirteenth century scholars denied vehemently.118 Nonetheless, almost all of these scholars merely engaged in a “negativist” enterprise of criticizing the *falāṣīfa*’s rejection of bodily resurrection and God’s will and other attributes, in “defence of the common orthodox creed.”119 On the other hand, Ibn al-Nafīs not only wants to criticize the *falāṣīfa*, but he also wants to engage in a more positive theological enterprise in order to establish his basic claim that revelation is necessary for any rational inquiry into religious doctrines. Hence, he confronts the contemporaneous scriptural and rational understandings of these two problematic religious doctrines to illustrate the mutual dependence of revelation and reason on one another, starting with the nature of God.

As mentioned earlier, the *falāṣīfa* inherited their system of thought and methodology from the Hellenistic philosophers. Throughout Late Antiquity, there was a move to try and reconcile the ideas of Plato and Aristotle, specifically to crown “Aristotle’s metaphysics with a rational theology based on the Platonic tradition . . .”120 Once the corpus of Greek writings was appropriated into Arabic, the *falāṣīfa* inherited and built upon this Neoplatonic system. The first of these, al-Kindī, known as the

118 See al-Ghazali, *Incoherence of the Philosophers*.


“philosopher of the Arabs,” was quick to appropriate some of these developments, particularly the Plotinian notion of the absolute oneness of God.\textsuperscript{121} However, the main problem with this Plotinian conception is that God can then only be described in primarily negative terms, since any positive attribution seems to take away from His unity. As Adamson notes, “This seems to be something of a counsel of despair for would-be-theologians: the conclusion is apparently that nothing at all can be known or said about God.”\textsuperscript{122} Nonetheless, later falāsifa continued to develop this negative definition of God and continued to work within a Plotinian emanation scheme to articulate God’s relationship to the world, the manner in which He causes events in it and His knowledge of those events.

At the same time, the mutakallimūn were also engaged in rationally debating questions over the unity of God. How much they were influenced by the falāsifa and the translated Greek texts, or how much of it was the other way around, is really a moot point since, as Wisnovsky states, “the two strands of thought were so intertwined at the conceptual level that it is impossible to disentangle them without ripping apart the intricate tapestry of Islamic intellectual history.”\textsuperscript{123} Suffice it to say, the earliest school of kalām, the Muʿtazila, known as “the partisans of unity,” were also inclined towards defining God through the use of negative descriptions.\textsuperscript{124} However, since they were also

\textsuperscript{121} Peter Adamson, “al-Kindī,” in Adamson and Taylor, ed.,\textit{ Cambridge Companion}, pp. 32–51, 35–39. Unlike the later falāsifa, al-Kindī defended the doctrine of creatio ex nihilo and so denied the eternality of the world.

\textsuperscript{122} Adamson, “al-Kindi,” p. 36.

\textsuperscript{123} Robert Wisnovsky, “The Avicennian Turn in Sunni Theology,” p. 100.

\textsuperscript{124} Harry A. Wolfson,\textit{ The Philosophy of the Kalam} (Cambridge: Harvard University Press, 1976), p. 133.
vested heavily in the authority of scripture, they were “more explicitly exegetical” and, hence, had to tackle the various positive attributes of God that appear in the Qur’ānic text. As a result, they were forced to develop a complex philosophical system that could allow them to adhere to a strict monotheism while permitting them to attribute to God certain positive characteristics. These discussions were then further developed by later mutakallimūn, ultimately arriving at a fragile impasse whereby they maintained, with much difficulty, a belief in the eternal, yet causally dependent, nature of the Divine attributes.

Ibn Sīnā sits atop both these philosophical traditions. He inherited, on the one hand, the Plotinian notions of the One and the emanation schemes from al-Kindī and al-Fārābī. On the other hand, he inherited the various philosophical discussions of the mutakallimūn concerning the creation of the world and the way in which the Divine attributes are related to the Divine Self. Working from these sources, Ibn Sīnā proceeded to develop the two hallmarks of his particular system of metaphysics: 1. the essence/existence distinction, and; 2. the three categories of existents—that which, in itself, necessarily exists (wājib al-wujūd bi-dhātihi), that which necessarily exists through another (wājib al-wujūd bi-ghayrihi), and that which, in itself, possibly exists (mumkin


127 See Wisnovsky, Avicenna’s Metaphysics in Context.
al-wujūd bi-dhātihi). Using these metaphysical distinctions, Ibn Sīnā developed his famous cosmological proof for the existence of God (see above), which alleviated some of the problems associated with the earlier kalām proofs. At the same time, he used these distinctions to argue for the eternity of the universe, the Plotinian emanation scheme of creation and the concept of the One.

The basics of the Avicennian emanation scheme are as follows. The One, being necessarily existent and an absolute unity, in apprehending itself, necessarily emanates the first intellect. This intellect, by apprehending the One, necessarily emanates a second intellect; by apprehending itself, it necessarily emanates the body of the outermost sphere; and by virtue of apprehending the One as a cause of its existence, necessarily emanates the soul of the outermost sphere. This second intellect then also emanates three similar things, including the sphere of the fixed stars, and the process continues to produce intellects, souls and celestial spheres—one for each of the five planets, the sun and the moon, until we arrive at the tenth intellect, which governs the sphere of the sublunary world. The entire scheme rejects the possibility of “any change, whether it be an act of willing, intention, or capacity . . ., even [including] a new relationship to an entity previously nonexistent, such as the creation of the world at a given moment,” since

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128 Wisnovsky, “The Avicennian Turn in Sunni Theology.”

129 On how Ibn Sīnā uses these distinctions to establish the creation of an eternal universe through a cosmic scheme of eternal celestial intelligences that emanate from the One, see Davidson, Alfarabi, Avicenna and Averroes, pp. 74–83; and Lenn Goodman, Avicenna (London: Routledge, 1992), pp. 61–83. Also see, Majid Fakhry, History of Islamic Philosophy (New York: Columbia University Press, 1970), pp. 173–177.

130 Davidson, Alfarabi, Avicenna and Averroes, pp. 74–83; Fakhry, History of Islamic Philosophy, pp. 176–177. al-Fārābī was perhaps the first person to combine Aristotelian metaphysics and the Plotinian emanation scheme with Ptolemaic astronomy, thus restricting the number of celestial intellects to ten; see David C. Reisman, “al-Fārābī and the Philosophical Curriculum,” in Adamson and Taylor, ed., Cambridge Companion, pp. 52–71, 56–57.
that would involve a change in the essence of the One.\textsuperscript{131} The entire system is devised to philosophically establish the ontological priority of God, while maintaining the eternality of the universe and its necessary existence.

We have already seen that Ibn Ṭufayl strongly believes in the eternality of the universe since it is what makes it possible for Ḥayy to be an autodidact. Additionally, since Ibn Ṭufayl was very much committed to Ibn Sīnā’s \textit{falsafa}, it is not surprising to see that Ibn Ṭufayl’s description of Ḥayy’s vision of the celestial world during his mystical experience is almost identical to Ibn Sīnā’s emanation scheme:

Passing through a deep trance to the complete death-of-self and real contact with the divine, he saw a being corresponding to the highest sphere, beyond which there is no body, a subject free of matter, and neither identical with the Truth and the One nor with the sphere itself, nor distinct from either . . . . Just below this, at the sphere of the fixed stars, Ḥayy saw another non-material being. This again was neither identical with the Truth and the One, nor with the highest sphere, nor even with [its soul\textsuperscript{132}], yet distinct from none of these. . . . Lying just below he saw the identity of the sphere of Saturn, again divorced from matter and neither the same as nor different from the beings he had seen . . . . Thus for each sphere he witnessed a transcendent immaterial subject, neither identical with nor distinct from those above, . . . until finally he reached the world of generation and decay, the bowels of the sphere of the moon. . . .

To these beings, whether bodies endure or perish, whether they exist or not, is all the same. Their sole bond is to the One, the Truth, the Necessarily Existent \textit{al-mawjūd al-wājib al-wujūd}, Who is the first of them, their origin and cause, \textit{the ground for their existence}, Who gives them being, allows them to endure and even to be eternal.\textsuperscript{133}

\textsuperscript{131} Fakhry, \textit{History of Islamic Philosophy}, p. 176.

\textsuperscript{132} In this case, Goodman mistakenly translates \textit{nafs} as “self” when Ibn Ṭufayl is actually referring to soul. This level is identical to Ibn Sīnā’s second set of emanations, where the first intellect emanates the second intellect, the sphere of the fixed stars, and the soul of this sphere.

\textsuperscript{133} \textit{Hayy} (English), pp. 152–153, 154–155, my emphasis; and \textit{Hayy} (Arabic), pp. 83–84, 86–87.
Ibn Sīnā’s and, consequently, Ibn Ṭufayl’s emanation schemes create a number of problems for a traditionalist, scriptural understanding of the nature of God. Most significantly, the scheme robs God of any attribute save His causative power, while the Qurʾān is filled with references to the positive attributes of God. Worse still, it removes the notion of “God’s will” from Divine action, thereby implying that God is forced to create the world of necessity. The seriousness of this issue can be gauged by the fact that al-Ghazālī devotes a significant portion of his treatise to the falāsifa’s emanation schemes. His attack on the theory of emanation is so severe that even Ibn Rushd concedes that Ibn Sīnā has it wrong and backs away from the scheme entirely. Scholars who took their problematic from scripture, be they Sunnīs or Shiʿās, mutakallimūn or fuqahā’, required God to have real agency in the world and not to just be a necessary existent who necessarily brings the world into existence.

Nonetheless, kalām and other Post-Avicennian theological discussions on God and His attributes owe a great deal to their clash with Ibn Sīnā. We have already seen that Ibn Sīnā himself owed a great debt to kalām for developing his own unique distinctions between essence and existence. Post-Avicennian mutakallimūn were themselves able to appropriate these distinctions in order to flesh out their own ideas about the relationship of God to the world and His attributes. The proof for the existence of God, through the use of Ibn Sīnā’s distinctions between necessary and contingent

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135 al-Ghazali, Incoherence of the Philosophers, especially discussions three and six; and Ibn Rushd, Tahafut al-Tahafut (The Incoherence of the Incoherence), tr. Simon van den Bergh (London: Luzac, 1954), discussion three, especially pp. 105–109, 117–120, 141. I do not want to suggest that Ibn Rushd had no other reason for abandoning the scheme, but he certainly saw merit in al-Ghazālī’s arguments against the Avicennian emanation scheme.

beings, replaced earlier cosmological arguments that relied on the concept of eternity and, as we saw earlier, was even used by Ibn al-Nafīs himself. However, the relationship between God and the Divine attributes, such as mercy, justice, etc., continued to create problems for the *mutakallimūn*. Like earlier *kalam* discussions that struggled to determine how the Divine attributes could themselves be eternal in God without making them out to be, in effect, mini-Gods, post-Avicennian discussions struggled to understand the Divine attributes using Ibn Sīnā’s notion of the necessary existent. For if the attributes were taken as being necessarily existent in themselves, they gained a causal autonomy that again made them out to be mini-Gods. On the other hand, if the attributes were taken as possibly existent, similar to earlier speculations about the attributes being non-eternal, then they had to be originated and, thus, could not be part of God’s self.¹³⁷

Suffice it to say, these *kalam* discussions over the nature of God’s positive attributes were very much unresolved and were being hotly disputed during Ibn al-Nafīs’s own time.

Ibn al-Nafīs’s defense of revelation against Ibn Ṭufayl’s condemnation of the anthropomorphic language in the Qur’ān reveals that Ibn al-Nafīs was well aware of the complex nature of the debates surrounding God’s attributes.¹³⁸ On the one hand, in keeping with scripture, and in sheer opposition to Ibn Ṭufayl and the *falāsifa*, he makes it abundantly clear that God must, nevertheless, possess certain positive attributes:

[Kāmil] reflected on the attributes of the Creator which this prophet ought to teach. He concluded that he ought to teach men that they had a Creator, and that

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¹³⁸ According to Ibn Ṭufayl, Hayy is initially bemused by the fact that a Prophet would describe God in anthropomorphic terms, thus allowing the masses to fall into “grave error”; *Hayy* (English), p. 161. Later, Hayy comes to terms with this aspect of revelation once he realizes how ignorant the masses really are (see above).
this Creator is possessed of splendour and majesty in an infinite degree, that He
must be obeyed and worshipped, and that there is no God but Him, and *that there
is nothing like Him*; that He is the hearing and knowing one; and other qualities
which are in keeping with Allah’s majesty, such as complete power and perfect
might.  

Even in this short passage, however, we see that Ibn al-Nafis is carefully trying to
balance the presence of both positive and negative aspects of God’s nature as presented in
the Qur’ān. This fine balance is severely tested as he begins to address the presence of
anthropomorphic texts in scripture:

At the same time this prophet would not make it clear that there is behind all that
something which he had concealed, and he would not oblige men [to believe]
something of which they could not easily become aware and which they could
imagine only with difficulty: for instance if he told them that Allah is neither
inside nor outside the world, that He is not a body and cannot be perceived by the
senses, that He is not in any direction and that one cannot point at Him with a sign
perceptible by the senses. Should the prophet explain these and similar things
they would be as it were meaningless for those who did not make a [special] study
to understand them; and if they [i.e., the masses] made a [special] study to
understand them they would become confused and bewildered, and their study
would prevent them from seeking their livelihood and following their
occupations, and the harmony of them all would be destroyed. This would be
c contrario to the primary aim of the prophetic mission.

We have already seen in chapter two that Ibn al-Nafis refuses to accept any
anthropomorphic *ḥadīth* as *ṣaḥīḥ* (sound), and even goes so far as to suggest that any
transmitter who narrates an anthropomorphic *ḥadīth* is to be declared a liar. However,
since the Qur’ān’s authenticity is taken as given, he is forced to confront the presence of
anthropomorphic language in the Qur’ān itself. As seen above, he justifies the presence
of such language in revelation by appealing to the innate ignorance of the masses and

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139 *Theologus*, p. 56, my emphasis.

140 Ibid., p. 56.
their inherent incapability of understanding incorporeal, transcendental realities.

Interestingly, that is exactly how the falāsifa also explained the presence of such anthropomorphisms. As Ibn Sīnā argues at length in his *al-Shifā*: 

[But] he ought not to involve them with anything [doctrinal] pertaining to the knowledge of God, exalted be He, beyond the knowledge that He is One, the Truth, and has nothing similar to Him. To go beyond this and obligate them to believe in His existence as being not referred to in place, as being not subject to verbal classifications, as being neither inside nor outside the world, nor anything of this kind [is to ask too much]. He will [simply] render their task too great, confuse the religion they have . . .. For it is only with great strain that they can conceive the true states of such matters in their true aspects; it is only the very few among them that can understand the truth of divine “unity” and divine “transcendence.” [The rest] would inevitably come to deny the truth of such existence, fall into dissensions . . .. For it is not for everyone that [the acquisition] of divine wisdom is facilitated.  

By admitting that the masses are incapable of understanding the truth about an incorporeal, transcendent God, and that for that reason revelation must resort to anthropomorphisms, Ibn al-Nafīs seems to be conceding to the falāsifa that revelation, in its literal sense, is indeed irreconcilable with reason. After all, the fact that revelation needs to address the masses and, in doing so, must resort to inaccurate depictions, is what had led the falāsifa to subvert the authority of revelation in the first place. And if revelation cannot present the truth for fear of confusing the masses, then the falāsifa must be right in maintaining that the elite have access to those truths independent of revelation. But that is precisely the kind of autodidactism that Ibn al-Nafīs denies vehemently. In order to move past this dilemma, Ibn al-Nafīs distances himself from the falāsifa’s views.

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141 Ibn Sīnā, *The Metaphysics*, pp. 365–366, emendations are in the original translation itself. Ibn Ṭufayl ends his treatise on a similar note. Hayy realizes that by trying to teach them the truth about the nature of the incorporeal and utterly transcendent God he has confused the masses of the city to no end. Thus, he apologizes for his mistake and asks them to stick closely to and “accept all the most problematical elements of the tradition”; *Hayy* (English), p. 164.
on these matters ever so slightly, so as to emphasize the dialectical nature of the relationship between revelation and reason.

Ibn Sīnā had stringently maintained that the prophet of revelation should not reveal the truth for fear of misleading the masses. Instead, he, along with the revelation, should only speak in symbols that, at most, stimulate philosophical inquiry without actually providing the substance for it:

Nor is it proper for any human to reveal that he possesses knowledge he is hiding from the commonality. Indeed, he must never permit any reference to this. Rather, he should let them know of God’s majesty and greatness through symbols (rumūz) and similitudes (amthila) derived from things that, for them, are majestic and great, adding this much: that He has neither an equal, nor a partner, nor anyone like Him. Similarly, he must instill in them the belief in the resurrection in a manner that they can conceive and in which their souls find rest. . . . Of the true nature of [the afterlife] he should indicate only something in general . . .. Know that God, exalted be He, knows that the good lies in [such a state of affairs]. It follows, then, that that which God knows to be the good must exist . . .. But there is no harm if the legislator’s words contain symbols and signs that might call forth those naturally disposed toward theoretical reflection to pursue philosophic investigations (wa-lā ba’īs an yashtamil khitābuḥu ‘ala rumūz wa ishārāt tastadī al-mustaʿidd bi’l-jiblati li’l-naẓar ilā ’l-baḥṭh al-ḥikmī).142

Ibn al-Nafis, on the other hand, demands that, even while speaking in symbols, revelation must not leave anything essential out. Moreover, revelation must not only stimulate the adept towards philosophical inquiry, but it must actually provide the means for the rational elite to ascertain the true nature of the Divine:

Therefore, the prophet ought to mention these things [i.e. about the nature of God and His attributes] only in a general, and not in an explicit, detailed manner; and, moreover, he ought not to make it clear that there is a detailed explanation. Still, he ought not to omit any essential part of the details, but ought to introduce in his speech allegories and allusions sufficient to make the select ones understand all [of those] details [bal yaf’al fī kalāmihi min al-rumūz wa’l-ishārāt ma yafram al-

142 Ibn Sīna, The Metaphysics, p. 366, bracketed emendations are in the original translation; parenthetical emendations are from the facing, edited Arabic text.
Therefore, the difference between Ibn al-Nafīs and the falāsifa lies again in their fundamental disagreement over the self-sufficiency of reason. Unlike the falāsifa, Ibn al-Nafīs is unwilling to grant that one can arrive at deep religious truths, in this case the nature of the Divine, without resorting to revelation. Thus, even though he agrees with the falāsifa that revelation speaks to the masses and, hence, is required to use anthropomorphic descriptions that are technically incorrect, he wants to ensure that revelation still contains the essential truths and alludes to the real nature of the Divine sufficiently enough for the rational elite to be properly guided. Just as in the case of the biography of the Prophet, revelation provides the material that then needs to be rationally understood.

Ibn al-Nafīs has some grounds for believing that the essential truths about the Divine are provided in revelation. After all, even the falāsifa would have admitted that, alongside its anthropomorphic verses, the Qurʾān also contains strong denials of anthropomorphism. Since Ibn al-Nafīs rejected the theologically vacuous Plotinian concept of God, he would have maintained that the Qurʾān’s attribution of will and other attributes to God contains a kernel of truth about the nature of the Divine. As for why Ibn al-Nafīs does not provide a philosophically rigorous way to understand the nature of God and the Divine attributes as found in the Qurʾān, there are two possibilities. First, as seen in the above discussion, Ibn al-Nafīs distinguishes between the intellectual capacities of the masses and those of the elite. Such a view was quite prevalent amongst

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143 Theologus, p. 56, 112.
the falāṣifa and other scholarly elites during this time. In fact, Ibn al-Nafīs makes a similar distinction in his hadīth text, which suggests that this principle was also favorably accepted in traditionalist circles. Thus, Ibn al-Nafīs’s refusal to engage in metaphysical discussions concerning God’s attributes in Fādil ibn Nāṭiq can be explained by the fact that this text was meant for a broad audience and not for a narrow, philosophical one.

Second, in order to provide a more substantial answer, Ibn al-Nafīs would have to incorporate discussions from contemporaneous kalām texts into his own treatise. As he himself maintains in his classification scheme of the religious sciences, “The science of kalām is concerned with the essence of God and the characters attributed to him . . . . For that reason it is the most honorable of [the religious] sciences.” Yet, the problem is that thirteenth century kalām had not entirely resolved the debates over the nature of the Divine attributes. These discussions were still trying to determine how best to incorporate Ibn Sīnā’s neat distinction between necessary and contingent existents in order to solve the problem of the attributes. Ibn al-Nafīs merely alludes to the fact that one would have to work with the positive ascriptions to God in revelation in order to arrive at the elusive answer. This suggests that Ibn al-Nafīs himself had not quite arrived at a complete rational understanding of the nature of the Divine attributes, even though he

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145 Ibn al-Nafīs, Mukhtasar, p. 115.

146 Ibid., pp. 96–97.
believed the answer lay in working from revelation. Perhaps what convinced him that he was on the right track was not only the fact that he had earlier rationalized the exoteric aspects of revelation, but also the fact that he had succeeded in rationalizing the scriptural understanding of bodily resurrection—a dogma that the *falāsifa* believed to be just as problematic as anthropomorphism.

3.5 Bodily Resurrection and the Problem of Individuation

There is no doubt that the belief in the promise of a life after death is one of the main tenets of Islam. Traditional Islamic sources contain an overwhelming amount of material on the events of the Last Day and the promised future life. The Qur’ān and *ḥadīth* describe vividly the conditions of the pious worshippers and sinners, along with describing the rewards and punishments that await them in their future life. In fact, the emphasis on resurrection and the day of judgment is so strong in the Qur’ān itself, “that the ethical teachings contained in the Book must be understood in the light of this reality.”

147 Thus, it comes as no surprise that most major Muslim thinkers have defended a doctrine of the afterlife. Nonetheless, the problem has been to ascertain the nature of that afterlife. Given their strong commitment to Neoplatonic Aristotelianism, the *falāsifa* categorically denied the possibility of a corporeal afterlife. Other groups that were more committed to scriptural sources found it much harder to reject the possibility of a

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corporeal afterlife, given the sheer bulk of religious references to such a state of existence.\textsuperscript{148}

Since traditionalists are most committed to the authority of scriptural texts, they hold firm to a belief in a physical afterlife and bodily resurrection. The support for their belief appears to come from the Qur’ān itself, which speaks of the afterlife in terms of physical rewards and punishments, and even scoffs at the suggestion that God is incapable of reviving decayed bones (36:78–79). Moreover, given the overwhelming number of ḥadīth and the consensus of the early companions of the Prophet and subsequent traditionalist scholars on this issue, traditionalists uphold a belief in the punishment of the grave (‘adhāb al-qabr).\textsuperscript{149} Although there was some disagreement amongst scholars on whether this punishment is purely for the soul or the body, Ibn Qayyim al-Jawziyya (d. 1350) claims that the majority of traditionalists and the mutakallimūn agreed that it is for both.\textsuperscript{150} However, he is certainly tolerant of differing opinions given by other mutakallimūn and ḥadīth scholars (ahl al-ḥadīth) who, while

\textsuperscript{148} The ḥadīth, in particular, provide considerable material on the condition of a person after death and in the interim period leading up to the Day of Resurrection. This material seeks to address concerns such as those over the nature of death, the parting of the soul, the physical location of the soul/spirit before it is reunited with a body on that day, the consciousness or awareness of the dead, whether there is a punishment in the grave that foreshadows that of the final judgment, and so forth. Much of this scattered material was carefully organized into book form by a Ḥanbalī religious scholar, Ibn Qayyim al-Jawziyya (d. 1350), in a treatise entitled Kitāb al-Rūḥ (The Book of the Spirit). This treatise lies at the center of many historical studies on the understanding of soul, death and resurrection amongst Muslim traditionalists. See Ibn Qayyim al-Jawziyya, Kitāb al-rūḥ: fī ’l-kalām ‘ala arwāḥ al-amwāt wa’l-ahyā’ bi’l-dalā’īl min al-kitāb wa’l-sunnah wa’l-āthār wa aqwāl al-‘ulamā’ (Cairo: Dar Nahr al-Nil, 19uu); Ragnar Eklund, Life Between Death and Resurrection According to Islam (Uppsala: Almqvist & Wiksells, 1941); J. Macdonald, “The Preliminaries to the Resurrection and Judgment,” Islamic Studies 4 (1965): 137–179; J. Macdonald, “The Day of Resurrection,” Islamic Studies 5 (1966): 129–197; Smith and Haddad, Islamic Understanding of Death and Resurrection; and Michael Marmura, “Soul: Islamic Concepts,” in The Encyclopedia of Religion, ed. Lindsay Jones (Detroit: Macmillan, 2005), vol. 13, pp. 461–465.

\textsuperscript{149} See EI\textsuperscript{2}, s.v. “’adhāb al-ḵabr” (by A. J. Wesnick-A. S. Tritton).

\textsuperscript{150} Ibn Qayyim, Kitab al-ruh, pp. 69–70; and Smith and Haddad, Islamic Understanding of Death and Resurrection, p. 57.
accepting bodily resurrection and this interim punishment of the grave, deny that this punishment is also inflicted upon bodies. The falāsifā are the only group that is severely criticized by Ibn Qayyim and whose views are referred to as being the “farthest from the people of Islam [lākin qawl al-falāsifā abʿad ʿan aqwāl ahli ʿl-islām],” because they not only deny the physical punishment of the grave, but they also deny bodily resurrection. As such, we see that traditionalists considered the belief in a physical afterlife to be more important than a belief in the punishment of the grave.

Interestingly, traditionalists use the terms nafs (soul) and rūḥ (spirit) interchangeably, even though the Qurʾān itself maintains a sharp distinction between the two terms. Throughout the Qurʾān, rūḥ is used in connection with the divine breath in Adam or the revelation that descends into the hearts of Prophets, but never to refer to individual human souls. On the other hand, nafs, and its plural anfus, is explicitly used to refer to human souls, or in situations describing individual moral and religious dispositions. However, the ḥadīth collections and subsequent traditionalist and kalām discourse used the terms interchangeably and, in most cases, they even privileged the use of rūḥ over nafs while referring to individual human souls.

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151 Ibn Qayyim, Kitab al-ruh, p. 70.


153 See, for example, Ibn Qayyim, Kitab al-ruh; Macdonald, “The Development of the Idea of Spirit in Islam”; and Calverly, “Doctrines of the Soul.” Under pressure to explain certain Qurʾānic verses and ḥadīth, traditionalists, at times, formulated a subtle distinction between the two terms but, in general, the two terms were used interchangeably; see Smith and Haddad, Islamic Understanding of Death and Resurrection.
As for the corporeality or immateriality of the soul, the Qur’ān and hadīth have little to offer. Neither set of texts explicitly approves any particular position, and the Qur’ān even seems to discourage speculations on the nature of the soul/spirit by stating that it is “God’s affair,” and that humans have hardly been provided with any knowledge in this regard (17:85). However, there are a vast number of references in traditional sources to the movement of the soul from the earth to the heavens and back, of the soul observing its place in the grave from the heavens and returning to it for questioning, and so on. Moreover, traditionalists also explained dreams by citing the movement of souls without their bodies during sleep, as described in the Qur’ān. For that reason, Ibn Qayyim, and many other traditionalists, believed in a corporeal soul that permeates the entire body, like “oil in olives” or “fire in charcoal,” albeit differing in essence from physical matter. This notion of the soul is not too different from that of some of the mutakallimūn.

Given the mutakallimūn’s self-identification as the “rational defenders of faith,” it is not surprising that they had struggled with these Qur’ānic notions of soul, spirit and resurrection. However, the mutakallimūn were also restricted in their quest for a solution

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154 The Qur’ān uses the term rūh here and if we accept that the Qur’ān never equates rūh and nafs then the verse may not apply to speculating over the nature of the human soul. Nevertheless, that is how the verse was interpreted over time by traditionalists; see Smith and Haddad, Islamic Understanding of Death and Resurrection, p. 18; and Marmura, “Soul: Islamic Concepts,” p. 460.

155 See Ibn Qayyim, Kitab al-ruh; and Smith and Haddad, Islamic Understanding of Death and Resurrection.

156 The Qur’ān states: “God takes the souls at death, and, for those who have not died, in their sleep. (As for the souls He takes up in the sleep,) He holds back those for whom death has been decreed, and sends the rest back for their appointed time” (38:43). Ibn Qayyim uses this verse, in conjunction with other traditions and verses, in order to explain dreams; Kitab al-ruh, pp. 27–44.

to these problems by their strong commitment to atomism. Along with rationally debating theological topics, the early *mutakallimūn* had developed an atomistic cosmological system to which they adhered quite strictly, at least up to the twelfth century.\(^{158}\) Thus, any discussion of the nature of man or the soul and spirit automatically took place within the confines of this system, which broke every physical thing down into atoms and accidents. Moreover, apart from their specific cosmological and theological concerns, the issue was further complicated by debates surrounding the principle of life and over the identity of life, soul and spirit.\(^{159}\) As a result, there was no real consensus amongst the early *mutakallimūn* on the nature of life, soul and spirit, except that they too tended to equate the terms *rūḥ* and *nafs* and, like the traditionalists, preferred to use the term *rūḥ* for soul. The few that denied atomism, but were committed to other parts of the *kalām* cosmological and theological system, such as al-Nazẓām (d. 845) and perhaps al-Juwaynī (d. 1085), upheld a view of the corporeal soul much like that of Ibn Qayyim.\(^{160}\) The majority, committed to atomism, suggested either that the soul was a single atom, or that it was an accident that resided in the body.\(^{161}\) They did, however, agree that the soul could not be an incorporeal substance that survives after death. Furthermore, since there are no non-corporeal entities in the cosmological universe of *kalām*, the *mutakallimūn*

\(^{158}\) A notable exception is al-Nazẓām (d. 845); see Alnoor Dhanani, *The Physical Theory of Kalām: Atoms, Space and Void in Basrian Mutazīlī Cosmology* (Leiden: E.J. Brill, 1994).


unanimously upheld a belief in bodily resurrection, even though many of them, particularly from amongst the Mu'tazila, denied any life to the body in the interim, and so rejected the possibility of the punishment of the grave.  

On the other end of the spectrum stand the falāsifa, who tended to reject the corporeality of the soul and bodily resurrection, and even the possibility of a punishment of the grave.  

Ibn Sīnā, whose philosophical views triumphed over those of his predecessors and who came to be seen as the embodiment of falsafa (as we have already seen), categorically denied the possibility of bodily resurrection. However, just as his views on prophecy and proofs for the existence of God provided a spring-board for subsequent discussions on these topics, so too did his views on the soul for subsequent discussions on personal immortality and resurrection. In fact, Ibn Ṭūfayl and Ibn al-Nafīs’s solutions to the problem of resurrection are directly based upon, and respond to, Ibn Sīnā’s central concern: the problem of the individuation of souls after death.

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163 The falāsifa were certainly divided on the issue of personal immortality. Al-Fārābī accepted the possibility of individual immortality through the survival of the rational soul and al-Kindī even subscribed to the doctrine of bodily resurrection; see Fakhry, *A History of Islamic Philosophy*, pp. 145–147; Reisman, “al-Fārābī and the Philosophical Curriculum”; and Marmura, “Soul: Islamic Concepts,” pp. 463–4. On the other hand, Abū Bakr al-Rāzī denied personal immortality and argued for a transmigration of souls; see Fakhry, *A History of Islamic Philosophy*, pp. 119–124. Ibn Rushd’s views on the issue are unclear and have confused scholars over the ages. The most recent assessment is that of Richard Taylor, who suggests that Ibn Rushd denied personal immortality in his mature philosophical works; see his, “Personal Immortality in Averroes’ Mature Philosophical Psychology,” *Documenti e studi sulla tradizione filosofica medievale* IX (1998): 87–110.

164 Ibn Sīnā does profess a belief in bodily resurrection at the beginning of his section on resurrection in his *Shifā* (Book 9, section 7); see his, *Metaphysics*. However, as Marmura shows, “elsewhere in his writings he explicitly denies bodily resurrection. Moreover, in the *Shifā*, with the [above-stated] exception . . . , there is no affirmation of bodily resurrection. His cosmology and theory of the soul, in fact, cannot accommodate such a doctrine”; Marmura, “Avicenna and the Kafām,” p. 195.
3.5.1 Ibn Sīnā, the Ammonian synthesis and the Problem of Individuation

Individual immortality and resurrection, divested of any form of materialism, form the cornerstone of Ibn Sīnā’s ethics and his philosophical system in general. We have already seen Ibn Sīnā’s strong commitment to rationally explicating and defending religion in examples drawn from his theory of prophecy. His commitment to individual immortality and resurrection was similarly firm and, in certain respects, somewhat more personal. It is no wonder that Ibn Rushd, whose own commitment to personal immortality is best described as elusive and equivocal, resolutely defends Ibn Sīnā on this point from al-Ghazālī’s charge of heresy even though he disagrees with the details of Ibn Sīnā’s argument:

But the [falāsifa] in particular, as is only natural, regard this doctrine [of resurrection] as most important and believe in it most . . ., for it is a necessity for the existence of the moral and speculative virtues and of the practical sciences in men.

Ibn Sīnā’s specific doctrine of the soul and its survival after death, along with the problems this doctrine generates, is a direct consequent of his engagement with *kalām* and the Hellenistic, Neoplatonic commentaries on Aristotle that molded the Arabic translations of Aristotle. On the one hand, he strenuously rejects the atomistic universe of *kalām* and its “materialist doctrines of the soul.” His proofs for the immateriality of the soul are specifically presented to attack the *kalām* doctrines. On the other hand,


because he is firmly committed to Aristotelian understandings of matter and form, he is confronted with two inter-related problems: 1) if the soul is indeed the form of the body, how can it survive death? 2) If the soul indeed survives the death of the body, as it must in order to support individual immortality in Avicenna’s system, what individuates it in an Aristotelian universe where the only individuating principle is matter? Although Ibn Sīnā never succeeded in resolving the second problem, his solution to the first problem develops out of a Neoplatonic Hellenistic understanding of the elusive Aristotelian definition of soul.169

In *De Anima*, Aristotle describes the soul (*psuche*) as a “substance in the sense of being the form of a natural body, which potentially has life.”170 This initial positive description follows upon a long refutation throughout Book One of the views of his predecessors on the soul, most of whom considered the soul to be some sort of a corporeal substance. More importantly, it also follows upon a discussion of Plato’s belief in a tripartite soul and the soul’s existence independent of the body. The discussions surrounding the tripartite soul will be taken up in the next chapter as they are important for understanding the physiological debates in which Ibn al-Nafīs participated and which led him to his discovery of the pulmonary transit of blood. As for Aristotle’s rejection of Plato’s soul-body dualism, it is not only implicit in his above equation of the soul as form, given the Aristotelian understanding of form as inseparable from matter,171 but he

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also states explicitly at the end of the chapter that “neither the soul nor certain parts of it, if it has parts, can be separated from the body.”\(^{172}\)

In the subsequent discussion, Aristotle offers a definition of the soul that has taxed almost every commentator of Aristotle thence.\(^{173}\) He first describes substance as “entelechy,” and then goes on to define the soul “as the first [entelechy] of a natural body potentially possessing life.”\(^{174}\) The entire weight of the definition, naturally, revolves around Aristotle’s invented term, “entelechy.”\(^{175}\) Modern commentators in particular have found this definition problematic, primarily because this usage of “entelechy” does not reconcile well with its usage in *Physics*, III.1, where it is used to define change. As Ackrill notes, “it is not clear how the notions of form and matter or of actuality [“entelechy’’] and potentiality are in this case to be understood.”\(^{176}\) For example, as Wisnovsky shows, the *De Anima* definition commits Aristotle to a view of entelechy as “a state of being,” whereas the passage from *Physics* leaves open the possibility of entelechy as “a process of becoming,” depending on whether one understands “change” in Aristotle as a process or state.\(^{177}\) Moreover, there is also the additional problem of

\(^{172}\) Aristotle, *De Anima*, II.1 413a3–4.


\(^{176}\) Ackrill, “Aristotle’s Definitions of *psuche,*” p. 68.

determining what Aristotle means by first and second entelechy. The problem arises precisely because Aristotle wants to be able to differentiate between the dormant and waking lives of an individual. However,

[i]f being alive, whether for an organ or for a whole body, is having certain powers (not necessarily exercising them) and to be an organ or a human body is to possess such powers, no distinction can be drawn for organs and bodies between their being potentially alive and their being actually alive.178

To put it another way, if ‘entelechy’ is understood as ‘actuality’ in relation to potentiality, then how is it possible for the soul to be a first entelechy “which seems much closer to potentiality than it does to actuality?”179

Many modern commentators shy away from reconciling the two uses of entelechy, and instead concentrate primarily on Aristotle’s actual concepts of soul and change.180 Sorabji and Bolton, for example, even argue that Aristotle never really meant the above definition to be taken as a definition, but only as an “outline.”181 Sorabji, in fact, picks out the subsequent discussion on the capacities/faculties of living things as the real Aristotelian account of soul, claiming that, for Aristotle, soul “just is these capacities.”182 This functional definition of ensoulment is certainly important in Aristotle and was picked up by his later commentators, including Ibn Sīnā who notes that nourishment, growth and reproduction,

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178 Ackrill, “Aristotle’s Definitions of psuche,” p. 70. For a critique of Ackrill’s views, see Charlton, “Aristotle’s Definition of Soul.”

179 Wisnovsky, Avicenna’s Metaphysics in Context, p. 23.

180 Ibid., p. 4.


do not arise in these bodies by virtue of their physicality. Rather, they have in their essences principles other than physicality that are responsible for these actions. And whatever gives rise to such actions . . . cannot be devoid of will and is therefore called “soul.”

I shall return to this discussion of the faculties of the soul in chapter four as it is important for understanding not only Aristotelian physiology, but even Galenic physiology as it came to be understood by Islamic physicians. For the time being, it is important to note that even though this functional definition of soul is entailed in the earlier definition of soul as entelechy, as Sorabji and Lloyd rightly claim, it does not exhaust the meanings of that definition. “Entelechy” is highly underdetermined in the Aristotelian corpus and, in the hands of his Neoplatonic Hellenistic commentators, the concept gave rise to a specific way of reconciling the different usages of “entelechy” that eventually led them to reconcile the Aristotelian view of the immanent soul with a Platonic notion of a separable soul.

As Robert Wisnovsky shows, Aristotle’s Hellenistic commentators, unlike his modern commentators, were committed to reconciling the two different usages of “entelechy.” To summarize Wisnovsky’s arguments, the early Hellenistic commentators, Alexander of Aphrodisias (fl. 205 C.E.) and Themistius (fl. 365 C.E.) came to understand entelechy in the framework of completeness and “endedness.” In the hands of the Neoplatonic commentators, especially Ammonius (d. ca. 521 C. E.), this understanding

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183 Ibn Sīnā, Shifā’ quoted in Goodman, Avicenna, p. 149.


185 Wisnovsky, Avicenna’s Metaphysics in Context. Of course, in one passage of De Anima (II.2 413b24) Aristotle seems to suggest that since reason is not the perfection of a bodily organ, it can survive without a body. This passage has troubled commentators, some of whom have seen it as a remnant of Platonic dualistic notions, while others have argued that this passage in no way justifies personal immortality; see Lloyd, Aristotle, pp. 19–41, 186–187, 195–201; and Bolton, “Aristotle’s Definitions of the Soul.”
of entelechy as completeness and endedness was used to support a specifically Neoplatonic metaphysics of reversion and procession. Within this metaphysics, the Neoplatonic commentators divided the four Aristotelian causes into those that transcend their effects (final and efficient), and those that are immanent in their effects (formal and material). From there it is easy to see that they could argue for the separability of the soul *qua* final cause, but final cause as understood in the Neoplatonic sense of transcending its effect. And it is this understanding of soul as entelechy, understood as completeness and perfection, and the final causes as transcending their effects, that found its way into the Arabic translations of Aristotle and his commentators upon which Ibn Sīnā relies.  

We have already seen above that Ibn Sīnā accepts the functional definition of soul as the principle of the faculties of a living organism. We should also note that he immediately refers to the soul as being beyond physical or incorporeal. That is in fact the core essence of his understanding of the soul, and a consequence of his rejection of the *kalām* arguments for the corporeality of the soul. Over the course of his works, he provides a number of arguments for the incorporeality of the soul, ranging from the necessity for the receptacle of universal notions to be indivisible and hence immaterial,

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188 Marmura, “Avicenna and the Kalam.”

189 Rahman, *Avicenna’s Psychology*, pp. 41–54. According to Aristotle, or at least according to the non-dualistic interpretation of his passages in *De Anima* II.2, III.4 and III.5, each individual’s active intellect must be immaterial since it is concerned with universals. Hence, it is considered separable from the body and survives its death. However, since Aristotle is not vested in personal immortality, he need not worry about the numerical identity of the different active intellects after death; see, for example, Lloyd, *Aristotle*,
to the idea that the material body continuously undergoes change and dissolution and so
cannot be the basis for individual unity over time, to his famous “flying man” experiment
which establishes the immaterial soul as the true referent of “I” in humans.\textsuperscript{190} Naturally,
the incorporeal nature of the soul can be easily reconciled with, and has traditionally been
considered, the Aristotelian position.

Furthermore, Ibn Sīnā agrees with Aristotle that the soul does not in fact exist
prior to the body and only comes into existence with the body.\textsuperscript{191} Thus, he completely
rejects the Platonic soul-body dualism. Yet, unlike Aristotle, Ibn Sīnā refrains from
defining the soul as the form of the body. As a committed Aristotelian, he recognizes
that forms are immanent in matter. As such, forms cannot exist outside and apart from
matter, and so cannot be preserved after the matter is corrupted, or in this case, after a
person dies. For that reason, he restricts himself to defining the soul as “a first perfection
of a natural instrumental body to perform the activities of living.”\textsuperscript{192} This is precisely the
Aristotelian definition of soul as the “first entelechy,” except that Ibn Sīnā has come to
understand “entelechy” as “perfection” in light of the Ammonian tradition.


\textsuperscript{191} Ibn Sīnā’s rejection of this Platonic notion of an independent prior existence of the soul is most
prominent in his attack on metempsychosis; see Michael Marmura, “Avicenna and the Problem of the
Infinite Number of Souls,” \textit{Mediaeval Studies} 22 (1960): 232–9; and Tariq Jaffer, “Bodies, Souls and
Resurrection in Avicenna’s \textit{ar-Risāla al-Adhawīya fi amr al-ma‘ād}” in \textit{Before and After Avicenna:
Proceedings of the First Conference of the Avicenna Study Group}, ed. David Reisman with the assistance

\textsuperscript{192} Wisnovsky, \textit{Metaphysics in Context}, p. 114.
The Ammonian background is even more apparent in his discussion of perfection in his *Marginal Notes on Aristotle’s De Anima*, wherein he explains that perfection is a much broader term that encompasses not only the forms immanent in matter, but also perfections that are separable from matter. Consequently, Ibn Sīnā can claim that since the human soul *qua* final cause of the body transcends its effect, and since the human soul is a perfection of the body that is not immanent in its matter, it is separable from the body and can survive its death.

Although earlier commentators had taken this Avicennian move to be reminiscent of Neoplatonic soul-body dualism, Wisnovsky has conclusively shown how Ibn Sīnā could argue for the separability of the soul as an Aristotelian:

> [G]iven Avicenna’s rejection of the Platonic/Plotinian doctrine of the soul’s pre-existence and descent into the body; given the fact that Aristotle’s position on the soul’s, or at least the intellect’s, separability or separatedness is more underdetermined than most modern scholars have allowed; given the radical conceptual transformation which the concept of perfection underwent as a result of the activities of Greek commentators and Greco-Arabic translators; and finally, given Avicenna’s inheritance of an increasingly hardened distinction between the formal and material causes, which are intrinsic to or immanent in their effect, and the final and efficient causes, which are extrinsic to or transcend their effect, Avicenna’s position on the soul’s separability or separatedness should, I believe, be seen as a sophisticated and justifiable reading of Aristotle by a philosopher who stands as the culmination of the Ammonian synthesis, rather than as a symptom of his being in thrall to some caricature of Platonism or Neoplatonism.

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193 Ibid., p. 117. Ibn al-Nafīs reveals in his discussion of perfection in the *Sharḥ al-Qānūn* that he too is aware of this distinction between form and perfection in Ibn Sīnā’s *falsafa* (see below).

194 For a detailed study, see Wisnovsky, *Avicenna’s Metaphysics in Context*, chapter 6.


What Wisnovsky’s phenomenal work shows is that Ibn Sīnā was absolutely convinced about the separability and survival of the individual rational soul after death, and that he could philosophically justify such a position, given his understanding of certain key Aristotelian passages and concepts. In other words, he could philosophically justify a belief in personal immortality. However, an important problem continued to trouble him: the problem of individuating incorporeal souls after their separation from bodies. Since Ibn Sīnā firmly believed in the incorporeality of souls, and since matter is the only individuating principle in the universe for him, Ibn Sīnā still needed to show how the separable human souls maintain their individuality after death. He continued to struggle with this important puzzle and was never able to “provide a complete treatment” for it. He acknowledged that individuation is “essential for the existence of the human soul and [that it] is caused by its connection to a particular body” even after death. Yet, he was never able to provide a satisfactory account of this connection and admitted that it was “obscure.”

Subsequently, the soul’s principle of individuation became the central problem that post-Avicennian falsafa and its critics had to tackle with regard to the problem of resurrection. Not surprisingly, the problem of individuation also forms the cornerstone of Ibn Ṭufayl and Ibn al-Nafīs’s discussions of soul and resurrection.

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3.5.2 *Soul, Spirit and Monistic Sufism: The Case of Ibn Ṭufayl*

Like Ibn Sīnā, Ibn Ṭufayl posits the existence of a “principle over and above” corporeality that enables a body to accomplish its tasks as a plant, animal or human.\(^{198}\) Thus, he maintains that the true identity of a human being is the incorporeal soul, which is imperishable by virtue of being incorporeal.\(^{199}\) As a result, Ibn Ṭufayl subscribes to a purely spiritual resurrection and afterlife, and strongly opposes the possibility of a corporeal afterlife.\(^{200}\)

However, unlike Ibn Sīnā, Ibn Ṭufayl does not subscribe to the Neoplatonic notions of final causes as perfections that transcend their effects. For that reason, the Avicennian definition of soul as the first perfection of a natural body does not figure into Ibn Ṭufayl’s account. Instead, as a stricter Aristotelian, Ibn Ṭufayl equates soul (*nafs*) with “form” (*ṣūra*).\(^{201}\) One would imagine that this identity would create even more problems for Ibn Ṭufayl since, according to both Aristotelian and Neoplatonic understandings of formal cause, forms are always immanent in matter. As a result, he appears to have taken a step backwards, in that not only does he need to solve the problem of individuation, but he now also needs to show how the soul *qua* form can be separated from the body at death. His seemingly unusual step and his final resolution of the problem of individuation make sense once we understand Ibn Ṭufayl’s commitment to the mystical vision (*mushāhada*) of the Sūfīs.

\(^{198}\) *Hayy* (English), p. 123.

\(^{199}\) Ibid., pp. 135–6.

\(^{200}\) Ibid., pp. 137–8, 153.

\(^{201}\) Ibid., p. 123; and *Hayy* (Arabic), pp. 50–51.
Ibn Ṭufayl’s commitment to the soul’s potential to experience hidden realities directly is hardly surprising. After all, he himself maintains in the preface that he has “garnered what truth” he has by comparing the arguments of “Ghazālī and Avicenna,” and he considers al-Ghazālī to be a Sūfī who experienced the “mystical vision” (*mushāhada*). In fact, this vision is what grounds Ibn Ṭufayl’s own argument for autodidactic learning, since it is precisely what enables Hayy to penetrate the depths of true reality. Consequently, Ibn Ṭufayl is primarily concerned with rationally explicating this “mystical vision” (*mushāhada*). As it turns out, however, his solution to personal immortality and individuation is closely tied to this explication.

A good place to begin the analysis of his views is with the passage immediately preceding Ibn Ṭufayl’s description of Ḥayy’s experiences during his mystical vision. Before proceeding to describe this vision, Ibn Ṭufayl cautions the reader thus:

> Now do not set your heart on a description of what has never been represented in a human heart. For many things that are articulate in the heart cannot be described. . . . Nor by ‘heart’ do I mean only the physical heart or the spirit it encloses. I mean also the form [ṣūra] of that spirit which spreads its powers throughout the human body. All three of these [i.e. heart, spirit and soul] might be termed ‘heart’... 

This equivocation of the three terms—heart, spirit and soul—is identical to that found in the Sūfī works of al-Ghazālī. According to this Sūfī understanding, the heart,

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203 Ibid., p. 95; and *Hayy* (Arabic), pp. 16–17.

204 *Hayy* (English), p. 95; and *Hayy* (Arabic), pp. 16–17.

205 *Hayy* (English), p. 149; and *Hayy* (Arabic), p. 81.

understood here in its spiritual aspects, belongs to and so has direct access to the world of the unseen (‘ālam al-malakūt), of which this world is but a symbol (mithāl). The mystical vision is nothing more than a glimpse into that world through this spiritual aspect of the heart. Ibn Ṭūfayl combines al-Ghazālī’s understanding of the heart, spirit and soul with an Aristotelian understanding of these terms, and also with the Avicennian emanation scheme, in order to rationalize his particular understanding of the mystical vision as well as that of personal immortality.

Looking back at the previous passage, we see that Ibn Ṭūfayl not only equivocates heart, spirit and soul, but he also suggests that these three entities form a tight physiological relationship: the heart is the seat of the spirit whose form is the soul. The

\[207\] Ibid., pp. 149–150.

\[208\] Al-Ghazālī’s views on the nature of the soul and the afterlife have been subject to much controversy ever since the time of Ibn Ṭūfayl and Ibn Rushd. Ibn Ṭūfayl tries to resolve the glaring inconsistencies in al-Ghazālī’s views on the afterlife by suggesting that he intentionally obscured his views in his exoteric works, in order to not excite and mislead the masses; Hayy (English), pp. 101–2. On the other hand, Ibn Rushd accuses al-Ghazālī of confusing and misleading the masses by being everything to everyone and by revealing to them things that should not be revealed; Ibn Rushd, The Book of the Decisive Treatise, pp. 22, 26–27.

The confusion originates in al-Ghazālī’s harsh attack on the falāṣīfī for denying bodily resurrection in his Tahāfut al-Falāṣīfī. In it, al-Ghazālī explicitly states that his aim in this treatise is merely to highlight the inconsistencies within the system of the falāṣīfī, i.e. to illustrate that their arguments are not demonstrations in the Aristotelian sense of the term (Incoherence of the Philosophers, p. 7). Thus, in his criticism of the falāṣīfī’s denial of bodily resurrection, he shows that bodily resurrection is possible even if one accepts the falāṣīfī’s doctrine of the incorporeal, separable soul (Incoherence of the Philosophers, pp. 217–218). However, in another work (al-Iqtiṣād fi ’l-I’tiqād), al-Ghazālī “repudiates the theory of an immaterial soul” and declares that he merely affirmed this doctrine in the Tahāfut in order to refute the falāṣīfī’s denial of bodily resurrection; Michael Marmura, “Al-Ghazālī on Bodily Resurrection and Causality in Tahāfut and the Iqtīsād,” Aligarh Journal of Islamic Thought 2 (1989): 46–75, p. 47.

To complicate things further, in yet another work (Mīzān al-‘amal) al-Ghazālī not only declares that the Sūfis believe in the separability of an immaterial soul, but also in a spiritual afterlife, just like the falāṣīfī. This is problematic, to say the least, because in his autobiography (Munqidh min al-dalāl) and his magnum opus (Iḥyā’ ʿulūm al-dīn), al-Ghazālī identifies himself with Sūfis and their doctrines. Nonetheless, throughout every single one of these works, he continues to uphold a belief in bodily resurrection; see Richard J. McCarthy, Freedom and Fulfillment: An Annotated Translation of al-Ghazālī’s al-Munqidh min al-dalāl and Other Relevant Works of al-Ghazālī (Boston: Twayne Publishers, 1980), pp. 90–110; and Gianotti, Al-Ghazali’s Unspeakable Doctrine of the Soul, pp. 22–24.
soul, thus, is not the form of the entire body, but specifically of the spirit that resides in the heart. This is a clear difference between Ibn Ṭūfayl, on the one hand, and Ibn Sīnā and Ibn al-Nafīs, on the other. As a result, Ibn Ṭūfayl’s entire solution to personal immortality revolves around the imperishability of the spirit—the subtle, corporeal body that physically resides in the heart; for if the spirit (rūḥ) is indestructible, then the soul (nafs) must also be imperishable since it is merely the form (ṣūra) of the spirit.

Ibn Ṭūfayl tries to argue for the imperishability of the spirit in a number of ways. First, since he strongly identifies with Ṣūfī notions of describing the physical world as a simulacrum of the Divine, and since he also believes in the eternality of the world and the theory of emanation, he maintains that the spirit and soul are united in a strong imperishable bond. Thus, while describing Ḥayy’s spontaneous generation from a mass of fermented clay, Ibn Ṭūfayl states:

In the very middle [of this mass] formed a tiny bubble divided in half by a delicate membrane and filled by a fine gaseous body, optimally proportioned for what it was to be. With it at that moment joined “the spirit which is God’s,” in a bond virtually indissoluble, not only in purview of the senses, but also in that of the mind. For it should be clear that this spirit emanates continuously from God.

The “fine gaseous body,” as we shall see in chapter four, is the spirit and “the spirit which is God’s” is a reference to the incorporeal soul. It is interesting to note that although Ibn Ṭufayl equivocates the terms heart, spirit and soul, his preferred term for

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209 We shall discuss this medical notion of spirit in chapter four. During the course of the subsequent discussion, “spirit/rūḥ” refers to the spirit that physically resides in the heart. Ibn Ṭūfayl believes in the existence of three spirits, each assigned to a particular organ: heart, liver and brain. However, he explicitly states that the soul is the form of the spirit that resides in the heart alone (the vital spirit, al-rūḥ al-ḥayawāniyya). There is, in fact, a distinct possibility that Ibn Ṭufayl believes that the spirit of the brain and liver are not materially derived from the vital spirit, contrary to what Ibn Sīnā and his contemporary physicians believed (see chapter four).

210 Hayy (English), pp. 106–107, my emphasis.
this incorporeal substance also happens to be spirit, similar to the practice of the traditionalists, the *mutakallimūn*, and other Șūffīs.

Second, Ibn Țuyayl suggests that the spirit actually remains intact after death.  

The first place he states this claim is in his discussion of Ḥayy’s dissection of the doe that nurses the infant Ḥayy. As Ḥayy cuts the doe open, he realizes that the doe had died because the physical spirit that had “lived in that chamber [i.e. the left ventricle of the heart] had left while its house was intact,” implying that the spirit had not actually been destroyed.  

Later, Ḥayy confirms the indestructibility of the spirit by vivisecting another unspecified animal. Here, Ḥayy notices that the left ventricle of the heart is “filled with a steamy gas.” However, as soon as he cuts it open, burning his hand in the process because of the animating heat of the spirit, the spirit departs and the animal dies.  

Here too, the emphasis is on the departure of the spirit and not on its dissipation or disintegration in the surrounding air.

Finally, Ibn Țuyayl even suggests that the spirit is actually akin to the fifth element of the heavenly bodies rather than the four terrestrial elements:

The implication Hayy drew from [his speculations on the soul and spirit]. . . was that the vital spirit with the stablest equilibrium would be fit for the highest form of life to be found in the world of generation and decay. The form of such a spirit could virtually be said to have no opposite. In this it would resemble the heavenly bodies, the forms of which have none at all. The spirit of such an animal [i.e. the human spirit], being truly at a mean among the elements, would have absolutely

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211 Since Ibn Sinā firmly accepts the material generation of rūḥ and upholds the Aristotelian physical tenet that all terrestrial things are corruptible, he cannot entertain the possibility of an incorruptible rūḥ; see Fakhry, *A History of Islamic Philosophy*, pp. 155–158. Besides, in the Najāt, Ibn Sinā specifically states that any composite body is corruptible and according to his definition of rūḥ in the *Qānūn*, the rūḥ is a composite body; Rahman, *Avicenna’s Psychology*, p. 62 and Ibn Sinā, *al-Qānūn fi ’l-Tībb*, 3 vols. (Beirut: Dar al-Kutub al-‘ilmīyya, 1999), vol.1, p. 98. We shall discuss this further in the next chapter.


213 Ibid., p. 117.
no tendency up or down. In fact, if it could be set in space, between the center and the outermost limit of fire, without being destroyed, it would stabilize there, neither rising nor falling. If it moved in place, it would orbit like the stars, and if it moved in position it would spin on its axis. . . . Thus it would bear a strong resemblance to the heavenly bodies.\textsuperscript{214}

This understanding of the spirit as equivalent to the fifth element relates to a theme found in Aristotle that we shall examine more closely in the next chapter.

The above passages illustrate that Ibn Ṭuфayl was firmly committed to the indestructibility of the spirit (rūḥ). Thus, since the soul is the form of the spirit according to Ibn Ṭuфayl, and since the spirit is imperishable, as it is akin to the imperishable fifth element, the spirit individuates the soul after death. The link between the spirit’s individuation of the soul, and Ibn Ṭuфayl’s underlying commitment to the mystical vision and to ontological monism, is made apparent in a highly illuminating passage describing the end of Ḥayy’s mystical vision where he encounters the souls of celestial as well as deceased earthly bodies:

Here [i.e. in the bowels of the sphere of the moon] too was an essence free of matter, not one with those he had seen [i.e. the other emanated celestial intelligences]—but none other. Only this being had seventy thousand faces. . . . \textit{In this being, which he took to be many although it is not,} Ḥayy saw joy and perfection as before. It was as though the form of the sun were shining in rippling water from the last mirror in the sequence, reflected down the series from the first, which faced directly into the sun. \textit{Suddenly he caught sight of himself as an unembodied [sic.] subject} [dhātan mufāriqatan]. \textit{If it were permissible to single out individuals from the identity of the seventy thousand faces, I would say that he was one of them. Were it not that his being was created originally, I would say that they were he. And had this self of his not been individuated by a body on its creation I would have said that it had not come to be.}

From this height he saw other selves like his own, that had belonged to bodies which had come to be and perished, or to bodies with which they still coexisted. \textit{There were so many (if one may speak of them as many) that they reached infinity. Or, if one may call them one, then all were one.} In himself and in the other beings of his rank, Ḥayy saw goodness, beauty, joy without end . . . .

\textsuperscript{214} Ibid., p. 141.
He saw also many disembodied identities . . . covered with rust. They were ugly, defective, and deformed beyond his imagining. In unending throes of torture and ineradicable agony, imprisoned in a pavilion of torment, scorched by the flaming partition . . . .

Thus, for Ibn Ṭufayl, the spirit (rūḥ) escapes the body at death and continues to live eternally, because it is the shadow in the material world of the eternal, celestial soul of the sublunar sphere. Each individual soul comes into being only when it is associated with a spirit upon the creation of a human. Otherwise, it exists as a unity in the celestial soul. The celestial soul, being immaterial, is one and so unifies all beings that emanate from it. There is in fact a greater ontological monism that underlies Ibn Ṭufayl’s system, since the real divine world cannot be individuated. Thus, everything in the spiritual world comes to form a unity in the One. Consequently, the soul of the sublunar sphere is really one in itself, yet it is also indistinct as such from the rest of the celestial beings and the One. The Divine element pervades through the universe via an eternal emanation. Since this element is present in the celestial soul that brings forth individual souls, which, at the incorporeal level, are themselves one and Divine, the mystic is able to achieve ontological union with the Divine. It is important to realize that Ibn Ṭufayl’s emphasis on ontological monism is not really the Ṣūfism of al-Ghazālī, nor of his predecessors. Rather, it is akin to the Ṣūfism of his great Ṣūfī “compatriot, Ibn al-

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215 Ibid., p. 153, my emphasis, parenthetical emendations are in the original translation; and Hayy (Arabic), p. 85.

216 This also explains Hayy’s species preserving behavior with respect to all plants and animals; see Remke Kruk, “Ibn Ṭufayl: A Medieval Scholar’s Views on Nature,” in Conrad, ed., The World of Ibn Ṭufayl, pp. 69–89.
‘Arabī.”²¹⁷ Once we understand this point, we can gain a greater insight into Ibn al-Nafīs’s specific response to Ibn Ṭūfayl on the problem of bodily resurrection and the individuation of the soul.

3.5.3 Ibn al-Nafīs: A Traditionalist, a Faylasūf, but no Ṣūfī

As I have already shown, Ibn al-Nafīs’s main point throughout this text is to deny the possibility of autodidactic learning and to emphasize the rationality of revelation. As far as revelation is concerned, the Qur’ān consistently describes the Hereafter in physical terms and attacks explicitly those who deny bodily resurrection (36:78–79). Hence, Ibn al-Nafīs has no choice but to defend the rationality of this doctrine. Moreover, the ḥadīth literature is filled with references to the punishment of the grave (ḥadhāb al-qabr).²¹⁸ Since Ibn al-Nafīs accepts the necessity and validity of ḥadīth in establishing religious law and doctrines (see chapter 2), he is forced to address this issue as well. On the other side, Ibn Ṭūfayl’s entire argument for autodidactic learning hinges upon his defense of the role of the heart as an instrument of mystical visions, which in turn relies on Ibn Ṭūfayl’s specific definitions and equivocations of soul and spirit. Thus, if Ibn al-Nafīs can provide a way of rationalizing bodily resurrection while closing the door on Ibn Ṭūfayl’s ontological monism, that would only bolster Ibn al-Nafīs’s larger argument against autodidactic learning. With that in mind, let us proceed directly to Ibn al-Nafīs’s discussion on the soul and resurrection.

²¹⁷ Radtke, “How Can Man Reach the Mystical Union?” p. 194.

²¹⁸ See EI², s.v. “ḥadhāb al-kabr.”
Immediately after rejecting the possibility of a purely incorporeal afterlife, in which he argues for the afterlife as being for an individual “composed of body and soul,” Ibn al-Nafis proceeds to explicate what he means by soul: “There is no doubt that man is composed of body and soul; the body is the thing which can be perceived, but the soul is that to which one refers when one says ‘I’.” He then proceeds to provide classic Avicennian arguments to establish the incorporeality and imperishability of the soul.

Like Ibn Sīnā, Ibn al-Nafis claims that “the body and its parts are continuously in dissolution and reconstruction,” while “that to which man refers [when saying 'I']... remains constantly the same.” This implies that something immaterial must be the true referent of ‘I’.

Similarly, he denies that the soul can be an accident (‘arad) that inheres in a body, which clearly shows that he also sides with Ibn Sīnā’s criticisms of the kalām doctrines on this point. Finally, he argues for the immateriality of the soul by relying on Avicennian notions of cognition. Since cognitive notions and forms are universal and cannot be divided, they cannot be acquired by material substances. As a result, Ibn al-Nafis argues that the soul must be immaterial.

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219 *Theologus*, p. 57. Ibn al-Nafis seems to suggest that the Prophet cannot represent the afterlife in purely incorporeal terms because most people’s intellects cannot grasp such a concept. As such, it leaves open the possibility that, like Ibn Sīnā, Ibn Ṭufayl and al-Ghazālī, he too may believe that descriptions of a physical afterlife are merely metaphorical. However, given some of his arguments later in the text, there is scarcely any doubt that Ibn al-Nafis firmly believed in the doctrine of bodily resurrection and a physical afterlife (see below).

220 Ibid., p. 57.


As we can see, Ibn al-Nafīs’s understanding of the immateriality of the human soul is almost identical to that of Ibn Sīnā and illustrates that he was certainly not persuaded by al-Ghazālī’s critique of Ibn Sīnā on this issue.²²⁴ His defense of the immateriality of the soul also suggests that he was not a supporter of kalām atomism or, in general, kalām understandings of the soul. Furthermore, he even rejects the Aristotelian understanding of soul as form, since he never uses the term “form” (ṣūra) to define or describe the soul. In fact, as his earlier medical commentary on Ibn Sīnā’s al-Qānūn fī ’l-Ṭibb (The Canon of Medicine) reveals, Ibn al-Nafīs agreed with the falāsifa that forms are immanent and so inseparable from matter, and that the human soul needs to be separable.²²⁵ As for the soul being the form of an imperishable spirit, we shall see in the next chapter that Ibn al-Nafīs had already rejected such notions in his commentary on the Canon. Consequently, he does not even entertain such a possibility in this work (Fādil ibn Nāṭiq). However, I should point out that since Ibn al-Nafīs does not associate the spirit with the soul, he implicitly rejects Ibn Ṭufayl’s argument for ontological monism and, thus, for autodidactic learning.

Since Ibn al-Nafīs agrees with Ibn Sīnā in the incorporeality, imperishability and separability of the human soul, he is forced to confront the problem of individuation. He

²²⁴ For al-Ghazālī’s critique of Ibn Sīnā’s arguments for the immateriality of the soul, see Marmura, “Ghazali and the Avicennian Proof”; and al-Ghazali, The Incoherence of the Philosophers, 18th discussion.

²²⁵ Ibn al-Nafīs, Sharḥ al-Qānūn, MS Wellcome Library, Oriental MSS, Or. 51, fol. 63a1–2. It is difficult to ascertain whether or not Ibn al-Nafīs accepts Ibn Sīnā’s definition of the soul as the first perfection of the body. In this same passage, Ibn al-Nafīs shows that he clearly understands Ibn Sīnā’s definition and how this definition allows for a possibility of the separable human soul (fol. 63a1–6). But it is hard to tell whether he actually endorses it. Ibn al-Nafīs certainly does not subscribe to a Neoplatonic emanation scheme, nor to a metaphysics of procession and reversion. Thus, even if Ibn al-Nafīs accepts this definition, it is only for the purpose of establishing the existence of an incorporeal, separable human soul. However, as we have already seen, Ibn al-Nafīs already relies on other Avicennian proofs to establish the incorporeality and separability of the human soul.
recognizes the gravity of the problem as soon as he postulates the immateriality of the soul, “If this is so, it [i.e., the soul] cannot exist before the existence of the mixed matter from which the body of man comes forth, because if it existed before that matter, it could be neither one nor manifold, and could not possibly subsist at all.”\textsuperscript{226} In true Avicennian fashion, Ibn al-Nafīs rejects the soul’s existence prior to that of the body and proceeds to provide proofs for this claim. He finally concludes that “the soul of man can exist only after the existence of matter mixed in a manner corresponding to (the nature of) man, and the existence of this matter is a prerequisite for the existence of the soul of man.”\textsuperscript{227} The problem then is to determine exactly the connection between the soul and “this matter” and to determine whether “this matter” continues to exist after the rest of the body disintegrates.

We shall deal with Ibn al-Nafīs’s understanding of the connection between the soul and the body more thoroughly in the next chapter. Suffice it to say, in his earlier \textit{Commentary on the Canon}, he introduces certain revisions in Avicennian physiology that allow him to offer an entirely new theory of generation, along with a new theory of pulsation and the pulmonary transit of blood. According to this theory of generation, once the male and female semen mix and create a mixed matter that has a temperament appropriate to receive an animal or human soul, God issues the soul to this matter to which it is then associated. As the embryo grows and generates organs, the soul, naturally, is also associated with the entire organism. However, at least in its first instance, the soul is directly connected to the original, mixed matter of balanced

\textsuperscript{226} \textit{Theologus}, p. 58, parenthetical emendations are in the original translation itself.

\textsuperscript{227} Ibid., p. 58.
temperament. Thus, if there is some matter that should not degenerate as long as the soul is alive, it should be this matter:

This matter is generated from sperm and similar things, and when the soul becomes attached to it . . . , the body is generated from it. This matter is called the ['ajb al-dhanab]. It is absurd that this should become lost as long as the soul subsists . . . . The soul of man is imperishable . . . . [So.] [t]his matter which is the ['ajb al-dhanab] is imperishable (too). Therefore it remains after the death and decomposition of the body, and the soul with which it remains continues to be perceiving and noticing, and that time it experiences pleasures or pain; these are the pleasures and pain in the tomb.

Then when the time for resurrection . . . comes, the soul stirs again and feeds this (nucleus of) matter by attracting matter to it and transforming it into something similar to it; and therefrom grows a body a second time. This body is the same as the first body inasmuch as this (nucleus of) matter in it is the same, and the souls in the same. In this way resurrection takes place.228

The reference to ‘ajb al-dhanab is clearly taken from one of the most well-regarded hadīth collections in Sunnī Islam, the Muwaṭṭā’ of Imām Mālik ibn Anas (d. ca. 795): “The earth eats all of the son of Adam except the ['ajb al-dhanab]. He was created from it, and on it he is built.”229 The philosophical problem of individuation is thus solved by turning to revelation, for there is no way of rationally determining whether the original mixed matter actually survives throughout one’s life.

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228 Ibid., pp. 58–59, parenthetical emendations are in the original translation itself. Schacht and Meyerhof translate ‘ajb al-dhanab as “coccyx.” I have avoided this practice for reasons that shall become clear in the next chapter.

However, I should emphasize that this hadīth is only one in a multitude of hadīth that are concerned with the status of body and soul after death. The majority of hadīth, and even Qur’ānic verses, refer to the possibility of a free soul/spirit that leaves the body at death and even views it from afar. Some traditionalists, in fact, even rejected the authenticity of this tradition on the ‘ajb al-dhanab. Thus, Ibn al-Nafīs’s defense of bodily resurrection using this tradition reveals that he was trying to reconcile reason and revelation in his own unique way. Since he was committed to aspects of the Avicennian system, such as the immateriality and substantiality of the soul, he picked out only that element of the religious corpus that could fit with these notions. Moreover, as we shall soon see, his solution to this problem is also consistent with the changes he introduces into Galenic physiology, or, more accurately, Avicennian physiology. Thus, far from adhering to religious dogma slavishly, or from making reason subservient to revelation, Ibn al-Nafīs tries to allocate authority to both while trying to maintain a reasonably coherent position.

Finally, by attaching the soul to the ‘ajb al-dhanab, Ibn al-Nafīs severs the connection between the heart, spirit and soul that underlies Ibn Ūfayl’s entire argument for autodidactic learning. Unlike Ibn Ūfayl, Ibn al-Nafīs makes a sharp distinction between soul (nafs) and spirit (rūh). Hence, although Ibn al-Nafīs agrees that the spirit is a refined body that resides in the heart and animates the rest of the human body, he denies that it emanates from the divine or has any divine element or immateriality associated with it. Instead, he claims that the spirit is entirely derived from air and is continuously

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231 Ibid., p. 154.
created within the heart. Therefore, the soul, spirit and heart do not have the tight nexus required for Ibn Ṭufayl’s rational defense of mystical visions. Consequently, Ibn al-Nafīṣ is able to rationalize the possibility of bodily resurrection and proffer a solution to the problem of individuation, without providing Ibn Ṭufayl with a basis to support mystical visions and, hence, autodidactic learning.

3.6 Conclusion

Throughout the course of this chapter, we have seen that Ibn al-Nafīṣ’s entire treatise is one long argument against autodidactic learning: from the break in the narrative where he introduces the shipwrecked crew, to the modifications he introduces to Ibn Sīnā’s arguments on prophecy and resurrection, to the name he selects for his narrator, Fāḍil ibn Nāṭiq. All of these changes signify his fundamental disagreement with the contention of Ibn Sīnā and Ibn Ṭufayl that reason can independently arrive at the underlying, fundamental truths of revelation. The Latin title, *Theologus Autodidactus*, given to this work by the translators, Schacht and Meyerhof is, therefore, extremely misleading. As a traditionalist, Ibn al-Nafīṣ denies the self-sufficiency of reason. He is, instead, committed to the belief that revelation is necessary in order to arrive at the fundamental truths of religion.

Furthermore, Ibn al-Nafīṣ’s aversion to autodidactic learning is also a product of his traditionalist aversion to the Ṣūfism of Ibn al-ʿArabī that was becoming increasingly popular in Mamluk Egypt. As we saw above, by severing the connection between Ųūḥ

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232 *Theologus*, p. 40. Also see chapter four.

and *nafs*, Ibn al-Nafīs does not only suggest a possible solution to the problem of individuation; he also completely destroys the foundations for Ḥayy’s mystical union with God—a union necessary for Ḥayy to arrive at the hidden truths of reality. This particular Ṣūfism, which was perceived as blurring the distinction between the Creator and His creation, and is common to both Ibn Ṭufayl and Ibn al-ʿArabī, attracted the ire of many traditionalists during the course of the thirteenth and fourteenth centuries. The most famous example is perhaps that of Ibn Taymiyya, who even suggests that these particular Ṣūfīs were to blame “for the Mongol conquest and the obliteration of the law of Islam . . !” Interestingly, writing in the immediate aftermath of the invasion, Ibn al-Nafīs seems to concur.

The last part of Ibn al-Nafīs’s treatise deals with the historical events after the death of the Prophet. After defending the standard Sunnī view of the caliphate, Ibn al-Nafīs proceeds to rationalize the Mongol invasion and the subsequent defeat of the Mongols at the hands of Sultan Baybars. Based on these sections, Remke Kruk has suggested that the treatise should be seen as an apocalyptic text in the genre of “Christian apocalypses.” In fact, Kruk goes so far as to suggest that Ibn al-Nafīs’s “indebtedness to Ibn Ṭufayl does not give us any clue as to the general idea that lies behind the composition . . .” In Kruk’s opinion, only by treating the treatise as an apocalyptic text can we gain some insight into it. However, as I have already shown, we can make perfect sense of Ibn al-Nafīs’s intentions in writing this treatise by analyzing closely the

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236 Ibid., p. 326.
similarities and differences between his text and that of Ibn Ṭufayl. Moreover, we also know that one of the surviving manuscripts that dates from Ibn al-Nafīs’s time period leaves out this entire fourth part concerning the apocalypse. At the very least, this suggests that Ibn al-Nafīs’s own contemporaries were not reading his text as an apocalyptic treatise. More importantly though, Kruk does not take issue with Schacht and Meyerhof’s title Theologus Autodidactus, and even accepts their contention that Ibn al-Nafīs relies on aslah. Thus, Kruk is unable to see how the discussion of the Mongol invasion and a description of the coming of the Last Day are related to his attack on Ibn Sīnā, Ibn Ṭufayl and the monistic Šūfism of his time.

Ibn al-Nafīs rationalizes the Mongol invasion as divine punishment for the prevalence of sins in the community of the Prophet. However, rather than speaking of sins generally, Ibn al-Nafīs highlights two sins in particular: drunkenness and homosexuality. Though these activities were quite prevalent amongst Muslims in the medieval period in general, the traditionalists were quite prone to seeing them as closely associated with the falāsifa and the Šūfīs. In the case of the falāsifa, the connection is easy to make as Ibn Sīnā himself admits to drinking wine in his autobiography. Similarly, the falāsifa were seen as the expositors of the foreign sciences, and Greek medicine prescribed alcohol for certain conditions, as Ibn al-Nafīs himself recognizes.

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237 Theologus, p. 36.

238 Ibid., pp. 99–100.


240 Theologus, p. 100; and Sabra, “Science and Philosophy,” p. 4.
On the other hand, the Şūfīs, especially those who upheld a belief in a mystical union with God, were often maligned by traditionalists for partaking in immoral activities. The two activities that received the most attention within traditionalist polemical tracts, as well as within Şūfī poetry itself, were homosexuality and drunkenness. Monistic Şūfism, in particular, analogized the nature of the mystical union to a state of drunkenness. Moreover, during this state, the Şūfī was also excused from any transgressions of Islamic law. However, traditionalists were always suspicious about whether the Şūfī shaykh was truly in a mystical state, or in a state of drunkenness that was the result of imbibing alcohol. Also, one of the Şūfī practices for attaining mystical union was to gaze at a beardless youth, a ritual known as *shāhid-bāzi* (witnessing). The monistic Şūfīs, in particular, were accused by traditionalists of partaking in homosexual acts during such sessions.

Of course, Ibn al-Nafīs does not actually mention the Şūfīs by name, but neither does he mention the Shī’ites when he is clearly criticizing their point of view on the debates over the Prophet’s successor. His silence is also to be expected since the

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243 Even Ibn Taymiyya defends the true Şūfī’s transgressions of Islamic law during his/her state of mystical intoxication. However, he also suggests that some may arrive at the state unlawfully by imbibing alcohol and that is unjustified; see Th. Emil Homerin, “Ibn Taimiyya’s al-Ṣūfiyyah wa-al-fuqarā,” *Arabica* 32 (1985): 219–244, p. 227. For a traditionalist attack on certain Şūfī practices as being contrary to Islamic law, see Ibn al-Jawzī, *Talbīs Iblīs* (Beirut: Dar wa Maktabat al-Hilal, 1991), especially pp. 220–289.


Mamluk rulers heavily patronized Şūfīs and their institutions.\textsuperscript{247} Yet, his aversion to Şūfism is not only noticeable in his attack on Ibn Țufayl, on Şūfī ideas of rūḥ and nafs, and on homosexuality and drunkenness, but also in the fact that when he refers to religious endowments (awqāf), he never once mentions Şūfī establishments. Instead, he restricts himself to naming just the legal schools (madāris).\textsuperscript{248} At a time when Şūfī institutions—ribāts, zāwiyyas and khāniqahs—were becoming extremely popular, and were heavily funded by the Mamluk aristocracy, that is a noteworthy omission indeed.

Although his rejection of Şūfism may have been quite thorough, his attack on falsafa is far more temperate. In fact, apart from rejecting the falāsīfa’s belief in the self-sufficiency of reason with regards to religious truths, Ibn al-Nafīs is very much inclined to their views. We have already seen that his defense of prophecy is almost identical to that of Ibn Sīnā. His defense of anthropomorphisms in scripture is also very Avicennian, even though he rejects Ibn Sīnā’s claim that one can arrive at the true nature of God independent of revelation. In this regard, Ibn al-Nafīs is closer to the Avicennian mutakallimūn of his time. Finally, in his defense of bodily resurrection, he chooses the falsafa definition of soul over that of the mutakallimūn and the traditionalists, while at the same time creating space for the possibility of bodily resurrection.\textsuperscript{249} Thus, in the way in


\textsuperscript{248} \textit{Theologus}, p. 100.

\textsuperscript{249} Of course, as a true Avicennian Ibn al-Nafīs would have to maintain that the ʿajb al-dhanab would have to be corruptible as it is a terrestrial, composite substance. However, Ibn al-Nafīs is clearly not an Avicennian through and through. Moreover, his final two sections in the last part of his treatise try to rationalize apocalyptic literature and descriptions based on his knowledge of astronomy. These sections suggest that Ibn al-Nafīs denied the incorruptibility of the heavens too and, as such, he did not have to deal with the classic Aristotelian hard dichotomy between the celestial and terrestrial realms. Consequently, he does not have to be committed to the Aristotelian physical principle that every composite terrestrial substance must ultimately degenerate. Finally, it is worth noting that Ibn al-Nafīs’s argument for the
which he actively appropriates certain aspects of both the Avicennian tradition and the
religious tradition, while rejecting others, Ibn al-Nafīs reveals some of the originality that
Gutas highlights as the distinguishing feature of this time period. Moreover, there is
nothing inevitable about Ibn al-Nafīs’s particular selections from both traditions, as can
be seen in the different ways in which his predecessors and contemporaries appropriated
from these traditions while dealing with the same issues and the same texts.\textsuperscript{251}

In conclusion, let us reflect again on the noticeable absence of the term, falsafa,
from biographical entries on Ibn al-Nafīs, especially from al-Dhahabī’s text. In
chapter two, we saw that al-Dhahabī was certainly not shy in criticizing renowned
scholars for dabbling in falsafa and kalām. However, even though Ibn Sīnā’s
compendium of falsafa, Shifā’, pervades Ibn al-Nafīs’s work, al-Dhahabī still refused to
criticize him and held him up as a model Sunnī. In the previous chapter, I suggested that
al-Dhahabī was blunted from attacking him because Ibn al-Nafīs adhered to the central
Sunnī belief in the moral probity of the companions. In this chapter, we have seen that he
also shared with the traditionalists his rejection of the self-sufficiency of reason and
monistic Śūfīsm. Thus, the dilemmas of al-Dhahabī, and of Ibn al-Nafīs’s other

imperishability of the ‘ajb al-dhanāb is not based on the intrinsic qualities of the ‘ajb al-dhanāb but rather
on the intrinsic indestructibility of the soul. That is, the ‘ajb al-dhanāb is imperishable because the soul is
imperishable and so needs a principle of individuation, and not vice-versa.

\textsuperscript{250} Gutas, “The Heritage of Avicenna.”

\textsuperscript{251} Baydawī (d. 1316), for example, reconciles Ibn Sīnā’s immaterial soul with aspects of the tradition that
speak of souls as free substances that float freely after death; see Calverley and Pollock, \textit{Nature, Man and
Rāzī (d. 1209) offers a different solution that relies on the soul leaving the body and uniting with a new,
spiritual body at resurrection; see Yasin Ceylan, \textit{Theology and Tafsīr in the Major Works of Fakhr al-Dīn

\textsuperscript{252} Shams al-Dīn Muḥammad b. ʿAḥmad al-Dhahabī, \textit{Taʾrīkh al-Īslām wa wafāyāt al-mashāhir wa l-ʾālām},
biographers, are understandable. In order to reduce the dissonance that they faced in light of Ibn al-Nafis’s simultaneous commitment to falsafa and traditionalism, they chose to overlook falsafa.

Ibn al-Nafis’s commitment to falsafa is not only evident in this theo-philosophical work, but also in his earliest medical works. The basic Avicennian understanding of the soul as the real, incorporeal referent of “I” not only grounds Ibn al-Nafis’s account of resurrection as seen above, but it also provides the basis for the changes he introduces into Galenic physiology. Based on this understanding of the soul, Ibn al-Nafis proceeds to elaborate a relationship between the soul and the body that overturns important elements in Galenic and Aristotelian physiologies. The resulting new physiology not only grounds his rejection of Ibn Ṭufayl’s belief in the imperishability of the spirit, but it also leads him to: a) posit a new theory of generation that supports his theory of resurrection; b) provide a new theory of pulsation, and; c) reject Galenic cardiovascular anatomy and propose the pulmonary transit of blood instead. Thus, the complex interplay of reason and revelation is not only evident in Ibn al-Nafis’s theological works but also in his earliest medical works.
CHAPTER 4

PULMONARY TRANSIT AND BODILY RESURRECTION:
FRUITS OF A NEW PHYSIOLOGY, FRUITS OF A NEW PSYCHOLOGY

Throughout the last two chapters, I have emphasized the need to examine the
dialectic between reason and revelation in the works of medieval Islamic scholars in
terms of the authoritative resources model. I have shown that by analyzing the texts in
this manner, we can gain a better appreciation of the complex and multi-faceted nature of
this relationship. In Ibn al-Nafī’s case, we saw that the differential emphases that he
placed on certain sources of reason and revelation, when compared to the falāsifa and the
traditionalists, allowed him to adhere simultaneously to bodily resurrection and to an
Avicennian definition of soul. In this chapter, we shall see that Ibn al-Nafī’s overriding
commitment to a specific understanding of the soul-body relationship, in itself a
consequence of the complex way in which he harmonizes reason and revelation, forces
him to depart significantly from Avicennian physiology. These departures from
Avicennian physiology are also made possible by Ibn al-Nafī’s disregard for the
authority of Ibn Sīnā and his Greek predecessors, Aristotle and Galen.

Ibn al-Nafī’s new physiology, in turn, forms the basis of his novel ideas on the
pulmonary transit of blood as well as his new theory of pulsation. Historians of medicine
have focused almost exclusively on the relationship between Ibn al-Nafī and Harvey.
Consequently, they have failed to discern connections between his new physiology and his discovery of the pulmonary transit of blood. An examination of Ibn al-Nafīs’s own works within his own context, however, allows us to see how his physiological theories support his new theories of the pulmonary transit of blood and pulsation, along with his belief in bodily resurrection.

The fundamental basis for Ibn al-Nafīs’s new physiology is his strict adherence to the principle that the soul is related to the entire body. As he maintains in his *Sharḥ al-Qānūn* (Commentary on the Canon):

> Know that according to our teaching, . . . the efficient source [al-mabdā’ al-fā’ilī] of all the faculties [qiwa] is the soul [nafs], and the soul is primarily connected [ta‘alluq al-nafs awwalan] neither to the spirit [ruḥ] nor to an organ, but to the entire matter whose temperament is prepared to receive this soul [bal bi-jumlati ‘l-mādda al-mumtazija bi‘l-mizāj al-mu‘add li-qubūl tilka ‘l-nafs].

The revolutionary consequences of this principle can only be ascertained once we understand how the relationship between soul, spirit and faculties had come to be articulated and understood by Ibn Sīnā and other Islamic physicians. Since the Islamic physicians themselves relied on a particular understanding of Galen and Aristotle, an analysis of the Aristotelian and Galenic understandings of these relationships is necessary.

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1 Ibn al-Nafīs, *Sharḥ al-Qānūn*, MS Wellcome Library, Oriental MSS, Or. 51, fol. 59b27–29. Although some may see this as the true Aristotelian hylomorphic position, Aristotle’s own texts also support the non-hylomorphic psychology, i.e. that the soul is primarily connected to the spirit and the heart. This point will be analyzed below. The analysis reveals how the Islamic physicians had come to interpret and understand the Aristotelian position in a manner that does not agree with the modern philosophical understanding of Aristotle’s psychology.
4.1 Spirits, Faculties and Souls: The Intertwined Legacy of Aristotle and Galen

My limited goal in this section is to illuminate aspects of the writings of Aristotle and Galen that had a deep impact on Islamic medicine. My chief concern is with the terms, “faculty” (Gr. *dunamis*, Ar. *quwwa*), “spirit” (Gr. *pneuma*, Ar. *rūh*) and “soul” (Gr. *psuche*, Ar. *nafs*), and with a particular Aristotelian and Galenic understanding of the relationship between these terms that shaped the discourse of Islamic physicians. There is, of course, a large corpus of writings that continues to debate the role of these concepts in Aristotelian and Galenic physiologies and philosophies.\(^2\) My use of this literature is only to illustrate that the Islamic physicians’ interpretation(s) of Aristotle and Galen was/were not unwarranted.

There is also an issue of terminology. Aristotle and Galen used the exact same Greek technical terms in their physiological discussions of relevance to this dissertation. Nonetheless, it is true that they did not necessarily employ them in the exact same manner. However, there is a conceptual continuity between Aristotle’s and Galen’s uses of these terms, as we shall see shortly. This conceptual and linguistic continuity was carried over in the Arabic translations of Aristotle and Galen, wherein the translators used the same Arabic word to represent the same Greek word, regardless of whether it was found in Aristotle or Galen. As we shall see below, this decision on the part of the translators was bound to create some confusion in the Islamic medical and philosophical discussions; yet, this decision, in and of itself, also paved the way for reconciling the physiological views of Aristotle and Galen. In order to emphasize these continuities and ambiguities across the Graeco-Arabic tradition, I have chosen to render the technical

\(^2\) We have already seen evidence of the debate surrounding Aristotle’s definition of soul in chapter three.
Greek/Arabic terms by the same English terms. For example, throughout this chapter, the term “faculty” has been used interchangeably with the Greek term, *dunamis*, and the Arabic term, *quwwa*, regardless of who the author may be, or what differences may exist in the understanding of these terms from author to author. The same also holds true for all other technical, physiological terms, i.e. spirit (Gr. *pneuma*, Ar. *rūḥ*), soul (Gr. *psuche*, Ar. *nafs*) and activity/action (Gr. *energeia*, Ar. *fiʿl*).

4.1.1 Aristotle’s One Soul-One Chief Organ Physiology

We have already seen some of the interpretive problems associated with Aristotle’s general definition of the soul (*psuche*) in *De Anima*, II.1. However, as I mentioned in the previous chapter, Aristotle follows up his general definition immediately with a discussion on the specific forms of living beings, for he maintains that “that which has soul is distinguished from that which has not by living.” He further states that “a thing lives if any one of the following is present in it—mind, sensation, movement or rest in space, besides the movement [*kinesis*] implied in nutrition and decay or growth.” As a result, “all plants are considered to live, for they evidently have in themselves a [*dunamis*=faculty] and first principle by means of which they exhibit both

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4 Aristotle, *De Anima*, II.2 413a23–25.
Plants occupy the lowest position in the hierarchy of beings that can be classified as living, and hence ensouled, since “the principle through which all living beings have life” is the faculty \( (dunamis) \) of nutrition, and plants have only two prominent functions: nutrition and reproduction. Animals possess these faculties as well as those of sensation, locomotion, desire and imagination, although not all animals possess all of these faculties. Humans, finally, possess all these aforementioned faculties along with the faculty of reason.\(^6\) Thus, we arrive at the well-known Aristotelian hierarchy of souls—vegetative, animal and rational, corresponding to his understanding of the hierarchy of living things based on their respective actions: plants possess a vegetative soul which allows them carry out the actions of nutrition and reproduction; animals possess an animal soul which enables them to execute the actions of locomotion, sensation and imagination in addition to those of nutrition and reproduction; humans possess a rational soul which enables them to reason in addition to carrying out all the aforementioned actions.

As we can see, this notion of ensoulment is closely tied to the different actions that Aristotle associates with living things. However, Aristotle is well-aware that, for example, an animal does not perform the actions of nutrition and locomotion all the time. Thus, the definition of “ensoulment” should not be so restrictive as to pick out only those things as living that are executing these actions. Rather, it should be general enough to

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\(^5\) Ibid., II.2 413a25–27. In this passage, Hett, like many other interpreters, translates \( dunamis \) as “capacity.” However, as mentioned above, to emphasize the conceptual and linguistic continuities and confusions, I have chosen to render \( dunamis \) almost exclusively as “faculty” (see below). R. D. Hicks, however, does use the term “faculty”; see Aristotle, \( De Anima \), tr. R. D. Hicks (Amsterdam: Adolf M. Hakkert, 1965), p. 55.

accept those things as living that have the capacity to perform these actions even if they are not executing them at a given moment. That is, in a nutshell, his notion of *dunamis* (faculty) in the physiological context, which is why some people prefer to translate it as “capacity” or even “possibility.” Since I want to emphasize the continuity of the tradition, and since the Galenic usage of *dunamis* is almost exclusively rendered “faculty” by all English translators, I have chosen to translate this physiological sense of *dunamis* in Aristotle as “faculty” too. Thus, for an animal soul to possess the faculty of locomotion means that it is capable of partaking in locomotion though it may not exercise that capacity all the time, whereas a vegetative soul, which does not have such a faculty, is incapable of that action at all times.

*Dunamis* also has another, more thoroughly Aristotelian meaning associated with his theory of change. Here, *dunamis* is typically translated into English as “potentiality,” and its contrasting state, *energeia*, is usually translated as “in actuality”; however, the Arabic terms stay the same, *quwwa* and *fi‘l*. The famous example is that of the acorn being an oak tree *dunamei* (potentially), whereas the oak tree is an oak tree *energeia* (in actuality). However, as A. L. Peck shows, these two senses of *dunamis*—faculty in the physiological sense and potentiality in the metaphysical sense—are intimately connected. The link between these two seemingly different notions of *dunamis* is provided by the Aristotelian understanding of *kinesis* (movement or change).

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8 For a brief overview of Aristotle’s notion of potentiality and actuality, see Lloyd, *Aristotle*, pp. 63–65.

As we saw in an earlier quote on the definition of living things, when Aristotle speaks of the specific actions of living things, he states that nutrition is a *kinesis* like sensation and locomotion. *Kinesis* is a term that not only incorporates locomotion, but any change in existing things.\(^{10}\) In *Metaphysics* Δ, for example, Aristotle states very clearly that, in its most general sense, *dunamis* is the “source [arche] of motion [kinesis] or change which is in something other than the thing changed, or in it qua another.”\(^{11}\) As Peck explains,

To say that A is B δύναµει (*potentially*) means that A is the Material Cause capable of being set moving with a certain κίνησις by a Motive Cause, which κίνησις will result in A acquiring the Form of B, thus attaining the Final Cause (becoming a B itself).\(^{12}\)

Thus, an animal ear is capable of being set into motion/being changed such that it acquires the form of hearing, and thus become an actually hearing ear. The motive, formal and final cause is, naturally, the animal soul which possesses the *dunamis* (faculty) of hearing. However, since the matter of the ear actually requires a physical change, and since for Aristotle the motive cause must carry with it the form which can then become the principle of change itself, there needs to be another physical body that can act as the principle of movement/change. This physical body is not an ordinary body, composed of earth, fire, air or water, but rather it is a “more divine” substance that is

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\(^{10}\) Ibid., pp. lix–lx.


“analogous to the fifth element, aither, the element of the Upper Cosmos.”

This divine body is discussed mainly in the *Generation of Animals*, where Aristotle also gives it a new name calling it *symphyton pneuma* (connate pneuma).

For Aristotle, this *connate pneuma* is the “immediate instrument of Soul, and it is through pneuma first of all that Soul expresses itself.” Thus, it is the “vehicle of the innate heat,” “the channel by which sensations” are conveyed and transmitted, and “the instrument by which the soul” physically pushes or pulls limbs during movement. It is also “responsible for the differentiation of the parts” during fetal development. Every faculty of the soul is thus communicated and actualized in the body through the activity of the pneuma, including nutrition, for nutrition relies on innate heat and pneuma is the vehicle of that heat. In fact, there is a strong link between innate heat, pneuma and soul that is most succinctly brought out in the following passage from *Generation of Animals*:

Now so far as we can see, the faculty [*dunamis*=quwwa] of Soul of every kind has to do with some physical substance which is different from the so-called “elements” and more divine than they are; and as the varieties of Soul differ from one another in the scale of value, so do the various substances concerned with them differ in their nature. In all cases the semen contains within itself that which causes it to be fertile—what is known as “hot” substance, which is not fire nor any similar substance, but the pneuma [rūḥ] which is enclosed within the semen or foam-like stuff, and the natural substance which is in the pneuma; and this substance is analogous to the element which belongs to the stars.
In the passage above, we first see an affirmation of the view that the *pneuma* is the material substrate of all the faculties, including the faculties of every kind of soul, i.e. vegetative, animal or rational. This implies that whatever *pneuma* is, plants must also possess it or something like it.\(^\text{18}\) Next, Aristotle considers the matter that is associated with the soul as one that is more divine than the four sublunar elements, and concludes the passage by stating that it is indeed analogous to the element of the stars, i.e. *aither*. This analogy is plausible because, like *aither*, the innate heat of the *pneuma* is very unlike fire for, as Peck explains, “the heat of the Sun . . . and the heat of animals . . . is able to generate, whereas Fire cannot,” and the sun is composed of *aither*.\(^\text{19}\) The presence of innate heat is what essentially defines living things. It is responsible for all physiological activities, from nutrition to cognition.\(^\text{20}\) Thus, plants and animals are equally in need of innate heat and equally share in this divine element. The difference is that plants partake in nutrition and reproduction alone, while animals partake in sensation and movement in addition to nutrition and reproduction, and so are in need of more innate heat. The “higher up an animal is in the scale of nature, the more heat it possesses, translate *dunamis* in this passage as “matter”; see Bos, “*Pneuma* and Ether,” p. 256. This interpretation conforms to the earlier use of this term in the Hippocratic corpus and Plato’s *Timaeus*; see Aristotle, *Generation of Animals*, “Preface,” p. xl–xlix. Most commentators, including the Islamic philosophers and physicians, understood the term to imply “faculty” in this context and, as such, I have maintained that translation. Interestingly, in either case, we can arrive at a similar understanding of the passage.

\(^\text{18}\) Bos, “*Pneuma* and Ether,” p. 257.


and the more honorable its soul.”\textsuperscript{21} The adult human is, therefore, at the top of this hierarchy, possessing all the faculties, including reason, since he is the creature that possesses the most innate heat, and the purest and most subtle pneuma.\textsuperscript{22}

At the very least then, pneuma is analogous to the celestial aither: either it is the divine element itself, or it is a separate element or substance that resembles the aither in being extremely balanced. The former interpretation, i.e. that the pneuma is the divine, imperishable aither itself has recently been defended by Abraham Bos and, as we shall see, may have also been the way Ibn Ṭufayl had come to understand Aristotle. Most importantly, both Bos and Ibn Ṭufayl will argue that the pneuma is not only the first instrument of the soul, but it is the actual matter itself, which by virtue of being imperishable assures the immortality of the soul.\textsuperscript{23} However, the majority of Islamic philosophers and physicians understood Aristotle as claiming that the pneuma is an extremely balanced substance, without necessarily being the divine, imperishable element itself. Nonetheless, they were only able to maintain that because they had also come to understand pneuma as a mixed substance generated from the terrestrial elements—a notion of pneuma not found in the Aristotelian corpus, but rather appropriated from the Galenic and Hellenistic corpus (see below).

Returning to Aristotle, since he considers the pneuma to be the principle of movement, he argues that “there must of necessity exist some part in which” it resides,

\textsuperscript{21} Harris, The Heart and the Vascular System, p. 168; and Bos, “Pneuma and Ether,” pp. 261–264.

\textsuperscript{22} Bos, “Pneuma and Ether,” p. 264. My use of “he” is intentional since Aristotle considered the male to be hotter and intellectually superior to the female.

for “the source whence the movement comes must be reckoned as one.”\textsuperscript{24} Such an organ is the heart, which Aristotle demonstrates to be the first organ formed in blooded animals.\textsuperscript{25} The heart is not only the seat of the \textit{pneuma}, but it is the principal organ of nutrition, sensation, and, in fact, of all the faculties.\textsuperscript{26} Thus, it has a special relationship to the soul as all the faculties of the soul are executed and actualized by the activity of the heart through the \textit{pneuma} in it. Moreover, since the heart is ultimately responsible for all the actions of the soul, all channels of communication must originate in the heart. Hence, Aristotle maintains that the veins, arteries, and nerves all originate in the heart.\textsuperscript{27}

Thus, Aristotle can be interpreted as positing a tight relationship between the one soul responsible for all the faculties of the animal, the one \textit{pneuma} responsible for executing these faculties, and the one heart which is the seat of the \textit{pneuma} and the principal distributor of these faculties through the various vessels that originate in it. Ibn al-Nafis summarizes this interpretation of Aristotle succinctly when he states:

\begin{quote}
As for the followers of the first teacher [i.e., Aristotle], what encourages them to [the notion that the nerves, veins and arteries originate in the heart] is their belief that the soul is one and its primary connection is with the heart. Thus, the heart is the source of all the faculties and so the source of origin of these instruments.\textsuperscript{28}
\end{quote}

\textsuperscript{24} Aristotle, \textit{Generation of Animals}, II.6 742a32–33, 742b36–37.

\textsuperscript{25} Ibid., II.6 741b25–742b37.

\textsuperscript{26} Harris, \textit{The Heart and the Vascular System}, pp. 152–173.

\textsuperscript{27} See Aristotle, \textit{Generation of Animals}, “Appendix B,” pp. 592–593; and Harris, \textit{The Heart and the Vascular System}, pp. 121–122, 152–162. Aristotle refers to these vessels, including the nerves, as \textit{poroi} or \textit{phlebes}, since nerves (\textit{neura}) were only first differentiated from arteries and veins by the Alexandrian physicians (Harris, pp. 160, 178).

\textsuperscript{28} Ibn al-Nafis, \textit{Sharh al-Qanun}, fol. 20b1–2.
4.1.2 *Galen’s Three Chief Organ Physiology*

Although the Greek physician Galen commented extensively on Aristotle and adopted a number of Aristotelian positions, especially with regards to physical theory,\(^{29}\) he fundamentally disagreed with Aristotle’s claim that sensation and other cognitive processes originate in the heart. In a famous discussion from *On the Doctrines of Hippocrates and Plato*, Galen provides anatomical proofs for the claim that the nerves do, in fact, originate in the brain. Consequently, the brain must be the source of these actions, not the heart.\(^{30}\) In fact, the entire purpose of the text, *On the Doctrines of Hippocrates and Plato*, is to deny the existence of a unitary soul (*psuche, Ar. nafs*) and to posit the existence of a tripartite soul instead, with each part residing in a distinct organ, governing a distinct set of actions through the medium of a distinct set of vessels.\(^{31}\)

Unlike Aristotle, Galen does not really devote any time to discussing the nature of the soul’s substance. He considers it a speculative issue, and thus refrains from indulging in discussions over it. He does take the soul’s existence for granted, based on the evidence of functioning living things themselves.\(^{32}\) However, his aim in the book is to “inquire about the [*dunameis*=faculties] that govern us, whether they all have the heart as their only source, as Aristotle . . . supposed, or whether it is better to posit three sources . . .

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\(^{32}\) Ibid., p. 9.
for them, as Hippocrates and Plato believed.” He then proceeds to show that the various faculties that govern us actually originate in three different souls, or parts of the soul, as Plato had indeed believed. These parts are called the desiderative, the spirited and the rational. Each part resides in a specific organ: the desiderative part resides in the liver; the spirited part resides in the heart; and the rational part resides in the brain.

Galen emphasizes the notion that the soul is “indeed composed of parts that differ in kind and substance.” Thus, in a strict sense, he rejects using the term *dunamis* (faculty, Ar. *quwwa*) when referring to these three parts, for *dunamis* presupposes a single substrate. He does so because Aristotle had also accepted these activities of the soul, but since he had called them *dunameis* (faculties), he was able to argue for the existence of a unique, undivided soul that was associated with a single organ. Galen, on the other hand, wants to emphasize the distinctness of each part, and its association with a distinct physical organ. For that reason, he calls them parts, or forms of soul, but not, strictly speaking, *dunameis*. Instead, that term is reserved as a correlative for the actions that proceed from these souls.
Like Aristotle, Galen also couples the term *dunameis* with actions or activities (*energeia, Ar. *afāl, sing. *fīl*). As he maintains in his, *On the Natural Faculties*,

“[A]ctivity [*energeia*] is the name I give to the active change or motion [*kinesis*], and the cause of this I call a faculty [*dunamis*].”

The difference between Aristotle and Galen, however, is that Galen takes as his examples of activities not those specific to the different genera of living things, but rather those activities specific to the different parts of the soul that govern a single body through the three chief organ-systems. As such, each part of the soul has its own set of faculties responsible for its own actions: the desiderative soul in the liver has a set of faculties for the actions of nutrition and the enjoyment of pleasures; the spirited soul in the heart has a set of faculties for the emotive actions and the pulsating actions of the heart and arteries; and the rational soul in the brain has a set of faculties for cognition, memory, ratiocination, sensation and voluntary motion.

The individual faculties of each part of the soul are usually referred to as a collection. Thus, the desiderative soul in the liver has natural faculties, the spirited soul in the heart has vital faculties, and the rational soul in the brain has psychic faculties.

Hence, the three souls, or parts of soul, and their respective organs, are associated with three different physiological functions, and so are equipped with their own set of vessels: the veins are the instruments of the natural faculties and originate in the liver; the arteries

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are instruments of the vital faculties and originate in the heart; and the nerves are instruments of the psychic faculties and originate in the brain.\textsuperscript{42}

Even though Galen maintains the Aristotelian connection between \textit{energeia}, \textit{kinesis} and \textit{dunamis},\textsuperscript{43} he also tends to use the term \textit{dunamis} in a more loose manner. In fact, he claims that “so long as we are ignorant of the true essence of the cause which is operating, we call it a \textit{faculty} [\textit{dunamis}].” This usage leads to an increase in the number of faculties:

Thus we say that there exists in the veins a blood-making faculty, as also a digestive faculty in the stomach, a pulsatile faculty in the heart, and in each of the other parts a special faculty corresponding to the function or activity of that part.\textsuperscript{44}

Nonetheless, the strong tie between activities and faculties is maintained throughout, as he even says at the end of this chapter: “If, therefore, we are to investigate methodically the number and kinds of faculties [\textit{dunameis}], we must begin with the effects; for each of these effects comes from a certain activity [\textit{energeia}] . . .”\textsuperscript{45} Hence, Aristotle and Galen seem to adhere to a similar physiological understanding of the terms \textit{dunamis} and \textit{energeia}. They differ, however, on the nature of the activities associated with the faculties. Thus, whereas Aristotle uses the term “faculty” in conjunction with activities helpful in classifying the different gradations of living things, Galen uses it more indiscriminately, associating it with any physiological activity of the organism. Galen is


\textsuperscript{43} The three terms are intimately connected in the Aristotelian understanding of \textit{dunamis} as “faculty” or as “potentiality.” However, for the remainder of this discussion I will be focusing primarily on the physiological understanding of \textit{dunamis} as “faculty.”

\textsuperscript{44} Galen, \textit{On the Natural Faculties}, I.4, p. 17.

\textsuperscript{45} Ibid., I.4, p. 17.
also not overly concerned with tracing these physiological activities back to one of the three parts of the soul.

A good example to illustrate this difference is Galen’s understanding of the vital faculty (Gr. *dunamis zotike*, Ar. *al-rāḥ al-ḥayawāniyya*). The vital faculty is associated with the spirited part of the soul, which resides in the heart. As such, it is responsible for, among other things, emotive acts.\(^{46}\) However, Galen has already located the acts of sensation and cognition in the brain, without which emotive acts are impossible. He reconciles the two by suggesting that the heart’s job is to “be constant and unyielding in the things that reason.” When the body is in “states of passion,” the heart provides “the boiling . . . of the innate heat” that is needed.\(^{47}\) As such, the heart is not the real source of anger or the passions, but rather provides the necessary heat needed by the body, and especially the brain, to act irascibly. This notion of “faculty” is irreconcilable with Aristotle’s physiological use of the term. Under Aristotelian usage, the heart either issues the emotive acts and so has a faculty/capacity to do so, or it does not. Thus, Aristotle has no reason to posit the existence of a vital faculty as separate and distinct from the other psychic faculties (i.e. cognition, sensation, imagination and locomotion) which, for him, are themselves located in the heart and are responsible for the emotive acts.

Although Galen’s and Aristotle’s uses of the term *dunamis* (faculty) are somewhat reconcilable, their uses of the term *pneuma* (spirit) are significantly different. However ambiguous Galen’s own use of the term *pneuma* may be, Galen at least never claims that the *pneuma* (spirit) either is, or is composed of, or is even akin to the divine


\(^{47}\) Ibid., VII.3, pp. 439–441.
element of the stars. Instead, Galen argues that the spirit is nothing more than concocted inspired air (aer). The inspired air first enters the lung and is concocted into a pneuma-like substance. From there it is transported to the heart where it is elaborated into pneuma. The elaboration takes place in the left ventricle of the heart, where blood, the pneuma-like substance from the lung and the innate heat of the heart combine to generate the pneuma. This theory of the various concoctions of the spirit clearly undercuts the entire foundation for a belief in the spirit as composed of something other than the four terrestrial elements. Nonetheless, the spirit plays an important physiological role in Galen’s works as well.

Galen agrees with Aristotle that spirits are the material substrates of the faculties and reside in all parts of the body, and as such need to be maintained for proper health. The psychic faculties of the brain, in particular, are conveyed in nerves by the psychic spirit of the brain, which, due to its role in sensation, movement and cognition is seen by Galen as the “first instrument of the soul.” Thus, at least the psychic spirit is tightly associated with the psychic faculties, the nerves, brain and the rational soul. The connection between the two remaining chief organs and their spirits is much more obscure and deserves some attention.

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49 For a summary of the elaboration of the spirits in Galenic physiology, as well as Galen’s reliance on and departures from Stoic notions of the alterations of spirit and spirit as inspired air, see Julius Rocca, Galen on the Brain: Anatomical Knowledge and Physiological Speculation in the Second Century AD (Leiden: E. J. Brill, 2003), especially pp. 59–66.


51 Galen, On the Doctrines of Hippocrates, VII.3, p. 445; and Rocca, Galen on the Brain, especially pp. 201–237.
Oftentimes, Galen speaks of the existence of a “vital spirit” in the heart and arteries. In fact, he even refers to the heart as a pneumatic organ, even though he argues at length that arteries contain blood in their natural state.\(^52\) However, the vital spirit in itself has no real distinctive function since, for Galen, it is not only the vital spirit that is essential for life, but spirits in general.\(^53\) Moreover, whereas the psychic spirit is the conveyor of the psychic faculties originating in the brain, the vital spirit has no similar role. The emotive actions that proceed from the heart clearly have no use for this spirit, as the heart merely provides the boiling necessary for the brain to act irascibly. The pulse of the arteries originates in their tunics and Galen explicitly rejects the claim that the arteries pulse because the vital spirit fills them.\(^54\) In fact, if anything, the only role that Galen seems to assign to the vital spirit is that it nourishes the psychic spirit.\(^55\) Once the inspired air has been elaborated by the lung and heart into the vital spirit, it is transported in arteries to the base of the brain, where it is further elaborated in the retiform plexus and the choroid plexuses to become the psychic spirit.\(^56\)

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\(^56\) Rocca, \textit{Galen on the Brain}, pp. 64–65, 208–219. Galen also claims that the psychic spirit can be nourished directly from the inspired air through the nostrils; see Galen, “On the Use of Breathing,” in Furley and Wilkie, tr. and ed., \textit{Galen on Respiration}, pp. 121–133. However, Rocca explains that the “mainstay of Galen’s pneumatic physiology lies in a progressive elaboration of pneuma by several parts of the body” (p. 64).
The existence of a distinct “natural spirit” is even more meaningless, since the natural faculties are located in each individual body part.\textsuperscript{57} That is probably why Galen never really dwells on it.\textsuperscript{58} Galen does, however, admit that venous blood contains spirits, but they are not really prescribed a distinct physiological role.\textsuperscript{59} Consequently, all we can surmise from Galen’s texts is that the psychic spirit has a distinct physiological function, whereas the other spirits in the body, be they mere vaporous exhalations of blood, or the specifically elaborated spirit of the heart and arteries, are generally necessary for life and the proper functioning of an organism. Thus, Galen’s pneumatology certainly does not map on to his neat tripartite division of the soul and the chief organs.

4.1.3 Summary

To summarize, Galen and Aristotle disagreed on a number of important physiological points. First, Galen corrected Aristotle’s anatomically incorrect belief that the heart is the source of nerves and the psychic actions. In doing so, he reverted to the Platonic division of the soul into three distinct parts, with each part of the soul residing in a distinct organ. As such, he advanced a theory of three distinct physiological systems, each associated with its own specific actions and vessels. Alternatively, each part of the soul was believed to possess a genus of faculties responsible for the actions of that system. Nonetheless, even though Galen used the term “faculty” loosely at times, at the

\textsuperscript{57} Galen, \textit{On the Natural Faculties}.

\textsuperscript{58} In fact, Galen only once speculates on the possibility of a “natural spirit” and even then he is extremely reserved in asserting its existence; Temkin, “On Galen’s Pneumatology,” p. 182.

\textsuperscript{59} Ibid., pp. 184–185.
very least, he maintained the strong connection between “faculty”, “motion/change” and “action” that is found in the Aristotelian understanding of “faculty.”

On the other hand, Galen’s use of the term *pneuma* is significantly different than that of Aristotle. Whereas Aristotle only posited the existence of a single *connate pneuma*, which itself was its own element akin to *aither*, Galen speaks of, at the very least, two kinds of spirits. Moreover, he never likens the substance of the spirits to that of the celestial elements. Instead, Galen argues that the *pneuma* is derived from air and that it is a concoction of air and blood. Consequently, Galen and Aristotle disagree on the generation of the *pneuma* in the heart. For Aristotle, *pneuma* is present in water and fluids, and soul-heat is contained in *pneuma*, such that “all things are in some sense full of soul.”

The *connate pneuma* is extracted from the blood once it reaches the heart, where the blood is vaporized by the inspired air and the heart’s innate heat. For Galen, the vital spirit is generated by a double concoction of regular, inspired air: first in the lungs, and second, by combining with arterial blood and the innate heat of the heart. Yet, even though the two notions of *pneuma* are considerably different—one is its own unchangeable matter and is extracted, while the other is generated from terrestrial elements via a double concoction—we should not be surprised to find Islamic physicians

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conflating the two.\textsuperscript{63} This conflation is only encouraged further by an identity of the terms themselves.

Thus, from the perspective of the Islamic physicians and philosophers, the major difference between Aristotelian and Galenic physiology lies ultimately in the role each assigns to the heart. For Aristotle, the heart is the chief organ—the source of all vessels and innate heat, the principal sensory and cognitive organ, the seat of the \textit{pneuma} and, as such, of the soul itself. Galen takes over from Aristotle the central role of innate heat in biological processes and its association with the heart,\textsuperscript{64} and even accepts its central role in the creation of the vital spirit. However, the heart is no longer the central organ, but one of three. Moreover, since the brain is considered the central organ for sensation and cognition, the brain is the true regent part (\textit{hegemonikon}) and so has a special relationship to the rational soul.\textsuperscript{65} Consequently, the uniqueness of the heart and its actions are considerably diminished. Thus, as we have already seen, the heart is responsible for the irascible virtues, but only in conjunction with the brain. Similarly, the arterial blood from the heart plays an important role in nourishing thin, porous organs.\textsuperscript{66} Hence, the heart also shares in the activities of the liver. Finally, even though the heart is primarily responsible for generating the vital spirit, which in turn nourishes the psychic spirit, Galen also leaves open the possibility that the psychic spirit can be nourished directly by

\textsuperscript{63} In fact, modern interpreters have also been guilty of conflating the two concepts to some extent; for example, see Harris, \textit{The Heart and the Vascular System}, p. 165.

\textsuperscript{64} Galen, \textit{On the Usefulness of the Parts}, pp. 50–53.

\textsuperscript{65} Galen, \textit{On the Doctrines of Hippocrates}, VII.3, p. 445; and Rocca, \textit{Galen on the Brain}.

\textsuperscript{66} Galen, \textit{On the Usefulness of the Parts}, p. 233.
the inspired air.\textsuperscript{67} Therefore, the heart’s unique role in the body is restricted to its source as the all-important seat of the life-giving innate heat, and to its role in pulsation, which ventilates that heat.\textsuperscript{68}

Nevertheless, the hegemonic status of the heart in the body remained contentious during the Hellenistic and Islamic periods.\textsuperscript{69} Islamic physicians, especially Ibn Sinā and Ibn Tūfayl, both of whom were firmly committed to Aristotle, rejected Galen’s Platonic notions of the soul and found ways to support the claim that the heart was indeed the \emph{hegemonikon}.\textsuperscript{70} They were successful in doing so, because they were able to combine the Aristotelian notions of soul, spirit and faculties with the Galenic notions of those same concepts. Their path was made easier by the subsequent translation and interpretation of these terms by Islamic physicians during the Graeco-Arabic translation movement, to which we shall now turn our attention.

\section*{4.2 Sowing the Seeds for an Aristotelian Galenism: Physiology during the Graeco-Arabic Translation Movement}

Although Greek medicine initially competed in the Islamic world with its Persian and Indian counterparts, by the end of the ninth century, the “humoral system of pathology as outlined by . . . Galen . . . had been completely accepted and integrated into

\begin{itemize}
\item \textsuperscript{67} Bylebyl, “Cardiovascular Physiology,” p. 46; and Galen, “On the Use of Breathing.”
\item \textsuperscript{68} Galen, “On the Use of the Pulse,” p. 207.
\item \textsuperscript{69} For Galen’s own contemporaries rejecting Galen’s arguments for the brain as the \emph{hegemonikon}, see Rocca, \textit{Galen on the Brain}, pp. 46–47.
\item \textsuperscript{70} Galen was regularly criticized for his philosophical positions, especially with regards to the soul, during the Hellenistic and Islamic periods; see Temkin, \textit{Galenism}, pp. 51–94.
\end{itemize}
the learned medical thinking of the day.” Much of the credit for the success of Galen’s writings in the Islamic world must go to Ḥunayn Ibn Ishāq (d. 873), a Nestorian Christian physician who hailed from Southern Iraq. Not only did he render almost the entire Galenic corpus into Syriac or Arabic, thus making it accessible to his contemporaries, but the translations themselves were also acclaimed as literary feats. Moreover, he, and his school of translators, are also credited with establishing the Arabic medical and scientific vocabulary. More importantly, Ḥunayn and other Graeco-Arabic translators maintained the continuity of the Greek discourse between Aristotle and Galen by rendering the same Greek terms in Aristotle and Galen with the same Arabic terms. As such, the translators, as well as subsequent Islamic physicians, were inextricably involved in clarifying and, to an extent, reconciling the often over-lapping yet distinct, Aristotelian and Galenic understandings of the terms “soul” (Gr. \( \text{psuche} \), Ar. \( \text{nafs} \)), “spirit” (Gr. \( \text{pneuma} \), Ar. \( \text{rūh} \)), “faculty” (Gr. \( \text{dunamis} \), Ar. \( \text{quwwa} \)) and “activity” (Gr. \( \text{energia} \), Ar. \( \text{fičl} \)).

4.2.1 Ḥunayn and the “Galenic” System of Physiology

Apart from his translations, Ḥunayn also composed many monographs, of which a few exercised considerable influence on subsequent Islamic and Western medicine. His treatise entitled \( \text{al-Masā’il fī ’l-Ṭibb li’l-Muta’āllimin} \) (Questions on Medicine for

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Students) was especially popular amongst Islamic and Western physicians. The text was clearly meant as an introduction to Galenic medicine and was used as such by later scholars. In fact, a number of commentaries on this work by subsequent Islamic and Western physicians are still extant, including one by Ibn al-Nafīs.74

The Questions on Medicine provides a didactic introduction to Galenic medicine and succeeds in presenting it as a comprehensive system.75 Naturally, it is very possible that Ḥunayn’s own systematization and schematization of Galen had much to do with late Hellenistic synopses of Galen.76 However, regardless of whether or not Ḥunayn’s systematization of Galen was original, it provided the lens with which to understand and interpret Galenic physiology for subsequent Islamic physicians. For example, the famous triadic formula of the spirits of Galenic pneumatology does not trace back to Galen himself, as we have already seen, but rather to the following passage from Ḥunayn’s treatise:

How many are the spirits? Three: the natural spirit \[\textit{al-rūḥ al-ṭabīḥīyya}\], the vital spirit \[\textit{al-rūḥ al-hayawānīyya}\]77, and the psychic spirit \[\textit{al-rūḥ al-nafsānīyya}\].

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76 Ullmann, \textit{Islamic Medicine}, p. 42. We have already seen in the last chapter that the early Arabic translations and interpretations of Aristotle relied extensively on Hellenistic commentaries, especially the Ammonian synthesis. Future research may shed more light on the continuity between Hellenistic medicine and early Islamic medicine.

77 Even though \textit{hayawānīyya} technically means “animal,” the translator probably used “vital” in order to: 1. emphasize the continuity with the Galenic tradition; 2. avoid the confusion that would naturally arise by calling this spirit “animal;” since the subsequent Latin translations rendered the psychic spirits as \textit{spiritus animale}. Ullmann suggests that the (mis)translation was due to the fact that the Greek terms \textit{zootikos}}
The natural spirit emanates from the liver, penetrates through the veins into the whole body, and is servant to the natural [faculties] \([\text{al-qiwa al-\-\-tabiriyya}]\). The vital spirit emanates from the heart, penetrates through the arteries into the whole body, and is servant to the vital [faculties] \([\text{al-qiwa al-\-hayawaniyya}]\). The psychic spirit emanates from the brain, penetrates through the nerves into the whole body and is servant to the psychic [faculties] \([\text{al-qiwa al-nafsaniyya}]\).

It is clear from this passage that, for Ḥunayn, Galen’s spirits conform to the Galenic tripartite soul-three chief organ physiology perfectly. Thus, the natural faculties are placed approximately on the same level as the psychic faculties, since, like the latter, the natural faculties are also associated with a spirit that is disseminated from an organ. Yet, in other passages, Ḥunayn agrees with Galen that the natural faculties are innate to every organ. Hence, the exact role of the natural spirit in conveying these faculties is not clear. For instance, in an earlier passage, Ḥunayn lists the liver as one of the three chief/principal (\(\text{ra}\-\text{\-is}\)) organs. He then proceeds to distinguish between organs that “possess innate” faculties only (\(\text{qiwa ghariziyya}\)), and other organs that possess these innate faculties along with other faculties that “flow into them from the principal organs.” However, when he lists the other faculties that may flow into the organs, he merely lists the vital and psychic faculties, thus at least securing important roles for the vital and psychic spirits. Moreover, the innate faculties that he lists are precisely those that he later lists as belonging to the natural faculties (\(\text{al-qiwa al-\-tabiriyya}\)), i.e. the faculties of

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78 The translator has used “forces” for the word \(\text{qiwa}\) (sing. \(\text{quwwa}\)). In order to stay consistent with the terms I have used above in describing Galenic and Aristotelian physiology, I have changed it to “faculties.”


80 Ḥunayn Ibn Ishaq, Questions on Medicine, pp. 3, 42.
attraction and alteration. Nonetheless, he maintains that the liver is a chief organ, and later even states that the natural faculties originate in the liver.

Ibn al-Nafīs’s commentary on Ḥunayn’s treatise alleviates some of the confusion by elaborating that, in the opinion of the physicians, “these [natural] faculties are obtained by an organ through the mediation of the liver . . . in the first creation [fī awwal al-takawwun], but after that the organs are independent of the liver.” Thus, if we collate all these texts, we see that whereas Galen had only maintained that the liver is the source of the natural faculties inasmuch as it generates the blood and the humors, Ḥunayn adds to that the generation of a natural spirit that is conveyed to the organs along with the blood and humors. As such, he seems to understand the term “faculty” (quwwa) in a very Aristotelian manner. He concurs with Aristotle that the faculties (dunameis) of the soul (psuche) are forms (eidon) of the spirit (pneuma). The spirit, in turn, is responsible for executing the actions (energeia, Ar. afāl) corresponding to those faculties. However, unlike Aristotle, Ḥunayn subscribes to the tripartite soul-three chief organ physiology, and thus needs three distinct spirits to execute the faculties of the three distinct souls.

Not all Islamic physicians, however, agreed with Ḥunayn’s three spirit scheme. His near contemporary, Quṣṭā ibn Lūqā (d. 912), rejected the existence of a natural spirit entirely. Ironically, although Quṣṭā ultimately sided with Galen on the issue of the

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81 Ibid., pp. 3–4.
82 Ibid., p. 5.
83 Ibn al-Nafīs, Sharh Masā’il Ḥunayn Ibn Ishāq fī l-Ṭibb, MS University of Leiden, Middle East and Islamic Collections, Or. 49/2, fol. 107a3–4.
hegemonikon and the chief organs, his Aristotelian explications of the notions of soul, spirit and faculties provided a basis for Ibn Sīnā’s cardiocentric physiology.

4.2.2 Qustā ibn Lūqā: Towards a more Aristotelian Galenism

Qustā Ibn Lūqā is reported to have originally come to Baghdad with a number of Greek manuscripts “in search of fame and fortune as a translator.” Although he was recognized as a great translator, his larger contribution to Islamic medicine lies in his short treatises on physiological and psychological issues. Two treatises in particular, *On the Difference Between Soul and Spirit* and *On the Causes of the Differences Between People’s Characters*, shaped the future of Islamic medicine by bringing together the divergent views of Plato, Aristotle and Galen on the nature of souls, spirits and faculties into a unified system. Subsequent Islamic philosophical and medical discussions of these topics clearly build off of Qustā’s initial synthesis.

At the beginning of *On the Difference Between Soul and Spirit*, Qustā states that his goal in the treatise is to extract the views of the ancients regarding soul and spirit from Plato’s *Timaeus* and *Phaedo*, Aristotle’s *On the Soul*, and Galen’s *On the Doctrines*.

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88 Livingston, “Psycho-Physiological Treatise,” p. 61.
of Hippocrates and Plato and The Usefulness of the Parts.\textsuperscript{89} Since we have already seen that Aristotle and Galen disagree on important matters related to soul and spirit, it is not surprising to find that Qusṭā’s treatise seeks to provide a way to reconcile some of these differences.

Qusṭā starts by claiming that in order to understand the difference between spirit and soul, “one must first know the essence of each one of them.” As such, he begins with the spirit first, defining it as “a subtle body \([jīm 	extit{latīf}].\) He then immediately posits the existence of two kinds of spirits based on function: one that “spreads to the body from the heart in arteries, producing life, breath and the pulse;” and another that “spreads from the brain in nerves, producing sensation and movement.”\textsuperscript{90} These spirits are later called the vital spirit (\(\textit{al-rūḥ al-ḥayawāniyya}\)) and the psychic spirit (\(\textit{al-rūḥ al-nafsāniyya}\)), respectively. Moreover, Qusṭā maintains that the matter from which the psychic spirit is formed is the vital spirit itself, whereas the vital spirit is derived from the matter of the surrounding air.\textsuperscript{91} He also states that death is caused by the departure of the vital spirit from the heart, via the lungs and mouth, although he refuses to speculate on the reasons for the spirit’s departure.\textsuperscript{92} Thus, for animals and humans, the vital spirit is the principle of life itself—a notion that Ibn al-Nafīs will latch on to even as he rejects the existence of vital faculties (see below). Finally, unlike Ḫunayn, Qusṭā never posits the existence of a

\textsuperscript{89} Qusta Ibn Luqa, “\textit{Fi 'l-farq bayn al-ruh},” p. 97; and Livingston, “Psycho-Physiological Treatise,” p. 63.

\textsuperscript{90} Qusta Ibn Luqa, “\textit{Fi 'l-farq bayn al-ruh},” p. 98; and Livingston, “Psycho-Physiological Treatise,” p. 63.

\textsuperscript{91} Qusta Ibn Luqa, “\textit{Fi 'l-farq bayn al-ruh},” pp. 99, 103; and Livingston, “Psycho-Physiological Treatise,” pp. 65, 68.

\textsuperscript{92} Qusta Ibn Luqa, “\textit{Fi 'l-farq bayn al-ruh},” p. 99; and Livingston, “Psycho-Physiological Treatise,” p. 64.
natural spirit. In fact, he states unequivocally at the end of this section that there are only two spirits: the vital and the psychic.\footnote{Qusta Ibn Luqa, “Fi ’l-farq bayn al-ruh,” pp. 102–103; and Livingston, “Psycho-Physiological Treatise,” p. 68}

In his section on the soul, Qusṭā begins by first outlining Plato’s understanding of the soul and then follows it up with an exposition of the soul according to Aristotle. Although there is no direct attempt to reconcile the two views, it becomes clear through his exposition that he believes that both philosophers claim that the soul is an incorporeal substance that is responsible for bringing about change in a compound living body.\footnote{Qusta Ibn Luqa, “Fi ’l-farq bayn al-ruh,” pp. 103–107; and Livingston, “Psycho-Physiological Treatise,” pp. 68–72.} He then takes Aristotle’s side in referring to the different kinds of souls with respect to the different genera of living things: plants, animals and humans. Consequently, he rejects the Galenic belief in the tripartite nature of the soul and the specific anatomical localizations of those parts and, instead, posits the existence of a single, simple, unitary soul for an individual body. The different types of souls are, as in Aristotle, arranged hierarchically, such that the vegetative soul ($\textit{al-nafs al-nabātiyya}$) is common to all living beings, the animal soul ($\textit{al-nafs al-bahīmiyya}$) only to animals and humans, and the rational soul ($\textit{al-nafs al-nātiqa}$) to humans alone.\footnote{Qusta Ibn Luqa, “Fi ’l-farq bayn al-ruh,” p. 107; and Livingston, “Psycho-Physiological Treatise,” p. 72.} Hence, a single, simple soul is responsible for all the faculties and actions of the body. That is to say, different organs are not assigned specific souls or parts of the soul.

As for the relationship between soul and spirit, the spirit is the first recipient of the faculties ($\textit{qiwa}$) of the soul: “The soul moves the body and imparts sensation . . . and
life to it through the spirit.” The soul is, thus, the first cause, whereas the spirit is the second, and so, proximate cause (‘illa qarība) of the body for these actions (afāl). “The spirit is finer, more subtle, and more pure than other parts of the body and so is most receptive to the actions of the soul [afāl al-nafs].” Thus, even though the soul does not die at death, its activity ceases when the spirit departs the body.96

Clearly, for Qustā, the soul acts through the agency of the spirit. At first, it animates the body through the vital spirit, which is distributed by the heart through the arteries, providing the body with innate heat, breathing, pulsation and other vital faculties.97 Interestingly, Qustā refers to the vital faculties as quwwat al-ḥayāt (literally, “faculty of life”), even though he calls the vital spirit, al-ruḥ al-ḥayawāniyya (literally, “animal spirit”). The difference between his rendering and that of Ḥunayn suggests that the two authors were relying on different traditions of Galenic physiology, with Qustā’s rendering perhaps being closer to the original Greek.98 Next, the vital spirit is conveyed by the arteries to the brain, where it goes through a process similar to digestion (al-hadm) and is transformed (al-ihāla) into the psychic spirit. The psychic spirit is thus thinner, finer (alṭaf) and purer (asfā) than the vital spirit and, hence, ready to receive the psychic faculties (yatahayyā’ li-qubūl al-quwwa al-nafsāniyya).99


97 Sbath, “Le livre des caractères,” pp. 120, 150; Qusta Ibn Luqa, “Fi ’l-farq bayn al-ruh,” p. 108; and Livingston, “Psycho-Physiological Treatise,” p. 73. Qustā refers to breathing as an action governed by the vital faculty whereas even Galen had deemed it an intentional motion and, hence, placed it under the governance of the psychic faculties; Galen, “On the Use of the Pulse,” p. 227.

98 The Greek term translated as “vital” is zotikon, which itself is derived from zoe meaning life; see Rudolph E. Siegel, Galen’s System of Physiology and Medicine: An Analysis of His Doctrines and Observations on Bloodflow, Respiration, Humors and Internal Diseases (Basel: S. Karger, 1968), p. 185.

This is clearly an interesting reconciliation of Aristotle and Galen. On the one hand, Qustā accepts the Galenic view that the nerves and psychic actions proceed from the brain, yet he rejects Galen’s belief in a tripartite soul. On the other hand, he agrees with the Aristotelian understanding of the soul and Aristotle’s claim that the faculties of the soul are conveyed by the spirit (Gr. pneuma, Ar. rūḥ), but he rejects the claim that all the faculties are transmitted to the spirit in the first instance in the heart. Moreover, he rejects the Aristotelian understanding of spirit as an element akin to that of the stars, and even speaks of a cooking process that the spirit has to undergo in order to receive and execute the actions of the psychic faculties.

As for the natural faculties, i.e. the faculties of nutrition and growth, Qustā places them in the liver and accepts the liver as one of the chief organs and as the origin of the veins.¹⁰⁰ Yet, he does not assign it a spirit, because the liver is not associated with animation (ḥayy):

The faculty [quwwa] of growth and nutrition, which resides in the liver, is common to rational animated beings [al-ḥayy al-nāṭiq], such as humans, to animated beings that are not rational [al-ḥayy alladhī laysa bi-nāṭiq], such as animals, and living things¹⁰¹ that are neither animated nor rational, such as plants [waʾl-nāmī alladhī laysa bi-ḥayy wa-lā nāṭiq wa huwa al-nabāt].¹⁰²

What Qustā probably means by animation is something capable of sensation and movement. Thus, since plants are incapable of such actions, they do not require spirits or

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¹⁰¹ I have translated nāmī as “living thing” because according to Qustā any compound thing that grows and partakes in nutrition is a living thing and has a soul; Qusta Ibn Luqa, “Fi ’l-farq bayn al-ruh,” p. 106; and Livingston, “Psycho-Physiological Treatise,” p. 72.

any of the organs associated with spirits.\textsuperscript{103} We shall revisit this understanding of spirits and animation when we discuss Ibn al-Nafīs.

\textit{4.2.3 Summary}

Thus, by the end of the translation movement, we can see that there were some significant strides taken in reconciling Aristotle and Galen. Both Ḫunayn and Qustā provided subsequent Islamic physicians with interesting ways to systematize and harmonize the Aristotelian and Galenic understandings of the technical terms, “soul,” “spirit” and “faculty.” In particular, Qustā’s attempts at understanding Galenic physiology through the Aristotelian understanding of the soul provided a major impetus to the development of Islamic medicine. By adhering to an Aristotelian understanding of the soul and faculties, he provided a more secure, philosophical and theological foundation for the relatively more accurate anatomy and physiology of Galen.

Nonetheless, Qustā sided with Galen on a number of important points. First, he maintained that the vital and psychic faculties of the soul are acquired by the spirit in the organs associated with those actions. Moreover, he emphasized the need for the vital spirit to undergo a transformation and to acquire a new temperament in order to acquire the psychic faculties to implement those actions. As such, he rejected the Aristotelian understanding of the spirit as an element similar to that of the celestial bodies. He also completely agreed with the three chief organ physiology of Galen, including Galen’s typology of the faculties. Thus, unlike Aristotle, he affirmed the existence of the vital faculties, assigning to them the active actions of pulse, innate heat and life as well as the

\textsuperscript{103} Ibid., p. 120.
passive actions associated with emotions, such as anger and fear. Finally, and most importantly, Qustā agreed with Galen in that if there is a *hegemonikon* (regent part) in the body, then it would have to be the brain. However, the manner in which he brought together the Aristotelian understanding of soul and faculties, and the Galenic three chief organ physiology, set the stage for the more Aristotelian physicians, such as Ibn Sīnā (d. 1037) and Ibn Ṭufayl (d. 1186), to restore the heart’s position as the *hegemonikon* of the body.

### 4.3 Avicennian Physiology: Reconciling and Going Beyond Aristotle and Galen

Naturally, I do not want to imply that the entire project of Islamic medicine was to reconcile Aristotelian and Galenic physiology, nor that only the authors covered in my discussion were important for the specific reconciliation in which I am interested. Ibn Sīnā’s systematization of medicine was certainly not the first of such attempts, and neither was it universally praised. Nonetheless, it was the most philosophically oriented of the systematizations and confronted, head on, the conflicts between Aristotle and Galen. Moreover, the massive *al-Qānūn fī ’l-Ṭibb* (The Canon of Medicine) left an indelible mark on medieval and early modern Islamic and Western medicine.

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104 Ibid., p. 120. This is the classic definition of the vital faculties, found in a number of Islamic medical texts; see Ullmann, *Islamic Medicine*, p. 61.


106 Al-Rāzī (d. 930, lat. Rhazes) and al-Majūsī (d. circa 995) had both compiled highly successful encyclopedias prior to Ibn Sīnā. Moreover, a famous Andalusian physician, Ibn Zuhr (d. 1131, lat. Avenzoar), was highly critical of Ibn Sīnā’s work; Savage-Smith, “Medicine,” p. 925. Also see Ullmann, *Islamic Medicine*.

Tufayl and Ibn al-Nafis’s own views on the soul and medical physiology build directly upon, and respond to, the challenges posed by Avicennian physiology.

4.3.1 Ibn Sīnā and the Philosophical Limits of Medicine

We have witnessed Ibn Sīnā’s strong commitment to Aristotelian philosophy in the last chapter. That he carried through this commitment into his medical work is immediately apparent in his introductory discussion on the theoretical and practical parts of medicine, wherein he lashes out against al-Majūsī’s philosophical ineptitude. In fact, he follows up that discussion with an even more thoroughly Aristotelian categorization of the four types of causes of sickness and health: material, formal, efficient and final. His brief statement on the category of final causes is especially enlightening as it reveals his Aristotelian conception of “activities” (energeia) and “faculties” (dunameis): “As for the final causes: they are the activities [af′āl]. Knowledge of the activities requires, necessarily, knowledge of the faculties [qiwa] as well as knowledge of the spirits that carry the faculties [al-arwāḥ al-ḥāmila li’l-qiwa].” The categorization of activities as the final causes, of faculties as the formal and of spirits as the material causes, as well as the close association between spirits, faculties and


activities, all reveal that Ibn Sinā was firmly committed to the philosophically more rigorous Aristotelian definitions of these terms, even more so than Qustā.

Nonetheless, his commitment to Aristotle does not lead him to reject Galenic physiology entirely. He concurs with Galen that the veins, arteries and nerves do not all originate in the heart, but rather in the liver, heart and brain, respectively. He also accepts the claim that the brain and the liver, to an extent, are the sources of sensation and nutrition, respectively. As such, along with the heart, these organs make up the three chief organs (al-aʿdāʾ al-raʿīsa) that are the sources of the primary faculties (mabādin liʾl-qiwa al-ūlā) necessary for preserving an individual. In fact, he even divides the faculties according to Galen’s classification into: natural, vital (al-quwwat al-ḥayawāniyya) and psychic. He defines the spirit as a subtle body (jism latīf) that is first created in the heart and then nourishes the psychic spirit of the brain and, like Qustā, agrees with Galen that the spirit is generated from terrestrial elements. However, he disagrees with Qustā on one important point: that the vital spirit acquires a different temperament in the brain, in preparation to receive the psychic faculties.

Although Ibn Sinā accepts Qustā’s claim that the psychic spirit is nourished purely by the vital spirit, he denies the claim that the vital spirit transforms and takes on an entirely new temperament (mizāj ākhar) when it enters the brain. Rather, Ibn Sinā

112 Ibid., vol. 1, p. 38.
114 Ibid., vol. 1, pp. 18, 39, 98.
115 Qusta Ibn Luqa, “Fi l-farq bayn al-ruh,” p. 100; and Ibn Sina, al-Qanun, vol. 1, p. 99. In fact, Qustā claims that the spirits found in the different ventricles of the brain also differ in their substance from one
argues that the vital spirit possesses all the faculties within it. However, the spirit becomes capable of issuing the psychic and nutritive actions only after it enters the brain and the liver. The transformation of the spirit in the brain resembles the transformation that physicians maintain that the psychic spirit undergoes upon entering the tongue or the eye. Just like the psychic spirit can produce the sensation of taste only when it enters the tongue, wherein it undergoes a slight alteration, so too the vital spirit undergoes a slight alteration in the brain in order to be prepared to partake in and govern the psychic actions. Since the physicians do not claim that the psychic spirit obtains a new temperament in the tongue, so too Ibn Sīnā claims that the vital spirit does not obtain a new temperament in the brain. In both cases, the capacity to govern those actions is already present in the spirit and only switched on, so to speak, when it enters the specific organ. According to Ibn Sīnā, the vital spirit is tempered in the brain, where it obtains a temperament suitable to issue the psychic acts, but this temperament is not entirely different from its original temperament in the heart. Thus, the spirit that is created in the heart receives from the soul all the faculties, albeit it is only capable of partaking in the actions of the vital faculty immediately.

Moreover, whereas for Qustā the vital spirit undergoes a transformation in order to prepare itself to receive the psychic faculties, for Ibn Sīnā the vital faculty itself prepares the organs to receive the psychic faculties. He even uses the example of paralysis to show that an organ is capable of receiving the psychic faculties only after it


has received the vital faculties. Thus, the spirit, in its first instance, animates the entire body, providing it with the innate heat and preparing the organs to receive the psychic faculties and, in its second instance, produces the nutritive and psychic actions in these organs after the spirit is obtained and sent forth by the liver and the brain. Consequently, since the spirit receives all the faculties upon its creation in the heart, the heart is ultimately the *hegemonikon*.

Ibn Sīnā’s disagreement with Galenic physicians is closely tied to his efforts to ensure that medicine does not overstep its boundaries and concern itself with purely philosophical issues. Often during his discussions, Ibn Sīnā explicitly states that medicine accepts certain principles from natural philosophy (*al-‘ilm al-tabī‘*) that the physician *qua* physician cannot dispute. He includes amongst these principles the true nature of the faculties, soul and spirit. He concedes that, for purely medical reasons, it does not really matter whether the nutritive and psychic faculties originate in the liver and brain or whether only the actions proceed from these organs, with the faculties originating in the heart. In fact, he accepts the differential origins of all the vessels of the body, and even concedes that the psychic and nutritive faculties are not actualized

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117 Ibid., vol. 1, pp. 98–99; and Temkin, *Galenism*, p. 121. Ibn Sīnā implies that this understanding of the vital faculty is found amongst physicians. The problem is that neither Galen, nor Hunayn, nor Qustā assign to the vital faculties the action of preparing the organs to receive the psychic faculties. In fact, even al-Majūsī does not assign such an action to the vital faculties; Ullmann, *Islamic Medicine*, p. 61.

118 Ibn Sīnā, *al-Qanun*, vol. 1, p. 16.


120 Ibid., vol. 1, pp. 38, 39, 94–95, 99.
until the spirit enters the brain and liver. Nonetheless, he cannot grant, according to his philosophy, the existence of multiple souls, each with its particular domain and organ—the fundamental principle behind Galen’s three organ physiology. Thus, the unitary soul is the “principle of all these faculties,” and, as a result, must be attached to the “first organ in which life takes birth.” Therefore, the heart must be the only real source of all the faculties in the body.\footnote{Ibid., vol. 1, pp. 36–37, 99. Also see, Ibn Sīnā, 

Ibn Sīnā’s understanding of the soul-heart relationship also relies on his particular understanding of the spirit. Like Qustā, Ibn Sīnā maintains that the spirit is the agent of the soul and so receives all its faculties from the soul.\footnote{Fazlur Rahman, \textit{Avicenna’s Psychology: An English Translation of Kitāb al-Najāt, Book II, Chapter VI with Historico-Philosophical Notes and Textual Improvements on the Cairo Edition} (London: Oxford University Press, 1952), pp. 64–68; and Ibn Sīna, \textit{al-Qanun}, vol. 1, p. 99.} Additionally, we also know that he believes in the perfect corporeality and, hence, destructibility of the spirit.\footnote{Rahman, \textit{Avicenna’s Psychology}, p. 66. Although Ibn Sīnā argued that the umbilical chord is the first generated organ, he agreed with Aristotle that the heart is the first organ created as far as the embryo’s own body and the actions of the embryo’s soul are concerned; Ibn al-Nafīs, \textit{Sharh al-Qanun}, fol. 59b23–25.} Yet, in his \textit{Treatise on the Remedies of the Heart}, Ibn Sīnā follows Aristotle and likens the spirit to the substance of the celestial bodies,

Whereas the celestial bodies are ready for the noblest varieties of corporeal life, the elementary bodies are greatly distant from life. As for the compounds, their commixture destroys the core of their contrariness and produces in them the form of temperament. The temperament is the mean between the contraries \ldots [and] thus capable of accepting life. The more the temperament approaches the perfect equipoise the more is the compound able to accept a greater degree of perfection\footnote{Ibn Sīna, \textit{al-Qanun}, vol. 1, pp. 18, 99.}.

\footnote{Ibid., vol. 1, pp. 14, 18, 98. We may also infer the destructibility of the spirit from his discussion in \textit{Kitāb al-Najāt}; Rahman, \textit{Avicenna’s Psychology}, pp. 50–63.}
of life . . . to the extent that the contraries are fully neutralised and disappear.[.] Then the compound has the capacity for the perfection of rational life resembling celestial life. This capacity belongs to the human spirit. Hence, the spirit, on the whole, is an incorporated substance born of the commixture of elements tending towards resemblance with celestial bodies.  

The above-passage, in fact, is almost identical to a discussion on the soul from Kitāb al-Najāt:

[It] must be understood that elemental bodies are prevented from receiving life by their being in absolute contradiction. The more these bodies are able to break the absoluteness of contradiction and bring it nearer to the mean, which has no opposite, the nearer they approach a resemblance with the celestial bodies and to that extent they deserve to receive an animating faculty from the controlling separate principle. The nearer they approach the mean, the more capable of life they become, till they reach the limit where it is impossible for them to come any nearer to the mean and to break the contradictory extremes any further, and so they receive a substance which somehow closely resembles the immaterial substance itself, just as the heavenly bodies have received it and are connected with the immaterial substance.  

The difference in the two passages is that one is referring to a material, corruptible spirit whereas the other is talking about an incorruptible, immaterial soul. However, the two passages can be understood in conjunction, using Ibn Sīnā’s analogy of the sun affecting a ball. This analogy allows us to gain a better understanding of the relationship between soul and spirit in Ibn Sīnā’s philosophy and physiology, and its relation to the heart as the hegemonikon.  

Plants, for example, only possess the natural faculties since their elements are not as balanced as they could be and so do not give rise to a material spirit which is necessary for all the higher faculties. As such, their case is analogous to a ball that is made up of


127 Rahman, Avicenna’s Psychology, p. 67.
matter capable of only conducting heat. Animals, however, possess the natural and animal faculties since their elements are more balanced and give rise to a rudimentary spirit that is necessary for conducting the faculties of sensation and motion. Thus, their case is analogous to a ball that is made up of matter capable of reflecting sunlight. Since the ball is also heated in the act of reflecting sunlight, one can speak of the animal soul giving rise to the nutritive faculties from within itself and not because of an additional plant soul. Finally, humans possess the natural, animal and rational faculties since their elements are in supreme balance and give rise to a spirit that is capable of receiving the rational faculties, just like the elements of the celestial beings. Their case is analogous to a ball that is made up of matter capable of kindling a fire within itself when exposed to the sun. Now, since the fire that is kindled in the ball would naturally heat the ball and give off light from within itself, one can speak of the human soul giving rise to all the faculties from within itself, without the need of any additional plant or animal souls.  

Thus, a human body is governed by a unique soul, which gives rise to all the faculties, and not three separate parts or kinds of souls. And since there is only one soul, it executes its actions through the agency of an extremely balanced spirit. In fact, the spirit in this sense is almost divine, since it is intimately connected to the immaterial soul, which is why Ibn Sīnā, at times, slips into religious language while speaking of the spirit. Finally, since this spirit is housed and created in the heart, the soul is, in this

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128 Ibid., pp. 67–68.

129 For example, “And the lighter two [elements] help in the creation of spirits and in their movement and the movement of organs. However, the first mover is the soul with the permission of the Creator of the spirits;” Ibn Sina, al-Qanun, vol. 1, p. 18. Also, “The arteries . . . distribute the spirit to the organs of the body with God’s permission” (p. 37).
sense, connected to one organ of the body, i.e. the heart, which is thus considered the
hegemonikon.

Even though Ibn Sīnā’s physiology is based on his commitment to Aristotelian
notions of soul and aspects of Galenic anatomy and physiology, his own physiology
ultimately moves beyond that of both his esteemed predecessors. Thus, it seems more
appropriate to call his physiology “Avicennian” rather than “Galenic.” His understanding
that the psychic and natural faculties are received by the spirit in the heart, but that their
actions can only be issued once the spirit is obtained by the brain and liver, is neither
Aristotelian nor Galenic. After all, the brain and liver are not the sites of all nutritive and
psychic actions but, rather, are responsible themselves, in turn, for sending forth the spirit
with these faculties to the respective organs where the actions are finally completed.
Thus, there is a dual potentiality associated with the psychic and nutritive faculties in the
spirit of the heart. They initially lie dormant in the spirit of the heart. Next, they are
activated in the brain and liver. Finally, they are actualized in the target organs.
Moreover, he reinterprets the animating action of the vital faculties to mean specifically a
preparatory action required for the organs to be capable of receiving the psychic faculties.
This understanding of vital faculty is not to be found in Galen or Aristotle, nor in any of
his Islamic predecessors, as far as I can determine. Similarly, his understanding of the
spirit also goes beyond Aristotle and Galen. Although he agrees with Galen that the spirit
is generated from the terrestrial elements, he concurs with Aristotle that the spirit’s
temperament is extremely balanced so as to receive the faculties of the soul.
Consequently, the distinction between the soul and spirit is blurred. Nevertheless,
Avicenna does not make the spirit itself a distinct element or the imperishable celestial aëther itself, unlike his Aristotelian Andalusian successor, Ibn Ṭufayl.

4.3.2 Ibn Ṭufayl: Aristotelian Par Excellence?

We have already seen in the last chapter that Ibn Ṭufayl defines the soul as the form of the spirit, which allows him to solve the problem of individuation while providing a philosophical basis for Ḥayy’s mystical visions.\(^\text{130}\) We noticed that although he relies heavily on Ibn Sīnā, he also departs from the Avicennian system at key points in order to advocate his own rational mysticism. Interestingly though, Ibn Ṭufayl’s departures from Ibn Sīnā are themselves rooted in a particular interpretation of Aristotle. Thus, even in the context of physiology, where again Ibn Ṭufayl relies heavily on Ibn Sīnā, his departures from Ibn Sīnā bring him closer in line with Aristotle, while safeguarding Ibn Ṭufayl’s own monistic cosmology.

That Ibn Ṭufayl relies heavily on Avicennian physiology is clear from the outset. While describing the spontaneous generation of Ḥayy, Ibn Ṭufayl states that the first organ of Ḥayy that comes into existence is “a tiny bubble divided in half by a delicate membrane.” This bubble is immediately filled by a “fine gaseous body, optimally proportioned for what it was to be [jīm laṭīf ḥawā‘ī fī ghāya min al-ʾṭīdāl al-lāʿiq bihi].”\(^\text{131}\) As this bubble develops, it takes “the conical shape of a flame” and is called

\(^{130}\) As we saw in the last chapter, Ibn Ṭufayl’s treatise, Ḥayy ibn Yaqẓān, is really about the self-sufficiency of reason presented in an allegory of a man, Ḥayy ibn Yaqẓān. Ḥayy is spontaneously generated on a deserted island and rationally discovers all truths, ultimately leading him to the mystical vision of God and the underlying monism of the entire universe.

the heart. Next, two more bubbles develop on either side opposite this chamber. The first one is divided into three and is filled with a gaseous body, and put in charge of “preservation and care and with relaying to the this first spirit, linked with the first chamber [i.e., heart], all their experiences . . .” This organ develops into the brain. On the opposite side of the brain, another bubble forms, and it too is filled with a gaseous matter, only “denser than either of the others.” This chamber is “devoted to the protection and sustenance of the spirit [in the heart]” and is called the liver.

Next, Ibn Ṭufayl makes it abundantly clear that the heart is the hegemonikon. First, he asserts that the faculties all go back to the “spirit which is God’s,” which is linked to the spirit of the heart. Thus, the faculties all originate in the heart, even though the nutritive and psychic actions are delegated to liver and brain. That is because “the dependence of the [heart] on the other two is its need for service, but their dependence on the [heart] is the reliance of the led on their leader or the controlled on what controls them.” Additionally, the liver and the brain depend “on the heart not only because its

132 Hayy (English), p. 108; and Hayy (Arabic), p. 31.

133 Hayy (English), pp. 107–108; and Hayy (Arabic), pp. 30–31. Goodman understands the Arabic passage to be stating that the spirit in the heart is finer than that in the brain. The underlying physiology, especially as stated explicitly by Qustā, claimed the opposite, i.e. that the psychic spirit is finer than the vital spirit in the heart; Qustā ibn Lāqā, “Fi ’l-farq bayn al-ruh,” p. 100. The Arabic of Ibn Ṭufayl’s text seems to go against Goodman’s translation and supports Qustā’s views: “wa imtala’ at bi-mithli dhūlika ’l-ḥawā’ī alladhī imtala’ at minhu ’l-qrāra al-ūlā, illa annahu alṣaf minhu.” Here, the annahu seems to be referring to the spirit being talked about, i.e. the psychic spirit, and the minhu would refer to the vital spirit of the heart. In fact, Ibn Ṭufayl uses an identical grammatical construction while referring to the spirit of the liver, and in that case Goodman recognizes that the annahu is referring to the spirit of the liver and the minhu to the vital spirit, only in this case the spirit is referred to as denser rather than finer. However, since Ibn Ṭufayl believes that only the vital spirit is incorruptible and perfectly balanced, Goodman’s understanding of the vital spirit being finer seems plausible. Ibn al-Nafīs also believes that the spirit of the brain is thicker than that of the heart, albeit for different reasons (see below).

134 Hayy (English), p. 108; and Hayy (Arabic), pp. 31–32.

heat keeps them alive, but also because their specialized powers originate there.”  

Hence, Ibn Țufayl posits the heart as the *hegemonikon* far more explicitly than Ibn Șīnā.

Moreover, like Ibn Șīnā, Ibn Țufayl’s argument for the heart as the *hegemonikon* is also premised on the need for there to be only one soul that is responsible for all the faculties. In fact, as you can see, the following passage on the connection between the soul and the spirit is identical to Ibn Șīnā’s discussion of the sun and the ball in the *Kitab al-Najāt*, the only difference being that Ibn Țufayl relies on the analogy of transparent bodies, opaque bodies and mirrors rather than a spherical ball:

[This spirit which is God’s] is analogous to the sunlight that constantly floods the earth. Some objects, like transparent air, are not lit by it at all. Others, opaque but not shiny, are lit partially... Still others, polished bodies such as mirrors, take up light maximally; and if these mirrors have a certain concave form, fires start in them from the concentrated rays of light. The same holds for the spirit which flows eternally from God’s word to all that is. Some beings, lacking any aptitude to receive it, show no trace of it. These, corresponding to the air of the analogy, are the lifeless, inanimate objects. Others, that is plant species, show its influence to varying degrees in proportion to their capacities; they are analogous to opaque objects. Still others show its impact greatly; these are the animal species, and they correspond to the shiny objects of the analogy. The most reflective body, far outshining all others, is the one that mirrors in itself the image and pattern of the sun... There is reference to this in the words of the Prophet...,, “God created Adam in His own image.”

However, we know from the previous chapter that Ibn Țufayl goes far beyond Ibn Șīnā in his understanding of the relationship between soul and spirit. Whereas Ibn Șīnā merely asserts that the spirit is the first recipient of the faculties of the soul, Ibn Țufayl defines the soul as the form of the spirit that resides in the heart. Moreover, it is

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137 Ibid., p. 107; and *Hayy* (Arabic), pp. 29–30.

important to point out that unlike his predecessors, Ibn Ṭūfayl posits a psychic and a natural spirit that are entirely distinct from the vital spirit that resides in the heart. Thus, the association of the soul is with the vital spirit which is responsible for the innate heat. That is why he claims that the vegetative soul is the form of whatever it is that is responsible for innate heat in plants.\textsuperscript{139} However, as Abraham Bos has shown recently, this is a valid interpretation of Aristotle.\textsuperscript{140} Furthermore, Ibn Ṭūfayl even agrees with Aristotle that the spirit is an element akin to that of the celestial bodies:

\begin{quote}
The implication Hayy drew from . . . was that the vital spirit with the stablest equilibrium would be fit for the highest form of life to be found in the world of generation and decay. The form of such a spirit could virtually be said to have no opposite. In this it would resemble the heavenly bodies, the forms of which have none at all. The spirit of such an animal [i.e. the human spirit], being truly at a mean among the elements, would have absolutely no tendency up or down. In fact, if it could be set in space, between the center and the outermost limit of fire, without being destroyed, it would stabilize there, neither rising nor falling. If it moved in place, it would orbit like the stars, and if it moved in position it would spin on its axis. . . . Thus it would bear a strong resemblance to the heavenly bodies.\textsuperscript{141}
\end{quote}

In this sense, we can refer to Ibn Ṭūfayl’s physiology and psychology as more purely Aristotelian, at least according to one interpretation of Aristotle.\textsuperscript{142}

\textsuperscript{139} Hayy (English), p. 123; Hayy (Arabic), p. 51.

\textsuperscript{140} Bos, “\textit{Pneuma} and Ether.”

\textsuperscript{141} Hayy (English), p. 141.

\textsuperscript{142} Early Hellenistic doxography understood Aristotle as having maintained a belief in the immortality of the human soul through its association with a special body, “\textit{quinta essentia}.” As Bos has shown, the immortality of the soul is irreconcilable with the traditional modern understanding of Aristotle, which argues that Aristotle’s psychology is hylomorphic, i.e. that the soul is related to the entire body. However, Bos argues that the Hellenistic non-hylomorphic interpretation of Aristotle is far more accurate, and reconcilable with Aristotelian notions of the pneum\textit{a} as the indestructible, celestial, divine element in all of us; see Bos, “Aristotle’s Psychology,” 327–331. Moreover, we also know that the Stoics did indeed regard the pneum\textit{a} as an “indwelling divine spirit”; see Rocca, \textit{Galen on the Brain}, p. 60. It would be interesting to see if Ibn Ṭūfayl or other Andalusian falāṣīfā had access to early Hellenistic or Stoic interpretations of Aristotle. The Andalusian falāṣīfā, as it is, are well-known for their different and, what has been described as, stricter and more literal Aristotelianism; see A. I. Sabra, “The Andalusian Revolt Against Ptolemaic
4.3.3. Summary

Ibn Sīnā’s physiological scheme is clearly built upon the earlier attempts of Ḥunayn and Qustā to systematize Galenic physiology and reconcile it with Aristotelian philosophy and physiology. Ibn Sīnā builds upon Qustā’s attempts to base the three chief organ physiology on an Aristotelian understanding of a unitary, simple soul, and manages to incorporate Ḥunayn’s three spirit scheme. However, he goes beyond all his Galenic predecessors by assigning hegemonic control to the heart. As a result, he reconceptualizes the understanding of faculties; in particular, the way in which the psychic and natural faculties are somehow carried by the spirit from its inception in the heart, but are not capable of issuing such actions until they are tempered by the brain and the liver. Most importantly, he interprets the vital spirit’s vitalization/animation of the organs to be a means for preparing them to receive the psychic faculties. In this way, he moves beyond Aristotle by accepting the existence of vital faculties and by assigning them a central and unique role.

This additional role that Ibn Sīnā assigns to the vital faculty is intimately tied to his understanding of how the soul causes movements and actions in the body. He makes it abundantly clear that the soul (nafs) is, first and foremost, associated with the spirit (rūḥ). Only the spirit is capable of receiving the faculties from the soul because it is the most balanced material compound in the body. Thus, the organs can only exercise the faculties of the soul once they have received the spirit. That is why the vital spirit and, consequently, the vital faculties, are assigned a preparatory role; they prepare the organs to receive the other faculties of the soul. To that extent, the spirit has a very special

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relationship to the soul. It is merely a short step from there to conflate the two in some sense.

As seen above, Ibn Ṭufayl clearly conflates the two, albeit for completely different reasons. However, even Ibn Sīnā conflates the two to an extent, by using religious language while referring to the spirit. Interestingly, even though traditionalists preferred the term rūḥ (spirit) over nafs (soul) and, as a result, would have perhaps found this physiological understanding of the spirit quite appealing, Ibn al-Nafīs rejects it unequivocally. Instead, he tries to ensure that the physiological relationship between the body, spirit and soul adheres strictly to a hylomorphic interpretation of Ibn Sīnā’s original, Aristotelian definition of the soul as the true referent of “I.”

4.4 Ibn al-Nafīs’s Physiology: The Result of a Truly Hylomorphic Psychology

We have already uncovered the extent to which Ibn al-Nafīs’s hylomorphic understanding of the soul-body relationship is directly related to his philosophical and theological views. As explained in chapter three, his commitment to the hylomorphic psychology enables him to reject Ibn Ṭufayl’s monistic mysticism and defense of autodidactic learning. This overriding commitment also forces Ibn al-Nafīs to propose new ways with which to reconcile a belief in bodily resurrection: he is forced to reject much of the ḥadīth literature on the soul; he weakens the bond between the heart and the soul by attaching the latter to the ‘ajb al-dhanab instead; and, most importantly, he is forced to draw a distinction between the soul (nafs) and spirit (rūḥ). This latter distinction is of supreme importance in trying to understand the changes that Ibn al-Nafīs
introduced into Avicennian physiology, which, in turn, provide the basis to support his understanding of bodily resurrection and of the pulmonary transit of blood.

At the end of his brief presentation of Ibn al-Nafis’s theory on the pulmonary transit of blood, Manfred Ullmann states:

With these words Ibn-an-Nafis described for the first time the circulation of the lungs. But he gained his knowledge not on the basis of systematic physiological research but by plain logical deduction derived from the knowledge about the impenetrability of the septum.143

Ullmann’s own assertion is derived from Max Meyerhof’s earlier study of Ibn al-Nafis’s discovery of the pulmonary transit, wherein Meyerhof claims, citing Alexander Bowie’s judgment of Michael Servetus’s (d. 1553) work, that “the only credit due to him is that of having made a very happy guess, but one which did not advance the explanation further.”144 In fact, no author who has commented upon Ibn al-Nafis’s medical works and, in particular, upon his theory of the pulmonary transit, has ever noticed the fact that Ibn al-Nafis’s physiology is significantly different from that of Ibn Sīnā and Galen.145 As

143 Ullmann, Islamic Medicine, p. 69, my emphasis.


we shall see, Ibn al-Nafīs completely transforms Avicennian physiology. This transformed physiology, in turn, provides the basis for the pulmonary transit of blood and his defense of bodily resurrection. The pulmonary transit of blood is a specific, anatomical corollary of the new physiology, which is why Ibn al-Nafīs never explicitly brings it up outside his *Commentary on the Anatomy*—a fact that has puzzled many commentators.146 The new physiology, on the other hand, is present in all of his major philosophical and medical works that have received scholarly attention. The only exception is his *Mūjaz al-Qānūn* (The Epitome of the *Canon*), with which we shall deal separately in the next chapter.

### 4.4.1 The Order of Ibn al-Nafīs’s Medical and Philosophical Writings

As I noted in chapter two, Ibn al-Nafīs was a prolific writer. According to one study, the total number of his known works is thirty-seven, of which some have been printed, others survive in manuscripts and the rest are yet to be discovered or are no longer extant.147 The vast majority of these works are on medicine, ranging from commentaries on the works of Hippocrates, Galen and Ibn Sīnā, to special tracts on ophthalmology and eye diseases. The work that has, naturally, received the most

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attention is the *Sharḥ Tashrīḥ al-Qānūn* (The Commentary on the Anatomy of the *Canon*), wherein Ibn al-Nafīs posits the pulmonary transit of the blood in five different places within the treatise. An extant manuscript copy of this treatise reveals that Ibn al-Nafīs had completed it very early in his career, for the copy is dated “25 Jumādā I 640/20 November 1242, forty-seven lunar (forty-six solar) years before he died.”

The *Commentary on the Anatomy* itself was written after he had completed, at the very least, the commentary on the first book of the *Canon* of Ibn Sīnā, for in his preface to *Sharḥ al-Qānūn* (The Commentary on the *Canon*), Ibn al-Nafīs states:

> We have organized [our commentary on the *Canon*] according to the order of the *Canon*, except in two sections: the section on Anatomy and the section on *al-Aqrābādhiṇ* [Pharmacology]. We decided to collect the discourse on Anatomy into one book, and have placed it after the discourse on the rest of the discussions of book one of the *Canon*, which is known as the *Kitāb al-Kulliyāt* [The Book of General Precepts]. Pharmacology has been placed after the discourse on Simple Drugs. Apart from that, we have not changed its order.

Moreover, in the first introductory discussion of the *Commentary on the Anatomy*, Ibn al-Nafīs says: “You are indeed familiar with what we have said in our commentary on the first book of the *Canon*, known as the *Kulliyāt*, with regards to the essences of the parts . . . and their substances.” Thus, at the very least, we can be certain that the first book of the *Commentary on the Canon* and the *Commentary on the Anatomy of the Canon* were both completed by 1242, and that the remaining books that make up the larger *Commentary on the Canon* were probably written soon thereafter. These books on the

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Commentary on the Canon thus form a cluster of books that were written during the 1240s, if not earlier.

A second cluster of books with which I shall be dealing date from the 1270s: *Risālat Fādil ibn Nāṭiq* and *Risāla fī Manāfī al-Aʿdāʾ al-Insāniyya* (Treatise on the Functions of Human Organs). The two texts survive in manuscript form in a collection of three texts written in the same hand, the other being his text on ḥadīth that we encountered in the second chapter.151 Of the collection, the *Treatise on Organs* is the last of the three manuscripts and carries a date at the end of the treatise suggesting that it was completed in 1274.152 The *Treatise on Organs* also refers back to the *Commentary on the Canon* so we can be certain that it was written after the larger commentary. As for *Faḍil ibn Nāṭiq*, since Ibn al-Nafīs describes the Mamluk Sultan Baybars, and reports on Baybars’s victories over the Mongols and his tax extortion schemes, we know that the text had to have been written after 1268 and before 1277, the year of Baybars’s death.153

Finally, the last text which I shall use to uncover Ibn al-Nafīs’s physiology is his, *Sharḥ Masāʿil Ḥunayn ibn Ishāq fīʾl-Tibb* (Commentary on the *Questions of Ḥunayn ibn Ishāq on Medicine*). Though the manuscript does not carry any date indicative of its completion, we can gauge from internal evidence that the text was completed after the *Commentary on the Canon*. That is because when Ibn al-Nafīs discusses the faculties (*qiwa*) in his *Commentary on the Canon*, he states that he will provide a detailed discussion of faculties and their relationship to the soul and spirit in his forthcoming

151 *Theologus*, p. 36.


153 *Theologus*, p. 68.
philosophical books (al-kutub al-hikmiyya).\textsuperscript{154} On the other hand, when he discusses the spirits and faculties in the \textit{Commentary on the Questions}, he states that he has already discussed the relationship between the faculties as forms of spirits in his work, \textit{Hikma} (Philosophy/Wisdom).\textsuperscript{155} Unfortunately, this text is not known to be extant.\textsuperscript{156}

From this short survey of the major physiological and philosophical works relevant to this study, we see that the earliest work of Ibn al-Nafis is the entire \textit{Commentary on the Canon}, with the commentary on book one preceding the specific \textit{Commentary on the Anatomy of the Canon}. The lost text on philosophy, \textit{Hikma}, was written some time after this. The \textit{Commentary on the Questions} was written, at the very least, after the \textit{Hikma}. In fact, the surviving commentary on Ḥunayn’s \textit{Questions on Medicine} could well be a very late work, since, in the preface, Ibn al-Nafis acknowledges that this commentary is the shorter commentary and the reader should proceed to his already completed, longer commentary on Ḥunayn’s \textit{Questions} for further details.\textsuperscript{157} Unfortunately, the longer commentary is also no longer extant. \textit{Fāḍil ibn Nāṭiq} and the \textit{Treatise on the Organs} were probably completed around the same time. The \textit{Treatise on the Organs} also refers to the \textit{Hikma}, so we know for sure that it was at least composed after the \textit{Hikma}.\textsuperscript{158} Thus, the physiological works of relevance to this study span the course of three decades, starting with the \textit{Commentary on the Canon} in the 1240s and

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{154} Ibn al-Nafis, \textit{Sharh al-Qanun}, fol. 22b26–28.
\item \textsuperscript{155} Ibn al-Nafis, \textit{Sharh Masa’il}, fol. 109b18–19.
\item \textsuperscript{156} The \textit{Hikma} is also cited in his \textit{Treatise on Organs} at precisely the same juncture, i.e. while discussing the relationship between faculties and spirits; \textit{Risalat al-ʿādaʿ}, p. 97.
\item \textsuperscript{157} Ibn al-Nafis, \textit{Sharh Masa’il}, fol. 102a3–5.
\item \textsuperscript{158} Ibn al-Nafis, \textit{Risalat al-ʿādaʿ}, p. 97.
\end{enumerate}
\end{footnotesize}
proceeding till Fādil ibn Nāṭiq and Treatise on Organs in the 1270s. Remarkably, over this long period of time, Ibn al-Nafīs remained consistent in rejecting Avicennian physiology, basing this rejection on his hylomorphic understanding of the relationship between the soul and the body.

4.4.2 Redefining Chief Organs and Their Relationships to Soul, Spirit and Faculties

As we saw earlier in the chapter, the original Galenic definition of chief organs was based primarily on the existence of a compound, tripartite soul, with each part residing in its corresponding chief organ. Ibn al-Nafīs, like his Islamic predecessors Qustā and Ibn Sīnā, explicitly rejects the belief in a compound soul and instead advocates the existence of a simple, unitary soul for the entire body:

Ibn Sīnā here returns . . . to show that the teaching of the physicians requires either many souls or a compound soul made up of many things. But their teaching falsifies the certain knowledge that everyone can arrive at, which is that the soul is one and not many or composed of many. ¹⁵⁹

Nonetheless, just because he accepts the existence of a simple, unitary soul does not imply that he associates the soul with any one organ or bodily part, unlike Aristotle and Ibn Sīnā. He tirelessly repeats over the course of the Commentary on the Canon that the soul is not associated with any specific part(s) or organ(s) of the body, but rather with the entire body. Thus, in one place he states that the “soul, according to us, is related to the entirety and not to one or a few organs [ta'allaq al-nafs ‘indanā bi’l-jumla lā bi-‘udū wāḥid aw āḏā’ ma‘dūda].” ¹⁶⁰ Similarly, while enumerating the differences between Aristotelians and Galenists with respect to chief organs, he explicitly condemns what he


¹⁶⁰ Ibid., fol. 22b27.
regards as the Aristotelian understanding, namely, that a single, unique soul requires the existence of a single, unique source for all the faculties, i.e. the heart. Instead, he again concludes that “the soul is related primarily neither to the spirit nor to any organ, but rather to the entire matter whose temperament is prepared to receive that soul \( [t̲a'āl̲l̲u̲q \ a̲l̲-n̲a̲f̲s \ a̲w̲w̲a̲l̲a̲n̲ \ l̲a̲y̲s̲a̲ \ b̲i̲-̲r̲ū̲h̲ \ w̲a̲-̲l̲ā̲ \ b̲i̲-̲'u̲d̲ū̲ \ b̲a̲l̲ \ b̲i̲-̲j̲u̲m̲l̲a̲t̲i̲ \ 'l̲-̲m̲ā̲d̲d̲a̲ \ a̲l̲-̲m̲u̲m̲t̲a̲z̲i̲j̲a̲ \ b̲i̲-̲'l̲-m̲i̲z̲ā̲ j \ a̲l̲-m̲u̲'a̲d̲d̲ \ l̲i̲-q̲u̲b̲ūl̲ \ t̲i̲l̲k̲a̲ \ 'l̲-n̲a̲f̲s̲] \).”\(^{162}\) The soul is nothing other than “what a human indicates by saying ‘I’.”\(^{163}\) Moreover, the soul can only be related to the entire body which is balanced in temperament. It cannot be related to specific parts because “the temperament of the spirit or the organs is far from balanced \( [m̲i̲z̲ā̲ j \ b̲i̲-̲r̲ū̲h̲ \ a̲w̲ \ a̲l̲-̲a̲d̲ā' \ a̲l̲l̲a̲d̲h̲ī \ h̲u̲w̲a̲ \ k̲h̲ā̲r̲i̲j \ a̲n̲ \ a̲l̲-̲i̲t̲i̲d̲āl̲] \).”\(^{164}\)

Consequently, because of his strict hylomorphic psychology, Ibn al-Nafīs can no longer define chief organs and regent parts of the body based on their relationship with the soul. Furthermore, he even rejects any notion of chief organs based on their relationship to the primary vessels or the faculties. That is so because he denies Galen’s anatomical assertion that the veins, arteries and nerves originate in the principal organs—the liver, heart and brain, respectively. In both, the first book of *Commentary on the Canon* and the *Commentary on the Anatomy*, he asserts that these vessels do not actually sprout forth from a source organ. These vessels, rather, generate and grow in every organ

\(^{161}\) Ibid., fol. 59b18–19. Earlier, he had also rejected the Aristotelian claim that all the vessels must originate in the heart because it is the source of all the faculties (fol. 20b1–2).

\(^{162}\) Ibid., fol. 59b28–29.

\(^{163}\) Ibid., fol. 62b12; and *Theologus*, p. 58.

of the body and then connect together. For example, when the spleen is generated, its arteries, veins and nerves are generated and grow with it. The vessels then separate from it and connect with the arteries, veins and nerves growing out from the nearest organ(s). The veins, arteries and nerves, ultimately, do connect to the liver, heart and brain, but they cannot be said to originate in those organs. Thus, the liver, heart and brain cannot be considered chief organs with respect to being the sources of the veins, arteries and nerves.

Furthermore, Ibn al-Nafīs recognizes that even the standard Galenic, as well as the modified Avicennian, understanding of the chief organs as the sources of the primary faculties necessary for preserving the life of an individual or species is fraught with problems. Apart from his specific problem with calling organs the source of faculties when, in actual fact, the soul is the real source of the faculties, he recognizes that the liver and testes do not even meet the requirements set forth by Ibn Sīnā and other physicians for chief organs. As such, he unequivocally states in the Commentary on the Questions and the Commentary on the Canon that “in our opinion, the liver cannot be a chief [organ].” That is because the natural faculties are innately present in all organs through which they modify the incoming blood from the liver to suit their individual temperaments—something that was widely recognized and accepted by all Galenists.

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165 Ibid., fol. 20b5–9; and Ibn al-Nafis, Sharh Tashrih, pp. 294, 317.

166 Ibn al-Nafis, Sharh al-Qanun, fol. 22b6–26; and Ibn al-Nafis, Sharh Masa’il, fol. 106b10–107a7. Ibn al-Nafīs is certainly aware of the fact that Ibn Sīnā’s position is not exactly that of Galen, or for that matter of Aristotle; see Sharh al-Qanun, fol. 20b2–5, 62b5–17.

167 Ibid., fol. 59b27–29.

168 Ibid., fol. 22a15–17; and Ibn al-Nafis, Sharh Masa’il, fol. 107a3–11

169 Ibn al-Nafis, Sharh al-Qanun, fol. 22b26; and Ibn al-Nafis, Sharh Masa’il, fol. 107a7.

170 Ibn al-Nafis, Sharh Masa’il, fol. 107a7–9.
The liver, in conjunction with the stomach and other digestive organs, merely purifies and converts the incoming food, through its own innate, natural faculties, into blood. The blood’s temperament not only resembles that of the liver, but it is also most suitable for nourishing the other organs. The reason the liver is not needed in plants, even though they possess the natural faculties, is because plants absorb pure food through the narrow pores of their roots and so do not need a separate organ(s) to cook, refine and purify their already pure nutritional uptake. Thus, the liver cannot be a chief organ, for it is not the source of the natural faculties. The natural faculties, instead, emanate from the soul directly to every body part, since the soul is, after all, associated with the entire body (see below).

The hylomorphic relationship between the soul and the body also grounds Ibn al-Nafīs’s rejection of the existence of the vital faculty. As we have already seen, Ibn Sīnā had come to understand and philosophically justify the existence of a vital faculty by assigning it a preparatory role in making the organs capable of receiving the psychic faculties and even the natural faculties to an extent. The fact that Aristotle himself never posits the existence of such a faculty is explicitly acknowledged by Ibn al-Nafīs. On the basis of his hylomorphic psychology, Ibn al-Nafīs then argues that the soul is related to the entire body, and so every body part is already capable of receiving the psychic faculties: “The truth is that this faculty [i.e. the vital faculty] does not exist, for that which

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173 Ibn al-Nafis, Sharh al-Qanun, fol. 22a35–37, 22b1–2, 62a30–31, 62b16–20. As we saw above, Ibn Sīnā accepted the existence of the vital faculty in order to make the heart the hegemonikon in a, otherwise, three chief organ physiology.
prepares [the body] to receive the psychic faculties is the soul’s association with the body [wa’l-ḥaqq innahu lā wujūd li-hādhīhi ’l-quwwa fa-inna ’l-muʿadd li-qubūl al-qiwa al-nafsāniyya huwa ta’alluq al-nafs bi’l-badan].”

As for the other actions of the vital faculty, Ibn al-Nafis claims that the source of the emotive acts are the psychic faculties themselves, and pulsation is not associated with a faculty but rather is the result of a forced and natural movement that itself depends on the movement of the heart (see below). In short, “the vital faculty does not exist [wa’l-ḥaqq innahu lā wujūd li’l-ḥayawāniyya al-batta].” Consequently, we can see that Ibn al-Nafis adheres to the classic Aristotelian division of faculties based on the various activities of plants and animals: nutrition, reproduction, sensation, locomotion, emotion and reason. The former two are the natural faculties that are present in all living things, and the latter are the psychic faculties that are present in varying degrees in different animals and humans only.

Since Ibn al-Nafis rejects the liver as the source of the natural faculties and denies the existence of the vital faculty altogether, if he were to accept the standard definition of chief organs, the brain would be considered the sole chief organ. The problem is that Ibn al-Nafis, like all his predecessors, considers the heart to be the source of innate heat, without which no action of a living body is possible. That is to say, the heart must be a


175 Ibn al-Nafis, Sharh Masa’il, fol. 108b13–14; and Ibn al-Nafis, Sharh al-Qanun, fol. 62a10, 62b22–28

176 Ibn al-Nafis, Sharh Masa’il, fol. 107b3.

principal organ. Consequently, Ibn al-Nafīs provides a new definition for chief organs—one that resorts to the heart’s central role in generating the spirit (rūḥ).

Throughout his *Commentary on the Canon*, and to a lesser extent in his *Commentary on the Questions* and the *Treatise on the Organs*, Ibn al-Nafīs maintains that the heart and brain are to be considered chief organs only because of their role in generating and tempering the spirit (rūḥ), respectively. In his discussion on “Enumerating the Chief Organs,” he immediately differentiates between Ibn Sīnā’s definition of chief organs as the “places of origin in the body of the primary faculties [fī ’l-badan mabādi’ li’l-quwva al-ūla],” and his definition of a chief organ as “the efficient origin of the spirit that carries these faculties [mabdā’ fāʾili’ li’l-rūḥ al-ḥāmila li-tilka ’l-qiwa].” He makes it abundantly clear that what he means by “the heart being a chief organ . . . is that it generates the spirit [wa maʿna riʿāsatī ’l-qalb ʿindanā annahu muwallid liʾl-rūḥ].” The brain is a chief organ with respect to the spirit because it cools and tempers the hot spirit of the heart, in order to issue the actions of sensation and movement. The liver is not a chief organ because it is not associated with generating or administering the spirit. In fact, the natural faculties do not depend on the spirit. That is why, in his *Commentary on the Questions*, he ends his long discussion on chief


179 Ibid., fol. 22b27.


181 Ibn al-Nafis never refers to a natural spirit, or to the liver modifying or tempering the spirit after the liver receives the spirit from the heart.

182 Ibn al-Nafis, *Sharh al-Qanun*, fol. 22b13–14, 60a13–14. This also comes through in his brief comparison of plants and animals in the *Treatise on the Organs*, where he shows that plants have no need for the spirit, or any organs associated with the spirit, because they do not possess the psychic faculties, even though they partake in nutritive and reproductive activities; *Risalat al-Aʿdaʾ*, pp. 169–170.
organs by stating, “Therefore, the [liver and] testes are definitely not chief organs, and neither are there, according to us, any chief organs except the heart and the brain.”\textsuperscript{183}

Since the soul is not emanated and attached to the spirit, but instead to the entire body whose temperament is balanced,\textsuperscript{184} contrary to Ibn Sînä, Ibn al-Nafîs maintains that the spirit is constantly generated anew in the heart. He agrees with his predecessors that the spirit is “a subtle, vaporous body generated from the subtle and vaporous parts of the humors.”\textsuperscript{185} However, he recognizes that the spirit is created very hot and fine, as a result of which it must break down rapidly. Consequently, the spirit must be continuously regenerated in the body.\textsuperscript{186} Moreover, since the heart generates the spirit, it must be hotter than the spirit itself.\textsuperscript{187} As such, it cannot be the source of the psychic faculties for then people’s emotions and perceptions would be skewed. Thus, the brain issues the emotive, perceptive and motive acts by first cooling the spirit.\textsuperscript{188} As a result, unlike Quṣṭā, Ibn al-Nafîs maintains that the spirit that resides in the nerves is thicker than that of the arteries, because the nerves and the brain are cooler than the arteries and the heart.\textsuperscript{189} Nevertheless, Ibn al-Nafîs sides with Quṣṭā and the physicians, against Ibn Sînä

\textsuperscript{183} Ibn al-Nafîs, \textit{Sharh Masa’îl}, fol. 107a11–12.


\textsuperscript{185} Ibid., fol. 62a12–13.


and the *falāṣīfah*, in claiming that the spirit receives a new temperament in the brain in order to then receive the psychic faculties.\textsuperscript{190}

Even though Ibn al-Nafīs no longer considers the soul to be primarily associated with the spirit in any physical sense, he still acknowledges the central role of the spirit as the material substrate and recipient of the faculties of the soul. His definition of faculties is, in fact, identical to the Aristotelian definition of *dunamis* from *Metaphysics* \(\Delta\): “the source of change from one thing into another, inasmuch as it is another [\textit{mabdā’ al-taghayyur min ākhar fī ākhar min ḥaithu huwa ākhar}].”\textsuperscript{191} As a result, the faculties are forms whose material substrate is the spirit.\textsuperscript{192} Or, to put it another way, “the spirit is the material origin of the faculties, while the faculties are the formal origins of the spirit [\textit{al-rūḥ mabdā’ li’l-qiwa māddiyyan wa’l-qiwa mabdā’ li’l-rūḥ șuwariyyan}].”\textsuperscript{193} Although the soul is the “efficient source of all the faculties,” the spirit is what carries and distributes these faculties throughout the body.\textsuperscript{194} The soul emanates the non-nutritive faculties directly to the spirit, through which the body then administers those actions. Thus, the spirit does not receive the psychic faculties until it enters the brain, after which the brain can then execute and control the actions of sensation, movement and cognition.\textsuperscript{195} As for the natural faculties, Ibn al-Nafīs makes it very clear that they do not

\begin{itemize}
\item[\textsuperscript{190}] Ibid., fol. 23b17; and Ibn al-Nafīs, *Sharh Tashrih*, p. 301.
\item[\textsuperscript{194}] Ibid., fol. 59b27–29.
\item[\textsuperscript{195}] Ibid., fol. 23b17; and Ibn al-Nafīs, *Sharh Tashrih*, p. 301.
\end{itemize}
depend on the spirit. In fact, once the soul is emanated by God to the balanced mixture resulting from the mixture of the two semens, the conglomerate immediately receives the natural faculties. This understanding of nutrition and its relation to the soul is what physiologically grounds Ibn al-Nafis’s defense of bodily resurrection in Fādil ibn Nāṭiq, as we shall see below.

Finally, far from downplaying the physiological importance of the heart, Ibn al-Nafis provides it with a new meaning. Given that the brain is incapable of exercising its actions in the absence of the spirit, the heart’s unique role in generating the spirit is indispensable for the brain and the psychic faculties. Additionally, the heart is the source of innate heat which is distributed to the rest of the organs with the spirit, and which is necessary for all the actions of life. Consequently, Ibn al-Nafis speaks often of a “faculty of life [quwwat al-ḥayāt]” that the spirit receives from the soul in the heart, which it then brings to the rest of the organs to animate them. This notion of the spirit receiving “life” from the soul in the heart and distributing it to the organs resembles Qustā’s discussion of animation. In fact, it also resembles the general Aristotelian and Galenic conception that the respired air and innate heat, both of which are distributed by the heart to the organs through arteries, are important for life itself. For all these reasons, Ibn al-Nafis often speaks of the heart as the source of all faculties.

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197 Ibid., fol. 22b10–14.

198 Ibid., fol. 22a18–19; and Ibn al-Nafis, Sharh Masa’il, fol. 107a17.


Therefore, the heart plays a central role in generating the spirit, without which none of the actions of the animal would be possible. For that reason, the body needs to ensure that the heart is safeguarded from all calamities, in particular, from anything that would harm its innate heat and the purity of the spirit generated within it. That is why the septum wall cannot be porous, according to Ibn al-Nafīṣ, for then the thick blood of the right ventricle would corrupt the fine, hot spirit of the left ventricle, without which none of the animal activities would be possible. Consequently, he proposes an alternate route for the thin, vaporous blood to get into the left ventricle: via the lungs.

4.4.3 The Pulmonary Transit of the Blood and the New Physiology

Now that we have a richer understanding of Ibn al-Nafīṣ’s psychology and physiology, we are in a position to understand fully his reasons for positing the pulmonary transit of the blood. One of the major consequences of Ibn al-Nafīṣ’s hylomorphic psychology is that the soul is not, in any sense of the word, attached to the spirit. Thus, he has no qualms about stating that the spirit is continuously generated in the heart, and that because it is generated in the heart it is, in fact, quite hot and not really balanced in temperament.\footnote{Ibn al-Nafis, \textit{Sharh al-Qanun}, fol. 62b20–21; and Ibn al-Nafis, \textit{Risalat al-\textit{A}da’}, pp. 97–98, 105.} Since the spirit is a hot vapor, it is also liable to dissipating quickly and dissolving into waste-products.\footnote{Ibn al-Nafis, \textit{Risalat al-\textit{A}da’}, pp. 97–98.} Moreover, it also needs to be extremely fine, especially since Ibn al-Nafīṣ believes that the cooler spirit of the brain must necessarily be thicker than the spirit of the heart, and in order for the body to administer the psychic faculties, the spirit would have to be fine and subtle enough to permit its
rapid transmission from the brain to the extremities. Consequently, he posits a new cardio-vascular anatomy, including a new theory of pulsation, in order to ensure the generation and maintenance of a pure, hot, fine spirit.

The five instances in the Commentary on the Anatomy where Ibn al-Nafīs denies the possibility of blood seeping through the septum wall and, instead, proposes the pulmonary transit for the blood to move from the right side to the left side of the heart have all been well-documented. What has not been sufficiently emphasized is his deep concern with the purity and fineness of the spirit and, consequently, the purity and fineness of the raw materials used to generate it. His entire theory of the pulmonary transit of blood is premised on the assumption that the spirit must be extremely fine and pure, as his discussion on the anatomy of the vein-like artery (pulmonary vein) reveals:

We say, however, and God knows best, that since one of the heart’s functions is to generate the spirit, and that can only be using very fine blood [dam raqīq jiddan] that is extensively mixed with air, it must contain very fine blood and air in order to generate the spirit from their mixture. This must take place where the spirit is generated, which is the left of the two ventricles of the heart. Thus, there must be in the heart of humans, and similar organisms who possess lungs, another ventricle that refines the blood in it and makes it suitable to mix with air. For if air were to mix with blood that is thick, the resulting mixture would not produce a homogeneous body. Such a ventricle is the right of the two ventricles of the heart. When the blood is refined in this ventricle it must then be transported to the left ventricle where the spirit is generated. However, there is no passage between the two ventricles, for there the body of the heart is solid and there are no visible passages, as believed by the majority, nor an invisible passage appropriate for transporting the blood, as believed by Galen. . . . Hence, once the blood is refined, it is transported by the artery-like vein [i.e. pulmonary artery] to the lungs in order to disperse in the body of the lung and mix with the air, so that its finer parts are purified. Then it is carried into the vein-like artery, and from there into the left of the two ventricles of the heart. The blood that is mixed with air and purified is

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used to generate the spirit, as for the blood\textsuperscript{205} which remains that is not too fine, it is used to nourish the lung. \textit{For that reason, the artery-like vein is solid and possesses two coats, so that what leaves through its pores is very fine}. The vein-like artery is thin and has one coat in order to facilitate taking up the blood that leaves the [aforementioned] vein.\textsuperscript{206}

In his discussion on the need for the artery-like vein (pulmonary artery) to have two coats, Ibn al-Nafis once again emphasizes the extremely fine nature of the blood required to mix with air to generate the spirit in the left ventricle:

\begin{quote}
\textit{[The artery-like vein is created with two coats] so that its body is solid, and its pores are very small in order to prevent anything from seeping through, except very fine blood. This very fine blood that seeps through then disperses and mixes with the great quantity of air spread throughout the lumen of the lungs, thus becoming appropriate to turn into the spirit in the heart. The blood that does not seep through from those pores, is transported in the lumen of the parts of this vein and nourishes the lung. Thus, the lung is only nourished by the blood that remains in the parts of this vein after the finer blood has been strained out into the lumen of the lungs.}\textsuperscript{207}
\end{quote}

The strong emphasis on the need for the blood to be very fine and thoroughly mixed with air is also present in his discussion on the anatomy of the lungs and the heart. Here again, he proceeds to argue that the blood is first heated in the right ventricle of the heart, then strained by the thick artery-like vein into the lumen of the lungs where it mixes with the air and proceeds to the left ventricle of the heart through the vein-like artery in order to be transformed into the spirit.\textsuperscript{208} Towards the end of the discussion he

\textsuperscript{205} The word is missing in the manuscript and the editor has incorrectly replaced it with \textit{rāḥ} (spirit) when it clearly should be \textit{dām} (blood).


\textsuperscript{207} Ibn al-Nafis, \textit{Sharh Tashrih}, p. 320, my emphasis.

\textsuperscript{208} Ibid., pp. 383–387.
again emphasizes the real problem inherent in the theory that the septum wall is porous—that the thick blood would ruin the spirit: “The heart has only two ventricles . . . and there is no passage between these two ventricles. Otherwise, the blood would be transported to the place of the spirit and ruin its substance.”

The significance that Ibn al-Nafis attaches to the purity and fineness of the spirit can also be understood once we take into account the fact that Ibn al-Nafīs rejects the existence of the vital faculty. Thus, the movement of the heart can no longer be due to the vital faculty, but instead needs another motive cause. Moreover, since the soul is the true cause of motion and change in the body, this movement must be due to some faculty of the soul, namely, the faculty of locomotion. Thus, he posits that the heart’s movement is an intentional movement, albeit one that is not perceived, much like the movement of the muscles of the arm.

In order to receive this faculty, however, the heart must generate and possess the spirit, for the non-natural faculties are not issued by the soul to the body, except through the spirit. Furthermore, Ibn al-Nafīs also believes that the soul issues faculties based on the specific temperaments, which is why he believes the spirit does not receive the majority of the psychic faculties until it is cooled in the brain. For that reason, the spirit must be extremely pure and fine in order to receive this faculty, which he calls the “faculty of life [quwwat al-ḥayāt].” This then allows the heart to

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209 Ibid., p. 388.


211 Ibn al-Nafīs, Sharh al-Qanun, fol. 22a18–19, 22b2–3, 107a14–19; and Ibn al-Nafīs, Sharh Masa‘īl, fol. 107a17.
beat and convey the spirit, along with its movement and innate heat, to the rest of the organs in order to vivify them.\textsuperscript{212}

Since the movement of the heart is intentional and is predicated on the existence of the spirit, and given that the spirit is only generated in the left ventricle, Ibn al-Nafis rejects the consensus view that the right ventricle of the heart also beats.\textsuperscript{213} Moreover, according to his interpretation of Aristotelian natural philosophy, if the right ventricle of the heart were to expand and contract, it would not take up blood from the veins during its expansion. Rather, it would take up the air from the lungs, for “a vacuum only attracts what is fine, then what is thick in the absence of the fine.”\textsuperscript{214} Thus, the blood must be absorbed into the right ventricle according to “the natural absorptive faculty in it, like all other organs” and not because it beats.\textsuperscript{215} However, this blood is not responsible for nourishing the heart since it is too watery. The heart is, rather, nourished directly by the thick blood found in the parts of the vena cava that penetrate into the body of the heart itself.\textsuperscript{216} The blood is present in the right ventricle so that it can be heated and refined, in order to generate the spirit and nourish the lungs.


\textsuperscript{214} Ibid., p. 389.

\textsuperscript{215} Ibid., p. 389.

\textsuperscript{216} Ibid., p. 389. This is somewhat problematic as Ibn al-Nafis himself states that organs only absorb humours so as to be nourished by them (see below). Thus, there seems to be no reason why the right ventricle should naturally absorb any blood, unless he means that each organ must always possess some blood. In that case, since the right ventricle would constantly lose its blood to the lung, it would need to continuously absorb more blood. The other possibility is that the lungs can only absorb blood through the right ventricle, so it is not so much as the right ventricle naturally attracting blood, but rather the lungs attracting it through the right ventricle.
Similarly, according to Ibn al-Nafis, the main purpose of the lungs is to prepare the mixed matter of fine blood and air that is converted into the spirit in the left ventricle of the heart.\textsuperscript{217} However, since he does not believe that the right ventricle beats, the blood cannot be pumped into the lungs. Rather, the lungs need to attract and absorb the heated, refined blood of the right ventricle naturally. Since organs do not attract humors unless they want to use them for nutrition, the lungs must also be nourished by the blood from the right ventricle of the heart.\textsuperscript{218} Consequently, Ibn al-Nafis rejects Ibn Sīnā’\textquotesingle s and Galen’s assertion that the lungs derive their nutrition from the left ventricle through the vein-like artery.\textsuperscript{219} According to Ibn al-Nafis, the right ventricle of the heart absorbs a small amount of blood, which is then heated and is attracted by the lungs for their nutrition. As the blood is transported in the artery-like vein, the very fine parts of the heated, watery blood from the right ventricle seep through into the lumen of the lungs. There the fine parts of this warm, watery blood combine with the voluminous air in order to form a mixture appropriate for the generation of the spirit. The thicker parts of the watery blood that are held back in the artery-like vein then proceed to nourish the lungs.\textsuperscript{220} This is the reason why only animals with lungs possess a heart with two ventricles.\textsuperscript{221}

\begin{footnotesize}
\begin{enumerate}
\item Ibid., p. 320.
\item Ibid., p. 320.
\item Ibid., p. 294.
\item Ibid., pp. 320, 383.
\item Ibid., p. 293; and Galen, \textit{On the Usefulness of the Parts}, vol. 1, p. 295.
\end{enumerate}
\end{footnotesize}
I should emphasize here that the amount of blood that Ibn al-Nafīs believes is transmitted to the lungs via the right ventricle is very small. He maintains that the spirit is largely air itself, mixed with a bit of the refined and filtered blood from the right ventricle.\textsuperscript{222} That is why the right ventricle is also considerably smaller than the left, for the latter needs to accommodate the large quantity of spirit to disperse to the rest of the body.\textsuperscript{223} The left ventricle lets in the large quantity of air mixed with the refined blood from the lungs during expansion, and then expels the waste-products to the lungs during contraction.\textsuperscript{224} However, that is not the only purpose of the heart’s movement. The movement of the left ventricle is also responsible for the arterial pulse, given that in the absence of a vital faculty, there is no other possible motive cause for pulsation.\textsuperscript{225}

4.4.4 Ibn al-Nafīs’s New Theory of Pulsation

There is apparently no scholarly awareness that Ibn al-Nafīs rejected the standard Galenic understanding of pulse in its entirety and proposed a new one in its stead. According to Galen, just as the lungs draw in cool air and expel vaporous wastes and warm air during breathing to ventilate the heat of the heart, the arteries draw in cool air from all sides and expel vaporous wastes and warm air during pulsation in order to ventilate the innate heat of the arteries and the rest of the organs of the body.\textsuperscript{226} The

\textsuperscript{222} Ibn al-Nafis, \textit{Sharh Tashrih}, p. 387.

\textsuperscript{223} Ibid., p. 387.

\textsuperscript{224} Ibid., pp. 389–390.


\textsuperscript{226} Galen, “On the Use of the Pulse,” pp. 211–215, 227
difference between the two activities, however, is that breathing is governed by the psychic faculties whereas the pulse is governed by the vital faculty. Galen proposed his own theory over and against the view of Erasistratus, who had argued earlier that the pulse is the result of air or *pneuma* being forced into the arteries from the heart. Based on certain experiments, Galen argued that the arterial pulse is the result of the vital faculty being communicated from the heart to the arteries through their tunics. More importantly, he rejected Erasistratus’s contention because he believed that every part of an artery pulsates simultaneously. Ibn al-Nafīs, however, proceeds to show that, in fact, some parts of arteries contract before others.

Once again, the fundamental basis for Ibn al-Nafīs’s new theory of pulsation is his new physiology, specifically his rejection of the existence of the vital faculty altogether. He also agrees with all his predecessors that the pulse is not an intentional movement. Consequently, the motion must then either be the result of natural motions, i.e. that the arteries expand and contract naturally, or the result of forced motions, i.e. the heart causes the arteries either to expand or to contract, or a combination of the two. He is able to dismiss quickly the possibility that pulsation is entirely made up of natural motions, since it cannot be in the nature of a body to both contract and expand, as the two

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227 Ibid., pp. 217, 227.


231 Ibid., fol. 105b16–24.
motions are contrary to one another.\footnote{232} Thus, through the remainder of this discussion, he whittles the aforementioned choices down to the possibility that the pulse is composed of a forced motion and a natural motion, and argues that the forced motion must be the contraction of the arteries caused by the expansion of the heart, and the natural motion must be the expansion of the arteries, wherein they return to their normal distended state.\footnote{233} It is important to note that he recognizes that the arteries and the heart do not expand and contract at the same time, but rather the one contracts while the other expands, and vice versa.\footnote{234}

Ibn al-Nafis also analyzes the possible ways that the heart could force the motion of the arteries. He identifies two substances that could potentially cause the contraction and/or expansion of the arteries: air and the spirit.\footnote{235} In the case of air being the cause of the forced movement of the arteries, he recognizes that large quantities of air would either have to come directly from the outside through the skin, or from the lungs via the heart, in order to maintain the pulse. In the first case, the arterial pulse would have to disappear when a person is under water, which is clearly false.\footnote{236} As for the air coming from the lungs through the heart, he again maintains that the sheer amount of air that would then have to enter the heart and the arteries would corrupt the temperament of the

\footnote{232} Ibid., fol. 105b1–2.

\footnote{233} Ibid., fol. 105b28–37, 106a17–37, 106b1.

\footnote{234} Ibid., fol. 105a 29–31.

\footnote{235} Ibid., fol. 105b24–28.

\footnote{236} Ibid., fol. 106a11–15.
spirit. Consequently, he rejects the possibility that the arterial motion is caused by the heart forcing air into them. Furthermore, he even rejects the standard Galenic view that the pulse is necessary for the aerial ventilation of the innate heat. Instead, Ibn al-Nafīs asserts that the purpose of the pulse is to help disperse the spirit from the heart to the rest of the body and to help ensure the proper temperament and texture of that spirit.

Since Ibn al-Nafīs claims that the expansion of the arteries is natural and the contraction is forced, he claims that the contraction of the arteries precedes their expansion, contrary to Galen and Ibn Sīnā. The contraction of the arteries is caused by the expansion of the heart, during which the spirit of the arteries returns to the heart, thereby contracting the arteries to prevent a vacuum (wa ḥarakat inqibādihā qasriyya wa-inna 'l-qāsir lahā 'alā dhālika 'awd al-rūḥ ilā tajwīf al-qalb fa-yalzimu dhālika inqibād al-sharā'īn li-alla yalzimu al-khalā'). As the heart contracts, the arteries return to their natural extended state, absorbing primarily the spirit from the heart, but also the remaining spirituous blood in the left ventricle. The furthest extremities also absorb small amounts of air to fill up their lumens since it takes some time for the spirit to get to them, i.e. not all parts of the arteries contract and expand simultaneously. The force with which the heart sends out the spirit during contraction, and the force of the

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237 Ibid., fol. 106a15–17.
239 Ibid., fol. 105a14, 106b11.
240 Ibid., fol. 106b5–6.
241 Ibid., fol. 106b5–6.
242 Ibid., fol. 107a36–37, 107b1–8, 107b17–27.
contraction of the arteries during the heart’s expansion, also ensure that the spirit and the waste products in the arteries (resulting from broken down spirits dissolved in the spirituous blood) seep out through the arterial pores. In fact, that is why the amount of spirit that is sent back to the heart is very small, since much of the arterial spirit has already been distributed to the organs, or it has dissipated into waste-products and has been expunged.243

The primary reason Ibn al-Nafīs posits the return of the arterial spirit to the left ventricle during the latter’s diastole is once again related to his understanding of the relationship between the spirit and the soul. Just as he posited the pulmonary transit of blood to ensure the purity and absolute fineness of the spirit, the spirit’s constant back and forth movement from the heart to the arteries is also posited to ensure that the spirit does not dry up or thicken. While responding to the possible objection that the heart’s absorption of the arterial spirit during diastole would prevent the heart’s absorption of the refined air from the lungs, Ibn al-Nafīs states:

We grant that the primary purpose of the expansion and contraction of the heart is to absorb the cool air and expel the wastes of the spirit and the warm air; however, the ventricle of the heart is wide. Moreover, when it expands it is not possible for it to absorb air until it is full, for that would then ruin the temperament of the spirit, its substance and texture, as well as the temperament of the heart \[fa-idhā inbasāta lam yumkin an yajdhib min al-hawā’ al-miqdār baqiya ʿalayhi wa-illā fasuda mizāj al-rūḥ wa jawharuhā wa qiwāmuhā wa mizāj al-qalb\]. Thus, the heart is necessarily forced to complete its fill by absorbing the spirit. This is advantageous . . . for many reasons.

Ibn al-Nafīs proceeds to provide four reasons for why the spirit’s return to the heart during the heart’s diastole is advantageous. The most important ones for our purposes are the second and third:

Second, to benefit the spirit by moving towards the heart sometimes, and at other times towards the arteries, and maintain its subtlety and substance, and not get adversely affected by . . . a lengthy rest in the arteries. Third, the heart must be extremely hot in order to generate properly the spirit from the blood and the cool air, and the arteries must be cold in nature . . . Thus, if the spirit were to reside always in the heart, it would burn out because of the excessive heat, and if it were to reside always in the arteries, it would become cold and thick. For that reason, it must continuously move back and forth between these two parts in order to maintain its balance which is what prepares it to receive life [fā-la-wa-lā maskana ‘l-rūḥ dā‘īman fī ‘l-qalb la-uḥriqat bi-ḥarāratihi ‘l-mufriṭa wa-law ja‘alat dā‘īman fī ‘l-sharā‘īn la-barudat wa ghaluẓat fa-wajaba an yakūn mutaraddida dā‘īman bayna hādhayn al-‘uḏwayn li-yabqā‘alā ‘ītidālīhā alladhī bihi yasta‘idd li-qubūl al-ḥayāt].

Ibn al-Nafīs’s new theory of pulsation and the pulmonary transit of blood both rely equally on his new physiological system. According to his physiological system, the spirit needs to be hot, pure and extremely fine when it is present in the heart and arteries in order to accomplish its tasks properly. The pulmonary transit of the blood ensures that the blood used in creating the spirit is extremely fine and spirituous. The new understanding of the pulse ensures that, while in the arteries, the spirit maintains the temperament that it receives in the heart when it is first generated, so that it is capable of bringing life to the rest of the organs. Moreover, since the arteries also receive blood from the heart, Ibn al-Nafīs needs that blood to be fine and spirituous so as not to interfere with the temperament of the spirit. Consequently, his theory of the pulmonary transit of the blood bears directly on his new theory of pulsation.

244 Ibn al-Nafīs argues that the arteries must be cold because if they were fleshy, they would be unable to penetrate into the smaller organs. They also must be thin so that the wastes can be dissolved out of them, and for that reason they must be similar in temperament to ligaments and nerves, which are also cold by nature; Sharh al-Qanun, fol. 107a12–14.

245 Ibid., fol. 107a5–15, my emphasis.
Furthermore, both these theories rely equally on his denial of the vital faculty and his assertion that the heart’s movement is intentional. In the case of the pulmonary transit, the fact that the heart’s movement is intentional implies that only the left ventricle beats since it contains the spirit and so can receive that faculty. Consequently, the right ventricle does not beat. Thus, because the right ventricle does not beat, in order to transport the blood from the veins to the lungs: 1. the right ventricle must absorb some blood through its natural, absorptive faculties, and; 2. the lungs must derive their nutrition from the right ventricle, in order to receive the warmer blood of the right ventricle. Once this blood is filtered by the artery-like vein (pulmonary artery), it mixes with the air in the lungs and is ready to be transformed into spirit in the left ventricle of the heart. In the case of pulsation, since the vital faculty does not exist, the arterial pulse must be caused by the movement of the heart, which itself must be intentional due to his rejection of the vital faculty.

My argument here contextualizes Ibn al-Nafīs’s discovery of the pulmonary transit. Previous scholars have tended to analyze these texts without paying attention to his physiological or psychological views. Consequently, they have been at a loss to explain the absence of any discussion of the pulmonary transit outside Ibn al-Nafīs’s Commentary on the Anatomy. However, once we examine Ibn al-Nafīs’s work within his context, we recognize that, for Ibn al-Nafīs himself, the pulmonary transit of the blood was nothing more than an anatomical corollary to his new physiology and psychology. As such, it is explicitly laid out only in the Commentary on the Anatomy. In

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246 See, for example, Savage-Smith, “Attitudes Towards Dissection,” p. 103.
his non-anatomical works, he merely alludes to the discovery through his discussions of
the new physiology and, at times, of his new theory of pulsation.

For example, in his Commentary on the Questions of Ḥunayn, he rejects
Avicennian physiology and replaces it with his own system. He denies explicitly the
existence of the vital faculty and states that he considers the heart and the brain to be the
only chief organs in the body.\textsuperscript{247} Later, while commenting on Ḥunayn’s didactic
introduction to the pulse, he rejects Ḥunayn’s standard Galenic theory and provides his
new theory of pulsation in its stead.\textsuperscript{248} Even though Ibn al-Nafīs does not present his
theory of the pulmonary transit in this treatise, primarily because the treatise has no
anatomical section, the theory is implicitly present in the discussions on physiology and
the theory of pulsation.

The references to his new physiology in the Treatise on the Organs are more
subtle, but present nonetheless. This treatise was written to provide a high-level
administrator, possibly a vizier, with enough information about the organs and their
functions for him to monitor and preserve his health.\textsuperscript{249} Thus, specific details regarding
cardiovascular anatomy and physiology are not really to be expected. Nonetheless, when
Ibn al-Nafīs presents the standard Avicennian three chief organ physiology in his opening
discussion, he makes it quite clear that his own views are different:

We also say there are some principle organs from among the organs, which with
respect to the individual are three: heart, brain and liver; and with respect to the
species are four: the aforementioned three and the testes. This is the famous

\textsuperscript{247} Ibn al-Nafīs, Sharh Masa’il, fol. 107a12, 107b3, 108b12–14.

\textsuperscript{248} Ibid., fol. 150b3–151a19.

\textsuperscript{249} Ibn al-Nafīs, Risalat al-A’dā’, p. 88. Ibn al-Nafīs refers to this person, amongst other honorifics, as the khalīl amīr al-mu’minīn (Friend of the Commander of the Faithful).
teaching. As for our opinion on it, we have presented it in our book on the *Commentary of the Book of the Canon* of Sheikh al-Ra’īs, Abī ʿAlī Ibn Sinā, may God sanctify his spirit.

He then proceeds to emphasize the hot nature of the spirit, the fact that it is constantly generated in the heart and the fact that it dissipates quickly thereafter in the arteries. The fact that the heart and its contained spirit are quite hot is also the reason why the psychic acts issue from the cooler brain and its cooler spirit. Thus, he specifically denies the Avicennian contention that the spirit does not alter its temperament in the brain. Moreover, he never refers to the spirit during his entire discussion of the liver and the remaining organs of nutrition, and even claims at the end of the treatise that plants do not possess a spirit because the latter is only responsible for motive, emotive, sensory and cognitive acts. Clearly then, his modified physiology is well-represented in this treatise. Finally, there is also a possible reference to the heart’s movement as being intentional, which we have seen forms the cornerstone of his new theory of pulmonary transit and pulsation. Interestingly enough, clearer references to the pulmonary transit of blood and his new theory of pulsation are to be found in his

250 Ibid., p. 92.

251 Ibid., pp. 97–98.

252 Ibid., p. 98.

253 Ibid., pp. 98–100, 123–125, 169–170.

254 The reference is considerably obscure and vague. Earlier in his discussion of the generation of the spirit, Ibn al-Nafīs refers to the diastole and systole of the heart and says that he shall discuss these movements in more detail later (ibid., p. 98). When he discusses these movements again, he seems to be speaking more generally about the expansion and contraction of the lungs than specifically about the heart. However, he does refer to the air entering the heart, and not just the lungs, and makes it a point to emphasize the movements as being intentional (p. 106).
theological treatise, *Fādil ibn Nāṭiq*, where the new physiology is also used to justify bodily resurrection.

4.4.5 The New Anatomy and Physiology in Defense of Bodily Resurrection?

As we saw in the last chapter, *Fādil ibn Nāṭiq* is a narrative about a man called Kāmil who is spontaneously generated on a deserted island and independently discovers the rational sciences, including medicine, ultimately reasoning his way to the existence of God. After that, the narrative breaks to emphasize that Kāmil is merely rationalizing religious truths, rather than rationally deducing them *a priori*. During the first part of the narrative, Ibn al-Nafīs provides a quick overview of the digestive and respiratory systems. Since Ibn al-Nafīs does not explicitly describe the pulmonary transit of the blood, Schacht and Meyerhof note that “he probably made [the discovery of the pulmonary transit] after the completion of the present book.” However, as we have already seen, Ibn al-Nafīs proposed the pulmonary transit of blood in the 1240s, whereas this book was not completed until the 1270s at the earliest. Thus, he had certainly made his discovery before writing this text. In actual fact, there are two direct references to his *Commentary on the Anatomy* in this treatise, one of which is to the concept that grounds his theory of the pulmonary transit: that only the left ventricle of the heart beats.

The first reference is a seemingly innocuous phrase where Ibn al-Nafīs describes Kāmil as noticing that the heart’s “right ventricle is filled with blood and its left ventricle is filled with spirit [wa-shāhada al-qalb fī ’l-šadr wa-baṭnuhu al-ayman mamlū’ min al-

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This seemingly off-hand reference uses almost exactly the same phrase as is found in his Commentary on the Anatomy. There, while commenting on Ibn Sīnā’s claim that the heart has three ventricles, Ibn al-Nafīs comments:

This claim is incorrect. The heart has only two ventricles. The first of which is filled with blood, and this is the right, and the other is filled with spirit, and this is the left [fa-inna ’l-qalb baṭnañ faqat aḥdahumā mamlū’ bi’l-dam, wa-huwa al-ayman, wa’l-ākhar mamlū’ bi’l-rūḥ wa-huwa al-aysar]. And there is definitely no passage between the two, otherwise the blood would be transported to the location of the spirit and ruin its substance.

Thus, the claims that the one ventricle is filled with blood and the other with spirit, or that the air proceeds from the lungs to the left ventricle of the heart, do not preclude the pulmonary transit of blood in Ibn al-Nafīs’s system. We have already seen that he maintains that by-and-large the spirit is nourished by the incoming air, mixed with a tiny bit of refined blood.

The second reference immediately follows the first, wherein he explicitly says that only the left ventricle contracts. In fact, the entire passage not only alludes to the pulmonary transit as he had come to understand it, but also to his new theory of pulsation:

Its left ventricle is filled with spirit, and this ventricle contracts, thereby sending this spirit in the arteries to the organs. Then it expands, and this spirit returns to it [thumma yanbasiṭu fa-tarjī’u tilka ’l-rūḥ ilayhī].

Scholars have generally missed the significance of the phrase “then it expands and this spirit returns to it,” because they were unaware of how intricately the pulmonary transit...

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256 Ibid., pp. 41–42, 132.

257 Ibn al-Nafīs, Sharh Tashrih, p. 388, my emphasis.

258 Theologus, p. 132.
and the new theory of pulsation are related in Ibn al-Nafīs’s new physiological and psychological scheme.

Ibn al-Nafīs’s new, hylomorphic psychology and, consequently, his new physiological understanding of the spirit form the cornerstones of his argument against Ibn Ṭufayl’s monistic Ṣūfism in Ḥayy ibn Yaẓān. As we have already seen, Ibn Ṭufayl’s entire argument is premised on his belief that the spirit is an imperishable element, akin to the matter of the celestial bodies, whose form is the immaterial soul. That is why when Ibn Ṭufayl begins to describe the spontaneous generation of Ḥayy, he says that the soul that emanates from God attaches directly to the “fine gaseous body,” which is “optimally proportioned.” Ibn al-Nafīs, however, never refers to the soul attaching to the spirit in his discussion of the spontaneous generation of Kāmil:

[W]hen summer came the contents of the cave became hot and fermented; they had by then been saturated with the clay contained in them, and did not cease to boil on account of the heat generated in them until they became mixed and achieved a mixture (temperament, mizāj) very near to equilibrium. Their consistency became viscous and capable of having organs formed from them; their single parts were differentiated because the kinds of clay with which they had been mixed were different. . . . [E]very part was similar in temperament to the temperament of an organ, and its consistency was capable of having this organ formed out of it. Therefore these parts were prepared to be transformed into the organs of a man. [God] in His generosity does not withhold his right from anyone who deserves it, and grants to everyone who is prepared for something that for which he is prepared. Therefore He created out of those parts the organs of a man, and out of their whole the body of a man. When this clay had become hot, there had evaporated from it many vapours, some of which were refined and airtlike and similar in temperament to the that of the human spirit (rūḥ); so human spirit became formed out of them, and in this manner the formation of a man was completed.

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259 Hayy (English), p. 106.

260 Theologus, pp. 39–40, parenthetical emendations are in the original translation itself.
There is clearly no reference to the soul attaching specifically to the spirit in the above passage and, thus, no grounds for supporting Ibn Ṭūfayl’s ontological monism. In fact, there is no reference to the spirit possessing a balanced temperament either. The entire contents of the cave, from which the human body is to be formed, are said to possess a temperament “very near to equilibrium.” The other parts of the body, including the spirit, have their own specific temperaments. This clearly echoes the passages from the Commentary on the Canon where Ibn al-Nafīs repeatedly emphasizes that only the entire human body is balanced, and not any individual organ(s).

We should also note that Ibn al-Nafīs does not claim that the clay turns into the organs on its own, but rather it is ready to be transformed into the organs when God steps in and actually brings about the transformation. That is because only living things have the ability to feed, grow and generate organs through the actions of the faculties of nutrition and, thus, a soul. The reference to God here is actually a reference to God emanating the human soul to the contents of the cave, since they have a temperament that is prepared to receive the soul. The passage on generation from the Commentary on the Canon makes clear this connection between God, the soul and the balanced temperament of the matter which begins to grow and generate organs by receiving the nutritive faculties from the soul:

Galen believes that each of the two semen has in it the active faculty to fashion \([\text{quwwa} \, '\text{a}gida, \text{lit. to thicken]} \) and the passive faculty to be fashioned \([\text{quwwa mun'a}gida, \text{lit. to be thickened]}\), however the active faculty is stronger in the male semen while the passive in the female semen. The investigators amongst the \text{falāsifa} believe that the male semen only has the active faculty, while the female only has the passive faculty. . . . As for our opinion on this, and God knows best, neither of the two semen has in it an active faculty to fashion\([\text{wa-amnā ra}'yanā fi hādhā wallāhū a'lam fa-innahu laysa wa-lā wāḥid min al-manīyyayn fīhi quwwa '\text{a}gida]\).

Ibn al-Nafîs then proceeds to show that once the male semen and female semen are brought together in the womb, the latter quenches the hot fire of the male semen through its own cool, wet nature. Once the two semen are mixed, “they modify one another’s temperament and [the mixture] obtains a temperament that is prepared for the emanation of the soul from their Supreme Creator [wa yahṣilu minhumā ’l-mizāj al-muʿadd li-fayaḏān al-nafs min khāliqihā taʿālā].” At this juncture, the nutritive faculties are emanated from the soul to this mixed, balanced matter, since “the natural faculties, according to [Ibn al-Nafîs] do not depend on the spirit.” These faculties then allow the matter to absorb nutrition, grow and form the rest of the organs through the informing faculty (al-quwwa al-muṣawwara). The spirit that is present in the semen helps generate more spirit and receives the rest of the faculties of the soul once the heart and brain have been generated. The spirit is not the bearer of the soul for, as Ibn al-Nafîs exclaims, “how can the soul of the father remain attached to the sperm once it is in the womb?”

Not only does Ibn al-Nafîs’s new understanding of the soul and spirit leave no room for Ibn Ṭufayl’s ontological monism; his specific understanding of the role of God in emanating the soul, and of the soul emanating the natural faculties, also provides

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262 Ibid., fol. 23b13–14.

263 Ibid., fol. 23b14–15. The actual Arabic at this point is difficult to follow: “fa-idhā afaqāhā min jūdihi wa karamīthī sādaqat al-māddā baʿda ghayrī mustaʿidd li-qawwā ghayrī ’l-qīwā al-ṭabīʿīyya wa hiya lā yatawwaqqaʿ ḍindaq al-lā l-rūḥ.” However, there is no doubt in my mind that Ibn al-Nafîs is implying what I have stated since he repeats the same thing more clearly in his section on the natural faculties: “al-qīwā al-ṭabīʿīyya . . . alā raʿyānā mutaqaddima biʿl-wujūd aydān li-anīhā ḍindaq al-qawwā allatī yuṭadu al-līmanī wa-lā yatawwaqqaʿ ḍindaq al-lā l-rūḥ” (fol. 60a13–14).

264 Ibid., fol. 23b15–18.

265 Ibid., fol. 61a6–7.
physiological support for his understanding of bodily resurrection. According to Ibn al-Nafīs’s hylomorphic psychology, the soul is merely the true referent of “I” and is related to the entire body that has a temperament suitable for that soul. Nonetheless, he recognizes that in order for the body to be generated, the soul needs to first attach itself to mixed matter that is itself balanced. In the *Commentary on the Canon*, this mixed matter is referred to as the temperate mixture of the male and female semen, as seen above. In *Fādil ibn Nāṭiq*, he again refers to the same mixed matter, which has the temperament suitable for a human, and is “generated from sperm and similar things” to which the soul attaches and allows this matter to begin feeding and to “produce the organs.”

However, he then goes a step further in *Fādil ibn Nāṭiq* and calls this matter ‘ajb al-dhanab, based on the Prophetic ḥadīth, as we saw in the last chapter. Thus, the Schacht and Meyerhof translation of ‘ajb al-dhanab as the “coccyx” is incorrect. Ibn al-Nafīs is well-aware that the coccyx is not even amongst the possible candidates for the organs that are first generated in the womb. He is merely equating the initial mixed matter of semen with the ‘ajb al-dhanab. This move then allows him to claim, on Prophetic authority, that the initial matter to which the soul attaches never degenerates, thus providing a solution to Ibn Sīnā’s problem of the individuation of the soul after death. Death is nothing more than the soul ceasing to emanate its faculties to the body, thus resulting in the degeneration of the body. Resurrection, therefore, is nothing more

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266 *Theologus*, p. 58.

267 Ibn al-Nafīs, *Sharḥ al-Qanun*, fol. 59b19–27. The possible candidates that Ibn al-Nafīs lists are: the heart, the brain and the umbilical chord.

268 Ibid., fol. 59b15.
than the soul emanating its faculties once again to the original mixed matter, the ‘ajb al-
dhanab, just as it did so at the time of generation:

Then when the time for resurrection . . . comes, the soul stirs . . . and feeds this . . . matter by attracting other matter to it and transforming it into something similar to it; and therefrom grows a body a second time . . . After that the soul never ceases to feed, and therefore the body never becomes non-existent again . . .. 269

4.5 Conclusion

Historians have tended to see any reference to spirits and faculties in Islamic medicine as the Islamic physicians’ unquestioning adherence to Galenic physiology. Consequently, they have missed the subtle, and at times not-so-subtle, changes that individual Islamic physicians introduced into Galenic physiology. Thus, it is not surprising that they have overlooked the specific ways in which Ibn al-Nafīs’s physiology departs from Aristotelian, Galenic and Avicennian physiology. As a result, the larger physiological basis for Ibn al-Nafīs’s discovery of the pulmonary transit of blood has not been appreciated.

Ibn al-Nafīs’s new physiology is itself founded upon his strict adherence to a hylomorphic psychology. Although modern commentators see this as the authentic Aristotelian understanding of the soul, I hope I have provided enough evidence to suggest that Islamic physicians and philosophers did not consider a naturalized hylomorphism to be Aristotle’s position. Consequently, the reasons for Ibn al-Nafīs’s firm commitment to a hylomorphic psychology need to be carefully examined and elucidated.

Ibn al-Nafīs’s commitment to hylomorphism is firmly rooted in his understanding of the harmony between reason and revelation. To be fair, one can argue that his

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269 Theologus, p. 59.
hylomorphism was merely the logical conclusion of the Avicennian definition of the soul as the true, incorporeal referent of “I.” However, the fact that Ibn Sīnā did not take that path as a thoroughgoing faylasūf, and that Ibn al-Nafīs takes it as a faylasūf cum traditionalist, reveals much about the complex ways in which individual authors assign authority to the various sources of reason and revelation. Ibn Sīnā’s strong commitment to a Neoplatonic interpretation of Aristotle leads him to posit the existence of a separable soul, but his strong attachment to aspects of Aristotle’s one soul-one chief organ physiology also pushes him to associate the soul with the spirit and through it with the heart. Ibn al-Nafīs, on the other hand, is far more flexible in selecting from the various physiologies at his disposal. Thus, he is able to adhere strictly to a hylomorphic psychology and, by defying the authority of Aristotle, Galen and Ibn Sīnā from time to time, introduce changes in physiology, embryology, cardiac anatomy and the theory of pulsation in order to stay consistent. The strictly theological basis for his new theories is apparent in his appeal to a hadīth to solve the problem of individuation. However, even in this case, the appeal is justified by his denial of the self-sufficiency of reason. Moreover, he then proceeds to interpret the hadīth in light of his new physiology. This delicate dialectic between reason and revelation is a true trademark of Ibn al-Nafīs’s works.

Ibn al-Nafīs’s medical and traditionalist successors were, however, unable to tread the same fine line. By the fourteenth century, certain aspects of falsafa, e.g. Avicenna’s proof for the existence of God, were openly incorporated into traditionalist discourse. Other aspects, on the other hand, were vociferously opposed, in particular, the falsafa rejection of bodily resurrection along with the Aristotelian understanding of soul as an
incorporeal substance. Moreover, the traditionalists had also succeeded in creating a new genre of religious medicine, “The Prophetic Medicine,” which had come to reinterpret Prophetic traditions on healing in light of Avicennian physiology. Therefore, Ibn al-Nafīs’s new physiology, with its reliance on an incorporeal soul and its rejection of key aspects of Avicennian physiology, was destined to be ignored along with his discovery of the pulmonary transit and his new theory of pulsation. However, Ibn al-Nafīs was too valuable to the traditionalist’s cause to be entirely forgotten, since he was, after all, a first-rate physician who was also committed to the fundamental tenets of traditionalism. Consequently, they appropriated him in the only way they could: play down his falsafa leanings, overlook his new physiology, and concentrate on the only medical text attributed to him that is entirely Avicennian: ʿMājaz al-Qānūn (The Epitome of the Canon).
CHAPTER 5

THE LEGACY OF IBN AL-NAFĪS

We saw in chapter two that all biographical entries on Ibn al-Nafīs present him as a very gifted and religiously orthodox physician. Staunch traditionalists, like al-Dhahabī (d. 1348), wasted no time in appropriating Ibn al-Nafīs for the cause of the emerging genre of Tibb al-Nabī (Medicine of the Prophet). As Irmeli Perho has shown, during the thirteenth and fourteenth centuries, a small group of staunch hadīth scholars, including al-Dhahabī, intentionally transformed a collection of pious medical hadīth into an entire medical tradition for addressing the physical and spiritual health of believers. This emerging genre of Tibb al-Nabī was characterized by the traditionalists’ intentional appropriations of the existing Graeco-Islamic medical tradition. The Tibb al-Nabī texts were intended to illustrate the harmony between the Graeco-Islamic medical tradition, and the Qurʾān and the hadīth, in order to attract more “orthodox” Muslims to medicine.\(^1\) As such, Ibn al-Nafīs’s staunch adherence to the sunna of the Prophet and traditionalist dogmas regarding the nature of God and the afterlife, made him the paradigmatic Muslim physician in the eyes of these traditionalists.

As a physician who emphasized the authority of revelation, and who was known to have refused to prescribe alcohol as medication, Ibn al-Nafīs had an upper hand over

Ibn Sīnā, whose explicit rejection of traditionalist dogmas and of Qur’ānic injunctions against alcohol did not gain him any friends in traditionalist circles. Al-Dhahabī, and other traditionalists, could bolster their case for the harmony between reason and revelation further by parading the “orthodox” Muslim physician, Ibn al-Nafīs, in addition to harmonizing the medical theories with Prophetic hadīth in the Tibb al-Nabī texts themselves. This parading of Ibn al-Nafīs would have also helped traditionalists in shifting the focus away from Ibn Sīnā in medicine, thus diminishing Ibn Sīnā’s aura of infallibility. As such, it would have made it easier to attack his falsafa, without being characterized as being irrational. The only obstacle to their cause was Ibn al-Nafīs’s own commitment to the incorporeal soul and other falsafa doctrines, which they removed by omitting any reference to falsafa in their biographical entries on Ibn al-Nafīs, as we noted in chapter two.

In such a climate, one would expect that Ibn al-Nafīs’s new theories of physiology, pulsation and the pulmonary transit would have been taken up immediately by subsequent physicians. After all, Ibn al-Nafīs was widely esteemed by fourteenth and fifteenth century physicians. Physicians started writing commentaries on his works within a decade after his death. His reputation had grown so much within the course of a century that by the fourteenth century one of his works was considered the dustūr al-mutaṭabbibīn (the standard reference of medical practitioners).2 His strict adherence to

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the *sunna* and traditionalist dogmas also brought him the full support of the rising class of traditionalist scholars, as we have already seen.

However, the work that was commented upon, and which became the standard reference, is *Mūjaz al-Qānūn* (The Epitome of the *Canon*)\(^3\) — the only work associated with Ibn al-Nafīs that does not refer at all to his new physiology, theory of pulsation or the pulmonary transit. For good measure, it contains no references to *falsafa* either, or even to his hylomorphic psychology. The question thus arises: is this even Ibn al-Nafīs’s work? I do not think so.

### 5.1 The Anomaly of the *Mūjaz*

Before the discovery of passages in the *Commentary on the Anatomy* on the pulmonary transit of blood in the twentieth century, Ibn al-Nafīs’s fame in Western and Islamic societies was based entirely on this concise commentary on Ibn Sīnā’s *Canon*. In fact, it is unfair to even call this work a commentary since it is nothing more than an abridgement of the *Canon*, which is precisely what the title, *Mūjaz*, implies. Contrary to what Iskandar may have seen in his comparison of the *Mūjaz* and the *Commentary on the Canon*, the *Mūjaz* is definitely not an abridgement of Ibn al-Nafīs’s larger commentary. It is purely and simply Ibn Sīnā’s *Canon*, with its anatomical and philosophical discussions removed. Consequently, it presents Avicennian physiology even more authoritatively, as it never suggests that physicians actually disagree on anything. Given the extent to which Ibn al-Nafīs emphasizes disagreements in his works, whether

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amongst physicians in his *Commentary on the Canon* or amongst hadīth scholars in his *Mukhtasar fi `ilm usūl al-ḥadīth*, the lack of such discussions in the *Mūjaz* makes it a very odd work of Ibn al-Nafīs. In fact, the only Nafisian aspect of the work seems to be the *Mūjaz*’s rearrangement of the subject material of Ibn Sīnā’s *Canon* into four sections that correspond exactly to the four sections of Ibn al-Nafīs’s *Commentary on the Canon*:

“Principles of Theory and Practice of Medicine,” “Simple and Compound Foods and Drugs,” “Diseases Specific to Each Organ,” and “Diseases that are not Specific to Individual Organs.”

A detailed comparison of the two works is certainly beyond the scope of this dissertation. However, we can compare the *Mūjaz*’s physiological discussions to Ibn al-Nafīs’s physiology as found in all his other works. This comparison, in itself, will reveal that *Mūjaz* is either not Ibn al-Nafīs’s work at all, or if it is, it must have been a collection of his earliest notes on Ibn Sīnā’s *Canon*. In either case, Iskandar’s opinion that the *Mūjaz* was written after the larger *Commentary on the Canon* is incorrect.

We have already seen that Ibn al-Nafīs consistently rejects the standard Avicennian definition of chief organs. In his *Commentary on the Canon* and *Commentary on the Questions of Ḥunayn ibn Isḥāq on Medicine*, Ibn al-Nafīs not only rejects the Avicennian definition, but he provides a new definition in its stead, thus leading him to exclude the liver and testes from amongst the chief organs. In his *Treatise on Organs*, as soon as he enumerates the chief organs as found in Avicenna, he says,

“This is the famous principle. As for our opinion on it, we have stated it in our book, *The

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Commentary on the Book of the Canon of . . . Ibn Sīnā . . .” 6 However, in the Mūjaz, Ibn al-Nafīs provides no indication that he even disagrees with the standard definition and number of chief organs. Instead, he defines the chief organs as the “principal source of the necessary faculties [aṣlun li-qiwā ẓarūriyya],” and then proceeds to enumerate the heart, liver and brain as the three chief organs with respect to the individual, and these three and the testes as the four chief organs with respect to the species. 7

Similarly, the Mūjaz also does not provide any indication that Ibn al-Nafīs denies the existence of the vital faculty. Whereas the Commentary on the Canon and the Commentary on the Questions reject the existence of the vital faculty explicitly, and the Treatise on the Organs never mentions it, the Mūjaz posits the existence of the vital faculty unequivocally. Moreover, it even defines the vital faculty as that “which prepares the organs to receive the psychic faculties [allatī tuʿiddu ’l-ʿādāʾ li-qubūl al-qiwā al-nafsāniyya].” 8 This definition of the vital faculty, in fact, contradicts entirely Ibn al-Nafīs’s hylomorphic understanding of the relationship between the soul and the body as found in his other works. Consequently, the Mūjaz is either not Ibn al-Nafīs’s work, or it was written before he developed his alternate physiological understanding of the body as presented in the Commentary on the Canon.

There are also some major differences between the Mūjaz and Ibn al-Nafīs’s other works with regards to the pulmonary transit of blood. As we have already seen, the pulmonary transit of blood is intimately tied to his new theory of pulsation. However, the

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7 Ibn al-Nafīs, Kitab al-Mujaz, pp. 34–35.
8 Ibid., p. 37.
Mūjaz provides no indication as to whether or not Ibn al-Nafis has a new theory of pulsation. There is no detailed description of the mechanics of pulsation or of how the movement of the arteries relates to that of the heart. The pulse is deemed to be necessary for “tempering the spirit,” “removing the wastes” and “ventilating the innate heat.”

These descriptions are quite nebulous and do not indicate any disagreement with Galen or Ibn Sīnā. Furthermore, the references to the strength and weakness of the “faculty” causing differences in the strength and quality of pulsation would only reinforce the Galenic notion that the pulse is governed by the vital faculty. Thus, whereas Ibn al-Nafis’s other works refer, at the very least, to his new physiology and pulsation, and through them to his theory of the pulmonary transit of blood, the Mūjaz does not refer to any of these new theories. Hence, medieval physicians reading the Mūjaz would have no idea that Ibn al-Nafis actually proposed a new cardiovascular anatomy and physiology.

The Mūjaz is also unique in not referring to any of Ibn al-Nafis’s other works. The Commentary on the Canon, Commentary on the Questions and the Treatise on Organs all refer to his philosophical compendium, Hikma, during their respective discussions of the faculties. However, the Mūjaz makes no reference to the Hikma during the course of its discussion on the faculties. Similarly, the Commentary on the Anatomy, the Treatise on Organs, as well as his Commentary on Hippocrates’ Aphorisms, all refer back to the larger Commentary on the Canon, but the Mūjaz never

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9 Ibid., pp. 49, 50.

10 Ibid., pp. 50–51.

11 Ibid., pp. 35–37.

suggests that Ibn al-Nafis ever wrote a larger commentary on Ibn Sīnā’s *Canon*. Furthermore, the *Mūjaz* is never referred to in any of Ibn al-Nafīs’s other works. This omission raises further doubts about Ibn al-Nafīs’s authorship, especially since the *Mūjaz* can only possibly be a very early work of Ibn al-Nafīs, for the reasons mentioned above.

The *Mūjaz* does not seem to refer to Ibn Sīnā or any of his works either. This omission is certainly strange since Ibn al-Nafīs is very careful about citing and quoting Ibn Sīnā throughout his commentaries on the *Canon* and even in his *Treatise on Organs*. Interestingly however, this lack of references to Ibn Sīnā is closely related to the more noticeable absence of any recognized disagreements amongst physicians.

Unlike Ibn Sīnā’s *Canon* and Ibn al-Nafīs’s *Commentary on the Canon*, the *Mūjaz* never refers to any disagreements amongst physicians with regards to the faculties, chief organs, the position of the heart, the origin of arteries, veins and nerves, and so forth. Philosophical discussions and references to Aristotle are also noticeably absent from the *Mūjaz*. One may justify these omissions by referring to the preface, where the author states, “In this book, I shall comply with the well-known cures . . . and principles of purging, etc.”

However, the genre to which the *Mūjaz* belongs is the same as that of his *Mukhtaṣar fī ʿilm uṣūl al-ḥadīth* (A Short Summary on the Science of the Principles of *Ḥadīth*). The term *awjaza*, whose past participle is *mūjaz*, is a synonym of the term *ikhtaṣara*, whose past participle is *mukhtaṣar*. Yet, in his *Mukhtaṣar on ḥadīth*, Ibn al-Nafīs never shies away from reporting disagreements amongst scholars, and even

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presents his own opinion in matters where he disagrees with them.\footnote{For example, see Ibn al-Nafis, \textit{Mukhtarâ fî`ilm usul al-`hadîth}, ed. Yusuf Zaydan (Cairo: al-Dar al-Misrîyya al-Lubnaniyya, 1991), pp. 105, 107–108, 109–110, 111–112, 114–115.} Moreover, Ibn al-Nafis consistently reports disagreements amongst physicians in every single one of his medical works, including his commentary on Hippocrates’s \textit{Aphorisms.}\footnote{See, for example, Ibn al-Nafis, \textit{Sharh Fusul}, pp. 127–129; and Amal Abou Aly, “A Few Notes on Hunayn’s Translation and Ibn al-Nafis’ Commentary on the First Book of the \textit{Aphorisms},” \textit{Arabic Sciences and Philosophy} \textbf{10} (2000): 139–150.} Thus, the absence of any reported disagreements amongst physicians in the \textit{Mûjaz} is very suspicious and noteworthy.

In summary, there are many reasons for questioning Ibn al-Nafis’s authorship of the \textit{Mûjaz}: the absence of the new physiology and theory of pulsation; the lack of references to other works of Ibn al-Nafis in the \textit{Mûjaz}, and vice-versa; the omission of any references to disagreements amongst physicians and between physicians and \textit{falâsifa}; and, above all, its stated intention to adhere and conform to the well-known opinions. In no other work does Ibn al-Nafis ever suggest that his aim is to conform to the well-known or majority opinion. For example, in the \textit{Treatise on Organs}, he says, “This epistle contains within it true knowledge and the wisdom of knowing the benefits of the parts of humans and their places . . .”\footnote{Ibn al-Nafis, \textit{Risalat al-`A`da`}, p. 88.} Similarly, in his treatise on \textit{hadîth}, he says, “I intend to relate in this book on the principles of the knowledge of hadith a manner of reaching the utmost limits and a way to begin [this science].”\footnote{Ibn al-Nafis, \textit{Mukhtasar}, p. 93.} Even though both these texts are shorter works that are meant for non-specialists, Ibn al-Nafis still does not adhere strictly to the majority opinion, unless it happens to be an opinion with which he agrees.
However, the preface of the Mūjaz states, “I shall take it upon myself to comply with the well-known cures from amongst the drugs and foods, and from amongst the principles of purging, and so forth.” The rest of the treatise then proceeds to dogmatically present the well-known principles, etc., even though, from his other works, we know that Ibn al-Nafīs does not agree with these principles. Therefore, there seem to be enough reasons to doubt the medieval ascription of this work to Ibn al-Nafīs.

Interestingly, the Mūjaz is also the only work that refers to Ibn al-Nafīs as raʾīs al-ḥukamāʾ (chief of sages). This title is the closest reference to Ibn al-Nafīs as the “chief of physicians” that appears in any work associated with him. As I had noted in chapter two, there is no record of Ibn al-Nafīs ever receiving the post of chief physician officially, nor do the non-traditionalist biographers, al-Ṣafadī and al-ʿUmarī, refer to Ibn al-Nafīs as the chief of physicians. Only the traditionalist biographers make such claims. Another point worth noting is the striking omission of the Mūjaz from the non-

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19 Ibn al-Nafīs, Kitab al-Mujaz, p. 31. The author of the Mūjaz then proceeds to ask for not only the protection of God, but also the forgiveness of friends and their help in “correcting the shortcomings” (p. 31). The specific appeal to friends to remedy his work is also unique to the Mūjaz and certainly goes against Ibn al-Nafīs’s, often, arrogant rejection of the views of Galen, Ibn Sinā and other accomplished predecessors and contemporaries. It also goes against the sentiment found in an anecdote within the biographical entries of al-Ṣafadī and al-ʿUmarī, where Ibn al-Nafīs states, “If I did not know that my works would last for ten thousand years after me, I [w]ould not have written them” (Theologus, p. 15).

20 Ibn al-Nafīs, Kitab al-Mujaz, p. 31. This title may well be an honorific and not an official title. We do know that traditionalists had started to welcome some of the originally conceived “foreign sciences” under the new category of ‘rational science,’ including aspects of falsafa under the terms manṭiq (logic) and ḥikma (wisdom); see Sonja Brentjes, “On the Location of the Ancient or ‘Rational’ Sciences in Muslim Educational Landscapes (AH 500–1100),” Bulletin of the Royal Institute of Inter-Faith Studies 4 (2002): 47–71. It would be interesting to examine if the phrase raʾīs al-ḥukamāʾ was ever misunderstood to mean raʾīs al-aṭībbāʾ by traditionalists.

traditionalist biographies. Once again, only the traditionalist biographers refer to the Mūjaz as one of Ibn al-Nafīs’s works. Thus, the ascription of the Mūjaz to Ibn al-Nafīs seems to be as central to the traditionalists’ construction of Ibn al-Nafīs’s identity as the continuous references to his medical prowess, his “orthodoxy,” and his official post of chief of physicians. In fact, even the mythic claim that the Mūjaz is an abridgement of Ibn al-Nafīs’s own larger Commentary originates in the traditionalist biographies themselves, for the Mūjaz usually appears in these entries alongside references to the larger Commentary. The Mūjaz, as such, appears to be central to the traditionalists’ created image of Ibn al-Nafīs as the “orthodox” Ibn Sīnā.

5.2 The Mūjaz and Ṭibb al-Nabī: A Preliminary Excursus

The Mūjaz’s usefulness for the traditionalist project of Ṭibb al-Nabī, as conceived by al-Dhahabī and other fourteenth century traditionalists, can be gauged by a quick comparison of the first section of the Mūjaz and al-Dhahabī’s text, al-Ṭibb al-Nabawī


22 See Theologus, pp. 12–17.


24 Irmeli Perho calls this the “new stage” in the development of the genre; see Perho, The Prophet’s Medicine.
(Prophetic Medicine). The similarity is indeed striking. The sections, subsections, and sub-subsections into which both texts are divided are identical. The only real organizational difference is the fact that the Mūjaz separates the discussion on the treatment of organs into two parts, whereas al-Dhahabī’s text lumps them together.\footnote{Ibn al-Nafis, \textit{Kitab al-Mujaz}, p. 31; and Shams al-Dīn Muḥammad b. Aḥmad al-Dhahabī, \textit{al-Ṭibb al-Nabawī} (N.P.: Misr Mustafa al-Baki al-Halabi, 1961), p. 4.} Furthermore, al-Dhahabī’s actual text seems to have been lifted verbatim from \textit{al-Mūjaz} in many places. For example, the short discussion on the elements is absolutely identical in both texts:

The natural components are seven. First, the elements. These are four: fire, which is hot and dry; air, which is hot and humid; water, which is cold and wet; and earth, which is cold and dry.\footnote{Ibn al-Nafis, \textit{Kitab al-Mujaz}, p. 32; al-Dhahabi, \textit{al-Tībb al-Nabawi}, p. 4.}

Much of the remaining discussion on “the natural components of theoretical medicine” is also very similar.

Overall, the only substantial differences in the initial, theoretical physiological discussion of the two texts are that: 1. al-Dhahabī often leaves out many physiological details, and; 2. al-Dhahabī gives his text a deliberate religious focus by delving into religious and spiritual issues, as well as by citing many hadīth and other religious texts. For example, in the section on the temperaments, al-Dhahabī inserts a number of hadīth to show that the Prophet had the most balanced temperament of all, and that the temperaments of believers are more balanced than those of unbelievers, and so forth. Nonetheless, the immediately preceding and succeeding discussions on the temperaments still adhere closely to the content and presentation in the Mūjaz.\footnote{Ibn al-Nafis, \textit{Kitab al-Mujaz}, p. 32; al-Dhahabi, \textit{al-Tībb al-Nabawi}, pp. 4–5.} On the other hand, al-
Dhahābī does not describe in detail the various psychic and natural faculties, even though he acknowledges the existence of the psychic, vital and natural faculties, whereas the *Mūjaz* provides a quick overview of the various kinds of psychic and natural faculties.²⁸

What this suggests is that, regardless of whether al-Dhahābī himself originally learned Avicennian physiology from the *Mūjaz*, or whether or not he even used it to write his own text, the similarities in the organization, style and content of the two texts would not have been lost on him or his traditionalist successors. That would also explain why he is the first person to refer to the *Mūjaz* in his entry on Ibn al-Nafīs. Thus, we can begin to understand the reasons why the *Mūjaz* emerged as a far more important and relevant text for subsequent traditionalists, especially those interested in *Ṭibb al-Nabī*. Due to its concise, systematic, and non-*falsafa* presentation of Avicennian physiology, the *Mūjaz* would have proven to be an easier and theologically safer text for traditionalists than the *Canon* itself, with the added benefit that it drew attention away from Ibn Sīnā while essentially presenting his ideas.

Naturally, a more careful examination of the *Mūjaz* and the texts of Dhahābī and other traditionalists would be required before we can make any definitive claims about the importance of the *Mūjaz* for the emerging genre of *Ṭibb al-Nabī*. Moreover, we would also need to examine the various medical commentaries on the *Mūjaz* to understand precisely the impact it had on Islamic medicine, what role it played in further propagating and solidifying the hold of Avicennian physiology, and what role it played in preventing subsequent Islamic physicians from struggling with Ibn al-Nafīs’s novel physiology and anatomy as found in his other works. A close study of these texts would

reveal the precise nature of the path that Islamic medicine took in the fourteenth and fifteenth centuries, without resorting to overly simplified explanations that argue for the death of rational medicine under increased pressure from religious orthodoxy.

Using the model that I have developed to understand the debates over reason and revelation in the works of Ibn al-Nafīs and his predecessors and contemporaries, a better argument would be to claim that Ibn al-Nafīs’s physiological and anatomical claims were not taken up for purely rational reasons. After all, the dominance of Avicennian physiology and medicine in subsequent Islamic medical texts reveals they were too heavily committed to the authorities of Aristotle, Galen and Ibn Sīnā and, thus, unable to oppose the prevalent philosophical and physiological views of the spirit, soul and faculties rationally. Al-Dhahabī and the other traditionalists, as a result, were behaving perfectly rationally in allying themselves with Avicennian physiology in writing their Tibb al-Nabī texts, for that is what the physicians considered to be rational and true. The traditionalists’ co-opting of Avicennian medicine, shed of its problematic falsafa baggage, would have only served to buttress their case for the harmony between reason and revelation.

5.3 Concluding Remarks

As I have shown in chapter one, historians of science have generally operated under the assumption that the terminus of Greek science can only be the Scientific Revolution. As such, they have tended to neglect the actual context of Islamic science and the alternative paths and trajectories that were being charted out by Islamic philosophers, physicians, astronomers, etc. In the case of Ibn al-Nafīs and the pulmonary
transit, this neglect has resulted in ignoring the actual context of Ibn al-Nafīs’s discovery, thus leading historians to dismiss it incorrectly as a chance discovery and a “happy guess.”

Once we situate Ibn al-Nafīs’s works within their context, we see that his discovery is intimately related to the specific solution he provided to the problem of bodily resurrection, which itself is a result of his specific understanding of the harmony between reason and revelation.

The post-Avicennian, post-Ghazalī milieu of the late twelfth and thirteenth centuries provided Ibn al-Nafīs with some freedom in reallocating authority across various sources of reason and revelation, thus allowing him to reconstruct and reshape traditional disciplinary boundaries. Hence, he defies the standard practice of traditionalists and calls for rationally evaluating the content of hadīth. More importantly, he accepts, in general, the falsafa world-view, including the problematic falsafa definition of soul. Yet, he also defies the authority of falsafa by rejecting the self-sufficiency of reason and by placing limits on the knowledge that one can arrive at purely through reason. In doing so, he calls for a dialectical relationship between the sources of reason and revelation.

A concrete application of this dialectical understanding of the relationship between reason and revelation is his solution to the problem of bodily resurrection. Ibn al-Nafīs begins by advocating a hylomorphic psychology based on the falsafa understanding of an incorporeal soul. He then proceeds to show that the problem of individuation goes hand-in-hand with a hylomorphic psychology. However, the problem is not solved by purely rational means, but rather by appealing to a hadīth. Nonetheless,

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the specific ḥadīth on the ‘ajb al-dhanab is not picked because of its intrinsic traditionalist merits, but rather because it can be rationalized with a hylomorphic psychology. Consequently, bodily resurrection is defended, but only by further rationalizing it using his new physiology and theory of generation derived from the hylomorphic psychology. The hylomorphic understanding of the soul-body relationship also allows Ibn al-Nafīs to undermine Ibn Ṭufayl’s defense of monistic mysticism and of the self-sufficiency of reason. The strict hylomorphism, on the other hand, can only be advocated in the case when the physician is willing to appeal to God for the emanation of a soul during generation. Otherwise, the physicians and philosophers have to struggle with the difficulties associated with a soul, or parts of a soul, being communicated to the new embryo through the male or female semen. Finally, the new psychology and physiology also allow Ibn al-Nafīs to defy the authorities of Ibn Sīnā and Galen, in order to posit his new theories of pulsation and the pulmonary transit of blood. In summary, Ibn al-Nafīs’s discovery of the pulmonary transit is a direct result of his eclectic merging of various disciplines and authorities, both religious and rational, permitted by the volatile nature of the intellectual landscapes of thirteenth century Egypt and Syria.

However, by the fourteenth century, the allocations of authority had been normalized and the disciplinary boundaries had been reconstituted and hardened in ways that were not sympathetic to Ibn al-Nafīs’s arrangement. Consequently, the traditionalist biographers reconstituted his image to champion their own understanding of the harmony between reason and revelation, i.e. the conjunction of revelation and a non-philosophical Avicennian medicine in the form of Tibb al-Nabī. For that reason, Ibn al-Nafīs’s commitment to aspects of falsafa was withheld, his traditionalism was played up just
enough to portray him as an “orthodox” physician, without accepting him as a
traditionalist authority per se, and the readers of these biographical entries were directed
towards the Mūjaz instead of Ibn al-Nafis’s actual works. As a result, Ibn al-Nafis’s
novel physiological and anatomical views could not gain a foothold in Islamic societies.

This, in and of itself, does not imply that Islamic medicine went into decline after
Ibn al-Nafis. A true understanding of the subsequent path of Islamic medicine can only
be derived from a careful examination of the numerous medical texts written during the
course of the fourteenth and fifteenth centuries, many of which were indeed
commentaries on the Mūjaz and texts in the tradition of Tibb al-Nabī. A proper
contextualization of those works, and a comparison with earlier Islamic works and
contexts, will reveal the true extent and causes of any decline in Islamic science.

My study of Ibn al-Nafis paves the way for such contextual studies of Islamic
medicine and science. It provides a model for examining the interactions of various
disciplines and scholars, in order to arrive at a robust understanding of the period.
Specifically, the model provides a new way of examining the relationship between reason
and revelation in primarily theistic contexts. Consequently, applying the methodology of
this study to other scientific texts and authors should provide us with a better
understanding of the relationship between science and religion in the medieval Islamic
world. More importantly, the proper contextualization of these works should lead us to
shed the Eurocentric bias that pervades the history of science and only allows historians
to appreciate or criticize Islamic science using the metric of the Scientific Revolution.
Instead, historians will finally be able to see Islamic science in its own terms and judge
its successes and failures according to the trajectory that the Islamic physicians, scientists, philosophers and theologians were charting for themselves.
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