

ISLAMIC COSMOLOGY

A Review Article of Seyyed Hossein Nasr's Book: *An Introduction to Islamic Cosmological Doctrines. Conceptions of Nature and Methods Used for its Study by Ikhwān as-Ṣafa, al-Bīrūnī and Ibn Sīnā*.¹

In modern times cosmology is no longer studied as a single science, but is fragmented into astronomy, physics, biology, psychology and theology. This fragmentation is a loss to general education, for most of us no longer have a well-defined view of the universe and its parts; but it is probably unavoidable so long as the specialized sciences of which cosmology is composed are in a process of upheaval. By contrast, when we undertake to study a more stable civilization of the past, a broad knowledge of its cosmological ideas is possible, and essential as a framework for understanding the thought and attitudes prevalent in that civilization.

For a knowledge of Islamic cosmology we have hitherto had at our disposal general works which have dealt most fully with the Hellenistic tradition of science. Such works are P. Duhem's classic *Le système du monde*, II (Paris, 1914), especially ch. 11, "Physiciens et astronomes: 2. Les Sémites", and A. Mieli, *La science arabe* (Leiden, 1938). For the Sunnite occasionalist tradition we have S. Pines, *Beiträge zur islamischen Atomenlehre* (Berlin, 1936). But there has not been until now an equally solid study of the more "oriental" science, which arose in 'Iraq and Iran in the tenth century A.D. and developed in a more symbolic and mystical manner than the other two scientific traditions. This lack is now supplied by a young Iranian scholar, educated in modern science, who has turned his attention to the intellectual history of Islam. His book does not replace the older ones but supplements them where it was most needed, just as H. Corbin's works on philosophy and theology have emphasized Shī'ite gnosticism rather than Aristotelian philosophy and Sunnite *kalām*.

Before we can appreciate the substance of Dr. Nasr's book we have to understand his attitude toward his subject. His starting point is an explicit acceptance of "the immutable and nonhistorical essence and spirit of the Islamic Revelation" (p. xx). The basic principle of this Revelation is "the Unity of the Divine Principle", and a consequence of this Unity is "the unicity of Nature". That cosmology will therefore be both truest and most Islamic which formulates most perfectly this unicity of Nature (pp. 3-5). Anyone who adheres to the western tradition of secular, objective science is bound to be troubled by what seems like laying down an a priori theological mold into whose pattern the truth about the cosmos must fit. But Dr. Nasr is not troubled by this prospect, for he thinks of the first principle mentioned as a general

¹ Belknap. Harvard University Press, 1964; pp. xxi + 312, \$ 6.95.

truth which had been recognized even in antiquity, and is thus more or less a principle of reason (not his expression). "The Prophet of Islam did not come to assert anything new but to reaffirm the truth which always was" (p. 5).

Does the author think that the system he is going to study is the most perfect Islamic expression of the unicity of nature? He does not say this; he only says that the "oriental" system emphasizes one aspect of the relation between God and the world, their continuity, while the Ash'arite system emphasizes the opposite aspect, their discontinuity, which is equally real in its own sense (p. 10). Yet it is clear that he sympathizes more warmly with the former, and indeed he gives as his reason for choosing the three subjects of his book that in them "we are in reality studying the basic elements of Islamic cosmological doctrines which are to be found in one form or another in the writings of most of the later Muslim authors" (p. 13). Whatever the reasons, the author's decision to limit his study to these subjects was practically wise, as it has enabled him to present them at sufficient length to bring out their characteristic differences as well as some common features. The three are roughly contemporaneous, around the beginning of the fifth/eleventh century.

In the cosmology of the Ikhwān aṣ-ṣafā' the leading themes are the analogy of the higher and lower parts of the universe and the symbolization of the higher by the lower. "Of the many types of symbolism which the Ikhwān use, numbers are the most important because through numbers they are able to relate multiplicity to Unity and bring to light the harmony which pervades the Universe" (p. 45). The dangers of arbitrary and fanciful science in these procedures are very evident. Duhem records that in listing the spheres below the sun the Ikhwān omitted those of fire and water—apparently in order to keep the total to five, the same as those above the sun (*op. cit.*, II, 51). Dr. Nasr reports that "they compare the motion of the interior of the earth with the abrogation (*naskh*) of previous *shari'ah* by the Prophet Muḥammad—upon whom be peace—and the motion of the planets to the *shari'ah* of the various prophets" (p. 65). He asks us, however, to appreciate such ideas in terms of their own purposes, "in the context and the service of illuminating the reality and beauty of the relation between the microcosm and macrocosm and the hierarchy of Being" (p. 67).

The remarkably scientific mind of Bīrūnī is well known, and it is illustrated here. But Dr. Nasr is more concerned to emphasize a neglected side of this thinker, his integration of science into an Islamic framework. He regarded the phenomena of nature as "signs" of the power and design of the Creator, following in this the attitude of the Qur'ān. He was a keen critic of Aristotle, rejecting for example the theory of the world's eternity.

In Ibn Sīnā we have all the factual cosmology of Islamic science put

together into an impressive synthesis, but there is a greater articulation of its dynamic use, to lead the soul on the path of spiritual progress. This is the "oriental" philosophy, in which a man is first "oriented" and then led step by step to the Truth. "...as his consciousness becomes transformed and illuminated... Nature itself becomes transformed from fact to symbol... and begins to aid him in his spiritual journey. Cosmogony... makes it possible for the gnostic to orient himself with respect to the cosmos across which he is to journey" (p. 267). Here the author leans on the studies of H. Corbin.

These three cosmologies are described in rich detail, impossible to represent here, whose interest and enlightening character match those of the author's generalizations. His wide range of learning is shown by his extensive and most valuable bibliography (pp. 287-302), as well as by the footnotes. By design he does not set out to trace the more ancient sources of the Islamic theories studied; but since these theories are obviously built largely out of Greek materials, and these are referred to frequently in incidental contexts, it would have been desirable to bring out more prominently the very great debt of these systems to Neoplatonism. This is particularly evident in Ibn Sīnā, who has been rightly called a Muslim Neoplatonist.

With such great merits, it is unfortunate that the book is marred throughout by faults of carelessness, such as confused classifications, inconsistencies, deficient explanations. A few examples will suffice.

pp. 9-10: "The Ashʿarite theologians emphasize above all else the discontinuity between the finite and the Infinite, all the stages of the cosmic hierarchy being absorbed, in their view, in the Divine Principle". There seems to be a contradiction here between "discontinuity" and "absorption"; we should expect the latter to be a kind of continuity. Further explanation is needed.

pp. 2, 15-22, 278: A consistent mistake of one century in the equation of hijra and Christian centuries. Thus (p. 15) "4th/11th and 5th/12th centuries" should read "4th/10th and 5th/11th centuries".

pp. 40-43: Three lists are given: (1) the Ikhwān's classification of the sciences, (2) the four books and fifty-one chapters of their Treatises, (3) the order of treatment by Dr. Nasr. He does not explain the correspondences and variations between (1) and (2), nor mentions that his study will be of the second of the four books.

pp. 133-34: Bīrūnī rejects the ninth sphere, arguing like Aristotle that a moved object needs an outside mover. But why is this any more of a difficulty with the ninth than with the eighth sphere? For an explanation we have to go to Duhem, who shows how the nature and function of the ninth sphere were supposed to differ from those of the other spheres.

p. 144: Figure 7 does not make clear where the equator and the southern hemisphere are, nor does the text.

pp. 146-47: After describing the seven climates in the usual sense of seven bands in latitude, and their symbolic meaning, Dr. Nasr states: "Al-Bīrūnī makes the analogy even more clear by presenting the seven climates as seven circles, rather than strips". In fact this is an altogether different scheme of climates, as Figure 8 shows, not a mere change of presentation.

pp. 148-49: Bīrūnī "believes in the growth of minerals and the perfection of metals into gold", yet he "does not believe in the physical transformation of metals" and "rejected the idea of transmutation". The contradiction can only be resolved by understanding that the last phrases mean transformation and transmutation by human agency, in applied alchemy.

p. 199: "The first category of possible beings is the eternal effect of the Creator and must therefore always be"; but n. 8, "only the Necessary Being is eternal while all other things are created and new (*muhdath*)".

pp. 206-7: "The elements in mixing together reach a degree of purity..." Cf. pp. 248-51. Purity normally means a result of separation, not of mingling.

p. 207: The last paragraph seems to classify demons and devils as "man", yet puts saints and prophets in a stage "above that of humanity".

pp. 224-25: "The measurement of time depends on motion", but "time is one of the conditions of movement". A contradiction: what is measured by something cannot be a condition of that thing's existence.

p. 213: *ibdāʿ* is defined as production of eternal beings; but p. 229, n. 55, *ibdāʿ* is called creation of non-eternal beings. The former is correct.

pp. 252-53: The terms "principles" and "elements" appear to be used interchangeably here, for what are elsewhere called the four "elements", i.e. fire, air, water, earth, which are combinations of the four "qualities", hot, cold, wet, dry. But it is quite hard to check on the terminology used, since the index does not list "elements", "principles" or "qualities".

It should be noted that these weaknesses are not in the author's command of English, which is stylish and correct, but in logic. No doubt an alert reader can solve each difficulty of this sort with a little reflection and comparison, but when he finds these and lesser obstacles to understanding on almost every page his confidence is disturbed and his reading loses its serenity. Although Dr. Nasr acknowledges much competent assistance at both the outset of his research and the final proof-reading stage, it appears that his work lacked a keen reader at the crucial stage, the finished draft, when a book is solid enough to

criticize yet still fluid enough to change at will. As it is now published his book is an exciting and frustrating piece of scholarship. It should have been an outstanding one.

*University of Michigan
Ann Arbor, Michigan*

GEORGE F. HOURANI