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An Introduction to Islamic Cosmological Doctrines

CONCEPTIONS OF NATURE AND METHODS
USED FOR ITS STUDY BY THE
IKHWĀN AL-ṢAFĀ', AL-BĪRŪNĪ, AND IBN SĪNĀ

Revised Edition

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THAMES AND HUDSON

CHAPTER 1

The Rasā'il of the Ikhwān al-Ṣafā' —Their Identity and Content

Having been hidden within the cloak of secrecy from its very inception, the *Rasā'il* have provided many points of contention and have been a constant source of dispute among both Muslim and Western scholars.¹ The identification of the authors, or possibly one author, the place and time of the writing and propagation of their works, the nature of the secret brotherhood the outer manifestation of which comprises the *Rasā'il*—these and many secondary questions have remained without any definitive historical answers.

Many early Muslim sources have given the name of a group of scholars from Baṣra as the authors of the *Rasā'il*. Ibn al-Qifṭī, in his *Akhhbār al-ḥukamā'*,² mentions that according to Abū Ḥayyān al-Tawḥīdī the authors of the *Rasā'il* were Abū Sulaimān Muḥammad ibn Ma'shar al-Bastī, Abu'l-Ḥasan 'Alī ibn Hārūn al-Zanjānī, Abū Aḥmad al-Mihrjānī, 'Awfī and Zaid ibn al-Rifā'ī. Shahrāzūrī, on the other hand, in his *Nuzhat al-arwāḥ*, gives a somewhat different list of authors,³ consisting of Abū Sulaimān Muḥammad ibn Mas'ūd al-Bastī, known as al-Muqaddasī, Abu'l-Ḥasan 'Alī ibn Wahrūn al-Ṣābī, Abū Aḥmad al-Nahrjūrī, 'Awfī al-Baṣrī and Zaid ibn al-Rifā'ī. Abū Ḥayyān al-Tawḥīdī himself claims that the wazīr, Abū 'Abdallāh al-Sa'dān, who was killed in 375/985, had in his service a

¹ The name of the Ikhwān al-Ṣafā', the authors of the *Rasā'il*, is itself of interest. The word *ṣafā'* appears in the Quran (II, 153) and is used widely among the Ṣūfis to denote the interior purity which makes gnosis (*ma'rifah*) possible and which is the ultimate aim of *taṣawwuf*. Certain Ṣūfī masters have derived the word *ṣūfī* itself from *ṣafā'*. For example, Abū Ḥasan al-Qannād says:

«الصوفي مأخوذ من الصفاء وهو القائم لله عز وجل في كل وقت بشرط الوفاء».

Abū Naṣr al-Sarrāj al-Tūsī, *Kitāb al-luma'* (London, 1914), p. 26.

² Ibn al-Qifṭī, *Akhhbār al-ḥukamā'* (Cairo, 1326 [1908]), pp. 58–63. See also Ḥaḥir al-Dīn al-Baihaqī, *Tatimmah ṣiḥwān al-ḥikmah* (Lahore, 1351 [1932]), p. 21.

³ From the manuscript of *Ta'rikh al-ḥukamā'* of Shahrāzūrī, quoted by Jalāl Homā'ī, *Ghazzālī-nāmāh* (Tehran, 1936), p. 35.

group of scholars, including Ibn Zar'ah (331/942–398/1007), Mis-kawaih al-Rāzī (died 421/1029), Abu'l-Wafā' al-Buzjānī, Abu'l-Qāsim al-Ahwāzī, Abū Sa'īd Bahrām, Ibn Shāhūyah, Ibn Bakr, Ibn Ḥajjāj al-Shā'ir, Shūkh Shī'ī (died 391/1000), and Ibn 'Abid al-Kātib whose sayings were compiled and collected to form the *Rasā'il*.⁴ Regarding one of the alleged authors, Zaid ibn Rifā'ī, Abū Ḥayyān writes:

He stands in no definite relation with any one system. He knows how to form his school from all sides . . . If one could but unite Greek philosophy and the religious law of Islam, the perfection of the faith, they the Ikhwān thought, would be reached. With this design, they wrote fifty tracts on all branches of philosophy.⁵

Not only is there a difference of view as to the authors of the *Rasā'il*, but also regarding the part of the Islamic community from which they originated. The modern discussions find their echo among the medieval Muslim authors themselves. Ibn al-Qiftī, giving his own view, considers the Ikhwān as followers of the school of the Mu'tazilah, which was rationalistic in its approach.⁶ Ibn Taimiyah, the Ḥanbalī jurist, on the other hand, tends toward the other extreme in relating the Ikhwān to the Nuṣairīs, who are as far removed from the rationalists as almost any group to be found in Islam.⁷ Between these two extremes there have been the views expressed over the centuries that the *Rasā'il* were written by 'Alī ibn Abī Ṭālib, al-Ghazzālī, Ḥallāj, Imām Ja'far al-Ṣādiq, or various Ismā'īlī *dā'īs*, or "missionaries."⁸

Considering the great respect paid to the *Rasā'il* by the Ismā'īlīs,⁹ the extensive use of them, particularly in the Yemen, and the fact that

⁴ Al-Tawḥidī, *Risālah fi'l-ṣidāqah wa'l-ṣadiq* (Constantinople, 1301 [1883], pp. 31–33). Dates have been given in the case of those authors for whom they have been established with certainty.

⁵ S. Lane-Poole, *Studies in a Mosque*, 2nd ed. (London: Sydney, Eden, Remington, 1893), pp. 193–194.

⁶ A. 'Awā, *L'Esprit critique des 'Frères de la Pureté': Encyclopédistes arabes du IV^e/X^e siècle* (Beirut, 1948), p. 48.

⁷ *Ibid.*

⁸ For a general discussion of these opinions as well as those of the moderns, see A. L. Ṭibāwī, "Ikhwān aṣ-Ṣafā and their *Rasā'il*," *Islamic Quarterly*, 2:28–46 (1955).

⁹ Some Ismā'īlī scholars have even called it "a Quran after the Quran."

«إِنَّ رِسَالَتِ الْإِخْوَانِ هِيَ الْقُرْآنُ بَعْدَ قُرْآنِ أَهْلِ دَوْلَتِ الْعَامِ كَمَا أَنَّ الْقُرْآنَ مَعْرُوفٌ»

قُرْآنُ الْوَحْيِ وَهِيَ قُرْآنُ الْأَمَةِ وَذَلِكَ قُرْآنُ النُّبُوَّةِ.

A. Tāmīr, *La Réalité des Iḥwān aṣ-Ṣafā' wa Ḥullān al-Wafā'* (Beirut, 1957), p. 17.

"the work is accepted by the Ismā'īlīs as belonging to their religion, and is still regarded as esoteric . . .,"¹⁰ it is not surprising to find most modern scholars, Muslims and non-Muslims alike, claiming Ismā'īlī authorship for the work. A. Tāmīr, for example, has given a very detailed and convincing account of the Ismā'īlī nature of the *Rasā'il*, whose contents he calls "the Ismā'īlī philosophy."¹¹ It is interesting to note, however, that the well-known modern Ismā'īlī scholar, H. F. al-Hamdānī, although emphasizing the importance of the *Rasā'il* in the Ismā'īlī mission in the Yemen, disclaims Ismā'īlī authorship for the work and instead attributes the treatises to the 'Alids.¹² And A. L. Ṭibāwī, basing his conclusion on the fact that the Ikhwān opposed the hereditary and concealed *imām*, claims that the connection between the *Rasā'il* and the Ismā'īlīs is of later origin.¹³ He makes a more general association, stating that the "Ikhwān aṣ-Ṣafā'

¹⁰ V. A. Ivanov, *The Alleged Founder of Ismailism* (Bombay, 1946), p. 146.

¹¹ «وهذه الفلسفة هي الحقيقة الفلسفية الإسماعيلية التي يذريها إخوان الصفاء».

Tāmīr, *La Réalité des Iḥwān aṣ-Ṣafā'* . . . , p. 8, and also in his Introduction to the edition of *Risālat jāmi'ah al-jāmi'ah* (Beirut, 1959), pp. 1–58, where he gives as the final reason for the Ismā'īlī origin of the *Rasā'il* the fact that their number is equivalent to the numerical value of the name of the man 'Abdallāh ibn Muḥammad, who according to Ismā'īlī authorities composed the work:

«وَمِمَّا يَكُنْ مِنْ أَمْرِ فَلَدِينَا دَلِيلٌ أَضْرَ بَلَقَى نُورًا مَا طَعَا عَلَى الْمَوْضُوعِ : وَهُوَ أَنَّ الْأَمَامَ عَبْدَ اللَّهِ

بْنِ مُحَمَّدٍ عِنْدَ مَا وَضَعَ رِسَالَتِ إِخْوَانِ الصَّفَاءِ جَمِلَ عَدَدُهَا (٥٢١) رِسَالَةً كَلَمَتْهُ فِلَسْفِيَّةٌ

وَأَوَّلِيَّةٌ كَانَ يَقُولُ بِهَا وَقَضَى بَانَ رِسَالَتِ إِخْوَانِ الصَّفَاءِ حَرَايِزُهُ عَلَيْهِ نَا مُوسِيَّةٌ حَقِيقِيَّةٌ

وَيَجِبُ أَنْ يَكُونَ فِي الدَّائِرَةِ الثَّمَاثِيَّةِ الدِّيْنِيَّةِ ، صَوْرَةٌ لِمَا فِي الدَّائِرَةِ الْعِلْمِيَّةِ ،

وَكَمَا وَانَ فِي الدَّائِرَةِ الْعِلْمِيَّةِ مَعْرِفَتُهُ فِي الدَّائِرَةِ الدِّيْنِيَّةِ الثَّمَاثِيَّةِ وَلِهَذَا جَمِلَ

عَدَدُ الرِّسَالَةِ ٥٢١ مَطَابِقًا لِعَدَدِ كَلِمَاتِ الصَّلَاةِ الْخَمْسِ وَهَذَا الْعَدَدُ نَفْسُهُ جَاءَ

مَطَابِقًا لِعَدَدِ حُرُوفِ اسْمِهِ بِحِسَابِ الْجَمَلِ عَلَى هَذِهِ الصُّورَةِ :

ع ب ح ا ل ه ب ن ج ح م ح = عبد الله بن محمد

٥٢١ = ٤٤٨٤ ٥٢٥٣٣١ ٤ ٢ ٧

(pp. 17–18).

Zāki Pāshā, in his introduction to the 1928 Cairo edition of the *Rasā'il*, also argues for the Ismā'īlī origin of the work.

¹² H. F. al-Hamdānī, "*Rasā'il* Ikhwān aṣ-Ṣafā' in the literature of the Ismā'īlī Ṭaiyibī Da'wā," *Der Islam* (Berlin), 20:291ff (1932).

¹³ "Ikhwān aṣ-Ṣafā' and their *Rasā'il*," *Islamic Quarterly*, 2:33 (1955).

may be taken as symbolizing the Shī'a attempt, while al-Ghazālī represents the Sunni attempt at a synthesis."¹⁴

A somewhat different approach is considered by 'A. 'Awā in his analytical study of the *Rasā'il*. Rather than identifying the Ikhwān too closely with any group, 'Awā calls them by the vague name of post-Mu'tazilites.¹⁵ In this opinion he is in agreement, although in a somewhat vague fashion, with some of the early Western students of the Ikhwān.

Serious interest in the *Rasā'il* on the part of Western scholars was manifested in the nineteenth century with the translation made by Fr. Dieterici in a somewhat free and disorderly fashion over a period of thirty years, of most of the *Rasā'il*.¹⁶ He realized early in his studies on the Ikhwān their importance in bringing together in an encyclopedic manner a great deal of Islamic learning and in uniting the various sciences in a unified world view.¹⁷

Another early German study which was to have a considerable influence during the succeeding decades was G. Flügel's article on the Ikhwān.¹⁸ He emphasized there the rationalistic and Mu'tazilite nature of the *Rasā'il*. Considering the interests and particularly the rationalistic tendencies of the Mu'tazilites on the one hand and the cosmological and metaphysical views of the Ikhwān on the other, the assertion of Flügel is hardest of all to understand. Yet this view is supported again in the twentieth century by such scholars as E. G. Browne and R. A. Nicholson, while Miguel Asín Palacios considers the work to be a combination of Mu'tazilite and Shī'ite inspiration.¹⁹ In a somewhat similar fashion, S. Pines, referring to the role of the Prophet, claims that "the *Rasā'il Ikhwān aş-Şafā'* are, in this point

¹⁴ "The idea of guidance in Islam," *Islamic Quarterly*, 3:148 (1956).

¹⁵ *L'Esprit critique* . . . , p. 49. Later in the work 'Awā states more specifically that "c'est avec les Frères de la Pureté que la scolastique dogmatique (*kalām*) nous paraît répondre véritablement à ses motifs les meilleurs, au monisme universel faisant de la vérité du savoir et de l'idéal de l'action un ensemble unique, un tout homogène et réconcilié" (p. 305). 'Awā follows Dieterici in considering Abū Ḥayyān al-Tawḥīdī as being "incontestablement aussi un des propagateurs de l'association" (*Ibid.*, p. 309). Although al-Tawḥīdī's encounter with al-Muqaddasī is known, there is no proof that al-Tawḥīdī participated in the writing of the *Rasā'il*.

¹⁶ Fr. Dieterici, *Die Philosophie der Araber im X. Jahrhundert*, vol. II: *Die Naturschauung und Naturphilosophie der Araber im zehnten Jahrhundert aus den Schriften der lauten Brüder, Der Darwinismus im X. und XI. Jahrhundert* (Leipzig-Berlin, 1858-1891).

¹⁷ Dieterici, *Die Philosophie der Araber*, vol. III: *Makrokosmos* (1876). He considers the Ikhwān as an association of scholars which included al-Tawḥīdī (*ibid.*, pt. 1, pp. 145ff).

¹⁸ "Über Inhalt und Verfasser der arabischen Encyclopädie," *Zeitschrift der Deutschen morgenländischen Gesellschaft*, 13:1-43 (1859).

¹⁹ E. G. Browne, *Literary History of Persia*, I (London, 1909), p. 292; R. A. Nicholson, *Literary History of the Arabs* (London, 1956), p. 370; M. Asín Palacios, *El original árabe de la disputa del asno contra Fr. Anselmo Turmeda* (Madrid, 1914), p. 11.

as in many others, an attempt to bridge the gap between the two currents of thought. They are, on one hand, imbued with Shī'ite—more especially Ismā'īlite—doctrines; on the other hand, they closely follow and indeed plagiarize the political theory of al-Fārābī."²⁰

The history of the rise of early Ismā'īlism, the Fātimid movement, the doctrinal and political relations between Ismā'īlis and Bāṭinis and Qarāmiṭah, are among the most obscure and difficult problems of Islamic history. But for our purpose here it is more suitable, if not exactly correct, to combine the foregoing movements and parties under one heading which we shall call Ismā'īli.²¹ With this generalization then, we can safely assert that the great majority of Western scholars consider the Ikhwān and their *Rasā'il* to be connected with the Ismā'īli movement. Casanova, in 1915, had already defended this position,²² to be followed in his stand by Goldziher,²³ MacDonald,²⁴ Lane-Poole,²⁵ Massignon,²⁶ and Ivanov,²⁷ just to mention some of the better-known authors in this field.

A few Western scholars—as, for example, Stern and Sarton—have accepted the opinions of early Muslim writers on the authorship of the *Rasā'il* and have attributed the work to a group of scholars probably from Baṣra. After abandoning this view, Stern once more returned to it after publication of the *Kitāb al-imtā'* of Abū Ḥayyān al-Tawḥīdī in which the group of scholars are mentioned.²⁸ Recently, in a profound study on the relation between the Ṣabaeans and the

²⁰ S. Pines, "Some Problems of Islamic Philosophy," *Islamic Culture*, 11:71 (1937).

²¹ Massignon defines the *Qarāmiṭah* as (1) the general movement of reform during the third century which ended with the establishment of the Fātimids in 297/910; and (2) groups of Arabs and Nabataeans of southern Mesopotamia who assembled there after the war of Zanj. L. Massignon, "Esquisse d'une bibliographie ḡarmate," in *Essays Presented to E. G. Browne* (Cambridge, England, 1922), pp. 329ff.

²² P. Casanova, "Notice sur un manuscrit de la secte des Assassins," *Journal Asiatique* (1898), pp. 151-159.

²³ I. Goldziher, *Le Dogme et la loi de l'Islam* (Paris, 1920), p. 202. Goldziher believed that the *Rasā'il* were an important source for the Ismā'īlis from which they drew a great deal.

²⁴ D. MacDonald, *The Development of Muslim Theology, Jurisprudence and Constitutional Theory* (New York, 1903), p. 188. MacDonald compares the Ikhwān to the lodges of the Masons and relates them to the *Qarāmiṭah*.

²⁵ Lane-Poole, *Studies in a Mosque*, p. 186.

²⁶ Massignon also relates the Ikhwān to the *Qarāmiṭah*. See his "Esquisse d'une bibliographie ḡarmate," p. 329.

²⁷ Ivanov rejects completely the existence of a Baṣra group of scholars. He writes, "I would be inclined to think that this was a kind of camouflage story circulated by the Ismailis to avoid the book being used as a proof of their orthodoxy." V. A. Ivanov, *The Alleged Founders of Ismailism*, pp. 146-147. He considers the *Rasā'il*, in fact, to have been written under Fātimid patronage "in connection with general work on the philosophy of Ismailism." *A Guide to Ismaili Literature* (London, 1933), p. 31.

²⁸ M. Stern, "The authorship of the Epistles of the Ikhwān aş-Şafā'," *Islamic Culture*, 20:367-372 (1946).

Ismā'ilis, Corbin has identified the Ikhwān as a group or association of learned men who were at the same time the voice of the Ismā'ili movement.²⁹

Before forming a judgment on this difficult problem of the authorship of the *Rasā'il*, it is best to turn to the work itself for help. Since everyone agrees that the *Rasā'il* were written by the Ikhwān aṣ-Şafā', then whatever the Ikhwān tell us about themselves, their purpose, and the organization of their brotherhood, is at the same time information about the authors of the *Rasā'il*. They write, "The reason why the Brethren of Purity assemble is that each of them sees and knows that he cannot attain what he wishes concerning his well-being in this world and the attainment of success and salvation in the next world except through the cooperation of each one of them with his companion."³⁰ The aim of the Ikhwān is, therefore, neither the mere collection of facts nor a simple desire to create some sort of eclecticism as they have been accused by certain authors anxious to find in their writings originality and novelty above everything else.³¹

Rather, the purpose of the Ikhwān, according to their own definition, seems to be educational in the fullest sense of the word—that is, to bring to fruition and perfection the latent faculties of man so that he may gain salvation and spiritual freedom. Practically every chapter of their long work reminds the reader that in this world he is a prisoner who through knowledge must free himself from his earthly prison. All the sciences they consider—whether astronomy, angelology, or embryology—are discussed, not with the aim of a purely theoretical or intellectual interpretation or for their practical application, but to help untie the knots in the soul of the reader by making him aware, on the one hand, of the great harmony and beauty of the Universe and, on the other, of the necessity for man to go beyond material existence. And in order to reach this end they combine in their ideal education the virtues of many nations.

²⁹ "Au Xme siècle, une société de pensée qui s'est donnée le nom de 'Frères de la Pureté et Amis de la Fidélité,' a laissé en une vaste encyclopédie de 52 traités un mouvement de pensée ismaélienne." H. Corbin, "Rituel sabéen et exégèse ismaélienne du rituel," *Eranos Jahrbuch*, 19:187 (1950).

³⁰ « وينبغي أن تعلم أن العلة التي تجمع بين أخوان الصفاء وهي أن يترى ويعلم كل واحد منهم أنه لا يتم له ما يريد من صلاح معيشته الدنيا ونيل الغور والنجاة

في الآخرة إلا بمعاونته كل واحد منهم لصاحبه. »

Rasā'il (henceforth referred to in the notes as *R*), Cairo, 1928, IV, 218.

³¹ Or, as M. von Horten has put it, "einen unschöpferischen Eklektizismus"; see his *Die Philosophie des Islam* (Munich, 1923), p. 261.

They define the ideal and morally perfect man as of

East Persian derivation, Arabic in faith, of 'Irāqī, that is, Babylonian, education, a Hebrew in astuteness, a disciple of Christ in conduct, as pious as a Syrian monk, a Greek in the individual sciences, an Indian in the interpretation of all mysteries, but lastly and especially, a Ṣūfī in his whole spiritual life.³²

If we consider the purpose rather than the sources of the *Rasā'il*, it is hard to explain the work away as being eclectic, because what may historically be drawn from diverse sources is brought together and unified with a single end in view. And since that end conforms almost completely to the spirit of the *ḥadīth* of the Prophet, "the world is the prison of the faithful and the paradise of the unbelievers,"³³ it is more difficult to call it in any way un-Islamic if we accept the definition of "Islamic" given in the Prologue.

Not only do the Ikhwān identify themselves spiritually with *taṣawwuf*, whose ultimate end is to awaken the initiate from the "dream of negligence" through spiritual education and spiritual training, but their account of their own organization corresponds—although on a plane that is more exterior and social—to that of the Ṣūfī brotherhoods. The Ikhwān divide themselves into four categories:

1. Those possessing purity of physical substance, excellence of conception and assimilation. Members must be at least fifteen years old. These brothers are called the pious and the compassionate (*al-abrār al-ruḥamā'*) and belong to the class of the masters of crafts.

2. Those possessing tenderness and compassion toward other men. Members must be at least thirty years of age. This grade corresponds to the philosophical faculty, and the members in it are called the brothers of religious and learned men (*akhyār* and *fuḍalā'*), the class of political chiefs.

3. Those possessing the ability to fight wars and insurrections in the spirit of calm and mildness which leads to salvation. They represent the power of Divine law which men receive at the age of forty. They are called the noble men of learning and virtue (*al-fuḍalā' al-kirām*) and are the kings and sultans.

³² Tj. de Boer, *The History of Philosophy in Islam*, trans. E. R. Jones (London: Luzac & Co., 1933), p. 95. For us there can be nothing more convincing than this statement of the spiritual inclination and affiliation of the Ikhwān with *taṣawwuf*. See also A. L. Tibāwī, "Jamā'ah Ikhwān as-Şafā'," *Journal of the American University of Beirut* (1930-1931), p. 14; and Dhabiḥallāh Şafā, *Ikhwān al-şafā'* (Tehran, 1330 [1951]), p. 13.

³³ « الدنيا سجن المؤمنين وجنة الكافر. »

4. The highest degree, which is that of surrender, receiving of Divine help and direct vision of the Truth. This is the angelic period which one only reaches at the age of fifty,³⁴ and is the preparation for heavenly ascension. The prophets like Abraham, Joseph, Jesus, Muḥammad, and sages like Socrates and Pythagoras belong to this stage.³⁵

One can see in this classification the well-known division between craft, royal, and sacerdotal initiations which existed also in medieval Europe. The unity of the final goal through the hierarchy of the various grades is also evident. What has driven many people to accuse the Ikhwān of eclecticism, however, is not this unity but their mention of ancient sages along with the prophets. We have already explained in the Prologue, however, the validity of this procedure of integrating into Islam that which accepts the Unity of the Divine Principle. In fact, among many Muslims, especially the Ṣūfis, the idea that God has revealed the Truth in some form to all peoples is an obvious consequence of the Quranic Revelation itself. Likewise, as Ṭibāwī says:

The Brethren of Purity believe that the Truth is one without it being the private work of anyone. God has sent His Spirit to all men, to Christians as to Muslims, to blacks as to whites.³⁶

In the opinion of the authors of the *Rasā'il*, individualism is the source of bewilderment and error. Seeing Greek or other ancient sages mentioned by the Ikhwān, then, in no way destroys their purpose of education through integration and toward that final aim, which is to free their disciples from the prison of this world; nor does it make them eclectic in other than a historical sense.

In a curious and significant passage, the Ikhwān identify themselves with the Primordial Tradition and the *philosophia perennis* which they seek to expound in its full blossoming only after the last of the prophets has brought his religion to the world.

Know oh my brother, that we are the society of the Brethren of Purity, pure and sincere beings with generous hearts. We have slept in the cavern of Adam, our father, during the lapse of time which has brought back to us the vicissitudes of time and the calamities of events until finally, after our dispersion across various nations, there comes the moment of our encounter in the realm of the Master of the Eternal Religion, the moment when we see our Spiritual City elevated in the air . . .³⁷

³⁴ These ages are not to be taken literally as corresponding to chronological years, for obviously according to the Ikhwān themselves some sages reached the highest stage before they were "biologically" fifty years old.

³⁵ R., IV, 119ff; also, 'Awā, *L'Esprit critique* . . . , pp. 261-263.

³⁶ "Jamā'ah Ikhwān al-Ṣafā'," p. 60.

³⁷ R., IV, 85.

According to their own conception, then, the Ikhwān are expounding eternal wisdom, or what Suhrawardī later calls the *ḥikmah laduniyah*, which man has always possessed in some form but which now is expounded fully by the Ikhwān after having been hidden (in the cave) throughout the previous periods of the history of humanity. After their temporal appearance, if the Ikhwān claim to draw their doctrines from ancient sources it is not to collect a "museum" but to build a unified citadel and to guide their disciples to the single Truth which they believe underlies the many sources from which they draw their material and inspiration. The ultimate "grace," or *barakah*, for them, however, comes from Islam which is the final Revelation of the Truth in the present cycle of humanity.

The Ikhwān and Philosophy

While certain scholars have thought the purpose of the Ikhwān to have been the reversal of the contemporary political situation by the restoration of a philosophical system capable of serving as a basis for life,³⁸ the majority of those who have studied their doctrines believe that their aim was to combine religion and philosophy.³⁹ The Ikhwān themselves, in fact, often speak of the virtues of philosophy as a way of finding the Truth and their desire to combine it with the Divine law, or *nāmūs*, of the prophets.⁴⁰ Their aim, however, is not that of an Ibn Rushd or even a Thomas Aquinas, because here again the Ikhwān give a connotation to the word "philosophy" which differs greatly from the rationalistic, syllogistic meaning given to it by the Aristotelians. Instead, they identify philosophy with *ḥikmah*,⁴¹ in opposition to the great number of early Muslim writers who use philosophy as being almost synonymous with purely human wisdom and *ḥikmah* as a wisdom which has its ultimate source in the Revelations given to the ancient prophets. Philosophy for the Ikhwān is "the similitude as much as possible of man with God." It is "the means which again draws the elite of men or the angels on earth near to the Creator Most High."⁴² Its use is the "acquisition of the specific

³⁸ Ṭaha Ḥusain, Introduction to the *Rasā'il*, p. viii.

³⁹ Jalāl Homā'i considers their purpose to be twofold: (1) to cleanse the *Sharī'ah* of all impurities by combining it with philosophy; and (2) to give the essential truths of philosophy by going to its very sources. *Ghazzālī-nāmah*, p. 82.

⁴⁰ This word, which comes from the Greek word *nomos*, meaning law or harmony governing some domain, and also possibly from the Arabic root *nms* meaning concealed, is used by the Ikhwān to specify the universal laws revealed through the prophets. See the article on *nāmūs* in *The Encyclopaedia of Islam* (first edition).

⁴¹ R., III, 324.

⁴² R., I, 221.

virtue of the human race, that of bringing to actualization all the sciences which man possesses potentially. . . . By philosophy man realizes the virtual characteristics of his race. He attains the form of humanity and progresses in the hierarchy of beings until in crossing the straight way (bridge) and the correct path he becomes an angel. . . ."⁴³ One may easily see that there is a more intimate connection between this conception of philosophy and the Pythagorean-Socratic aim of the purification of the soul of man than there is with Peripatetic logic.⁴⁴

The Ikhwān are quite aware also of the characteristics of the type of philosophy which is not *ḥikmah*, and regard it in a manner similar to the religious authorities in Islam. In the discussion between man and the animals at the end of the section on zoology, the parrot in addressing man is made to say:

And as for your boast that you have philosophers and logicians among you, why, they are not the source of benefit to you, but lead you into error and unbelief . . . because they turn men aside from the path ordained by God, and, by their disagreements, make the ordinances of religion of no effect. The opinions and beliefs of all are at variance one with another. Some pronounce the Universe to be the most ancient; some believe matter to be so; some endeavour to establish the antiquity of forms . . .⁴⁵

The particularly noticeable feature of the treatment of philosophy, in its relation to Islam by the Ikhwān is their identification of *īmān*, the interior aspect of *islām*, with the "divine service of the philosophers."⁴⁶ This differentiation is similar to the distinction made by the Sūfis between *islām*, *īmān*, and *iḥsān* as three degrees of the Tradition, the latter two being not only simple faith but also wisdom and gnosis (*ma'rifah*).⁴⁷ There is this difference, however: whereas the Sūfī practices connected with *īmān* and *iḥsān* derive completely from the Revelation of the Prophet Muḥammad—upon whom be peace—the liturgy described by the Ikhwān seems to be more closely related to the religion of the heirs of the prophet Idrīs, that is, the Ḥarrānians who were the principal inheritors in the Middle East of what

⁴³ *Risālat al-jāmi'ah*, ed. Dj. Saliba (Damascus, 1949), I, 101. (Henceforth this work will be referred to in the notes as *Jāmi'ah*.)

⁴⁴ This conception of philosophy is echoed several centuries later in the writings of the Persian sages following Suhrawardī, among them Mīr Dāmād and Mullā Ṣadrā, who call philosophy a doctrine whose totality comprises not only Aristotelian philosophy, but Illuminationist theosophy and gnosis as well.

⁴⁵ Ikhwān al-Şafā', *Dispute between Man and the Animals*, trans. J. Platts (London: Allen, 1869), p. 202.

⁴⁶ R., IV, 301–302. Corbin, "Rituel sabéen . . .," *Eranos Jahrbuch*, 19:208 (1950).

⁴⁷ For an explanation of the Sūfī distinction between *islām*, *īmān*, and *iḥsān*, see F. Schuon, *L'Œil du cœur*, pp. 91ff.

has been called "Oriental Pythagoreanism" and who were the guardians and propagators of Hermeticism in the Islamic world. The philosophic liturgy of the Ikhwān took place three evenings each month, at the beginning, middle, and some time between the 25th and the end of the month. The liturgy of the first night consisted of personal oratory; that of the second of a *cosmic text* read under the starry heavens facing the polar star; and that of the third night of a philosophical hymn (implying a metaphysical or metacosmic theme) which was a "prayer of Plato," "supplication of Idrīs," or "the secret psalm of Aristotle." There were also three great philosophical feasts during the year, at the time of entry of the sun into the signs of the Ram, Cancer, and Balance. The Ikhwān correlated these feasts with the Islamic feasts of 'īd al-ḥijrah at the end of Ramaḍān, 'īd al-aḍḥā, the 10th of *Dhu'l-ḥijjah*, and the 'īd al-ghadīr on the 18th of the same month, the date of the investiture of 'Alī ibn Abī Ṭālib by the Prophet as his successor at Ghadīr Khumm, a major Shī'ite day of celebration which they made correspond to the fall feast. For the winter season, however, there was a long day of fasting instead, for the time when "the seven sleepers are sleeping in the cave."⁴⁸

The connection between philosophy and liturgy and *ḥikmah* leads us to place the Ikhwān more in the line of the heirs of Hermeticism and what has been called "Neo-Pythagoreanism," which through the Ḥarrānians and Nuṣairis entered into Shī'ah Islam early in its history. However partial or ill-defined such a relationship may seem historically, it is, from the nature of the doctrines, more plausible than the theory that the Ikhwān adopted simply "theoretical" and "academic" philosophy and added it to the *Sharī'ah* without the ability to remain faithful to one or the other.

Identity and Significance of the Ikhwān

After this long search into the identity and significance of the Ikhwān we find ourselves confronted with many contradictory opinions among students of the subject. It can safely be asserted, however, that given the cosmological and symbolic rather than rationalistic tendency of the Ikhwān we must exclude them from the school of the Mu'tazilites as well as from the followers of Aristotle, namely the *Mashshā'iyūn* (or *Mashshā'ūn*). For the same reasons, and for additional ones to be discussed later in conjunction with the sources of the *Rasā'il*, the Ikhwān may be connected with Pythagorean-Hermetic doctrines, much of which was best known in Islam under the name of

⁴⁸ Corbin, "Rituel sabéen . . .," pp. 210–211.

the corpus of Jābir ibn Ḥayyān. Moreover, considering the extensive use made of the *Rasā'il* by the Ismā'ilīs during later centuries and the presence of certain basic ideas such as *ta'wīl* in both groups, we may loosely connect the Ikhwān with Ismā'ilism, especially with what has been called "Ismā'ilī gnosis." But it is perhaps more significant, especially with respect to their cosmological doctrines, to describe them as a Shī'ah group with Ṣūfī tendencies whose exposition of the cosmological sciences was to influence the whole Muslim community during the later centuries. The conception of Nature held by the Ikhwān was to have almost as great an influence among the Twelve-Imām Shī'ites as upon the Ismā'ilīs. The similarity also between much of the *Rasā'il* and *taṣawwuf* must be especially emphasized with reference to cosmology, from which al-Ghazzālī and Ibn 'Arabī were to draw many formulations.

As an attempt at a synthesis⁴⁹ on the part of the Shī'ah during the fourth century⁵⁰ the *Rasā'il* soon gained wide popularity and great importance.

In effect, it is, by its own showing, a hand-encyclopaedia of Arabian philosophy in the tenth century . . . Its value lies in its completeness, in its systematizing of the results of Arabian study.⁵¹

The *Rasā'il* were widely read by most learned men of later periods, including Ibn Sīnā and al-Ghazzālī,⁵² have continued to be read up to our own times, and have been translated into Persian, Turkish, and Hindustani. From the number of manuscripts present in various libraries in the Muslim world, it must be considered among the most popular of Islamic works on learning.⁵³ But the work is not just

⁴⁹ Ṭibāwī, "The Idea of guidance . . .," *Islamic Quarterly*, 3:148 (1956).

⁵⁰ Although it is hard to state the exact date of the composition of the *Rasā'il*, it is fairly safe to place them within the fourth century and even more precisely the latter half of that fruitful century. P. Casanova, in "Une date astronomique dans les Épîtres des Ikhwān aṣ-Ṣafā," in *Journal Asiatique*, 5:5-17 (1915), interpreted an astronomical passage from the fourth epistle to determine the date of the writing of the *Rasā'il* as lying between 418 and 427. Abū Ḥayyān, however, claims to have read them in 373/983.

⁵¹ Lane-Poole, *Studies in a Mosque*, p. 191.

⁵² Muḥammad Taqī Dānishpazhūh, "Ikhwān-i ṣafā," *Mihr*, 8:610 (1331 [1952]). For a detailed discussion of the influence of the Ikhwān see also Ṭibāwī, *Jamā'ah Ikhwān aṣ-Ṣafā*, chap. VI.

⁵³ The organization of the Ikhwān had already expanded considerably in the fourth century, as shown, for example, by the fact that Abū'l-'Alā' al-Ma'arrī met a branch of them in Baghdad between 393 and 400. Their *Rasā'il* were read and made use of by al-Ghazzālī and Ibn al-Haitham, and its orthodoxy debated by Ibn Taimiyah. The Druzes and Assassins certainly read the *Rasā'il* extensively, and, as we have already seen, the Yemeni Ismā'ilīs held it in great veneration. Introduced into Spain by al-Majrīṭī and al-Kirmānī, they were also to influence two of the most celebrated authors from the Maghrib, Muḥyī al-Dīn ibn 'Arabī and Ibn Khaldūn. See Lane-Poole, *Studies in a Mosque*, p. 192, and 'Awā, *L'Esprit critique* . . ., pp. 314ff.

"popular" in the sense of being for everybody, as has often been said. The *Rasā'il* contain many profound metaphysical and cosmological ideas, mostly stated in a symbolic and, in a way, simple language which, from the point of view of a mind accustomed to long-drawn-out discussions, seems "popular" and "naïve." Besides, in the *Risālat al-jāmi'ah* and the very rare *Jāmi'at al-jāmi'ah*,⁵⁴ the Ikhwān present their doctrines in a more compact, hidden, and esoteric manner, although usually not departing from the general subject matter of the *Rasā'il*.

Taken as a whole, the writings of the Ikhwān present us with the conception of the Universe under which a large segment of the Shī'ah as well as the Sunni world has lived for a thousand years. Although they do not contain explicitly the esoteric science of a Muḥyī al-Dīn ibn 'Arabī or Muḥyī al-Dīn al-Būnī, they do explain in simple language, and often with great beauty, the main outlines of the conception of Nature which is to be found in many later Muslim works throughout the centuries.

The Sources of the Rasā'il

The lack of historical evidence for the lives and doctrines of what Proclus calls the "Golden Chain of the Pythagorean philosophers"⁵⁵ and what in the Islamic world is called the Jābirian corpus, makes the tracing of the sources of the *Rasā'il* a very difficult task. There can be little doubt, however, that the *Rasā'il*, in their cosmological aspects, draw most of all upon Pythagorean and Jābirian sources. The Ikhwān claim again and again that they are the followers of the tradition of Pythagoras and Nicomachus,⁵⁶ especially in their treatment of numbers as the key to the understanding of Nature and the symbolic and metaphysical interpretation of arithmetic and geometry. Moreover, they identify Pythagoras with the Ḥarrānians with

⁵⁴ See V. A. Ivanov, *A Guide to Ismaili literature*, p. 31. The *Risālat al-jāmi'ah* has also been attributed to al-Majrīṭī although this attribution is completely rejected by Tāmīr and other Ismā'ilī authorities. As for the *Jāmi'at al-jāmi'ah*, whose text has recently been edited and made known for the first time by Tāmīr, it is concerned to a great extent with the question of death, the afterlife, and resurrection while following the general metaphysical and cosmological pattern of the *Rasā'il*.

⁵⁵ For a general description of the Pythagorean doctrines of number and harmony, see K. S. Guthrie, *Pythagoras Sourcebook and Library. The Four Biographies and all the Surviving Fragments of the Pythagorean School* (Yonkers, New York, 1920).

⁵⁶ R., I, 24.

«والله ما طبع فيهم معرفة خالص العدد وما يطبقها من معاني الموجودات التي ذكرها

فيها غورس ويقومها حسن»

whom, as has already been pointed out, the Ikhwān have many affinities.⁵⁷

As for the relation of the Ikhwān to Jābir, it has been said that the *Rasā'il* are an "encyclopédie scientifique dont le caractère pythagorissant et la tendance ismaélito-bāṭinite présentent plus d'une analogie avec les écrits jābiriens."⁵⁸ Jābir himself claimed not only to have possessed the knowledge of the Greek sages, especially Pythagoras and Apollonius of Tyana (Bālīnās),⁵⁹ but also to have known the wisdom of the ancient Yemenites, which Jābir is said to have learned from Ḥarbī the Ḥimyarite,⁶⁰ and to have been acquainted with the sciences of the Hindus. Whatever the significance of these references may be, there can be no doubt that the Jābirian corpus contains many elements from Pythagorean and Hermetic sources, as well as certain ideas from Persia, India, and even China.

The intimate relation existing between the *Rasā'il* and the Jābirian corpus⁶¹ naturally makes the sources of Jābir those of the Ikhwān as well.⁶² In fact the *Rasā'il* in their content affirm the same general

⁵⁷ R., III, 201. « وَاِنَّ فِىْ غَوْسٍ كَانَتْ حِكْمًا مُّوَحَّدًا مِنْ اَهْلِ حِرَانَ . »

⁵⁸ P. Kraus, *Jābir ibn Ḥayyān*, Introduction to vol. I, p. lxiv.

⁵⁹ See the translation by de Sacy of "Le Livre du secret de la créature par le sage Bélinous," *Notices et extraits des manuscrits*, 4:107-168 (1798). This book, called in Arabic *Kitāb sirr al-khalīqah li Bālīnūs*, contains many of the fundamental cosmological doctrines of Jābir. The doctrines of Apollonius are presented in a more complete manner in *The Book of Treasures* of Job of Edessa (Cambridge, England, 1936). An important difference between the Ikhwān on the one hand and Jābir and Job of Edessa on the other is that for the Ikhwān, fire, air, and so forth, are simple elements, whereas for the latter two, heat, cold, wetness and dryness are simple substances from which the elements have come into being.

⁶⁰ Kraus, *Jābir ibn Ḥayyān*, Introduction to vol. I, p. xxxvii. It is significant to see the reference to Yemen which is to be found again in later centuries in the writings of the *Ishrāqī* school.

⁶¹ This close relation is partially indicated by the numbers used by Jābir and the Ikhwān. Jābir makes the number 17 in the sequence of 1:3:5:8 the key to the understanding of all of Nature. This number, which was also central to the Pythagoreans because of its equivalence to the number of consonants of the Greek alphabet and also related to the harmonic ratio 9:8, is found in Nuṣairī and Ḥarrānī as well as the common Islamic sources, where 17 is the number of daily units (*rak'ah*) of prayer. Among the Shī'ah, 51 = 3 × 17 is particularly important since it is considered as the number of the *rak'ah* of prayer performed daily by 'Alī ibn Abī Ṭālib. Now, aside from the last treatise on talismans and magic which was added later, the *Rasā'il* consists of 51 treatises, which of course again is a product of 3 and 17. Particularly, the section dealing with the sciences of Nature or physical treatises consists of 17 *Rasā'il*, 17 being the key to the interpretation of the physical world according to Jābir. See Kraus, *Jābir ibn Ḥayyān*, II, 199ff.

⁶² The Ikhwān were quite conscious of the long tradition of science and wisdom which had existed before them. In the dialogue between the animals and man, the enterpriser (the interlocutor) addresses a Greek who had been boasting of the scientific achievement of his people, saying: "You boast most unreasonably of these sciences; for you did not

sources. One sees in these treatises the Pythagorean-Hermetic influence closely tied to the doctrines and practices of the Ḥarrānians, and, in certain subjects, the influence of Peripatetic philosophy as well, but usually not considered solely from a syllogistic point of view. There is, moreover, much Persian and Indian influence in the sections dealing with geography, ecology, music, and linguistics—following the tradition of Ibn Muqaffa' and al-Jāḥiẓ. Finally, there is the influence of the Quran which pervades the whole perspective of the Ikhwān. They interpret certain parts of ancient cosmology in terms of the Quranic terminology of the pedestal (*kursī*) and throne ('*arsh*'),⁶³ and make constant reference to Islamic angelology based on the Quran.

The sources of the Ikhwān should not, however, be considered solely as historical texts. In a long passage they themselves inform the reader of the universality of their sources, which include Revelation and Nature in addition to written texts. They write:

We have drawn our knowledge from four books. The first is composed of the mathematical and natural sciences established by the sages and philosophers. The second consists of the revealed books of the Torah, the Gospels and the Quran and the other Tablets brought by the prophets through angelic Revelation. The third is the books of Nature which are the ideas (*ṣuwar*) in the Platonic sense of the forms (*ashkāl*) of creatures actually existing, from the composition of the celestial spheres, the division of the Zodiac, the movement of the stars, and so on . . . to the transformation of the elements, the production of the members of the mineral, plant and animal kingdoms and the rich variety of human industry . . . The fourth consists of the Divine books which touch only the purified men and which are the angels who are in intimacy with the chosen beings, the noble and the purified souls . . .⁶⁴

There are, then, four "books" from which their knowledge derives: the mathematical and scientific works written before them; the

discover them by your own penetration, but obtained them from the scientific men among the Jews of Ptolemy's times [reference must be to the Hermetic and sacred sciences traditionally associated with the Hebrew prophets]; and some sciences you took from the Egyptians in the days of Psammetichus, and then introduced them into your own land, and now you claim to have discovered them." The king asked the Greek philosopher: "Can it be as this (jinn) says?" He replied, saying, "It is true: we obtained most of the sciences from the preceding philosophers, as others now receive them from us. Such is the way of the world—for one people to derive benefit from another. Thus it is that Persian sages obtained their astrology and the sciences of observation (of the heavenly bodies) from the sages of India. Similarly, the Israelites got their knowledge of magic and talisman from Solomon, the son of David." Ikhwān, *Dispute between Man and the Animals*, pp. 133-134.

⁶³ 'Awā, *L'Esprit critique* . . . , pp. 306ff. From another point of view the terms *kursī* and '*arsh*' can also be translated as throne and firmament respectively.

⁶⁴ R., IV, 106.

Scriptures; the archetypes, or Platonic "ideas," of the forms of Nature; and the angelic, or what in contemporary terms may be called intellectual intuition. This intertwining of domains, now considered as quite separate and distinct, is itself the key to the understanding of the *Rasā'il*, as it is one more consequence of the existence of the one Truth which according to the Ikhwān underlies all things. And if Scripture or angelic vision can be here a source of the knowledge of the cosmos, it is because as yet the distinction between Nature and Supernature has not been made absolute. One may say that for the Ikhwān the supernatural has a "natural" aspect, just as the natural has a "supernatural" aspect. Moreover, the use of Revelation and intellectual intuition, in addition to the observation of Nature and the reading of more ancient books about Nature, stems from the ultimate purpose of the Ikhwān, which is to "see" and realize the unicity of Nature.⁶⁵ To demonstrate this unicity they have to appeal constantly to those powers and faculties in man which themselves possess the power of synthesis and unification so that they can integrate the peripheral and multiple activity of the observational faculties into the central and unifying vision of the Intellect.⁶⁶

The Organization of the Rasā'il

Despite the repetitious character of certain of the ideas of the *Rasā'il*, the order of presentation of the subject matter follows the Ikhwān's philosophy and reflects the importance which they attach to the study of Nature in comparison with theology on the one hand and mathematics and logic on the other. In their classification of the sciences they divide them into three categories:

- I. The primary [propaedeutic] sciences (*riyāḍīyah*)
- II. Religious sciences (*al-sharī'at al-waḍ'īyah*)
- III. Philosophical sciences (*al-falsafīyat al-ḥaqīqīyah*)

⁶⁵ The spirit of the Ikhwān in studying natural sciences in a religious manner and treating Nature as a domain inseparable from Revelation was followed universally during the Middle Ages and Antiquity. "On oublie trop que dans l'antiquité et au moyen âge l'expérience religieuse est constamment liée à l'expérience scientifique et, faute de se souvenir de ce fait, on se heurte, dans l'examen des textes, à d'incessantes contradictions. Qu'il s'agisse de la physique grecque, de la kabale hébraïque, de l'astrologie chaldéenne, de la science extrême-orientale des mutations ou de l'alchimie occidentale, toutes ces techniques, tous ces systèmes reposent sur un fait universel et commun: l'initiation à des mystères." R. Alleau, *Aspects de l'alchimie traditionnelle* (Paris, 1955), p. 29.

⁶⁶ Throughout this treatise the word Intellect will be used not as the equivalent of reason, as is done currently, but as the universal and supra-individual faculty which as Aristotle said "is the object of its own knowledge."

These in turn are divided in the following manner:

- I. Primary sciences:
 1. Reading and writing
 2. Lexicography and grammar
 3. Accounting and business transactions
 4. Prosody and metrics
 5. Doctrines of good and evil omens
 6. Doctrines of magic, amulets, alchemy, stratagems, and so on
 7. Business and handicraft
 8. Commerce, agriculture, and so on
 9. Stories and biographies
- II. Religious sciences:
 1. Science of Revelation
 2. Exegesis
 3. Tradition (*ḥadīth*)
 4. Jurisprudence and law
 5. Asceticism and *taṣawwuf*
 6. Interpretation of dreams
- III. Philosophical sciences:
 1. Mathematics (*riyāḍīyāt*) consisting of the *Quadrivium*
 2. Logic
 3. Natural sciences, which in turn are divided into seven parts:
 - (a) Principles governing bodies, consisting of knowledge of *hylé*, form, time, space, and motion (*'ilm al-mabādī al-jismānīyah*)
 - (b) The heavens, consisting of the sciences of the stars, the motion of the planets, reasons for the stationary character of the earth, and so on (*'ilm al-samā'*)
 - (c) Generation and corruption, consisting of knowledge of the four elements, their change into each other, and the minerals, plants, and animals coming into being from them (*'ilm al-kawn wa'l-fasād*)
 - (d) Meteorology, consisting of the knowledge of the change of weather due to the effect of the stars, winds, thunder, lightning, and so on (*'ilm al-ḥawādith al-jawwīyah*)
 - (e) Mineralogy (*'ilm al-ma'ādīn*)
 - (f) Botany (*'ilm al-nabāt*)
 - (g) Zoology (*'ilm al-ḥayawān*)

4. Theology (*al-'ulūm al-ilāhīyah*)
 - (a) Knowledge of God and His Attributes
 - (b) Knowledge of the spiritual world (*'ilm al-rūḥānīyāt*)
 - (c) Knowledge of souls (*'ilm al-naḥsānīyāt*)
 - (d) Politics (*'ilm al-siyāsah*), consisting of the knowledge of prophethood, kingship, the common people, the elite, and man considered in himself⁶⁷

Using this division of the sciences as their base, the Ikhwān have organized their *Rasā'il* so as to include all fields of knowledge from the mathematical and logical sciences to the natural and corporeal, and from there to the psychological, and finally the theological. With this purpose in mind, the fifty-two *Rasā'il*, not including the *Risālat al-jāmi'ah* which comes at the end as a summary, are divided into four books in the following manner:

I. Mathematical and educational treatises:

1. Properties of numbers
2. Geometry
3. Astronomy
4. Geography
5. Music
6. Educational values of these subjects
- 7-8. Various scientific disciplines
9. Actions and sayings of the prophets and sages
- 10-14. Logic (including the Isagoge, the Ten Categories, Perihemenias, Prior and Posterior Analytics)

II. Sciences of natural bodies:

1. Explanation of the notions of matter, form, movement, time, space, and so forth
2. The sky and the Universe
3. Generation and corruption
4. Meteorology
5. Formation of minerals
6. Essence of Nature
7. Species of plants
8. Explanation of the generation of animals and their species
9. Composition of the human body
10. Perception of the senses and their object
11. Embryology

⁶⁷ R., I, 202-208. The comprehensive nature of this classification is due to the connection of the Ikhwān with the craft guilds in addition to "academic" education.

12. Man as a microcosm
13. Development of particular souls in the human body
14. Limits of human knowledge and science
15. Maxims of life and death
16. Characters pertaining to pleasure
17. Cause of the diversity of languages, their system of transcription and calligraphy

III. Psychological and rational sciences:

1. Intellectual principles according to Pythagoras
2. Intellectual principles according to the Ikhwān
3. That the Universe is a macrocosm
4. Intelligence and the intelligible
5. Periods and epochs
6. Essence of passion
7. Resurrection
8. Species of movement
9. Cause and effect
10. Definitions and descriptions

IV. Theological sciences—on the *nāmūs* and the *sharī'ah*

1. Doctrines and religions
2. The character of the path leading to God
3. Explanation of the doctrine of the Ikhwān
4. Ways of life of the Ikhwān
5. Essence of faith and the virtues of the believing initiates
6. Essence of the Divine *nāmūs*, conditions and virtues of the prophets
7. The manner of appealing to God
8. State of spiritual beings
9. Politics
10. Hierarchy inherent in the Universe
11. Magic and talisman

Following the Ikhwān as closely as possible in their study of the cosmos, and considering for the most part the second book, we shall begin our research into the cosmological views of the Ikhwān with the principles governing Nature, then the hierarchy in the Universe, to be followed by a study of various parts of the Universe beginning with the heavens and then descending to the sublunary world. Then making a study of meteorology, geography, mineralogy, botany and zoology, we shall terminate our exposition with the study of man as the terminal link in the chain of terrestrial beings as well as the microcosm in whom multiplicity returns once again to Unity.

CHAPTER 2

The Principles of the Study of the Cosmos and the Hierarchy of the Universe

The universe described in the *Rasā'il* is a unified whole whose various parts are held together by the analogy which exists between them. As the Ikhwān write, "The whole world is one as a city is one, or as an animal is one, or as man is one."¹ Its parts are held together like the organs of a living body which derives its being and sustenance from the Divine Word.² The language with which this interrelation is expounded is that of symbolism, particularly numerical symbolism. Everywhere within the Universe the key to the understanding of things is numbers, which, like the morning sun, disperse the fog of the unintelligibility of things considered only in their terrestrial opaqueness.

The Ikhwān emphasize the symbolic character of this world in many passages, as, for example, when they write:

He made these His works manifest, to the end that the intelligent might contemplate them; and He brought into view all that was in His invisible world, that the observant might behold it and acknowledge His Skill and Peerlessness, and Omnipotence, and Soleness, and not stand in need of proof and demonstration. Further, these forms, which are perceived in the material world, are the similitudes of those which exist in the world of spirits save that the latter are composed of light and are subtle; whereas the former are dark and dense. And, as a picture corresponds in every limb

« و انما كل ما عالم واحد ، كمدنية واحدة ، او كبحر واحد ، او ككائن واحد . »¹

Jāmi'ah, I, 386.

« ان العالم كله بافلاكه العاليه وسماواته الساميه وما فيه من الانوار الروحانيه والافئس

المتحرك والقوى الساريه في اركان الجسمانيه . والاجسام الطبيقيه وجميع الموجودات . و

سائر المخلوقات ، متا حوتها السماوات والارض ، من اعلى عليين الى اسفل مساقلين كانه

جسم واحد ، منتهى بقبول الفيض الكلي من بارئيه سبحانه وان كانه الله تعالى متعلقه به

Jāmi'ah, I, 635-636.

تمده بالافاضه والجود ، لئيم ويبقى في الموجود . »

with the animal it represents, so these forms, too, correspond with those which are found in the spiritual world. But these are the movers, and those the moved . . . The forms which exist in the other world endure; whereas these perish and pass away.³

In this world of symbols the Ikhwān study Nature with the purpose of discerning the wisdom of the Maker. "Know," they write, "that the perfect manufacturing of an object indicates the existence of a wise and perfect artisan even when he is veiled and inaccessible to sense perception. He who meditates upon botanical objects will of necessity know that the beings of this reign issue from a perfect artisan . . ."⁴

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.⁵ Regarding their treatise on music, the Ikhwān write:

One of the aims of our treatise on music consists of demonstrating clearly that the whole world is composed in conformity with arithmetical, geometrical and musical relations. There, we have explained in detail the reality of universal harmony. We understand, therefore, that thus considered, the body of the world resembles an animal or the unique system of a single man or the totality of a city which shows also the Unity of its Maker (*mukhtari*), the Creator of forms (*muṣawwir*), or of its Composer (*mu'allif*), that is God.⁶

³ Ikhwān al-Ṣafā', *Dispute between Man and the Animals*, trans. J. Platts, pp. 122-123.

« ثم اعلم ايها الملك العادل ان هذه الصور والاشكال والهيكل والصفات التي
قواها في عالم الاجسام وجواهر الاجرام هي مثالات واشباه اصباح تلك الصور التي في
عالم الارواح بخلاف نورانية شفافة وهذه ظلمات كاسفة ومناسبة هذه الى تلك
كسنة النصارى والنقوش التي على وجوه الارواح وسطوح المحيطان الى هذه الصور و -
الاشكال التي عليها هذه الحيوانات من اللحم والدم والعظام والجلود تلك الصور التي في عالم
الارواح تحركات وهذه تماثيل ذاتي دون هذه ساكنات صامتات ومحسوسات فانبات

R., II, 232.

⁴ *R.*, II, 130.

⁵ For an exposition of the basic relation between mathematics and music among the Pythagoreans, see H. Kayser, *Akroasis, die Lehre von der Harmonik der Welt* (Stuttgart, 1947); English trans. R. Lilienfeld as *Akroasis, The Theory of World Harmonics* (Boston, 1970).

The Ikhwān once again demonstrate their strong Pythagorean tendencies when they in their treatise on music state that "the science of proportions—itself known under the name of music—is indispensable to all kinds of professions."

⁶ *R.*, I, 160.

The science of number (*'ilm al-'adad*) is considered by the Ikhwān as the way leading to the grasp of Unity,⁷ as a science which stands above Nature and is the principle of beings⁸ and the root of the other sciences, the first elixir and the most exalted alchemy.⁹ It is, moreover, the first effusion (*fa'id*) of the Intellect imprinted upon the Soul¹⁰ and the "tongue which speaks of Unity and transcendence."¹¹ No wonder, then, that the *Rasā'il* always compare the relation of God to the world—or, metaphysically speaking, of Being to existence—as that of One to the other numbers.¹² In the more esoteric *Risālat al-jāmi'ah*, it is implied in one place that Being (*al-wujūd*) corresponds to one, and the Infinite, or the Divine Essence, to zero. Zero, therefore, symbolizes the Divine Ipseity, which is above all determinations including Being.¹³ As 'Awā writes:

« فائدة الطريق إلى التوحيد »
Jāmi'ah, I, 173.

« لأن الموجودات بحسب طبيعة العدد »
R., III, 201.

« أن صور العدد في النفوس مطابقة لصور الموجودات في الهيولى وهي النموذج من العالم الأعلى وبمعنى يتدرج المراتب إلى سائر الرياضيات والطبيعات وما فوقها. الطبيعات وإن علم العدد هو جذر العلوم، وعنصر الحكمة ومبدأ المعارف. اسقطت المعاني، الأكبر الأول واليكبر... »

Jāmi'ah, I, 9. Later they identify the first elixir with God. *Ibid.*, p. 16.

« فكان علم العدد تأييداً من العقل للنفس، وكان أول جود فاض من العقل على النفس. »
Jāmi'ah, I, 28.

« وإن علم العدد هو لسان ينطق بالتوحيد والتبزي. »
Jāmi'ah, I, 30.

¹² R., I, 28. This statement is made over and over throughout the *Rasā'il*. Referring to the creatures, the Ikhwān state that they proceed from God and return to Him, just like the generating and reduction of numbers with respect to unity. "Know, brother, that the Creator, Most Exalted, created as the first thing from his light of Unity the simple substance (*al-jawhar al-basīf*) called the Active Intellect (*'aql*)—as 2 is generated from one by repetition. Then the Universal Soul was generated from the light of the Intellect as 3 is generated by adding unity to 2. Then the *hylé* was generated by the motion of the Soul as 4 is generated by adding unity to 3. Then the other creatures were generated from the *hylé* and their being brought to order by the Intellect and the Soul as other numbers are generated from 4 added to what went before it. . . . " R., I, 28–29. The complete text of the treatise on arithmetic has been translated by B. R. Goldstein as "A Treatise on Number Theory from a Tenth Century Arabic Source," *Centaurus*, 10:129–160 (1964).

¹³ Jāmi'ah, II, 295. Iamblichus likewise wrote that the series of numbers should be carried below one to zero (*to ouden*), which is their source. P. Tannery, *Mémoires scientifiques* (Toulouse, 1912) II, 196.

En un mot, "la théorie du nombre" est, aux yeux des Frères de la Pureté, la sagesse divine et est au-dessus des choses. Les choses ne sont formées qu'après le modèle des nombres.¹⁴

As we have already noted, the Ikhwān believed themselves to be the disciples of Pythagoras and of such followers as Nicomachus, especially in considering numbers as the cause of all things and the key to the understanding of the harmony pervading the Universe.¹⁵ The basic question to be asked, therefore, is the exact meaning of the Pythagorean numbers which the Ikhwān employ constantly. A full study of this subject would require—to say the least—a treatise of its own and lies outside of our range of discussion. Considering the affinity of the Ikhwān with the Pythagoreans, however, particularly in mathematics, it is essential to define briefly the meaning of number and geometry according to this ancient Greek school, which was to have disciples until the very end of the Graeco-Roman period, and which was so influential in the formation of Muslim intellectual sciences.

The Pythagorean Notion of Arithmetic and Geometry

As Schuon has stated so accurately concerning the traditional notion of numbers:

This is numbers in the Pythagorean sense, of which the universal rather than the quantitative import is already to be divined in geometrical figure; the triangle and the square are "personalities" and not quantities, they are essentials and not accidentals. Whilst one obtains ordinary numbers by addition, qualitative number results, on the contrary, from an internal or intrinsic differentiation of principial unity; it is not added to anything and does not depart from unity. Geometrical figures are so many images

¹⁴ *L'Esprit critique des Frères de la Pureté* . . . , p. 62.

¹⁵ « وهي مطابقة لقول الحكماء والفيلسوفين في الأخبار عن كون الموجودات من الباري. »

سبحان كون الأعداد من الواحد، وأسباب الكائنات الكميات والجزئيات من-

الباري عز وجل وترتيبها في الوجوه كترتيب العدد الصحيح من الواحد الذي قبل-

الاشئين وهذا القول أصوب الأقوال وأصح المقالات وأبين الدلالات ولذا لا-

وافق مذهب أهل هذا الرأي، مذهب أخواننا الكرام... »

Jāmi'ah, II, 23.

"Pythagoras was the first who spoke of the nature of numbers. He taught that the nature of numbers is in relation with that of Nature. Whoever knows the nature of numbers, their species and genus and their properties, can know the quantity of species

of unity; they exclude one another or rather, they denote different principal quantities; the triangle is harmony, the square stability; these are "concentric," not "serial," numbers.¹⁶

The Pythagorean numbers, being a qualitative rather than just a quantitative entity, cannot be identified simply with division and multiplicity as can modern numbers. They are not identical with quantity, that is, their nature is not exhausted by their quantitative aspect alone. On the contrary, because they are a "projection of unity" which is never totally separated from its source, the Pythagorean numbers, when identified with a certain existing entity in the world of multiplicity, integrate that entity into Unity, or Pure Being, which is the source of all existence. To identify a being with a certain number is to relate it to its Source by means of the inner bond which relates all numbers to Unity.

The misunderstanding of this conception of numbers has made many ancient works, including the *Rasā'il*, appear ridiculous in the eyes of many modern readers.¹⁷ Yet ancient sources as well as the Ikhwān have repeated many times exactly what they mean by numbers and how they make use of them. Just to cite an example, the famous first-century (A.D.) Pythagorean, Nicomachus, whose *Introduction to Arithmetic* and *Theologoumena Arithmetica* are among the most important and influential expositions of this school's theory of numbers, asks regarding the primacy of arithmetic over the rest of the *Quadrivium*:

Which then of these four methods must we first learn? Evidently, the one which naturally exists before them all, is superior and takes the place of origin or root, and, as it were, of mother to the others. And this is arithmetic, not solely because we said that it existed before all others in the mind of the creating God like some universal and exemplary plan, relying upon which as a design and archetype example the Creator of the Universe sets in order his material creations and makes them attain to their proper ends; but also because it is naturally prior in birth, inasmuch

of beings and their genus." Dieterici, *Die Philosophie der Araber*, vol. II: *Lehre von der Weltseele*, p. 441.

¹⁶ F. Schuon, *Gnosis, Divine Wisdom*, trans. G. E. H. Palmer, p. 113, n. 1.

¹⁷ "It would be ridiculous if one wished before having acquired any notion concerning the value and use of the algebraic signs, to explain a problem contained in these signs. This is, however, what has often been done relative to the language of Numbers. One has pretended, not only to explain it before having learned it, but even to write of it, and has by so doing rendered it the most lamentable thing in the world. The savants seeing it thus travestied have justly made it reflect, by the same language upon the ancients who have employed it." Fabre d'Olivet, *The Golden Verses of Pythagoras*, p. 228.

as it abolishes other sciences with itself, but is not abolished together with them.¹⁸

As for the meaning of numbers and their relation to Nature, he says:

All that has by nature and with systematic method been arranged in the Universe seems both in part and as a whole to have been determined and ordered in accordance with number, by the forethought and mind of Him that created all things; for the pattern was fixed, like a preliminary sketch, by the domination of number pre-existing in the mind of the world-creating God, number conceptual only and immaterial in every way, so that with reference to it, as to an artistic plan, should be created all these things, times, motions, the heavens, the stars, all sorts of revolutions.¹⁹

Similar definitions may be found in the writings of many other members of this school. In the Islamic world, Jābir, who employs numbers exclusively as the basis of the balance, also uses the qualitative number of the Pythagoreans, since the Jābirian balance is essentially an instrument for measuring the tendency of the World Soul toward each substance.²⁰ As for the Ikhwān, number for them is "*the spiritual image resulting in the human soul from the repetition of Unity*."²¹ It is, therefore, the "projection of unity," a projection which is never divorced from its source. And since numbers are the projection of the number one, the *Rasā'il* do not consider one itself to be the beginning of numbers. They believe two to be the first number and unity itself the origin and principle of all numbers.

In geometry, also, they follow the Pythagoreans by describing the "virtues" and "personalities" of various geometrical figures.²² The final aim of geometry is to permit the faculties of the soul to reflect and meditate independently of the external world so that finally "it wishes to separate itself from this world in order to join, thanks to its celestial ascension, the world of the spirits and eternal life."²³

The double aspect of mathematics, as a quantitative and qualitative science, makes this form of knowledge in a way "the ladder of Jacob." The use of mathematics in the study of the world of quantity

¹⁸ Nicomachus, *Introduction to Arithmetic*, trans. M. L. D'Ooge (Chicago; Ency. Brit. 1953), p. 813. This work, which was translated into Arabic by Thābit ibn Qurrah, became one of the main sources of information in the Muslim world about the Pythagorean notion of numbers.

¹⁹ Nicomachus, pp. 813-814.

²⁰ Or, as Corbin has said: "Puisque la Balance a pour principe et raison d'être de mesurer le Désir de l'âme du monde incorporé à chaque substance" ("Le Livre du Glorieux de Jābir ibn Ḥayyān," *Eranos Jahrbuch*, 18:84 [1950]).

²¹ *R.*, I, 25 (italics ours).

²² *R.*, I, 58-59.

²³ *R.*, I, 65.

becomes, therefore, a bridge by means of which one can journey from that world to the world of the archetypes. Number, because of its symbolic aspect, becomes not only the instrument of division but also that of unification and integration. The Pythagorean numbers as used by the Ikhwān, by virtue of their inner identification with the "Platonic ideas," or archetypes, of creation, have the power of synthesis in addition to that of analysis which they possess as a result of having a quantitative aspect.

In a further study of numbers which involves their odd-even, rational-irrational, and similar properties, the Ikhwān divide numbers into four groups: unities, dozens, hundreds, and thousands (much like the Chinese) and relate this fourfold division to the fourfold division which they see everywhere in Nature. They write:

God himself has made it such that the majority of the things of Nature are grouped in four such as the four physical natures which are hot, cold, dry and moist; the four elements which are fire, air, water and earth; the four humours which are blood, phlegm, yellow bile and black bile; the four seasons . . . the four cardinal directions . . . the four winds . . . the four directions envisaged by their relation to the constellations (*awtād*); the four products which are the metals, plants, animals and men.²⁴

If numbers are so closely bound to the "book of Nature," they are also intimately connected with the "book of Revelation"—that is, the letters of the Arabic alphabet, Arabic being the language of the Islamic Revelation. The Ikhwān use Table I for the numerical values of the letters:²⁵

TABLE I. THE NUMERICAL VALUE OF LETTERS ACCORDING TO THE IKHWĀN AL-ŞAFĀ'

a	b	j	d	h	w	z	ḥ	ṭ	i,y	k	l	m
1	2	3	4	5	6	7	8	9	10	20	30	40
	n	s	ʿ	f	ṣ	q	r	sh	t	th		
	50	60	70	80	90	100	200	300	400	500		
kh		dh		ḍ		ẓ		gh		bgh		jgh
600		700		800		900		1000		2000		3000

²⁴ R., I, 27.

²⁵ R., I, 26. For a discussion of the value of the letters of the Arabic alphabet and their symbolic meaning drawn from the *Jafr jāmi'* of Nasibī and *Shahīyāt* of Baqlī, see L. Massignon, *Essai sur les origines du lexique technique de la mystique musulmane* (Paris, 1954), pp. 90–101. There are actually thirteen different systems of numeral symbolism of which six, called *al-dawā'ir al-sittah*, are most frequently used. See Ibn Sinā, *Kunūz al-mu'azzimīn* (Tehran, 1331 [1952]), Introduction by J. Homā'i, p. 40.

The science of the numerical symbolism of letters, *'ilm al-jafr*, which is comparable to sciences of a similar nature that existed among the ancient Pythagoreans, the Hindus, and the medieval Kabbalists, is said by masters of this science in Islam to have come down from 'Alī ibn Abī Ṭālib. It plays a very important role in *taṣawwuf* and among many Shi'ite schools and is basic for the symbolic interpretation (*ta'wīl*) of certain Quranic texts.²⁶ The Ikhwān also make some use of it so that in a way they place numbers as the link and deciphering code between the book of Revelation and that of Nature.²⁷ The constant reference to numbers which we shall see in the following chapters, and the language of analogy which the Ikhwān employ so often, are so many ways of seeing Unity within multiplicity and multiplicity as the projected image of Unity.

The Hierarchy of Being

The creation of the world by God, or the manifestation of existence by Being, is compared by the Ikhwān to the generation of numbers from One. Having divided all beings into the particular and general, they further divide the latter category itself into nine "states of being," since 9, by virtue of coming at the end of the decimal cycle, closes that cycle, and symbolically brings to an end the series of numbers. The creation of the Universe, beginning with the Creator, descending through the multiple states of Being, and ending with the terrestrial creatures whose final link is man, is outlined in the following manner:

1. Creator—who is one, simple, eternal, permanent.
2. Intellect (*'aql*)—which is of two kinds: innate and acquired.
3. Soul (*nafs*)—which has three species: vegetative, animal, and rational

²⁶ Of the 28 letters of the Arabic alphabet, 14, or half of them, appear at the beginning of the various *sūrah*s. The Ikhwān, like Jābir and al-Majrīṭī, divide the alphabet into 14 letters corresponding to the septentrional signs of the Zodiac and 14 to the meridional; this division is also one of luminous and tenebrous qualities of soul and body. The 14 letters at the head of the *sūrah* correspond to the dark signs since due to inverse analogy the 14 visible signs are dark for the soul, and vice versa (R., III, 152). This correlation between Nature and the Quran points to the correspondence which exists between the cosmic milieu and Revelation in the mind of Muslim authors. See L. Massignon, "La Philosophie orientale d'Ibn Sinā . . .," *Mémorial Avicenne*, 4:9 (Cairo, 1954).

²⁷ "De même que le *ta'wīl* amène à éclore le sens ésotérique, alchimie et théurgie, médecine et astrologie, sont pour leur part autant d'exégèse du texte cosmique." Corbin, "Le Livre du Glorieux . . .," p. 77.

4. Matter (*hayūlā'*)—which is of four kinds: matter of artefacts, physical matter, universal matter, and original matter.
5. Nature (*ṭabī'ah*)—which is of five kinds: celestial nature and the four elemental natures.
6. Body (*jism*)—which has six directions: above, below, front, back, left, and right.
7. The sphere—which has its seven planets.
8. The elements—which have eight qualities, these being in reality the four qualities combined two by two:

Earth—cold and dry
 Water—cold and wet
 Air—warm and wet
 Fire—warm and dry

9. Beings of this world—which are the mineral, plant, and animal kingdoms, each having three parts.²⁸

There is an important distinction to be made in this table of generation. The first four numbers are simple, universal beings—the numbers 1 to 4 already containing in themselves all numbers, since $1 + 2 + 3 + 4 = 10$ —while the other beings are compound.²⁹

The Ikhwān describe the production of the "great chain of Being" in the following manner:

The first thing which the Creator produced and called into existence is a simple, spiritual, extremely perfect and excellent substance in which the form of all things is contained. This substance is called the Intellect. From this substance there proceeds a second one which in hierarchy is below the first and which is called the Universal Soul (*al-naḥs al-kullīyah*). From the Universal Soul proceeds another substance which is below the Soul and which is called Original Matter.³⁰ The latter is transformed into the Absolute Body, that is, into Secondary Matter which has length, width and depth.³¹

²⁸ R., III, 185, 203–208. B. Carra de Vaux, *Les Penseurs de l'Islam*, IV (Paris: Geuthner, 1923), 109–110. In the text, numbers 2 to 9 in the outline are given as 1 to 8 so that with the Creator the total becomes 9. It should be noted that each general being is itself divided into a number of species equal to the number of that being. This ontological hierarchy is the basis of the Ikhwān's study of Nature and cosmology.

²⁹ It is from this point of view that the Ikhwān, in other places in their *Rasā'il*, divide the hierarchy of Being into the fourfold division of God, Universal Intellect, Universal Soul, and *hylé*. (R., I, 28.)

³⁰ The hierarchy outlined here follows in many ways that of Jābir except that Jābir in his *Kitāb al-khamsin* places Nature after the soul. See Kraus, *Jābir ibn Ḥayyān*, II, 150.

³¹ Dieterici, *Die Lehre von der Weltseele*, p. 15. R., II, 4f.

The Relation between God and the Universe

The bringing into being of various creatures by God does not in any way nullify in the mind of the Ikhwān the fundamental distinction between God and the Universe. The Universe is "all the spiritual and material beings who populate the immensity of the skies, who constitute the reign of multiplicity which extends to the spheres, the stars, the elements, their products and to man."³² This Universe, which they sometimes call a city or an animal, but always something distinct from the Divine Unity, is related to God by its existence (*wujūd*), its persistence in being (*baqā'*), its completeness (*tamām*), and its perfection (*kamāl*). The Universal Intellect, which is at the same time a great veil hiding God as well as the great gate to His Unity,³³ inherits the four above-mentioned virtues from God and transmits them to the Universal Soul, which remains passive and feminine with respect to the Intellect.³⁴

The Ikhwān also make use of the symbolism of love (*ishq*) in terms similar to those used by the Ṣūfīs in order to show the attraction between God and the Universe. According to them, the whole world seeks the Creator and loves Him. In fact, the Creator is really the only Beloved (*ma'shūq*) and the only object of desire (*murād*).³⁵ They make the power of yearning (*shawq*) the very cause of the coming into being

³² R., I, 99. The Ikhwān write at times that God is above Being, while in other instances they imply that Being is divided into God and Universe. See R. L. Fackenheim, "The conception of substance in the philosophy of the Ikhwān aṣ-Ṣafā' (Brethren of Purity)," *Medieval Studies*, 5:117 (1945).

³³ «إن العالم كله بما فيه، داخل في امر الله عز وجل، غير خارج عنه ولا هارب منه. وإن في قبضته وتحت إرادته، فأولم، وأعلاه، وأقربهم من باريه هو العقل وهو مثل الجباب الأعظم، والباب الأكبر، الذي منه الوصول إلى قوت الله عز وجل.»

Jāmi'ah, II, 33. The twofold aspect of the Intellect as created and uncreated seems to be implied here.

³⁴ R., III, 188.

³⁵ «المعشوق، المطاع المحبوب، المراد المطلوب، على الحقيقة هو الباري سبحانه وإن الخلق كلها وجملة العالم بأسرها مشتاقة إليه.»

Jāmi'ah, II, 159. Interpreting the Quranic verse «وَأَن يَنبَغِي إِلَهُ يَسْبَحُ بِحَمْدِهِ»

they say,

«التسبح بحمد الله المسبح إليه امتثال أمر ونهي إليه والدنونه.»

of things and the law governing the Universe.³⁶ It was through *shawq* for Allah that the Universal Soul brought the outermost sphere of the Universe, the *Muḥīt*, into existence. The *Muḥīt* in turn rotated to form the sphere below it, this process continuing all the way down to the sphere of the moon.³⁷

Contrary to many followers of Hellenistic philosophy and cosmology, and particularly the Peripatetics, the Ikhwān believe in instantaneous creation rather than in the eternity of the world, and they severely criticize the *dahrīyūn*, or those who believe in the eternity of the world.³⁸ According to them, God has created the first four universal beings in the series of effusions (*faiḍ*) instantaneously. The other beings in the Universe, on the other hand, have been brought into existence directly by the Universal Soul "acting with the permission of Allah Most High."³⁹ The *Rasā'il* emphasize that the relation of God to the world is not just that of a mason to a house or of an author to a book:

The world in relation to Allah is like the word in relation to him who speaks it, like light, or heat or numbers to the lantern, Sun, hearth or the number One. The word, light, heat and number exist by their respective

³⁶ "God is the first Beloved of the Universe." Everything which is not God proceeds from Him and aspires to return to Him. This aspiration is the law of the Universe—the *nāmūs*, and the prophet is in fact called *ṣāhib al-nāmūs*, the possessor of the Law.

«اعلم ان وقوف الافلاك عن الدوران هو موت العالم وبطلان حياة الكل ومفارقة
النفس الكلية الفلكية من الاحكام كلها دفعة واحدة وتلك هي القيامة الكبرى والبر
الكلي وبطلان الجملة...»

R., III, 275.

³⁷ *Jāmi'ah*, I, 276–278. Jābir also considers the *shawq* of the soul for Allah as the cause of the coming into being of the world. Kraus, *Jābir ibn Ḥayyān*, II, 156.

³⁸ According to the Ikhwān the Universe is not *qadīm*, or eternal, but *muḥdath*, or created. One day it will die when the Universal Soul leaves it, as a man dies when the soul leaves his body.

«العالم يحدث مبدع فمتبرع كما ان بعد ان لم يكن وان مبدعه ومختبره ومحدثه وخالقه و
مصوره هو البارئ جل جلاله ابدعه كما شاء وكيف شاء...»

R., II, 76. They write regarding the death of the Universe:

«لأن الله هو العشق الأول وان كل الموجودات اليه تشتاق وبخوه تقصده واليه يرجع
الامر كله لأن به وجودها وقوامها وبقاؤها وثباتها وكما لها تم هو الوجود المحض وله
البقاء والدوام...»

R., II, 77.

³⁹ R., III, 330–332.

sources, but without the sources could neither exist nor persist in being. The existence of the world is thus determined by that of Allah . . .⁴⁰

The use of numerical or light symbolism does not prevent the Ikhwān from emphasizing the absolute transcendence (*tanzih*) of God with respect to the world.⁴¹ Yet, they know also that His Qualities are "lines drawn by the fiat of effusion in the Book of the Universe like verses engraved in souls and in matter."⁴²

The notion of the transitory and imperfect nature of this world and its corollary, the absolute perfection of God, which are so characteristic of the Islamic perspective, are expounded again and again throughout the *Rasā'il*. "There is no one in the world," they write, "who possesses every noble quality and every blessing . . . Perfection is for the Most High God alone, and for none besides."⁴³

Also contrary to the Peripatetics and certain other Greek schools and their followers in the Muslim world, the influence of God in the Universe is not limited to the heavens nor bound by the "position" of God as the "Prime Mover." The Ikhwān envisage a Universe whose anatomy is based upon an ontological and not just a logical hierarchy. One of the Ikhwān tells us:

I have heard that some foolish men suppose that the favours of God, Most High, do not pass the lunar sphere. Were they to attentively regard and reflect upon the circumstances of all existing things, they would learn that His goodness and loving kindness comprehends all—small and great.⁴⁴

In this Universe of purpose where "God, Most High, has created nothing in vain,"⁴⁵ there are correspondences and analogies, descents and ascents of souls, differentiation and integration, all knit into a harmonious pattern which is very far from a "rationalistic castle." It is rather the "cosmic cathedral" in which the unicity of Nature, the interrelatedness of all things with each other and the ontological dependence of the whole of creation upon the Creator, is brought into focus.

The Universal Intellect and Soul

As numbers 2 and 3 in the hierarchy of beings, standing just below the Creator, the Intellect and Soul assume the role of the principles

⁴⁰ R., III, 319.

⁴¹ R., IV, 252–256.

⁴² R., IV, 225.

⁴³ Ikhwān, *Dispute between Man and the Animals*, trans. J. Platts, p. 34.

⁴⁴ *Dispute* . . . , p. 120.

⁴⁵ *Ibid.*

of the whole Universe; the duality upon which things are based returns to them in one way or another.

Various people have said that the world is made of form and matter, others light and darkness, substance and accident, spirit and body, Guarded Tablet and Pen, expansion and contraction, love and hate, this world and the next, cause and effect, beginning and end, exterior and interior, high and low, heavy and light.⁴⁶

But, according to the Ikhwān, "in principle all these views are the same; they disagree only in secondary aspects and in expression." In all these cases the duality refers to the Intellect and Soul which contain in themselves the active and passive principles through which the life and activity of the Universe can be understood. Creation is the "dynamic" and "feminine" aspect of the Divine. It itself possesses an "active" and "masculine" aspect which is called Nature and which is the source of all activity in the Universe; and a "passive" and "feminine" aspect which to us appears as the "matter" or "inert" base of this activity.⁴⁸

In the chain of causation, the Intellect can be said to have only an efficient Cause which is God.⁴⁹ With respect to God, the Intellect is purely passive, in obedience, tranquillity, and permanent desire for union with the Divine Principle. Since the Intellect is the highest being in the Universe, its passivity with respect to God may be said to symbolize the passivity of the whole of creation with respect to the Creator. The Universe can only receive while the Creator can only give.⁵⁰

The Universal Soul in turn acts passively, and like "matter," with respect to the Intellect, which is active with respect to it. It has only two causes, the efficient one being God and the formal one the Intellect.⁵¹ The Universal Soul receives from the Intellect all the virtues, forms, and positive qualities, and transmits them in turn to the whole of the Universe.⁵²

The Universal Soul is to the Universe what the human soul is to the human body, and it has, therefore, for its field of action—in the geocentric cosmos where the earth lies stationary at the center with nine concentric spheres around it—the whole of the Universe from

⁴⁶ *Jāmi'ah*, II, 7–8.

⁴⁷ *Jāmi'ah*, II, 8.

⁴⁸ For a full explanation of the active-passive polarization in the Universe, see T. Burckhardt, "Nature sait surmonter nature," *Etudes Traditionnelles*, 51:10ff (1950).

⁴⁹ The Ikhwān interpret by symbolic interpretation (*ta'wīl*) the Quranic verse (XVII, 89): "And verily we have displayed for mankind in this Qur'an all kinds of similitudes . . ." to justify this assertion scripturally.

⁵⁰ *R.*, III, 187ff.

⁵¹ *R.*, III, 233.

⁵² *R.*, III, 235.

the outermost sphere which is the *Muḥīt* to the center of the earth.⁵³ It is also the prime-mover which makes the sphere of the fixed stars perform its diurnal motion.⁵⁴ All bodies in the Universe are like tools in the hand of the Universal Soul which performs all actions through them in the same way as a carpenter uses his tools for various ends.⁵⁵ All change in the Universe, therefore, is directed by the Soul.

The Ikhwān emphasize the dominance of the Universal Soul over the whole Universe:

This Universal Soul is the spirit of the world as we have exposed it in the treatise where we said that the world is a great man. *Nature is the act of this Universal Soul*. The four elements are the matter which serve as its support. The spheres and the stars are like its organs, and the minerals, plants and animals are the objects which it makes to move.⁵⁶

The Universal Soul can be divided in several ways according to what aspect of its multiple activities is envisaged. The Ikhwān sometimes divide its forces into fifteen parts: seven superhuman, one human, and seven subhuman. The two divisions immediately above are the angelic and prophetic, while the two immediately below are the animal and vegetative.⁵⁷ In this vast cosmos, from the outermost heaven which symbolizes the spiritual and intellectual world to the earth which being farthest away from heaven symbolizes material existence, the parts of the Soul move according to three motions:

- (1) Away from the outer sphere (*Muḥīt*) toward the world of generation and corruption and ultimately hell.
- (2) Upwards toward heaven.
- (3) Horizontal oscillation without knowledge of where to go, as in the souls of animals.⁵⁸

⁵³ *R.*, II, 224.

⁵⁴ Carra de Vaux, *Les Penseurs de l'Islam*, IV, 107. Placing *al-naḥs al-kullīyah*, or the Universal Soul, at the heaven of the fixed stars was already accomplished by Jābir. Kraus, *Jābir ibn Ḥayyān*, II, 137–138, n. 5.

⁵⁵ *و داتر لافضل الا للشمس و انما تفعل افعالها بقوتها في اوجسام وان لاوجسام كلها آلات ولحرکت و*

منعوت بها .

R., II, 56.

⁵⁶ Dieterici, *Lehre von der Weltseele*, 43ff. Also Carra de Vaux, *Les Penseurs de l'Islam*, IV, 107 (italics ours).

⁵⁷ *R.*, I, 240. Also 'Awā, *L'Esprit critique* . . . , p. 167.

⁵⁸ 'Awā, *ibid.*, p. 168. There is a striking resemblance between the three cosmic tendencies of ascent, descent, and horizontal expansion described by the Ikhwān and the

The cosmic tendencies and qualities which are to be found everywhere owe their existence to these fundamental tendencies of the Universal Soul which is the cause of all activity in the world.

Matter

The notion of matter is elaborately developed by the Ikhwān and along lines which separate their views from those of the Aristotelian school. According to the Ikhwān, Prime Matter is already far removed from Pure Being and possesses in itself only existence and persistence. It is, however, a positive spiritual principle rather than just potentiality. It is the first being in the descending scale of beings here considered that does not desire virtue and goodness by itself. However, it is still a "spiritual form emanating from the Universal Soul";⁵⁹ it is still simple, intelligible, and imperceptible to the senses. Coming after the numbers 1, 2, and 3, it has three causes, the efficient being God, the formal the Intellect, and the final the Soul.⁶⁰

Primary Matter is to be distinguished from Secondary Matter, the latter being the first metaphysical step toward the concrete. Primary Matter first receives the three spatial dimensions to become the Absolute Body (*al-jism al-muṭlaq*), or "the matter of the all." Then Secondary Matter comes into being with God as its efficient cause, the Intellect as its formal cause, and the Soul as the final cause. As for the material cause, it belongs to Secondary Matter itself and resides in the simple substance which admits of three dimensions. Hence four causes come to act upon all bodies which are composed of Secondary Matter.⁶¹

As mentioned already, the Ikhwān use "matter" in four distinct ways:

- (1) Matter of artificial works.
- (2) Matter of natural objects.
- (3) Universal Matter (or Secondary Matter).
- (4) Original Matter.

These four types are described in the following manner:

The natural matter consists of fire, air, water and earth. All that is found in the sublunary sphere—the animals, plants, and minerals—come from

three Hindu *gunas*: *sattwa*, *tamas*, and *rajas*. See R. Guénon, *Man and his Becoming According to the Vedānta*, trans. R. C. Nicholson (London, 1945), pp. 51–52.

⁵⁹ R., III, 230.

⁶⁰ R., III, 233. Also 'Awā, *L'Esprit critique* . . . , pp. 168–169.

⁶¹ *L'Esprit critique*, pp. 170–171.

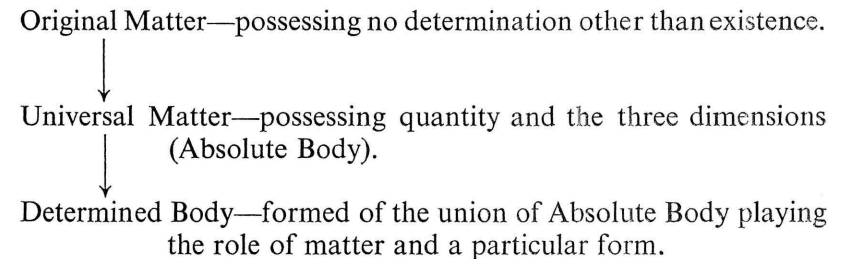
these constituents and by corruption return to them. *Their creator is Nature* which is one of the forces of the celestial Universal Soul.

Universal Matter is the Absolute Body. From this Body is drawn the entire corporeal Universe, that is, the celestial spheres, stars, the elements and all other beings whatever they may be. They are all bodies and their diversity comes only from their diverse forms.

Original matter is a simple and ideal substance which cannot be sensed because it is none other than the form of unique existence; it is the primitive foundation. If this foundation receives quantity it becomes by virtue of that reception the Absolute Body about which one affirms that it has three dimensions—length, breadth and thickness. If this foundation receives quality, as, for example, the form of a circle, triangle or rectangle, it becomes a special body which is determined as being such and such. Thus quality is equal to 3, quantity to 2, and the primitive foundation to 1. Just as 3 comes after 2, so does quality come after quantity, and just as 2 comes after 1, quantity comes after the primitive foundation. In its existence the primitive foundation precedes quantity and quality as 1 precedes 2 and 3.

The primitive foundation, quantity, and quality are simple, ideal forms which cannot be sensed. When one of them is united to another, the first is matter at the same time that the second is form. Quality is form with regard to quantity, and quantity is matter for quality. Quantity in its turn is form for the primitive foundation, and the primitive foundation is matter for quantity.⁶²

In summary, we can present the Ikhwān's notion of matter in the following hierarchy:



Matter then possesses several levels of existence, each more "condensed" and "coagulated" than the next, beginning with the primary or original matter which does not even possess quantity and is a spiritual form, and ending with the matter of particular objects which are perceptible by the senses and are the terminal stage of manifestation, being as far away from the Divine Principle as the conditions of cosmic manifestation permit.

⁶² R., II, 4ff. Dieterici, *Die Naturschauung und Naturphilosophie der Araber* . . . (Berlin, 1861), pp. 2–3, and E. Duhem, *Le Système du monde* (Paris, 1913–1919), IV, 466–467.

Nature

The Ikhwān emphasize in their description of the Universal Soul that it is the cause of all actions in the Universe. Now, as the matter which was described above is acted upon in one way or another and is the receiver of action, so is one of the faculties of the Universal Soul the cause of all change and activity in the sublunary region; this faculty is called Nature.

Nature is none other than one of the faculties of the Universal Soul of the spheres which is propagated in all the bodies existing in the sublunary region beginning from the sphere of the ether until the center of the world. Bodies below the sphere of the moon are of two kinds: simple and complex. There are four simple bodies: fire, air, water and earth; and three types of composed bodies: minerals, plants and animals. This faculty which I like to call Nature is spread within all things as clarity is spread in the air. Its Nature makes them move or rest, it governs them, it perfects them and makes each come to the place where it tends according to how it becomes them.⁶³

All events occurring on earth and below the sphere of the moon are then due to this spiritual agent called Nature which orders all change and is the cause of all "physical" events we see here around us.⁶⁴ It is in the affirmation of this view that the Ikhwān write in another passage that:

Nature is only one of the faculties of the Universal Soul which has expanded in all the sublunary bodies. In the language of religion (*shar'ī*) it is called the Soul in charge of maintenance and organization or order in the world by permission of Allah. In philosophic terminology, it is a natural force acting by the permission of the Creator on the bodies in question. Those who deny the action of Nature have not understood the true sense of these denominations . . .

Know, Oh Brother, that those who deny the action of Nature say that there is no proper action except by the Alive, the Powerful [this is in reference to the Ash'arite theologians]. This saying is correct; however,

⁶³ Dieterici, *Lehre von der Weltseele*, p. 43; *Jāmi'ah*, I, 311; Carra de Vaux, *Les penseurs de l'Islam*, IV, 106-107.

⁶⁴ « اعلم انه لما كان الذين يتكلمون في الحوادث والكائنات التي هي دون ذلك القمر من الحكماء والفلاسفة العلماء متنبئون هذه الآثار والأفعال كلها إلى الطبيعة . . . »
Jāmi'ah, I, 309.

« الطبيعة . . . قوة من قوى النفس العظيمة وهي مساوية في جميع الاجسام التي دون -
فلك القمر من ذلك الاثير التي منتهى مركز الارض . . . »
Jāmi'ah, I, 311.

they think that the Alive, the Powerful, does not bring into existence except by means of a body . . . They do not know that there is along with the body a substance which is ultimately spiritual and invisible. This is the Soul, which they describe as being an accident, by means of which change occurs in the body. It is this, that is, the Soul, by means of which actions appear in bodies.⁶⁵

The concern of the Ikhwān in describing nature is more with what the Latins, with a somewhat different connotation, called *natura naturans* and not so much with *natura naturata*, which forms the subject matter of the modern natural sciences.

The *Rasā'il* emphasize the importance of understanding and accepting the presence of this spiritual force called Nature which is the performer of all actions. In fact, they often identify materialists with those who deny Nature, for they know that the cosmological and metaphysical aspects of the traditional sciences such as astrology, and not the predictive aspect, which is completely secondary, derive directly from this conception of an organic Universe where the sublunary parts have no autonomy of their own independent of the Universal Soul⁶⁶ and its faculty Nature, any more than human limbs have any autonomy of motion independent of the human will which moves them. The consideration of "inert matter" to which motion and life are incidental is diametrically opposed to the Ikhwān's conception of the activity of the physical domain as being due to the force of Nature which pervades it throughout. The Universe for the Ikhwān acts more like a live organism whose motions come from a force within rather than a cadaver to which external motion has been added.

The Spheres and the Elements

The astronomy of the Ikhwān—which will be discussed in greater detail below—conforming to the general view of medieval cosmologists, places the earth at the center of the Universe with the Moon, Sun, and the planets rotating about it. Beyond the sphere of Saturn there is the Sphere of Fixed Stars and finally the outermost sphere, or *Muhīt*. In the heavens, which possess circular motion, perfect circular

⁶⁵ *R.*, II, 55. See also *R.*, II, 112-113.

⁶⁶ According to the Ikhwān, the Universal Soul acts through three agents: the 12 signs of the Zodiac, the heavens (*aflāk*) and the planets. *Jāmi'ah*, I, 313. The action of these agents upon the sublunary region which underlies the whole of astrology is a necessary consequence of the function of the Universal Soul as the cause of all action in the world. Moreover, the agents of the Universal Soul act upon this world as a soul upon a body, not as almost "material rays" or any gross ideas of the kind entertained by so many modern astrologers.

form and movement are joined to matter to bring into being the quintessence, or the substance, of which the heavens are made. By the quintessence the Ikhwān mean a substance having such properties that "on the one hand the celestial bodies accept neither generation nor corruption nor change nor transformation nor augmentation nor diminution, and that on the other hand their movements are all perfect, thus circular."⁶⁷ The "quintessence" or "fifth element," of the Ikhwān, however, differs from the ether of Aristotle or Ibn Sīnā. Whereas the latter school considers the cosmos as being completely divided into two regions, the sublunary made of the four elements and the celestial made of ether which does not possess any of the four essential qualities of hot, cold, wet, and dry, the Ikhwān conceive of a unified cosmos in which the quintessence also possesses the four qualities.⁶⁸ Otherwise it would not be possible to assign to the planets and the signs of the Zodiac the qualities which are the basis of astrology. This distinction between a divided and unified cosmos is to be found throughout the Middle Ages among the Aristotelian and Hermetic schools.

By the elements, the Ikhwān—like nearly all other Muslim authors—mean the four elements mentioned by Empedocles and Aristotle, that is, fire, air, water, and earth, which, as described above, possess in pairs the combination of the four qualities of heat, cold, dryness and moistness. They refer to the sphere of the elements as *ustuqus*, from the Greek term *stoichos*, meaning support or base, since the elements are the ground from which the creatures of the earth come into being. The elements are the constituent parts of all the members of the three kingdoms of minerals, plants, and animals. Nature acts upon these elements in various ways, and the soul appropriate to each kingdom and each species is added to this mixture by the Universal Soul in order to bring particular members of each species into being. The elements cannot act by themselves but are always subservient and passive to the force of Nature which acts upon them from above and within.

Time, Space, and Motion

The physics of the Ikhwān, unlike that of Aristotle, does not have the problem of motion as its central subject. In fact, in order to under-

⁶⁷ R., II, 39.

⁶⁸ The Ikhwān do, however, agree with the Peripatetics that the ether is beyond corruption and heaviness and lightness. Sometimes they even imply that it is beyond the four qualities, but most often assign qualities to the planets and signs of the Zodiac. See R., II, 26ff, 39–42.

stand fully the physics of the Ikhwān, it is necessary to go beyond not only the Cartesian conception of matter but also the *materia* of the Stagirite. One can say about the Ikhwān with respect to the problem of motion what has been said about the early pre-Socratic Greek philosophers:

If we would understand the sixth-century philosopher, we must disabuse our minds of the atomistic conception of dead matter in mechanical motion and of the Cartesian dualism of matter and mind. We must go back to the time when motion was an unquestionable symptom of life, and there was no need to look for a "moving cause." Matter or body requires a distinct moving cause only when it has been deprived of its own inherent life . . . Motion was inherent in the divine stuff because it was alive . . .⁶⁹

The Universe which the *Rasā'il* describe is, like the cosmos of the ancient Greeks, one which is alive, being composed of a body and the Universal Soul which animates the whole of it. Consequently, the question of motion does not have the same status with the Ikhwān as it does with either Aristotle or the Cartesians.

Inasmuch as things do move, however, and events do take place in time and space, the conception of these primary matrices of physical events and necessary conditions of terrestrial existence must be described. Time and space, which are intimately connected with motion, are considered in the *Rasā'il* more from their cosmological aspect than from the kinematic point of view.

The Ikhwān reject the Aristotelian notion of time as being nothing but the measure of movement, although they still relate it to the motion of the heavens, which are the generators of space as well as of time.⁷⁰ But they consider also the psychological aspect of time, about which they write:

Time is a pure form, an abstract notion, simple and intelligible, elaborated in the soul by the faculties of the spirit. It is born there through meditation upon the regular repetition of nights and days around the earth and resembles the generation of numbers by the repetition of One.⁷¹

⁶⁹ F. M. Cornford, *Principium Sapientiae* (Cambridge University Press, 1952), pp. 179–181.

⁷⁰ *Jāmi'ah*, I, 177. «ولما كان الملك هو سبب وجود المكان، وعدد حركات الزمان»

«لما كان الزمان مقادير حركات الملك.»

Jāmi'ah, I, 48. Inasmuch as the Universal Soul is the cause of motion of the heavens, it is also the cause of space and time.

⁷¹ R., II, 15.

Time is also intimately connected with creation and in fact is created with the world. Likewise, the last Day (*yawm al-qiyāmah*) is not just another day in time but the termination of time itself.⁷²

As for space, it has no reality independent of this world, but is, on the contrary, one of the conditions of physical existence. It is therefore useless to ask whether there is vacuum or plenum outside of the Universe. There is neither one nor the other because there is no space outside the cosmos and the Universe cannot be said to be in space.⁷³ Rather, all that is in space is by nature dependent upon the Universe. From a physical point of view space, or place, is the boundary of bodies as defined by Aristotle and the Muslim Peripatetics.⁷⁴ From a more inward point of view it is an abstract, simple, intelligible idea, "a form abstracted from matter and existing only in the consciousness,"⁷⁵ rather than either the surface of a substance or the void. The Ikhwān, as a matter of fact, reject the possibility of a void; since, according to them, and following the argument of the Aristotelians, a void must be in a place, or what is currently called space; but place is a quality of bodies and cannot be found except where there are bodies, so that where there are no bodies there is no place or space and, therefore, no void. On the contrary, space for the Ikhwān is something always filled, even when it seems empty to the senses. "Not a span of space is there," they write, "but what is occupied by spirits who dwell therein."⁷⁶ They never say, however, that all of space is filled only by "material" or "physical" beings; for them space dwelt in by spirits is as "full" as one filled by water.

The question of motion is inseparable from the Universal Soul and its faculties inasmuch as all motion is due to this soul. As the Ikhwān state: "We call 'souls' certain real substances, living and moving by their essences, and we designate under the name 'move-

⁷² *Jāmi'ah*, II, 48-49.

⁷³ «وليس خارج العالم شيئ آخر، لا خلاء ولا ملاء، وليس في مكان، وكل ما فيه مكان موكّل به،»

«وكّل واحد من العالم بمكان هو الحق به من أمكنة العالم...»

Jāmi'ah, II, 24.

⁷⁴ *R.*, III, 361. «... كل موضع يمكن فيه المتكّن، وهي نهايات الاجسام.»

For the definition of place given by Aristotle, see his *Physics*, bk. IV, chap. iv; also H. Wolfson, *Crescas' Critique of Aristotle* (Cambridge, Mass., 1929) chap. II.

⁷⁵ *R.*, II, 9-10.

⁷⁶ Ikhwān, *Dispute between Man and the Animals*, trans. J. Platts, p. 229.

ment' the actions of a soul on a body."⁷⁷ And again: "By its active life the soul models the matter of the body as well as that of the exterior world."⁷⁸

Universal Soul, then, is the cause of motion, while "movement is a form imposed on a body by the Universal Soul after it has been shaped, and rest is the absence of this form."⁷⁹ Comparing movement to light, the Ikhwān consider motion not as a material activity but a spiritual form. "Movement is a spiritual and complimentary form (*al-ṣūrat al-rūḥāniyah*) which traverses all parts of moving bodies and expands within them instantaneously like light in order to terminate abruptly their rest."⁸⁰

They give several different classifications of motion, one being according to the objects moved, that is, the movement of the seven heavens, the fixed stars, planets, comets, meteors, air, wind, and other meteorological phenomena; seas, streams, rain, motion of the interior of the earth such as earthquakes, or of beings like the minerals inside the earth, the plants and trees on the surface of the earth, and finally the animals in various directions of space.⁸¹ To realize that all of these movements, which are so diverse in appearance, are due ultimately to a single agent who is the Universal Soul is to see in a striking way the unicity of Nature. To show further the interrelatedness of all things, the Ikhwān also classify the motions of the Spirit (*rūḥ*), in a manner similar to that of bodies, and relate the two to each other. For example, they compare the motion of the interior of the earth with the abrogation (*naskh*) of previous *sharī'ahs* by the Prophet Muḥammad—upon whom be peace—and the motion of the planets to the *sharī'ah* of the various prophets.⁸²

Another method of classification closer to the Aristotelian, and in a way reducible to it, is outlined on the following page.

The Ikhwān, however, do not proceed much further in discussing the intricacies of motion in a manner that one finds in the writings of Ibn Sinā or Abu'l-Barakāt al-Baghdādī. The main interest of the authors of the *Rasā'il* remains the unified and organic Universe whose unicity they seek to bring to light through analogy and symbolism.

⁷⁷ *R.*, III, 306. «... هذا بيننا وبين الخلق والموتى والحيات والرجيم هي النفس.»

R., III, 305. It should be emphasized that the souls in various species in the world such as the animal and vegetative do not actually signify a plurality of souls but various functions of the single Universal Soul.

⁷⁸ *R.*, I, 225.

⁷⁹ *R.*, II, 12.

⁸⁰ *R.*, II, 12.

⁸¹ *Jāmi'ah*, II, 238.

⁸² *Jāmi'ah*, II, 253ff.

Motion	Physical (<i>jismānī</i>)	1. Generation (<i>kawn</i>)—passage of something from potentiality to act by which things come into existence.	{ Straight (<i>mustaqīmah</i>) Circular (<i>mustadīrah</i>) Combination of the two (<i>murakkabatun minhumā</i>) ⁸³
		2. Corruption (<i>fasād</i>)—the reverse of generation.	
		3. Augmentation (<i>ziyādah</i>)—stretching of the extremities of a body with respect to its center.	
		4. Diminution (<i>nuqṣān</i>)—opposite of augmentation.	
	Spiritual (<i>rūḥānī</i>)	5. Alteration (<i>taghyīr</i>)—change of quality of an object, such as its color.	
		6. Translation, or local movement (<i>naqlah</i>)—passage in space and time from one point to another.	

*The Analogy of Microcosm and Macrocosm
and the Great Chain of Being*

All the principles and concepts which have been explained thus far are integrated by the Ikhwān into the closely related ideas of the analogy of the microcosm and macrocosm and the chain, or hierarchy, of being. Both of these ideas are universal and far from being limited to Greek, Islamic, or Christian cosmologies, have their exact counterparts in China, India, and elsewhere. They are moreover, "conceptual dimensions" which through their beauty and profundity can lead the soul far beyond the domains of the physical aspects of Nature. Both ideas, in fact, belong to the domain of theology and metaphysics as well as to cosmology. The Ṣūfī doctrine concerning the Universal Man (*al-insān al-kāmil*), the Hindu conception of *Purusa*, and the Chinese *Chen-jen* all attest to the universality of the macrocosm-microcosm analogy and its importance in domains beyond that of the sciences of Nature. In the study of the Universe, also, these ideas hold a vital position, because they serve as the central link in showing the unicity of Nature and in demonstrating the inward relation between man and Nature; consequently, the study of Nature in medieval science acts as a support for spiritual realization, as con-

⁸³ *Jāmi'ah*, II, 237. R., II, 10-13.

versely, the study by man of himself leads to his understanding of the inner aspects of Nature.⁸⁴

The essential techniques of numerical symbolism and analogy, which, as we mentioned above, form the basic language of the Ikhwān, are used throughout the *Rasā'il* 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. To a reader unsympathetic to this perspective, such efforts may seem artificial and unreal. If, however, one possesses the "conceptual perspective" necessary for an understanding of these symbols, the beauty and grandeur of these analogies become evident. A physical "application" of this doctrine, which is easier to visualize than its literary description, is found in the medieval cathedral and the Hindu temple. Both of these buildings are the "body of the Universal Man" as well as a miniature cosmos, and reflect in their beauty the grandeur of the conceptions which underlie their construction. In Islam, also, *taṣawwuf* itself and much that is the fruit of the Ṣūfī spirit, whether it be in poetry or in architecture, express in the last analysis the doctrine of the Universal Man⁸⁵ which along with Unity (*al-tawḥīd*) comprises the essence of Islamic spiritual doctrines.

Nearly every chapter of the *Rasā'il* and every domain of Nature that is studied is elucidated and elaborated with reference to the analogy between man and the Universe. The Ikhwān write:

Know, oh Brother, that by the Universe (*'ālam*) the sages (*ḥukamā'*) mean the seven heavens and the earths and what is between them of all creatures. They also call it the great man (*al-insān al-kabīr*) because it is seen that the world has one body in all its spheres, gradation of heavens, its generating elements (*arkān*) and their productions. It is seen also that it has one Soul (*nafs*) whose powers run into all the organs of its body, just like the man who has one soul which runs into all of his organs. We desire to mention in this treatise the form of the world and describe the composition of its body as the body of man is described in a book of anatomy. Then in another treatise we shall describe the quality of the Soul of the world and how its powers run into the bodies in this world from the most

⁸⁴ These remarks, which have been drawn from a general study of medieval cosmological texts, are emphasized over and over by the Ikhwān throughout the *Rasā'il*.

⁸⁵ For an exposition of the doctrine of the Universal Man and its function in cosmology, see R. A. Nicholson, *Studies in Islamic Mysticism* (Cambridge, England, 1921), chapter on "The Perfect Man"; also *De l'homme universel* (Paris, 1975) by 'Abd al-Karīm al-Jīlī, trans. T. Burckhardt.

high sphere of *Muḥīt* to the lowest point which is the center of the earth.⁸⁶

Our study of the heavens and earth, the three kingdoms, and finally man as the microcosm will fully demonstrate how this analogy exists. Often in their study of the Universe, the Ikhwān give analogies from the microcosm to illustrate an otherwise difficult concept concerning cosmology. For example, the relation of the Universal Soul to the Universe, described above, becomes concrete and vivid when compared to the human soul and body. Or the comparison of the death of the Universe to human death makes what appears as a far-away event a very "real" one. But the Ikhwān also apply analogies in the reverse sense, explaining the constitution of the human being by correspondences drawn from the heavens and earth, again in order to make vivid and "real" some aspect of man, and, what is more important perhaps, to demonstrate his cosmic qualities and significance. We shall explore this aspect fully in the chapter on man as the microcosm, which begins with the statement: "Our end consists of showing here how man can be considered as a small world".⁸⁷ This implies that the knowledge of man's soul is essential to a knowledge of the external world.

In making analogies between various parts of the cosmos and man, the part of the cosmos above the Moon, which is the most beautiful and perfect part of the Universe, is compared to the Universal Man (*al-insān al-kullī*),⁸⁸ while the sublunary region, where change occurs and where good and evil souls are mixed together, is compared to the particular man (*al-insān al-juz'ī*). The human being is created between the Universal and particular man and takes part in the nature of each.⁸⁹ Also, particular man is created from the Universal Man just as in the creation of the world the sublunary region is generated from the heavens and is always passive and obedient with respect to them.⁹⁰

The cosmological chain, starting from Unity, which symbolizes

« اعلم أيها الاخ ان معنى قول الحكماء العالم انهم يقولون به السماوات السبع والارضين وما بينهما من الخلائق اجمعين . وسموه ايضا انسا ناكبرا لانهم يرون ان جسم واحد يجمع افلاكهم واطباق سمواتهم واركان امثاتهم ومولداتهم .. »
R., II, 20.

⁸⁷ R., II, 318.

⁸⁸ The Ikhwān use a different term for Universal Man from that of the Ṣūfis, the latter usually using *kāmil* rather than *kullī*, although the term *kāmil* is also known to the Ikhwān.

⁸⁹ *Jāmi'ah*, I, 612-615.

⁹⁰ « في معرفة الانسان الكلي الكامل ، الذي من اجل خلق الانسان الجزئي ... »
Jāmi'ah, I, 610.

the Creator, up to the number 9, which is the domain of the three kingdoms, already contains the basis of the chain of being. The chain of being essentially means that all beings in the Universe exist according to a continuous hierarchy which is ontological as well as cosmological. A particular entity has a position in the great chain of being depending upon the degree to which it participates in Being and Intelligence; or, one might say, upon the degree to which it possesses the perfections and virtues which in the absolute sense belong only to Pure Being, or God, who is transcendent with respect to the chain. The Ikhwān, like the Ṣūfis, make the hierarchy of being dependent upon the degree to which anything possesses beauty or, in other words, participates in the Absolute Beauty which is an inner attribute of God.

Starting from the highest heaven, which is nearest to the Divine, the hierarchy of being descends through the heavenly spheres—symbolizing the angels—and down to the world of the four elements, of which the heaviest, the earth, is the one farthest away from the pure light of heaven. The elements then are mixed to various degrees by the Soul which from them forms the three kingdoms. The process terminates with man, who is the final term of the effusion: "The unity and complexity of his soul and body respectively make him 'the antipode of God.'"⁹¹ By virtue of this position, man is the central link in the great chain; below him stands the animal kingdom, and above, the world of the angels, and he is connected to one domain as well as to the other.⁹²

According to the Ikhwān, the qualities and perfections belonging to the various levels of the hierarchy of being are not in any way "subjective" or "anthropomorphic," but, being a part of their ontological status, are completely independent of the whims and fancies of the "thoughts" of men. In the three kingdoms of mineral, plant, and animal, good and evil (*maḥmūd* and *madhmūm*) souls are mixed independently of human will. The beautiful and good qualities of these kingdoms are manifestations of the good souls, while what is ugly is due to the evil souls, which the Ikhwān call "satanic forces" (*shayāṭīn*).⁹³ These qualities, being an inherent part of each object,

⁹¹ R., III, 3-5. 'Awā, *L'Esprit critique* . . . , p. 172.

⁹² « ولما كان آخر مرتبة الانسان متصلا بأول مرتبة الملائكة ، وآخر مرتبة المجران متصلا بأول مرتبة الانسان ، وجب ان يكون الانسان مجموعا من العالمين متوسطا بينهما .. »

Jāmi'ah, I, 342.

⁹³ *Jāmi'ah*, I, 367ff.

of God, so that each creature possesses those faculties which conform to its needs. With respect to the animals, the Ikhwān write:

Providential wisdom stipulates that an animal be given no other organs than these. If it were otherwise the animal would be hindered and its safety and continued existence endangered.¹⁰³

"Adaptation to the environment" is not the result of struggles for life or "survival of the fittest," but comes from the wisdom of the Creator, Who has given to each creature what corresponds to its need. In the deepest sense, what separates all these ideas of the Ikhwān from their modern counterparts is that for the Ikhwān the hands of God were not cut off from creation after the beginning of the world—as is the case with the deists. On the contrary, every event here "below" is performed from "above" by the Universal Soul, which is God's agent. Consequently, the purpose of the study of Nature is to see these "vestiges of God"—the *vestigia Dei* as the medieval Latins used to express it—so that, thanks to the analogy existing between the Universe and man, the soul through this knowledge of cosmic realities can come to know itself better and ultimately be able to escape from the earthly prison into which it has fallen. "Thy soul, oh Brother, is one of the pure forms. Use your efforts then to know it. Thou wilt succeed probably in saving it from the ocean of matter to raise it from the abyss of the body and deliver it from the prison of Nature."¹⁰⁴

¹⁰³ R., II, 144.

¹⁰⁴ R., II, 17.

CHAPTER 3

The Individual Cosmological Sciences

Astronomy and Astrology

In the Islamic sciences, as in Greek and Latin astronomy where *astrologia* and *astronomia* are often used interchangeably, there is no clear distinction between the words signifying astronomy and astrology; the term *nujūm* can mean one as well as the other. For the Ikhwān, also, the two studies are closely bound together, because not only are the heavenly bodies moving objects whose motions and periods can be studied and measured, but they are also the seats of the various faculties of the Universal Soul, which is the cause of all change in the world of generation and corruption. Astrology, then, must be considered always in the light of the metaphysical principles which underlie the cosmology of the Ikhwān. However, since astronomy and astrology are studied separately today, we shall try as much as possible to separate the science of the constitution and movement of the heavens from the study of both their symbolic and spiritual qualities and their influence on earthly phenomena. The Ikhwān themselves divide the science of *nujūm* into three parts: (1) the science of spheres, stars, their dimensions, movements, and so on (*'ilm al-hai'ah*), (2) the science of astronomical tables (*zīj*), and (3) judicial astrology (*'ilm al-aḥkām*). Our separation of astronomy and astrology, therefore, can perhaps be partially justified by their own views, although general astrology, which includes more than just judicial astrology, also enters into the first category.

In the *Rasā'il* great importance is attached to the study of the heavens, a subject which enters every branch of natural science because of the influence of the heavens upon all sublunar events. Also, the ancient character of the history of astronomy is fully realized and, in fact, this science is considered to have been originally not a purely human form of knowledge, but a science revealed to the prophet Idris or Hermes Trismegistus who "journeyed to Saturn" in order to

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Conceptions of nature and methods used for its study by the Ikhwān
al-Ṣafā', al-Bīrūnī and Ibn Sīnā

Revised Edition

Twenty-three years ago, when Dr Nasr first began this detailed study of the Islamic conception of the cosmos, Western science had apparently relegated traditional cosmology to the status of mere superstition and fantasy. Since then the monolithic structure of modern thought, with all its claims to exclusiveness, has been severely questioned, and many works have been devoted to the traditional cosmologies of Hinduism, Buddhism, the Kabbala and Taoism. Despite the extraordinary growth of interest in Sufism and Islamic philosophy in the West, however, no new general study of Islamic cosmology has been produced since Dr Nasr's pioneering work was first published in 1964. A variety of modifications and corrections, together with an extensive supplementary bibliography, were included in the revised edition, which is now published for the first time in paperback. Dr Nasr concentrates on the particularly formative period of the 4th Hijra (eleventh century AD) and on its leading figures, the Ikhwān al-Ṣafā' (Brethren of Purity), al-Bīrūnī and Ibn Sīnā (Avicenna), but his primary purpose has been to analyse the structure and contours of the various cosmological schemes as permanent aspects of Islamic thought. Original Arabic and Persian texts unknown or little studied in the West indicate that, while some elements of Islamic cosmology were drawn from Alexandrian and other sources, it became fully integrated within the Islamic world-view in uniformity with the principles of Islamic revelation.

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