

Sa'adyah Gaon

ON THE

Influence of Music

By

HENRY GEORGE FARMER

Ph. D., D.Litt.

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Sometime Carnegie Research Fellow and Leverhulme Research Fellow.*

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41, GREAT RUSSELL STREET, LONDON, W.C.1

1943

مَارْتِي مَرِي فَاَرَمَر

١٨٧٨ — ١٩٣٤

زعم ابن سينا في اصول كلامه ان المكب دواؤه الالكان . . . فعلمت ان
المكب داء قاتل فيه ابن سينا طبه هذيان

—*Alf laila wa laila.*

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CONTENTS

PREFACE, p. ix.

INTRODUCTION. Jewish Interest in the Theory of Music, p. 1.

CHAPTER I. The Doctrine of the Influence of Music

Its origin among primitive peoples, p. 3. Modal music and the ethos among the Babylonians, the Sabaeans, the Greeks, the Jews, and the Arabs, p. 4.

CHAPTER II. Sa'adyah Gaon on the Influence of Music

His life and works, p. 10. The *Kitāb al-amānāt*, p. 11. The Jewish attitude towards music, p. 11. Sa'adyah's theories on the influence of music and its probable source, p. 12.

CHAPTER III. Al-Kindi on Rhythm and its Influence

His life and works, p. 17. His texts on music, p. 18. Translation, p. 21. Commentary, p. 23.

CHAPTER IV. Sa'adyah Gaon on Rhythm and its Influence

The five versions of Sa'adyah's *Kitāb al-amānāt*, p. 27. The original Arabic text p. 28. Translation, p. 30. Commentary, p. 31.

CHAPTER V. The Payyetaṇic Hebrew Interpretation

The so-called "Paraphrase", p. 38. The text, p. 38. Translation, p. 41. Commentary, p. 43.

CHAPTER VI. Bar Ḥiyya's Hebrew Version

His life and works, p. 48. The text, p. 49. Translation, p. 51. Commentary, p. 52.

CHAPTER VII. Berakyah ha-Nagdan's Hebrew Summary

His life and works, p. 58. The text, p. 59. Translation, p. 60. Commentary, p. 61.

CHAPTER VIII. Ibn Tibbon's Hebrew Translation

His life and works, p. 63. The text, p. 64. Translation, p. 66. Commentary, p. 68.

CHAPTER IX. Interpretation of the Rhythmic Modes

The technical structure of rhythm according to the Arabic theorists, p. 71. The terminology of the *Kitāb al-amānāt*, p. 78. The eight rhythmic modes of Al-Kindi and Sa'adyah, p. 78. The blending of the rhythms, p. 88.

CHAPTER X. Conclusion and Summary, p. 90.

PLATE, facing p. 28.

PREFACE

"Wisdom is the principal thing; therefore get wisdom; but with all thy getting, get understanding".

Proverbs: iv, 7.

I HAVE known the section on the influence of music in Sa'adyah's *Kitāb al-amānāt* for many years. In my brochure *The Arabian Influence on Musical Theory* (1925) I said that "as early as Sa'adyah, the Jews had borrowed their musical science from the Arabs."¹ I again mentioned the subject in my *History of Arabian Music* (1929) where, speaking of Sa'adyah's passage on music, I commented on its "considerable affinity with Arabian notions".²

I had previously read Dr. Henry Malter's thoughtful work *Saadia Gaon: His Life and Works* (Philadelphia, 1921) and had noticed that he made reference to "the eight fundamental musical tones" described in Sa'adyah's *Kitāb al-amānāt*. I naturally assumed that these were the *melodic modes* of the Jews in Palestine and Mesopotamia, and as I was engrossed in an attempt to solve the problem of the structure of the *melodic modes* (*aṣābi'*) of the Old Arabian theorists, which are so frequently mentioned in the *Kitāb al-aghānī* (10th cent.), I naturally concluded that I would find some clue in Sa'adyah's book.

Reference to the *Kitāb al-amānāt* brought no help in the solution of my problem. Instead of this I discovered that what was described in Sa'adyah's book were the *rhythmic modes*, and that the account was identical with a passage on the subject in Al-Kindī's *Risāla fī ajzā' khabariyat al-mūsīqī*, written three quarters of a century earlier. In Sa'adyah's description there were, however, many passages that were beyond my "understanding" which even an appeal to the Hebrew *Sefer ha-emunot* did not dispel. Since then I have felt that it was incumbent upon me to secure this "understanding", as well as to probe deeper into the question of the Jewish connection with "Arabian notions". The impending millenary of the death of Sa'adyah acted as a fillip in this direction, for "the words of the wise are as goads",³ and the present monograph is the result.

The securing of the "understanding" has not been easy. Of the difficulties I was quite aware at the outset, because I knew full well that others

p. 12.

³ *Eccles.*, xiii, 11.

² pp. 174-5.

who had sought this "understanding" had abandoned the seeking. Indeed, in one direction, the Hebrew sources, it is not improbable that I too might have been compelled to withdraw from the quest, had it not been for the encouragement and help of my esteemed friend, who was my teacher in Hebrew, Dr. William Barron Stevenson, Emeritus Professor of Semitic Languages in the University of Glasgow. I had edited the three principal Hebrew texts of Sa'adyah's section on music and in the first of these, the *Piteron*, often called the "Paraphrase", I had discovered that much of the original text had been omitted by copyists. My reconstruction of it showed, so far as the section on music is concerned, that originally it was not strictly speaking a paraphrase, but a complete translation as full as either of the other two Hebrew versions.

At this stage, in view of many further obscurities in the *Piteron* and other manuscripts, I sought the help of Professor Stevenson, who forthwith devoted time and trouble to my wants and needs. He approved my basic reconstruction of the *Piteron* and Bar Hiyya texts, but so materially altered and improved all my Hebrew texts that I could no longer claim them as my editing. It must therefore be understood that the present editing of the four Hebrew texts, and the critical notes which accompany them, are the responsibility of Professor Stevenson, and I take this opportunity of expressing my deep appreciation of his valuable contribution, and my sincere gratitude for his help in the work as a whole. I am also indebted to him, as well as to Dr. James Robson, for assistance in the task of proof reading.

An acknowledgement is also due to A. F. L. Beeston, Esq., of the Bodleian Library, Oxford, whose unfailing courtesy in responding to several enquiries must be recorded. I have also to signify, especially as a former Carnegie Research Fellow, my indebtedness to the Carnegie Trust for a guarantee towards the cost of publishing this work. Finally I have to thank the publisher. Originally the work was accepted by the Royal Asiatic Society for publication in its Monographs, but the council decided to postpone this until after the war. As I was particularly anxious for the work to appear as a contribution to the millenary of Sa'adyah's death, I looked elsewhere and had the good fortune to find sympathetic interest in the present publisher.

I much regret that I have been unable to bring other Continental codices under contribution, especially those of the Vatican (*Assemani*, 255, 266, 269, and 270), but at the time when I approached Rome, in April, 1940, requesting photostats, the strained political relations between Britain and Italy were such that the circumstance appears to have affected scholars, since my application was ignored, and even a repeated request made by a famous British university brought no response. It can only be hoped that the documents and manuscripts used in the monograph may prove to be all that were requisite for the undertaking.

In the texts and translations, the introduction of *curved* brackets is made where information is amplified, the use of *square* brackets being an indication that actual omissions in the text, and in the corresponding translation, have been supplied.

It is only natural that an author should feel optimistic of the results of his work, yet I shall not be surprised if some reader expresses his judgment of it in the words of the Arabic proverb:

حديثكم طيب ويبتنا بعيد

"Your statements are agreeable, but our resting-place is (still) far distant".

Yet whatever the estimation may be, the work is certainly timely, not only because of the millenary celebrations of the great Jewish philosopher, but by reason of the promises of others to solve the difficulties of Sa'adyah on music not having yet been fulfilled.

HENRY GEORGE FARMER.

Bearsden, Scotland,

Autumn, 1942.

INTRODUCTION

JEWISH INTEREST IN THE THEORY OF MUSIC

"Very few are the writings of our... scholars on the meaning of the theory of music".

Steinschneider: *Bet oẓar ha-sifrut*.

THAT the Jews of the Middle Ages made the theory of music (*ḥokmat ha-musiqa*)¹ one of the courses of study in higher education has been stressed more than once by me² and others.³ The temper of the Jewish view was expressed even as early as Ishāq ibn Sulaimān (d. ca. 932), better known as Isaac Israeli, who said that the theory of music was "the last and best" of the disciplines to be mastered. Later Jewish writers, such as Abraham bar Ḥiyya (d. ca. 1136), Yūsuf ibn 'Aqnīn (d. 1226), Yehudah ben Shemuel ibn 'Abbās (13th cent.), Shem Ṭob ben Yosef ben Palaquera (d. ca. 1300), 'Immanuel ben Shelomoh (d. ca. 1330), and Abraham ben Yizḥaq (ca. 1400), all included this "best" of the disciplines in their curricula.⁴

In spite of this approval we have "very few" Jewish writings on the subject, as Steinschneider says. How scarce they are can be verified by reference to Steinschneider's *Jüdische Literatur des Mittelalters*,⁵ where even the sparse crop which has been gathered from this field can be shown to contain a little that is dubious,⁶ and even spurious,⁷ whilst some of it consists of material that has been borrowed, directly or indirectly, from Arabic works.⁸ Indeed, Steinschneider himself admits that "Jewish theory and expression of music belong, like all similar sciences, originally to the Arabian school".⁹

¹ Or *musiqā*, or *muziqā*. Other Hebrew equivalents were *ḥokmat ha-ḥibbur* (science of composition), *ḥibbur ha-niggun* (composition of music), or merely *zimrah* (music).

² Farmer, *Maimonides on Listening to Music* (1941), p. 7.

³ Wolfson, *Classification of Science in Mediaeval Jewish Philosophy* (In Hebrew Union College Jubilee Volume, Cincinnati, 1925).

⁴ Güdemann, *Das Jüdische Unterrichtswesen während der spanisch-arabischen Periode* (1873), pp. 41, 94, 144, 153, 157; *Geschichte des Erziehungswesen und der Cultur der Juden in Italien während des Mittelalters* (1884), pp. 120, 124.

⁵ *Jewish Quarterly Review* (1905), xvii, 559-61.

⁶ The Vatican MS. (400,5) of Abraham bar Ḥiyya.

⁷ See the MS. quoted by Steinschneider as *Halberstam*, 49 fol. 388, in the Jews College, London. It does not exist, unless it refers to fol. 88, which deals with the "accents".

⁸ Farmer, *Jewish Debt to Arabic Writers on Music (Islamic Culture*, xv, 59).

⁹ Steinschneider, *Jewish Literature*, p. 154.

Apart from these strictures, there are still some specimens of this Jewish literature on music that deserve recognition, and have not yet been brought forward. It is true that Steinschneider published three texts, the *Pirush 'al ha-qanun* (Commentary on the Canon [of Euclid?]) and two Hebrew versions of Sa'adyah's passage on music in the *Kitāb al-amānāt*, but they were all locked away in a Hebrew periodical.¹ All that has appeared in a European language are two short works,—(1) *Responsa* by Maimonides, and (2) A treatise on music from a Genizah fragment. The former has been edited and translated by Goldziher (Arabic and German) in 1873,² and by the present writer (Arabic, Hebrew and English) in 1933.³ The Genizah fragment, dating from the 15th century, was edited by Gottheil (Arabic and English) in 1932,⁴ but the present writer identified the work as an extract from the *Kitāb al-durr al-naẓīm* attributed to Ibn al-Akfānī.⁵

This year being the millenary of the death of the great Jewish philosopher Sa'adyah Gaon has prompted the present writer to publish the earliest known Jewish writing on music, which is contained in Sa'adyah's *Kitāb al-amānāt wa'l-i'tiqādāt* (Book of Doctrines and Beliefs). It is but the span of the fingers in extent, but it has the value of untold shekels as a document in the history of Jewish music.

The occasion also prompts the suggestion that encouragement should be given to the publication of a complete *corpus* of these Jewish writings on music, of which the *Pirush 'al ha-qanun* of Yesha'iah ben Yizḥaq,⁶ and the *Tractatus armonicus* of Gersonides are outstanding works.⁷ At the same time it has to be realized, as Steinschneider once pointed out, that such an enterprise would have to be undertaken by someone who was not only technically equipped for the work, but one who would be prepared to spend years of toil at such a task.⁸

¹ *Bet oẓar ha-sifrut* (Jaroslau, 1887).

² *Monatsschrift für Geschichte und Wissenschaft des Judenthums* (1873), xxii, 174.

³ *Journal, Royal Asiatic Society* (1933). Republished as *Maimonides on Listening to Music* (Bearsden, Scotland, 1941).

⁴ *Jewish Quarterly Review* (1932), xxiii, 163.

⁵ Farmer, *Sources of Arabian Music* (1940), p. 52.

⁶ *Bet oẓar ha-sifrut* (1887), p. xxxi.

⁷ Coussemaker, *Scriptores de musica*, iii, pp. x-xi.

⁸ *Bet oẓar ha-sifrut*, p. xxvii.

CHAPTER I

THE DOCTRINE OF THE INFLUENCE OF MUSIC

"David took an harp (*kinnor*), and played it with his hand; so Saul was refreshed, and was well, and the evil spirit departed from him".

I Samuel, xvi, 23.

"Music... has become a remedy against sickness of the soul and one of its most important cures".

Ibn 'Aqnīn: *Ṭabb al-nufūs*.

THE notion that certain modes of music created particular dispositions in man was hoary with antiquity in the Semitic East. As Jules Combarieu has shown, the genesis of this belief is to be sought in magic,¹ and although Isaiah pours out the vials of his wrath against the magicians of Babylon,² the Jews themselves were firm believers in magic. Indeed, in Christian times, the Greeks looked upon the Jews as magicians,³ and we are told that the Jews actually believed that Jesus was addicted to it.⁴ The persistence of this trust in magic is evidenced by the honour paid to the *Sefer yezirah*, even in the time of Sa'adyah.

As in all primitive communities, sound itself had a magical value. In *Exodus*, xix, 16, we find the voice of Yahweh being accompanied by the sound of the *shofar* (horn) "exceeding loud". We see an analogous idea in ancient Babylon, where the deity Adad had a voice comparable with the *halhaltu* (flute or reed-pipe).⁵ To influence deity, the principle of "like by like", i.e. sympathetic magic, was practised, and music was one of the means of approach, whether by soothsayer or prophet. In Hebrew, the word *ne'um* stood for the voice of Yahweh, but it was also used of the utterance of the soothsayer⁶ and the oracle of the prophet.⁷ The intoning of the enchanter was, seemingly, called *hegeh*,⁸ but, later, another derivative of the same root

¹ *La Musique et la magie*, 220-33.

² *Isaiah*, xlvi, 9-15.

³ Suidas, *Lexicon*, s.v.

⁴ Talmud, *Soṭah*, 47b. Jerome, *Epist.*, lv. Origen, *Cont. Celsum*, i, 28.

⁵ Virolleaud, *Astrologie chaldéenne* (1908).

⁶ *Numbers*, xxiv, 3, 15.

⁷ *Proverbs*, xxx, 1.

⁸ *Isaiah*, viii, 19.

came to mean the sounding (*higgaion*) of the harp (*kinnor*).¹ We have a parallel in Arabic where *ʿazf*, which originally stood for the voice of the *jinn* of the spirit world, came to mean, in the days of Islām, a musical instrument.² When therefore, we see "God's holy spirit" being likened to the cithara, as in the *Odes of Solomon*,³ the apparent symbolism has its source in primitive culture, and to-day, when we speak of certain music being "enchanted", we are simply using a word from the cradle of man.⁴

§ 1

MODAL MUSIC AND THE ETHOS

The step from the intoning of the soothsayer to the chanting of the precentor in the temple is but a short one. Both vocalisations had characteristics in common in the use of fixed and precise patterns in melody and rhythm. Sacred seven had already "hedged" the notes of the scale with a certain "divinity", but when it was found that music assumed a different "character" when the base of the scale was altered and the modal system was born, the seven melodic *modes* became sacred.

In ancient Babylonia-Assyria and Egypt a priestly modal system of cantillation obtained, each melodic mode having its own particular influence on, or being in concord with deity and the unseen world.⁵ Among the ancient Semites, the modes were linked with the primary elements, the starry heavens, the geographical spheres, the colours and numbers, in a most elaborate scheme, and it is this which partly explains why Ibn 'Ezra thought that David accomplished the cure of Saul's malady because "he knew the star by which the music should be regulated."⁶ We have no precise evidence of the modal system of the Jews save the elusive captions to the *Psalms*, yet we can be fairly sure that the *neqinot* quoted were melodic modes. According to Ibn Waḥshiya (9th cent.) the Sabaeans (*Ṣābi'a*), who deified the planets and the primary elements, because they influenced mankind, "played before their deities on certain instruments", a proceeding which raised the ire of Maimonides (d. 1204).⁷

¹ *Psalms*, xcii, 4.

² *Encyclopaedia of Islām*, iii, 529.

³ iv, 14.

⁴ *√* *carmen*.

⁵ Plato, *Laws*, 657a. Pseudo-Demetrius Phalereus, *De elocut.*, 71. Dio Cassius, xxxvii. Roussier, *Mémoire sur la musique des anciens*, 59.

⁶ Kircher, *Musurgia universalis* (1650), ii, 214.

⁷ *Guide of the Perplexed* (1885), iii, 147, 219.

It was from the Semitic East, probably, that the Greeks borrowed their modal system, the doctrine of the *ethos*, and the conceit of the Harmony of the Spheres. As Philo Judaeus (d. ca. 40) tells us, this last theory was derived from the Chaldaeans.¹ It was Pythagoras who originally introduced it into Greece, and Iamblichus says that it was at Babylon that the father of music-theory "arrived at the summit of music and other disciplines".²

According to Pythagoras, music not only influenced the gods but it affected mankind. He devised a modal system by which a particular melodic mode would banish depression, another would assuage grief, whilst a third would check passion, and so on. Rhythmic modes were also classified by him in his scheme of the *ethos*. The Greeks, following the ancient Semites, also linked up this modal and ethological system with the primary elements, the celestial spheres, the colours and numbers. We must not forget that Plato, in his *Republic*, suggests that rhythms are imitations of life.

Although we see most of these doctrines recognized by the Arabs of the Middle Ages in the *Kilāb al-siyāsa* of Yūḥannā ibn al-Biṭrīq (d. 815)³ and by the Andalusian Ziryāb (early 9th cent.),⁴ it was not until the time of Al-Kindī (d. ca. 874) that the entire system of the *ethos* was systematized for the Arabs. This theory is dealt with in all his extant works on music, as I have shown in my brochure on *The Influence of Music: From Arabic Sources* (1926), but the most complete account is contained in his *Risāla fī ajzā' khabariyat al-mūsīqī*, where the strings of the lute and the rhythmic modes are linked in a comprehensive fashion with the zodiac, primary elements, humours, seasons, faculties of the soul, physical powers, animal tendencies, and so on.

From this time, down to the 19th century, these strange beliefs in the doctrine of the *ta'thīr*, as the Arabs called the *ethos*, find a place in most Arabic treatises on music, the most insistent ingredient being the astrological one.⁵ They even found an echo in Mediaeval Europe, in the domain of therapeutics, when the works of Avicenna (Ibn Sīnā) and Haly ('Alī ibn al-'Abbās) were translated into Latin.⁶

That these teachings influenced the Jews can be readily understood, since almost everything that they knew of science and philosophy in the Middle Ages was derived from Arabic sources. The Jews became pre-eminent as expounders of astrology, and two of the best known early authorities on the subject, Māshā'allāh (d. 815) and Sahl ibn Bishr (d. ca. 850), both Jews, had

¹ vi, 32, 33.

² iii, 4.

³ Roger Bacon, *Secretum secretorum* (Oxford, 1920), pp. 217-18.

⁴ Al-Maqqarī, *Analectes*, ii, 86.

⁵ Farmer, *Sources of Arabian Music* (1940), *passim*.

⁶ Farmer, *Al-Fārābī's Arabic-Latin Writings on Music* (1934), pp. 32, 50.

ir works translated from Arabic into Latin as well as into Hebrew.¹ This, either with the influence of the *qabbalah*, gave the doctrine of the *ethos* an immediate appeal to the Jews.

In Sa'adyah Gaon (d. 942), the first Jewish writer on music, this doctrine of the *ethos* is found in full vigour. As we shall see in detail, he appears to have depended on Arabic sources in this particular, Al-Kindi being, it would seem, chief authority. He mentions that it was because certain modes of music are capable of creating particular dispositions in man, that these modes are used by rulers when making laws. We read of much the same thing in the *Kitāb al-siyāsa* of Yūḥannā ibn al-Bīṭriq (d. 815),² a work which was translated into Hebrew by Yehudah al-Ḥarizi (12th cent.), although this version, in the form which has survived, does not contain the passage in question.³ However, the subject crops up in later writers.⁴

That the doctrine of the *ethos* found acceptance in therapeutics among the Jews, is expressly stated by Ibn 'Aqnīn (d. 1226) in his *Ṭabb al-nufūs*.⁵ Naturally, it had its authority in *I Samuel*, xvi, 23. We know from the previously mentioned *Kitāb al-siyāsa* that music was used to cure mental diseases, and that musical instruments were used to "convey to the soul... the harmonious sounds which are created by the heavenly spheres in their natural motions". The Muslim writers known as the Ikhwān al-Ṣafā' (10th cent.) specifically state that music was used in hospitals to "lighten the pain of disease and sickness... counteracting their malignancy and healing."⁶ At the practice continued we know from the musicians employed at the hospital, the *Māristān*, of Sulṭān Qalā'ūn at Cairo.⁷ I have seen a Hebrew manuscript with a miniature depicting a lutenist in the anteroom of a physician awaiting, presumably, to effect a cure or allay a distemper by means of art.

Although, as we may deduce from the above, this curative system of music was linked with the Harmony of the Spheres, its physiological connection with the humours, and in Sa'adyah's treatment of the subject of the *ethos*, music is related to the humours in this respect rather than to the "heavenly spheres". The whole question of this interrelation between music, the planets, the zodiac, the primary elements, the humours, and so forth, is fraught with

difficulty to anyone who seeks to unravel its mysteries, although to Mediaeval thinkers there was in it a definite *raison d'être*. The perplexities are due mainly to the conflicting accounts of the several Arabic authorities,—Al-Kindi, Ḥunain ibn Ishāq, Ibn Khurdādhbih, Al-Mas'ūdī, the Ikhwān al-Ṣafā', and others, who are as diverse in their statements as Pythagoras, Nicomachus, Pliny, Plutarch and Censorinus.

The doctrine of the Harmony of the Spheres, as accepted by the Arabs, was based on Pythagorean teaching, although much may have come from the ancient Semites via the Sabaeans.¹ The Jews could quote *Job*, xxxviii, 7, in support of their adherence to the belief, for here we read that "the morning stars sang together, and all the sons of God (lit. the Gods, *elohim*) shouted for joy". Yet only the elect could hear this celestial harmony, and although the Greeks and Arabs believed that it was Pythagoras alone who heard it,² the Jews claimed that Moses was similarly favoured.³

Even the rationally minded Sa'adyah believed, to some extent, in astrology, since he argued in his *Tafsīr kitāb al-mabādī* (Commentary on the Book of Creation) that human actions were influenced by the position of the stars in the heavens.⁴ He also agreed with the author of the *Sefer yeẓirah* concerning the pre-existence of the Hebrew alphabet to creation,⁵ and with the conceit that the letters *shin*, *mem* and *alef* represented, and were linked up with, three of the primordial elements, fire, water and air.⁶

Ben Asher (10th cent.), in his *Diqduq ha-te'amim*, and Ibn 'Ezra (d. 1167) in his *Zahot*, show the astrological whim in classifying the *te'amim* (tropes) of biblical cantillation. They place the twelve disjunctives under the zodiac, and the seven conjunctives under the planets. Then there is the so-called "celestial alphabet" of the Qabbalists, and its association with the musical scale.⁷ Linking all these notions together with what we already know of Sa'adyah's belief in the doctrine of the *ethos*, one could almost construct his theory of the Harmony of the Spheres, which had already been formulated for the Arabs by an earlier philosopher of Baghdād, the famous Al-Kindi.

Al-Kindi, who is at variance with the Greeks as well as with other Arabic authors on this question, deals with the planetary scale in these words:⁸

¹ Cf. Plutarch, *Comm. on Plato's Republic*, x, 261.

² Ḥājji Khalifa, vi, 258.

³ Philo Judaeus, ii, 299. The Islāmic East long believed that Moses (Mūsā) was a musician, and he was called Mūsā Mūsīqārī as the patron saint of flute players. See Farmer, *Turkish Instruments of Music in the Seventeenth Century* (1937), pp. 18, 22.

⁴ *Tafsīr* (Edit. Lambert), p. 53.

⁵ *Ibid.*, p. 10.

⁶ *Ibid.*, p. 59.

⁷ *Notices et extraits des MSS. de la Bibliothèque Impériale* (Paris, 1858), xvi, 141.

⁸ Berlin Staatsbibliothek MS. 5530, fol. 29.

Steinschneider, *Arabische Literatur der Juden*, 15, 23.

Roger Bacon, *Secretum secretorum* (Oxford, 1920), pp. 217-18.

Journal, Royal Asiatic Society, 1907, pp. 879-912.

Steinschneider, *Jewish Literature*, 337.

See quotation at the beginning of this chapter.

asā'il (Bombay edit.), i, 87.

Franc-Poole, S., *History of Egypt in the Middle Ages*, 264.

"The open (*muṭlaq*) note (A) of the *bamm* string (of the lute), which is the first of the notes, and the lowest of them, resembles Saturn, which is the highest of the seven planets and the slowest. And after it is the first finger (*sabbāba*) note (B) of the *bamm* string, resembling Jupiter. ... And similarly the second finger (*wuṣṭā*) note (C) of the *bamm* string to Mars. And its fourth finger (*khinṣir*) note (D) to the Sun. And the first finger note (E) of the *mathlath* string to Venus. And the second finger note (F) to Mercury. And the fourth finger note (G) to the Moon".¹

Here we have the planetary scale of the Arabs and Jews of the Middle Ages in as full vigour as it had been among the ancient Chaldaeans.

The Ikhwān al-Ṣafā' say that the reason why the four strings of the lute ('*ūd*') are comprised of 64, 48, 36 and 27 strands respectively, from low to high, is cosmological, in that the primary element *fire* is a third greater in essence than *air*, and that *air* is a third greater in essence than *water*, and that *water* is a third greater in essence than *earth*.²

It is in the *Rasā'il* of the Ikhwān al-Ṣafā' that colours and perfumes are scheduled definitely in the scheme of the *ethos*.³ Neither Al-Kindī nor Sa'adyah specifically embrace colours and perfumes in the framework of the *ethos* although their inclusion is tacitly implied. The linking of colours with the planets and music was an old Semitic idea, as both Herodotus⁴ and Ptolemy⁵ inform us. Here is a table of the so-called "four-fold things" as recognized by Al-Kindī, and possibly by Sa'adyah also. It is obviously incorrect, but rather than give a reconstruction without a requisite *apparatus criticus*, which is quite impossible within the limits of these pages, I reproduce the scheme as it appears in the manuscript.⁶

¹ The four strings of the Arabian lute, from low to high, were the *bamm* (A), the *mathlath* (D), the *mathnā* (G), and the *zīr* (c). The third finger (*binṣir*) notes, which are not given above, were C sharp and F sharp.

² *Rasā'il*, i, 105. This does not conform to the following table.

³ *Ibid.*, i, 116-18.

⁴ i, 98.

⁵ *Tetra.*, ii, 9.

⁶ The table will be reconstructed in a critical edition of Al-Kindī's work which the present writer has in preparation. The colours are not included in Al-Kindī's comprehensive scheme. He mentions them elsewhere in relation to the humours and this has enabled me to give them a place. The perfumes cannot be included so readily in this table. I have therefore been compelled to allocate them a place after the scheme given by the Ikhwān al-Ṣafā'.

THE FOUR-FOLD THINGS

STRING OF THE LUTE →	<i>Bamm</i> (A String)	<i>Mathlath</i> (D String)	<i>Mathnā</i> (G String)	<i>Zīr</i> (c String)
RHYTHM →	<i>Al-Hazaj</i> , <i>Al-Ramal</i> , <i>Al-Khafīf</i>	<i>Al-Thaqīl</i> <i>al-mumtad</i>	<i>Al-Thaqīl</i> <i>al-awwal</i> , <i>Al-Thaqīl</i> <i>al-thānī</i>	<i>Al-Mākhūrī</i>
COLOUR	Yellow, black	Red, black, yellow	Black, red, yellow, white	Red, yellow
PERFUME →	Narcissus, Pink, Lily	Rose, Aloes	Violet, Marjoram	Musk, Jasmine
ZODIAC →	Capricornus to Pisces	Libra to Sagittarius	Aries to Gemini	Cancer to Virgo
ELEMENT	Water	Earth	Air	Fire
HUMOUR	Black bile	Phlegm	Blood	Yellow bile
SEASON	Winter	Autumn	Spring	Summer
TIME OF THE DAY	Midnight to Sunrise	Sunset to Midnight	Sunrise to Mid-day	Mid-day to Sunset
PERIOD OF LIFE	Old Age	Middle Age	Infancy	Youth
FACULTY OF THE SOUL	Memorative	Attentive	Imaginative	Cogitative
REACTION OF THE SOUL	Abasement	Sadness	Generosity	Pride
PHYSICAL POWERS	Resisting	Prehensile	Assimilative	Attractive
ANIMAL TENDENCY	Gentleness	Cowardice	Intelligence	Courage

From all this we can appreciate how deeply the Near East was engrossed in this doctrine of the *ethos* which, at the period of Sa'adyah Gaon, had been systematized by Arabic scholars after Greek methods, although the theory itself was traceable ultimately to the ancient Semites.

CHAPTER II

SA'ADYAH GAON ON THE INFLUENCE OF MUSIC

"Down to the 12th century Sa'adyah is the only (Jewish) writer... of whom any fragment on the theory of music is extant".

Steinschneider: *Jewish Literature*.

SA'ADYAH ben Yosef ha-Pitomi, known in Arabic as Sa'īd ibn Yūsuf al-Fayyūmī,¹ was born in the Fayyūm, Egypt, in the year 892, and died at Sura, Mesopotamia, in 942. Of his ancestors we know but little, even of his father, although one Jewish writer avers that the latter was a proselyte from Islām who had been a *mu'adhdhin*.² This assertion is mentioned because, seeing that Sa'adyah is the first Jewish writer on the theory of music, it would have had some interest had there been a vestige of truth in it.

Of his teachers and early life we know even less. An Arabic source tells us of a certain Abū Kathīr al-Kātib of Tiberias as one of his instructors.³ In his twentieth year Sa'adyah won fame with his dictionary known as the *Agron*, the first of its kind. Shortly after this he emigrated to the East, and we find him successively in Palestine, Baghdād, Aleppo, and Baghdād again, all of which were then centres of Arabic culture, as such names as Al-Nairizī, Al-Battānī, Abū Bakr al-Rāzī, Mattā ibn Yūnus, Sinān ibn Thābit, and Al-Fārābī prove. These travels and the cultural contacts which followed must have strongly influenced the scholarly Sa'adyah.

In the year 922 there began his well-known dispute with Ben Me'ir, the Gaon of the Pumbedita Academy, which occasioned his book the *Sefer ha-mo'adim* (Book of Festivals), and later the *Sefer ha-galui* (The Open Book), whose Arabic title, the *Kitāb al-ṭarīd* (Book of the Refuter) carries its own explication.

Sa'adyah was called as Gaon to the Sura Academy in the year 928 but, owing to the machinations of the jealous mediocrities at Pumbedita, he was deposed in 932, when he went into retirement at Baghdād. Here he wrote his best works, including the famous *Kitāb al-amānāt wa'l-i'tiqādāt* (Book of Doctrines and Beliefs), the importance of which may be gauged by the fact that it is mentioned in that great bibliographical storehouse of Arabic learning,

the *Kitāb al-fihrist*, written in 988, although a scribe managed to read كتاب الامانات instead of كتاب الفهرست.¹ Six years later (936), Sa'adyah was reinstated as Gaon at Sura where, although he only survived this event by four years, he made the academy the most famous in Jewry of those days.

§ 1

THE KITĀB AL-AMĀNĀT

Sa'adyah's great work, the *Kitāb al-amānāt* is the earliest systematic attempt to interpret Judaism by means of Aristotelian philosophy as known to the Jews in Arabic translations of the Stagyrte which had been made by Hunain ibn Ishāq, Ishāq ibn Hunain, Mattā ibn Yūnus, and others. It was in this work, written in Baghdād in the year 933, that Sa'adyah dealt with the influence of music in a passage which, hitherto, appears to have baffled correct interpretation. The passage therefore deserves special attention. In addition it is (1) The earliest contribution to the subject in Jewish literature; (2) It marks a definite stage in the religious as well as the musical history of the Jews; (3) It furnishes a supplementary document for the study of Arabian cultural domination in the Near East at this period.

The religious question which is involved may be summed up as follows. "After the rise of Islām and its conquest in the Near East, the Jews interested themselves in new artistic forms in poetry and music created by their new neighbours, the Arabs, and began adding to their song metered verse and *rhythmical music*."² Soon, however, there were objections raised against these innovations, and chapter and verse from the Bible and *Talmud* were quoted to sustain the condemnation.³ The leaven of the objection was *Hosea*, ix, 1—"Rejoice not, O Israel, for joy, as (other) people". This, together with other authority,⁴ gave substance to the pronouncements of the *tannaim* and *amoraim* against music.⁵ It is no wonder that disapproval was expressed against the latest innovation, rhythmical music.

We find the objection voiced by Hai Gaon (d.1038), Ishāq al-Fāsī (d.1103), and Maimonides (d. 1204). As to the last, it seems quite clear that he was

¹ Cf. Al-Mas'ūdī, *Kitāb al-tanbih* (B.G.A., viii), 113.

² Schechter, *Saadyana* (1903), 20.

³ He is supposed to have been the first to make an Arabic translation of the Bible, but cf. Steinschneider, *Arabische Literatur der Juden*, p. 36.

¹ *Kitāb al-fihrist*, p. 23.

² Idelsohn, *Jewish Music* (1929), p. 100.

³ Farmer, *Maimonides on Listening to Music* (1941), where the subject is fully discussed. For the Muslim point of view see Robson, *Tracts on Listening to Music* (1938) and Farmer, *Music: The Priceless Jewel* (1942).

⁴ *Isaiah*, v, 12: xxiii, 15-16. *Amos*, vi, 5. *Ecclesiasticus*, ix, 4.

⁵ *Soṭah*, 48a.

actually stating *his own views* when he said, "It is well known that . . . rhythms (*īqā'āt*), all of them, are forbidden",¹ but rather what was an accepted forbiddance at the time. This is evident from his *Shemonah peraḳim*, where he approves the "happy medium" of Platonic teaching in the judicious purification of the senses, and recommends "listening to stringed and wind instrumental music" for the purpose of "quicken[ing] the soul".²

With Sa'adyah there is no mention of objection to music,³ and we can therefore assume that none existed in Mesopotamia. Indeed, Sa'adyah, who is the pioneer among the Jews in expounding the "happy medium" of Plato, could scarcely have done otherwise than approve the judicious employment of music. His treatment of the influence of music on the soul of man, in his *Kitāb al-amānāt*, would not have been possible had there been any objection to music on his part or in his environment.

The form in which the *Kitāb al-amānāt* has come down to us seems to show some irregularity. It is divided into ten chapters (*maqālāt*), of which the first nine are clearly related, whilst the tenth and last is not, and so it has been argued that the latter may have been an afterthought or a separate monograph.⁴ This latter opinion is certainly discounted by the fact that in the *Kitāb al-fihrist*, written in 988, less than half a century after the death of Sa'adyah, the tenth chapter was an integral part of the work.⁵ These particulars are specially mentioned because the passage on music and its influence is to be found in this tenth chapter.

§ 2

THE INFLUENCE OF MUSIC

Sa'adyah is prompted to deal with the influence of music in his endeavour to demonstrate the effect of sense impressions in general on the soul of man, and he selects sight, hearing, and smell for this purpose. In ignoring taste and touch, he seems to be following Al-Kindī, although there may have been, apart from the reasons which he gives, religious motives for the selection. We see in the emphasis made by Maimonides on these three senses.⁶

¹ *Per ha-dor*, No. 143.

² *The Eight Chapters of Maimonides on Ethics*, Ed. by Gorfinkle, Chap. v.

³ *Beit. z. Gesch. d. Phil. des M. A.s* (1903), iv, 71.

⁴ *Alter, Saadia Gaon* (1921), p. 194.

⁵ *Kitāb al-fihrist*, p. 23.

⁶ *Guide of the Perplexed* (1881), i, 162.

He begins with the sense of sight and argues that single colours do not produce a beneficial effect on the soul, whereas a mixture of colours is not only pleasing to the eye, but is stimulating to the soul. Here is Sa'adyah's arrangement of the reaction of the soul from combining various colours.

HUMOUR	Yellow bile	Phlegm	Blood	Black bile
COLOUR	Red, yellow	Yellow, black	Black, red, yellow, white	Green, yellow
REACTION OF THE SOUL	Courage, audacity	Dejection	Sovereignty, dominion	Timidity, sorrow

This table is given here because colours were linked with music in the scheme of the *ethos*, as we have seen in Al-Kindī. At the same time it must be pointed out that Sa'adyah's arrangement is slightly different, in the form in which it has been preserved, from that of Al-Kindī and the Ikhwān al-Ṣafā', and it also conflicts with Sa'adyah's own statements elsewhere. The main differences are: (1) The order of the humours: (2) The omission of *red* from the humour *phlegm*: (3) The substitution of *green* for *black* under the humour *black bile*, although أخضر (*green*) may have been a copyist's slip for أسود (*black*): (4) The reaction of the soul, where, under the same humour, *timidity*, *sorrow* is in opposition to *gladness*, *sorrow* mentioned elsewhere, both of which are contrary to the *gladness*, *joyous* actions given by Al-Kindī.

In the sense of smell he shows, similarly, that the most complete satisfaction is derived from a combination of perfumes, which is lacking in a single or specific aroma. Between these two senses, Sa'adyah deals with the sense of hearing, and it is this doctrine that specially claims our attention in this monograph.

Needless to say, this theory of the superiority of the compound over the single, was not original with Sa'adyah. It is to be found in the περί διαίτης ὁξέων of Hippocrates, which had been translated into Arabic by Ḥunain ibn Ishāq (d. 873) as the *Kitāb al-amrāḍ al-hādida* (Book [of Regimen] of Acute Diseases). We know that Sa'adyah was acquainted with other works of Ḥunain, and certainly borrowed from his *Kitāb ādāb al-falāsifa* (Maxims of the Philo-

sophers), which was later translated into Hebrew by Yehudah al-Ḥarizi (12th cent.) as the *Sefer musre ha-filosofim*. Sa'adyah's theory that planetary influence was the cause of love, as stated in chapter ten of the *Amānāt*, seems to have been derived from this book by Ḥunain. There is also the possibility that the theory of the superiority of the compound over the single may have reached Sa'adyah through some work of Al-Kindī, who was well versed in Hippocratic teaching, and had even written a *Kitāb al-ṭibb al-[ib]buqrāṭī* (Book of Hippocratic Medicine).

In seeking to prove his theory Sa'adyah shows that the repetition of a single sound, a single kind of beat, or a single rhythm,¹ creates monotony, which is injurious to the soul, whereas a combination of sounds differently pitched, or beats diversely measured, or rhythms dissimilarly patterned, produce an agreeable effect. Elaborating this argument, Sa'adyah enumerates and describes the eight rhythmic modes which were current in his day, and explains the corresponding *ethos* of each.

Why Sa'adyah chose rhythmic modes rather than melodic modes to illustrate his argument may be explained thus. It was the accepted thesis that, in measured music, the rhythm was of greater import than the melody, hence the term *uṣūl* (roots, causes) was applied to rhythmic modes, a practice which obtains to this day.² Secondly, he found the argument already used before him and he did but copy the procedure. Thirdly, the diverse measures of rhythmic modes were capable of being so described as to be roughly understood by the uninitiated, whereas a description of the structure of the melodic modes could scarcely be appreciated, except by the practitioners of music, without the use of a tablature or notation.

According to the Arabs, rhythm (*iqā'*) had the same function in music (*ghinā'*) as prosody (*arūd*) had in poetry (*shi'r*),³ and the Jews of Babylonia appear to have derived rhythm from the Arabs at the same time as they borrowed metrical poetry (*piyyut*) from them, which took place in the 8th century.⁴

Rhythm was known to the Arabs as early as the Medinese minstrel Ṭuwais (632-705),⁵ but it is not until the time of Al-Khalīl, who appears to have systematized the art, that we know of a didactic work on the subject. This appeared in his *Kitāb al-īqā'* (Book of Rhythm).⁶ The next books of importance on the theory of rhythm were the *Kitāb al-naghm wa'l-īqā'* (Book of Melody and Rhythm) by Ishāq al-Mawṣilī (d. 850) and another with a similar

¹ See the Commentary to Chapter IV for the Arabic terms used and their specific meaning.

² Kāmil al-Khulā'i, *Kitāb al-mūsīqī al-sharqī* (1904-5), 62.

³ Ibn Khurdādhbih (d. ca. 912) as quoted by Al-Mas'ūdī, *Les prairies d'or*, viii, 97.

⁴ Idelsohn, *Jewish Music* (1929), 100.

⁵ Farmer, *History of Arabian Music*, 50.

⁶ Farmer, *Sources of Arabian Music*, 14.

title by Abū Aiyūb al-Madīnī (9th cent.).¹ After these came the *Risāla fi'l-īqā'* (Treatise on Rhythm) and other works by Al-Kindī (d. ca. 874), as well as the writings of his pupils Al-Sarakhsī (d. 899) and Manṣūr ibn Ṭalḥa (d. ca. 910), and the books of Thābit ibn Qurra (d. 901), all of which must have dealt with rhythm.²

It was from such sources that the Jews would have borrowed their ideas of rhythm in the theoretical (*naẓarī*) sphere, although the practitioners would already have picked up the elements of the practical (*'amalī*) art. Because of this it is proper that we should endeavour to probe for the Arab foundation of Sa'adyah's theory of rhythm.

Some of the ultimate Greek sources of Sa'adyah's *Amānāt* have been traced by Jacob Guttman and others, but, with the exception of Ḥunain ibn Ishāq, not a solitary individual Arabic authority has yet been discovered, although copious references were made by Guttman to the Ikhwān al-Ṣafā' who lived at least half a century later than Sa'adyah. Unfortunately, not one of the Arabic works on rhythm which have been mentioned has been preserved, nor do we possess the *Kitāb al-īqā'* (Book of Rhythm) of Aristoxenus or the *Kitāb al-īqā'* of Qanṭwān al-Babīlī, both of which were known to the Arabs.³ The only available sources of information concerning Arabian rhythm earlier than Sa'adyah are the works of Al-Kindī and Ibn Khurdādhbih. What the latter tells us about rhythm has been handed down by Al-Mas'ūdī (d. ca. 957) in his *Murūj al-dhahab*, but it is too fragmentary to be of much use.⁴ The material from Al-Kindī is of far greater value. Although his *Risāla fi'l-īqā'* is denied us, we have the subject of rhythm dealt with in two extant treatises of his, the *Risāla fi' ajzā' khabariyat al-mūsīqī* (Practical Treatise Concerning the Divisions of Music) and the *Risāla fi' khubr ta'līf al-alḥān* (Treatise Concerning Inner Knowledge in the Composition of Melodies),⁵ whilst we also have extracts from Al-Kindī on rhythm in the *Kitāb al-kāfi fi'l-mūsīqī* (Book of Sufficiency Concerning Music) by Ibn Zaila (d. 1048).⁶

The most important of these Al-Kindī sources is the first named. Herein we find a similar doctrine to that enunciated by Sa'adyah concerning colour, sound and perfume. The similarity between the two is so close that one is tempted to look upon Al-Kindī as the source from which Sa'adyah derived much of his material. It is possible, of course, that both Al-Kindī and Sa'adyah borrowed from a common source, although this view is rather discounted by

¹ Farmer, *Sources of Arabian Music*, 16, 22.

² Ibid., 20, 22, 30, 32.

³ Farmer, *Sources* . . . , 25, 29. It is highly probable that much of Aristoxenian theory of rhythm is contained in Al-Fārābī's *Kitāb al-mūsīqī al-kabīr*.

⁴ *Les prairies d'or*, viii, 97.

⁵ Farmer, *Sources* . . . , 20, 21.

⁶ Ibid., 42.

Al-Kindī's own words in the preface to his treatise where he says that he follows *current usage* rather than what the ancient Greeks taught.

One thing is certain. Most of Al-Kindī's work had been accomplished at Baghdād half a century before the arrival of Sa'adyah in the metropolis of the khalifate. Here, and elsewhere, the books of the "philosopher of the Arabs" had already become primers in almost every sphere of scientific and philosophic enquiry, even in the face of the inquisition of Al-Mutawakkil (d. 861) and his successors, who sought to destroy much of the writings of Al-Kindī and his pupils. Elsewhere his fame grew widely, and penetrated, *via* Muslim Spain, to Western Europe where no less than twenty-one of his works were known in Latin.¹ In the circumstances, Sa'adyah could scarcely have escaped the influence of so great a mind as Al-Kindī, whom Cardan claimed to be one of the twelve of the world's greatest thinkers.²

¹ Sitz. Akad. d. Wiss. Wien : Phil. Hist.: (1904), cli, 99.

² Cardan, *De subtilitate rerum* (Lyons, 1552), 597.

CHAPTER III

AL-KINDĪ ON RHYTHM AND ITS INFLUENCE

"(I mention in the rhythmic modes) what prevails in present-day usage... omitting what... was the custom of the ancient Greek philosophers".

Al-Kindī : *Risāla fī ajzā' khabariyat al-mūsīqī*.

ALTHOUGH it is Sa'adyah's treatment of music and its influence on the soul which are under consideration, it is imperative that attention should first be paid to the suggested *fons et origo* of Sa'adyah's theory which is to be found in Al-Kindī's treatise quoted above, because it is the key to the technical elucidation of Sa'adyah's text.

Abū Yūsuf Ya'qūb al-Kindī (d. ca. 874) was the greatest of the Muslim philosophers prior to Al-Fārābī (d. ca. 950). He was born at Al-Kūfa and educated at Al-Baṣra. At middle age he was held in high esteem at the court of Al-Ma'mūn (d. 833) and Al-Mu'taṣim (d. 842), being tutor to Aḥmad the son of the latter khalif, dedicating several of his books to this enlightened prince. We know little of his life, or even of the date of his death, although this is generally given as ca. 874. Yet he may have died earlier. Under the orthodox reaction of Al-Mutawakkil (d. 861), Al-Kindī was charged with being a Freethinker (*zindīq*) and in the year 856-7, he was flogged at the khalif's order. He received sixty lashes and may have succumbed under the ordeal. Abū 'Alī 'Abd al-Raḥmān ibn Khāqān says that he saw Al-Kindī in a dream *after he was burned*. Possibly the body of the great philosopher was burned after his death from flogging.

How deeply Al-Kindī was influenced by the writings of the Greeks is patent everywhere in his books. Much of this may have been obtained direct from Greek works, or from Syriac translations. Early 19th century writers considered Al-Kindī to have been one of the first of the translators from Greek into Arabic, but this opinion appears to have been abandoned without the grounds being stated,¹ although there are reasons for believing that Al-Kindī was either a translator from Greek and/or Syriac into Arabic, or that he employed a translator for his own personal requirements.

We know from the *Kitāb al-aghānī* that up to the time of the death of

¹ Cf. Brockelmann, *Geschichte der arabischen Litteratur*, ii, Kap. 11-12.

Ishāq al-Mauṣilī (d. 850) no Arabic translation of any Greek writer on the theory of music had appeared,¹ yet it is evident from the extant works of Al-Kindī on music that he was acquainted with several of these Greek theorists. In view of this we may assume that, unless Al-Kindī worked immediately from the Greek or Syriac, the Arabic translations which he made or used, were not made public before the year 850.

§ 1

TEXTS ON MUSIC

Al-Kindī was a voluminous writer, and his works cover almost every phase of intellectual activity. Seven or eight of his books were on the theory of music, and three or four of them are extant.² One of these, the *Risāla fī ajzā' khabariyat al-mūsīqī*, is the work which, probably, supplied the basis of Sa'adyah's treatment of the influence of music which forms the subject of the next chapter. In this book, Al-Kindī deals with the "divisions of music" in two chapters (*maqālatān*) of four sections (*fuṣūl*) each. The first chapter treats of (1) A description of the eight rhythmic modes: (2) Modulation from one rhythmic mode to another: (3) The arrangement of rhythms according to cognate metrical forms: (4) The application of specific rhythmic modes to certain hours of the day. The second chapter treats of (1) The place of rhythm in the doctrine of the *ethos*: (2) The constitution of colours: (3) The constitution of perfumes: (4) The *dicta* of the philosophers about music. This last section is incomplete in the solitary manuscript which has been preserved, but we can supply what is missing from sections xviii—xx of the *Kitāb ādāb al-falāsifa* of Ḥunain ibn Ishāq (d. 873), which deals with the same subject, and appears to have been based on the same material, whilst another source of repair for the hiatus is the *Rasā'il* of the Ikhwān al-Ṣafā'.³

As we shall see when dealing with Sa'adyah's text on rhythm and its influence, this latter is practically identical with what Al-Kindī's says on the subject, except that where the former treats of rhythm and its influence together, the latter discusses them separately. Here are the two hitherto unpublished passages from Al-Kindī's *Risāla fī ajzā' khabariyat al-mūsīqī* dealing with the rhythmic modes (fol. 32) and their influence (fol. 33v), from the sole exemplar in the Staatsbibliothek at Berlin.⁴

¹ *Kitāb al-aghānī*, v, 53. I do not include the *Timaeus* of Plato, which has passages on music, in this statement. This had been translated by Yūḥannā ibn al-Bitriq (d. 815).

² See Farmer, *Sources of Arabian Music* (1940), pp. 19-21.

³ *Rasā'il* (Bombay edit.), i, 119.

⁴ I have quoted extensively from this work and others by Al-Kindī in my *Influence of Music: From Arabic Sources* (1926).

[fol. 32.]

الفصل الاول من المقالة الاولى في الايقاعات

اما الايقاعات التي هي كالاجناس¹ لسائر الايقاعات فتقسم بشمانية ايقاعات. وهي الثقيل الاول الثقيل الثاني الماخوري خفيف الثقيل الرمل خفيف الرمل خفيف الخفيف الهزج . . .

[١] اما الثقيل الاول ثلاث نقرات متواليات ثم نقرة ساكنة ثم يعود الايقاع كما ابتدى به

[٢] والثقل الثاني ثلاث نقرات متواليات ثم نقرة ساكنة ثم نقرة متحركة ثم يعود الايقاع كما ابتدى به .

[٣] والماخوري نقرتان² متواليتان لا يمكن ان يكون بينهما زمان نقرة ونقرة منفردة وبين وضعه ورفعه ووضعه زمان نقرة

[٤] وخفيف الثقيل ثلاث نقرات متواليات لا يمكن ان يكون بين واحدة منهن زمان نقرة وبين كل ثلاث نقرات وثلاث نقرات زمان نقرة .

[٥] والرمل نقرة³ منفردة ونقرتان متواليتان لا يمكن بينهما زمان نقرة وبين رفعه ووضعه ووضعه ورفعه زمان نقرة .

[٦] وخفيف الرمل ثلاث نقرات متحركات ثم يعود الايقاع كما ابتدى به .

[٧] وخفيف الخفيف نقرتان⁴ متواليتان لا يمكن بينهما زمان نقرة وبين كل نقرتين ونقرتين زمان نقرة .

[٨] والهزج نقرتان متواليتان لا يمكن بينهما زمان نقرة وبين كل نقرتين ونقرتين زمان نقرتين .

¹ MS. has جنس Cf. Ikhwān al-Ṣafā' (Edit. Bombay), i, 115

² MS. has بفردة

³ MS. has نقرات

⁴ MS. has نقرات

[fol. 33v.]

الفصل الاول من المقالة الثانية في مشاكلة

الاولات... واركان البدن... والافعال.

[١] فمما يظهر بحركات الزير في افعال النفس الافعال الفرحية والعزمية والغلبية وقساوة القلب والجراة وما اشبهها وهو مناسب لطبع الماغوري وما شاكاها ويحصل من قوة هذا الوتر وهذا الايقاع ان يكونا مقويين للمرار الاصفر محركين له مسكنين للبلغم مطفيين له.

[٢] ومما يلزم المثنى من ذلك الافعال السرورية الطرية والجودية والكرمية والتعطف والركة وما اشبه ذلك وهو مناسب لثقل اللول وثقل الثاني ويحصل من قوة هذا الوتر وهذين الايقاعين ان تكون^١ مقوية للدم محركة له مسكنة للسوداء مطفية لها.

[٣] ومما يلزم المثلث من ذلك الافعال الخشبية^٢ والمراثي والحزن من انواع البكاء واشكال التضرع وما اشبه ذلك وهو مناسب للثقل الممتد ويحصل من هذا الوتر وهذا الايقاع ان يكونا مقويين للبلغم محركين له مسكنين للصفراء مطفيين لها.

[٤] ومما يلزم البم من ذلك الافعال السرورية تارة والفرحية تارة والحنين والمحبة وما اشبه ذلك وهو مناسب للالهزاج والالمال والخفيف وما اشبه ذلك ويحصل من هذا الوتر وهذه الايقاعات ان تكون^٣ مقوية للسوداء محركة لها مسكنة للدم مطفية له.

^١ MS. has يكون
^٢ MS. has يكون

^٢ MS. has الخبيثة (vile) which is unlikely.

§ 2

THE TRANSLATIONS

"SECTION 1 OF DISCOURSE 1: CONCERNING THE RHYTHMS.

As for the rhythms (*iqā'āt*) which are genres¹ to the rest of the rhythms,² then they are divided into eight rhythms, and they are: *Al-Thaqīl al-awwal*, *Al-Thaqīl al-thānī*, *Al-Mākhūrī*, *Khafīf al-thaqīl*, *Al-Ramal*, *Khafīf al-ramal*, *Khafīf al-khafīf*, [and] *Al-Hazaj*. . . .

(1) As for *Al-Thaqīl al-awwal*, it is three consecutive beats (*naqarāt mutawālīyāt*), then a quiescent beat (*naqra sākina*), then the rhythm returns as it began.

(2) And *Al-Thaqīl al-thānī* is three consecutive beats, then a quiescent beat, then a movent beat (*naqra mutaharrika*), then the rhythm returns as it began.

(3) And *Al-Mākhūrī* is two consecutive beats—there should not be between them the time of a beat—and a solitary beat, and between its putting down and its raising up, and its raising up and its putting down is the time of a beat.

(4) And *Khafīf al-thaqīl* is three consecutive beats—there should not be between one (pair) of them the time of a beat—and between every three beats and three beats is the time of a beat.

(5) And *Al-Ramal* is a solitary beat and two consecutive beats—there should not be between them the time of a beat—and between its raising up and its putting down, and its putting down and its raising up is the time of a beat.³

(6) And *Khafīf al-ramal* is three movent beats, then the rhythm returns as it began.

(7) And *Khafīf al-khafīf* is two consecutive beats—there should not be between them the time of a beat—and between every two beats and two beats is the time of a beat.

(8) And *Al-Hazaj* is two consecutive beats—there should not be between them the time of a beat—and between every two beats and two beats is the time of two beats."

¹ The MS. has "genre" but "genres" is intended.

² Meaning that these eight genres (*ajnās*) produced various species (*anwā'*) of subsidiary rhythms.

³ I have pointed out in the Commentary that this line is incorrect, and should probably read "and between its putting down and its raising up, and its raising up and its putting down."

"SECTION 1 OF DISCOURSE 2: CONCERNING THE RESEMBLANCE OF THE STRINGS (OF THE LUTE) ... AND THE HUMOURS, ... AND THE ACTIVITIES (OF THE SOUL, ... AND THE RHYTHMS).

(1) "So what results from the sounds (*harakāt*)¹ of the *zīr* string (c) in the activities of the soul, are the joyful, and glorious, and victorious actions, and hardness of heart, and courage, and such like. And it (i.e. the *zīr* string) corresponds to the nature of (the rhythm) *Al-Mākhūrī*, and what is like it. And there obtains from the potency of this string and this rhythm that they both strengthen (the humour of) the yellow bile, stirring it, quietening (the humour of) the phlegm, checking it.

(2) And of what is inseparable from the *mathnā* string (G) of this, are the gladsome, and delightful, and generous, and noble actions, and sympathy, and tender heartedness, and such like. And it corresponds to (the natures of the rhythms) *Al-Thaqīl al-awwal* and *Al-Thaqīl al-thānī*. And there obtains from the potency of this string and these two rhythms that they strengthen (the humour of) the blood, stirring it, quietening (the humour of) the black bile, checking it.

(3) And of what is inseparable from the *mathlath* string (D) of this, are unmanly actions, and bewailings, and grief of the various kinds of weeping and types of entreaty, and such like. And it corresponds to (the nature of the rhythm) *Al-Thaqīl al-mumtadd*. And there obtains from (the potency of) this string and this rhythm that they both strengthen (the humour of) the phlegm, stirring it, quietening (the humour of) the yellow bile, checking it.

(4) And of what is inseparable from the *bamm* string (A) of this, are gladsome actions at one time and joyful actions at another time, and graciousness, and love, and such like. And it corresponds to (the nature of the rhythms) *Al-Ahzāj*, and *Al-Armāl*,² and *Al-Khafīf*, and such like. And there obtains from (the potency of) this string and these rhythms that they strengthen (the humour of) the black bile, stirring it, quietening (the humour of) the blood, checking it."

It is in these descriptions of the Rhythmic modes of the Arabs by Al-Kindī that we have the key to the solution of Sa'adyah's well known but elusive passage on music in the *Kitāb al-amānāt*.

¹ *Lit.*, "movements, pulsations".

² These words are the plurals of *Al-Hazāj* and *Al-Ramāl*, and refer to the various species of these rhythms.

§ 3

COMMENTARY

Before we can appreciate fully the description of the rhythmic modes given by Al-Kindī, it is necessary to know something of the technical musical terminology of the Arabic theorists of the period. Although there were several of these writers who were contemporary with Al-Kindī,¹ the works of only two of them, the *Risāla fī l-mūsīqī* of Ibn al-Munajjim (d. 912),² and the *Kitāb al-lahw wa'l-malāhī* of Ibn Khurdādhbih (d. ca. 912)³ have come down to us. The former is insufficient for our purpose, and the latter is not available. In view of this we have to turn elsewhere, mainly because we cannot be sure of some of Al-Kindī's definitions on account of copyists' blunders.

Most Arabic theorists treat of the theory of music (*ilm al-mūsīqī*) in two divisions, viz. *Melody*, dealing with the notes (*naghamāt*) in respect of consonance (*ittifāq*) or dissonance (*tanāfur*); and *Rhythm*, dealing with the time values (*azmina*) which fall between the beats (*naqarāt*) in respect to measure (*wazn*) or want of it.⁴

In the *Mukhtaṣar al-mūsīqī*, which Al-Kindī wrote for Aḥmad, the son of Khalīf al-Mu'taṣim, we get a few definitions concerning this first division of musical knowledge, i.e. melody, but the manuscript has been so sadly maimed by copyists, that even a tentative reconstruction is unsatisfactory. In this work the term *ṣawt* is used in its technical, physical sense for "sound", i.e. what is caused by non-periodic vibrations. *Naghma*, on the other hand, is used for "musical sound", or what we would call a "note", i.e. what is caused by definite periodic vibrations.⁵ *Lahn* or melody is composed of musical sounds, i.e. notes, of various intervals (*ab'ād*, sing. *bu'd*), which may be, mensurally, long or short, and dynamically, strong or weak, as he tells us elsewhere.⁶

Then we have the terminology of the second division of musical knowledge, i.e. rhythm, a subject which concerns us more intimately. In his *Risāla fī ajzā' khabariyat al-mūsīqī*, Al-Kindī has certainly defined rhythm but, in the solitary exemplar of this work the copyist appears to have omitted to transcribe this definition. The sentence begins ... *فاما الإيقاع فهو* "Then as for rhythm, then it is ..."⁷ Here the clause is left unfinished, and the copyist proceeds to another sentence, although the obvious hiatus is unmarked in the

¹ Farmer, *Sources of Arabian Music* (1940), pp. 15-30.

² *Ibid.*, p. 32.

³ *Ibid.*, p. 33.

⁴ Hājji Khalīfa, *Lex. Bibl.*, vi, 255, the definition is actually derived from Al-Lādhīqī's *Risālat al-Faḥḥiya*.

⁵ Berlin Staatsbibliothek MS. 5531, fols. 22-22v.

⁶ Fol. 22, 3rd line from bottom. See also his *Risāla fī khubr ta'lif al-alḥān* (fol. 165) and his *Risāla fī tartīb al-naghm* (fol. 25).

⁷ Berlin Staatsbibliothek MS. 5503, fol. 32.

manuscript. He doubtless gave a complete definition in his lost *Risāla fi'l-īqā'*. It certainly occurred in his *Kitāb fi'l-nisab al-zamāniya* and his *Kitāb fi'l-aqāwīl al-'adādiya*, as he himself tells us,¹ but these works have also disappeared. We are compelled therefore to depend on his terminology alone to guide us.

According to Al-Kindī, rhythm was known as *īqā'* (pl. *īqā'āt*). It consisted of certain *naqarāt* (beats, sing. *naqra*), each of which had a time value or mensural duration (*zaman*, *zamān*, pls. *azmān*, *azmina*), whilst a combination of beats of diverse time values was termed a *miqdār* (measure, pl. *maqādīr*) or *wazn* (pl. *awzān*).

The first real definitions come, however, from Al-Fārābī (d. ca. 950). He follows Greek definitions to a great extent. He says that "a *naghma* (note) is a determinable (*wāḥid*) sound (*ṣawt*) persisting for an appreciable time," which is little different from Aristides² and Pseudo-Euclid (Cleonides).³ Again he distinguished between "sound" in the physical sense, and "musical sound," in that the latter has a definite pitch, or as Al-Khwārizmī puts it,—" *naghma* is a sound which does not change (its pitch) from high to low."⁴ *Laḥn* (pl. *alḥān*) stands for "melody," and is defined by Al-Fārābī as "a collection of diverse notes arranged in a determined order."⁵

Rhythm with Al-Fārābī, and with all of the Arabic theorists is *īqā'* (pl. *īqā'āt*), and he defines it thus: "Rhythm is the expression, by means of notes (*nagham*),⁶ of time values (*azmina*) determined by measures (*maqādīr*)."⁷ A later theorist, Al-Khwārizmī, says likewise, but ends with the words "by measures and ratios"⁸. Again in the *Iḥṣā' al-'ulūm*, Al-Fārābī says,—"Rhythms . . . are the measures (*awzān*) of the notes (*nagham*)."⁹

The use of the term "beats" (*naqarāt*) by Al-Kindī, and of "notes" (*nagham*, *naghamāt*, sing. *naghma*) by Al-Fārābī and others to designate the constituent elements of rhythm, appear at first sight to be conflicting. Actually, this is not so. The theorists invariably had the lute ('ūd) in mind when making definitions, just as the Greeks had the *kithara*. On the lute, rhythm was effected by diversely timed "beats" (*naqarāt*) made with a plectrum (*miḍrāb*) on the strings which, in turn, produced diversely measured "notes" (*nagham*, *naghamāt*). In other words, "beats" were the *cause*, and "notes" were the *effect*. As the Ikhwān al-Ṣafā' (10th cent.) say¹⁰: "Melody is composed

¹ British Museum, Or. 2361, fol. 168.

² Meibomius, p. 9.

³ *Maḥāṭib al-'ulūm*, p. 240.

⁶ This is another plural of *naghma*.

⁷ Leyden MS., fol. 46.

⁹ Farmer, *Al-Fārābī's Arabic-Latin Writings on Music*, pp. 13, 16, 30.

¹⁰ *Rasā'il*, i, 93. See Farmer, *Al-Fārābī's Arabic-Latin Writings on Music*, pp. 63-4.

³ Meibomius, p. 1.

⁵ Leyden MS., fol. 2.

⁸ Op. cit. p. 245.

of notes, and notes arise from beats". It is obvious therefore that it depends entirely on the point of view whether we say that rhythm is made up of "beats" or "notes". Ibn Sīnā (d. 1037) had a foot in each camp since he said that "Rhythm deals with the time values intervening between notes and beats."¹ At the same time it has to be recognized that if the rhythm were played on a pulsatile instrument, such as the drum (*ṭabl*) or the tambourine (*duff*, *ṭār*), it would be "sounds", not "notes" that would be heard.

Concerning the text itself of Al-Kindī on the rhythmic modes, little can be said by way of criticism or emendation, save what has been done in the footnotes and in the elucidations made in Chapter IX, because the Berlin manuscript is the sole exemplar. There is, however, one passage that calls for special notice.

One of the commonest forms of error made by scribes in copying manuscripts, is the reversal of an antithesis, and an example of this seems to have been perpetrated in the text under discussion. In the section on the *Ramal* mode the passage reads,— "and between its raising up and its putting down, and its putting down and its raising up". This should, probably, read,— "and between its putting down and its raising up, and its raising up and its putting down," as in the *Mākhūrī* mode. The reason for this correction is that the passage refers to the natural downward and upward strokes of the plectrum (*miḍrāb*) on the string of the lute ('ūd), as exemplified in Chapter IX.

Al-Kindī deals with rhythm in two other treatises which are extant. The first is in the *Kitāb al-kāfi fi'l-mūsīqī* of Ibn Zaila (d. 1048) where Al-Kindī's definitions of seven of the rhythmic modes are quoted, possibly from his *Risāla fi'l-īqā'*.² They do not all agree with what he has stated in the *Risāla fi' ajzā' khabariyat al-mūsīqī* as quoted in the present monograph, but they serve as a valuable control. The second work is the *Risāla fi' khubr ta'līf al-alḥān*,³ and what Al-Kindī has to say there about rhythm concerns its *ethos*, and appears to have been derived from the *Eisagoge harmonike* of Pseudo-Euclid (Cleonides),⁴ which was known in Arabic translation as the *Kitāb al-nagham* (Book of Notes) or *Kitāb al-naghm* (Book of Melody).⁵

In this work, Al-Kindī calls attention to three ethological kinds of composition (*ta'līf*), viz. the *qabḍī* "which creates grief," the *busṭī* "which excites delight," and the *mu'tadil* "which produces veneration, honour and beautiful noble praise." These three types of composition appear to correspond to the *systaltic*, *diastaltic*, and *hesychastic* groups into which Pseudo-Euclid divides the *ethos*.

¹ *Kitāb al-najāt*, Bodleian MS. Marsh, 521, fol. 159.

² Farmer, *Sources* . . . , p. 42.

⁴ Meibomius, *Ant. Mus. Auct.*, p. 21.

³ *Ibid.*, p. 20.

⁵ Farmer, *Sources* . . . , p. 26.

When dealing with rhythm, Al-Kindī adopts the same triple division of the *ethos* as follows :

- (1) The *iqā'āt al-thaqīlat al-mumtaddat al-azmān*, i.e. the slowest of the slow (*thaqīl*) species, which produce "grief and sadness."
- (2) The *iqā'āt al-khafīfat al-mutaqarriba*, i.e. the quickest of the quick (*khafīf*) species, which produce "mirth, great agitation, and contentment."
- (3) The *iqā'āt al-mu'tadila*, i.e. the medium species, which produce "temperate moods."

Between this tripartite scheme and that based on the "four-fold things" as previously described, there is some agreement, as the following equations may show.

RISĀLA FĪ AJZĀ' FĪ KHABARĪYAT AL-MŪSĪQĪ	RISĀLA FĪ KHUBR TA'LĪF AL-ALHĀN
(1) <i>Al-Thaqīl al-awwal</i> (1) <i>Al-Thaqīl al-thānī</i> (2) <i>Al-Mākhūrī</i>	(3) <i>Iqā'āt al-mu'tadila</i>
(3) <i>Al-Thaqīl al-mumtadd</i>	(1) <i>Iqā'āt al-thaqīlat al-mumtaddat al-azmān</i>
(4) <i>Al-Ahzāj</i> (4) <i>Al-Armāl</i> (4) <i>Al-Khafīf</i>	(2) <i>Iqā'āt al-khafīfat al-mutaqarriba</i>

Both of these treatises also show that there were actually more than eight rhythms, but that these eight, were the bases (*uṣūl*) or canons (*qawānīn*) upon which the subsidiary rhythms were constructed. Al-Kindī makes this clear when he says that these eight "are *genres* for the rest of the rhythms." In the *Ikhwān al-Ṣafā'* (10th cent.) this is made more palpable.¹

"We say that the language of the Arabs and their melodies (*alḥān*) are upon eight canons, . . . and these eight are the *genres* (*ajnās*) and the rest of them are the *species* (*anwā'*) which branch out from them."

The *Ikhwān* show that there could be twenty-two varieties.²

Whether Al-Kindī was the immediate source of Sa'adyah's treatment of the subject or not, it is the text of Al-Kindī which enables us to elucidate the meaning of Sa'adyah's theory, to which discussion we now proceed.

¹ *Rasā'il* (Bombay edit.), i, 115.

² *Ibid.*, i, 94.

CHAPTER IV

SA'ADYAH ON RHYTHM AND ITS INFLUENCE

"The text . . . , particularly the portion dealing with music offers great difficulties."
Malter: *Saadia Gaon*.¹

THERE are five separate versions of Sa'adyah's passage on music and its influence as contained in the *Kitāb al-amānāt*, viz.—the Arabic original, three Hebrew versions, and a summary in Hebrew. In spite of this array, Sa'adyah's latest and best biographer, Dr. Henry Malter, pointed out in 1921 that the passage on music "has not yet been properly explained"² because, seemingly, it "offers great difficulties."³ We shall see that some of the difficulties are due to the conflicting nomenclature of Sa'adyah which not only misled Ibn Tibbon, his best known translator into Hebrew, but contributed to the misconception of the passage by both Orientalists and musicographers down to the present time.

The five separate versions to which I have alluded are contained in:⁴

- (1) The original Arabic *Kitāb al-amānāt* by Sa'adyah written in the year 933.
- (2) The Hebrew version known as the *Piteron sefer ha-emunot*, sometimes called the "Paraphrase", said to have been made in the year 1095.
- (3) The Hebrew version of Abraham bar Ḥiyya (d. 1136), as originally included in his *Megillat ha-megalleh*, and handed down by Ya'aqob ben Ḥayyim Ferussol in his *Bet ya'aqob*, written in 1422.
- (4) The Hebrew summary made in the Major Compendium of Bera-kyah ha-Naqdan about the year 1180.
- (5) The Hebrew version known as the *Sefer ha-emunot* made by Yehudah ibn Tibbon in the year 1186.

¹ The comment refers, primarily, to Ibn Tibbon's Hebrew version, but it was the Arabic original which produced most of the "great difficulties".

² Malter, *Saadia Gaon*, p. 369.

³ *Ibid.*, p. 259.

⁴ For the pedigree of these versions see Appendix.

To apprehend fully the passage on rhythm by Sa'adyah it is essential that all these versions should be critically edited and translated under the partial control of the work by Al-Kindī, and thereafter carefully compared with one another. As a result it will be found that a more definite interpretation of Sa'adyah's theory has been secured, and that some, at least, of the "great difficulties" mentioned by Dr. Malter, have been removed.

§ 1

THE TEXT

The original Arabic text of the *Amānāt* which contains the elusive passage on rhythm exists in two manuscripts only. Both of these are written in the Hebrew script, although the language is Arabic. They are to be found at the Bodleian Library, Oxford, and at the State Library, Leningrad. The former was first edited by Jean Gagnier in his *Specimen novae editionis libri האמונות והדעות* (Oxford, 1717), which also contained Ibn Tibbon's Hebrew version as well as a Latin translation contributed by Gagnier himself. This has become a rather scarce book, so much so that I have been unable to consult it in the preparation of this monograph. Even the Bodleian Library does not possess a copy.

Samuel Landauer also issued the text (Leyden, 1880), using the Bodleian manuscript as his basis. He noted the variants from the Leningrad copy, and transliterated the Hebrew characters into Arabic. Apart from his introductory remarks he contributed little to the clarification of the text, although an *apparatus criticus* was obviously necessary.

Whilst I have consulted the edition of Landauer (pp. 317-18) the present text of Sa'adyah's passage on rhythm is based on the Bodleian manuscript (*Pocock*, 148, *fols.* 189v-190), which is in the Hebrew script. There can be little doubt that Sa'adyah wrote the *Amānāt* in the Arabic script,¹ and that it was transliterated into the Hebrew script later, probably under the pressure of conservative Judaism. Sa'adyah's transliterator used the following and usual system; ع = ה, خ = כ, ז = ד, ض = ז, ط = פ, غ = ע

Here is the text of the section on rhythm and its influence from the tenth chapter of Sa'adyah's *Kitāb al-amānāt*:

¹ Malter, p. 142.

[illegible]

[illegible]

(fol. 189v)

פאקול אלען אן אלאחאן תמ[א]ניה לבל ואחד מקאדיר מן
אלתננים.

פאלאול מנהא מקדארה ג' נזמאת מתואליאת וואחדה סאכנה.

ואלב' [מקדארה]¹ ג' נזמאת מתואליאת וואחדה סאכנה
וואחדה מתחרבה. והדאן אללחנאן יחרבאן קוה אדם וכלק
אלמלך ואלסלשאן.

ואלג' מקדאר[ה] נזמתין מתואליתי² לים בינהמא זמאן
[Lenin, fol. 132] נזמה וואחדה סאכנה³ ובין וצעה ורפעה [...]
ווצעה⁴ זמאן נזמה. והדא וחדה יחרך אלצפרא⁵ ואלשנאעה
ואלנרא⁶ ומה מתלהא.

ואלד' מקדארה ג' נזמאת מתואליאת לא יכון בינהא זמאן נזמה
ובין כל ג' וג' זמאן נזמה. והדא וחדה יחרך אלבלגם ויפחר מן
אלנפס קוה אלדל ואלתצערע ואלגבן ומה אשבה דלך.

ואלה' מקדארה נזמה מפרדה ואתנתין מתבאינתין⁷ לים
בינהמא זמאן נזמה ובין [...] רפעה ווצעה⁸ זמאן נזמה.

¹ Added from Al-Kindi.

² The Bodleian MS. has נזמתין מתואליתי. Sa'adyah uses the colloquial form consistently.

³ סאכנה (quiescent) is wrong. The word should be מנפרדה (solitary) as given in Al-Kindi's MS. or מפרדה as in line 14 of the above. See Commentary.

⁴ Landauer's text has *ولين وضعه ورفعته ووضعته* with feminine endings, whereas the Bodleian MS. has pronominal suffixes as in Al-Kindi's MS. Both Landauer's text and the Bodleian MS. ought to read *ولين وضعه ورفعته* [ורפעה] ווצעה so as to agree with Al-Kindi.

⁵ The Bodleian MS. has the colloquial מתבאינתין whilst Al-Kindi writes *ونقرتان متواليتان*.

⁶ Landauer's text has the same faults in *δ* instead of *δ* as mentioned in footnote 4. There are also omissions in Landauer and the Bodleian MS. The passage in Al-Kindi reads *ولين رفعه ووضعه ووضعته ورفعته*. See Commentary.

ואלסאדס מקדארה ג' נגמאת מתחרבאת.

ואלז' מקדארה נגמתין מתואליתין¹ לים בינהמא זמאן נגמה
ובין כל אתנתין ואתנתין זמאן נגמה.

ואלח' מקדארה נגמתין מתואליתין² לים בינהמא זמאן נגמה
ובין כל אתנתין ואתנתין זמאן נגמתין והדה אלד' בלהא תחרד
אלסודא³ ותטהר מן אלנפס⁴ אכלאק מתקסמה אלי אלסרור
תארה ואלי אלגם⁵ תארה אכרי⁶.

§ 2

THE TRANSLATION

Apart from the translation into Latin made by Gagnier in 1717, which I have not seen, no translation into any European language has ever been made from the Arabic text of Sa'adyah, so far as I am aware.⁶ For this reason the following English version of the passage on rhythm is submitted.

"So I say here that there are eight melodies (*alḥān*),⁷ and to all and each are measures (*maqādir*) (derived) from the intoning (*tanghīm*).⁸

(1) Then as for the *First* of them, its measure is three consecutive notes (*naghamāt*)⁹ and one quiescent (note).

(2) And the *Second*, [its measure] is three consecutive notes, and one quiescent (note), and one movent (note). And these two melodies move the strength (of the humour) of the blood and the temperament of sovereignty and dominion.

¹ The Bodleian MS. has this colloquial form.

² Leningrad MS. has נפס.

³ Possibly a misreading of [الفرجة]. See Commentary.

⁴ Leningrad MS. omits.

⁶ A German version of the Hebrew made by Steinschneider and Barrasch is still unpublished but even this does not contain the passage on music.

⁷ The word is translated in its literal sense as "melodies", but see the Commentary where the real meaning is shown to be "rhythms".

⁸ In the Commentary I have shown that "beating" may be intended rather than "intoning".

⁹ Implying "beats" rather than "notes".

(3) And the *Third*, its measure is two consecutive notes—there is not between them the time of a note—and one quiescent¹ (note), and between its putting down and its raising up² [...] and its putting down, is the time of a note. And this (melody) alone moves (the humour of) the yellow bile, and (the temperament of) courage and audacity, and what is like them.

(4) And the *Fourth*, its measure is three consecutive notes—there is not between them the time of a note—and between every three (notes) and three (notes) is the time of a note. And this alone moves (the humour of) the phlegm, and there appear in the soul the feeling of abasement, and submission, and cowardice, and what resembles that.

(5) And the *Fifth*, its measure is a solitary note and two separate³ (notes)—there is not between them the time of a note—and between its [...] raising up and its putting down⁴ is the time of a note.

(6) And the *Sixth*, its measure is three movent notes.

(7) And the *Seventh*, its measure is two consecutive notes—there is not between these two the time of a note—and between every two (notes) and two (notes) is the time of a note.

(8) And the *Eighth*, its measure is two consecutive notes—there is not between these two the time of a note—and between every two (notes) and two (notes) is the time of two notes. And these four (melodies), all of them, move (the humour of) the black bile, and there appear in the soul diverse dispositions, gladness sometimes, and sorrow at other times."⁵

§ 3

COMMENTARY

In his use of such terms as *alḥān* (melodies), *tanghīm* (intoning), and *naghamāt* (notes) it would seem, at first glance, that Sa'adyah is describing *melodic modes* rather than *rhythmic modes*, that is, if we take these words at their face value, and if that were the case, there would be a serious divergence between Sa'adyah and Al-Kindī who are, obviously, describing the identical

¹ "Quiescent" is an error for Al-Kindī's "solitary", although found also in the three Hebrew versions of Sa'adyah.

² The phrase "and its raising up" is repeated in Al-Kindī.

³ Al-Kindī has "consecutive".

⁴ In Al-Kindī the passage continues "and its putting down and its raising up". The correctness of the whole passage is suspect, as has been pointed out.

⁵ See Commentary.

modes. This seeming contrariety has to be explained because Sa'adyah's terminology has been the main cause of the misunderstanding of this passage on music and appears to have occasioned, to some extent, the reticence of editors to deal with this particular part of the *Kitāb al-amānāt*. The surmounting of this impasse is therefore of primary importance.

First of all it is necessary to go back in the *Amānāt* to a passage earlier than that which has been quoted. In introducing the subject of the influence of sense impressions on the soul of man, Sa'adyah begins with the sense of sight, showing that a single colour does not produce a beneficial influence on the soul, whereas a discreet mixture of colours is claimed to have a stimulating effect. Passing to the sense of hearing Sa'adyah says that the reiteration of a single *ṣaut* (sound), *tanghīm* (intoning), or *luḥūn* (melodies, *sic*) creates monotony which is injurious, whereas a combination of diverse varieties of these things produces agreeable effects.¹ These terms require consideration.

The term *ṣaut*, meaning "sound" in general, has already been explained. *Tanghīm*, an uncommon word in music theory, comes from the same root as *naghma* ("note"), and means "intoning". In the above passage it would be understood that the re-iterated "intoning" of a single note is monotonous. However, the word is suspect in this passage, as we shall see, although in the 13th century *Vocabulista in Arabico* the term stands for *modus*,² a mutation which is quite regular in Arabic musical terminology, as I have shown elsewhere,³ which can also be seen with the Greeks in the use of the term *τῶνος* for both "tone" and "mode".

As for the word *luḥūn* (sing. *lahn*), meaning, in Arabic, "melodies", the use of the plural here can scarcely be correct if the simile of the "single" *versus* the "compound" is to be sustained. It is clear, therefore, that the singular *lahn* should be substituted for *luḥūn*, a proceeding which would agree with the use of *niggun* in the Hebrew version of the *Piteron*, and *neginah* in that of Ibn Tibbon.⁴ It is possible that the *לחון* crept in through a scribal slip, seeing that elsewhere Sa'adyah uses the plural of paucity *אלחאן*. Indeed, the scribe might have thought that *luḥūn* was a singular. In late Mediaeval Hebrew the Arabic term *לחן* was used for "melody", as we know from the *Pirush 'al ha-qanūn* of Yesha'iah ben Yizḥaq (14th cent.).

¹ וכדלך אלמות אלמפרד ואלתננים ואללחון [sic] אנמא יחרך מן אכלאק אלנפס שיא ואחדא פקט ובתיארא מא יצחא ולכן אמתואנהא יעדל מא יסתר מן אכלאקהא וקואהא וקר ינבלי אן תערף תאליראתהא מפרד'ה חתי יכון אלמואנ בסחב דלך.

² Edited by Schiaparelli (Florence, 1871), p. 71. Cf. Munk, *Mélanges* (1857), p. 56.

³ Farmer, *An Old Moorish Lute Tutor* (Glasgow 1933), p. 20.

⁴ It is true that the Hebrew summary of Berakyah has the plural *neginot* but all the words used—*qolot*, *neginot*, *tenu'ot*, are plurals. The argument, however, refers to the single and not to the compound.

We see that Sa'adyah describes the eight *rhythmic modes* as *alḥān* (melodies) and terms their constituent elements as *naghāmāt* (notes), yet Al-Kindī, describing the identical modes, refers to them as *iqā'āt* (rhythms), and to their constituent elements as *naqarāt* (beats). How can this contrariety be explained? It has already been shown that it all depends on the point of view whether we say that rhythm is made up of *naghāmāt* (notes) or *naqarāt* (beats), since the musical theorist always had the lute in mind when making definitions. If that is accepted there is no reason why the argument should not be extended to *alḥān* and *iqā'āt*, since it was by means of a *lahn* (melody) that *iqā'* (rhythm) usually had expression. At the same time it is only proper to suggest that there are other possible explanations of the variation between Sa'adyah and Al-Kindī, some of which may be stated.

(1) It seems to have been the opinion of one of the translators into Hebrew, Ibn Tibbon, as well as some modern exegetes,¹ that Sa'adyah actually describes *melodic modes* and not *rhythmic modes*, and there were and are reasonable grounds for the assumption. Yehudah ibn Quraish (10th cent.) and Pseudo Yehudah ben Bil'am use *alḥān* to denote the tropes of biblical cantillation, i.e. the *te'amim*, just as the Hebrew equivalent for *alḥān*, i.e. *neginot*, has been used for these tropes.²

In the captions to some of the *Psalms* translated by Sa'adyah into Arabic, the Hebrew *neginot* is represented by *alḥān*, and here the reference is to "melodic modes".³ We see somewhat similar procedure in the Hebrew *Commentary on Canticles* attributed to Sa'adyah, and both Ewald⁴ and Dukes⁵ appear to have no doubt that these *alḥān* and *neginot* were "melodic modes" or "melodies" (*Gesangsarten*, *Gesangsweisen*).

The neo-Hebraic word *niggun* (pl. *niggunim*), like the older term *neginah*, also equated with the Arabic *lahn* in meaning both "melody" and "melodic mode". Thus in the rubrics of the *Maḥzor* of the Sefardim we have the phrase *be-lahn N*, which in the version of the Ashkenazim reads *be-niggun N*, both meaning "to the melodic mode N".⁶ It would seem therefore that the use of *alḥān*, *neginot*, and *niggunim* in relation to "melodies" and "melodic modes" was well established.

One other argument which may be claimed in support of the opinion that Sa'adyah describes melodic modes is the phrase *וצעה ורפעה* "its putting

¹ Dr. Malter, op. cit., pp. 259, 323, and Rabbi F. L. Cohen, *Jewish Encyclopaedia*, ix, 122.

² Wickes, *מעמי כ"א ספרים* (1887), p. 9.

³ Edited by Margolies, (Breslau, 1884).

⁴ *Beiträge zur Geschichte der ältesten Auslegung . . . des Alten Testaments*, i, 8.

⁵ Ibid., ii, 107.

⁶ This "N" may refer to the *lahn* known as *nawā* or perhaps *naurūz*. See *Zemivot yisrael*. (Safed, 1597: Venice, 1599).

down and its raising up", which could be made to read *וַזְעָה וּרְפָעָה* "the lowering and elevation", used in respect of the pitch of the notes, rather than the movements of the plectrum on the strings.

In spite of all this, the proof is overwhelming that Sa'adyah was not describing melodic modes, and if I have given *alḥān*, *tanghīm*, and *naghamāt* the strict technical equivalents in the words "melodies", "intoning", and "notes", it is only because I desired to give a literal version at this point, reserving the readjustment for the Commentary. Quite apart from the whole trend of Sa'adyah's description of the individual modes, his use of such terms as *maqādīr* (measures) and *zamān* (time), which can only have a mensural connotation in this passage, prove that rhythm and not melody is under treatment. Above all, the testimony of Al-Kindī is irrefutable.

(2) Sa'adyah may have had a precedent for his use of *lahn* and *naghma* to mean a "rhythmic mode" and "note" respectively. This usage occurs in the *Rasā'il* of the Ikhwān al-Ṣafā' (10th cent.) where *alḥān* is used for "rhythmic modes".¹ The probable explanation of this is that the measures (*maqādīr*) of the rhythmic modes were called to mind by certain set "melodies" (*alḥān*) which served as *memoriae technicae*, just as the metres of prosody were remembered by certain set melodies which, even to-day, are called *naghamāt al-buḥūr* (metric notes).²

Although the Ikhwān employ the term *alḥān* for rhythmic modes, they use the term *naqārāt* (beats) for the constituent elements of these modes. There is no reason, however, why Sa'adyah should not have preferred *naghamāt* (notes) instead of the latter term since, quite apart from a justification for the usage already explained, he had the authority of his great contemporary Al-Fārābī.

(3) Another possible explanation of Sa'adyah's preference for *naghamāt* is as follows. In his *Commentary on the Sefer yezirah*, where he deals with the alphabet, he seems to refer to the vowels as *naghamāt*, meaning by this "movements" in the sense in which the Arabs used the term *ḥarakāt* and the Jews *tenu'ot*.³

(4) Further, Sa'adyah may have used the term *alḥān* in the sense previously mentioned, i.e. meaning "melodies" but implying "rhythms", yet the occurrence of the word *naghamāt* may be due to a scribal error, the original word, as Sa'adyah wrote it, being *naqārāt*.

The hypothesis may be applied, as we shall see, not only to the text of Sa'adyah, but also to two of the Hebrew translations. If we are to accept this

¹ *Rasā'il* (Bombay edit.), i, 115.

² See my article in the *Encyclopaedia of Islām*, v, 83.

³ Derenbourg, *Manuel du Lecteur* (1871), p. 207.

explication, it is evident that the scribal misreading would more likely have been made in reading an Arabic script of the *Amānāt* rather than a Hebrew script, because it would be much easier to misread *نغمات* as *نقرات* than to misread *נזמאת* as *נקראת*.

The same argument applies to the word *tanghīm*, i.e. "intoning", which occurs twice in this part of the *Amānāt*, where it might be a copyist's misreading of *tanqīr*, i.e. "beating". Again it will be recognized that the error would more likely come via an Arabic original, since *تنقيير* could be misread as *تنعيم* whereas in the Hebrew script it is not so likely that *תנקיר* could be misread as *תנזים*. Although no manuscript of the *Amānāt* has survived in the Arabic script, it is generally accepted that Sa'adyah wrote some of his works in the Arabic script.¹ That being so, the suggested errors might have been committed by a scribe who was ignorant of the subject which he was transliterating.

Although textual emendation is usually the last resort of an editor who seeks to explain his text, there is some support for this last hypothesis in two of the Hebrew versions of Sa'adyah's *Amānāt*, where the terminology suggests that the translators might have had before them an Arabic manuscript which contained the words *naqārāt* (beats) and even *tanqīr* (beating), instead of *naghamāt* (notes) and *tanghīm* (intoning). The subject will be discussed further in Chapters V and VI.

Having endeavoured to clarify the obscurities of Sa'adyah's terminology we can devote attention to a comparison between the texts of Sa'adyah and Al-Kindī in the actual construction of the modes in question. It is quite evident that they are almost identical, and it is this fact which is the basis for the contention that Sa'adyah depended on Al-Kindī, or else that both drew from a common source. There are some slight divergencies between the two texts, but they are all explicable.

In the *Third* rhythmic mode of Sa'adyah, which equates with the *Mākhūrī* of Al-Kindī, we read *נזמאתן מתואליתאן . . . וואחדה סאכנה* i.e. "two consecutive notes . . . and one quiescent (note)", whereas Al-Kindī says *ونقرة منفردة* i.e. "two consecutive beats . . . and a solitary beat". The Sa'adyah text is obviously wrong, as may be seen by reference to Chapter IX, where it is shown that the phrase "putting down and raising up" refers to the motion of the plectrum, and must here imply a solitary beat and not a quiescent beat, i.e. a rest, since there is no movement of the plectrum with a rest.

In this passage also there is an omission. Al-Kindī says:

¹ Cf. Malter, p. 142. Steinschneider, *Jewish Quarterly Review*, xii, 613. *Kitāb al-amānāt* (Leyden 1880), p. xii.

“and between its putting down and its raising up, and its raising up and its putting down”. Sa'adyah omits the second expression for “its raising up” and writes merely *וּבֵין וּצְעָה וּרְפָעָה וּצְעָה*.

In the *Fourth* rhythmic mode there is another discrepancy where Sa'adyah says that it produces “abasement, and submission, and cowardice”. Yet we know from the construction of the mode that it equates with the *Khafif al-thaqil* of Al-Kindi, a genre which can scarcely be included in the *Thaqil al-mumtadd*, the slowest of the *thaqil* groups, which fostered “unmanly actions”.

In the *Fifth* mode, which is the *Ramal* in Al-Kindi's arrangement, Sa'adyah also gives a different account. He says: *נִזְמָה מְפֻרָּדָה וְאַתְנָתָאן מִתְבַּאֲנִיתָאן* “a solitary note and two *separate* (notes)”, whereas Al-Kindi says: *נִזְמָה מְפֻרָּדָה וְאַתְנָתָאן* “a solitary beat and two *consecutive* beats”. It would seem that a scribe must have misread *מִתְבַּאֲנִיתָאן* as *מִתְבַּאֲנִיתָאן* because in the Hebrew version of this passage attributed to Bar Hiyya we have the passage in agreement with Al-Kindi, since it reads *אחת מופרדת ושתיים זו אחר זו* “one isolated (beat) and two beats *one after the other*”.

There is also an omission in the *Fifth* mode which is similar to that made in the *Third* mode. Although Al-Kindi says: *וּבֵין רָפָעָה וּצְעָה וּצְעָה וּרְפָעָה* “and between its raising up and its putting down, and its putting down and its raising up”, Sa'adyah merely says *וּבֵין רָפָעָה וּצְעָה* “and between its raising up and its putting down”.

Yet this omission is not of much importance as it stands. What does call for notice is the sequence of the terms used, i.e. “raising up” and “putting down”. As already pointed out,¹ it is highly probable that a copyist of Al-Kindi's work made an error in this passage, and that it should read, “and between its putting down and its raising up, and its raising up and its putting down”. It may be argued, *per contra*, that the order of the phrases in Sa'adyah is a confirmation of the correctness of the Al-Kindi text. This is true enough of the *present* Al-Kindi text, but it is not so decisive regarding the *original* Al-Kindi text, since Sa'adyah could have translated from a manuscript of Al-Kindi that was already in error, and, as has already been stressed, the reversal of an antithesis is one of the most common forms of copyists' blunders.

Another variation between the two texts is where Sa'adyah says that the last four rhythms move the soul to “gladness *אֶלְמְרוּר* sometimes, and sorrow *אֶלְזֶם* at other times”. On the contrary, Al-Kindi tells us that the equivalent modes, the *Ramal*, [*Khafif al-ramal*,] *Khafif* [*al-Khafif*] and *Hazaj*, move the soul to “gladsome *السُّرُور* actions sometimes, and joyful *الفرحية* actions at other times”. As these four rhythms are all of the light genre, i.e.

those usually associated with pleasure, we may assume that Sa'adyah, or a copyist, only read the first four letters of the Arabic word *الفرح* which he mistook for *الغم*. The error is certainly not Al-Kindi's, because both of his treatises agree on this point.

It might, of course, be argued that Sa'adyah's term *al-ghamm* (sorrow) is the correct one because it is “diverse dispositions” that are mentioned. Yet it does not necessarily follow that “diverse dispositions” imply “opposite dispositions”. Arabic lexicographers consider *al-surūr* (gladness) and *al-farḥiyya* (joy) to be “diverse dispositions”, because *al-surūr* is a passive emotion “in which there is no external sign”, whereas in *al-farḥiyya* we have an active emotion where the external sign is obviously manifest.

From what has been said the reader can well imagine that Sa'adyah's Arabic account of the rhythmic modes is by no means as clear as it might have been, and was sure to create difficulties for subsequent Hebrew translators who, as we shall see, were to complicate the question still further.

¹ See *ante* p. 25.

CHAPTER V

THE PAYYETANIC HEBREW INTERPRETATION

"A difficult treatise".

Steinschneider: *Bet oẓar ha-sifrut*.

THE first of the Hebrew versions of Sa'adyah's *Kitāb al-amānāt* was the *Piteron sefer ha-emunot*, known in English as the "old translation" or the "paraphrase". The version has been attributed to Berakyah ha-Naqdan (12th century), but since we have a manuscript of it (Vatican, 269) bearing the date 1095, this attribution is unlikely, unless we are to accept Dukes rather doubtful contention that the date is 1195.¹ Besides, it has been agreed that the Naqdan could scarcely have been the translator since he was not acquainted with Arabic, as Steinschneider and others have insisted.²

Two other translators of the *Piteron* have been suggested. Dr. Isaac Broydé attributed the work to Mosheh ben Yosef who flourished at Lucena in the first half of the 12th century, but we are not told on what authority the assertion is made.³ The other ascription has more general acceptance, and this suggests that the translation or interpretation was made by one of the *payyetanim* of Babylonia or Palestine.⁴

§ 1

THE TEXT

Manuscripts of the *Piteron* are to be found in many libraries, notably at Oxford (Bodleian, *Opp.* 599), Paris (Zotenberg, 669), Parma (*De Rossi*, 769), Munich (42), and the Vatican (*Assemani*, 266, 269). The passage on music from the Munich manuscript was published by Steinschneider in Eisig Gräber's journal *Bet oẓar ha-sifrut* (1887, p. xxx), yet the great Hebraist seems to have been unable to fathom some of the archaic expressions of this "difficult

¹ *Beiträge zur Geschichte der ältesten Auslegung . . . des Alten Testaments*, ii, 16.

² *Bet oẓar ha-sifrut*, xxix. Gollancz, *The Ethical Treatises of Berachya*, xxxix. Malter, op. cit., 361.

³ *Jewish Encyclopaedia*, xii, 220.

⁴ Porges, *Zeitschrift für hebräische Bibliographie*, vii, 38.

treatise" as he termed it, nor did he attempt to readjust even the most obvious omissions of the copyists.

For these reasons it has been considered essential that a newly edited and reconstructed text of the *Piteron* should be presented. This has been based on a hitherto unidentified manuscript in the Bodleian Library,¹ and on the Munich manuscript² as edited by Steinschneider.³ Both of these have a descent other than that of the present Arabic text of Sa'adyah. It is a point of some significance which will be developed in the Commentary. Reference may also be made to the Table of the Pedigree of the Manuscripts in the Appendix.

Here is the text of the *Piteron*:

ואומר כי הנגון על שמנה פנים. ולכל אחד ואחד שער
מבואר ונגון ידוע.

הראשון יש לו ג' נענועות⁹ תכופות¹⁰ ומחוברות¹¹ [ואחת¹²
שחוחה.

[והשני ג' נענועות תכופות ואחת שחוחה]¹³ ואחת שהיא¹⁴
מתנועת¹⁵. ושתי¹⁶ הללו מעוררות¹⁷ הנפש ברוב גודל ומלכות
ונבהות.

¹ Pocock, 17. This MS. is made up of a number of short extracts from various writers, one of them (*fols.* 243v-45) being the passage on music from the *Piteron*. I am indebted for this identification to Dr. Teicher.

² No. 42, *fols.* 524-24v.

³ *Bet oẓar ha-sifrut*, p. xxx.

⁴ Omitted in Steinschneider (= Stein.).

⁵ Stein. *נגון* throughout.

⁶ Stein. wrongly ג'.

⁷ Stein. *ו* omitted.

⁸ Stein. *שיעור* throughout.

⁹ Bodl. reads: נענועות ובי נענועים. This duplication is doubtless due to a correction of the masc. form to the normal fem. *ובי* is the insertion of a scribe trying to amend the duplication. Stein. gives the same text as Bodl. but with נענועות instead of נענועים.

¹⁰ Stein. תכופות.

¹¹ Stein. *ו* omitted.

¹² Insertion necessary. Cf. Ibn Tibbon.

¹³ An evident omission due to homoioteleuton (אחת שחוחה), wanting in both Bodl. and Stein., which therefore are probably copies of the same archetype MS. The missing words are easily supplied from what precedes and follows. It remains uncertain whether the superfluous מחוברות of section 1 was repeated here.

¹⁴ Stein. omitted.

¹⁵ Stein. מתנועת.

¹⁶ The numeral certainly refers to נגונים, but may be a neuter fem. (cf. Bar Hiyya). Bodl. reads שני, Stein. שתי. Both MSS. after the numeral wrongly insert הנענועות, which may be an erroneous expansion taken from their common archetype.

¹⁷ Stein. מעוררות את.

והשלישי¹ שתי נענועות תכופות² ואין ביניהם ריוח כדי זמן
יביבה אחת אלא שתיהן³ בחד [ו] אחת שחוחה ושפלה⁵. ובין
שחוחות הנגון והרמתו [ו. . .] ושחוחות⁶ ריוח כדי⁷ זמן נענועה⁸
אחת⁹. . .

[והרביעי. . . אחת] וזה הנגון מעורר¹⁰ יכלת הלח והרשוב
שבאדם. ובשעה¹² היא תתעורר הנפש ברוב שחוח והחנן
והכנעה.

והחמישי נגון ששעורו נענועה¹³ אחת ושתי יבבות¹⁴ מופרדות¹⁵
ואין¹⁶ ביניהם ריוח כדי זמן נענועה אחת¹⁷ ובין שחוחות הקול
והרמתו [ו. . .] ושחוחות¹⁸ ריוח כדי זמן נענועה אחת.

¹ The archetype of Bodl. and Stein. here unintelligently inserted והרביעי, after this heading and the technical description of the Fourth mode had been omitted from Section 4. See below.

² Stein. השני נענועות תכופות.

³ Stein. adds תכופות unnecessarily.

⁴ Necessary insertion. Cf. Ibn Tibbon.

⁵ Two parallel adjectives where Al-Kindi and Sa'adyah have only one. The second may be a gloss to the first. Cf. section 1.

⁶ Although the text here needs correction, it is identical with those of Sa'adyah and Ibn Tibbon, as extant, and so may be due to the translator having followed exactly the extant text of Sa'adyah. No certain correction of this text can be made, even if the extant text of Sa'adyah is considered to be defective.

⁷ Bodl. here inserts נעימה, as an explanatory gloss.

⁸ Stein. ניענועה.

⁹ Hiatus due to homoioteleuton (אחת) in the archetype of Bodl. and Stein.

¹⁰ Bodl. and Stein. have מפורדים מעוררים, and plurals due to the scribe who added ושחוחות¹⁸ after והרביעי above.

¹¹ Stein. והרומב.

¹² Bodl. ובשער, possibly for ובשער.

¹³ Here and from now onwards Stein. always gives sing. ניענוע (five times), but plur.

¹⁴ ניענועות (five times). The former probably comes from ניענוע, a scribe's contraction.

¹⁵ Stein. יבבות.

¹⁶ Pass. partic. possibly should be transposed and joined as a sing. to the preceding נענועה, being thus equivalent to Sa'adyah's מפורד (cf. Bar Hiyya and Ibn Tibbon). Bodl. מפורדות (active) or perhaps מפורדות.

¹⁷ Stein. אין.

¹⁸ Stein. and Bodl. read אחרת, probably a mistake of their common archetype. The last word of next sentence is again the same in Stein.

Except that קול replaces נגון, the four preceding words are identical with the corresponding group in Section 3. They are not a translation of the extant text of Sa'adyah and may be a deliberate assimilation to the text of Section 3. The words of the original translation are, therefore, quite uncertain. See also Commentary.

והשני נגון ששעורו ג'¹ נענועות [מתנועות]².

והשביעי נגון³ ששעורו ב'⁴ נענועות תכופות זו עם זו ואין
ביניהם ריוח כדי נענועה אחת⁵ ואחר כל שתיים⁶ נענועות ריוח
כדי נענועה אחת⁷.

והשמיני נגון ששעורו ב' נענועות מחוברות זו עם זו ואין ביניהם
כדי נענועה אחת ואחר כל שתי נענועות⁸ ריוח כדי שתי נענועות⁹
יבבות¹⁰ שתיהם¹¹ יחד. אלו¹² הנגונים¹³ והנענועים¹⁴ מעוררים¹⁵
חונכים¹⁶ הרבה פעם לשמחה פעם לדאגה.

§ 2

THE TRANSLATION

So far as can be ascertained, no complete translation of the *Piteron* has ever been made, nor has the passage on music been translated separately. The circumstance makes the present translation imperative.

¹ So Stein. and a corrector on the margin of Bodl. The Bodl. text has ב'.

² An essential qualifying word corresponding to Al-Kindi, Sa'adyah and Ibn Tibbon. Cf. Section 2.

³ Stein. omitted.

⁴ Bodl. margin ב'. Stein. שתי. and preceding three words omitted from text of Bodl. but inserted on margin.

⁵ Bodl. omits this and two preceding words.

⁶ Bodl. שים or שום.

⁷ Stein. omits אחת . . . ואחר by homoioteleuton.

⁸ Bodl. omits נענועות . . . מחוברות by homoioteleuton (נענועות).

⁹ Bodl. נענועות נענועים.

¹⁰ Stein. יבבות; the word may be a gloss to נענועות.

¹¹ Stein. שתיהן.

¹² Bodl. זו, the slip of a copyist.

¹³ Bodl. here adds השמנה ("eight"), presumably an erroneous scribal supplement, made after omission of an original הר ("four"), as given by Sa'adyah, Bar Hiyya and Ibn Tibbon.

¹⁴ So Bodl. and Stein. (והנענועים). The masc. form is doubtful and the word is unnecessary.

¹⁵ Stein. הנעדרים ("wanting" or "defective").

¹⁶ Stein. חינוכים.

Translation

"I say that the rhythmic modes (*niggun*[*im*])¹ have eight forms, each of which has a defined measure and a precise mode (*niggun*).²

(1) The *First* has three consecutive and associated³ beats (*ni'nu'ot*) and one depressed⁴ (beat).

(2) [The *Second* has three consecutive beats and one depressed (beat)], and one (beat) that is vibrant.⁵ These two (modes) stir the soul to much greatness⁶, and sovereignty, and eminence.⁷

(3) The *Third* has two consecutive beats—without so much interval between them as the time of one sound (*yebibah*)—both being joined,⁸ [and] one (beat) that is depressed and low⁹, and between the putting down of the mode (*niggun*)¹⁰ and its raising up, [...] and its putting down, there is an interval amounting to the time of one beat (*ni'nu'ah*) . . .¹¹

(4) [The *Fourth* . . .]¹² And this rhythmic mode stirs the humour of the white mucus¹³ and the moisture that are in mankind¹⁴ and consequently the soul is moved to abject abasement, and supplication, and submission.

(5) The *Fifth* is a rhythmic mode whose measure is one beat (*ni'nu'ah*) and two separate sounds (*yebibot*)—without an interval between them as much as the time of one beat (*ni'nu'ah*)—and between the putting down of the sound (*gol*)¹⁵ and its raising up¹⁶ [...] and its

¹ The text has the singular (*niggun*) which may be taken collectively as a plural. In Sa'adyah, Bar Hiyya and Ibn Tibbon the word is appropriately plural.

² "and precise mode" is additional to Sa'adyah, whilst his phrase "(derived) from the *tanghim* (or *tanqir*)" is here omitted.

³ "and associated" is additional to Sa'adyah.

⁴ "depressed" = "quiescent".

⁵ "vibrant" = "movent".

⁶ Sa'adyah has "dominion".

⁷ "and eminence" is additional to Sa'adyah.

⁸ "both being joined" is additional to Sa'adyah.

⁹ See Commentary, p. 46.

¹⁰ "of the rhythmic mode" is additional to Sa'adyah.

¹¹ The *ethos* of the mode is wanting.

¹² The description of this mode is wanting.

¹³ i.e. "the phlegm".

¹⁴ "and the moisture, etc." is additional to Sa'adyah.

¹⁵ This phrase "of the sound (*gol*)" is additional to Sa'adyah. Cf. phraseology in the *Third* mode.

¹⁶ Cf. Al-Kindi and Sa'adyah.

putting down, there is an interval amounting to the time of one beat (*ni'nu'ah*).

(6) The *Sixth* is a rhythmic mode whose measure is three [vibrant]¹ beats (*ni'nu'ot*).

(7) The *Seventh* is a rhythmic mode whose measure is two beats (*ni'nu'ot*) succeeding one another—without an interval between them amounting to one beat (*ni'nu'ah*)—but after every two beats (*ni'nu'im*) there is an interval amounting to one beat.

(8) The *Eighth* is a rhythmic mode whose measure is two beats (*ni'nu'ot*) associated with one another, and without having between them the amount of one beat (*ni'nu'ah*), but after every two beats there is an interval amounting to two beats (*ni'nu'ot*) (or) sounds (*yebibot*) together.²

These (four) rhythmic modes (*niggunim*) and (their) beats (*ni'nu'im*)³ stir many temperaments (tending) sometimes to joy, sometimes to dread".

It will be quite evident from this translation that the author of the *Piteron*, in his alternate and indiscriminate use of certain technical terms, has created difficulties which are not easy to surmount, although those that are explicable will be dealt with in the commentary which follows.

§ 3

COMMENTARY

This newly edited and reconstructed text of the *Piteron* has a double interest because, in addition to filling in the obvious omissions of careless copyists, we see that this so-called "paraphrase" is actually a verbal translation, in which some parts are extended. Whilst much of the additional matter was due to the translator's desire to reach a true "interpretation" (*piteron*), some of it may have arisen from glosses which later scribes incorporated in the text itself.

Even the reconstructed text presents difficulties due to a technical nomenclature, as perplexing as that of Sa'adyah. In a passage previous to that which has been edited here the author of the *Piteron*, while clearly following Sa'adyah, deviates considerably from the extant Arabic. Sa'adyah insists on the deleterious effect of single colours and perfumes, and then, turning to the sense of hearing, says:

¹ Added from Sa'adyah, but conforming to the language of the *payyetan*.

² "(or) sounds (*yebibot*) together" is additional to Sa'adyah, and is probably a gloss.

³ "and (their) beats (*ni'nu'im*)" is additional to Sa'adyah, and probably a gloss.

ובדלך אלמות אלמפרד ואלתננים ואללחן אנמא יחרך מן אכלאק אלנפש

... שיא ואחדא פקט.

"And so the solitary *ṣaut* (sound), and the *tanghīm* (intoning), and the *lahn* (melody) excite in the temperament of the soul but one thing only..." The *Piteron* interprets this as follows¹:

וכן נעימות הנגון כיון שיהיה² הזמר בנגון אחד ונענועה ויבבה³ אחת

בעת ההיא⁴ יעורר מהנפש⁵ גילה אחת לבד

"And so the *ne'imot* of the *niggun* when the playing is with one *niggun*, and one *ni'nu'ah* or *yebibah* it stirs up thereby in the soul one joy only..." Again, in a passage following that which has been edited, Sa'adyah says that it was "the custom of kings to mix *them* one with another," observing that by this mixing certain diverse moods were produced in their souls "when they listened to the measure (*miqdār*)" of the mode. The *Piteron* gives this more precision and says that it was "the custom of kings to join the *niggunim* (rhythmic modes) one with another," and that certain diverse moods were produced when they listened to "the *ne'imot* (notes) of the *niggun* (mode)."

In the first of these passages it is clear that the order of the technical terms in the *Piteron* is the reverse of the original Arabic, i.e. *ṣaut* = *yebibah*, *tanghīm* = *ni'nu'ah*, and *lahn* = *niggun*. With the term *niggun* we are already familiar⁶, but not with *ne'imah*, *ni'nu'ah*, and *yebibah*.

Just as the Arabic *lahn*, which primarily stood for "melody" or "melodic mode", came to be used for "rhythm" or "rhythmic mode," as has been previously pointed out, because rhythm was usually expressed *via* melody, so the Hebrew word *niggun*, which also stood primarily for "melody" or "melodic mode", came to be used for "rhythm" or "rhythmic mode". In Hebrew, however, there was greater congruity philologically for the latter usage since *niggun* belongs to the root *nagan* (to strike), hence *niggen* (to strike, play a musical instrument), and *niggun* (a striking of a musical instrument). Thus the latter term came to mean what was rhythmically played by striking. Arabic terminology runs on similar lines since we have *daraba* (to strike, beat), hence *darba* (a stroke, a beat on a musical instrument) and *darb* (a rhythmic mode).

That the term *niggun* in the *Piteron* stood for rhythm seems to be proved by the Hebrew version of Plato's *Republic* made by Shemuel ben Yehudah in 1321. In the passage in Book iii which refers to the component parts

of music we read *וְנַעֲיִמָה מוֹסַכְמַת וּמֵאֲמָר* which, whilst it reverses the order of the original Greek *λόγου τε καὶ ἀρμονίας ῥυθμοῦ*, seems to show that *niggun* equates with *ῥυθμός*.¹ Again, in the *Sefer ha-'iqqarim* of Yosef Albo (d. 1444), the reference in *נְגוּנֵי הַמוֹסִיקָא* seems to be to rhythm².

The term *ni'nu'ot* (sing. *ni'nu'ah*), as used by the author of the *Piteron*, undoubtedly stands for "beats" as the constituent factors which go to make up a *niggun* or "rhythmic mode". The word is derived from *נָעַנַע* ($\sqrt{\text{נוע}}$) meaning "to move". *נָעַנַע* is used of the motion or waving of the *lulab* or palm branch during the chanting of the *hallel* in temple and synagogue³. It reminds us of the Arab custom of beating with the *qadīb* or branch in chanting.⁴

The interchange of *ni'nu'ah* (beat) and *ne'imah* (note) in the passages quoted above calls for special observation. It has already been pointed out⁵ that, on the lute, rhythm was effected by "beats" (*naqarāt*) on the strings, which, in turn, produced "notes" (*naghamāt*). In other words, "beats" were the cause and "notes" were the result, and so it actually depended on the point of view whether you said that *naqarāt* or *naghamāt* were the constituent elements of rhythm. Precisely the same thing appears to have happened in Hebrew, as illustrated in the *Piteron*, where both *ni'nu'ot* (beats) and *ne'imot* (notes) are mentioned as the constituent elements, but the first is used in the strict causal sense and the second in the resultant sense.

Since this distinction does not appear in the Arabic original of Sa'adyah, the reason for the author of the *Piteron* making it seems worthy of consideration. Perhaps the author was not satisfied with the indeterminate word *ne'imot* as the equivalent to the Arabic *naghamāt* where the causal term "beats" was required, and so introduced *ni'nu'ot* as being more precise. He would have sensed from the context of Sa'adyah, as well as from certain technical terms, such as *zaman* (time), that rhythm and not melody was the subject. There is also the possibility that the translation was made from an Arabic manuscript of the *Amānāt* which had *naqarāt* and not *naghamāt*, as already suggested, a circumstance which would immediately prompt the use of such a term as *ni'nu'ot* which was definite, rather than *ne'imot* which was indefinite in this usage.

If we turn back to the second of the two passages quoted above⁶, it will be quite evident that, in Sa'adyah's reference to "the custom of kings to mix

¹ The text is based on the Bodleian MS.

² Stein, has שהזמר.

³ Stein, has ויבובה.

⁴ Stein, has חהוא.

⁵ Stein, has יעורבב מן הנפש.

⁶ See *ante* pp. 32-3.

¹ Steinschneider, *Jewish Literature*, p. 337.

² *Sefer ha-'iqqarim* edit. Isaac Husik (1930), iv, 211. See also the passage in Petahyah (12th cent.) in *Travels of Rabbi Petachia*... trans. by A. Benish (1856) pp. 46-7.

³ *Sukkah*, 37b.

⁴ Farmer, *History of Arabian Music* p. 74.

⁵ See *ante* p. 24.

⁶ See *ante* p. 44.

them", the *them* here refers to the *niggunim* (rhythmic modes), and with this the *Piteron* is in complete agreement. That to which the kings "listened", according to Sa'adyah, was the *miqdār* (measure), i.e. the precise form or pattern in the mensural and dynamic succession of the *naqarāt* (Heb. *ni'nu'ot*—"beats") which distinguished one rhythmic mode from another. The author of the *Piteron* says that it was "the *ne'imot* (notes) of the *niggun* (rhythmic mode)" to which the kings listened, which, as I have already explained¹, is only another way of expressing the same thing, and shows the connection between *ni'nu'ot* and *ne'imot*².

The use of the term *yebibah* also deserves notice especially as it seems to be one of the archaisms of the *payyetan*. Both in the preliminary passage dealing with the effect of the solitary *niggun*, *ne'imah*, and *yebibah*, as well as in the definitions of the rhythmic modes, *yebibah* is synonymous with "sound", and may even convey the meaning as expressed in the *Talmud*³ and *Midrash*⁴ as implying the shortest perceptible mensural unit of sound. So much for the technical terms of the *Piteron*.

As for the text itself, especially the omissions which have been restored, a word or two seems necessary. How the omissions occurred is quite explicable. The last words of the section dealing with the *First* mode, and the first words of that dealing with the *Second* mode, were missed by a careless scribe whose eye passed from the first *ואת* to the second. Since the same words are omitted from both the Bodleian and the Munich manuscripts, a common source for them is manifestly certain. A similar explanation also accounts for the fact that the latter part of the section dealing with the *Third* mode and the beginning of that on the *Fourth* mode were also omitted from the archetype of our two basic authorities.

Following Sa'adyah implicitly, the author of the *Piteron* gives, in the *Third* mode, the word *שחנתה* (depressed) as the equivalent of the Arabic *ساكنة* (quiescent) but, as already mentioned, the word is wrong, since a "rest" at this point is not likely⁵.

The discrepancy between the *Piteron* and the Arabic of Sa'adyah, as we have it, in the technical passage in the *Fifth* mode, has considerable interest. As already pointed out, Al-Kindi's text reads: "between its raising up and its putting down, and its putting down and its raising up", and the order of these motions is suspect. This type of error is quite common with scribes.

¹ See *ante* p. 44.

² For details of this "mixing" or "blending" of the modes see Chap. IX, § 3.

³ *Rosh ha-shanah*, iv, 9.

⁴ *Pirke de Rabbi Eli'ezer*, xxxii.

⁵ Cf. Al-Kindi's text p. 19, where the word is *منفردة*.

At the same time it has to be recognized that Sa'adyah's text has the same order as that of Al-Kindi, i.e. it begins: "between its raising up and its putting down", which has already been discussed.¹

In the *Piteron*, however, we see a different version of the passage. Here we read: "between the putting down of the sound and its raising up, [and its raising up]² and its putting down". Could this be simply a scribal slip due to the reversal of an antithesis so common with scribes, or have we here a glimpse of what the original passage was, or was it a deliberate readjustment of the passage due to the sagacity of the translator? That it was a scribal error appears to be discounted by the fact that the author adds fresh material to Sa'adyah's statement by saying "between the putting down of the sound", an addition which, normally, would secure a true copying from the original.

Attention must also be called to the alternate and indiscriminate use of some of the technical terms in the extant texts of the *Piteron*. Glaring examples may be seen by comparing the descriptions of the *Third* and *Fifth* modes. In the former we have the reference to "the time of one *yebibah* (sound)" between the beats which, in the latter, is stated to be "the time of one *ni'nu'ah* (beat)", whereas the original Arabic of Sa'adyah speaks of "the time of a *naghma* (note)" in both of these modes.

Again, in the *Third* mode the author of the *Piteron* alludes to "the putting down of the *niggun* (mode)", whilst in the *Fifth* mode he speaks of "the putting down of the *qol* (sound)". The contrariety here may be explained by the fact that these phrases do not appear in Sa'adyah's Arabic, and may be due to the glosses of a copyist which ultimately found their way into the text itself.

¹ See *ante* Chap. IV, p. 31.

² The words in square brackets do not, of course, occur in the original text of the *Piteron*, but I have inserted these terms so that the reader can once more see the order in which I believe they should be.

CHAPTER VI

BAR HIYYA'S HEBREW VERSION

"His Hebrew terminology... occasionally lacks the clearness and precision of later writers and translators".

J. Guttman: *Jewish Encyclopaedia*.

ABRAHAM BAR HIYYA, sometimes called Abraham Judaeus or Savasorda, was, in his day, quite a noted Jewish philosopher, mathematician, and translator. He lived in Spain and probably in the South of France and Provence. He is credited with having helped Plato of Tivoli and Rudolf of Bruges in translating Arabic and Hebrew works into Latin, probably *via* Spanish. He died in or about 1136.

One of his works has particular interest for us. This is the *Yesode ha-tebunah* (Foundations of Understanding), an epitome of the mathematical sciences, one section of which dealt with the theory of music. Unfortunately this part has not been spared by the hand of time,¹ but there is said to be a treatise on music from his pen in the Vatican (400,5), which is stated to be a translation from Arabic,² and it should be noted that in the preface to his *Zurat ha-arez*, Bar Hiyya distinctly disclaims any originality in his writings.

It is asserted that Bar Hiyya translated the *Kitāb al-amānāt*, or at least part of it, into Hebrew,³ and, indeed, a third Hebrew translation or version has been assumed by H. Michael.⁴ We certainly possess a Hebrew version of Sa'adyah's passage on the influence of music by Bar Hiyya. It occurs in the *Bet ya'aqob*, written in 1422 by Ya'aqob ben Hayyim Ferussol. This latter is a commentary on the *Sefer ha-kuzari* of Yehudah ha-Levi (d. ca. 1140) and therein the passage is expressly attributed to Bar Hiyya.

Ya'aqob ben Hayyim was a pupil of the celebrated Provençal scholar Fraṭ Maimon, and Steinschneider says that two other pupils of the latter, Natanael Kaspi (in 1424) and Menaḥem ben Yehudah, also give this passage of Sa'adyah on the influence of music, in their commentaries on the *Kuzari*,

¹ *Jewish Encyclopaedia*, i, 108.

² Steinschneider, *Jewish Literature*, p. 337. Cf. De Rossi, *MSS. Codices hebr. Bibl. J. B. de Rossi*, No. 1170.

³ Steinschneider, *Hebräische Bibliographie*, xiii, 36.

⁴ Steinschneider, *Arabische Literatur der Juden*, p. 66.

and that both authors name Abraham bar Hiyya's *Megillat ha-megalleh* as their source.¹

Whilst it would seem that Bar Hiyya's version is an independent translation it is also clear that he consulted the *Piteron*, as will be shown in the Commentary. The version is of value since it enables us to control several of the dubious passages which confront us in the Arabic of Sa'adyah and the Hebrew of the *Piteron*.

§ 1

THE TEXT

In 1887, Moritz Steinschneider edited Bar Hiyya's version of Sa'adyah's passage on music, as he found it in the *Bet Ya'aqob* of Ya'aqob ben Hayyim Ferussol. It appeared in Eisig Gräber's journal *Bet oẓar ha-sifrut* (Jaroslau, 1887, p. xxx). He offered several emendations but attempted no thorough revision. Indeed, some of his rectifications are quite erroneous, and he did not trouble to adjust even grammar. In view of this, Steinschneider's text is presented here in a revised form.

ואלו התנועות² הם שמונה לכל אחד מהם שיעור [מן]³ הניגון.

הראשונה⁴ שיעורה בשלש נגינות⁵ זה אחר⁶ [זה ואחת]⁷ שוכנת

ונחה.⁸

¹ Steinschneider, *Hebräische Bibliographie*, xiii, 36.

² The use of התנועות here conflicts with the genders of the following words (especially אחד) and is inconsistent with the later application of the word in section 3. It might, therefore, be regarded as an interpolation. But תנועות in section 3 is not itself Bar Hiyya's original word and the argument from inconsistent genders is not strong. It is possible, therefore, to retain the reading here, if it can be shown that the meaning involved (rhythmic modes) is in accordance with the usage of Bar Hiyya and others elsewhere. See Commentary.

³ Added from Sa'adyah and Ibn Tibbon.

⁴ The feminine numeral adjectives in the headings of the successive sections agree with תנועות in the preface. If that word be deleted there, the adjectives may be taken in a neuter sense to mean "first species", etc.

⁵ Stein. שלושה ניגונים is masc. and therefore conflicts with the genders of the following adjectives שוכנת ונחה. This points to the שלש נגינות of section 6 being the true reading here also (cf. section 8). זה is a possible fem. form.

⁶ Stein. שח אחר, which is a scribal error for זה אחר, perhaps originally אחר. Cf. sections 3, 5, etc.

⁷ A necessary completion of the sense, following the phraseology of sections 3, 4, etc.

⁸ Two parallel adjectives, where Al-Kindī, Sa'adyah and Ibn Tibbon have one only. The second may be a gloss to the first. Cf. sections 2 and 3.

והשנית שלש נגינות¹ [זה אחר זה ו²] אחת³ שוכנת ואחת⁴ נעה.
ואלו השתים יעירו כח הדם⁵ והשולשנות.

והשלישית שיעורה שתי נגינות⁶ זו אחר זו אין ביניהם אחרת⁷
ואחת שוכנת ו[בין...]. הגבהה והשפלה כשיעור נגינה אחת.
וזה יניע המרה [האדומה⁸] והחזק והגבורה ומה שהיה דומה להם.

והרביעית שיעורה בשלש נגינות⁹ זה אחר זה אין ביניהם הפסק.
ובין כל שלשה ושלשה¹⁰ שיעור¹¹ [נגינה אחת¹²] וזה יניע הליחה
הלבנה ויראה מן¹³ הנפש החולשה והבכי ומה שהוא כיצא בו.

והחמישית שיעורה אחת מופרדת ושתיים זו אחר זו אין ביניהם
הפסק ובין השפלה והגבהה [בין...].¹⁴ שיעור נגינה אחת.

¹ Note 5, p. 49, applies here also.

² A needed qualification of נגינות, as in sections 1, 4, etc.

³ Stein, אחד, against the gender of the following adjectives.

⁴ השפלה והגבהה should perhaps be added here from Ibn Tibbon. Cf. Sa'adyah and Berakyah.

⁵ Stein, תנועות, presumably a copyist's substitute for נגינות. See notes 2 and 4, p. 49.

⁶ A doubtful expression for הפסק of sections 4 and 5.

⁷ Accidentally omitted by a copyist (cf. Sa'adyah, *Piteron* and Ibn Tibbon). Comparison with section 5 makes it probable that the same scribe has omitted also השפלה והגבהה along with בין. In that case Bar Ḥiyya did not at this point translate from a defective text of Sa'adyah, but from one that contained Al-Kindi's complete phrase: *ولين وضعه ورفع ورفعه ووضع*.

⁸ Stein's text is המרה האדומה, i.e. "the red bile", and this is Ibn Tibbon's reading also. The phrase cannot refer to the humour of the blood, because that has been treated of already in section 2. Sa'adyah names here "the yellow bile", which would be expressed by המרה without qualification. If האדומה is to be retained, it must be treated as a noun and ו must be inserted.

⁹ Correction as in sections 1 and 2. The suffix of ביניהם may be treated as a fem. (cf. section 5).

¹⁰ The feminines, understood in a neuter sense, do not conflict with the reading נגינות. Cf. Note 4, p. 51.

¹¹ In Stein, for which the correction הפסק is wrongly suggested.

¹² Necessary addition from Sa'adyah, in the language of Bar Ḥiyya (section 5).

¹³ Cf. section 8. Stein, בין.

¹⁴ Stein puts the second והגבהה in brackets, probably indicating that it should be deleted. But in view of the texts of Sa'adyah and Al-Kindi, it is equally possible that a following והשפלה should be inserted. It is important to notice that the order of the words is not that of the corresponding words in section 3. This makes it likely that the complete phrase of Al-Kindi has been mutilated in different ways in the two sections.

והששית שיעורה בשלש נגינות נעות¹.

והשביעית² [שיעורה בשתי נגינות זו אחר זו אין ביניהם שיעור
נגינה אחת ובין כל שתיים ושתיים שיעור נגינה אחת].³

[והשמינית] שיעורה בשתי נגינות זו אחר זו אין ביניהם שיעור
נגינה אחת ובין כל שתיים ושתיים שיעור בשתי נגינות. ואלה
הארבעה⁴ כלנה יניעו המרה השחורה ויראו מן הנפש ענינים
מתחלפים פעמים אל השמחה פעמים אל הדאגה.

§ 2

THE TRANSLATION

As there is no translation of Bar Ḥiyya's version of the passage in the *Imānāt* and no translation of his *Megillat ha-megalleh*, an English version of the text given above is offered here.

"And these rhythmic modes (*tenu'ot*) are eight, every one of them having a measure (*shi'ur*) (derived) [from] the beating (*niggun*),

(1) The *First*: its measure is of three beats (*neginot*)⁵ one after [the other, and one] quiescent and still (beat).⁶

(2) The *Second*: (its measure is of) three beats (*neginot*)⁷ one [after the other, and one] quiescent (beat), and one movent (beat). And these two (rhythmic modes) stir the function of the blood and (the temperament) of dominion.⁸

¹ Stein's MS. reads the contradictory adjectives נעות ונעות. The latter agrees with Sa'adyah's text. Stein, apparently intends to replace the two adjectives by מתנועות, which does not agree with Bar Ḥiyya's vocabulary (cf. section 2).

² Stein's MS. gives ובשביעית, which he rightly corrects.

³ The seventh section is here added from Sa'adyah, in the vocabulary of Bar Ḥiyya. Stein, notes that the eighth section has been omitted, which is an error.

⁴ The fem. numeral, used in a neuter sense, refers to the species of rhythm described in sections 5-8 and not to נגינות, which would require הארבע. Cf. note 10, p. 50.

⁵ Reinschneider's text has *niggunim*. See Commentary.

⁶ "and still" is additional to Sa'adyah.

⁷ Reinschneider's text has *niggunim*. See Commentary.

⁸ "sovereignty" is omitted. See Sa'adyah, p. 30, and the *Piteron*, p. 42.

(3) The *Third*: its measure is of two beats (*neginot*)¹ one after the other, without another (beat) between them, and one quiescent (beat), and [between . . .] the raising up and the putting down² is what equals the measure of a beat (*neginah*). And this (rhythmic mode) stirs (the humour of) the (yellow) bile [and] (the temperament of) vitality,³ and strength, and manliness, and other qualities like them.

(4) The *Fourth*: its measure is of three beats (*neginot*)⁴ one after the other, without a stop between them, and between every three (beats) and three (beats) is the measure [of one beat]. This (rhythmic mode) stirs (the humour of) the white mucus,⁵ so that there emerge from the soul weakness, and weeping, and their equivalents.

(5) The *Fifth*: its measure is of one isolated (beat) and two beats one after the other, without a stop between them, and between the putting down and the raising up and the raising up [. . .]⁶ is the measure of one beat (*neginah*).

(6) The *Sixth*: its measure is of three movent beats (*neginot*).

(7) The *Seventh*: [its measure is of two beats, one after the other, without the measure of a beat between them, and between every two beats and two beats is the measure of one beat.]

(8) [The *Eighth*:] its measure is of two beats (*neginot*), one after the other, without the measure of a beat between them, and between every two (beats) and two (beats) is the measure of two beats (*neginot*). These four (rhythmic modes) all stir (the humour of) the black bile, so that there emerge from the soul varying results, sometimes (tending) to joy, sometimes to grief".

§ 3

COMMENTARY

Steinschneider considered that Bar Ḥiyya's version of the passage on music from the *Amānāt*, which is found in the *Megillat ha-megalleh*, was a "literal translation from the Arabic,"⁷ whilst Dr. Malter claims that, "aside from some variations in terminology, this translation agrees fully with that

¹ Steinschneider's text has *tenu'ot*. See Commentary.

² Cf. Al-Kindī (p. 21) and Sa'adyah (p. 31).

³ I.e. "ruddiness". See Note 8 to text, p. 50.

⁴ Steinschneider's text has *niggunim*. See Commentary.

⁵ i.e. the phlegm.

⁶ Cf. Al-Kindī (p. 21) and Sa'adyah (p. 31).

⁷ *Beṭ oẓar ha-sifrut*, p. xxix.

of Ibn Tibbon".¹ Neither of these statements is correct. A comparison between Sa'adyah's Arabic and Bar Ḥiyya's Hebrew will reveal that it is not a "literal translation", because Bar Ḥiyya shortens or lengthens Sa'adyah's description of the influences of the modes in every instance except the last. As for Ibn Tibbon, not only does Bar Ḥiyya's terminology conflict with that of the former, but it clashes with itself. Even apart from terminology, the text, as given by Steinschneider, does not "fully agree" with that of Ibn Tibbon, as we shall see.

Bar Ḥiyya's text, as it has come down to us, presents difficulties that are not easy to overcome. There are serious omissions, but these are more manageable than the confusing nomenclature which crowds the text. The former are, perhaps, sufficiently indicated and explained by the reconstructed text and appended notes, but the latter demands rather more extended treatment.

According to the *Piteron*, there were eight *niggun[im]* or "rhythmic modes" which were made up of diversely measured *ni'nu'ot* or "beats".² Bar Ḥiyya practically reverses these terms and says that there were eight *tenu'ot* or "rhythmic modes" which were made up of diversely measured *neginot* or "beats". It is true that Bar Ḥiyya's extant text employs three distinct terms for a "beat", viz. *niggun* (four times), *neginah* (five times), and *tenu'ah* (once), but, as has been disclosed in the critical notes to the text, this contrariety is due to the carelessness of copyists, upon which even Steinschneider did not comment.

Tenu'ot, as used in the *Third* mode, is an obvious slip. Whether *niggunim*, or *neginot* is the proper word is not easy to decide. As we see in the *First* mode, the qualifying adjectives point to *neginot* as the correct form. This means that where *niggunim* appears in the actual description of the individual modes it is a copyist's error for *neginot*, but it does not invalidate the use of *niggun* in the opening sentence of the text given here, nor its use in the concluding passage, not given here, but mentioned later, where it is used in another sense. As already stated, the use of the term *neginah* for "beat" is sound philologically since it comes from *nagan* (to strike, knock, beat).

It was these diversely arranged beats which constituted a measure (*shi'ur*), a combination of which made up a rhythmic mode (*tenu'ah*). Unfortunately the lexicographers throw little light on the musical connotation of the term *tenu'ah* (pl. *tenu'ot*), save by implication. The term stood in philosophy for "motion" like its Arabic equivalent *ḥaraka*. Thus *הזמן נמשך אחר התנועה* "Time depends on motion", as in the Hebrew version of Aristotle's *Physics*, iv, 11.³

¹ Malter, p. 369.

² See *ante* p. 42.

³ Maimonides, *Guide of the Perplexed* (1881), i, 182.

Again in Hebrew grammar or prosody *tenu'ah* had the same meaning as the Arabic *ḥaraka*, i.e. a vowel.¹ In the *Meqor ḥayyim* of Shem Ṭob ben Yosef ben Palaquera (d. ca. 1300), this great interpreter of the *Fons vitae* of Ibn Gabirol (d. ca. 1058), speaks of the *tenu'ah* of *qol*, meaning the vowel element in speech, and of the *tenu'ah* of *ne'imot*, meaning the rhythm or measure of notes.²

Owing to the rarity of Hebrew works on the theory of music we have little authority upon which to draw.³ Indeed, the only passage which has any direct bearing on the question at issue, is to be found in the *Sefer musre ha-filosofim* of Yehudah al-Ḥarizi (12th cent.), which is a translation from the Arabic *Kitāb adāb al-falāsifa* of Ḥunain ibn Ishāq (d. 873), itself said to be extracted from Greek works. On this account the passage deserves to be quoted *in extenso*, although, unfortunately, we are not able to check it with the original Arabic which has not survived, and the Arabic compendium made by Muḥammad ibn 'Alī al-Anṣārī (fl. 1198) does not include the passage in question. Yet the Hebrew was translated from the lost Arabic original and this is what it says:⁴

ואמר לבעל המוסיקא מדוע תנועות הקולות ושבירת הנעימות
וסיבובן בגרון יערב ינעם. ולא יערב כן דבר המסופר. אמר כי
אלה התנועות ינחיל הספור נעימות ודקות כמים הנגרים מראשי
ההרים על צוארי הסלעים שהם יותר מתוקים ועריבים מן המים
אשר בבטן הנחלים והמעיינות

The passage has been translated by Loewenthal in his *Honein Ibn Ishāk, Sinnsprüche der Philosophen*⁵ as follows:

“Der König fragte den Musiker: Warum sind die modulirenden Stimmen und die rythmischen Melodien und ihre Verbindung in der Kehle so lieblich und angenehm, weit lieblicher als das gesprochene Wort? Er erwiderte: durch die rythmischen Bewegungen erhält das Wort Feinheit

¹ See Ibn 'Ezra's translation of the work of Ḥayyug (10th cent.) the *Sefer ha-niqqud* (*Beiträge zur Geschichte der ältesten Auslegung . . . des Alten Testaments*, iii, 202-3).

² Munk, *Mélanges de philosophie juive et arabe* (1857), cap. iii, 30.

³ See the definition of *niggun* in the *Thesaurus* of Eliezer ben Yehudah (vii, 3507), who quotes from a *Sefer ha-musiqā* of Yehudah ben Yizḥaq (1166-1224).

⁴ *Sefer Musre ha-filosofim* (Frankfort, 1896), p. 14.

⁵ Berlin, 1896, p. 77.

und Anmut, wie das Wasser, das von der Spitze des Berges auf Felsenrisse hinabströmt, süß ist und besser mundet als das Wasser in Bächen und Quellen”.

Yet it is only in Bar Ḥiyya that we have complete evidence that *tenu'ot* stood for “rhythmic modes”. We have seen in the *Piteron* that *ni'nu'ot*, which belongs to the same root (נוע), represented a movent beat in rhythm, but in Bar Ḥiyya *tenu'ot* came to stand for a cycle of these beats, i.e. a rhythmic mode, although it has to be admitted that his employment of the term in the present text reveals some inconsistencies. His use of it may be grouped under three headings,

(1) The word *tenu'ot* is used in the introductory passage of our text, but the genuineness of its original occurrence here is suspect by reason of the adjoining words, with the gender of which it does not strictly agree. Even, however, if the word is a gloss which subsequently crept into the text, the interpretation of *tenu'ot* as “rhythmic modes” is established by a later paragraph (see below).

(2) The word occurs in the description of the *Third* mode where it is clearly a copyist's error for *neginot* (beats).

(3) Finally, the word is introduced into the concluding passage on the influence of the rhythmic modes, the text and translation of which has not been included above. Here its true meaning is made clear, as we shall see.

In this concluding passage, as already pointed out,¹ Sa'adyah said, in reference to the rhythmic modes (*alḥān*), that it was “the custom of kings to mix *them* one with another”. The *Piteron* clearly interprets “them” by התנועות i.e. rhythmic modes, whilst Bar Ḥiyya uses the term התנועות as the complete passage shows וזו התנועות זו עם זו. Therefore Bar Ḥiyya's *tenu'ot*, in order to agree with Sa'adyah and the *Piteron*, must have the meaning of “rhythmic modes”. So it was the mixing or blending of the rhythmic modes in which the kings indulged.

Bar Ḥiyya also says that certain moods were created in the listeners when they heard the *niggun* (beating) of the *shi'ur* (measure) of these modes. In other words, the performance of these different rhythmic modes, one after the other, with their dissimilar measures occasioned by the changing pattern and *tempo* of the beats, gave rise to diverse moods or mental states which, it was argued, were so beneficial.

What could have been the cause of the direct contrariety between the terminology of the *Piteron* and Bar Ḥiyya? Two causes suggest themselves. (1) That Bar Ḥiyya was unacquainted with the technical nomenclature of

¹ See *ante* p. 44.

music. (2) That he was using a terminology that was current in Spain whilst that of the *Piteron* obtained in the East. Let us consider these.

(1) Bar Ḥiyya himself tells us in his *Zurat ha-arez* that he was a pioneer whose work in Hebrew was devised so as to bring some of the sciences, then only known in Arabic, to the knowledge of his co-religionists in France. Having no certain guides, as Dr. Guttmann says, he had "to wrestle with language not yet adapted to philosophic and scientific terminology".¹ These facts could be used in support of the argument that he may have been unacquainted with technical musical terms and so could have erred, but this seems unlikely.

(2) If it is true that Bar Ḥiyya had dealt with the theory of music in his *Yesode ha-tebunah*, even if he had borrowed from Arabic sources, he would doubtless have been *au fait* with its terminology.² It would appear, therefore, that the rhythmic modes, which in the East were called *niggunim*, and the constituent beats *ni'nu'ot*, were known in the West as *tenu'ot* and *ne'inot* respectively.

The use of these latter terms by Bar Ḥiyya may also be urged as a complement to the argument previously used that Bar Ḥiyya may have had an Arabic text of Sa'adyah which differed from that which has survived, and that it actually contained the term *naqarāt* (beats) instead of *naghamāt* (notes). This could very well account for his selection of the term *ne'inot* (beats), which is the Hebrew equivalent of *naqarāt*, rather than *ne'imot* (notes) which is the equivalent of *naghamāt*. This would, in itself, lead him to recognize that rhythm was under discussion and prompt him to translate the Arabic *alḥān* (melodic modes) by *tenu'ot* (rhythmic modes). Of course, even apart from the occurrence of the term *naqarāt*, he might have sensed that rhythm and not melody was being treated and adopted his terms accordingly.

That Bar Ḥiyya's Arabic copy of Sa'adyah was different from that which has been preserved to-day also seems to be confirmed in his description of the *Fifth* mode. Here he translates Sa'adyah as saying שְׁתֵּים זָו אַחֵר "two (beats) one after the other", whereas Sa'adyah's text, as we have it, says אֶתְנִיין מִתְבַּאֲיִנִין "two separate (notes)". This latter mistake was due to some copyist of Sa'adyah who read מִתְבַּאֲיִנִין for מִתְבַּאֲלִיִּין, as has been shown,³ and is partly corroborated by Ibn Tibbon, as we shall see.

Although several passages in Bar Ḥiyya are helpful in establishing a better understanding of Sa'adyah's Arabic text, there are others which are a hindrance. This is true especially of the wording of the technical passage, which has been

¹ *Jewish Encyclopaedia*, i, 109.

² See *ante* p. 48.

³ See *ante* p. 36.

assumed to refer to the motion of the plectrum on the string, in the *Third* and *Fifth* modes. Bar Ḥiyya's phrase concerning the *Third* mode in the extant text—"and (between) the raising up and the putting down"—is in direct contradiction to both Al-Kindī and Sa'adyah¹ and is, in my opinion, erroneous in this order of motion, as well as being incomplete. In the *Fifth* mode the extant text has "and between the putting] down and the raising up, and the raising up [. . .]", which is also the inverse of Al-Kindī and Sa'adyah². Here the order of motion would appear to be correct although the final words "and the putting down" are wanting.

That Bar Ḥiyya was acquainted with, and was influenced by, the *Piteron*, there is some slight suggestion in the concluding passage (not given in the edited text) on the custom of kings in listening to the rhythmic modes. In Sa'adyah's account it will be recalled that he merely says that they mixed *them*, implying the modes. The *Piteron* says definitely that it was the *niggunim* (rhythmic modes) that were mixed. Bar Ḥiyya follows this explicitly by saying that it was the *tenu'ot* (rhythmic modes) that were mixed. Again, in the succeeding sentence, where the *Piteron* refers to listening to the *ne'imot* (notes) of the *niggun* (rhythmic mode), Bar Ḥiyya conforms by specifying the listening to the *niggun* (beating) of the *shi'ur* (measure), whereas Sa'adyah's original is not so precise.³

¹ See *ante* p. 31.

² See *ante* p. 31.

³ See *ante* p. 45.

CHAPTER VII

BERAKYAH HA-NAQDAN'S HEBREW SUMMARY

"I determined to set down the subject in an abbreviated form that it become not wearisome, and that he who runs may read".

Berakyah ha-Naqdan: *The Compendium*.

BERAKYAH ben Natronai ha-Naqdan, the fabulist and translator, flourished in the late 12th and early 13th centuries, and seems to have worked in both Provence and England. In spite of the praises of Jacobs and Gollancz, the Naqdan gained his fame as a compiler rather than as an author, as his best known works indicate, i.e. the *Mishle shu'alim* (Aesop's Fables), *Dodi we nekdi* (Adelard's *Quaestiones naturales*), the *Mazref* (The Refining Pot [of Philosophy]), and the untitled compendium of ethics based, for the greater part, on the *Sefer ha-emunot* of Sa'adyah.

We have seen that the *Piteron* was attributed to Berakyah, but that, since it has been generally accepted that he was unacquainted with Arabic, he could not have been the translator.¹ If this opinion of his ignorance of Arabic is correct, his source for the compendium must have been a Hebrew translation, and most authorities have assumed that this was the *Piteron*.²

The main reason for this assumption is as follows. The two extant manuscripts of the Arabic *Kitāb al-amānāt* at the Bodleian Library, Oxford, and the State Library, Leningrad, show a wide divergence in Chapter VII, and the *Piteron* reveals that both of these works were used by the translator when making his interpretation. The peculiarities of these two works are also present in Berakyah's summary, so that it would seem almost certain that he based his work at this point on the *Piteron*. On the other hand his terminology in the passage on music shows little evidence of any connection with the *Piteron*, but reveals similarity to Bar Hiyya, as we shall see in the Commentary.

The date of the composition of the compendium can be placed in the last quarter of the 12th century, one reason for this being some of the writings from which Berakyah quotes. He uses the *Emunah ha-ramah* of Abraham ibn Daud, which was written originally in Arabic (*Kitāb al-'aqīdat al-raṣī'a*)

¹ See ante p. 38.

² Gollancz, p. li. Malter, p. 361.

in 1168.¹ He also quotes from the *Kitāb al-hidāyat ilā farā'id al-qulūb* of Bahyah ben Yosef, which was translated into Hebrew by Ibn Tibbon between 1161 and 1180 as the *Torat ḥobot ha-lebabot*.

As stated in the opening lines of this chapter, Berakyah's work was a "summary" of Sa'adyah's theories. He explains his summarizing in this vein: "I have stripped the words of their husks... taking from the pod just two or three berries".² Yet he assures us that he does not alter the main ideas, a statement which has the approval of his editor, Dr. Hermann Gollancz, who says, "Berakyah does not seem to have altered or mutilated his texts, or to have changed them arbitrarily".³ These writers are quoted verbatim because we shall see that, in the passage under discussion, Berakyah has "altered" and "mutilated" the text. Indeed, it has been so "changed" that it would scarcely be possible to appreciate the actual argument of Sa'adyah without reference to previous versions.

§ 1

THE TEXT

The text of Berakyah's compendium was edited, with an English translation, by Dr. Hermann Gollancz in *The Ethical Treatises of Berachyah* (London, 1902). Because of this it would seem to be of little purpose that one should include the text of the passage on music, or even a translation, in this present monograph, yet there are several reasons why this should be done.⁴ One is that it is advisable that the reader should have all cognate material concerning the Sa'adyah passage together for the sake of comparison. Another reason is that the text requires slight rectification, and that a translation can be offered which is more in keeping with Berakyah's views than those attributed to him by Dr. Gollancz.

Following his mentor, Berakyah deals, first of all, with the sense of sight, and he shows that diversity in colour is more beneficial to the soul than uni-

¹ The two Hebrew translations which are known are those of Shemuel ibn Motoṭ in 1392, and Shelomoh ibn Labi, which was made a little later. If we are to agree with the accepted opinion that Berakyah was unacquainted with Arabic, then there must have been an earlier Hebrew translation of the work of Abraham ibn Daud, unless Berakyah borrowed at second hand from the Arabic original.

² Gollancz, pp. 1-2.

³ Gollancz, p. li.

⁴ See Malter, p. 362. *Jewish Quarterly Review*, xvii, 581. *Revue des Etudes Juives*, xli, 285.

formity.¹ He then proceeds to the sense of hearing, and continues a similar argument for *qolot* (sounds), *neginot* (beats), and *tenu'ot* (rhythmic modes).

This is what Berakyah says²:

וכן התנועות שהם מן הקולות מוזיגתם על הענין ההוא, לפי שיעורם
מן הנגון ולפי נוחם וניעתם יניעו המרות ו[כת] הדם ו[כת] המלכות
והשלטנות, פעמים אל הגבורה ופעמים אל השפלות ופעמים
אל השמחה ופעמים אל האנחה.

§ 2

THE TRANSLATION

The English translation of this passage by Dr. Gollancz leaves much to be desired. Not only is it an inexact rendering of the Hebrew, but it is incorrect. In particular, *qolot*, *neginot*, and *tenu'ot* do not refer to "sound, noises, and vibrations", but rather to "sounds, beats, and rhythmic modes", as is confirmed by the other Hebrew versions. Likewise, the author does not speak of the "acuteness or graveness of the sound" but of the quiescence and movence of rhythmic beats.

While it is true that Berakyah's text is confusing as it stands, and that it is only by reference to the preceding Arabic and Hebrew texts that its meaning can be rightly appreciated, yet it is surprising that Dr. Gollancz's translation of Berakyah's passage on music is not more intelligible than he has made it.

Here is a fresh translation:

"And so with the rhythmic modes (*tenu'ot*), which are (derived) from sounds (*qolot*), the combination of which produces that (same) effect (already mentioned in regard to colours). According to their measure (which is derived) from the beating (*niggun*), and according to their quiescence (*noh*) and their movence (*ni'ah*), they stir the humours, and (among them) [the strength of] the blood, and [the power of] (the tempera-

ment of) sovereignty and dominion. And (when other humours are stirred, other temperaments are moved) sometimes to exaltation, and sometimes to abasement, and sometimes to joy, and sometimes to grief".

As we shall see in the Commentary, Berakyah has jumbled together the temperaments mentioned in the *Second*, *Third*, *Fourth*, and *Eighth* sections of Sa'adyah and his Hebrew translators under one cause, having been rather too impetuous when, as he says, he "stripped the words of their husks".

§ 3

COMMENTARY

Berakyah's treatment of the subject appears, at first sight, to be quite negligible as a contribution to the elucidation of the several texts of Sa'adyah, but, actually, it is not so, since it promotes several useful clarifications.

In the opening clause which precedes the passage quoted, Berakyah speaks consecutively of *qolot* (sounds), *neginot* (beats), and *tenu'ot* (rhythmic modes). This does not agree with the terminology nor the order of his presumed original, the *Piteron*, which has *niggun* (rhythmic mode), *ni'nu'ah* (beat), and *yebibah* (sound).¹ The divergence has some importance as it shows that either (1) he preferred a nomenclature which was more agreeable to the Sefardic Jews for whom he was writing, or that (2) he did not use the *Piteron* as his basis. The latter would appear to be the stronger probability although the weight of the recognized authorities is against it. Indeed there is no reason why Berakyah may not have turned, in this particular passage on music, with all its technicalities, to some other source for aid, and the version of Bar Ḥiyya has already been mentioned as a likely store from which to draw. It is even possible that he consulted the original Arabic of Sa'adyah, although such a view is at variance with the opinions of Steinschneider and Malter.² Further, it is within the range of possibility that Berakyah may have even seen the translation of Ibn Tibbon.

Berakyah uses the following technical terms in common with Bar Ḥiyya נוחם וניעתם, שמחה, גבורה, דם והמלכות, השלטנות, שיעורים מן הנגון, תנועות of which Ibn Tibbon uses the last four. These coincidences deserve attention although their importance need not be overstated. What is of greater con-

¹ I use the words "diversity" and "uniformity" rather than the "many" and the "one", as more expressive of the meaning.

² Gollancz, p. 98 (text), 197 (trans.).

³ יניעו המרות in Gollancz's text is a twofold scribal error.

⁴ כח, twice wanting in Gollancz's text, is inserted in accordance with the phraseology of the same text, seven lines higher up.

¹ See *ante* p. 44.

² See *ante* p. 58. Cf. also the footnote on p. 59 concerning Berakyah's use of the *Kitāb al-'aqīda* of Abraham ibn Daud.

sequence is Berakyah's adoption of *tenu'ot* for "rhythmic modes" and *negivot* for "beats", as well as the inclusion of *niggun* (beating), all of which agree with the usage of Bar Ḥiyya. That *tenu'ot* stood quite clearly for rhythmic modes is proved from the concluding passage on the custom of kings. In this latter Berakyah says that "it was the custom of kings to combine these *tenu'ot* (rhythmic modes), one with another," and that when they heard the *niggun* (beating) they were influenced accordingly, both of which statements point to Bar Ḥiyya as the prompter, and not to the Arabic of Sa'adyah, the *Piteron*, nor Ibn Tibbon.

As for the actual text of Berakyah, as displayed in the passage on music, one is constrained to say that the author has created much confusion by having "abbreviated" too drastically, as may be seen by the translation, where an endeavour has been made to fill in gaps so as to make sense. The humour of the blood, for example, did not produce *all* the temperaments which he mentions, but merely that of "sovereignty" and "dominion". Of other temperaments, "strength" belonged to the humour of the yellow bile, whilst "weakness" was due to the humour of the phlegm or white mucus, and "joy" and "grief" were produced by the humour of the black bile.

Berakyah's summary of the passage on music is placed here, following Bar Ḥiyya's version, rather than after the translation of Ibn Tibbon, because it is highly probable that this particular passage owes much to Bar Ḥiyya, and secondly, because it is also probable, in spite of what has been urged to the contrary by others, that Berakyah wrote it before Ibn Tibbon's work had been made public.

CHAPTER VIII

IBN TIBBON'S HEBREW TRANSLATION

"The somewhat unintelligible Hebrew translation".

Steinschneider: *Jewish Literature*.

YEHUDAH ben Shemuel ibn Tibbon (1130-ca. 1190) belonged to Granada, that *Villa de Judios*, which was once the lamp of culture to the Western world, but he spent most of his days at Lunel in the South of France. He is counted as one of the most celebrated translators of Arabic works into Hebrew, and his son, the more famous Shemuel (ca. 1150-1230), considered that Yehudah was "the father of translators (from Arabic)"¹. Among his best known translations is Sa'adyah's *Kitāb al-amānāt*, known as the *Sefer ha-emunot*, a work which was accomplished, according to the *editio princeps*, in 1186.

That Ibn Tibbon was acquainted with the earlier translations is highly probable, but perhaps he was dissatisfied with these previous versions, as he was with the earlier issues of Baḥyah ben Yosef's *Al-hidāya*, which he retranslated.²

There are several manuscripts of the *Sefer ha-emunot*, notably those of the Vatican (Assemani 255, 270), and there are eight printed editions, viz. Constantinople (1562), Amsterdam (1647), Oxford (1717), Berlin (1789), Leipsic (1859), Leipsic (1864), Cracow (1880), and Jósefów (1889). Most of these depend on the *editio princeps*.³ For the purpose of this monograph, three of these editions have been consulted, viz. Amsterdam (1647), Leipsic (1859), and Leipsic (1864), but, so far as the passage on music is concerned, no attempt has been made by the editors of these editions to supply an adequate *apparatus criticus* or to revise the text.

Many eminent Hebraists, including Margulies, Bacher, and Goldziher,⁴ have suggested rectifications of parts of the *Emunot*, yet, with one exception, no writer has suggested a single emendation of that part of the text which contains the elusive passage on music. The one writer who has done so is Dr. Jacob Guttman, whose *Religionsphilosophie des Saadia* (1882) contains

¹ Introduction to the *Moreh nebukim* of Maimonides.

² Gollancz, *Ethical Treatises of Berachyah* (1902), p. xliii.

³ For details of these editions see Malter, p. 370.

⁴ See Malter, pp. 372-3.

a few suggestions aimed at elucidating the passage on music,¹ although most of them were prompted by a later document, the section on music in the *Rasā'il* of the Ikhwān al-Ṣafā' (late 10th cent.), as translated or paraphrased into German by Dieterici in his *Propädeutik der Araber* (1865).²

§ 1

THE TEXT

As far back as 1921, Dr. Henry Malter, the author of the excellent *Saadia Gaon*, promised to publish a revised text of Ibn Tibbon's translation, "based on all existing manuscripts, and on a careful comparison of the Arabic recensions" (*sic*),³ in which all the "difficulties" in the passage on music were to be "explained".⁴ This work, which had already been completed in 1921, has not been published, so far as can be ascertained, a situation which makes the editing of the present corrected text of the passage on music unavoidable, and a full criticism a *desideratum*.

The basis of the following text is that edited by Slucki (Leipzig, 1864).⁵ This editor contributed critical notes to the first five chapters, the notes to the remaining chapters being made by I. Dines, although he offers no enlightenment to the technical difficulties in the passage on music. As already stated, the editions of Amsterdam (1647)⁶ and Leipzig (1859)⁷ have also been consulted. Here is Ibn Tibbon's text:

ונאמר, כי הנגינות שמנה, לכל אחת מהם שיעור מהנעימות

הראשונות⁸ מהם שעורה שלש נעימות⁹ סמוכות, ואחת נחה.¹⁰

¹ p. 286.

³ Malter, p. 372.

⁴ Malter, p. 259.

⁵ pp. 160-1.

⁶ *Fol. recto*, col. 2, line 1 from bottom.

⁷ pp. 200-01.

⁸ Should be fem. as all other headings.

⁹ הראשון מהם שיעור השלש נעימות שתיים.

The last word seems clearly to be an addition by a venturesome scribe. Nothing corresponds to it in Al-Kindī or Sa'adyah, nor is it in the text of Amst. 1647.

¹⁰ Basic text: נעה, but נחה agrees with Al-Kindī, Sa'adyah and Bar Ḥiyya.

² p. 140.

והשניה שלש נעימות [סמוכות, ו] אחת נחה ואחת נעה, ואלה השתי² נגינות מניעים³ כח הדם⁴ וכח המלכות והממשלה.

והשלישית שעורה שתי נעימות סמוכות אין ביניהם זמן נעימה, ואחת נחה, ובין כל השפל והגבה [. . .]⁵ והשפל זמן נעימה, וזאת לברא מעירה המרה [ו] האדומה⁶ והגבורה וחזק הלב ומה שדומה להם.

והרביעית שעורה שלש נעימות סמוכות, לא יהיה ביניהם זמן נעימה, ובין כל שלש ושלש זמן נעימה. וזאת לברא מניעה הלחה הלבנה, ותראה מהנפש כח השפלות והכניעה והמורכ והדומה לזה.

והחמישית שעורה נעימה נפרדת, ושתיים שונות זו מזו, אין ביניהם זמן נעימה, ובין [. . .] הגבה והשפל⁷ זמן נעימה.

והששית שעורה שלש נעימות מתנועות.

והשביעית שעורה שתי נעימות סמוכות, אין ביניהם זמן נעימה, ובין כל שתיים ושתיים זמן נעימה.

¹ Necessary additions. Cf. sections 1 and 3.

² ה may be a dittography from the preceding word.

³ Grammatically should be fem. A scribal error?

⁴ Basic text has what may be an Aramaic form האדם.

⁵ Ibn Tibbon, like the translator of the *Piteron*, seems here to follow a defective text of Sa'adyah. It is quite unlikely that the same scribal error should occur independently at the same point in the extant MSS. of three different writers.

⁶ See critical note, p. 50, on the text of Bar Ḥiyya.

⁷ Basic text has שלשה.

⁸ Basic text has וכן.

⁹ The three preceding words presumably depend upon the corresponding words of Sa'adyah's extant text, which, however, may be reckoned to be defective at this point. Cf. the differing texts of the *Piteron* and Bar Ḥiyya.

השמינית ששורה שתי נעימות סמוכות, אין ביניהם זמן נעימה,
ובין כל שתיים ושתיים זמן שתי נעימות. ואלה הארבע כלם מניעים
המרה השחורה, ומראות מן הנפש מדות נחלקות, פעם אל השמחה,³
ופעם אל הדאגה.

§ 2

THE TRANSLATION

In spite of the numerous issues of the text of the *Emunot*, translations into European languages are but few. Over two hundred years ago Jean Gagnier (Oxford, 1717) produced a Latin version, when he edited the Arabic and Hebrew texts, but it was not until Julius Fürst published a German paraphrase,³ in his *Emunot we-Deot* (Leipsic, 1845), that Europe was able to get a general view of Sa'adyah's theories. Unfortunately this paraphrase did not include Sa'adyah's passage on the influence of music, because Fürst omitted Chapter X which contains this passage. Perhaps, even if it had been included, a paraphrase of the passage would have been of negligible value since his blunders in other chapters have been severely censured.⁴

A good rendering of the passage on music was made, however, by Jacob Guttman in his *Religionsphilosophie des Saadia* (1882), as already indicated, where most of his elucidations were on the right lines, although, not being aware of the Al-Kindi source, he depended on the Ikhwan al-Safa'.

Another German version of the *Emunot* was made by Julius Barrasch and Moritz Steinschneider a century ago, and, strange as it may seem, in this work also, Chapter X was left untouched. The manuscript of this version is in the possession of Dr. Henry Malter, who promised, in 1921, to publish it,⁵ but, so far, has not done so. For these reasons a full translation of the passage on music from Ibn Tibbon's version is also necessary.

Dr. Malter has said that "nobody could... correctly translate Ibn Tibbon's text without the aid of the Arabic original".⁶ In this instance,

¹ Grammatically erroneous? Cf. note 3, p. 65. Cr. Amst. 1647 מניעין.

² In the basic text the article is only faintly visible.

³ It is certainly not a translation.

⁴ Steinschneider, *Die hebräischen Übersetzungen*, p. 439.

⁵ Malter, 376.

⁶ Malter, 374.

however, the passage on music has been translated into English with reference to the Arabic of Sa'adyah, because it has been desired to expound the passage literally, so as to convey what Ibn Tibbon's idea seems to be. It is seen that Sa'adyah was discussing *melodic* modes and not *rhythmic* modes. Here is the translation:

"And we say that the melodic modes (*neginot*)¹ are eight, each one of them having a measure (derived) from the notes (*ne'imot*).¹

(1) The *First* of them, its measure (*shi'ur*) is three adjoining notes and one quiescent (note).

(2) The *Second* (its measure is) three [adjoining] notes, [and]² a quiescent (note), and one movent (note). These two melodic modes are the strength (of the humour) of the blood and that (of the temperament) of sovereignty and rule.

(3) The *Third*, its measure is two adjoining notes, without the time of a note between them, and one quiescent (note); and between every low and high [...] and low,³ is the time of a note. And this (melodic mode) alone stirs (the strength of the humour of) the yellow bile, [and] (the temperament of) vitality,⁴ and manliness, and strength of heart and qualities like these.

(4) The *Fourth*, its measure is three adjoining notes, between which there cannot be the time of a note, but between every three (notes) a time of a note. And this (melodic mode) alone stirs (the strength of the humour of) the white mucus,⁵ so that there emerges from the soul the temperament of lowliness, and submission, and timidity, and other (similar qualities).

(5) The *Fifth*, its measure is a solitary note, and two (notes) differ from one another,⁶ not having the time of a note between them, but between the [...] high and the low⁷ is the time of a note.

(6) The *Sixth*, its measure is three movent notes.

(7) The *Seventh*, its measure is two adjoining notes, not having the time of a note between them, but between every two (notes) and two (notes) is the time of a note.

¹ For the use of the terms "melodic modes" and "notes" see the Commentary. ² Added from Sa'adyah.

³ Cf. Al-Kindi and Sa'adyah, pp. 21, 31. ⁴ "ruddiness". It is additional to Sa'adyah.

⁵ the phlegm.

⁶ Commentary for this contrariety from Al-Kindi, Sa'adyah, the *Piteron*, and Ibn Hiyya.

⁷ Al-Kindi and Sa'adyah, pp. 21, 31.

(8) The *Eighth*, its measure is two adjoining notes, not having the time of a note between them, but between every two (notes) and two (notes) is the time of two notes. And all these four (melodic modes) stir (the strength of the humour of) the black bile, so that there emerge from the soul divergent qualities, sometimes (tending) to joy and sometimes to grief".

§ 3

COMMENTARY

Although Ibn Tibbon's translation is the most complete of the Hebrew versions which deal with Sa'adyah's passage on music, it is faulty. Dr. Malter's claim that, as a whole, this version is the "more accurate and scientific translation",¹ does not seem to square with facts so far as this particular passage is concerned since it is doubtful whether Ibn Tibbon properly understood its purpose. Indeed, one is inclined to accept the more temperate verdict of Dr. Max Schloessinger who says that Ibn Tibbon "often translated the mistakes of the original without heeding the sense, or rather lack of sense, expressed therein".²

These strictures appear to be confirmed by Ibn Tibbon's treatment of the passage in question. If we turn to the original Arabic of Sa'adyah we see that where the Gaon speaks of *ṣaut* (sound), *tanghim* (intoning), and *lahn* (melody), Ibn Tibbon Hebraizes these terms into *qol* (sound), *ne'imah* (note), and *reginah* (melody), and he adheres to these two latter terms when describing the eight rhythmic modes, using them, it would seem, in their strictly literal sense to denote melodic rather than rhythmic modes, making them agree with the Arabic *naghma* (note) and *lahn* (melody), without troubling to discern what was under discussion or, as Dr. Schloessinger says, "without heeding the sense".

Since it is Ibn Tibbon's text that has been more generally known to modern Jews and Orientalists, it is to this version that we must attribute the misconceptions of Sa'adyah's passage which have prevailed down to recent times. Rabbi Francis L. Cohen, the author of the more technical articles on music in the *Jewish Encyclopaedia*, was one of those who were misled by Ibn

¹ Malter, p. 367. In using the comparative "more" he seems to have taken no account of the translation of Bar Hiyya.

² *Jewish Encyclopaedia*, vi, 545.

Tibbon's terminology. He found *niggun* (sic)¹ and *ne'imah* used in *Emunot* and promptly concluded that "scales and intervals" were implied.

Dr. Malter realized that there was something amiss with the text of Tibbon in this passage when, in 1921, he promised to "explain" some of "great difficulties" in a newly edited *Sefer ha-emunot* which, as already mentioned, has not been published. Yet it may be doubted whether such a work would have eased the situation, so far as this particular passage is concerned, because Dr. Malter had already misunderstood the technical terms used, there are two instances of this.

Speaking of the *alḥān* (= *neginot*) mentioned in the *Commentary on Canticles* attributed to Sa'adyah, Dr. Malter says that these "nine (actually eight) musical tones" have a parallel in the *Amānāt*, i.e. in the passages of music studied in this monograph.³ His statement is quite erroneous. "musical tones" in *Canticles* are *melodic* modes, whilst those described in *Amānāt* are *rhythmic* modes. We can, therefore, to some extent, understand why Dr. Malter has not grasped the significance of the technical musical terms in the *Amānāt*, when he says that "Sa'adyah enters upon a detailed description of the eight fundamental musical tones and their intervals or semitones. As we have seen, it is with *rhythmic modes* and *beats* that Sa'adyah is concerned, not with *fundamental musical tones* and *intervals* or *semitones*."

It seems that Dr. Malter had read Ibn Tibbon in this passage in a literal way, just as Ibn Tibbon himself had previously interpreted Sa'adyah, "without heeding the sense". Yet the fact that both Sa'adyah and Ibn Tibbon distinctly refer to the *miqdār* or *shi'ur* (measure) of a *lahn* or *neginah* (melody, rhythm), and to the *zamān* or *zeman* (time) of a *naghma* or *ne'imah* (note, beat) ought to have sufficed for anyone acquainted with music as an indication that these terms had *mensural* and not *pitch* values.

Having accepted the literal meaning of Sa'adyah's terms it was of course natural that Ibn Tibbon should assume that *נִצְעָה ורפעה*, which he may have read as *נִצְעָה ורפעה*, stood for pitch in relation to notes, i.e. "low and high" rather than physical motions in relation to beats. There were, however, strong Rabbinical grounds for this assumption, since the *termini technici* of musical authorities on *te'amim* give the prompting.⁵ As has been said, *נִצְעָה ורפעה*

¹ Ibn Tibbon uses the word *neginah* and not *niggun*, but it is possible that this writer has consulted a manuscript which contained the latter term.

² *Jewish Encyclopaedia*, ix, 122.

³ Malter, p. 323.

⁴ Malter, p. 259.

⁵ See Wickes, *טעמי כ"א ספרים* (1881), pp. 20, 21; and *טעמי כ"א ספרים* (1887), pp. 13, 14.

referred to the downward and upward motions of the plectrum on a stringed instrument.¹

As early as 1869 Steinschneider had expressed dubiety as to the propriety of using the word "melodies" for *neginot* in the Sa'adyah passage.² Jacob Guttman also partly realized that *rhythms* and not *melodies* were meant when he translated *neginot* by "Tonweisen oder Grundformen" and *ne'imot* by "Anschläge oder Intervalle" in his version of the passage under discussion,³ and it seems to have been this interpretation which led Dr. Malter to speak of "fundamental musical tones" and "intervals and semitones". Dr. Ackermann in the *Geschichte der jüdischen Litteratur*, speaks of these "acht Tonarten" of Sa'adyah in a rhythmic sense.⁴

Of the actual text of Ibn Tibbon there is little upon which to comment beyond what has already been said in the critical notes. In the *Third* mode, his insertion of כל before השפל והגבה seems to show that he thought that the reference was to "every high and low" note.

His reading of the *Fifth* mode also has some interest. Sa'adyah's phrase אֶתְנִינִי מִתְבַּאֲיִנִי i.e. "two separate (notes)" is translated by שְׁתֵּי שׁוֹנוֹת i.e. "two (notes) different from one another", implying the more unusual meaning of מִתְבַּאֲיִן.⁵ It has been pointed out⁶ that Al-Kindī says لَقَرَاتَانِ i.e. "two consecutive beats" which is probably the correct reading, since Bar Ḥiyya has שְׁתֵּי זֶז אַחֵר i.e. "two (beats) one after the other". This would appear to substantiate the opinion that the original text of Sa'adyah, which has not been preserved, had אֶתְנִינִי מִתְבַּאֲיִנִי which a careless scribe misread as אֶתְנִינִי מִתְבַּאֲיִנִי.

¹ Modern Arabian and Persian rhythm, with their *dum* (=daum) and *tak*, might be dragged into support of the "low" and "high" argument, because *dum*, the heavy beat, is "low-toned" on an instrument of percussion, and *tak*, the light beat, is "high-toned", yet not even by this stratagem can וְצִעָה וְרַפְעָה be pressed into meaning *dum* and *tak*, and this observation is only made so that the reader may be assured that the possibility has been considered. At any rate, these things were unknown to the Arabs of the 10th century.

² Steinschneider, *Alfarabi* (1869), p. 79.

³ Guttman, p. 286.

⁴ Edited by Winter and Wünsche (Leipzig, 1892-95), iii, 500.

⁵ See p. 67.

⁶ See ante p. 36.

CHAPTER IX

INTERPRETATION OF THE RHYTHMIC MODES

"Sa'adyah's theory of music... has not yet been properly explained".

Malter: *Saadia Gaon* (1921).

ALTHOUGH the elucidation of the Sa'adyah texts has been our primary consideration, there is still the interpretation of the rhythmic modes to be worked out. In this task, as with the texts in general, one is confronted by vague definitions which make precise interpretation difficult. *Prima facie*, the reduction of these definitions to a musical notation seems simple enough, and several acceptable theorems could be stated and proved, yet when the proofs of these are compared with the even more precise demonstrations which are deducible from later Arabic theorists we find, in many instances, complete disagreement.

The complexity of the problem was recognised by these later Arabic theorists themselves, and the contrariety was attributed to precisely the same cause as that stated above. It was stressed by Ibn Zaila (d. 1048) who even went so far as to say that he thought that some of these theorists did not understand the subject. The diversity of opinion was admitted by later writers by Ṣafī al-Dīn 'Abd al-Mu'min (d. 1294),¹ by the author of the *Sharḥ maulānā* (14th cent.),² and by the author of the *Kitāb li Muḥammad ibn Murād fi'l-mūsīqā* (15th cent.).³ There is little need, therefore, for any apology in saying that the solving of the precise form of these rhythmic modes, as described by Al-Kindī and Sa'adyah, is embarrassing, to say the least.

It may be that the diversity of opinion between the various theorists is due to regional variation, as well as to the march of time. Such writers as Al-Kindī (d. ca. 874), Ibn Khurdādhbih (d. ca. 912),⁴ Al-Isfahānī (d. 967),⁵ the Ikhwān al-Ṣafā' (10th cent.),⁶ wrote in Mesopotamia, whereas Al-Fārābī (d. ca. 950)⁷ penned his work in Syria, whilst Abū 'Abdallāh al-Khwārizmī (10th cent.),⁸ Ibn Sīnā (d. 1037),⁹ and Ibn Zaila (d. 1048)¹⁰ lived in Persia and Transoxania.

¹ D'Erlanger, *La musique arabe*, iii, 159.

² Ibid., iii, 469.

⁴ Al-Mas'ūdī, *Les prairies d'or*, viii, 97.

⁶ *Rasā'il*, i, 115.

⁸ Al-Khwārizmī, *Mafātih al-'ulūm* 235, et seq.

⁹ D'Erlanger, ii, 167.

¹⁰ British Museum MS. Or. 2361.

³ Ibid., iv, 154.

⁵ Al-Isfahānī, *Kitāb al-aghānī*, passim.

⁷ D'Erlanger, ii, 26.

On the other hand it may be argued that there was little difference in these matters from the Levant to the Oxus, since Ibn Zaila, writing in Persia or Transoxania, treats the theories of Al-Kindī and Al-Fārābī as though there were a common system throughout the Islamic East. Indeed, Ibn Zaila's main objection is that it was the unsatisfactory definitions of the theorists which created much of the divergence.

A great deal of the uncertainty was due to the lack of a notation by the Arabs of this period, although we know that they used a tablature.¹ Ibn Sīnā says that he saw musicians notating rhythm as fast as they could write it.² What was generally used up to the 13th century was a system of onomatopoeiae built on the mnemonics of the prosodists, which probably had its origin with Al-Khalīl (d. 799), the father of Arabic prosody and the author of the first Arabic book on rhythm.³ Just as the mnemonics were based on the verbal *fa'ala* of the grammarians, so the musicians produced their onomatopoeiae, and here is what the Ikhwān al-Ṣafā' have to say on the matter:⁴

"The canons of music (*mūsīqī*) are like the canons of prosody (*arūd*). . . . They [the latter] are composed upon three principles, the *sabab*, the *watid*, and the *fāṣila*. And the *sabab* is two consonants,⁵ one movent (vowelled) and the other quiescent (unvowelled), like your saying *hal* . . . and so on. And the *watid* is three consonants, two movent and one quiescent, like your saying *na'am* . . . and so on. And the *fāṣila* is four consonants, three movent and one quiescent, like your saying *ghalabat* . . . and so on . . .

As for the canons of singing (*ghinā'*) and melodies (*alḥān*), then they are also (based) upon three principles, and they are the *sabab*, the *watid*, and the *fāṣila*. As for the *sabab*, it is a movent beat (*naqra mutaharrika*), followed by a quiescence (*sukūn*), like your saying *tan* . . . which is repeated *ad libitum*. And the *watid* is two (movent) beats followed by a quiescence, like your saying *tanān* . . . repeated *ad libitum*. And the *fāṣila* is three (movent) beats followed by a quiescence, like your saying *tanānan* . . ."

Here is a table showing the respective values of some of these onomatopoeiae in relation to the mnemonics of the prosodists:

¹ Farmer, *An Old Moorish Lute Tutor*, 25 et seq.: *Historical Facts for the Arabian Musical Influence*, p. 304.

² *Kitāb al-najāṭ*.

³ *Rasā'il*, i, 93-4.

⁴ The text has "letters", but "consonants" is a better word here because the Arabic script has only consonants.

⁵ Farmer, *Sources of Arabian Music*, p. 14.

MEASURES	MNEMONICS	ONOMATOPOEIA	QUANTITIES
<i>Sabab khafif</i>	<i>fa'</i>	<i>tan</i>	—
<i>Sabab thaqil</i>	<i>fa'a</i>	<i>tana</i>	— —
<i>Watid majmū'</i>	<i>fa'ul</i>	<i>tanān</i>	— —
<i>Watid mafrūq</i>	<i>fa'lu</i>	<i>tāna</i>	— —
<i>Fāṣila ṣughra</i>	<i>fa'ilun</i>	<i>tanānan</i>	— — —
<i>Fāṣila kubra</i>	<i>fa'ilatun</i>	<i>tanānanan</i>	— — — —

The earliest extant Arabic document which deals with rhythm by means of onomatopoeiae is the *Kitāb al-mūsīqī al-kabīr* of Al-Fārābī. This great theorist and his school classified rhythm into conjunct (*muwaṣṣal*) and disjunct (*mufaṣṣal*). *Conjunct rhythm* consisted of beats whose time values (*azmīna*) were equal. *Disjunct rhythm* consisted of beats whose time values were unequal.

Here is Al-Fārābī's arrangement of conjunct and disjunct rhythms:

CLASS	DIVISION	GROUP	SECTION
Conjunct			<i>Sarī'</i> (Quick)
			<i>Khafif</i> (Light)
			<i>Khafif al-thaqil</i> (Light Heavy)
			<i>Thaqil</i> (Heavy)
Disjunct	First		<i>Sarī'</i>
			<i>Khafif</i>
			<i>Khafif al-thaqil</i>
			<i>Thaqil</i>
	Second	Equal	<i>Sarī'</i>
			<i>Khafif</i>
			<i>Khafif al-thaqil</i>
			<i>Thaqil</i>
		Unequal	<i>Ḥathith</i>
			<i>Khafif</i>
			<i>Khafif al-thaqil</i>

Conjunct rhythm was divided according to the time values of the beats. Al-Fārābī supposed that any one of the two syllables in the word *tana* was the shortest appreciable sound, and for that reason he made *ta* his norm (*'iyār*), but preferred *tatan* instead of *tanān*. Upon this he built four divisions of *conjunct rhythm* as follows:

DIVISION	ONOMATOPOEIA	TABLATURE	NOTATION
<i>Sarī'</i>	<i>ta</i>	○	
<i>Khafīf</i>	<i>tan</i>	○ .	
<i>Khafīf al-thaqīl</i>	<i>tanān</i>	○ . .	
<i>Thaqīl</i>	<i>tanānan</i>	○ . . .	

To appreciate the significance of the Arabic tablature it must be understood that the theorists invariably had the lute ('ūd) in mind when dealing with the theory of music. On this instrument, rhythm was produced by the stroke of the plectrum (*midrāb*) on one of the strings, and the consequent vibration of the string depended, among other things, on the strength of the striking. If the stroke was weak, the duration of the vibration and the resultant sound were short. If the stroke was strong, the duration of the vibration and the resultant sound were long. When the stroke was weak, and the *tempo* (=speed) of the rhythm was slow, the sound produced by the first stroke would have ceased before the second stroke was due rhythmically, and a silence would ensue. When the stroke was strong, and the *tempo* of the rhythm was quick, the sound produced by the first stroke would not have ceased before the second stroke was due rhythmically, and there was no silence.

If we look at the above tablature of Al-Fārābī we see that the sign ○ denotes a beat. Each succeeding dot has the same time value as the sign ○ but, according to the strength of the striking and the *tempo* of the rhythm, the dot stands for either a rest or for a continuation of the time value of the preceding beat marked ○.

Disjunct rhythm was, as already stated, made up of beats whose time values were unequal. This class of rhythm was divided primarily according to the number of beats in a cycle (*daur*). The *first disjunct rhythm* consisted of two beats, the *second* of three beats, and the *third* of four beats. These, in turn, were subdivided into groups according to the time value of the first beat which, in turn, also determined the time value of the second beat. Here is the scheme of the *first disjunct rhythm*:

GROUP	TABLATURE	NOTATION
<i>Sarī'</i>	○ ○ .	
<i>Khafīf</i>	○ . ○ . .	
<i>Khafīf al-thaqīl</i>	○ . . ○ . . .	
<i>Thaqīl</i>	○ . . . ○	

The *second disjunct* was grouped into the *equal* (*mutasāwī*) and the *unequal* (*mutafāṣīl*). When the first two beats were of equal time values the rhythm was called the *equal second disjunct*. When they were of unequal time values the rhythm was the *unequal second disjunct*. Each of these were arranged into sections according to the time values. Here are the sections of the *equal second disjunct rhythm*:

SECTION	TABLATURE	NOTATION
<i>Sarī'</i>	○ ○ ○ .	
<i>Khafīf</i>	○ . ○ . ○ . .	
<i>Khafīf al-thaqīl</i>	○ . . ○ . . ○ . . .	
<i>Thaqīl</i>	○ . . . ○ . . . ○	

In the *unequal second disjunct rhythm* there were also several sections arranged according to the time values of the beats. It will be observed that these rhythms also consist of three beats but, unlike the preceding, in which the first two beats had equal time values, these are all of different time values. So long as the longest was at the end, it did not matter whether the smallest or medium time value was at the beginning. Here are three sections of the *unequal second disjunct rhythm*:

prosodists and musicians recognized this equation. We are therefore compelled to accept the "movent beat" and the "quiescent beat" mentioned by Al-Kindi and Sa'adyah as the audible and silent parts respectively of the onomatopoeic *tan*, not necessarily of the *quaver* (*sarī*) value, as implied by *ta* in the word *tan*, but rather of a time value as determined by the *tempo* of the mode in which the terms "movent" and "quiescent" are used.

The "movent beat", unlike the "solitary beat", was not followed by a rest, as we know from more than one statement of Al-Fārābī. That the "quiescent beat" was a rest is shown by the context and by examples of Al-Fārābī. The precise time value of the rest was, like the beats, determined by the *tempo* of the mode.

We can now proceed to discuss the structure of the rhythmic modes of Al-Kindi and Sa'adyah, the interpretation of which greatly depends on the preceding elucidation of the terminology.

§ 2

THE EIGHT RHYTHMIC MODES

As we have seen, there were eight genres (*ajnās*) of rhythm which I have termed "modes". From these genres were derived certain secondary modes called species (*anwā'*) which, although mentioned by Al-Kindi, are not described by him. The Ikhwān al-Ṣafā' tell us that there were twenty-two different arrangements of these. Al-Fārābī and other theorists describe and exemplify many of the species, some of which became more used than the basic genres. These rhythmic modes were a constituent part of all measured music (*al-naghām al-mauzūn*), and each mode presented a distinct cycle (*daur*) of beats and rests which was repeated *ad libitum* throughout the performance of the music.

FIRST MODE (= *Al-Thaqīl al-awwal*):

Al-Kindi and Sa'adyah say that this comprised "three consecutive beats" followed by a "quiescent beat".¹ Both Al-Fārābī² and Al-Khwārizmī³ say that the mode consisted of cycles (*adwār*) of "three consecutive beats", but they do not mention the quiescent beat. Their onomatopoeiae show, however, that this quiescent beat or rest was included in their schemes, since the former gives *tan . . . tan . . . tan* and the latter *tanna tanna*

¹ See *ante* pp. 21, 30.

² Leyden MS. Or. 1423, fol. 106v. D'Erlanger, *La musique arabe*, ii, 45.

³ *Mafāih al-'ulūm*, p. 246.

tanna (space). Ibn Khurdādhbih also omits to mention the quiescent beat, yet seeing that the beats occurred in threes, a rest after each three may have been implied, as has been shown. He defines it as "a beating of groups of threes, two heavy and slow, and one slow".¹ One of the examples given by Ibn Zaila agrees precisely with Al-Kindi and Sa'adyah, his alphabetic notation being *ta ha ta ha ta ha ha ha*,² because, as we have seen, *ta* = a beat and *ha* = a rest.³ Below follow three congruous cycles of this rhythmic mode, which are transcribed in notation precisely as they are described.

As we have already seen,⁴ after a string has been struck, its vibrations lessen and finally cease in relation to the strength of the striking (*ḍarb*) and other causes. It is this cessation of sound which is expressed by the rest or rests in our notation. That Al-Kindi and Sa'adyah conceive four *minims* in the cycle, Ibn Zaila eight *crotchets*, and Al-Fārābī sixteen *quavers*, was due solely to their determination of the unit (*'iyār*) of measurement.



That a quiescent beat was identical with a rest is shown in another definition of the mode by Al-Kindi, as quoted by Ibn Zaila. He says: "It is three consecutive beats, between every two beats of which is the time of a beat, and between every three and three (beats) the time of two beats".⁵ This cycle does not conform precisely with the preceding, because there is a rest missing, as indicated below, after the final beat.



¹ Al-Mas'ūdī, viii, 98.

² British Museum MS. Or. 2361, fol. 231v.

³ See *ante* p. 77.

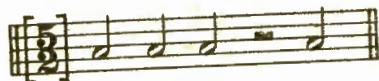
⁴ See *ante* p. 75.

⁵ MS. cit., fol. 231v.

We see from the descriptions of the *Thaqīl al-awwal* mode given by the Ikhwān al-Ṣafā',¹ Ṣafī al-Dīn 'Abd al-Mu'min,² and others, that the cycle had been altered since Al-Kindī's day, although a semblance of the basis of the original mode, in the succession of two shorts and a long, was still the feature of the mode.

SECOND MODE (=Al-Thaqīl al-thānī):

According to Al-Kindī and Sa'adyah this comprised "three consecutive beats", a "quiescent beat", and a "movent beat",³ which can be interpreted thus:



This reading does not, however, agree with a definition of this mode given by Al-Kindī elsewhere, as reported by Ibn Zaila, which says: "It is two consecutive beats and a solitary beat, and between the two beats of it is the time of a beat, and between the two beats and the solitary beat is the time of two beats, and between the solitary beat and the third *ramal* is the time of two beats".⁴ It may be, therefore, that the first definition of Al-Kindī should read "two" instead of "three" beats, which, by making the cycle octuple, would bring it into some agreement with the second definition and with other definitions.

Al-Fārābī is not explicit in his definition when he says that it is "two heavy (beats) and one heavy (beat)",⁵ but his onomatopoeiae clarify what is indefinite in the foregoing definition since he gives us this clear delineation in *tan . . . tan tan* Al-Khwārizmī indicates that it is "two heavy (beats) and one light (beat)" and writes *tanna tanna tan*.⁶ Ibn Sīnā specifies these onomatopoeia, *tan tārn tan*, i.e. *tan . tan . . . tan .* in Al-Fārābī's transcription.⁷ Ibn Zaila gives a septuple reading of this mode,

one of his examples being or, as he writes it *ta ta ta ha ta ta ha*.⁸ Ṣafī al-Dīn, over two centuries later, adheres to the octuple cycle in *tanān tanān tan*,⁹ which could be equated with Al-Khwārizmī.

¹ *Rasā'il*, i, 115.

² *Kitāb al-adwār*, Brit. Mus. MS., Or. 2361, fol. 30. D'Erlanger, op. cit., iii, 165, 485.

³ See ante pp. 21, 30.

⁴ MS. cit., fol. 230.

⁵ MS. cit., fol. 106v. D'Erlanger, ii, 44.

⁶ Op. cit., p. 245.

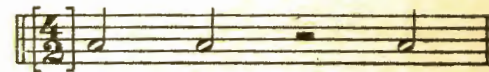
⁷ *Kitāb al-shifā'*, India Office MS., 1811, fol. 171v. D'Erlanger, ii, 209.

⁸ MS. cit., fol. 231v.

⁹ MS. cit., fol. 30v. D'Erlanger, iii, 492.

Here are transcriptions of these octuple cycles, the diversity of which may be due to the preservation of species (*anwā'*) rather than the genre (*jins*) itself.

AL-KINDĪ and SA'ADYAH
(adjusted)



AL-KINDĪ (2nd Definition)



AL-FĀRĀBĪ



IBN SĪNĀ



ṢAFĪ AL-DĪN 'ABD AL-MU'MIN



In the above Ibn Sīnā agrees with Al-Kindī and Sa'adyah. Al-Fārābī's example is derived from the *unequal second disjunct* species.

We see in Al-Fārābī a gradation of time values which appears to be mentioned by Ishāq al-Mausilī (d. 850) as recorded in the *Kitāb al-aghānī*. This minstrel was the perfecter of the old Arabian system of music theory and he showed that the difference between the *Thaqīl al-awwal* mode and the *Thaqīl al-thānī* mode was that there were certain gradations (*adrāj*) of time values in the former which were not to be found in the latter.¹ It is true that this characteristic refers to the *First* and not the *Second Thaqīl* mode according to Ishāq, but it has to be remembered that this contrariety is due to the fact that the names of these two modes had been reversed by that brilliant but intractable *amīr* Ibrāhīm ibn al-Mahdī (d. 839), and that this confusion between the two modes left its mark on later writers.²

¹ Op. cit., ix, 54.


² See Al-Mas'ūdī, op. cit., viii, 98. D'Erlanger, ii, 48.

THIRD MODE (=Al-Mākhūrī):

This was made up, say Al-Kindī and Sa'adyah, of "two consecutive beats" without the time of a beat between them, followed by a "solitary beat" which was characterized by a rest following or its equivalent. This rest is made clear by the phrase "and between its putting down and its raising up, and its raising up and its putting down is the time of a beat".¹ To appreciate the meaning of this it must be understood that starting the rhythm in the normal way with a downward stroke of the plectrum, followed by an upward stroke, we reach the "solitary beat" on a downward stroke, when a rest, to the value of a beat, follows. When the next beat is made it is performed with an upward stroke, followed by a downward stroke, when we reach the second "solitary beat" on an upward stroke, where another rest occurs. As it does not say that there was no rest between the second "consecutive beat" and the "solitary beat", we may assume that there was one.

The rest, or its mensural equivalent, is also implied by the definition of Al-Fārābī who defines the *Mākhūrī* or *Khafīf al-thaqīl al-thānī* as "two light (beats) then one heavy (beat)", although his onomatopoeiae are rather more precise. These are: *tatan tan* like that of Ibn Sīnā's *fa'ūlun*, i.e. ~ - -.³ Al-Khwārizmī says it was "two light beats, then one heavy (beat)", giving *tan tan tanna* as an example.⁴

On the other hand the definition of the Ikhwān al-Ṣafā' discloses a scheme more akin to that of Ibn Sīnā. They say that it consists of "two consecutive beats—there is not between them the time of a beat—then a heavy solitary beat, then four beats, one folded in the first of them, like your saying *mufā'il mufā'ilun* (or) *tanān tan tanān tan tan*".⁵

Ibn Zaila gives examples of the *Mākhūrī* mode quite alien to any of the above in a sextuple scheme like *ta ta ha ta ta ha* i.e. . He also gives an octuple and a duodecimal scheme.⁶

Here are transcriptions of the quintuple schemes:

AL-KINDĪ and SA'ADYAH



AL-FĀRĀBĪ and IBN SĪNĀ



¹ See *ante* pp. 21, 31.

² MS. cit., fol. 170v. D'Erlanger, ii, 209.

³ Op. cit. i, 115. The Cairo edition (1888-9) gives another reading. Cf. Dieterici, *Pro-pædētik der Araber*, p. 140, who gives *mufā'il mutafā'il* or *tanān tan tanān tan*.

⁶ MS, cit., fol. 229.

² MS. cit., fol. 106v. D'Erlanger, ii, 45.

⁴ Op. cit., p. 246.

FOURTH MODE (=Khafīf al-thaqīl):

This comprised three consecutive beats, without the time of a beat between them, but with the time of a beat between every three beats.¹ As it stands, it agrees with the mode as it was known to Ṣafī al-Dīn 'Abd al-Mu'min four hundred years later, who says that its measure was *fa'ūlun* repeated three times, i.e. said four times.² The onomatopoeiae of Al-Fārābī and Al-Khwārizmī for the *Khafīf al-thaqīl al-awwal* coincide with this, the former giving *tan . tan . tan . . . tan . tan . tan . . .*³ and the latter *tan tan tan* [space] *tan tan tan* [space].⁴ Their definitions, however, are vague, since they merely say that it was comprised of groups of "three consecutive beats lighter than the beats of the *Thaqīl al-awwal* mode". The difference between Al-Kindī—Sa'adyah and Al-Fārābī—Al-Khwārizmī is that the former two would make the time values twice as quick as the latter.

The Ikhwān al-Ṣafā', in their description of the *Khafīf al-thaqīl al-thānī* mode, use the same definition as that of Al-Kindī—Sa'adyah for the *Khafīf al-thaqīl* mode, and give *tanānan ~ ~ ~* as the measure, which agrees with the above.⁵ The contrariety between the theorists in their titles of this mode is due to the nomenclature of two opposite schools, as I have mentioned. Ibn Zaila calls it the *Khafīf al-thaqīl* and defines it as above.⁶

Since there seems to be complete agreement between the theorists concerning this mode, I need only give two examples in modern notation:

AL-KINDĪ and SA'ADYAH



AL-FĀRĀBĪ



¹ See *ante* pp. 21, 31.

² *Kitāb al-adwār*, British Museum MS. Or. 2361, fol. 31. D'Erlanger, iii, 169, 494. Carra de Vaux, *Le traité des rapports musicaux*, p. 70.

³ MS. cit., fol. 107. D'Erlanger, ii, 46.

⁴ Op. cit., p. 246.

⁵ Op. cit., i, 115.

⁶ British Museum MS., Or. 2351, fol. 232.

FIFTH MODE (=Al-Ramal):

It comprised a solitary beat, with its characteristic rest following, and two consecutive beats.¹ Al-Fārābī and Al-Khwārizmī describe it as "one heavy beat, then two light (beats)", with the following onomatopoeiae respectively, — *tan . . . tan . tan* .² and *tanna tan tan*.³ Ibn Sīnā gives *tārn tan tan*, which is identical.⁴ Here are two examples notated:

AL-KINDĪ and SA'ADYAH



AL-FĀRĀBĪ



Other theorists are different. The Ikhwān al-Ṣafā' say that it is "a solitary beat, then two consecutive beats—there is not between them the time of a beat—then four beats, every two of them consecutive, like your saying *fā'ilun muṣā'ilun* or *tan tanan tanan tanan*".⁵ This gives us — — — — — Ibn Zaila makes the measure sextuple like — — — — — and other examples.⁶ Ṣafī al-Dīn reads *muṣṭa'ilātun fa'ilun*, i.e. — — — — — as well as the sextuple *fa'ilātun*, i.e. — — — — —.⁷

SIXTH MODE (=Khafīf al-ramal):

This comprised "three movent beats" as defined by Al-Kindī and Sa'adiah. No rest or rests are mentioned. The definition of the Ikhwān al-Ṣafā' reads: "Three consecutive movent beats", but again, no rests are mentioned, although both the mnemonics and onomatopoeia given by them imply rests or their equivalents, since these are *mutafā'ilātun* and *tananan tananan*, i.e. — — — — —.⁸ This does not comport with the statement of Al-Kindī and Sa'adiah above, although it does agree with another definition of Al-Kindī as quoted by Ibn Zaila as follows: "It is two beats, and there is not between them the time of a beat, but between every two and two (beats)

¹ See *ante* pp. 21, 31.

² MS. cit., fol. 106. D'Erlanger, ii, 43.

³ Op. cit., p. 245.

⁴ D'Erlanger, ii, 209.

⁵ Op. cit., i, 115-16.

⁶ MS. cit., fol. 230v.

⁷ MS. cit., fol. 31. D'Erlanger, iii, 170.

⁸ Op. cit., i, 115. In Dieterici, p. 141, the measure is *mutafā'ilun* or *tananan tanan*.

is the time of a beat".¹ Ibn Khurdādhbih gives a somewhat similar description of this mode when he says that it is a repeated phrase of "two joined (*muzdawij*) beats, and between every joining a pause".²

AL-KINDĪ and SA'ADYAH



AL-KINDĪ (2nd Definition)



Not one of these definitions agrees with Al-Fārābī, and clearly not with his examples. He certainly says that it is a repeated phrase of "two light consecutive beats", but he does not mention the succeeding rests or pauses, although they occur in his examples where a quintuple scheme asserts itself,³ a feature which is found later in Ibn Sīnā.⁴ Ibn Zaila,⁵ Ṣafī al-Dīn 'Abd al-Mu'min,⁶ and Al-Lādhīqī.⁷

AL-FĀRĀBĪ (Genre)



AL-FĀRĀBĪ (Species)



IBN SĪNĀ



IBN ZAILA

ṢAFĪ AL-DĪN and
AL-LĀDHĪQĪ

¹ MS. cit., fol. 227. This agrees also with the scheme given in the new *Kitāb al-aghānī* (i, 41) which has *tan tan . tan tan . etc.*

² Op. cit., viii, 98.

³ MS. cit., fol. 106. D'Erlanger, ii, 42.

⁴ MS. cit., fol. 170. D'Erlanger, ii, 209.

⁵ MS. cit., fol. 227.

⁶ *Kitāb al-adwār*, B.M.MS. Or. 2361, fol. 31. D'Erlanger, iii, 507.

⁷ D'Erlanger, iv, 476.

SEVENTH MODE (= *Khafif al-khafif*):

This mode is not mentioned by Ibn Khurdādhbih, Al-Fārābī nor Al-Khwārizmī, but Al-Kindī and Sa'adyah define it as consisting of "two consecutive beats", and "between every two beats and two beats the time of a beat". The Ikhwān al-Ṣafā' describe it in similar terms and give the mnemonics and onomatopoeiae respectively as *mufā'ilun* and *tanān tanān*, i.e. — — — 1.

AL-KINDĪ and SA'ADYAH².IKHWĀN AL-ṢAFĀ'³.EIGHTH MODE (= *Al-Hazaj*):

Fundamentally, this mode belonged to a conjunct rhythm, i.e. a rhythm in which the time values of the beats are of equal duration⁴. It is thus defined by Ibn Khurdādhbih,⁵ and originally the rhythm probably had this character, but the monotony of a measure of this type, which was the chief ethological complaint of both Al-Kindī and Sa'adyah, had led to modifications, and at the time of these writers it comprised "two consecutive beats" and "between every two beats and two beats the time of two beats". This corresponds to that laid down by the Ikhwān al-Ṣafā' where it is expressed by *fā'il fā'il* and *tan tan tan tan*,⁶ and even to the *fa'ilun fa'ilun* of Ibn Sīnā,⁷ if we recognize the third and fourth beats as rests. That these beats were rests is plainly stated by the Ikhwān who say that there is "between every two the time of two beats." As it stands, the *Hazaj* mode of Al-Kindī and Sa'adyah was this:⁸

¹ Op. cit., i, 115.² See ante pp. 21, 31.³ Cf. The new *Kitāb al-aghānī*, i, 41.⁴ Al-Fārābī, MS. cit., fol. 106. D'Erlanger, ii, 40.⁵ Op. cit., viii, 98.⁶ Op. cit., i, 116. Dieterici, p. 141.⁷ MS. cit., fol. 170. D'Erlanger, ii, 207.⁸ See ante pp. 21, 31.

Ibn Zaila complains that, in the book on rhythm by Al-Kindī from which he quotes, the author does not give a precise definition of this mode since he neglects to mention the number of beats.¹ This could not have been directed against the work of Al-Kindī which has been the basis of the present monograph, but against another treatise in which Al-Kindī must have given the definition of the fundamental *Hazaj* to which I have already alluded.

§ 3

THE BLENDING OF THE RHYTHMS

It will be recalled that Al-Kindī and Sa'adyah held the view that the use of a single beating, i.e. the repetition of beats of identical time values, such as the fundamental *Hazaj*, or the repetition of any cycle of beats, i.e. a single mode, were not good for the soul of man, and that the best results were obtained by a judicious blending of the various modes.

Sa'adyah tells us that kings were moved to diverse "moods"² by listening to diverse modes, and we see from the Ikhwān al-Ṣafā' how the rhythmic modes were used. Here is what they say:³

"The musician . . . at gatherings, and banquets, and parties (*shurb*), should begin with the rhythmic modes (*alḥān*) which strengthen the generous, moral qualities, and nobleness, and liberality, like *Al-Thaqil al-arwal* (rhythmic mode) and so on. Then he should follow them with the agreeable, joyful modes, like *Al-Hazaj* and *Al-Ramal*, and in the dance and the ring dance⁴ (he should use the rhythmic mode) *Al-Mākhūrī*, and so on. And at gatherings, if he fear disturbance, excitement, and quarrelling, he should play the soothing, heavy, tranquilizing, and sad modes."⁵

How a musician passed from one mode to another in this mixing or blending of diverse modes, "so that the changes are agreeable", as Al-Kindī says, is not mentioned by Sa'adyah, but in one section of the *Risāla fī ajzā' khabariyat al-mūsīqī*, Al-Kindī demonstrates how this was accomplished.

¹ MS. cit., fol. 229v.² In the old English writers on music, the *modes* are called *moods*, obviously for this precise reason.³ Op. cit., i, 190.⁴ *Dastband*.⁵ See the story told of Al-Fārābī by Ibn Khallikān (d. 1282) in his *Biographical Dictionary*, iii, 309.

The art of passing from one mode to another, whether melodic or rhythmic was called the *intiḡāl* (lit. transporting), which was identical with the μεταβολή of Pseudo-Euclid (Cleonides)¹ and Aristides,² and the *transitus* of Martianus Capella.³ Here is what Al-Kindī says concerning this system of modulation:⁴

في كيفية الانتقالات من ايقاع الى ايقاع فاما الواجب في كيفية استعمال
الموسيقار⁵ لترتيب الانتقالات الايقاعية فهو ان تجعل انتقاله من خفيف
[ال]ثقيل الاول الى [ال]ثقيل الاول ومن [ال]ثقيل الاول الى الماخوري ومن
الماخوري الى [ال]ثقيل الثاني ومن خفيف [ال]ثقيل الاول الى [ال]ثقيل
الثاني⁶ ومن خفيف الرمل [fol. 32v] الى ثقيل الرمل ومن الهزج الى خفيف
الرمل ومن ثقيل الرمل الى الماخوري واذا كان الموسيقار حاذقا فوقف عند
النقريتين الاخرتين من ثقيل الرمل ثم تلاهما بالنقوة ثم وقف وقدة خفيفة ثم
ابتدا بالماخوري وكذلك من الماخوري الى ثقيل الرمل

Translation

"CONCERNING THE METHOD OF MODULATIONS FROM (ONE) RHYTHM TO (ANOTHER) RHYTHM.

As for what is requisite concerning the method in the practice of the musician⁷ for the arrangement of the modulations of the rhythmic modes,⁸ it is that you should modulate from *Khafif al-thaqil al-awwal*⁹ to *Al-Thaqil al-awwal*, and from *Al-Thaqil al-awwal* to *Al-Mākhūrī*, and from *Al-Mākhūrī* to *Al-Thaqil al-thānī*,¹⁰ and from *Khafif al-thaqil al-awwal* to *Al-Thaqil al-thānī* and from *Khafif al-ramal* to *Thaqil al-ramal*,¹¹ and from *Al-Hazaj* to *Khafif al-ramal*, and from *Thaqil al-ramal* to *Al-Mākhūrī*. And if the musician¹²

¹ Meibomius, op. cit., 20.

² Meibomius, p. 25.

³ Meibomius, p. 189.

⁴ Berlin Staatsbibliothek MS. 5503, fols. 32-32v.

⁵ Text has الموسيقي

⁶ Text has خفيف [ال]ثقيل الاول الى [ال]ثقيل الاول

⁷ Text has music (*musiqā*) instead of musician (*musiqār*).

⁸ The names of the rhythmic modes in this section do not agree with those already mentioned from another section. See ante p. 21.

⁹ This is identical with *Khafif al-thaqil*.

¹⁰ Text has *Al-Thaqil al-awwal*.

¹¹ This is identical with *Al-Ramal*.

¹² See footnote No. 7.

is clever, then he stops at the last two beats of *Thaqil al-ramal*, then he follows them with one beat. Then he makes a slight pause, then begins with *Al-Mākhūrī*. And similarly from *Al-Mākhūrī* to *Thaqil al-ramal*."

A somewhat longer passage occurs in the *Rasā'il* of the Ikhwān al-Ṣafā' (10th cent.),¹ of which the following is a translation:

"The clever musician is he who, when the auditors are bored with a mode (*lahn*), changes . . . to another mode, either opposite to it or resembling (it). . . . (In) the passage (*khurūj*) from one mode to another there are . . . two methods, either that he should cut off (his performance) and be silent, and (after) adjusting the frets (of the lute), and sharpening (*hāzaq*) or flattening (*irkhā*) the strings, . . . begin another mode, or else leave the affair as it is, and pass from that mode to another mode similar to it. And (in the rhythmic modes)² it is (proper) that he should modulate from *Al-Thaqil* to its *Khafif*, and from *Al-Khafif* to its *Thaqil*, to what is near it (rhythmically). And the example in that is that if he wishes to modulate from the *Thaqil al-ramal*³ to *Al-Mākhūrī*, he stops at two beats of *Thaqil al-ramal*, then he follows them with one beat. Then he makes a slight pause, then he begins with *Al-Mākhūrī*."

When Sa'adyah tells us that it was the custom to combine or blend these rhythmic modes one with another, it was by this system of modulation (*intiḡāl*) that the blending was accomplished.

¹ Bombay edit., i, 119.

² As with Al-Kindī, the names of the rhythmic modes given by the Ikhwān at this point do not comport with those given by them elsewhere (i, 94).

³ Text has *Khafif al-ramal*.

CHAPTER X

CONCLUSION AND SUMMARY

"To speak of things concerning which you
can make no advance is folly, and to perform
things over which the mind toils is sinful".

A Jewish Saying.

IT SEEMS a fitting conclusion that one should recapitulate and summarize what has been contributed in this monograph towards our knowledge of Sa'adyah's theory of the influence of music, which has been the cause of so much vexation. The proceeding will also help to clarify some of the arguments stated, because it is no easy matter to secrete the grain from the chaff when the wind of criticism is blowing hard.

That Sa'adyah derived this material from an Arabian source cannot be doubted. That his treatment of the subject agrees, almost verbatim, with that of Al-Kindi is quite palpable. The question therefore arises whether these two authors depended on a common source of information, or did one copy from the other? That there was a common source from which both drew seems to be discredited by the direct statement of Al-Kindi that he ignored what the older theorists had to say about rhythm, and that he depended on "present-day usage", which looks as though he were describing the system of the practitioners of music of his day.¹ The second argument against a common source is that we cannot trace this genesis in Al-Kindi's immediate successors who have dealt with the subject, i.e. Ibn Khurdādhbih, Al-Iṣfahānī, Al-Fārābī, and the Ikhwān al-Ṣafā'.²

That Al-Kindi copied from Sa'adyah is precluded by dates, the former being dead before the latter was born. On the other hand, Sa'adyah wrote his *Kitāb al-amānāt* in Baghdād, the metropolis of the Eastern world, where Al-Kindi spent most of his life, wrote most of his books, and where he gained his world-wide fame. That Sa'adyah borrowed from Al-Kindi or his pupils is therefore highly probable.

We know little or nothing of the general works and authors upon which Sa'adyah depended in the *Amānāt*, save passages here and there which point to Hunain ibn Ishāq (d. 873), but in the tenth chapter, which contains the

passage on music, there are more definite clues. Dr. Malter, the most recent of the biographers of Sa'adyah, is indefinite about the *fons et origo* of Sa'adyah's theories, and merely says that the ideas in Chapter X were based on what Sa'adyah found in "Greek and Muhammedan authors".¹ The identification of the passage on music as being substantially the same as one found in Al-Kindi, is a definite contribution to the question of sources,² and when further texts of the "philosopher of the Arabs", as Al-Kindi was called, have been brought to light, it is probable that further points of contact will be discerned.

Sa'adyah's Arabic text presents many difficulties, as we have seen. That he used such terms as *alḥān* (melodies) and *naghamāt* (notes) in dealing with rhythm, instead of the more usual and more direct terms *iqā'āt* (rhythms) and *naqarāt* (beats), is certainly strange. The circumstance suggests several explanations, which have been discussed at length. (1) Was he describing *melodic* rather than *rhythmic* modes? (2) Did *alḥān* and *naghamāt* have a double or more elastic meaning? (3) Did the original Arabic of Sa'adyah contain the word *naqarāt*, which a later scribe mistook for *naghamāt*? One can rule out the first of these explanations as quite invalid, as has been demonstrated, yet it was this interpretation of his terminology which confused the later translators into Hebrew as well as some modern expositors.³

It would seem that the first two Hebrew versions of the *Amānāt* were based on a different manuscript (A.1) from that (A.3) used by Ibn Tibbon.⁴ The translator of the *Piteron* used the term *ni'nu'ot* (beats), as the Hebrew equivalent of the Arabic *naghamāt* (notes) as found in the present text of Sa'adyah. Why was this done? It has been suggested that the cause was either (1) That the translator sensed that Sa'adyah was dealing with *rhythm* and not *melody*, and used a more appropriate term, or (2) That the original Arabic from which the translation was made had *naqarāt* instead of *naghamāt*.

The emended Hebrew text of the *Piteron* also deserves attention for two reasons: (1) It reveals that the original form of the text was, substantially, as full as the Arabic of Sa'adyah, and that the omissions were due to the carelessness of copyists. (2) The reconstruction has removed much of the perplexity which for so long has shrouded this "difficult treatise", as Steinschneider has dubbed this part of the *Piteron*.

The Hebrew version of Bar Hiyya has occasioned even greater difficulties than those of the *Piteron*. This translator introduced the Hebrew *tenu'ot* for rhythmic modes instead of *niggunim* as used in the *Piteron*, and *neginot* for

¹ See *ante* p. 15.

² See chap. ix.

¹ "Arabic" would have been a better word than "Muhammedan", because some of the Arabic authors from whom Sa'adyah borrowed, Hunain for instance, were Christians.

² See *ante* p. 16.

³ See *ante* p. 33.

⁴ See the Table of the Pedigree of the Texts in the Appendix.

beats instead of *ni'nu'ot*. Since his terminology was diametrically opposed to that of his predecessor, it has been suggested: (1) That Bar Ḥiyya was possibly unacquainted with technical musical terms and had confused them. (2) That his nomenclature was that used in Spain and nearby, whilst that of the *Piteron* reflects the usage of Babylonia and Palestine. The latter reason is the more agreeable since he appears to have written elsewhere on the theory of music and would therefore be *au fait* with musical terms, and also because there seems to be evidence elsewhere of the use of *tenu'ot* in the sense of rhythms. In addition there is the possibility that Bar Ḥiyya either translated from an Arabic manuscript that had *naqarāt* and not *naghamāt*, hence his adoption of *tenu'ot*, or else that he realized that rhythmic modes were being discussed.¹

In Berakyah's summary of Sa'adyah's theories an attempt has been made to show that, so far as the passage on music is concerned, he may not have used the *Piteron*, as generally supposed, but rather the version of Bar Ḥiyya. There is also the possibility that he used Ibn Tibbon and that, in spite of views to the contrary, he may have even consulted the original Arabic, possibly *via* an interpreter.²

The translation of Ibn Tibbon shows that he probably worked from a manuscript (A.3) which gave *alḥān* (melodies) and *naghamāt* (notes), prompting him to assign the literal Hebrew equivalents in *neginot* and *ne'imot*. It is true in agreement with the argument which has been used with Sa'adyah himself, that Ibn Tibbon could have used these terms in the sense of *rhythms* and *beats*, but this is not so likely because of his use of the words "low" and "high", as well as in view of the fact that *tenu'ot* seems to have been an accepted term for rhythms in his day in Spain and contiguous lands.

It may certainly be claimed that the present rendering of the passages in Ibn Tibbon's translation and the commentary thereon has brought some clarification of this "somewhat unintelligible Hebrew translation" as Steinschneider called it, and has simplified some of the "great difficulties" of which Dr. Malter has spoken.³

Finally, the interpretation of the eight rhythmic modes which, as Dr. Malter says, have not previously been "properly explained", has some musical interest. With the *melodic* modes of the Jews of the Middle Ages we cannot say with any degree of certainty what the actual forms were, but with the *rhythmic* modes we can see, in most cases, from what has been unfolded here, the actual measures that were used by the Jews of Mesopotamia in the 10th century, i.e. within two centuries of their first adoption by those people who had descended from "such as handle the *kinnor* and 'ugab".⁴

¹ See Chapter vi.

² See *ante* Chapter vij.

⁴ Genesis, iv, 21.

³ See *ante* Chapter viii.

APPENDIX

A POSSIBLE PEDIGREE OF THE TEXTS

This table has been drawn up so as to explain the relationship between the several versions of Sa'adyah's treatment of the theory of rhythm and its influence, with special reference to the possible alterations of the text. It does not include the diversity between the Bodleian and Leningrad manuscripts, because there is no substantial difference between these two in the question under discussion.

For the purpose of this pedigree it has been assumed that *A* and *B* represent originals which we do not possess to-day. *C* represents the first serious deviation in having *الفرجة* instead of *الفرجة*,¹ but containing *naqarāt* instead of *naghamāt*,² as well as the proper order of the motions of the plectrum in the *Fifth* mode.³ *D* represents the stem which handed down the main characteristics of *C* but with certain errors which were passed on to *H* and its derivatives.⁴ *E* contains the chief features of *C*, but with omissions and errors, which were transmitted to *F*.⁵ In *G* began the reading of *naghamāt* for *naqarāt*, which was handed on to *J*.⁶

¹ See p. 37.

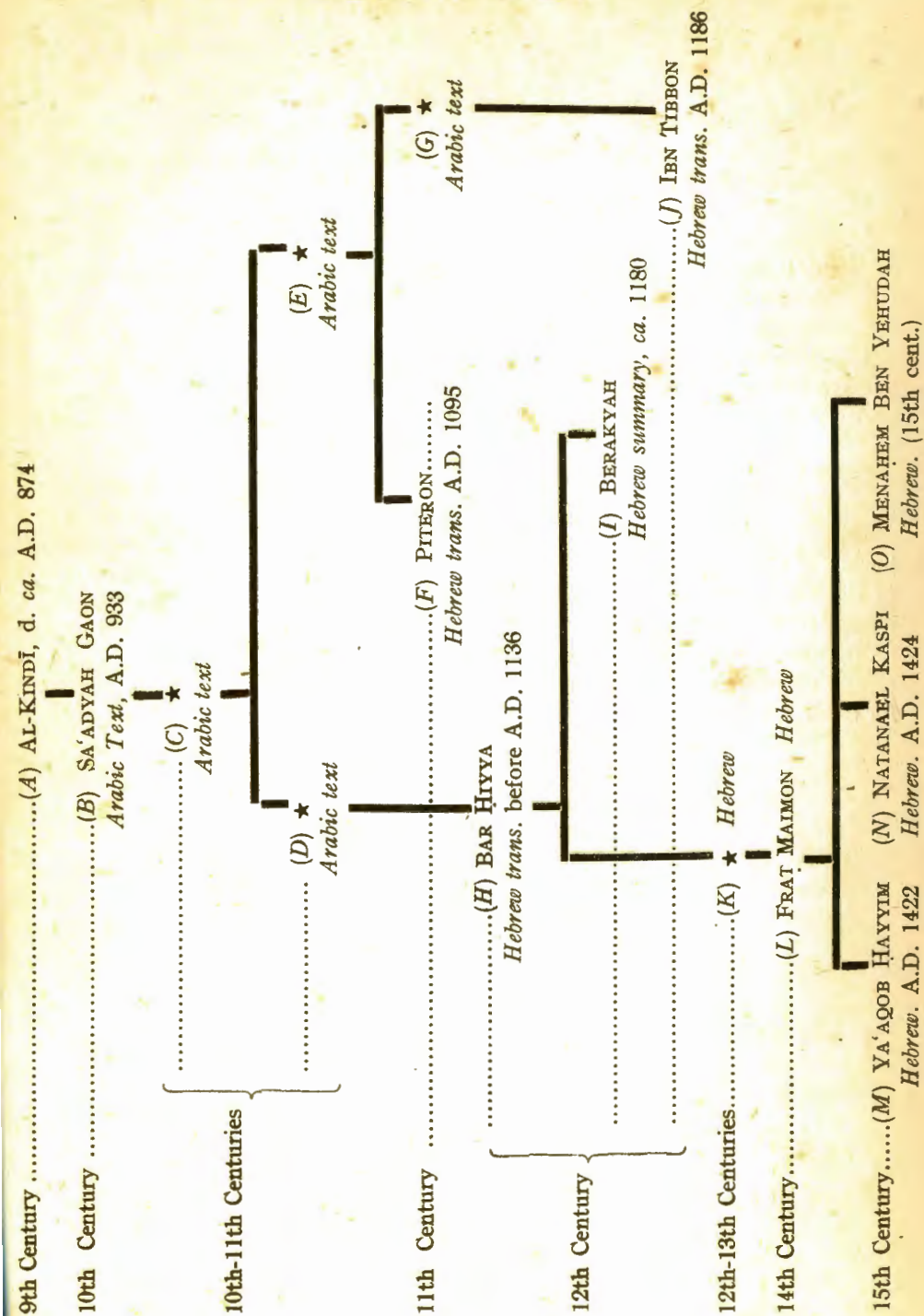
³ See p. 57.

⁵ See p. 46.

² See p. 34.

⁴ See p. 57.

⁶ See p. 34, 67.



INDEX OF PERSONS

Aaron. *See* Aheron.

'Abd al-Mu'min ibn Yūsuf ibn Fākhir al-Urmawī al-Baghdādī, 71, 80, 83, 84, 85.

'Abd al-Raḥmān ibn Khaqān, 17.

Aber 'Ezra. *See* Abraham ben Meir.

Abraham bar Ḥiyya, 1, 27, 39-41, 48-57, 58, 62, 64, 65, 68, 91-2.

Abraham bar Yizḥaq, 1.

Abraham ben Meir, 4, 7, 54.

Abraham ibn Daud, 58, 61.

Abraham Judaeus. *See* Abraham bar Ḥiyya.

Abū 'Abdallāh ... al-Khwārizmī. *See* Muḥammad ibn Aḥmad ibn Yūsuf al-Khwārizmī.

Abū 'Abdallāh ... al-Battānī. *See* Muḥammad ibn Jābir ibn Sinān al-Battānī.

Abū 'Alī ibn Sinā. *See* Al-Ḥusain ibn 'Abdallāh ibn Sinā.

Abū Ayyūb ... al-Madīnī. *See* Sulaimān ibn Ayyūb ... al-Madīnī.

Abū Ayyūb ... ibn Gabirol. *See* Sulaimān ibn Yaḥyā ibn Jābir al-[Saraqustī].¹

Abū Bakr ... al-Rāzī. *See* Muḥammad ibn Zakariyā al-Rāzī.

Abū Bishr Mattā. *See* Mattā ibn Yūnus.

Abū Kathīr al-Kātib. *See* Yaḥyā al-Kātib.

Abu'l-'Abbās ... al-Nairīzī. *See* Al-Faḍl ibn Ḥatīm al-Nairīzī.

Abu'l-'Abbās ... al-Sarakhsī. *See* Aḥmad ibn Muḥammad ibn Marwān al-Sarakhsī.

Abu'l-Faraj ... al-Iṣfahānī. *See* 'Alī ibn al-Ḥusain.

Abu'l-Ḥasan ... al-Mas'ūdī. *See* 'Alī ibn al-Ḥusain ibn 'Alī al-Mas'ūdī.

Abu'l-Ḥasan ... Ziriyāb. *See* 'Alī ibn Nāfi'.

Abu'l-Qāsim ... ibn Khurdādhbih. *See* 'Ubaidallāh ibn 'Abdallāh ibn Khurdādhbih.

Abu'l-Mafākhir (?) Ṣāfi al-Dīn. *See* 'Abd al-Mu'min ibn Yūsuf ibn Fākhir al-Urmawī.

Abū Manṣūr ... ibn Zailā. *See* Al-Ḥusain ibn Muḥammad ibn 'Umar ibn Zailā.

Abū Naṣr ... al-Fārābī. *See* Muḥammad ibn Muḥammad ibn Tarkhān al-Fārābī.

¹ Gabirol is probably a debased form of Jābir al-[Saraqustī].

- Abū Sa'id Sinān ibn Thābit. *See* Sinān ibn Thābit ibn Qurra.
 Abū 'Uthmān. *See* Sahl ibn Bishr ibn Ḥabīb.
 Abū Yūsuf . . . al-Kindī. *See* Ya'qūb ibn Ishāq al-Kindī.
 Abū Zaid Ḥunain ibn Ishāq. *See* Ḥunain ibn Ishāq al-'Abādī.
 Ackermann, 70.
 Adelard of Bath, 58.
 Aesop, 58.
 Aheron (?) ben Meir, 10.
 Aḥmad ibn 'Alī al-Nabaṭī, 4.
 Aḥmad ibn al-Mu'taṣim, 17, 23.
 Aḥmad ibn Muḥammad al-Maqqarī, 5.
 Aḥmad ibn Muḥammad ibn Marwān al-Sarakhsī, 15.
 Al-Akfānī. *See* Muḥammad ibn Ibrāhīm ibn Ṣā'id al-Akfānī.
 Albo, Yosef. *See* Yosef Albo.
 'Alī ibn al-'Abbās, 5.
 'Alī ibn al-Ḥusain ibn 'Alī al-Mas'ūdī, 7, 10, 15.
 'Alī ibn Nāfi' called Ziryāb, 5.
 Aristides, 24, 88.
 Aristotle, 11, 24, 53.
 Aristoxenus, 15, 76.
 'Alī ibn al-Ḥusain . . . al-Iṣfahānī, 18, 71, 81, 90.
 Avicenna. *See* Al-Ḥusain ibn 'Abdallāh ibn Sinā.
 Bacher, Wilhelm, 63.
 Bacon, Roger, 5, 6.
 Al-Baghdādī. *See* 'Abd al-Mu'min ibn Yūsuf ibn Fākhīr al-Urmawī.
 Bahyah ben Yosef, 59, 63.
 Bar Ḥiyya. *See* Abraham bar Ḥiyya.
 Barrasch, Julius, 30.
 Bar Yizḥaq. *See* Abraham bar Yizḥaq.
 Al-Battānī. *See* Muḥammad ibn Jābir . . . al-Battānī.
 Ben Asher, 7.
 Benish, A., 45.
 Ben Meir. *See* Aheron (?) ben Meir.
 Ben Meir. *See* Abraham ben Meir.
 Berakyah ben Natronai ha-Naqdan, 27, 32, 38, 58-62, 92.
 Al-Biṭṭīq. *See* Yūḥannā ibn al-Biṭṭīq.
 Brockelmann, C., 17.
 Broydé, Isaac, 38.
 Cardan, G., 16.
 Censorinus, 7.
 Cleonides, 24, 25, 88. ,

- Cohen, F. L., 33.
 Combarieu, J., 3.
 Coussemaker, C. E. H., 2.
 Daud, 4.
 David. *See* Daud.
 Dieterici, Friedrich, 64, 82, 84, 86.
 Demetrius Phalereus, 4.
 Dines, I., 64.
 Dio Cassius, 4.
 Dukes, L., 33, 38.
 Eliezer ben Yehudah, 54.
 D'Erlanger, Baron Rodolphe, 71-86.
 Euclid, 2, 24, 25, 88.
 Ewald, G. H. A. von, 33.
 Faḍl ibn Ḥātim al-Nairīzī, 10.
 Fārābī. *See* Muḥammad ibn Muḥammad ibn Tarkhān al-Fārābī.
 Fraṭ Maimon, 48, 66.
 Gagnier, J., 28.
 Gershonides. *See* Levi ben Gerson.
 Goldziher, Ignaz, 2, 63.
 Gollancz, Hermann, 58-62, 63.
 Gottheil, Richard, 2.
 Gräber, E., 38, 49.
 Güdemann, M., 1.
 Guttmann, J., 15, 63, 70.
 Ḥai Gaon, 11.
 Halevy. *See* Yehudah ha-Levi.
 Ḥājji Khalifa. *See* Muṣṭafā ibn 'Abdallāh.
 Haly. *See* 'Alī ibn al-'Abbās.
 Harizi. *See* Yehudah al-Harizi.
 Hayyug, 54.
 Herodotus, 8.
 Hippocrates, 13, 14.
 Ḥunain ibn Ishāq al-'Abādī, 7, 11, 13-15, 54, 90.
 Ḥusain ibn 'Abdallāh ibn Sinā, 5, 25, 71, 72, 81, 82, 85, 86.
 Ḥusain ibn Muḥammad ibn 'Umar ibn Zaila, 15, 25, 71, 72, 76, 77, 79, 80, 83, 85, 87.
 Husik, Isaac, 45.
 Iamblichus, 5.
 Ibn al-Akfānī. *See* Muḥammad ibn Ibrāhīm ibn Ṣā'id al-Akfānī.
 Ibn al-Biṭṭīq. *See* Yūḥannā ibn al-Biṭṭīq.

- Ibn al-Munajjim. *See* Yahyā ibn 'Alī ibn Yahyā.
 Ibn al-Mu'taṣim. *See* Aḥmad ibn al-Mu'taṣim.
 Ibn 'Aqnīn. *See* Yūsuf ibn 'Aqnīn.
 Ibn 'Ezra. *See* Abraham ben Meir.
 Ibn Gabirol. *See* Sulaimān ibn Yahyā ibn Jābir al-[Saraqustī].
 Ibn Khurdādhbih. *See* 'Ubaidallāh ibn 'Abdallāh ibn Khurdādhbih.
 Ibn Sīnā. *See* Al-Ḥusain ibn 'Abdallāh ibn Sīnā.
 Ibn Waḥshīya. *See* Aḥmad ibn 'Alī al-Nabaṭī.
 Ibn Zaila. *See* Al-Ḥusain ibn Muḥammad ibn 'Umar ibn Zaila.
 Ibrāhīm ibn al-Mahdī, 81.
 Idelsohn, A.Z., 11, 14.
 Ikhwān al-Ṣafā', 6-8, 13, 15, 18, 24, 26, 64, 71, 72, 77, 78, 80, 82, 84, 86, 90.
 'Immanuel ben Shelomoh, 1.
 Isaac. *See* Yizḥaq.
 Isaac Israeli. *See* Ishāq ibn Sulaimān.
 'Isā ibn 'Abdallāh ibn Dha'īb, 14.
 Al-Iṣfahānī. *See* 'Alī ibn al-Ḥusain.
 Ishaiah ben Yizḥaq. *See* Yesha'iah ben Yizḥaq.
 Ishāq al-Mausilī. *See* Ishāq ibn Ibrāhīm al-Mausilī.
 Ishāq al-Fāsi, 11.
 Ishāq ibn Ḥunain ibn Ishāq, 11.
 Ishāq ibn Ibrāhīm al-Mausilī, 14, 18, 81.
 Ishāq ibn Sulaimān, 1.
 Jacob. *See* Ya'aqob.
 Jacobs, Joseph, 58.
 Jerome, 3.
 Joseph. *See* Yosef.
 Judah. *See* Yehudah.
 Kāmil al-Khulā'i, 14.
 Kaspi, Natanael, 48.
 Al-Kātib. *See* Yahyā al-Kātib.
 Al-Khalīl ibn Aḥmad, 14, 72.
 Al-Khwārizmī. *See* Muḥammad ibn Aḥmad ibn Yūsuf al-Khwārizmī.
 Al-Kindī. *See* Ya'qūb ibn Ishāq al-Kindī.
 Kircher, 4.
 Al-Lādhīqī. *See* Muḥammad ibn 'Abd al-Ḥamīd.
 Landauer, S., 28-29.
 Ha-Levi. *See* Yehudah ha-Levi.
 Levi ben Gershon, 2.
 Loewenthal, A., 54.
 Al-Madīnī. *See* Sulaimān ibn Ayyūb ibn Muḥammad al-Madīnī.

- Maimonides. *See* Mosheh ben Maimon.
 Malter, Henry, 12, 27-28, 33, 35, 52, 59, 61, 63-69, 91, 92.
 Al-Ma'mūn, 17.
 Manṣūr ibn Ṭalḥa ibn Ṭāhir ibn al-Ḥusain, 15.
 Al-Maqqarī. *See* Aḥmad ibn Muḥammad al-Maqqarī.
 Margulies, S. H., 33, 63.
 Māsha'allāh, 5.
 Al-Mas'ūdī. *See* 'Alī ibn al-Ḥusain ibn 'Alī al-Mas'ūdī.
 Mattā ibn Yūnus, 10-11.
 Meibom, Marcus, 24-25.
 Menaḥem ben Yehudah, 48.
 Michael, H., 48.
 Moses. *See* Mosheh.
 Mosheh ben Maimon, 2, 4, 11-12, 53.
 Mosheh ben Yosef, 38.
 Muḥammad ibn 'Abd al-Ḥamīd al-Lādhīqī, 23, 85.
 Muḥammad ibn Aḥmad ibn Yūsuf al-Khwārizmī, 24, 71, 76, 78, 80, 82, 83, 84, 86.
 Muḥammad ibn Alī al-Anṣārī, 54.
 Muḥammad ibn Ibrāhīm ... al-Akfānī, 2.
 Muḥammad ibn Jābir ibn Sīnān al-Battānī, 10.
 Muḥammad ibn Muḥammad ibn Tarkhān al-Fārābī, 10, 17, 24, 71, 72, 73-76, 77-8, 79, 80, 82, 83, 84, 86, 90.
 Muḥammad ibn Zakariyā al-Rāzī, 10.
 Munk, S., 54.
 Muṣṭafā ibn 'Abdallāh (Ḥajjī Khalīfa), 7, 23.
 Al-Mu'taṣim, 17.
 Al-Mutawakkil, 16-17.
 Al-Nairizī. *See* Al-Faḍl ibn Ḥālim al-Nairizī.
 Natanael ben Nehemiyah. *See* Kaspi, Natanael.
 Nicomachus, 7.
 Origen, 3.
 Philo Judaeus, 5.
 Plato, 4-5, 18, 44.
 Plato of Tivoli, 48.
 Pliny, 7.
 Plutarch, 7.
 Porges, N., 38.
 Ptolemy, 8.
 Pythagoras, 5, 7.

- Qala'un, al-Malik, 6.
 Qantwān al-Babīlī, 15.
 Al-Rāzī. *See* Muḥammad ibn Zakariyā al-Rāzī.
 Roussier, P.J., 4.
 Rudolf of Bruges, 48.
 Ṣafī al-Dīn 'Abd al-Mu'min. *See* 'Abd al-Mu'min ibn Yūsuf ibn Fākhir al-Urmawī.
 Sahl ibn Bishr ibn Ḥabīb, 5.
 Samuel. *See* Shemuel.
 Al-Sarakhsī. *See* Aḥmad ibn Muḥammad ibn Marwān al-Sarakhsī.
 Saul. *See* Shaul.
 Savasorda. *See* Abraham bar Ḥiyya.
 Schechter, S., 10.
 Schiaparelli, C., 32.
 Schloessinger, M., 68.
 Shaul, 4.
 Shelomoh ben Yehudah (Ibn Gabirol). *See* Sulaimān ibn Yaḥyā ibn Jābir al[-Saraqustī].
 Shem Tob ben Yosef ben Palaquera, 1, 54.
 Shemuel ben Yehudah ben Shemuel ibn Tibbon, 44, 63.
 Shemuel ibn Moṭoṭ, 59.
 Sinān ibn Thābit ibn Qurra, 10.
 Slucki, D., 64.
 Solomon. *See* Shelomoh.
 Steinschneider, M., 1-2, 6, 10, 30, 35, 38, 45, 48-52, 61, 66, 91.
 Suidas, 3.
 Sulaimān ibn Ayyūb ibn Muḥammad al-Madīnī, 15.
 Sulaimān ibn Yaḥyā ibn Jābir al[-Saraqustī], 54.
 Ṭuwais. *See* 'Isā ibn 'Abdallāh al-Dha'ib.
 Thābit ibn Qurra, 15.
 'Ubaidallāh ibn 'Abdallāh ibn Khurdādhbih, 7, 14-15, 23, 71, 79, 85, 86, 90.
 Al-Urmawī. *See* 'Abd al-Mu'min ibn Yūsuf ibn Fākhir al-Urmawī.
 Virolleaud, C., 3.
 Wickes, W., 33, 69.
 Winter, 70.
 Wolfson, 1.
 Wünsche, A., 70.
 Ya'aqob ben Ḥayyim Ferussol, 27, 48-49.
 Yaḥyā al-Kātib, 10.
 Yaḥyā ibn 'Alī ibn Yaḥyā ibn al-Munajjim, 23.

- Ya'qūb ibn Ishāq al-Kindī, 5-8, 12-13, 15-17, 23-26, 28-29, 31, 33-35, 40, 46-47, 49-50, 52, 57, 64, 67, 70, 71-2, 76, 77, 78-87, 88-9, 90-1.
 Yehudah al-Ḥarizi, 6, 14, 54.
 Yehudah ben Bil'am, 33.
 Yehudah ben Shemuel ibn Tibbon, 27-28, 32, 40-41, 49, 51, 53, 56, 59, 61, 62, 63-70, 91, 92.
 Yehudah ben Yizḥaq, 54.
 Yehudah ha-Levi, 48.
 Yehudah ibn Quraish, 33.
 Yehudah ibn Shemuel ibn 'Abbās, 1.
 Yesha'iah ben Yizḥaq, 2, 32.
 Yosef Albo, 45.
 Yosef ben 'Aqnin, 1, 3, 6.
 Yūḥannā ibn al Biṭrīq, 5, 6, 18.
 Yūsuf ibn 'Aqnīn. *See* Yosef ben 'Aqnin.
 Ziryāb. *See* 'Alī ibn Nāfi'.

INDEX OF HEBREW AND ARABIC BOOKS*

HEBREW

- Agron* (Sa'adyah), 10.
Amos, 11.
Bet ozar ha-sifrut (Gräber), 1-2, 38, 49.
Bet Ya'aqob (Ya'aqob ben Hayyim), 27, 48, 49.
Diqduqe ha-te'amim (Ben Asher), 7.
Dodi we nekdi (Berakyah ha-Naqdan), 58.
S. ha-Emunah ha-ramah (Abraham ibn Daud), 58.
S. ha-Emunot (Sa'adyah), 2, 27-28, 58, 63, 66-70.
Exodus, 3.
S. ha-Galui (Sa'adyah), 10.
Hosea, 11.
S. ha-Iqqarim (Albo), 45.
Isaiah, 3, 11.
Job, 7.
S. ha-Kuzari (Yehudah ha-Levi), 48.
Maḥzor, 33.
Mazref, 58.
Megillat ha-megalleh (Abraham bar Hiyya), 27, 49, 52.
Meqor hayyim (Shem Tob Yosef ben Palaquera), 54.
Mishle shu'alim (Berakyah ha-Naqdan), 58.
S. ha-Mo'adim (Sa'adyah), 10.
Moreh nebukim (Maimonides), 12.
Musre ha-filosofim (Yehudah ha-Levi), 14, 54.
Numbers, 3.
Pe'er ha-dor (Maimonides), 2, 12.
Pirqe ha-Rabbi Eli'ezer, 46.
Pirush 'al ha-qanun (Yesha'iah ben Yizḥaq), 2, 32.
Piteron sefer ha-emunot, 27, 38-47, 49-51, 53, 55, 57, 58, 61, 65.
Proverbs, 3.
Psalms, 4, 33.
Rosh ha-shanah, 46.
Samuel, 3.

* In consulting this index the reader must ignore the reference to such prefatory words as *Sefer ha-*, or *Kitāb al-*. If the *Sefer ha-Emunot* or the *Kitāb al-Amānāt* is being sought, it will be found under *Emunot* or *Amānāt* respectively.

- Shemonah peraḳim* (Maimonides), 12.
Sibbub ha-'olam (Petahyah), 45.
Soṭah, 3, 11.
Talmud, 3, 11.
Tiqqun middot ha-nefesh (Ibn Gabirol), 54.
Torat ḥobot ha-lebabot (Bahyah ben Yosef), 59.
Yesade ha-tebunah (Abraham bar Hiyya), 48, 56.
S. ha-Yezirah, 3, 7, 34.
Zaḥot (Ibn 'Ezra), 7.
Zurat ha-ereṣ (Abraham bar Hiyya), 56.

ARABIC

- Ādab al-falāsifa* (Ḥunain ibn Ishāq), 13, 18, 54.
K. al-Adwār (Ṣafī al-Dīn 'Abd al-Mu'min), 71, 80, 83, 85.
K. al-Aghānī al-kabīr (Al-Iṣfahānī), 17, 18, 71, 82.
K. al-Amānāt (Sa'adyah), 2, 10-13, 15, 27-37, 38-47, 52, 58, 63, 69, 70-92.
K. al-Amrāḍ al-ḥādḍa (Hippocrates), 13.
K. al-'Aqīdat al-rafi'a (Abraham ibn Daud), 58, 61.
K. al-Durr al-naẓīm (Ibn al-Akfānī), 2.
K. al-Faḥḥiya (Al-Lādhīqī), 23, 85.
Fī ajzā' khabariyat al-mūsīqī (Al-Kindī), 5, 15, 17-25, 26.
K. al-Fihrist (Ibn al-Nadīm), 11-12.
Fī'l-aqāwīl al-'adadiya (Al-Kindī), 24.
Fī khubr ta'līf al-alḥān (Al-Kindī), 15, 23, 25, 26.
Fī'l-mūsīqī (Ibn al-Munajjim), 23.
Fī'l-nisab (Al-Kindī), 24.
Fī'l-iqā' (Al-Kindī), 15, 24, 25.
Fī tartīb al-naghm (Al-Kindī), 23.
K. al-Hidāyat ilā farā'id al-qulub (Bahyah ben Yosef), 59, 63.
Iḥṣā' al-'ulūm (Al-Fārābī), 24.
K. al-Īqā' (Aristoxenus), 15, 76.
K. al-Īqā' (Qanṭwān al-Babilī), 15.
K. al-Īqā' (Al-Khalīl ibn Aḥmad), 14.
K. al-Kāfi fī'l-mūsīqī (Ibn Zaila), 71, 76, 77, 79-87.
Kashf al-zunūn (Ḥājji Khalīfa), 7, 23.
K. al-Lahw wa'l-malāḥī (Ibn Khurdādhbih), 23.
Mafātīḥ al-'ulūm (Al-Khwārizmī), 24, 71, 76, 78-86.
[K. li' Muḥammad ibn Murād fī'l-mūsīqī] (Anon.), 71.
Mukhtaṣar al-mūsīqī (Al-Kindī), 23.

- Murāj al-dhahāb* (Al-Mas'ūdī), 7, 15, 71, 80-86, 87.
K. al-Mūsīqī al-kabīr (Al-Fārābī), 15, 24, 73-76, 78-86.
K. al-Mūsīqī al-sharqī (Kāmil al-Khulā'i), 14.
Nafḥ al-ṭīb (Al-Maqqarī), 5.
K. al-Naghḥ wa'l-īqā' (Ishāq al-Mauṣilī), 14.
K. al-Naghḥ wa'l-īqā' (Abū Ayyūb al-Madīnī), 15.
K. al-Naghḥ (Cleonides), 24, 25.
K. al-Najāṭ (Ibn Sīnā), 25, 71, 72.
Rasā'il Ihkwān al-Ṣafā', 6, 7, 8, 18-19, 24, 26, 34, 64, 71, 72, 77, 82, 83, 84, 90.
K. al-Sharafiya (Ṣafī al-Dīn 'Abd al-Mu'min), 71, 80, 85.
Sharḥ Maulānā Mubarak Shāh [Al-Jurjānī], 71.
K. al-Shifā (Ibn Sīnā), 71, 76, 81, 82.
K. al-Siyāsa (Ibn al-Biṭrīq), 5, 6.
Tabb al-nufūs (Ibn 'Aqnīn), 3, 6.
Tafsīr kitāb al-mabādī (Sa'adyah), 7.
K. al-Tanbīh (Al-Mas'ūdī), 10.
K. al-Ṭibb al-[Ib]buqrāṭī (Al Kindī), 14.

INDEX OF SUBJECTS AND TECHNICAL TERMS

- Aleppo, 10.
 Alphabet and Music, 7.
Amoraim, 11.
 Animal tendencies, 11.
 Arabs, 4-9, 10-16, 17-26, 28-37, 43, 71-89.
'Arūd (prosody), 14, 72.
 Assyria, 4, 14,
 Astrology and Music, 4-9, 13.
'Azf (a musical instrument), 4.
 Babylonia, 4, 14, 38.
 Baghdād, 7, 10, 16.
Bamm (the A string on the lute).
 Baṣra, 17.
 Beat. See *naqra*, *nī'nu'ah*, *neginah*.
Bīṣīr (the third finger fret on the lute), 8.
Bu'd (interval : pl. *ab'ād*), 23.
Busṭī (lively : an ethological division of rhythm), 25.
 Cantillation, 3, 7. See *te'amim*.
 Chaldaeans, 5, 8.
 Cithara, 24. See *kinnor*.
 Colours and Music, 8-9, 13, 15, 18.
 Composition. See *ta'wīf*.
 Consonance. See *ittifāq*.
Daraj (gradation : pl. *adrāj*), 81.
Darb (rhythmic mode : pl. *ḍurūb*), 44, 77, 79.
Ḍarba (a beat : pl. *ḍarabāt*), 44.
Daur (cycle of rhythm : pl. *adwār*), 74.
 Dissonance. See *tanāfur*.
 Drum. See *ṭabl*.
Duff (tambourine : pl. *dufūf*), 25.
 Egypt, 4, 10.
 Elements and Music, 4-9.
Elohim, 7.
 Enchanter, 3.
 Ethos, 5-9, 13, 14, 18, 22, 26, 30-1, 42-3, 51-2, 60-1, 67-8, 88-90.
 Faculties of the soul, 5, 9, 13, 22, 26, 30-1, 42-3, 51-2, 60-1, 67-8, 88-90.
Fāṣila, 72.
Fāṣila ṣughra, 73.

- Fāṣila kubra*, 73.
Fayyūm, 10.
 Flute. See *halhaltu*.
 France, 48.
 Genre. See *jins*.
Ghinā' (song, music : pl. *aghānī*), 14, 72.
 Gradation. See *daraj*.
 Greece, 3, 5, 9, 16-18, 25.
Halhaltu (flute or reed-pipe), 3.
Hallel (praise), 45.
Haraka (motion : pl. *harakāt*), 34, 53, 54.
 Harmony of the Spheres, 5-7, 9-16,
Hathith (a rhythmic division), 73, 76.
al-Hazaj (a rhythmic mode), 9, 21-22, 26, 36, 86-87.
Hazaq (sharpening the string), 89.
Hegeh (the intoning of the enchanter), 3.
Higgaion (sounding the *kinnor*), 4.
 Horn. See *shofar*.
 Humours and Music, 5-6, 9, 13, 22, 26, 30-1, 42-3, 51-2, 60-1, 88-90.
 Interval. See *bu'd*.
Intiqāl (modulation : pl. *intiqālāt*), 87-89.
 Intoning. See *tanghīm*.
Īqā' (rhythm : pl. *iqā'āt*), 12, 14-16, 17-26, 27-37, 38-47, 48-57, 58-62, 63-70, 71-89.
Irkāh (flattening the string), 89.
Ittifāq (consonance), 23.
'Iyār (norm, basis), 74, 79.
Jinn, 4.
Jins (genre : pl. *ajnās*), 26.
al-Khafif (a rhythmic division), 9, 22, 26, 73-76.
Khafif al-khafif (a rhythmic mode), 21, 36, 86-87.
Khafif al-ramal (a rhythmic mode), 21, 36, 84-85, 88.
Khafif al-thaqil (a rhythmic mode), 21, 36, 73-76, 83, 88.
Khafif al-thaqil al-thānī (a rhythmic mode), 82.
Khurūj (passage, passing), 89.
Kinnor (cithara), 4.
Lahn (melody : pl. *alhān, luḥūn*), 23, 24, 30, 31, 32, 44, 55, 68-70, 72.
Lulab (palm branch), 45.
Lute, 5, 8, 9, 22, 25. See *'ūd*.
 Magic and Music, 3.
al-Mākhūrī (a rhythmic mode), 21, 22, 26, 82, 87, 88-89.

- Mathlath* (the D string on the lute), 8, 9, 22.
Mathnā (the G string on the lute), 8, 9, 22.
 Measure. See *wazn*.
 Measure, A. See *miqdār, shi'ur*.
 Medicine and Music, 5, 6, 13-14.
 Melody. See *lahn*.
 Mensural duration. See *zaman*.
 Mesopotamia, 10-11, 71.
 Metre. See *'arūd*.
Miḍṭāb (plectrum : pl. *maḍārib*), 24, 74, 77.
Miqdār (a measure : pl. *maqādir*), 24, 34, 44, 69.
Mitraqa (beating stick : pl. *mitraqāt*), 77.
 Mnemonics, 72-89.
 Modes, Melodic, 4-9, 33, 92.
 Modes, Rhythmic, 5, 9, 14-16, 21-22, 26, 30-31, 42-43, 51-52, 60-61, 67-68, 78-88.
 Modulation. See *intiqāl*.
 Motion. See *haraka*.
 Movent beat. See *naqra mutaharrika*.
Mu'adhdhin, 10.
Mufassal (disjunct [rhythm]), 73.
Mu'tadil (medial : an ethological division of rhythm), 25.
Mutasāṣil (unequal [rhythm]), 75.
Mutasāwī (equal [rhythm]), 75.
Muṭlaq (the open string on the lute), 8.
Muwāṣṣal (conjunct [rhythm]), 73.
Naghma (note : pl. *naghamāt*), 23, 24, 30, 31, 32, 34, 56, 68-70.
Naqra (beat : pl. *naqarāt*), 21, 23, 35, 44-47, 56, 77.
Naqra mutaharrika (movent beat), 21, 72, 77-8.
Naqra sākinā (quiescent beat), 21.
Naw' (species : pl. *anwā'*), 21, 26.
Neginah (note, beat : pl. *neginot*), 33, 51-57, 67-70.
Ne'imah (note : pl. *ne'imot*), 44-47, 67-70.
Ne'um (the voice of Yahweh), 3.
Ni'ah (moveness), 60.
Niggun (melodic and rhythmic mode : pl. *niggunim*), 33, 42, 44-47, 53-57, 60-62, 68.
Ni'nu'ah (beat : pl. *ni'nu'ot*), 42-47, 53-57.
Noḥ (quiescence), 60.
 Notation, 71-72.
 Note. See *naghma, ne'imah*.

Numbers and Music, 7.
 Objections to Music, 11-12.
 Onomatopoeiae, 72-89.
 Palestine, 10, 38.
 Pandore. See *tunbūr*.
 Passage. See *khurūj*.
 Perfume and Music, 9, 15, 18.
 Persia., 70-71
Piyyuṣ, 14.
 Plectrum. See *miḍrāb*.
 Primitive folk and Music, 3.
 Prophets and Music, 3.
 Prosody. See *'arūd*.
 Provence, 48.
 Pumbedita, 10.
Qabbalah, 6, 7.
Qabḍī (dolorous : an ethological division of rhythm), 25.
Qaḍīb (rhythmic wand : pl. *qiḍbān*), 45.
Qānūn (canon, rule : pl. *qawānīn*), 26.
Qol (sound : pl. *qolot*), 42, 47, 54, 60-61, 68.
al-Ramal (a rhythmic mode), 9, 21, 22, 26, 36, 84, 87.
 Rest. See *naqra sākina*.
 Rhythm. See *īqā'*.
Sabab, 72.
Sabab khafīf, 73-75.
Sabab thaqīl, 73-75.
 Sabaeans. See *Ṣābi'a*.
Sabbāba (the first finger fret on the lute), 8.
Ṣābi'a, 4, 7, 10.
Sarī' (a rhythmic division), 73-75.
Ṣaut (sound : pl. *aṣwāt*), 23, 32, 44, 68.
 Scale, 4.
 Seasons and Music, 5, 9.
Shi'r (poetry), 14.
Shi'ur (a measure), 51, 57, 67-70.
Shofar (horn), 3.
 Silent beat. See *naqra sākina*.
 Soothsayer, 3.
 Spain, 5, 16, 48, 63.
Sura, 10, 11.
 Syria, 17-18, 71.

Tabl (drum : pl. *tubāl*), 15.
 Tablature, 14, 72.
Ta'lif (composition), 25.
 Tambourine. See *duff*, *tār*.
Tanāfur (dissonance), 23.
Tanghīm (intoning), 30-32, 35, 44, 68.
Tannaim, 11.
Tanqīr (beating), 35, 36.
Tār (tambourine), 25.
Ta'thīr (ethos), 5.
Te'amim (tropes), 7, 33. See cantillation.
Tenu'ah (rhythmic mode : pl. *tenu'ot*), 34, 51-57, 60-62.
al-Thaqīl (a rhythmic division), 73-75.
al-Thaqīl al-awwal (a rhythmic mode), 21, 22, 78-80, 87, 88.
al-Thaqīl al-mumtadd (a rhythmic mode), 22, 26, 36.
al-Thaqīl al-thānī (a rhythmic mode), 21, 22, 80-81, 88.
Thaqīl al-ramal, 88-89.
 Theory of Music, 1-2.
 Therapeutics and Music, 71.
 Tiberias, 10.
 Time, Time value. See *zaman*.
 Transoxania, 71.
Tunbūr (pandore : pl. *ṭanābīr*), 77.
'Ud (lute), 8, 74, 77.
Watīd, 72.
Watīd majmū', 73.
Watīd mafrūq, 73.
Wazn (measure : pl. *awzān*), 24.
Wustā (the second finger note on the lute), 8.
Yahweh (Jehovah), 3.
Yebibah (sound), 42-43, 44-47, 61.
Zaman, *zamān* (time, time value : pl. *azmān*, *azmina*), 24, 34.
Zindīq (Freethinker), 17.
Zīr (the C string on the lute), 9, 22.