

The modal system of Arabian and Persian music,
1250 - 1300:
An interpretation of contemporary texts.

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abstract

The period 1250-1300 witnessed the emergence of a corpus of musical theory which was to provide a framework for most of the important treatises composed during the following centuries. One aspect of the theory is examined here: the analysis of scale (intervals and combinations of intervals); and on the basis of this examination an attempt is made to present a coherent picture of one aspect of musical practice: the modal system.

The introduction discusses the relationship between Arabian and Persian music, and describes briefly the attitudes towards music prevalent in Islamic society and their effect upon the literature.

Part 1 presents a critique of the preconceptions involved in the analysis of intervals, and an annotated transcription of the species and fixed scales recorded during the period.

Part 2 begins by examining the various groups to which the modes were assigned in order to ascertain whether they can be justified on purely structural grounds. Consideration of the criteria employed in determining grades of consonance is followed by a discussion of the modal system in terms of basic units and the ways they combine. Comparison between

two accounts of the system suggests a pattern of historical development; and also that the earlier account misrepresents certain features.

Part 3 continues the examination of the later account. Further material from this is given, revealing a second set of unit combinations which is compared and contrasted with the first. Finally, the examples of notation are transcribed and briefly discussed.

The relevant texts are presented in part 4.

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note on transliteration

The transliteration from Persian is unsystematic. Arabic loan-words are transliterated as if from Arabic. Persian words used frequently in Arabic texts are sometimes given in their Arabicized form (e.g. āwāz, kardāniya, zankūla), but more frequently the Persian consonantal values, and occasionally the vowels also, are retained (e.g. buzurg, chahārgāh, dūgāh, panjgāh, parda; kūchek, segāh).

In the song transcriptions, initial hamza is indicated.

abbreviations

Only one abbreviation is used:

BM - British Museum

introduction

In the field of musical theory the period from 1250 to 1500 is dominated by the Systematist school, founded by Ṣafī al-Dīn 'Abd al-Mu'min al-Urmawī.¹ The present work is based upon an examination of two treatises by him, and a section of an encyclopaedia by the first of his many followers, Quṭb al-Dīn al-Shīrāzī.² The latter is especially valuable for the amount of material it contains on practice, with which we are here primarily concerned. Nevertheless, in all three texts this aspect is of secondary importance, and a consideration of their analytical procedures is an essential prerequisite to any interpretation of the modal system. While it would be foolish to deny the presence of empirical elements, it is clear that their statements about the intervals and scales in common use result from passing the raw material of practice through a filter of theoretical presuppositions, mainly about the nature of consonance. Denied access to the raw material itself, we must enquire into

1 One of the most famous musicians of his day, Ṣafī al-Dīn was a prominent figure at the court of the last Abbasid caliph, al-Musta'ṣim (1243-58). His life was spared when Baghdad was sacked, and the Mongol conquerors took him into their service. Of his two treatises on music, the kitāb al-adwār was probably written in 1252, and the risāla al-sharafiyya, composed for his pupil Sharaf al-Dīn Hārūn, about 1267. He died in 1294.

2 The polymath Quṭb al-Dīn (1236-1311) was the most brilliant of Naṣīr al-Dīn al-Ṭūsī's pupils, excelling in medicine, astronomy, and optics. He also wrote on theology and philosophy, producing an important commentary on the ḥikmat al-ishrāq of Suhrawardī. The date of the encyclopaedia, the ḍurrat al-tāj, is unknown, but may reasonably be assumed to be c1300.

the nature of the filter before sifting the residue.

Spaced out over a mere 50 years, the treatises of Şafī al-Dīn and Quṭb al-Dīn differ but little in content. Thus in general one can deal with them en bloc, and most of the conclusions to be derived from them may be considered valid for the whole period. Where they do not coincide, however, it is sometimes possible to detect a pattern of change which may be viewed diachronically, as part of an evolutionary process. In such cases references are made to the evidence of 14th and 15th century works.

Unfortunately there is little point in trying to enlarge the perspective by an appeal to authors writing before 1250. It is true that Ibn Sīnā furnishes a valuable (if incomplete) account of the modes used in his day; but if certain lines of development are discernible in the years 1250-1300 one should be wary of positing connections between a mode used then and one described two centuries before. Caution is reinforced by the regrettable absence of material in the intervening period. This, unless one insists on taking into account one or two encyclopaedias reproducing in abbreviated form opinions better expressed elsewhere, is quite barren of

theoretical works on music.¹ Nor can recourse to writings of a non-specialist nature do much to dispel our ignorance of the fundamentals of musical practice during the 12th century. There are no later works comparable to the kitāb al-aghānī for the wealth of its technical, as well as social and biographical, information.

An historical introduction to the study of the 13th century modal system is therefore hardly possible. Instead, it may be worthwhile discussing briefly a number of points which relate to the hypothesis that in the late 13th century Arabian and Persian art-music shared the same modal system. However surprising this might appear, it is the obvious conclusion to be drawn from the texts themselves. In effect, the available evidence suggests that although Arabian and Persian music may have differed in other respects,² they not only employed the same intervals and combinations of intervals but were hardly to be distinguished in the way they put them

1 The one theoretical treatise of any stature to be composed after the kitāb al-shifā' and before the works of Ṣafī al-Dīn is the kitāb al-kāfī fī al-mūsīqā by Ibn Zayla, a pupil of Ibn Sīnā. This in any case dates from the first half of the 11th century, and its originality resides mainly in the treatment of rhythm: it contains no new information about the modes.

Details on other texts of the period may be found in Farmer, The Sources of Arabian Music, 43-48.

2 Notably in the relative popularity of certain rhythms (see the kitāb al-adwār, ch. 13).

to melodic use.¹ It was perhaps only to be expected that the majority of post-13th century treatises, whether Arabic or Persian, should adopt Ṣafī al-Dīn's terminology, and that their analyses should be developed within an uniform theoretical framework. The period is, after all, one in which independence of thought and enquiry was on the decline, at least in the sciences. Nevertheless, some of these treatises do provide an account of the modal system which is more than a mere repetition of what Ṣafī al-Dīn had to say on the subject. The fact that they make not the slightest mention of differences between the Arabian and Persian modal systems cannot therefore be attributed to their being predominantly derivative in nature: nor can it be claimed that they show a total lack of concern for the realities of musical practice. In addition we may note that there are one or two 14th and 15th century texts in which Persian views on a certain mode are criticised by an Arab author, or vice versa;² yet the disagreements relate not to the structure of the mode, but to such subsidiary matters as its classification

1 The names of the modes themselves are a mixture of Arabic and Persian. An even more positive indication of identity or at least near identity is furnished (admittedly over a century later) by 'Abd al-Qādir b. Ghaybī who states e.g. that a particular section of a song is differently termed by Arabs and Persians (maqāṣid al-alḥān, 102) - a remark that only has point if the structure and content of that section were common to both.

2 E.g. in the kitāb ghāyat al-maṭlūb fī 'ilm al-anḡhām wa 'l-ḡurūb of Muḡammad b. 'Isā al-Baḡhdādī.

within the whole repertoire. This last indication is all the more valuable in that these particular texts do not adhere to the theory of the Systematist school, and thus constitute an independent source of information.

It might be objected, however, that this evidence is less than convincing: that silence need not confirm similarities and could equally well mask dissimilarities. Further, that the basic proposition flies in the face of historical probability, for prior to the 10th century Arabian and Persian music were certainly not identical, and in present-day practice there is also a marked difference.

With regard to the contrast between the unity postulated for the 13th century and the divergencies observable now, two general remarks may be made. The first is that if one considers the two modal systems in their present form, the similarities are far more striking than the dissimilarities. In both melodic organization is centred chiefly on the tetrachord, and there is further a considerable degree of identity with respect to the various possible arrangements of intervals within the tetrachord.¹ The second is that in view of this it is not unreasonable to suppose that at an earlier

¹ Comparative studies of melodic structure have not yet been undertaken. But although these would establish certain lines of demarcation, it would appear that the major distinction is to be sought in the field of formal organization.

stage the relationship was far closer; and that the two began gradually to drift apart in the 16th century when the military and religious confrontation between Persia and the Ottoman empire, which by that time had subjugated the greater part of the Arabic-speaking world, imperilled the process of cross-fertilization brought about by personal contact between court musicians.¹

It is rather more difficult to put forward a plausible defence for the proposition that unity succeeded the diversity of the 10th and earlier centuries. As we have seen, there is a dearth of reliable material for the period 1050-1250. But matters are made worse by the fact that although the indisputable differences between Arabian and Persian practice were recognized by a number of earlier writers,² none of them do more than baldly state that the two are not the same.

However regrettable, it is perhaps not surprising that this should be so. The general difficulty of adequately verbalizing musical experiences precludes the likelihood of any valuable contribution being found in literature at large; and works of a specialist nature unfortunately tend to embark

1 In other fields mutual exchanges and cultural influences may have continued. Musical practice, on the other hand, could not be transmitted by the written word.

2. Including al-Kindī, Ibn Khurdādhbih and al-Iṣbahānī.

on two courses in neither of which could problems of a descriptive and comparative nature be dealt with.

Scientific enquiry, on the one hand, touches on musical practice - albeit at a tangent - when defining the size and relationship of intervals. But it cannot go beyond this within the limits imposed by its predominantly mathematical outlook: music was, after all, part of the quadrivium. We are provided, as it were, with the precise dimensions of individual (and ideally formed) pieces of masonry; but **from** these we are unable to infer the shape and effect of the whole edifice.

Cosmological speculation, on the other hand, while emphasizing the position of music as an integral part of the macrocosmic order, leaves even less room for the development of an analytic or aesthetic terminology with which two musical systems might be contrasted or evaluated. In these respects music suffered much more than literature, for there was no parallel to the impulse, furnished by a causally related complex of factors, which led to the creation of an adequate vocabulary of literary criticism.¹

1 The 14th century sharḥ mubāarak shāh bar adwār asserts that in a work of his on poetics (presumably based on Aristotle) al-Fārābī discussed the relationship between certain types of music and poetic and dramatic genres. No later writer seems to have pursued this line of enquiry.

We have therefore no means of determining in exactly what respects Arabian and Persian music differed. Hence it is impossible to suggest how, in the course of time, they could have shed these differences. We can do little more than put forward the view that a process of interaction culminating in the establishment of a common idiom would be in accordance with the general pattern of cultural and social development. Also, we may note the possibility that the area over which this presumed common idiom may be thought to prevail was relatively modest in the period 1250-1300, and was gradually extended during the following two centuries. It is safe to assume that Ṣafī al-Dīn's comments on practice relate primarily to the art-music of Baghdad, where he spent much of his life, while Quṭb al-Dīn was no doubt more familiar with the traditions of Shiraz, his native city, and Tabriz, where he lived for many years. Besides Iraq and Western Persia, on the other hand, later theorists of the Systematist school come from as far apart as Khurasan and Transoxiana to the East, Syria and Anatolia to the West. This may, it is true, be no more than a coincidence; nevertheless it seems reasonable to suppose that any initial fusion should take place where contact between Arabs and Persians was closest. In any case, North Africa and Spain must be excluded from the regions for which the hypothesis of unity may be entertained. As a result of the destruction wrought by both Christian conquest and Muslim intolerance, the Arab West provides but

few texts dealing with music, and as far as the modal system is concerned they are generally uninformative.

Musical contact between Persia and Arabia, however, is well documented as far back as the Jāhiliyya.¹ In the early years of Islam we hear of direct borrowings, and during the Umayyad period some of the most distinguished Arab singers spent part of their musical apprenticeship absorbing Persian styles.² For this to have been a meaningful experience, and for borrowings to have taken place, there must have existed beneath the differences a considerable degree of similarity in both modal organization and forms of melodic expression. After the consolidation of Arab rule in Persia the interaction no doubt increased, both in pace and extent. By the 9th century the structure of urban society in the Middle East seems to have been fairly uniform, and cultural attainments and aspirations also. In almost every sphere of human activity Persian ideas and methods were being assimilated by the Arab aristocracy in the major cities of Iraq as well as in Persia itself. It would thus be quite natural to find that a musical rapprochement took place which furthered the evolution of a common fund of modal forms. If so, we may assume that the

1 The contact is of course millenary. But most references are in works of the 3rd and later centuries of Islam, and hence are rarely to be trusted if concerned with events prior to the 6th century A.D.

2 Including Ibn Misjah, Ibn Surayj, and Tuways. The Persian musician Nashīf was immensely popular in Medina.

process was substantially complete by the end of the 10th century.¹ But whatever uniformity resulted should not be thought of in terms of a rigid system. It is far more likely that there should have emerged a somewhat flexible lingua franca to which a number of regional traits could be added without undue disturbance. It is probably variations of this kind that the Ikhwān al-Şafā' (10th century) are referring to when they distinguish the music of Arabs, Persians (presumably the inhabitants of Fārs),² and Daylamites. The last two would certainly not have had independent musical languages, but rather local and characteristic inflections of the same tongue. The kitāb al-shifā' of Ibn Sīnā, the last important source prior to the treatises of Şafī al-Dīn, supplies a few concrete details about this language. But any conclusions we may draw from them would again have to be tentative, for although Ibn Sīnā adds to our knowledge of the way tonal space was divided by detailing the intervalllic organization of several modes,³ he still affords us no insight into the main elements of melodic syntax through which, no doubt,

1 The justification for this dating is partly of a negative nature: about this time references to the contrast between Arabian and Persian practice become few. More important, the major theorists, al-Fārābī and Ibn Sīnā, make no mention of it. (The individuality of the ṭarā'iq of Khurasan, noted by al-Fārābī, is a matter of form rather than substance.) Further, al-Fārābī's discussion of the ṭunbūr baghdādī indicates the gradual dissemination of a common scale structure.

2 rasā'il, i, 196.

3 BM. MS. Or. 11190, ff. 204v-205.

regional differences could at least in part be defined.

Lacking more precise information, we are entitled to say no more than that by the end of the 10th century certain modes and scales appear to have gained general acceptance. One is therefore tempted to conclude that the synthesis to which texts of the 13th to 15th centuries point is the result of a developmental process whereby those features forming as it were a common denominator expand and at the same time are welded together into a coherent system, the organization of which may be shown to be governed by a number of underlying structural principles. But this presupposes that the intervening period was one of regular growth and consolidation which is open to doubt. Having argued that in the 16th century musical unity could be jeopardized as a result of political conflict, it might equally well be objected that to all appearances conditions in the 12th and 13th centuries should have impeded, rather than furthered, progress towards unity. The final decline of the Abbasid caliphate was marked by ever increasing political and economic fragmentation, the effect of which was to retard, if not to reverse, the movement towards cultural levelling. Thus, far from being conducive to the establishing of musical homogeneity, one might have expected the fissiparous tendencies which were so strong at this time to foster rather regional autonomy, the affirmation of local characteristics, and a gradually increasing divergence of both style and substance - all the more so

since there was in music no parallel to the fixed ideals obtaining for the written word, and thus no means of imposing uniformity at a time when the cultural ambitions which were a concomitant of the desire for political independence tended to promote an upsurge in artistic activity.

While due attention must be paid to such factors, it should be borne in mind that the ebb and flow of dynastic fortunes did not bring about any decisive changes in the fabric of society. Although the peasantry suffered from extortionate and often arbitrarily imposed taxation, the general pattern of urban life was but little affected by the substitution of a land-based economy for a monetary one. The music with which Ṣafī al-Dīn and Quṭb al-Dīn are concerned evolved in conformity with the canons of taste prevalent among the upper and middle-class town-dwellers, and there can be little doubt that the stability and continuity which characterized the cultural outlook of these classes were in the long run far more significant than the passing whims of rulers, despite the lavish rewards which the latter could bestow. As we have seen, post-Abbasid treatises indicate the general, or at least ever-widening acceptance of a unified modal system, the regularity and complexity of which would be inexplicable had it not been preceded by a considerable period of development, experiment, and consolidation. Seen against the background of urban conditions, rather than that of

military and political reversals, such a process becomes more readily explicable. Also, it may be noted that except during the brief periods of violent upheaval communications were affected but rarely by the rivalries between various factions. In consequence there was little to prevent musicians moving about freely. It is true that artists of the first rank, once attached to a court, did not often experience the urge or necessity to seek their fortune elsewhere, but the slave-girls who showed sufficient talent to become their pupils were merchandise to be exported as demand arose. They too may have exercised a levelling influence on the musical taste of the upper classes which they served, but at the same time had the opportunity to modify. In the event it is more than possible that by the mere fact of their encouraging music as a vital art-form the virtually independent dynasties of the Abbasid decline may have helped to maintain the composite tradition and, indeed, to promote a further integration. One might compare the connection between the pretensions of the numerous German and Italian principalities in the 18th and early 19th centuries and the strength of the operatic tradition in those countries.

Among further factors contributing positively to the growth of musical conformity one might mention the military band. This had, apart from its primary function, an important rôle to play as an essential adjunct to court ceremonial. It became in effect an expensive status-symbol with,

interestingly enough, the added possibility of expressing¹ distinctions of rank in the way it was used. In view of this it is natural to suppose that the accoutrements, and music, of the military nawba in the capital of the empire were slavishly copied by independent, and even would-be independent, rulers. One may cite as supporting evidence the survival of the nawba tradition at princely courts in India almost down to the present day - one of the most striking examples of Islamic musical influence in the sub-continent. It is true that for the military band sheer quantity of sound was often more important than quality, but on the whole the innate conservatism of imitated pomp should if anything have helped reinforce the general stability of the musical scene.

Of considerably greater importance is religious music. But here we are faced with a wide range of forms, used in a variety of contexts. Only in some of these is it likely that there existed a certain degree of uniformity over wide areas. The main reason for this is the fact that most religious authorities viewed music with grave suspicion,² and in

1 See Farmer, A History of Arabian music, 206-208, and his article "Ṭabl khāna", Encyclopaedia of Islam, suppl., 1938, 217-222.

2 There are a considerable number of treatises which deal specifically with the legal status of music. While some speak in defence, the majority condemn. The viewpoint of the four main law-schools lies somewhere between disapproval and outright condemnation.

The Sufi attitude is discussed briefly below.

consequence no effort was made to impose any canonic standards upon the music that was used to accompany ceremonies of a non-official nature. As these often included elements of local customs and beliefs (many of considerable antiquity) tolerated by Islam, it is likely that apart from containing archaic features this music was closely linked to the prevailing styles of folk-music, and thus differed somewhat from province to province. In addition the strong antipathy on the part of the legists ensured that music was all but banished from official ceremonies. Hence it could never become an integral part of ritual, as in the Christian church. Hence also the lack of any parallel in Islam, despite the prominence of the similarly orientated doctrine of ta'thīr, to the hermeneutic use of the Jewish prayer-modes. In spite of this, however, the cantillation of the Qur'ān became an art in itself, and one which could not have been divorced entirely from the modes and melodic characteristics of secular art-music.¹

A much closer connection may be observed between secular art-music and that of the Sufis. Already by the 11th century (at the latest) the place of music within the liturgy derived

¹ The connection was never admitted by the legists. Indeed the legal fiction of total separateness was buttressed by the use of a different technical vocabulary for cantillation. However, there are cases - just as in mediaeval church music - of popular songs being used in religious contexts (see Ibn Qutayba, al-ma'ārif, 232).

from the originally spontaneous dhikr was assured, and it is possible that this may have provided a further unifying factor. At a later date Sufi ideas were often disseminated through poetry, and so the songs associated with particular poems would in all probability gain wide currency. Also, the Sufi fraternities began to develop their own ceremonies, and these frequently included the performance of music. However, although the period between Ibn Sīnā and Ṣafī al-Dīn saw the founding or institutionalizing of some of the more important orders, those which laid particular emphasis on the use of music and dancing as a means towards ecstatic communion date from somewhat later. In view of this it would be imprudent to suggest that the growth of the fraternities contributed, however obliquely, to the development of a standard idiom during that time. Nevertheless, it is likely that the music heard at the more intimate Sufi gatherings was, considered solely as an organization of sonorities, substantially the same as that to which the discussions of the philosophers and theorists relate. ¹ If so, it may be assumed that this near-identity persisted even when the fraternities had developed their own musical forms, for during the 15th century, if not before, some of the ternary and aksak rhythms characteristic of Sufi dancing began to find their way into the secular

1 That heard at large open-air gatherings would probably have differed in both vocal and instrumental style (and choice of instruments) from court music with its predominantly chamber-music textures.

1
repertoire.

Despite these links it would be idle to expect Sufi writings to contribute to our knowledge of musical practice. For the Sufis music, with its fleeting evocation of divine harmony, provided a means whereby the adept could progress towards a comprehension of ultimate reality. Preoccupied with its transcendental significance, they naturally omitted all mention of the purely physical factors involved.

This symbolic approach was by no means exclusive to Sufism. The influence of the esoteric philosophies current in the Near East during the early centuries of the Christian era not only contributed to the development of Islamic mysticism, but also played a significant part in encouraging metaphysical and cosmological speculation. During the Abbasic caliphate the majority of thinkers were less concerned with analysis than with synthesis - elucidating the essential unicity of Nature. Thus for them music could hardly become an object of study in itself: rather it formed part of an uninterrupted chain of phenomena between the various links of which correspondences might be established. Already in the

1 Their origin is indicated by the appellation "samā'ī". Such rhythms are mentioned in al-Lādhiqī's kitāb al-fathiyya; a later work (c 1500) in the Systematist tradition. The "classical" characteristics of at least some present-day Sufi music (as instanced in H. Ritter, "Der Reigen der tanzenden Derwische", Zeitschrift für vergleichende Musikwissenschaft, Jg. 1, Nr. 2, 1933) suggests that the two have remained closely related.

9th century al-Kindī related the strings of the lute and the rhythmic modes to the humours, elements, to perfumes and character-traits.¹ Later similar series were to be established for the melodic modes, and even Ṣafī al-Dīn, who otherwise ignores this type of speculation, devotes a chapter to their emotional content.

When seeking material on musical practice it is therefore to the Peripatetics and the theorists who followed them that we must turn. For the philosophers imbued with the objective rationalism of the Aristotelian tradition music was one of the mathematical sciences.² Thus their work utilizes and in a few cases, notably in the kitāb al-mūsīqā al-kabīr of al-Fārābī, extends the methods of analysis evolved by the Greek theorists. Unfortunately much of the resulting matter was also adopted, so that all too often we are regaled with an exposition of tetrachord species the majority of which were completely foreign to Arabian and Persian practice, followed by various arrangements of these within the systema teleion. On occasion, indeed, the series of hypothetical tetrachords is even enlarged, from which it is evident that the study of the numerical relationships of intervals was being pursued for its own sake, and not for its value as a descriptive tool to

1 See Farmer, Sa'adya Gaon on the influence of music, 3-9.

2 Cosmological speculation is openly rejected by Ibn Sīnā in the introduction to the section on music in the kitāb al-shifā' (D'Erlanger, la musique arabe, ii, 106).

be applied in a fresh context. Where al-Fārābī and Ibn Sīnā do provide information about the intervals used in Arabian music is in their detailed accounts of the main melody instruments, especially the 'ūd, a short-necked lute. Nevertheless, they afford us little insight into the way these intervals were organized in practice. Interest in their functional rôle was the exception, the rule being the concern taken over the manipulation of the numerical relationships to which they can be reduced. In the last resort, the philosopher's approach to music was prescriptive rather than descriptive.

With the theorists of the Systematist school the balance is only partially restored. While retaining the analytical method and some of the definitions of their predecessors, they frequently jettison much of the Greek ballast, with correspondingly greater emphasis being placed upon the tetrachord and pentachord species actually in use. Nevertheless, for all the wealth of detail on intervals and scale, their treatises are as a rule hardly forthcoming about the melodic characteristics of the modes. Once abstracted into a simple succession of intervals they become mere objects to be juggled with, and much ingenuity is expended in detailing the ways in which they can be derived from each other and transposed throughout the theoretical gamut. Needless to say, this is of little relevance to what performers were actually doing. Furthermore, the one chapter in Ṣafī al-Dīn's kitāb

al-adwār ostensibly devoted to practice is perhaps the most superficial in the whole work, however valuable the examples of notation it contains.¹ No attempt is made to remedy its deficiencies in the several commentaries on the kitāb al-adwār: none of them devote to it a fraction of the attention lavished on the more abstruse sections, and in some the examples of notation are even reduced in number, as indeed they are in Ṣafī al-Dīn's second (and otherwise more extensive) treatise on music. What was notated was evidently less important than the method of notation.

The almost total disregard for those aspects of musical practice not amenable to definition in terms of number is somewhat puzzling. At a much earlier period considerable interest had been shown in such matters as formal procedures, the relationship of melodic structure to prosodic pattern, vocal and instrumental technique, expression and dynamics. Yet none of them is dealt with by Ṣafī al-Dīn, and with rare exceptions the same is true of his successors. That this line of enquiry, which might have resulted in an aesthetic, was not sustained during the latter part of the Abbasid period may be attributed in part to the increasing importance attached to Neo-Platonism, Hermeticism, and allied currents of thought which stressed symbolic and esoteric aspects to the detriment of exact observation. But this is not in itself

1 The final chapter (fī mubāsharat al-'amal).

a sufficient cause - and in any case the triumph of one particular philosophical approach is unlikely to stem solely from its intellectual cogency: the intellectual temper of society at large also has an important rôle to play in determining the acceptability of any given set of ideas, and it is likely that where music is concerned social factors were instrumental in establishing the predominance of the emblematic, non-analytical approach.

In effect, the position of music within Islamic society has always been ambiguous, and attitudes towards it have varied considerably. Poetry was able to overcome initial hostility and gain early acceptance as one of the "Arab sciences"; but music, although an equally indispensable means of emotional expression, and one moreover not explicitly condemned in the Qur'ān, remained suspended between acceptance and rejection. Patronized by the court, it was frowned upon by the law-schools; a means of spiritual liberation for the Sufi, it was excluded from most religious ceremonies; an encouragement to the faithful in battle, it was widely considered conducive to immorality. However facile such contrasts, they do reflect an inability to establish for music a generally accepted social function.

This uncertainty also affected the status of the musician. A cursory glance at the kitāb al-aghānī and similar works will reveal that the virtuosi were held in high regard at court, and that their artistry was more than generously

rewarded. (They also suffered on occasion from the capriciousness of their masters, but not noticeably more so than others.) Their fame is attested by the abundance of biographical material available, and is in sharp contrast to the anonymity of the craftsman and architect. The picture of musical life at court presented in the kitāb al-aghānī may be considered valid for the following centuries also: the fabulous sums lavished on the best artists during the heyday of Abbasid rule may have become a thing of the past, but the degree to which extravagance could go was restricted not by a decline in appreciation but by worsening economic circumstances. Nevertheless, apart from acquiring positions of rank, outstanding musicians were still able to amass considerable fortunes - Ṣafī al-Dīn himself is a case in point.

For all this music had never been, and was not to become, a completely respectable calling. The musician's rights within the Muslim community were in certain respects circumscribed: positions of religious authority were denied him, and a (free) musician's evidence might be disregarded in a court of law.¹ Further, one finds cases, even among pampered courtiers, of artists exhibiting feelings of guilt.²

1 See Farmer, A History of Arabian music, 31.

2 See for example kitāb al-aghānī, x, 163.

(Outside the court hostility to music could no doubt be more forcibly expressed, although the social implications of this can only be guessed at.) A number of philosophers may, it is true, have prided themselves on their musical skill, but they constituted within the total context of Islamic society a peripheral group which was regarded with considerable suspicion by the orthodox majority. Nor should it be forgotten that the fulminations of the more narrow-minded legists were perhaps not so unrepresentative and ineffectual as one might like to believe. Although their attempts to proscribe music entirely were, of course, unrealizable, they should be regarded not only as products of excessive puritan zeal, but also - or rather - as indications of a profound ambivalence of attitude common to the whole community. Already in Umayyad times the association of music with frivolity and licentiousness had been reinforced by the growing importance among the wealthier classes of the female slave-musicians (qiyān), and more especially by the unsavoury reputation of the mukhannathūn, a group of effeminates who were variously drunken, dissolute, homosexual, agents for prostitutes and, very frequently, musicians.¹ By the end of the Abbasid caliphate the factors that had facilitated the emergence of this latter class no longer existed; however,

1 Further material on these two groups may be found in Akel, Studies in the social history of the Umayyad period as revealed in the Kitāb al-aghānī.

the opposition they provoked merely reinforced opinions already held, and did not disappear with them: music was to remain a part of human activity too essential to be ignored, but sufficiently dangerous to have to be banished as far as possible into the shadows of social opprobrium.

The danger is a specifically moral one. There is no trace of the ancient notion that the integrity of the state could be damaged by changes in the musical system, since this was condemned root and branch. The attitude of the Muslim legists is rather an extension of that expressed in "The Republic": Plato wished to see certain modes forbidden because of their deleterious effect, while for the legists all music corrupted. The aura of impiety and frivolity surrounding music is established by its perennial association with wine-drinking - in entertainment-literature the two are virtually inseparable. Less obvious, but of far greater significance, is the connection with sexuality. This aspect was underlined by the frequently erotic nature of the verses set to music, to which on occasion may have been added a degree of sexual attraction or tension between listener and performer. (For the qiyān, as for courtesans in other cultures, music was sometimes no more than a useful accomplishment to be cultivated for utilitarian purposes.) As might be expected, the erotic potential of music was emphasized by those bent on attacking it, but in general it may be said to have been less a formally recognized factor

than one which, because of the irrational elements resulting from the numerous taboos involved in sexual relationships, operated mainly at a subconscious level.¹ It is perhaps for this reason that the excessive emotional reactions to music always seem so curiously unfocussed.

In the event, it is hardly surprising that those who wrote about music should have treated it so circumspectly. The most drastic solution, and at the same time the simplest, was that adopted by the Sufis: as with poetry, the emotional language is accepted in full, but understood to be symbolic. For those thinkers concerned with cosmological schemes and implications the dangers of music are also exorcised by stressing its esoteric aspects, and in particular by pinning it in a web of numerical sets and associations, so that it again becomes symbolic, but this time providing a link with the abstract symmetries of the universe, rather than a means of liberation and mystical insight as with the Sufis. The Peripatetic philosophers and theorists, too, escape into the realm of pure number, although physical and physiological aspects are also dealt with. However, the basic procedures of musical communication - the ways in which the raw material of sound is organized into an expressive whole, and the conventions which govern and safeguard comprehensibility -

¹ Cf. the interesting comments of J. Berque in The Arabs: their history and future, London, 1964 (ch. 11).

are only treated indirectly, so that we can form only the most shadowy picture of the musical system as a whole.

Nevertheless, the factual nature of their approach to, e.g., instruments and the intervals produced on them, does furnish sufficient material for us to be able to undertake a fairly detailed examination both of the modal system and of the surviving examples of notation in which its practical application may most clearly be discerned.

part 1

chapter 1

The kitāb al-adwār, first of Ṣafī al-Dīn's two treatises on music, consists of fifteen fairly brief chapters. At first sight there appears to be little logic in their arrangement, apart from the fact that chapters 1 to 11 deal with different aspects of the same subject-matter. Within this group, however, one may detect a pattern (not necessarily a conscious one on the part of the author) consisting of an alternating presentation of original and non-original material. Beginning in the manner of earlier treatises with definitions, Ṣafī al-Dīn rushes abruptly (chapter 2) into an account of his innovatory 17-note octave gamut. Previous models are again followed in the ensuing discussion of interval relationships, dissonance and consonance (chapters 3 to 5), although we may note that within this section the approach to dissonance is untraditional in that the criteria are couched in terms of non-permissible sequences of intervals rather than in terms of single intervals. Similar alternations are discernible in chapters 6 to 11, which deal with possible scales; how to produce one of these on a stringed instrument (chapters 7 and 8); the most common modes; their similarities of structure; and how to transpose them throughout the gamut.

The remaining chapters are a rather mixed bag, containing an academic digression and, in chapter 13, a relatively extensive discussion of rhythm including an account of contemporary practice. It seems reasonable to regard the two final chapters as addenda. They deal with the emotional impact of certain modes,¹ and with notation,² the latter being presumably a novel contribution.

By virtue of this process of alternation, Ṣafī al-Dīn successfully integrates material derived from practice into an inherited framework of theory. As a result the reasonably clear distinction maintained between the two in earlier works is blurred. There is, for instance, no trace of the empirical procedures for siting frets described by al-Fārābī and Ibn Sīnā.³ This, it may be remarked, is not a criticism, but merely an indication of one of the major difficulties with which the present study is faced. In fact, given the brevity of the kitāb al-adwār, the theory embodied in chapters 1 to 11 is to a remarkable degree both fully developed and coherent. Compared with previous treatises in the same

1 As noted in the introduction, such aspects were felt to be of considerable importance, although generally disregarded by writers of the Peripatetic tradition. It is possible that in this chapter Ṣafī al-Dīn is merely reflecting received opinions.

2 Notation had been used, although not for the same precise purpose, by both al-Kindī and Ibn Sīnā.

3 Al-Fārābī, kitāb al-mūsīqā al-kabīr, 510-513; D'Erlanger la musique arabe, ii, 235.

ultimately Greek-derived tradition it also evinces considerable originality.

The same cannot be said of his second treatise, the risāla al-sharafiyya. This may, not unjustly, be described as a much expanded and in some respects more finished version of the previous work. The expansion results in part from the inclusion of material which had been presented by earlier writers, but was of dubious relevance to the structure of Arabian and Persian music in the 13th century.¹

The section on music in Quṭb al-Dīn's encyclopaedia, the durrat al-tāj, is made up of five discourses (maqālāt) prefaced by a short introduction. The first three deal respectively with the definition of basic elements and the physical propagation of sound; with the numerical relationships of intervals; and with the addition and subtraction of intervals. Thus far there is nothing worthy of comment, since we are presented with what is little more than an adaptation-cum-translation of the corresponding sections in Ṣafī al-Dīn's risāla al-sharafiyya. This does not, however, mean that Quṭb al-Dīn is just another unblushing plagiarist,

1 It may be doubted whether much of this material (especially that concerned with the analysis of chromatic and enharmonic tetrachords) had ever been of relevance to Arabian practice. It is possible that in this work - quite naturally so in view of the circumstances under which it was written - Ṣafī al-Dīn was tempted to demonstrate his grasp of ancient theory as much as to restate his own.

for apart from later passages which bear witness to his critical acumen, there is evidence here too of independent judgement. Furthermore, he readily acknowledges his debt to Ṣafī al-Dīn, and where he is not explicitly quoting or expounding his teaching he refers to him in terms of the utmost respect. Attention need only be drawn here to the testimony these passages provide of the high esteem in which Ṣafī al-Dīn's works were held so soon after his death.

Dependence on Ṣafī al-Dīn naturally does not stop at this point, and the last two discourses are also squarely based on the text of the risāla al-sharafiyya. However, interest is quickened by the fact that in these two discourses, which deal to a certain extent with the realities of the practical art, Quṭb al-Dīn gives an account of the modes and rhythms in current use which both enlarges upon, and in some respects differs from, that of Ṣafī al-Dīn.¹ These differences are all the more curious for the general lack of explanation or justification. But Quṭb al-Dīn's great competence in musical theory is in evidence throughout these chapters, despite the preponderantly derivative nature of the material, and in

¹ Although later works confirm much of the material presented by Quṭb al-Dīn, the description of the two major groups of modes, shudūd and āwāzāt, found in the kitāb al-adwār, is generally reproduced unchanged in treatises of the 14th and 15th centuries. This veneration of Ṣafī al-Dīn seems to have affected European scholars, for it is rare to find any mention of later accounts of the modal system. Certainly the considerably larger and more detailed list in the durrat al-tāj has been universally ignored.

addition he must have had a thorough grasp of practice.¹ Thus there is no possible reason, on the occasion when he diverges from the version of his mentor, for doubting the validity of the modal structures he presents. Lastly, it should be noted that he concludes this section of the durrat al-tāj with a composition far longer, more complex, and more exactly notated than those in the kitāb al-adwār.

*

* *

Before proceeding to a discussion of the modes as described by these two authors, a number of points concerning the nature of the octave division established by Ṣafī al-Dīn need to be clarified. When one considers the painstaking thoroughness with which Quṭb al-Dīn and later theorists, especially the author of the late 14th century sharḥ mubārak shāh bar adwār,² classified and notated the modes in accordance with the 17-note gamut evolved by Ṣafī al-Dīn, it is a great temptation to suppose that this gamut accurately

1 For all that he was later to be criticized by ‘Abd al-Qādir as being an amateur in such matters. However, ‘Abd al-Qādir seems to have misunderstood, or misrepresented, some of the points made by Quṭb al-Dīn. (See the comments on the passage translated in chapter 7.)

2 This important treatise will be referred to henceforth as the sharḥ. It was completed in 1375, and has been attributed by Farmer to al-Jurjānī (d. 1413).

reflects the intervallic relationships then obtaining. However, there is reason to believe that the picture thus presented is an oversimplification, in some ways a formalized abstraction, and that in fact Ṣafī al-Dīn attempted to squeeze the raw material of the practitioner's art into the straitjacket of a mathematically coherent (and therefore intellectually respectable) system, and in so doing distorted it.

The scalar system itself is, for all its sophistication,¹ a basically straightforward development from the simple Pythagorean scale of whole-tones and limmas. In it each whole-tone is divided into two limmas and a comma, and the full octave arranged thus:

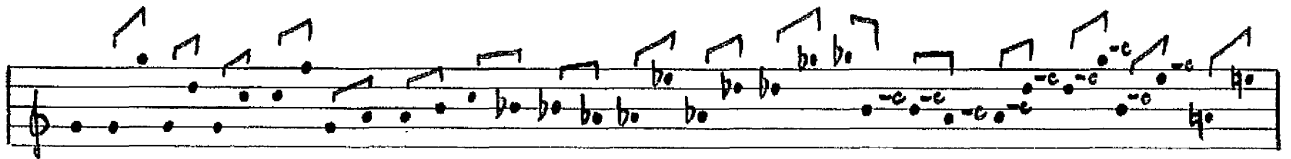
2 G		A		B c		d		e f		g
L L	C, L	L L	C, L	L L	C, L	L L	C, L	L L	L L	C

The following indicates the order in which the 17 notes are established on the monochord,³ the first note of each pair being the one from which the second is derived:

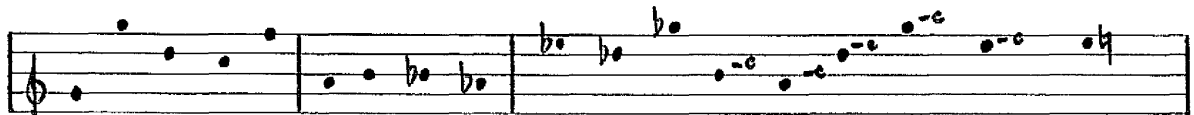
¹ Parry described it as "the most perfect scale ever devised" (The art of music, London, 1896, 29).

² The choice of G is purely arbitrary, and it should not be taken to refer in any way to a fixed pitch. It will be used throughout the present work as the starting point or lowest note, equivalent to alif (the Systematist notation being an alphabetic one based upon the abjad sequence).

³ kitāb al-adwār, chapter 2 (BM. MS. Or. 136, ff. 4-4v).



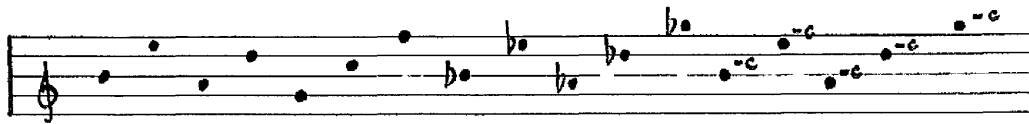
This apparently random arrangement consists in fact of three clearly differentiated sections. Şafī al-Dīn provides first the octave, the fifth, and the notes limiting the conjunct tetrachords into which he later analyses the majority of the scales he lists. He then goes on to define, according to the procedure found in earlier works,¹ the notes within one Pythagorean tetrachord (G - c) of whole-tones and limmas. Finally the remaining notes are added, beginning with those derived from the last note to be established within the lower tetrachord (Ab). The notes in each of the three sections are therefore:



This method of presentation embodies, as it were, a historical introduction to his novel scalar system. Elsewhere this is given in a different order, and it would appear that Şafī al-Dīn thought of the 17 notes as forming a cycle of ascending fourths (or descending fifths), although the uninterrupted

1 E.g. al-Khwārizmī's mafātiḥ al-'ulūm and the rasā'il of the Ikhwān al-Şafā', in which the notes are established on the 'ūd, so that the fretting for the one tetrachord provides the remaining notes of the octave on the other strings. The order in which the notes of the tetrachord are presented is the same: G, c, A, B, Bb. Ab is a later addition. As neither of these works delves deeply into theory, it is likely that this procedure for siting frets was fairly widely known.

sequence begins from B, not G:



This series of fourths is used in the presentation of transposition scales (ṭabaqāt),¹ although as it begins perforce from G there is one break (g^{-c} - B).

The arrangement of intervals within the whole-tone (L L C) is somewhat unusual. It may have been suggested, as D'Erlanger has pointed out,² by the identical layout of the whole-tones and limmas within the tetrachord, and, in most cases, of the tetrachords and disjunctive whole-tone within the octave, thus providing an admirable symmetry for seekers of extra-musical associations and symbolic references. A more mundane but perhaps more likely postulate is that the adoption of this order for all the whole-tones of the octave may have been due to the causes suggested by D'Erlanger, while the original acceptance of the L L C division should be ascribed rather to the influence of the ṭunbūr khurāsānī scale, the first tetrachord of which is, as a theoretical construction, identical with the first tetrachord of the Systematist scale.³ A further reason which may possibly have

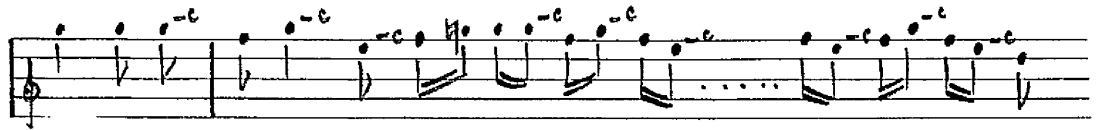
1 kitāb al-adwār, chapter 11 (BM. MS. Or. 136, ff. 23-29v).

2 Op. cit., iii, 595.

3 The fretting of the ṭunbūr khurāsānī, a long-necked lute, is described by al-Fārābī, kitāb al-mūsīqā al-kabīr, 699-721.

contributed to the choice of the L L C, rather than the L C L (or even the C L L) division, is that it gives, within two cents, the major third (5 : 4) and minor whole-tone (10 : 9) as against the more exact minor third (6 : 5) of the other two. This, however, presupposes that the comma distinction between major and minor whole-tone, or between the Just Intonation major third and its Pythagorean equivalent, was per se functionally significant - a crucial point which will be discussed later with reference to the wuṣṭā zalzal.

Whatever the reason, or reasons, which lay behind Ṣafī al-Dīn's adoption of the L L C division, the application of it to every whole-tone in the octave incurs one serious disadvantage when the scale is considered as a referent for notation, i.e. is thought of in relation to actual practice. Given the adherence, for theoretical purposes, to a scale made up exclusively of limmas and commas, the L L C division might seem the best fitted to express, with the least distortion, the intervals used within the whole-tone considered as an integral part of the tetrachord. However, to divide the disjunctive whole-tone in this way seems quite artificial, since it is difficult to imagine the melodically meaningful use of a note one comma below the octave or tonic. In the song transcribed (in chapter 8) from the durrat al-tāj, for instance, there occurs a passage which in the original notation (with G as tonic) is as follows:



Apart from the formidable difficulties of intonation involved, it is hard to discern any significance in having g^{-c} rather than, say, $f\sharp$, for the note in question is extraneous to the basic structure of the mode.¹ Similar objections might be raised against the validity of a note one comma below the fifth when dealing with a pentachord, or an octave scale in which the whole-tone from fourth to fifth may assume the disjunctive rôle.

Such a judgement is based on general considerations and may be thought subjective. However, even if we wish to ignore as untrustworthy the corroboration supplied by the interval ratios in the durrat al-tāj, sufficient evidence can be found both in the kitāb al-adwār and in the writings of later theorists to justify the assertion that in the context of the Systematist scale of limmas and commas it is the enharmonic L C L (and not the L L C) division which provides the closest approximation to reality for the disjunctive whole-tone,

1 The mode in question is muhayyir husaynī, the upper pentachord of which is notated as c d e^{-c} f g . The note between f and g is therefore either an ornament or melodic embellishment or, as will be suggested in chapter 8, part of a sub-section in another mode which requires $f\sharp$ (and not g^{-c}).

whatever its position within the octave.¹ Firstly we may note the possibility that Ṣafī al-Dīn himself may have given the L C L division as an alternative for the upper disjunctive whole-tone when establishing his octave gamut in the kitāb al-adwār.² A further and more conclusive indication is supplied by the same work in the chapter on the causes of dissonance (fī asbāb al-tanāfur). One of these is stated to be the juxtaposition of three whole-tones, and the example G A B c[♯] is given - except that the upper note is written as d^{-c}.³ This particular instance is paralleled in the sharḥ,⁴ which notates the mode māhūrī as G A B c d e g^{-c} g, and elsewhere describes the upper pentachord of the same mode as containing a whole-tone between e and g^{-c}, an accurate notation of which would therefore be e - f[♯].⁵

1 Both D'Erlanger and Barkeshli come to similar conclusions. The former does not discuss the matter, but often gives e. g. f[♯] as an alternative to g^{-c} in his transcriptions (la musique arabe, iii, passim). Barkeshli ("la musique iranienne", Encyclopédie de la Pléiade: Histoire de la musique, i) goes so far as to suggest that a better approximation to the intervallic values obtaining in practice would be gained by substituting L C L for L L C "dans la plupart des cas", i.e. not only in the disjunctive whole-tone. The arguments adduced are not wholly convincing.

2 It is given in one MS. (of four consulted) - BM. Or. 2361, fol. 78.

3 BM. MS. Or. 136, fol. 8v. 4 BM. MS. Or. 2361, fol. 105v

5 Ibid., fol. 95. In later treatises this mode is notated as G A B c d e g^b g. Despite the fact that the modern Persian māhūr has the major scale, this change in notation should probably be regarded not as a correction, but as an indication of a change in scale structure, g^b standing for f[♯] (mid-way between f and f[♯]).

In order to provide a closer approximation to what obtained in practice, the arrangement of intervals within Ṣafī al-Dīn's theoretical scale may therefore be amended to:

G	A	B	c	d	e	f	g
			L L C	L L C	L L C	L L C	L L C
			L L C	L L C	L L C	L L C	L L C

The order of intervals within the whole-tone from fourth to fifth will be L C L if it is disjunctive or the upper whole-tone of a pentachord, and otherwise L L C. Given that all scales may be considered to begin from G there are no cases which, when analysed in terms of the Systematist scale of limmas and commas, would require the division L L C in the whole-tone f - g. The whole-tone G - A is never disjunctive.¹

It has already been noted that the lower tetrachord of Ṣafī al-Dīn's scale is identical with that defined by al-Fārābī for the ṭunbūr khurāsānī. According to al-Fārābī the upper pentachord of the ṭunbūr khurāsānī scale was:

c	d	e	f	g
L C	L L C	L L C	L L C	L L C

However, he adds that the frets producing the notes e^b and f^{+c} were not used, being merely theoretical presences inserted in

¹ This is true for the scales listed by Ṣafī al-Dīn. Two short-lived exceptions are cited in the durrat al-tāj.

order to facilitate the placing of other frets.¹ The notes which remain are therefore:

c db c# d, d# e, f, f# g
L C L, L+C L, L, C+L L

If we disregard as insignificant the omission of the enharmonic alternative in the whole-tone f - g, it will be seen that this differs from the amended version of Ṣafī al-Dīn's scale proposed above only in the whole-tone d - e. Admittedly, we possess no account of the ṭunbūr khurāsānī other than that of al-Fārābī, but it is quite reasonable to suppose that the fretting to which these theoretical values relate may have survived with but little modification during the period under consideration. One may compare the equally theoretical values assigned by Belaiev to the fretting of the modern Azerbaijani and Transcaucasian tār:²

G A B c d e f g
L L C, L-C C L C, L, L C L, L L C, L, L L+C

Here the order in the whole-tone d - e may perhaps be attributed to the influence of the Systematist scale.

¹ kitāb al-mūsīqā al-kabīr, 720-721. As this suggests, "fret" (dastān) may indicate no more than the position at which a note is stopped. The use of the term, in what follows, need not therefore imply a physical presence or mark on the fingerboard of an instrument.

² In "The formation of folk mode systems", Journal of the International Folk Music Council, xv, 1963.

Otherwise there is little difference: an extra note has been added, and in the upper whole-tone $g\flat$ takes the place of $f\sharp$.

This type of octave division would be somewhat cumbersome to define on the 'ūd. In general the player did not exceed the limit of a single tetrachord on any one string, so that a fret required on that string might produce unwanted notes on the others. In this respect the 'ūd differs markedly from long-necked lutes such as the tār and the ṭunbūr khurāsānī, where a full octave and more may be played on a single string, which for theoretical purposes could therefore be thought of as a monochord. Of course, Ṣafī al-Dīn also established his octave division on the monochord, but it may be assumed that he was thinking throughout in terms of the 'ūd, for which the rigorously symmetrical arrangement favoured by him, and enthusiastically adopted by later theorists, was extremely well suited since only two notes are missing in the upper octave (b and e' , taking G as the open note of the lowest of the five strings) and only two are added ($c^{-c'}$ and $f^{-c'}$). Had he included both the L L C and the L C L divisions on the lines suggested above, the number of extra notes would be increased to eight. It may well be that considerations of this nature combined with the motives examined by D'Erlanger to persuade him when establishing his scale to accept an order which, although perhaps admirable from a theoretical standpoint, nevertheless failed to correspond exactly to the realities of musical practice.

There is in addition a further and more important aspect of the Systematist scale to be discussed: the treatment of the wuṣṭā zalzal and related notes. The wuṣṭā zalzal, situated between the second (wuṣṭā) and third (binṣir) finger frets, takes its name from Maṣṣūr Zalzal, an 8th century lutenist who is credited with having successfully incorporated it into the hitherto purely diatonic modal system of court music.¹ Both al-Fārābī and Ibn Sīnā, although they differ slightly in their definitions of the placing of the wuṣṭā zalzal on the strings of the 'ūd, agree that it produces a neutral third (approximately 350 cents) in relation to the note of the open string.² In the Systematist scale the empirical methods they used to define its position are ignored, and it is placed resolutely at 384 cents, not a neutral third but a Just Intonation major third.³ Ṣafī al-Dīn

1 Farmer, A History of Arabian music, 118.

2 Al-Fārābī gives 354 cents and Ibn Sīnā 344. The method of derivation is however the same in both cases: al-Fārābī sites the wuṣṭā zalzal mid-way between the wuṣṭā al-furs and the third finger fret (kitāb al-mūsīqā al-kabīr, 511), Ibn Sīnā mid-way between the first and fourth finger frets (D'Erlanger, la musique arabe, ii, 235). In all probability the difference results simply from the fact that Ibn Sīnā does not recognize the wuṣṭā al-furs fret as defined by al-Fārābī.

Throughout the present work the arbitrary value of 350 cents has been assigned to the wuṣṭā zalzal. This is neither a correction nor an absolute, but merely a convenient figure.

3 Which is strictly 386 cents. The 2 cents inaccuracy occurring within the Systematist scale for this and other intervals will be ignored.

concedes, however, that this adjustment is a theoretical expedient, for after establishing his scale on the 'ūd he adds a paragraph which, as far as musical practice is concerned, reinstates the neutral third.¹ In this passage, interestingly enough, he follows al-Fārābī and Ibn Sīnā, adopting the latter's placing of the fret.² But there is one small and rather revealing amendment - an odd kind of verbal disguise drawn over the obvious discrepancy between the theoretical value of the interval and that occurring in practice. Having rationalized the neutral third as a Just Intonation major third the name wuṣṭā zalzal is retained for the latter, while the neutral third is termed wuṣṭā al-furs.³ It is as if, having exorcised the neutral third by regularizing it within his extension of the Pythagorean system, Ṣafī al-Dīn then permitted it to return under an assumed name - the truth is admitted while appearances are in some measure preserved. He was also honest enough to admit that the neutral third fret was frequently used in the music of his day, while the Just Intonation major third, together with the zā'id, minor

1 This is found only in the risāla al-sharafiyya (Bodleian MS. Marsh 521, fol. 88v).

2 Ṣafī al-Dīn also does not recognize the wuṣṭā al-furs of al-Fārābī. His choice is therefore of no significance with regard to the intonation of the wuṣṭā zalzal.

3 This is the name given in earlier works to the Just Intonation minor third and notes approximating to it, and Ṣafī al-Dīn does use it elsewhere in this sense. In the present work the name wuṣṭā zalzal will be applied exclusively to the neutral third, and will be the only name given to it.

second, fret, occurred only rarely.¹ It may be assumed that when the Just Intonation major third did occur it did not replace the neutral third but, as in the time of al-Fārābī, was no more than a non-functional variant of the Pythagorean major third.

The realignment of names and frets may be seen in the following diagram:

	al-Fārābī	Ibn Sīnā		Şafī al-Dīn	
(<u>muṭlaq</u>)	0				
	90			90	<u>zā'id</u>
<u>mujannab</u>	98	112	<u>ra's al-dasātīn</u>		
<u>al-sābbāba</u>	145	139	<u>mujannab</u>	146	
			<u>wuṣṭā zalzal</u>		<u>mujannab</u>
	168			180	
<u>sabbāba</u>	204	204	<u>sabbāba</u>	204	<u>sabbāba</u>
<u>mujannab</u>					
<u>al-wuṣṭā</u>	294	294	<u>wuṣṭā al-furs</u>	294	
<u>wuṣṭā al-</u>	303				<u>wuṣṭā al-furs</u>
<u>furs</u>					
<u>wuṣṭā zalzal</u>	354	344	<u>wuṣṭā zalzal</u>	344	
<u>binşir</u>	408	408	<u>binşir</u>	384	<u>wuṣṭā zalzal</u>
				408	<u>binşir</u>
<u>khinşir</u>	498	498	<u>khinşir</u>	498	<u>khinşir</u>

¹ This statement of Şafī al-Dīn's is valuable not for objective accuracy, but for the contrast it draws between theory and practice.

Ṣafī al-Dīn also quotes two of the positions given by al-Fārābī for the mujannab fret (mujannab al-sabbāba in al-Fārābī's terminology). But he adds that for his contemporaries the most common procedure was to place it half-way between the zā'id fret (at 90 cents) and the first finger fret, sabbāba (at 204 cents), and it is the resulting position which has been entered above. The mujannab fret is thus now almost exactly a whole-tone below the neutral third,¹ and this is obviously the value intended and that to which musicians approximated in practice.

These adjustments and concessions lead one inescapably to the conclusion that the Systematist scale of limmas and commas does not provide an accurate account of the intervals then in use. What it does provide is an ingenious solution to the text-book problem of how to integrate the "irrational" neutral intervals into a system dominated by simple numerical relationships. In fact, the notes employed within the tetrachord would appear to have changed remarkably little since the time of al-Fārābī. They may be transcribed as follows:

¹ The extent of the deviation is negligible, for in this position the mujannab fret is 208 cents from the wuṣṭā zalzal of al-Fārābī at 354 cents, and 198 cents from that of Ibn Sīnā at 344 cents.

G	A \flat	A \sharp ¹	A	B \flat	B \sharp	B	c
0	90	146	204	294	350	408	498 ²

Similarly, in a conjunct tetrachord scale, the notes in the second tetrachord from c to f were:

c d \flat d \sharp e e \flat e \sharp e f

It has been suggested that Şafī al-Dīn's original order of intervals within the whole-tone f - g (which should correspond to f g \flat g \sharp g in practice) is unrealistic, and should be amended in the first instance to f g \flat f \sharp g. However, there are no two scales among those listed by Şafī al-Dīn and Quṭb al-Dīn which could be distinguished solely by the contrast between g \flat and f \sharp (notated as g^{-c}). Thus if we accept the argument, set out below, that the difference of a comma was of no functional significance, so that both f \sharp

1 The neutral intervals will henceforth be indicated by the accidentals \flat and \sharp . These respectively lower and raise the pitch of the note to which they are attached by approximately a quartertone.

2 The mujannab (A \sharp) is a whole-tone (204 cents) below the wuṣṭā zalzal at 350 cents. It should be stressed that these two figures are arbitrary, and there might be considerable fluctuation in the intonation of these two notes. The other values, which relate to the Systematist scale division, ignore such possible intonational variants as the Just Intonation major and minor thirds for the Pythagorean major and minor thirds.

D'Erlanger (op. cit., iii, 596-597) reaches similar conclusions about the nature of the tetrachord in practice. Instead of assigning an arbitrary value to the wuṣṭā zalzal, however, he adopts the value given by Ibn Sīnā and taken over by Şafī al-Dīn (344 cents).

and $g\flat$ may be considered to lie within the zone of intonation acceptable for one note the precise pitch of which will be influenced by the melodic context, and which we may write conventionally as $f\sharp$, the notes within an octave consisting of tetrachord, tetrachord, and whole-tone become:

$\overbrace{G \quad A\flat \quad A\sharp \quad A \quad B\flat \quad B\sharp \quad B} \quad || \quad \overbrace{c \quad d\flat \quad d\sharp \quad d \quad e\flat \quad e\sharp \quad e} \quad | \quad \overbrace{f \quad f\sharp \quad g}$

In the kitāb al-adwār all octave scales are held to consist of tetrachord (below) and pentachord. In most cases, however, the pentachord may be related to a tetrachord species, adding a whole-tone above, so that one may distinguish here two types of scale:

- (1) tetrachord, tetrachord, whole-tone; and
- (2) tetrachord, pentachord when f does not occur.

In the latter type there are scales containing, in Ṣafī al-Dīn's notation, the sequence $e^{-c} \quad g\flat \quad g$, and the interval $e^{-c} - g\flat$ is stated to be a whole-tone. Accepting that the note represented as e^{-c} may be more realistically notated as $e\sharp$, we may add the note $f\sharp$ (a whole-tone above $e\sharp$) to the above gamut. In the risāla al-sharafiyya, apparently, Ṣafī al-Dīn also allows the division

1 BM. MS. Or. 136, fol. 10v.

(3) pentachord, tetrachord.¹

This is the only one possible - ignoring the potential division of the pentachord into whole-tone (below) and tetrachord - for the two scales in the durrat al-tāj which omit c. In addition, it may be suggested that a number of scales are best thought of as

(4) tetrachord, whole-tone, tetrachord,

despite the fact that this division is not recognized by theorists of the Systematist school. It should however be remarked that if such scales contain c and f they could equally well be placed in category (1), so that a subjective element may be involved in their classification. Particular cases will be discussed in part 2.²

Taking into account all the octave scales listed by Ṣafī al-Dīn and Quṭb al-Dīn, the following may be established as the notes occurring in each of these categories:

1 This division is given for one scale in the translation by D'Erlanger (la musique arabe, iii, 136). The corresponding figure in the MS. consulted (Bodleian Marsh 521, fol. 97) gives tetrachord, pentachord, but is incomplete in other respects and therefore not wholly reliable.

2 If (2) has only scales omitting f, it would appear justifiable to place in (3) only scales omitting A and to class the remained as a separate category: whole-tone, tetrachord, tetrachord. This would however contain only two scales.

(1) tetrachord, tetrachord, whole-tone

G A \flat A \sharp A B \flat B \sharp B | c d \flat d \sharp d e \flat e \sharp e f f \sharp g

(2) tetrachord, pentachord

G A \sharp B \flat B \sharp c d \sharp e \flat e \sharp f \sharp f \sharp g

(3) pentachord, tetrachord

G A \sharp A B \sharp B c c \sharp d e \sharp e f f \sharp f \sharp g

(4) tetrachord, whole-tone, tetrachord

G A \flat A \sharp A B \flat B \sharp B c c \sharp d e \flat e \sharp e f f \sharp f \sharp g

It will be seen that of the two possible orders suggested in the amended theoretical scale for the whole-tone c - d, L L C and L C L, the former relates to (1) c d \flat d \sharp d and (2) c d \sharp in actual practice, while the latter relates to c c \sharp d in (3) and (4), where c \sharp , as with the f \sharp in the whole-tone f - g, stands for both c \sharp and d \flat .

When listed separately in the durrat al-tāj, pentachords are also notated from alif, G. Thus one could add a further note, c \sharp , corresponding to the f \sharp within the c - g pentachord. However, the c \sharp is nowhere found in an octave scale, which means simply that the pentachords in which it occurs are never placed below the tetrachord when the two are combined to form an octave scale. It is likely that if these

¹ It is possible that in this class f \sharp and f \sharp are merely notational (and intonational) variants of the same note.

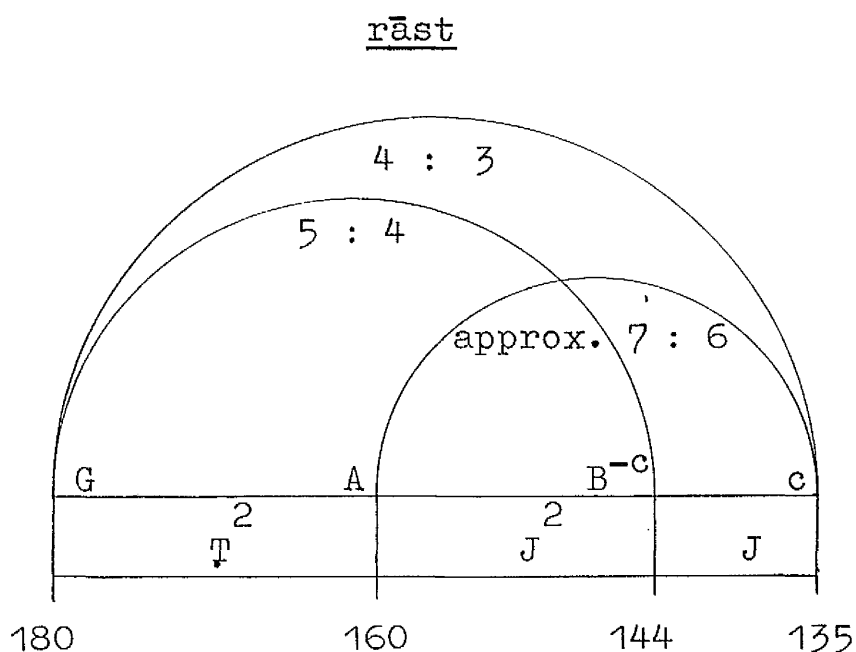
pentachords functioned as independent entities they would tend to have c (or possibly f) as tonic rather than G.¹ For all practical purposes the c \sharp may therefore be disregarded.

In Şafī al-Dīn's treatises scales are given in a simple alphabetic (abjadī) notation which relates to the 17 notes of the Systematist octave division, and it would be a straitforward matter to amend the transcription of this notation in the light of the above remarks in order to provide what one might hope to be a more precise delineation of the modes² as known to the practitioners. Before attempting to do so, however, it is necessary to examine the other, diagrammatic method of representing the scales and species. In the durrat al-tāj the two methods are used conjointly: above the letters of the notation (written in a horizontal line) are inscribed a number of semicircles which link points spanning intervals that can be expressed in simple ratios. These are marked in. Below, figures are given indicating the relevant string length for

1 Şafī al-Dīn's notation of all octave scales from the same note is probably a deliberate simplification for theoretical purposes. We may assume that convention assigned different tonics (relative to each other, not to any absolute pitch standard) to various modes, although lack of evidence renders us unable to do more than surmise in which cases this was so. The one striking exception is provided by the fact that at a later period, when the rāst scale had assumed the form G A B \flat c d e f \sharp g, e was called husaynī, from the tonic of the mode of that name (e f \sharp g a b \flat c' d' e', notated by Şafī al-Dīn as G A \flat B \flat c d \flat e \flat f g).

2 Although the attempt will be made to discriminate between the terms "scale" and "mode" there may be some confusion and overlapping, arising from the fact that in the sources modes are often notated as scales and nothing more.

each note, i.e. the ratios are multiplied up to the lowest common denominator. Such diagrams are also found in the treatises of Ṣafī al-Dīn and elsewhere, but generally they are employed in the more theoretical sections, so that except in the durrat al-tāj it is only rarely (and incidentally) that the modes in actual use are defined by this method. The following is a simple example taken from the durrat al-tāj:¹



In more complex cases not all the possible semicircles are inscribed, and it would be therefore more correct to speak of the scale being defined by listing the string lengths from which its notes are produced. The string lengths are nevertheless always derived from interval ratios.

¹ BM. MS. Add. 7694, fol. 223.

² These letters stand for classes of intervals determined by size. They will be discussed below.

In many instances the definition of a scale by ratios in the durrat al-tāj differs from the notation. It is clear from this that the two are arrived at independently, and in view of the much greater work involved in multiplying out (let alone evaluating) the ratios, it is extremely likely that Qutb al-Dīn considered them more accurate than the notation. He certainly realized quite clearly that the intervals of the Systematist scale were often inadequate and misleading approximations when considered in relation to practice.¹ But this does not in itself furnish sufficient grounds for attaching more credence to the ratios in the durrat al-tāj. In certain cases, notably in connection with the values assigned to the intervals within the disjunctive whole-tone, they confirm the amendments to the theoretical gamut proposed above, but in many others they do not. There are, for example, very few scales in which the ratios for the third can be equated with the neutral wuṣṭā zalzal: the pentachord iṣfahan-i aṣl, with a third of 343 cents; buzurg, 359 cents; and nīrīzī, 354 cents. However, in the vast majority of scales which do not have a Pythagorean major or minor third, that given by the ratios is, as in the tetrachord rāst reproduced above, the Just Intonation major third of 386 cents.

¹ E.g. in the following passage (BM. MS. Add. 7694, fol. 241):

و نیز معلوم شد که گاه بود که بعضی اجناس از مراکز دساتین بیرون نیاید بتحقیق بل که از دساتین تجاوز باید نمود.

It might be suggested that this consistency, coupled with Quṭb al-Dīn's evident faith in the accuracy of the ratio values, constitutes an indication of their correctness, on this particular point at least. From this it would follow that contrary to the general argument proposed in the introduction, Ṣafī al-Dīn's remarks on the wuṣṭā zalzal need not necessarily be considered valid outside the confines of the Baghdad tradition of which he was a leading exponent, and further that we are here presented with one example of a clear difference between Arabian and Persian practice not masked by uniformity of theoretical approach. It is possible to adduce one or two broad comparisons from the modern period in support of such an assumption. Nowadays, for instance, rāst has a neutral third in Arabian music while the Persian rāst o panjgāh (panjgāh being originally a segment of the rāst scale) has a major third. In fact, despite its prominence in segāh the neutral third is relatively infrequent in present-day Persian music.¹ Further, one may note that according to Barkeshli Persian music distinguishes the Just Intonation major third from the Pythagorean.² This, it might be felt, is reasonable enough; but unfortunately corroborative

1 Other neutral intervals, notably the second, are however of frequent occurrence.

2 Loc. cit. Apart from any queries as to the accuracy of the measuring processes involved, it is unfortunate that no attempt is made to discern, on a synchronic basis, the functional significance of the distinction, or to determine in which contexts one interval is preferred to the other. Other writers on modern Persian practice (Farhat and, implicitly, Safvate) have questioned these findings.

evidence from texts of the 14th and 15th centuries, of however general a nature, is nowhere to be found. At most one might mention that the sharḥ, dedicated to a Persian ruler and possibly written in Persia, also gives the ratio 5 : 4 for the third in rāst.¹ But the same is true of at least two later treatises written, like the sharḥ, in Arabic, and which cannot have purported to deal with a specifically Persian tradition.

Besides being speculative to a degree, this assumption also leads to unacceptable conclusions. If it is admitted that there was a difference between Persian and Arabian practice on this point, and that the ratios listed in the durrat al-tāj are substantially correct, it follows that in Persian music a considerable number of modes were, in terms of intervallic structure, distinguished by no more than a single comma in each tetrachord. As just one pair among many one may cite the example of rāst, the basic tetrachord of which is stated to be 204, 182, 112 cents, and 'ushshāq, with a tetrachord of 204, 204, and 90 cents. It has often been alleged that oriental musicians, their hearing unaffected by the artificialities of equal temperament, have preserved the capability of recognizing and of applying to subtle aesthetic effect minute shades of intonation which the Western musician no longer perceives as meaningful. But this pleasant fancy

1 BM. MS. Or. 2361, fol. 130v.

has never been proved. It is true that two intervals, one 20 cents larger than the other, can be clearly told apart under laboratory conditions, or when attention is particularly directed to them. Nevertheless, in the hurly-burly of actual performance such a distinction would be as difficult for the musician to maintain as for the audience to recognize.¹

Therefore, just as in North Indian classical music today, where a rāg seems to acquire its individual character by means of phrasing and the prominence accorded certain notes rather than, as has been maintained, through strict adherence to minute distinctions of pitch,² we may expect that it needed more than a one comma difference in one or two intervals for these modes to be distinguished one from the other. It might be suggested that there were in addition other criteria of identification: that the modes were also defined in terms of melodic pattern, emphasis on certain notes, and limitations of range. But if these features were sufficient in themselves to distinguish one mode from another the intonational difference of a comma would be otiose; and if not

1 This is perhaps less true for the fourth and fifth. A slight, deliberate alteration of these would be readily perceived, especially if the tonic were frequently sounded. The intonation of thirds, with which we are chiefly concerned here, may however fluctuate considerably and pass unremarked.

2 A view put forward in A. Daniélou, North Indian music, London, 1949. That intonation is not the primary factor of identification is maintained in N. A. Jairazbhoy and A. W. Stone, "Intonation in present-day North Indian classical music", Bulletin of the School of Oriental and African Studies, xxvi (1), 1963.

they may, in the present context, be disregarded. In any case, Quṭb al-Dīn makes it quite clear that it is only the secondary or "branch" modes (shu'ab) which can be defined in this way, as they constitute particular types of melodic movement based on the notes of the primary modes (or parent scales, as one is inclined to call them), to which category both rāst and 'ushshāq belong.

The argument that a comma difference would have passed unnoticed, and hence could not have provided a criterion of modal identification is substantiated by earlier theorists who were as familiar with Persian as with Arabian musical practice. Al-Fārābī states that a minor whole-tone (182 cents) is indistinguishable from a major whole-tone (204 cents).¹ Ibn Sīnā goes so far as to say that musicians, although some of them recognize the difference, often confuse limma (90 cents) and quartertone (c. 50 cents) and substitute one for the other during a performance.² Since it is unlikely that in the course of the two centuries between Ibn Sīnā and Quṭb al-Dīn musicians and their audiences should have refined their sense of relative pitch considerably, this testimony may be thought sufficient to show that the ratios cannot be accepted here as an accurate guide to the intonation actually

1 kitāb al-mūsīqā al-kabīr, 166. Cf. also 580-583 and 627-628.

2 D'Erlanger, la musique arabe, ii, 150.

used, and that a meaningful contrast was maintained in the Persian as well as in the Arabian music of this time not between the Pythagorean and the 5 : 4 major thirds but between a major third, which could vary within certain limits, and a neutral third.

Indeed, a rejection of certain ratio values is implicit in a later part of Quṭb al-Dīn's section on music. He remarks that if the range of dūgāh, a mode relating to part of the rāst scale, is extended to g, giving (in the Systematist notation) (c) d e^{-c} f g, the ratio values for which are (204), 182, 112, and 204 cents, the effect produced will be that of nawrūz, d e^{-c}₁ f g, for which the ratios are 112, 182, and 204 cents. Now, it is obvious that in this case - and there are others of a similar nature - the discrepancy in the ratio values for the two sequences of intervals is considerable. Not even the musicians quoted by Ibn Sīnā as confusing quartertone and limma would be likely to fall into the same trap here. If, however, the wuṣṭā zalzal is taken to be a neutral third with the mujannab a whole-tone below, the intervals of d e[♯] f g in both rāst (or dūgāh) and nawrūz will be of the order of 146, 148, and 204 cents.

One possible objection to this interpretation might be

1 BM. MS. Add. 7694, ff. 233-233v. Only the names of the modes are given here. The notation and ratio values are taken from the list of species and modes transcribed in chapter 2.

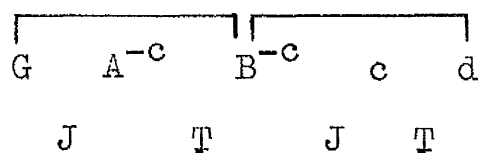
raised. Theorists of the Systematist school classify intervals up to and including a whole-tone into three categories: \mathbb{T} (whole-tone, 204 cents); J (minor whole-tone, 180 cents, or apotome, 114 cents); and B (limma, 90 cents, or comma, 24 cents). It might therefore be thought that Quṭb al-Dīn is here saying no more than that the sequence J J \mathbb{T} (d e^{-c} f g) in dūgāh could be considered equivalent to the J J \mathbb{T} sequence in nawrūz. Unfortunately, these are two of the best-known modes, and the substitution of minor whole-tone (180 cents) for apotome (114 cents) or vice versa would surely have been noticed. Furthermore, Quṭb al-Dīn's wording¹ makes it clear that he is speaking about practice, and not abstract sequences and categories that can happily remain unheard, so that this objection may be dismissed as both unlikely and far-fetched.² Any lingering doubts about this judgement should be dispelled by the evidence of an analogous case in the kitāb al-faṭḥiyya of al-Lādhiqī.³

1 Ibid. The passage is translated in chapter 7.

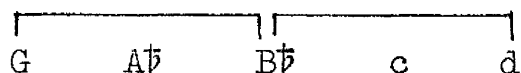
2 Especially when it is borne in mind that the J and B categories are extremely strange, and could be cited in support of the criticism voiced above to the effect that the theoretical analysis they relate to is inadequate and arbitrary when considered in relation to practice. Given the existence of intervals of 204, 180, 114, 90 and 24 cents the groupings \mathbb{T} : whole-tone (major and minor); J: apotome and limma; and B: comma, would be much more natural. Even simpler, of course, are the correspondences \mathbb{T} : whole-tone; J: three-quartertone; and B: semitone or (rarely) quarter-tone. The few contexts in which a quartertone is found exclude the possible occurrence of a semitone; hence there is no ambiguity.

3 BM. MS. Or. 6629, fol. 66v.

Again a 5 : 4 ratio is given for the third, on either side of which is placed a J † sequence:



In theory therefore one consists of 182 and 204 cents, the other of 112 and 204, the difference being the same as that assigned above by Quṭb al-Dīn to dūgāh and nawrūz. Here, however, al-Lādhiqī is not drawing parallels between modes, but is discussing one mode, or modal nucleus, giving it two distinct pitch settings.¹ This only makes sense if we have a neutral third, giving



where both segments consist of a three-quarteritone and a whole-tone. It thus appears certain that he and Quṭb al-Dīn are not simply juggling with modes having markedly different intervals which happen to belong to the same category, and that in consequence their analysis of the neutral third as a 5 : 4 interval is incorrect.

Since then the ratios corroborate the arguments brought against the theoretical disposition of intervals within the disjunctive whole-tone, but fail to provide any correction to

¹ In relation to an open string note or the lowest note in notation (alif), and not in terms of absolute pitch.

the notation where the neutral third and related intervals are concerned, it may be asked in what respects and to what extent they can be held to constitute an accurate representation of the species and modes.

One basic feature of the analysis of intervals by this means is the predominance accorded to simple numerical relationships.¹ Since the ratios for the major consonant intervals form the series $2 : 1$, $3 : 2$, $4 : 3$, there emerged the belief that only further members of the series could be thought consonant.² But because for the Systematist school consonance was a property not only of the interval as such but also of groups of intervals, i.e. of tetrachords and octave scales,³ there followed naturally a complementary tendency, namely to fit intervals found in scales considered consonant into this series. Thus a hypothetical interval of 250 cents, which would be heard to fall between whole-tone ($9 : 8$) and minor third ($6 : 5$), would automatically be classified as either $7 : 6$, 267 cents, or $8 : 7$, 231 cents.

1 This is of considerable antiquity in the Near East. However for Arab and Persian scholars the immediate source was the Hellenic legacy.

2 The limma, for instance, which has no simple ratio (being $256 : 243$), is considered dissonant by theorists of the Systematist school, while the semitone, which has (being $16 : 15$), is considered consonant.

3 In the kitāb al-adwār chapter 4 considers dissonance in relation to the tetrachord, while chapter 6 discusses the consonance of octave scales in terms of the number of fourths and fifths they contain.

Even allowing for a reasonably degree of latitude in the intonation acceptable for the major and minor thirds it may be assumed that within the tetrachord these and the whole-tone could be established as norms in relation to which the calculation of ratios for the other intervals would operate.

A further factor which may have encouraged the tendency to analyse intervals as simple ratios was the mathematical difficulty involved in calculating square roots. Theorists knew well enough that in order to find e.g. half an interval it was necessary to determine the geometric mean.¹ But as this depended on the square root with its attendant complications, the arithmetic mean was adopted instead. Thus 7 : 6 (267 cents) and 8 : 7 (231 cents) were considered halves of 4 : 3 (498 cents), instead of $2 : \sqrt{3}$ (249 cents). When halving intervals smaller than the fourth the error resulting from this process is minimal, being 11 cents for the 5 : 4 major third and diminishing progressively with the interval to be halved.

It now becomes easier to see why the neutral third is described as a 5 : 4 major third. Firstly, as it was a component of a number of much used and "consonant" modes, there was a natural impulse to assign to it a simple ratio. Secondly, it is in fact half (i.e. geometric mean) of the

¹ See for example Ibn Sīnā's remarks (D'Erlanger, la musique arabe, ii, 136).

fifth, so that there is nothing startling, within the context of interval division as practised by the Systematist school, is seeing it classed as one of the two members ($5 : 4$ and $6 : 5$) derived from a division of the fifth by the arithmetic mean. In addition, and this is perhaps the most important factor, the $5 : 4$ ratio was available. In view of the importance attached to the diatonic tetrachord the major third, whatever its shade of intonation in practice, was always analysed as $81 : 64$. This, although not a simple ratio of the form $x + 1 : x$ (where x is an integer), could nevertheless be considered quasi-consonant as it was twice the consonant whole-tone ($9 : 8$). It was perhaps only to be expected that the $5 : 4$ ratio, known to be slightly less than $81 : 64$, should be assigned to an interval which figured prominently in a number of "consonant" scales and was somewhat flatter than the major third.

Any attempt to test these values experimentally would probably have failed to give conclusive results. This could only have been done on one or more monochords, and it is doubtful whether the conditions necessary for reasonably accurate use of the instrument - rigid base, precise measurement of the bridge positions, unvarying tension and constant mass of string - were ever fulfilled. In any case, although the monochord may have been employed as an adjunct to the theoretical demonstration of intervals, there is no evidence to show that it was ever used as a control.

The ratios, then, are worked out with reference to certain presuppositions about consonance, and also relate to the interval being considered in the context, generally, of the tetrachord. The slightly differing values found for a particular interval must be examined therefore as bound forms determined by the disposition of the intervals within the tetrachord species of which they are an integral part. For instance, the major third will be placed at 408 cents in a Pythagorean diatonic tetrachord and at 417 cents in a tetrachord the central interval of which is analysed as 7 : 6 (267 cents). However, despite the caution with which they must be approached, the ratios constitute a valuable check on the notation of the species and modes, and in certain respects are closer to the amended version of the Systematist scale proposed above.

chapter 2

In the kitāb al-adwār Ṣafī al-Dīn defines 7 tetrachord species (aqsām bu'd dhī al-arba') and 12 pentachord species (aqsām bu'd dhī al-khams), 11 of which may be related to the tetrachords. From them, the tetrachord invariably being placed below, 84 octave scales (adwār) are derived by permutation.¹ This might be thought a rather unwieldy and artificial attempt to define the total of possible octave scales within a system permitting novel junctures of established units. But it is far more likely that the 84 octave scales as such have no relevance whatever to practice, and that the series of combinations giving rise to them are presented primarily for their own sake. Ṣafī al-Dīn records 7 octave scales not among the 84; and according to the criteria laid down in the kitāb al-adwār 24 of the 84 should be classed as dissonant (mutanāfir, or zāhir al-tanāfur).²

1 The species are defined in chapter 5 (BM. MS. Or. 136, ff. 9-10v), and the octave scales are listed in chapter 6 (ibid., ff. 14-17).

2 Ibid., ff. 8-8v, 11-12, and 13v, in which the categories of consonance are discussed. Ṣafī al-Dīn does not himself apply these systematically to all the 84 scales.

Nevertheless, it should be pointed out that Ṣafī al-Dīn goes on to say that occasionally compositions were based on some of these (he does not state which), although care had to be taken to avoid the more obviously dissonant combinations of intervals.¹ In consequence - however little the importance which should be attached to the 84 as a set - one might suppose that all the 60 non-dissonant scales were in use, for they presented no such difficulties. The actual number of octave scales in use, however, was certainly much smaller, and probably not more than 30. Ṣafī al-Dīn mentions 17,² adding that they are the most frequently performed modes, while Quṭb al-Dīn, whose account of the modal system is in all respects far more comprehensive, lists 27, and two of these are stated to be little known. In view of this it may be felt that little purpose would be served in transcribing all 84 scales, and the list given below confines itself to material relevant to practice.

The bulk of it is taken from the durrat al-tāj,³ and Quṭb al-Dīn's order of presentation, which proceeds logically from species of third through to a few examples of scales exceeding the octave, has been retained. Scales given in Ṣafī al-Dīn's

1 Ibid., fol. 20.

2 16 are mentioned in the kitāb al-adwār (ibid., ff. 19v-22v) and a further one in the risāla al-sharafiyya (D'Erlanger, la musique arabe, iii, 136).

3 BM. MS. Add. 7694, ff. 223-231.

treatises and not mentioned in the durrat al-tāj have been included, their position in the list being determined by identity of name as well as by similarity of scale-structure. All species and scales are from the durrat al-tāj unless otherwise stated; and whenever a species or scale is also one of those cited by Ṣafī al-Dīn this is indicated. Further material on the modal system from the durrat al-tāj will be presented and discussed in chapter 7.

In accordance with the findings of chapter 1 the following principles govern the transcription:

G is throughout taken as the equivalent of the alif of the Arabic notation;

g^{-c} is transcribed as f#, g \flat as f \sharp (cf. pp. 53-54);

d^{-c} is transcribed as d \flat or as c# according to context (cf. p. 56);

A^{-c} , B^{-c} , and e^{-c} are transcribed as A \flat , B \flat , and e \flat respectively.

Any deviations will be discussed as they occur.

The ratios (found, unless otherwise indicated, only in the durrat al-tāj) have been expressed in cents and written out below the transcription of the notation. In some instances a discrepancy between the notation and the ratio values has not been commented on, notably where the disjunctive

whole-tone is concerned.¹ Reasons for amending certain of the latter have been presented in chapter 1, and the commentary therefore only deals with cases requiring further explanation. But wherever the ratios have been thought inaccurate a second line has been added below in order to give what is hoped to be a more realistic appraisal of the nature of the intervals concerned. In this respect we may repeat the contention that an acceptable intonation of a given interval may fluctuate within certain limits. The position of these limits will also vary, being influenced by several factors, including the nature of the performance; whether the performer is a singer or an instrumentalist (in which case the type of instrument will be of significance); the size and position of the interval; the melodic context; tempo; and dynamics. Hence simply to "correct" a ratio value of 386 cents to 350 might give a misleading impression of an alternative absolute, an immutable standard intonation which could be incorporated into a second theoretical gamut just as rigid as that of Ṣafī al-Dīn, even if more practice-based. In view of this the second line will be presented in diagrammatic form in order to show a zone of acceptable intonation, rather than a single point. The line will be marked off in 100 cent divisions, and the position of the relevant Pythagorean and Just Intonation intervals will be shown. The convention will be adopted of

1 One may find for instance 112, 90, and 85 cents for g^{-c} (i.e. $f\sharp$) - g ; 112 and 76 for d^{-c} (i.e. $c\sharp$) - d .

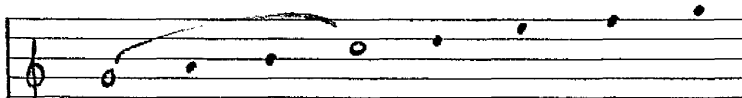
not indicating fluctuations in intonation for the tonic; the fourth in tetrachords; the fifth in pentachords, and so on. Nor will they be indicated for non-neutral prominent notes.

Prominence is a feature discussed by Quṭb al-Dīn in the following passage: "In practice musicians do not pursue the same aim in all modes: in some their aim is to give prominence to the interval limiting the mode;¹ in others to give prominence to a lesser interval; and in others to give prominence to a single note. This too may vary, being in some cases the tonic and in others the fourth from the tonic. In our list we have marked in the interval or note concerned above each species"². It may be assumed that according to a "lesser interval" refers to the relative importance of the segment of the scale that interval comprises. We shall speak throughout of prominent note(s), whether it is a case of a single note or of an interval. Such notes will be given in the transcription as semibreves. Those marking a "lesser interval" will be shown thus:

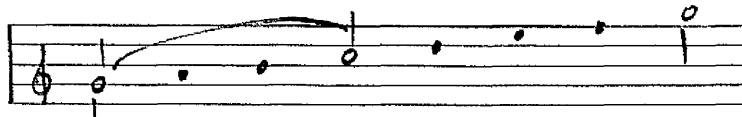
1 I.e. tonic and fourth in a tetrachord, tonic and octave in an octave scale, etc.

2 BM. MS. Add. 7694, fol. 240v:

ارباب عمل را در استعمال جمله پردها يك مقصد نیست بل که در استعمال بعضی پردها مقصد ایشان ایقاع بعد طرفین بود و در بعضی ایقاع بعدی اصغر از طرفین و در بعضی ایقاع يك نغمه و آن نیز مختلف است چه در بعضی ایقاع مفروضه بود و در بعضی ایقاع نو الاربع مفروضه و ما در جدول بر بالای هر جمعی بعدی یا نغمه رسم کرده ایم .



while alternatives will be indicated by minims, thus:



Section headings are from the durrat al-tāj, as are the headings for each item, unless otherwise stated.

The list has been numbered for ease of reference.

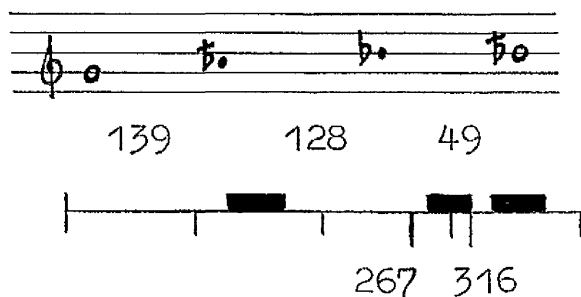
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species of minor third (6 : 5)

1 zīrāfkand-i kūchek. May be termed simply zīrāfkand, or kūchek. It is also called mukhālīfak.¹



Şafī al-Dīn mentions this species in the risāla al-sharafiyya only, calling it zīrāfkand. The notation is the same, but there is a minor difference in the ratios which reverse the first two intervals (giving 128, 139, and 49 cents).² There is an obvious discrepancy between the ratios, which indicate a compass of a minor third, and the notation ending on the major (B^{-c} , interpreted as signifying a neutral third). The latter value is undoubtedly correct. It is confirmed by Quṭb al-Dīn himself when he refers to mukhālīfak in a passage discussing the inadequacy of the (fixed Systematist) fretting for reproducing certain modes, and states that its highest note should be stopped half-way between the B^{-c} and $B\flat$ frets,³ i.e. should be a neutral third.

1 BM. MS. Add. 7694 has mukhālīf, India Office MSS. 2219 and 2220 mukhālīfak.

2 Bodleian MS. Marsh 521, ff. 65-65v.

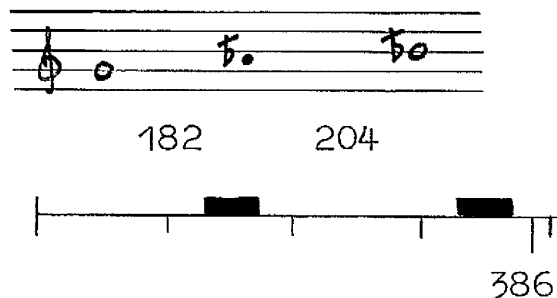
3 BM. MS. Add. 7694, fol. 222.

In accordance with the conclusions reached above one should therefore expect the ratios to add up to a Just Intonation major third rather than a minor third. The presence of the latter is to be explained by the fact that the ratios for zīrāfkand in the risāla al-sharafiyya are taken from a pentachord species of which they constitute the lower section. It would appear that when defining a neutral third by dividing the fifth (3 : 2) it was possible in certain cases to place 6 : 5 below 5 : 4. Although Quṭb al-Dīn does not refer to this pentachord it is likely that his values are taken from the risāla al-sharafiyya, despite the inversion of the first two intervals. Had he arrived at them independently we may assume that he would in fact have given 5 : 4 for the neutral third here as well as in the following species.¹

¹ The compass of zīrāfkand is in fact stated to be 5 : 4 by al-Lādhiqī (BM. MS. Or. 6629, fol. 67). No reference to a pentachord species is made.

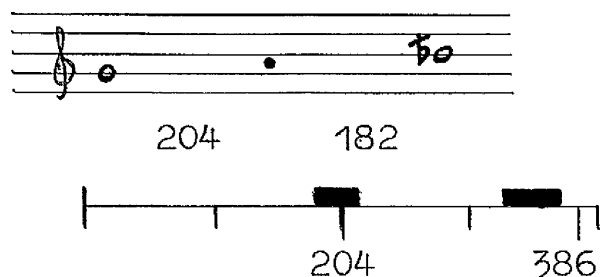
species of major third (5 : 4)¹

2 'irāq



For Ṣafī al-Dīn the name 'irāq denotes a tetrachord species (no. 10, clearly related to the above) and an octave scale. The existence of 2 'irāq is confirmed by al-Lādhiqī.²

3 zāwlī



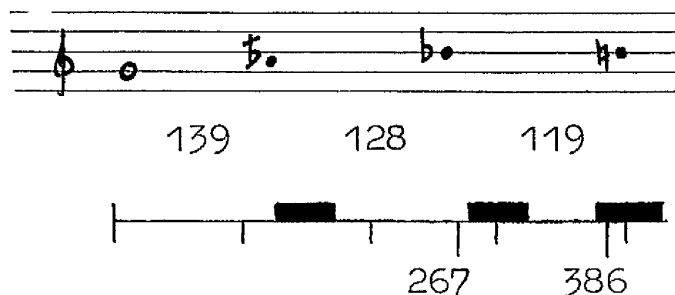
The final note is stated elsewhere to be A or G.³ For later writers⁴ zāwlī is characterized by a pronounced vibrato on the B♭ amounting to an oscillation between B♭ and B.

1 In 2 and 3 both the notation and the ratios give a 5 : 4 major third. In 4, however, the notation has a Pythagorean major third (81 : 64).

2 BM. MS. Or. 6629, fol. 66v.

3 BM. MS. Add. 7694, fol. 233v.

4 'Abd al-Qādir (Bodleian MS. Marsh 282, fol. 51v) and, following him, Jāmī and al-Lādhiqī.

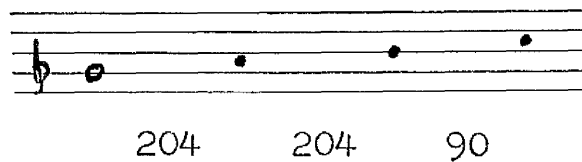
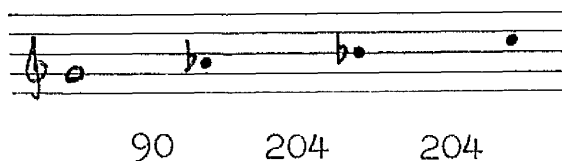
4 rāhawī¹

Both the ratios and the notation are identical with those given in the risāla al-sharafiyya, where we are told that the intervals are more or less interchangeable, i.e. of equal size.² According to Quṭb al-Dīn, however, this particular arrangement is the most consonant,³ which suggests that the notation, with a semitone between B \flat and B, may be more accurate. Further reasons for rejecting the ratio values may be found in the comments on 11 iṣfahān.

1 An alternative form, rahāwī, is also frequently found.

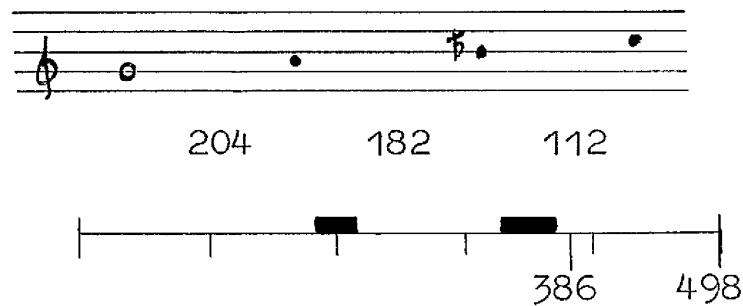
2 Bodleian MS. Marsh 521, ff. 61-63v, 90v. Ṣafī al-Dīn states that rāhawī was previously called mazmūm.

3 BM. MS. Add. 7694, fol. 21.

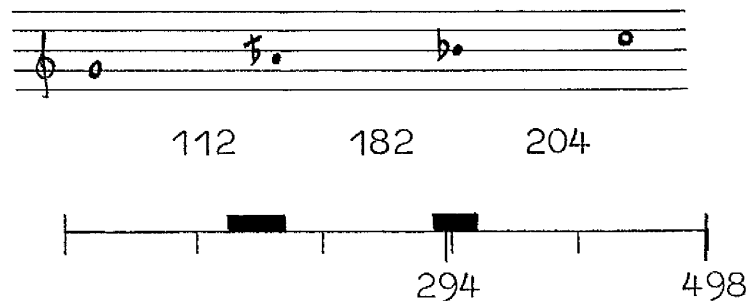
tetrachord species¹5 'ushshāq6 būsalīk7 nawā

Neither here nor in the octave nawā does Quṭb al-Dīn mention which note, if any, was prominent.

1 Following Ṣafī al-Dīn's definition, the term tetrachord will be used in the present work to refer to any species having the compass of a fourth, irrespective of the number of intervals involved. Similarly with the term pentachord.

8 rāst

The notation of the above four tetrachords is given in the kitāb al-adwār.¹ In the risāla al-sharafiyya the same names are also added.²

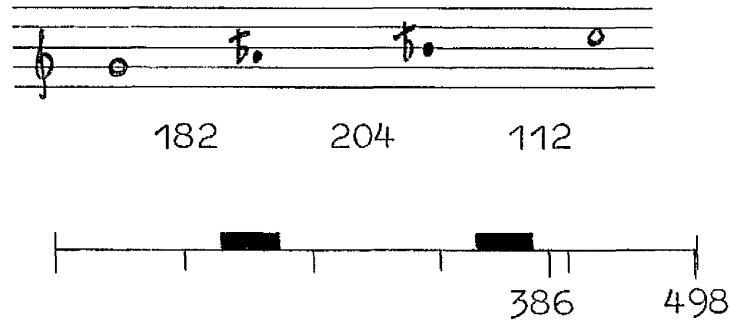
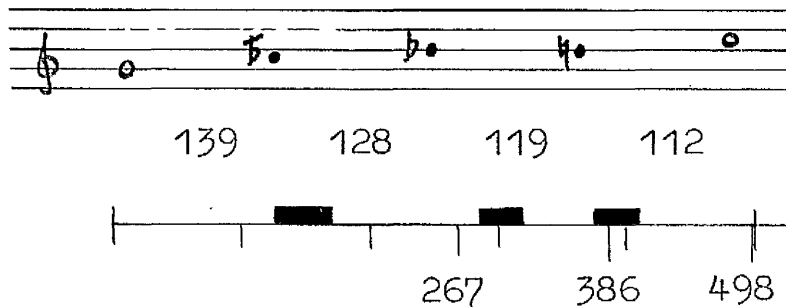
9 nawrūz

From the notation, which is the same as that listed by Ṣafī al-Dīn,³ one would expect rather 182, 112, 204. However, where this does occur (in 60 muḥayyir ḥusaynī) it is clearly the result of the assimilative influence exerted by the rāst scale in which these intervals appear from A to d, and d to g. In other scales the 112, 182, 204 order is adhered to.

1 BM. MS. Or. 136, fol. 9v.

2 Bodleian MS. Marsh 521, fol. 90v.

3 BM. MS. Or. 136, fol. 9v.

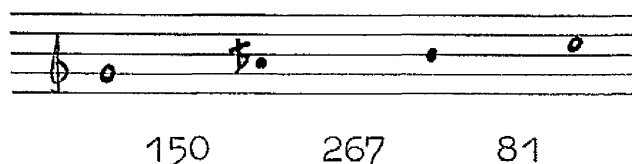
10 'irāq (Şafī al-Dīn)rū-yi 'irāq (Quṭb al-Dīn)11 işfahān

The same notation and ratios are given for işfahān by Şafī al-Dīn.¹ The ratios may be taken to represent intervals of equal size, and are arrived by a twofold division of the fourth by the arithmetic mean (4 : 3 giving 8 : 7 and 7 : 6; 8 : 7 giving 16 : 15 and 15 : 14; and 7 : 6 giving 14 : 13 and 13 : 12). With the exception of 4 rāhawī there is no species at all similar, for a tetrachord of four intervals of equal size nowhere contains a major third, a minor third, or a whole-tone. These intervals were certainly recognized as

¹ Ibid. (notation), Bodleian MS. Marsh 521, ff. 61-63v (ratios).

important in practice as well as in theory. Hence it is unlikely that 11 iṣfahān and the related 4 rāhawī would have been acceptable in the form suggested by the ratios.¹ There can be no doubt that the notation is more accurate, and that 11 iṣfahān corresponded to 9 nawrūz with a major third included. This is confirmed by a later statement in the durrat al-tāj to the effect that the intercalation of an f \sharp in the segment d e \flat f g of the rāst scale (in theory d e^{-c} f g, 182, 112, 204 cents) produces the effect of (11) iṣfahān.²

12 ḥijāzī³



The intonation of the major third (given by Quṭb al-Dīn as 417 cents) was in all probability not consistently sharper than that of major thirds in other species, which we have indicated as lying within the zone from c. 375 to c. 420 cents.

1 Although it is conceivable that they may have originated in approximately this form, being borrowings from folk-music. According to P. V. Olsen ("Enregistrements faits à Kuwait et à Bahrain", Les Colloques de Wégimont, iv, 1958-1960 (Liège, 1964)) a tetrachord with four virtually equal intervals is used at the present day among the Sulaib, a tribe (of apparently non-Arab origin) in Kuwait.

The iṣfahān listed by Ibn Sīnā is quite different.

2 BM. MS. Add.7694, fol. 233.

3 Quṭb al-Dīn generally writes ḥijāz, Ṣafī al-Dīn ḥijāzī. The latter form will be used throughout the present work.

This minor adjustment apart, 12 hijāzī is one of the rare cases in which the ratios for a theoretical non-diatonic genus¹ would seem to correspond exactly to intervals used in practice. Quṭb al-Dīn also mentions variant forms of this tetrachord including one in which the central interval is even larger (a full augmented second), but concludes by saying that the above division is the one most commonly found.² The fact that these variants are cited at all may be considered a recognition of fluctuations in intonation.

Ṣafī al-Dīn does not list this tetrachord, and in none of the octave scales listed by him is it notated. However the name hijāzī is used at one point in the kitāb al-adwār to designate one of the constituent parts (tetrachord and pentachord)³ of an octave scale. The significance of this, and the relationship of 12 hijāzī to the octave scales of the same name listed by Ṣafī al-Dīn, will be discussed in chapter 5.

1 Quṭb al-Dīn (BM. MS. Add. 7694, fol. 222) describes it as:

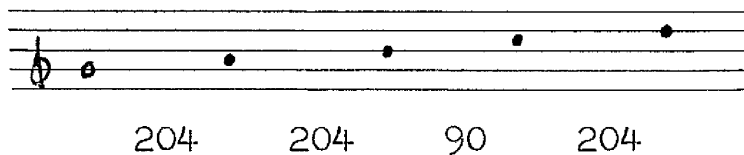
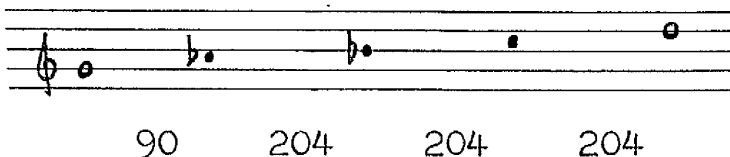
صنف خامس از نوع سوم از جنس ناظم

i.e. 12 : 11, 7 : 6, 22 : 21.

2 Ibid.

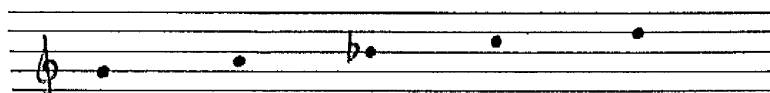
3 BM. MS. Or. 136, fol. 22v.

pentachord species

13 'ushshāq14 būsalīk

Both 13 and 14 are among the pentachord species listed by Şafī al-Dīn.¹ He does not, however, name them. They correspond to the tetrachord species 5 'ushshāq and 6 būsalīk respectively, adding a whole-tone above, and constitute the upper pentachords of the octave scales 40 'ushshāq and 41 būsalīk.

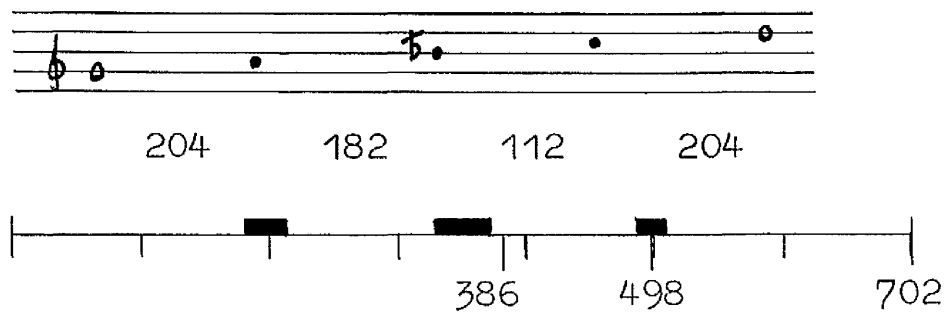
15 (not mentioned by Quṭb al-Dīn)



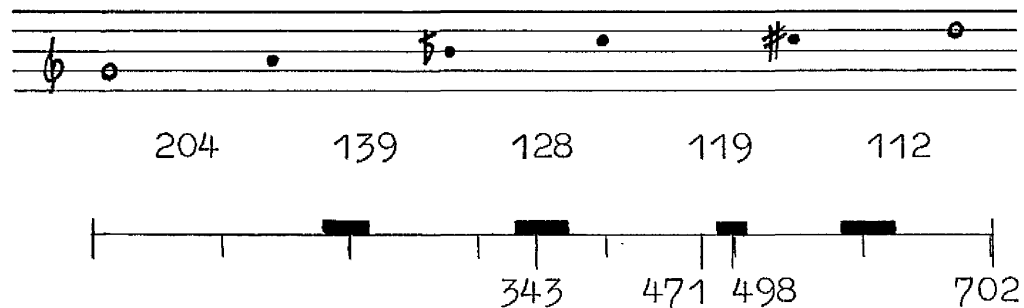
This species is found only in the kitāb al-adwār.² It may be formed by adding a whole-tone above 7 nawā, with which it combines to form the octave scale 42 nawā.

1 Ibid., fol. 10.

2 Ibid.

16 rāst

Similarly, 16 rāst relates to 8 rāst and the octave scale¹ 43 rāst. It is also listed, unnamed, in the kitāb al-adwār.

17 işfahān-i aṣl. Some people also call it mukhālif-i rāst.

This species may be derived from 11 işfahān, but with the whole-tone added below. It is also given, unnamed, by Şafī al-Dīn,² and constitutes the upper pentachord of 66 işfahān, which is however an octave scale not listed by Quṭb³ al-Dīn, despite being referred to elsewhere by him.

The other name, mukhālif-i rāst, may be thought to indicate the similarity and difference between this species

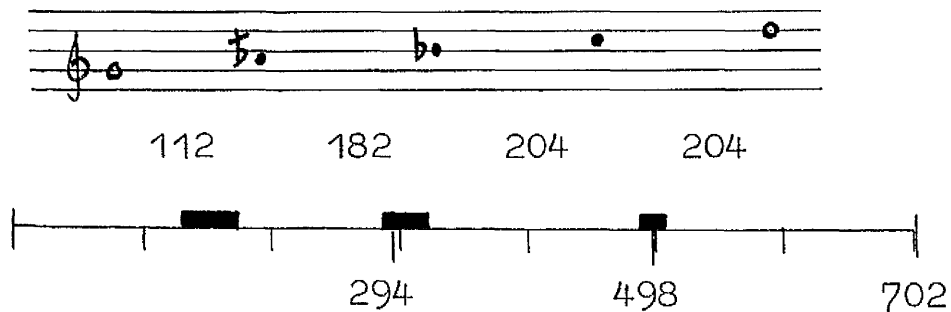
1 Ibid.

2 Ibid.

3 BM. MS. Add. 7694, fol. 232v.

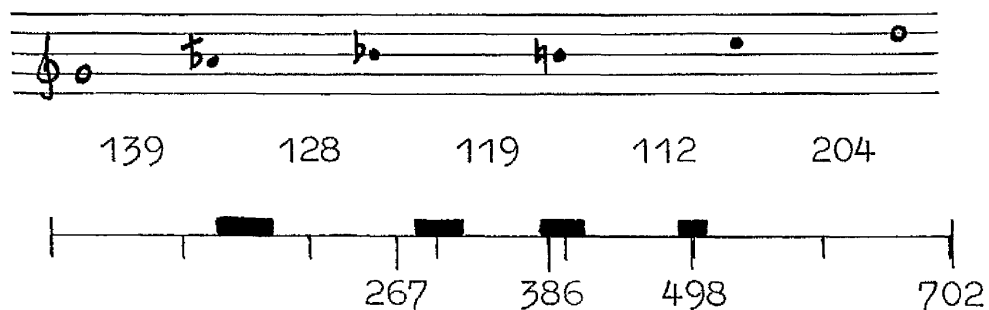
and 16 rāst, and hence incidentally the falsity of the ratio values for the intervals from A to d.

18 ḥusaynī



Here the previous pattern is followed: 18 ḥusaynī may be arrived at by adding a whole-tone above 9 nawrūz. It is also found in the octave scale 48 ḥusaynī, and is listed by Ṣafī al-Dīn.¹

19 zīrkesh ḥusaynī



Similarly this species relates to 11 iṣfahān and the octave scale 67 iṣfahān. It is again listed by Ṣafī al-Dīn,² although 67 iṣfahān is not.

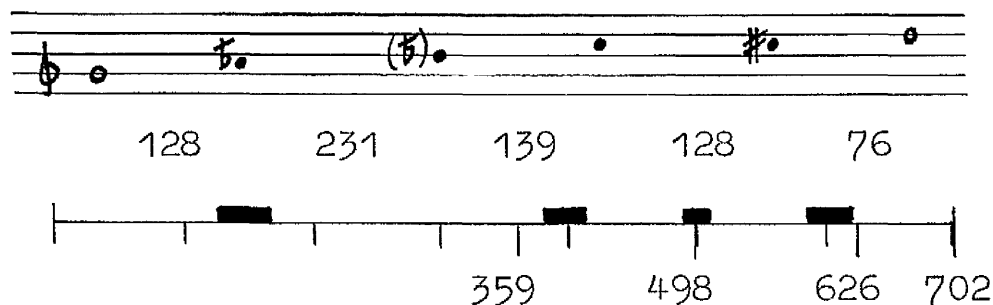
1 BM. MS. Or. 136, fol. 10.

2 Ibid.

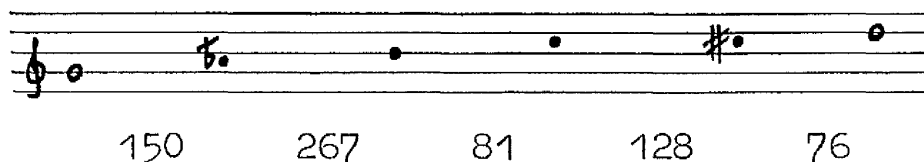
The name suggests however a different origin. One might contrast zīrkesh (indicating the inclusion of the open zīr string note, c) with zīrāfkand (omitting the zīr) and posit the development 1 zīrāfkand G A♯ B♭ B♯ → G A♯ B♭ B♯ c d → G A♯ B♭ B c d, with B♯ becoming B by analogy with 11 iṣfahān. But even if this is rejected as implausible, the inclusion of ḥusaynī in the name cannot be accepted as an indication that this species may have been derived from 18 ḥusaynī, since in that case the term zīrkesh must refer to the inclusion of B and hence imply a transposition from A♯ A♯ B (c) d♭ e♭, which is far more implausible. The reference to ḥusaynī is in all probability analogous to the reference to rāst in 17 mukhālīf-i rāst.

20 buzurg (Ṣafī al-Dīn)

buzurg-i aṣl (Quṭb al-Dīn)



21 variant of buzurg



These values fall within the zones of intonation suggested

for 20.

21 is peculiar to Quṭb al-Dīn. 20 buzurg is analyzed by Ṣafī al-Dīn also in terms of ratios, and he offers the following four combinations:¹

14 : 13, 8 : 7, 13 : 12, 13 : 12, 27 : 27 (128, 231, 139, 139, and 65 cents)

13 : 12, 8 : 7, 14 : 13, 13 : 12, 27 : 26 (139, 231, 128, 139, and 65 cents)

14 : 13, 8 : 7, 13 : 12, 14 : 13, 117 : 112 (the definition given above from the durrat al-tāj. This division is also found in the sharḥ.²)

13 : 12, 8 : 7, 14 : 13, 14 : 13, 117 : 112 (139, 231, 128, 114, and 90 cents).

What is significant - the differences are not - is that in each of the four we find the ratio 8 : 7 corresponding to the notation $A^{-c} - B^{-c}$ (given here as $A\bar{\text{ḥ}} - B(\bar{\text{ḥ}})$), whereas whole-tones elsewhere are invariably accorded the ratio 9 : 8. It would appear from this that the interval thus represented was in fact larger than a whole-tone and, as in the variant 21, may well have been of the same order as the central interval in 12 ḥijāzī. There would be nothing unexpected in Ṣafī al-Dīn choosing 8 : 7 rather than the 7 : 6 preferred by Quṭb al-Dīn for such an interval since the latter was held by him to

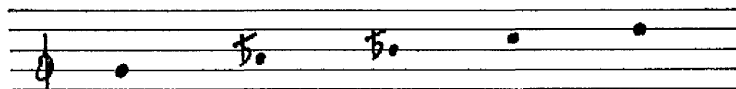
1 Bodleian MS. Marsh 521, ff. 66-66v. The notation is given in the kitāb al-adwār (BM. MS. Or. 136, fol. 10).

2 BM. MS. Or. 2361, fol. 95v.

be unacceptable as an undivided unit within a scale.¹ In the notation of B(ḫ) given above, the ḫ corresponding to the original $\text{ḫ}^{-\text{c}}$ is placed in brackets to indicate that it is suspect, but retained in order to differentiate the notated forms of 20 buzurg and 21.

It may be asked that if 20 and 21 both represent the same thing, why include the latter? The answer to this is probably that Quṭb al-Dīn wished to reproduce the notation and ratios established by Ṣafī al-Dīn but, realizing that these were inconsistent, with the notation giving a distorted picture, added a further definition which was for him in closer conformity with practice. The opposite tendency is observable in the sharḥ, which in addition to adhering to the notation $\text{A}^{-\text{c}} - \text{B}^{-\text{c}}$ and the ratio 8 : 7 later indulges in a hyper-² correction and provides the ratio 9 : 8 for this interval.

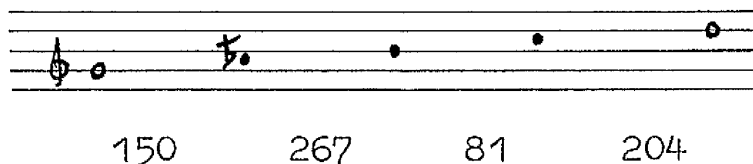
22a (Ṣafī al-Dīn)³



1 Bodleian MS. Marsh 521 fol. 68 . This in spite of the fact that 23a māya contains an even larger interval.

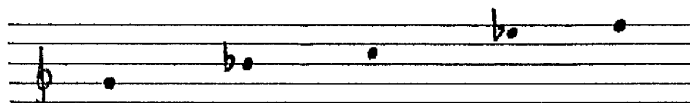
2 BM. MS. Or. 2361, fol. 133. Ṣafī al-Dīn nowhere mentions 9 : 8 in connection with buzurg.

3 BM. MS. Or. 136, fol. 10.

22b 'uzzāl¹ (Quṭb al-Dīn)

The former consists of 10 'irāq with a whole-tone above, the latter of 12 hijāzī with a whole-tone above. There are a number of such pairs in which a whole-tone notated by Ṣafī al-Dīn (in this case A♯ - B♯) corresponds to a larger than whole-tone interval in Quṭb al-Dīn's equivalent species. The relationship between them will be discussed in chapter 5.

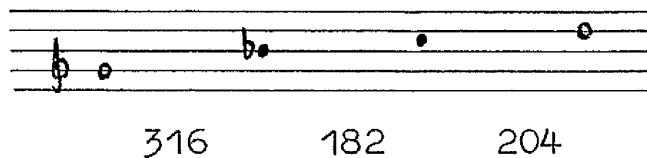
In the sharḥ 'uzzāl is an octave scale notated as G A^{-c} B^{-c} c d e^{-c} g♭ g, and it is possible that here, as with 20 buzurg, the notation A^{-c} - B^{-c} is a disguise for an interval larger than a whole-tone (A♯ - B). When dealing with scales not described by Ṣafī al-Dīn the sharḥ must however be approached with caution, and in later treatises 'uzzāl is stated to be a pentachord.² Al-Lādhiqī's version³ is identical with that in the durrat al-tāj.

23a māya (Ṣafī al-Dīn)

1 Sometimes written with ghayn. 'uzzāl is however the only form found in vocalized texts.

2 E.g. in the treatises of 'Abd al-Qādir and Ibn Jāmī.

3 BM. MS. Or. 6629, fol. 69v.

23b māya (Quṭb al-Dīn)

Ṣafī al-Dīn states that māya is characterized by a particular ascending and descending melodic movement.¹ Quṭb al-Dīn quotes this description,² but adds that the best-known compositions in māya, including those of Ṣafī al-Dīn, confine themselves to the notes of 23b. This may be considered the upper pentachord of a hypothetical extension of 23a to the octave.

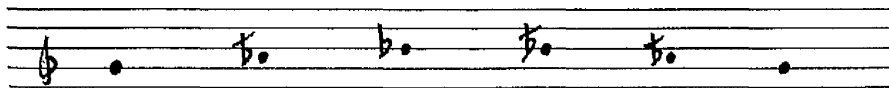
māya is the only example of a gapped or (in Ṣafī al-Dīn's version) pentatonic scale in the modal system of the period. It is therefore possible that it was an importation either from folk-music or from outside the specifically Arab and Persian cultural areas. A. A. Saygun suggests that its origin was "Turco-asiatic":³ if so it had certainly been fully integrated into the modal system of art-music by the mid-13th century, for Ṣafī al-Dīn includes it in one of the two most important groups of modes, the āwāzāt.

1 BM. MS. Or. 136, fol. 22v.

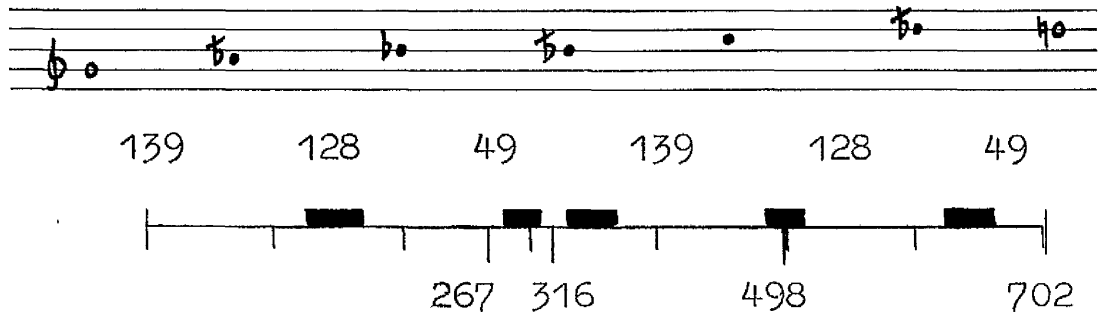
2 BM. MS. Add. 7694, fol. 233v.

3 "la musique turque" in Encyclopédie de la Pléiade: Histoire de la musique, i (Paris, 1960), 574.

24a shahnāz (Ṣafī al-Dīn)¹



24b shahnāz (Quṭb al-Dīn)



Ṣafī al-Dīn states that the type of melodic contour² found in 23a māya also serves to characterize 24a shahnāz as, indeed, the notation suggests. It is a specific melodic form of 1 zīrāfkand.

Quṭb al-Dīn's version reduplicates 1 zīrāfkand. Thus despite the prominence of tonic and fifth it is possible that the neutral third functioned as a melodic fulcrum, rendering the consonance of the fourth imperceptible as such. As a pentachord species 24b shahnāz is also unique in the number of intervals it contains. For these reasons it may be suggested, in explanation of Quṭb al-Dīn's later comment on the paucity of compositions in shahnāz,³ that the type of

1 BM. MS. Or. 136, fol. 21.

2 Ibid., fol. 22v.

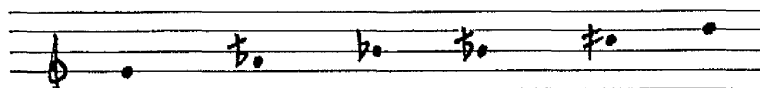
3 BM. MS. Add. 7694, fol. 234.

melodic movement specified by Ṣafī al-Dīn was too restricted to serve as a basis for extended composition, and that subsequent developments had not yet produced a stable and acceptable scale-structure. In support of this view one may cite the conflicting accounts of this mode to be found in later treatises.¹

The ratios of 24b shahnāz present an extreme example of the distortion that arbitrary theoretical analysis can bring about. The initial error of classifying 1 zīrāfkand as a species of minor third is made worse by repetition, so that while 24b is rightly listed as a pentachord, the sum of the ratios is an augmented fourth, and the natural fourth of the notation is placed at 455 cents.

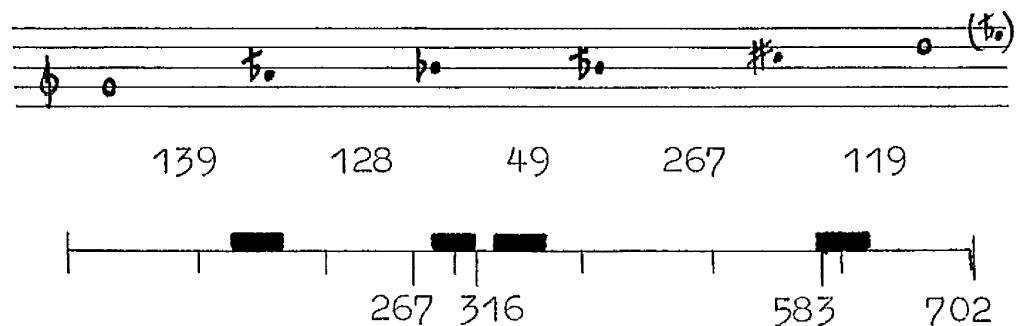
Because of the relationship between 24b shahnāz and 1 zīrāfkand the d^{-c} of the notation has been transcribed as $d\flat$ and not $c\sharp$.

25a (Ṣafī al-Dīn)²



1 Some reproduce Ṣafī al-Dīn's version. The jāmi' al-alḥān of 'Abd al-Qādir gives both 24a and 24b. The kanz al-tuḥaf has 24b omitting $d\flat$ (a variant omits d instead), and the kitāb al-fathiyya of al-Lādhiqī 24b omitting c . These changes may be viewed as attempts to normalize shahnāz as a pentachord (ignoring the variant in the kanz al-tuḥaf) by reducing the number of intervals to 5, the maximum elsewhere.

2 BM. MS. Or. 136, ff. 10-10v.

25b hiṣār (Quṭb al-Dīn)

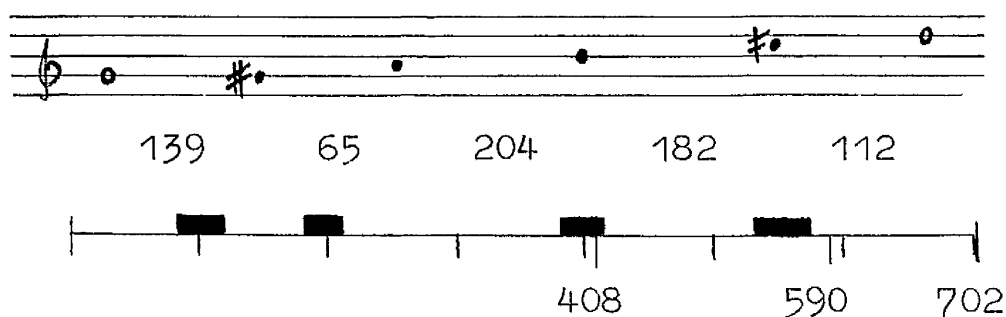
These may both be described as extensions of 1 zīrāfkand. The latter constitutes the upper pentachord of 58b hiṣār, the former of 58a zīrāfkand. The relationship between the two is underlined by Ṣafī al-Dīn, for in the risāla al-sharafiyya he defines by ratios a species with the intervals 128, 139, 49, 231, and 155 cents, and then adds that it is preferable to have in place of the 231 and 155 cent intervals a major whole-tone (204 cents) followed by a minor whole-tone (182 cents).¹ However, the mere fact that the former is first defined as a larger interval would seem to indicate that Quṭb al-Dīn's version is the more accurate.

Concerning the phrasing of hiṣār Quṭb al-Dīn elsewhere states that after descending to the lowest note (the final note in most modes), it is permissible to return to the upper note and to make slight use of the notes flanking it, thus

1 Bodleian MS. Marsh 521, ff. 65-65v.

affirming the particular character of this mode.¹ This implies that the range was more than a fifth, and the added $e\flat$ has been taken from the description of hiṣār in the kitāb al-faḥriyya.²

26 kardāniya



This species, as Ṣafī al-Dīn points out, relates to the tetrachord 8 rāst, adding a whole-tone below.³ But in no other pentachord is this whole-tone divided, and it may be assumed that 26 kardāniya has been simply abstracted from the octave scale 50 kardāniya (of which it forms the upper pentachord) for theoretical purposes. There is nothing to suggest that it was ever found except as part of this octave scale.⁴ Hence the notation of A^{-c} as $G\sharp$, and not $A\flat$. The

1 BM. MS. Add. 7694, fol. 240:

و طرف ائقل را محط سازد جز حصار که درو جایزست بعد از انتها بطرف
 ائقل اعادت نغمه احد وانتقالی خفیف بر نغمات حوالی او چه آن سبب
 رسوخ انفعال (؟ انتقال) مطلوب شود از آن پرده .

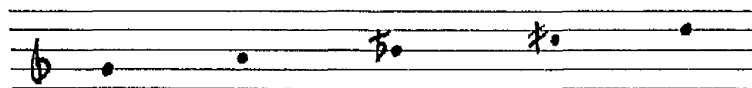
2 BM. MS. Or. 6629, fol. 68v. Al-Lādhiqī's account ($G A\flat B\flat B\flat c\sharp d e\flat d c\sharp d$) corresponds exactly to Quṭb al-Dīn's description.

3 BM. MS. Or. 136, ff. 10-11.

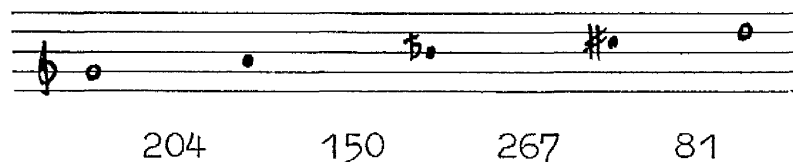
4 Cf. also the notes to the end of chapter 5 in the text of the kitāb al-adwār.

ratio values for the intervals within the lower whole-tone should be contrasted with the corresponding ones in 50 kardāniya.

27a (Ṣafī al-Dīn)¹

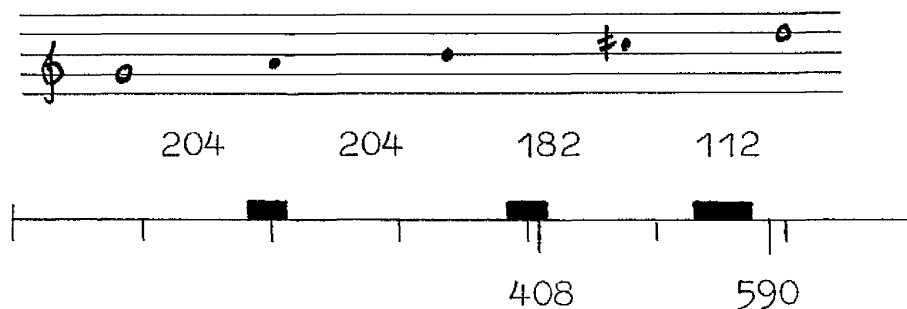


27b nīrīzī² (Quṭb al-Dīn)



These add a whole-tone below 10 'irāq and 12 hijāzī respectively. It is interesting to note that the descriptions of 27a found in later texts generally refer to hijāzī.³

28 has no name.



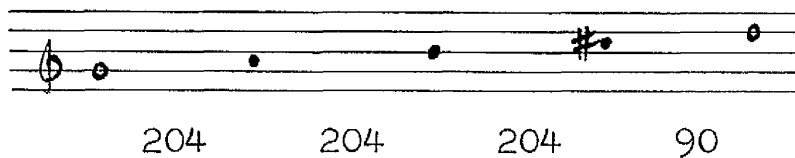
1 BM. MS.^{Or.} 136, fol. 10v.

2 Besides nyrzyzy other texts have nyrzy, nyrz, and nyrwz.

3 E.g. in the jāmi' al-alḥān and the anonymous treatise dedicated to Muḥammad b. Murād.

This adds an undivided whole-tone below 8 rāst and is the upper pentachord of 49 kardāniya.

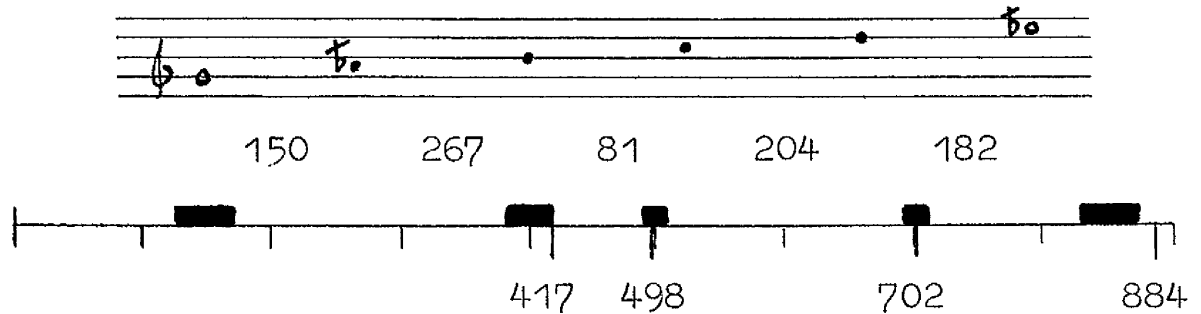
29 also unnamed: similar to the above.



In the same way 29 relates to the tetrachord 5 'ushshāq and the octave scale 52 variant of kardāniya.

species of major sixth (5 : 3)

30 has no name: similar to (22b) 'uzzāl; it may be called segāh wa hijāzī.



segāh is one of a set of terms (the others being dūgāh, chahārgāh and panjgāh) which receive their first mention in the durrat al-tāj and are frequently used, with a variety of acceptations, by later theorists. They may denote the first five notes of 40 rāst (and sometimes, by extension, the first five notes of any given scale) or they may relate to segments of the rāst scale starting, generally, from the fourth and comprising the number of notes indicated by the name.¹ Thus segāh designates here the notes c d e♭. These segments also form the bases of independent modes (shu'bas) and it is to them that these names are most commonly applied, denoting at the same time the most prominent note. In segāh, therefore, this will be e♭. This aspect is discussed more fully in the section on the shu'bas translated in chapter 7. hijāzī here refers to the tetrachord G - c, identical with 12 hijāzī.

1 dū - 2; se - 3; chahār - 4; panj - 5.

There are further instances below of the descriptive terminology exemplified by segāh wa hijāzī. The first term consistently relates to the upper section of the scale.

31 has no name: it may be called segāh wa ḥusaynī.

The musical notation for scale 31 consists of a staff with a treble clef and a key signature of one flat. The notes are G4, A4, Bb4, C5, and D5. Below the staff is a scale diagram with a horizontal line and vertical tick marks. The intervals are labeled with numbers: 112, 182, 204, 204, and 182. The cumulative positions are labeled as 294, 498, 702, and 884.

ḥusaynī is the pentachord 18 ḥusaynī (G - d), which here overlaps segāh.

30 and 31 have a range of a neutral, rather than a major, sixth.

32 rāhawī (Şafī al-Dīn)¹

The musical notation for scale 32 consists of a staff with a treble clef and a key signature of one flat. The notes are G4, A4, Bb4, C5, and D5.

33 rāhawī-yi tamām (Quṭb al-Dīn)

The musical notation for scale 33 consists of a staff with a treble clef and a key signature of one flat. The notes are G4, A4, Bb4, C5, and D5. A slur covers the last three notes (Bb4, C5, D5). Below the staff is a scale diagram with a horizontal line and vertical tick marks. The intervals are labeled with numbers: 150, 267, 81, 139, 128, and 119. The cumulative positions are labeled as 417, 498, 637, 765, and 884.

1 BM. MS. Or. 136, fol. 22.

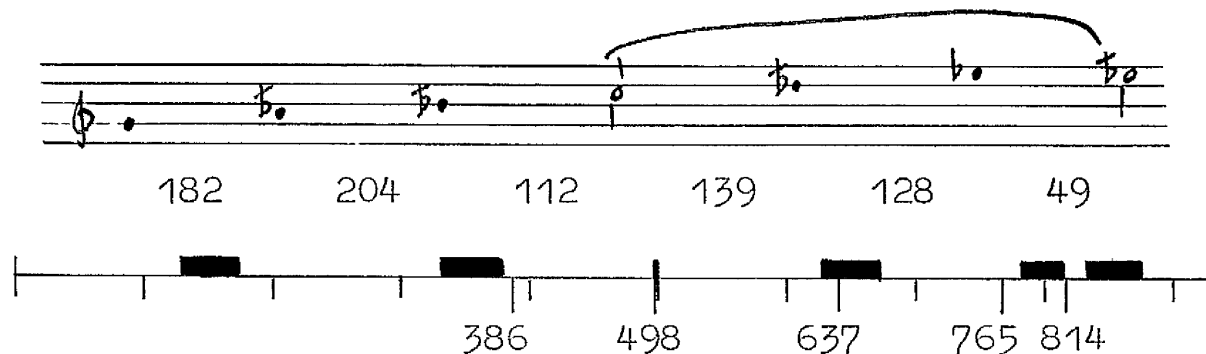
The prominent notes are either c alone, c and e, or G and e.¹ 32 consists of 10 'irāq below 18 ḥusaynī (c - g), and 33 of 12 ḥijāzī below 4 rāhawī (c - e). As the former is mentioned by nearly all later writers of the Systematist school it is rather surprising that Quṭb al-Dīn should have failed to include it among the octave scales. However, the appearance of 4 rāhawī in 33 rather than 32 would seem to suggest that it is Quṭb al-Dīn's version that represents the earlier stage in the historical development of this mode.² Against this it may be argued that 33 also contains 12 ḥijāzī which is not recognized by Ṣafī al-Dīn and might therefore be considered a development from, or substitute for, the 10 'irāq tetrachord of 32 rāhawī.

1 Quṭb al-Dīn adds that the last pair is "khilāf-i aṣl", presumably referring to the omission of c, which links the two elements.

2 Later treatises state that 4 rāhawī occurs in 32 rāhawī from B \flat to e \flat , but this is clearly incorrect - the specious justification is that these intervals are of the same class (J J J) as those in 4 rāhawī.

species of minor sixth (8 : 5)¹

34 işfahānak. It is also called kawāsht and basta.



This places 10 'irāq below the neutral third species
 1 zīrāfkand. Şafī al-Dīn nowhere mentions işfahānak or basta,
 but lists an octave scale 59a kawāsht which adds f[♯] and g to
 the above notes.² The sharḥ states that "(59a) kawāsht is
işfahānak",³ and it is not until the early 15th century that
 all three are distinguished. According to 'Abd al-Qādir 34,
 beginning on the upper note, is işfahānak; kawāsht is the
 octave scale described by Şafī al-Dīn; and the notes c d[♯]
 e^b e[♯] form the melodic nucleus of basta (nigār).⁴ B[♯], A[♯],
 and G may be added, but c remains the final note.

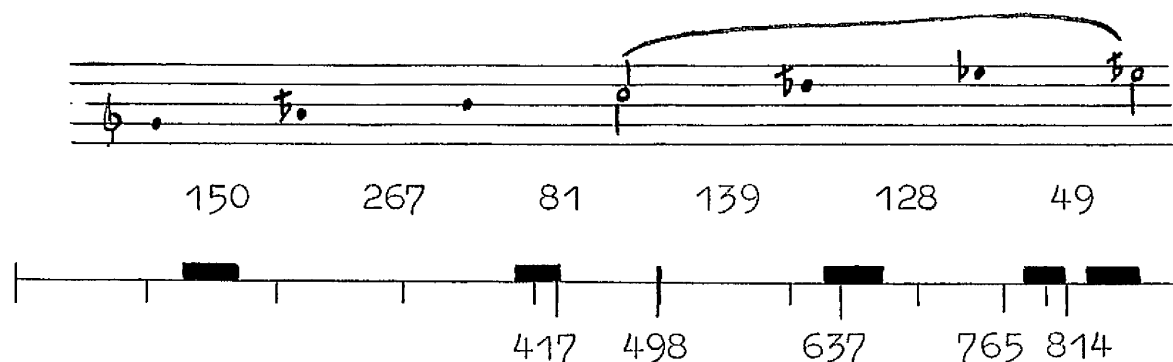
1 One would expect to find this section before the "species of major sixth". Oddly enough Quṭb al-Dīn's heading is, in full, "the remainder (bāqī) of the 8 : 5 species".

2 BM. MS. Or. 136, fol. 21.

3 BM. MS. Or. 2361, fol. 104v.

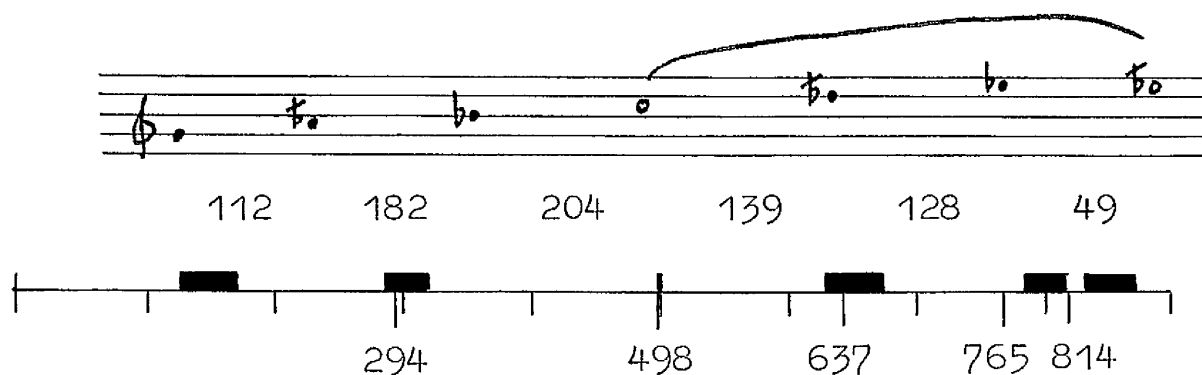
4 Bodleian MS, Marsh 282, fol. 46v.

35 variant of işfahānak: similar to the above.



This differs from the above in having 12 hijāzī in place of 10 'irāq. Hence the relationship between the two is the same as that between 22a and 22b, except that in this case both are listed by Quṭb al-Dīn. There are further examples below of Quṭb al-Dīn notating a larger than whole-tone interval where Şafī al-Dīn has a whole-tone, but nowhere else does he give both himself.

36 kūček-i tamām

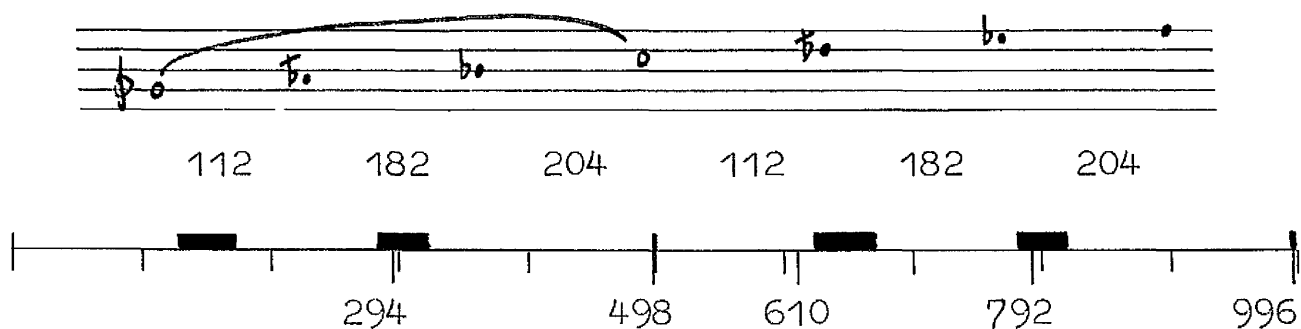


kūček is 1 zīrāfkand(-i kūček), placed here above 9 nawrūz (G - c). This mode appears to be peculiar to the durrat al-tāj.

Again, the range of 34, 35, and 36 is a neutral sixth, rather than a minor sixth.

species of minor seventh

37 nawrūz (Şafī al-Dīn)¹
nawrūz-i tamām (Quṭb al-Dīn)



37 consists of conjunct tetrachords, both being 9 nawrūz. Şafī al-Dīn also mentions a form of nawrūz in which the octave note is added,² but this may be disregarded since it coincides with 48 ḥusaynī; furthermore, no later writer recognizes it. The sharḥ states, quite sensibly, that 48 ḥusaynī (despite belonging to the most important group of modes) is derived from 37 nawrūz, and not the other way round.³ However, the disposition of the prominent notes according to Quṭb al-Dīn suggests that the relationship may be somewhat less straightforward.

1 BM. MS. Or. 136, fol. 21.

2 D'Erlanger, la musique arabe, iii, 135.

3 BM. MS. Or. 2361, fol. 115v.

38 has no name: similar to (22b) 'uzzāl; may be called chahārgāh wa hijāzī.

150 267 81 204 182 112

417 498 702 884 996

This consists of chahārgāh (see the comments on 30) above 12 hijāzī (G - c).

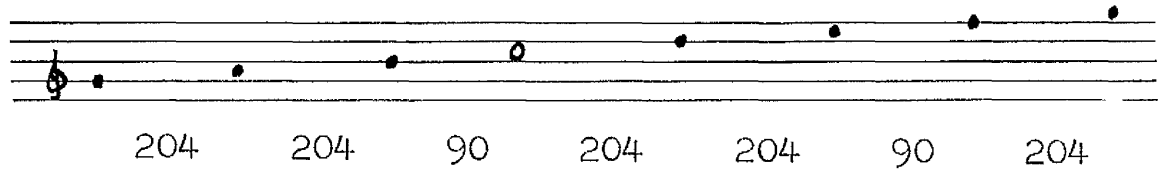
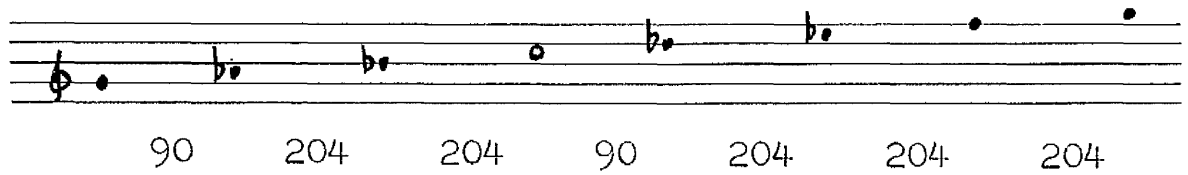
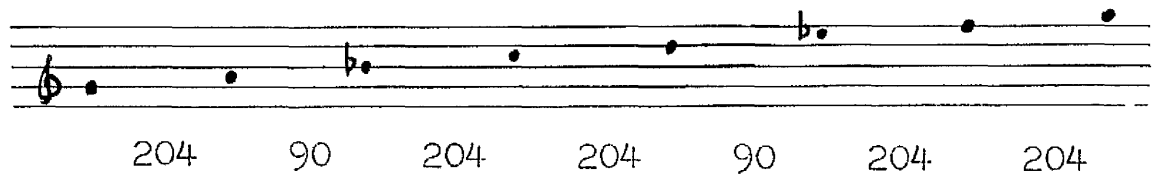
39 has no name: may be called chahārgāh wa iṣfahān.

139 128 119 112 204 182 112

267 386 498 702 884 996

The lower tetrachord is 11 iṣfahān. No other text lists 38 and 39.

octave species

40 'ushshāq5 'ushshāq below 13 'ushshāq (c - g).41 būsalīk6 būsalīk below 14 būsalīk (c - g).42 nawā7 nawā below 15 (c - g).

43 rāst

204 182 112 204 182 112 204

386 498 702 884 996

8 rāst below 16 rāst (c - g).

The above four are identical with their namesakes as notated by Şafī al-Dīn.¹

44 hijāzī (Şafī al-Dīn)

'irāq (Quṭb al-Dīn)

182 204 112 182 204 112 204

386 498 680 884 996

Şafī al-Dīn's notation of hijāzī may be misleading, especially with regard to the e♯. If this note was present, it was almost certainly not prominent, as in 'irāq.

Şafī al-Dīn's statements on hijāzī are a little confusing. He gives first 46a hijāzī G A♯ B♭ c d♯ e♯ f g.² Later,

1 BM. MS. Or. 136, fol. 22.

2 Ibid., fol. 20. This scale is also the one given later for hijāzī when the modes are defined in terms of lute tablature.

as a kind of postscript, he states: "For some hijāzī is [62a nihuft al-hijāzī] G A♭ B♭ c d e♭ f g; but what we have called hijāzī is 'irāq if f♯ is added [i.e. to hijāzī]¹". But according to Ṣafī al-Dīn 'irāq is G A♭ B♭ c d♭ e♭ f f♯ g:² thus for this remark to make sense there must be an alternative form either of 'irāq (G A♭ B♭ c d♭ e♭ f f♯ g) or of hijāzī (G A♭ B♭ c d♭ e♭ f g). The existence of the latter is confirmed in the risāla al-sharafiyya.³

45 'irāq (Ṣafī al-Dīn)⁴
variant of 'irāq (Quṭb al-Dīn)

182 204 112 182 204 112 119 85

386 498 680 884 996 1115

Some later theorists call this scale 'irāq and ignore 44. 'Abd al-Qādir lists both, calling 44 'irāq and 45 'irāq ma' al-baqiyya.⁵

1 Ibid., fol. 20v.

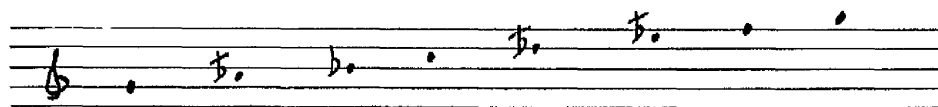
2 Ibid., fol. 22.

3 D'Erlanger, la musique arabe, iii, 135.

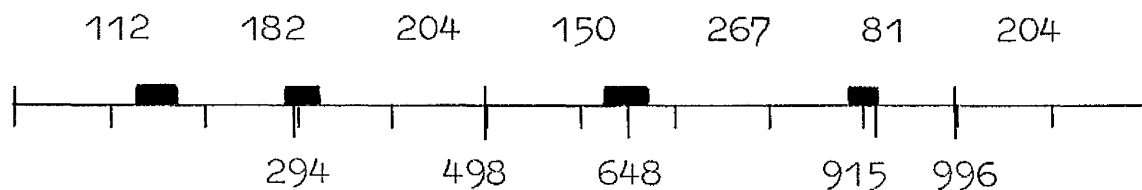
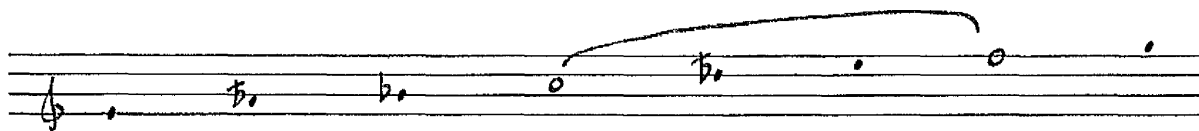
4 BM. MS. Or. 136, fol. 22.

5 Bodleian MS. Marsh 282, fol. 40v. His follower Jāmī also gives the same two scales as 'irāq.

46a hijāzī (Ṣafī al-Dīn)¹



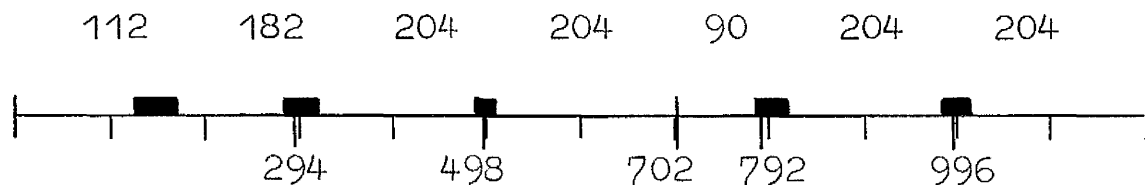
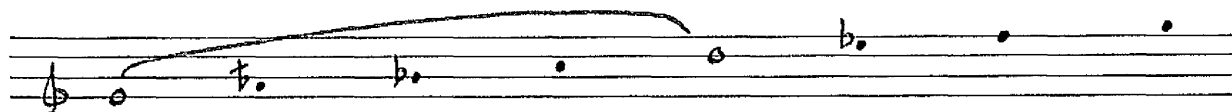
46b hijāzī (Quṭb al-Dīn)



46b may be divided into 9 nawrūz (G - c) and 22b 'uzzāl. The position of the prominent notes (which will be used as guides in other cases also) suggests, however, that it would be more meaningful to divide the upper pentachord into 12 hijāzī and a whole-tone rather than to consider it as a unit.

As expected, one finds in 46a 10 'irāq corresponding to 12 hijāzī in 46b.

47 husaynī



1 BM. MS. Or. 136, fol. 22.

18 ḥusaynī below 6 būsalīk (d - g). Quṭb al-Dīn is alone in considering this scale to be ḥusaynī.¹

48 ḥusaynī (Ṣafī al-Dīn)²
variant of ḥusaynī (Quṭb al-Dīn)

18 ḥusaynī above 9 nawrūz (G - c). This is the only form of ḥusaynī mentioned in treatises of the 14th and 15th centuries.

49 kardāniya

1 In the sharḥ (BM. MS. Or. 2361, fol. 104) 47 is called jānfazā. But this does not necessarily mean that it was in use at the time, for the name is probably personal to the author, being one of a set of fanciful descriptive terms applied to several consonant scales rarely, if ever, found in practice. However, the same work (*ibid.*, fol. 115v) does state that 47 is the scale from which rakbī (see chapter 7) is derived.

2 BM. MS. Or. 136, fol. 22. 48 constitutes the one case in which Quṭb al-Dīn's order has been disturbed.

8 rāst below 28 or, preferably, 8 rāst plus whole-tone plus 8 rāst.

50 kardāniya (Şafī al-Dīn)¹
variant of kardāniya (Quṭb al-Dīn)

204 182 112 92 112 204 182 112

386 498 590 702 906 1088

8 rāst below 26 kardāniya (q.v.), equivalent to 8 rāst plus whole-tone (divided) plus 8 rāst.

51 variant of kardāniya

204 204 90 204 204 182 112

408 498 702 906 1088

5 'ushshāq plus whole-tone plus 8 rāst.

1 Ibid., fol. 21.

52 variant of kardāniya

204 182 112 204 204 204 90

386 498 702 906 1110

8 rāst plus whole-tone plus 5 'ushshāq.

53 variant of kardāniya

204 204 204 90 204 204 90

386 498 702 906 1110

29 below 5 'ushshāq (d - g).

50 is the only form of kardāniya recognized by Ṣafī al-Dīn, and the only one to include the pentachord 26 kardāniya. It is likely that the other four derive from it. Each of them avoids the juxtaposition of c and c#, a feature otherwise found only in the pentachord 20 buzurg and the modes relating to it. The scale which results from omitting c in 50 is listed by Quṭb al-Dīn as 63 kardāniya nīrīzī.

A number of later theorists, headed by 'Abd al-Qādir,¹ assign the name kardāniya to 49, 50 being called kardāniya

¹ Bodleian MS. Marsh 282, fol. 49v.

zā'id.¹ By the 15th century, if not earlier, 51 was known
 as māhūr.² 52 and 53 appear only in the durrat al-tāj.

54 buzurg

128 231 139 128 76 204 182 112

359 498 626 702 906 1088

20 buzurg (q.v.) below 5 'ushshāq (d - g).

55 variant of buzurg

128 231 139 128 76 139 128 119 112

359 498 626 702 841 969 1088

20 buzurg below 11 iṣfahān (d - g).

1 The term zā'id clearly refers to the presence of the c#, even though this may not have been produced on the zā'id fret.

2 Ibid., fol. 51v. māhūrī in the sharḥ (BM. MS. Or. 2361, fol. 105v) has f# in place of f#. The same work calls 51 farah (ibid., fol. 118) and, equally capriciously, terms 49 bayḍā' (ibid., fol. 105v). In the anonymous treatise dedicated to Muḥammad b. Murād 51 is called niḥāwand (ibid., fol. 200v), a name usually applied to another scale.

56 variant of buzurg

20 buzurg below 12 hijāzī (d - g).

No other text mentions 55 and 56. Şafī al-Dīn lists 54 ¹buzurg, and later theorists follow him in notating this mode with B^{-c} (B \flat).

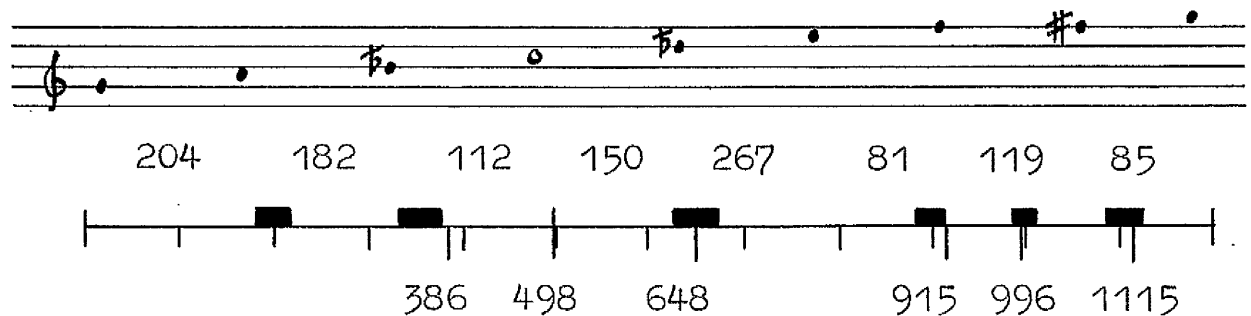
As with 50 kardāniya and its variants, it may be suggested that 55 and 56 represent attempts to obviate certain features of 54 buzurg. The nature of the problem and the reasons leading to the particular solutions adopted will be discussed in chapter 4.

57a zankūla (Şafī al-Dīn)

1 BM. MS. Or. 136, fol. 21.

2 zankūla is given without f \sharp in three places (BM. MS. Or. 136, ff. 20, 22, and 27v) and with f \sharp in one (ibid., fol. 21v).

57b zankūla (Quṭb al-Dīn): some people also call it nihāwand.



57a consists of 8 rāst plus 10 'irāq plus (divided) whole-tone. In Quṭb al-Dīn's version (in the notation of which the original g \flat has been rendered by f \sharp) 10 'irāq is, as one might expect, replaced by 12 hijāzī. With regard to the potential omission of f \sharp in 57a, it may be noted that it is not included in one of the two versions of zankūla in the kanz al-tuhaf.¹ This treatise also mentions nihāwand as an alternative name:² in most other texts of the 14th and 15th centuries the name nihāwand is however applied to a totally unrelated scale.³

Elsewhere Quṭb al-Dīn gives a further description of zankūla which suggests that the above are misleading alterations,⁴ and hence that 57b does not represent the mode

1 BM. MS. Or. 2361, fol. 257.

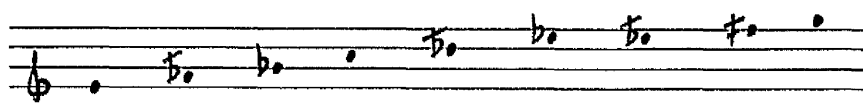
2 Ibid., fol. 258, where it is stated that this usage is found in Bukhara. It may therefore have been confined to East Persia and Transoxiana.

3 Al-Lādhiqī does however list a nihāwand ṣaghīr (BM. MS. Or. 6629, fol. 70) containing 12 hijāzī.

4 BM. MS. Add. 7694, fol. 234 (translated in chapter 7).

as he knew it, being no more than a slightly modified borrowing from Şafī al-Dīn. This alternative description will be referred to in chapter 4.

58a zīrāfkand (Şafī al-Dīn)¹



9 nawrūz below 25a (c - g).

58b hişār (Quṭb al-Dīn)

9 nawrūz below 25b hişār (c - g).

For ‘Abd al-Qādir hişār consists of the notes c d♭ e♭ e♭ f♯ g a♭ b♭,² while for al-Lādhiqī it includes only c d♭ e♭ e♭ f♯ g a♭.³ Because of the absence in later texts of any reference to 58b as hişār it may be suggested that Quṭb al-Dīn’s comments on the phrasing of this mode, which stress the prominence of the upper note, relate primarily to

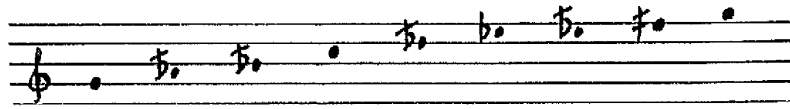
1 BM. MS. Or. 136, fol. 22.

2 Bodleian MS. Marsh 282, fol. 51.

3 BM. MS. Or. 6629, fol. 68v.

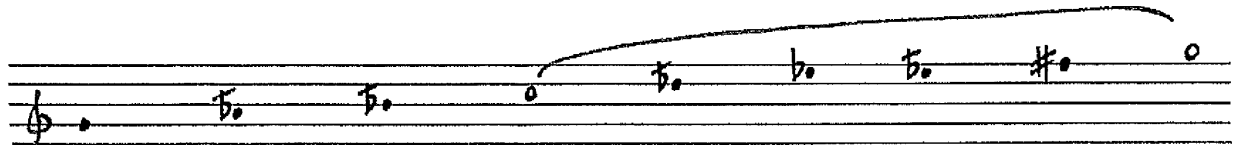
the pentachord 25b hişār, from which the later forms quoted are probably derived.

59a kawāsht (Şafī al-Dīn)¹

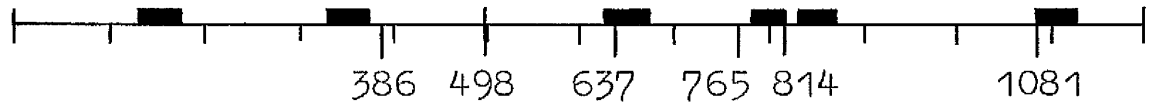


10 'irāq below 25a (c - g).

59b has no name: may be called hişār wa işfahānak (Quṭb al-Dīn).



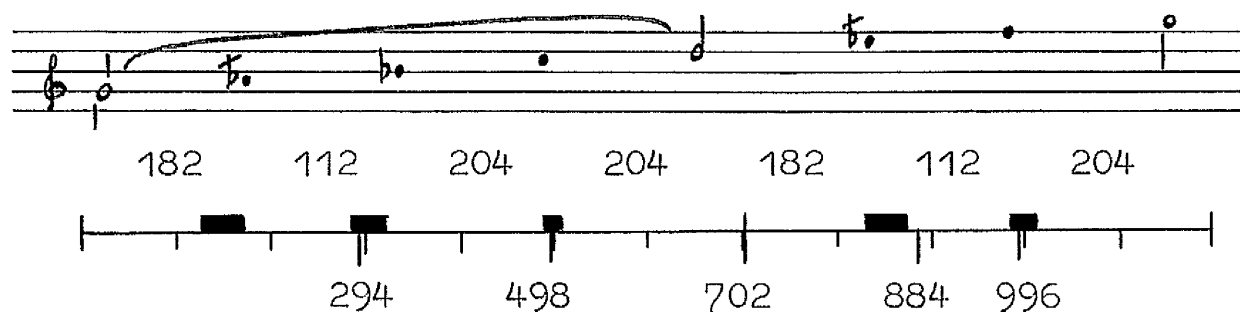
182 204 112 139 128 49 267 119



10 'irāq below 25b hişār (c - g).

Quṭb al-Dīn's descriptive terms overlap, 34 işfahānak comprising the notes from G to e \sharp , 25b hişār those from c to g. The position of the prominent notes suggests, however, that this mode had little in common with 34 işfahānak.

1 BM. MS. Or. 136, fol. 21.

60 muḥayyir ḥusaynī

Ṣafī al-Dīn mentions this mode only in the risāla al-sharafiyya.¹ From the name, and the prominence of the d, it would seem that this scale consisted of 18 ḥusaynī below 9 nawrūz (d - g), i.e. of parallel disjunct tetrachords. Alternatively, the order of interval sizes given in the ratios implies the analysis 9 nawrūz below 16 rāst (c - g). The example of notation in muḥayyir ḥusaynī (transcribed in chapter 8) suggests that both divisions are valid. The fact that only the latter is given by theorists of the Systematist school is without significance, for they do not admit the disjunct octave scale. It is possible that the epithet muḥayyir was applied to this mode precisely because of this ambivalence, on the one hand leading to 48 ḥusaynī (D - d) by way of the lower pentachord, and on the other to 43 rāst (c - c') by way of the upper pentachord.

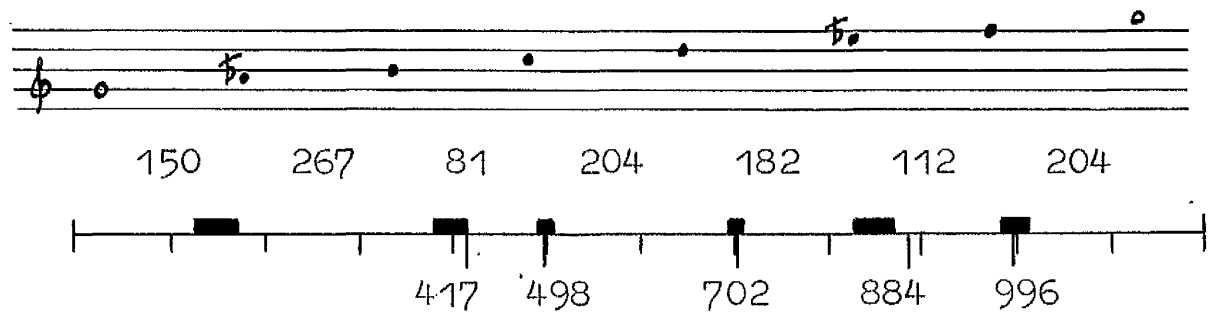
1 D'Erlanger, la musique arabe, iii, 136.

61 variant (of muḥayyir ḥusaynī): may be called muḥayyir zīrkesh.

There are again two possible divisions: 19 zīrkesh ḥusaynī below 9 nawrūz (d - g), or 11 iṣfahān below 16 rāst (c - g). Whichever is preferred, there is a difference in the ratio values which is indicative of the extent to which these could be determined by theoretical and/or analytical preconceptions: the values for the first four intervals of 19 zīrkesh ḥusaynī are identical with those of 11 iṣfahān; the corresponding intervals in 61 are however assigned quite different values relating to those already established for 60 muḥayyir ḥusaynī. In spite of this, it is doubtful whether 61 is derived from 60.

62a nihuft (al-ḥijāzī) (Ṣafī al-Dīn)¹

¹ Ibid. In the kitāb al-adwār (BM. MS. Or. 136, fol. 20v) 62a is referred to simply as ḥijāzī.

62b nihuft-i hijāzī (Quṭb al-Dīn)

62a is 22a below 9 nawrūz (d - g), or 10 'irāq below 16 rāst (c - g), while 62b is 22b 'uzzāl below 9 nawrūz or 12 hijāzī below 16 rāst.

The name is explained as meaning that this mode is derived from hijāzī in the 9th ṭabaqa (degree of transposition), i.e. B♯ - b♯. The reference must therefore be to 44 hijāzī which, in this position, is B♯ c d e♯ f g a♯ b♯. This derivation is however quite artificial, and there exists in any case a much simpler relationship between 62a and b and 46a and b respectively (46 being also hijāzī), the former pair emerging when the prominent fourth of the latter assumes the rôle of tonic.

62a is listed by 'Abd al-Qādir,¹ 62b by al-Lādhiqī.²

1 Bodleian MS. Marsh 282, fol. 51.

2 BM. MS. Or. 6629, fol. 70.

63 little known: may be called kardāniya nīrīzī.

204 150 267 81 204 182 112

354 621 702 906 1088

27b nīrīzī below 8 rāst (d - g). Al-Lādhiqī calls this mode nīriz kabīr.¹

64 little known.

204 182 112 204 150 267 81

386 498 702 852 1119

8 rāst (G - c) below 27b nīrīzī: the tetrachord and pentachord of the previous scale are reversed.

65 little known.

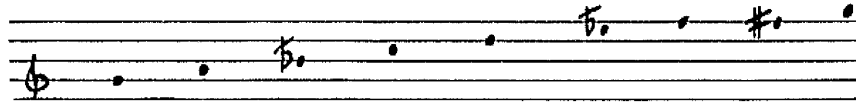
90 204 204 204 90 204 204

6 būsalīk below 15 (c - g) or, preferably, 14 būsalīk below 6 būsalīk (d - g).

1 Ibid.

In the sharḥ this mode is called wiṣāl and is stated to be in use among the Turks.¹ No other text lists the scale, or mentions the name.

66 iṣfahān (Ṣafī al-Dīn)²



67 iṣfahān (Quṭb al-Dīn)



66 and 67 appear at first sight to be quite unrelated. Yet elsewhere Quṭb al-Dīn makes it clear that he also recognizes 66 as iṣfahān, while 'Abd al-Qādir³ and, following him,⁴ Jāmī list both forms. 67 may be derived from 66 (or vice versa) through the sequence:

66	G	A	B \flat	c	d	e \flat	f	f \sharp	g	—————→
67	G	A \flat	B \flat	B	c	d	e \flat	f	g	—————→

1 BM. MS. Or. 2361, fol. 103.

2 BM. MS. Or. 136, fol. 22.

3 Bodleian MS. Marsh 282, fol. 40.

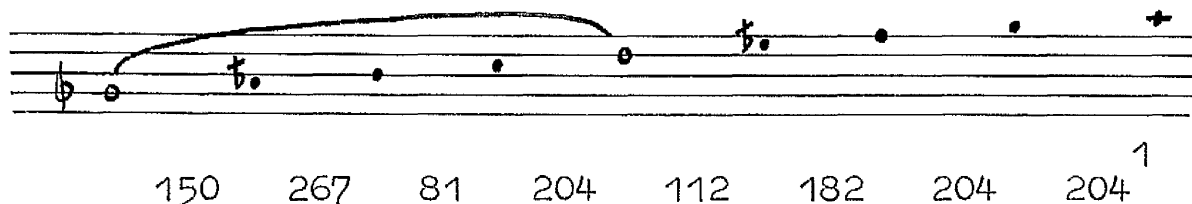
4 risāla-yi mūsīqā, fol. 442v.

67 G A♯ B♭ c d♯ e♭ e f g

in which the fifth (beginning from 66) or the fourth (beginning from 67) provides the tonic of each successive scale. But such a relationship would appear to be no less theoretical than those propounded by writers of the Systematist school, for 61, the middle term, is nowhere associated with iṣfahān. A much simpler and more convincing explanation is suggested by the placing of the prominent notes in 67. These embrace 11 iṣfahān from c to f, evidently the most important and characteristic segment of the mode. It would be reasonable to assume that in 66 too 11 iṣfahān (d - g) was prominent, and that therefore the two forms were differentiated simply by the direction in which they extended to the octave from an original form consisting of just two conjunct tetrachords (A - g in 66, G - f in 67). Hence we may describe 67 as 9 nawrūz plus 11 iṣfahān plus whole-tone, and 66 as whole-tone plus 9 nawrūz plus 11 iṣfahān.

species of octave plus whole-tone

68 has no name



22b 'uzzāl plus 18 ḥusaynī (d - a), resolvable into
9 nawrūz (d - g) plus whole-tone.

All later theorists define modal structures in terms of the octave or some lesser interval, as does Ṣafī al-Dīn. From this one naturally assumes that, as in 70 - 72, the same notes would be repeated at the octave if a mode were extended beyond that limit. It is therefore interesting to find in 68 evidence that this did not necessarily always happen. Non-repetition of notes at the octave, or more correctly substitution of a different species (usually tetrachord), is a common feature of the modern Arab maqām.

¹ For the diagrammatic presentation of the intervals add a whole-tone above 62b.

species of octave plus tetrachord

69 nihuft-i kāmīl



182 204 112 150 267 81 204 182 112 204¹

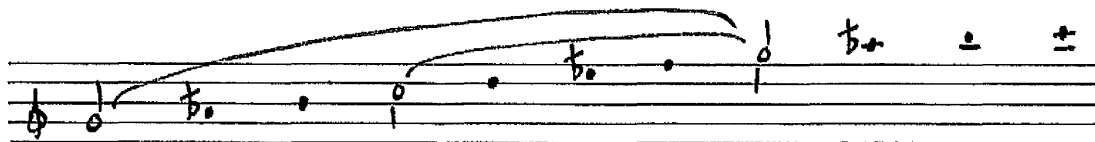
10 'irāq below 62b nihuft-i hijāzī (c - c').

Under the heading nihuft-i kāmīl Quṭb al-Dīn lists two scales: the notation (with which the designation of interval sizes by the symbols B J Ṭ H² agrees) is given below as 70, while the ratios are those of 69. The notation of 69 has therefore been derived from the ratios. It is not clear to which scale the prominent notes indicated belong and so they have been shown in both.

Because of this confusion one might question whether both these scales existed. This is unfortunate in that 69 would provide evidence even more conclusive than that of 68 with regard to the possibility of extending the range of modes by adding different species as well as by simple repetition at the octave.

1 For the diagrammatic presentation of the intervals combine 10 and 62b.

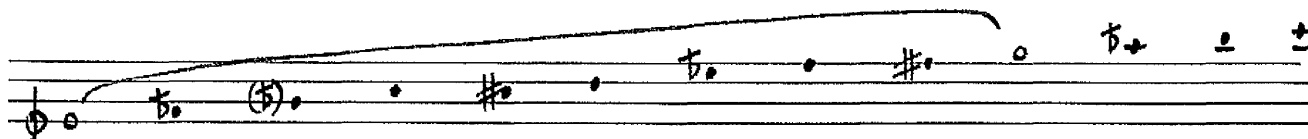
2 H designates a larger than whole-tone interval.

70 nihuft-i kāmīl

62b nihuft-i hijāzī below 12 hijāzī (g - c').

It may be of interest to compare these conflicting accounts (? or variants) of the same mode with the modern Egyptian maqām nihuft, in which the following notes occur:

	D	E♭	F	G	A♭	B	c	d	e♭	f	g	a♭	b♭	c'	d'	¹	
(69	D	E♭	F♯	G	A♭	B	c	d	e♭	f	g						
70				G	A♭	B	c	d	e♭	f	g	a♭	b	c')			

71 type of buzurg-i kāmīl

128 231 139 128 76 139 128 119 112 119 267 112²

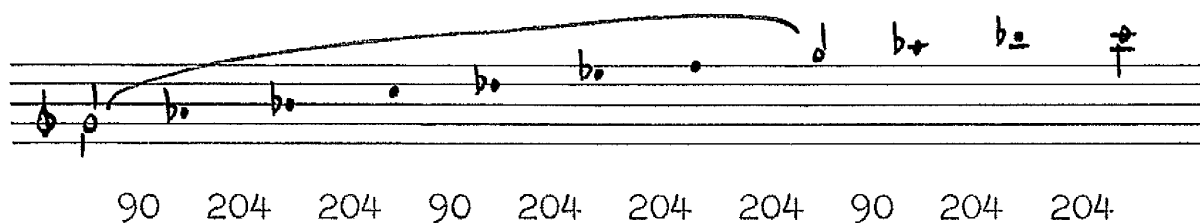
55 variant of buzurg below 12 hijāzī (g - c'). The difference between the ratios for the upper tetrachord and

1 Variation is possible (indeed necessary) in the tetrachord G - c. If nihuft is on D the note corresponding to yakāh will be C, not G. See Sāmī al-Shawwā, al-qawā'id al-fanniyya fī al-mūsīqā al-sharqiyya wa'l-gharbiyya, 29; and D'Erlanger, la musique arabe, v, 142.

2 For the diagrammatic presentation of the intervals combine 55 and 12.

those for 12 hijāzī probably results from an attempt to make the values of the latter conform more closely to the ratio values assigned to the corresponding intervals in the lower octave. The heading implies that the other forms of buzurg might be similarly extended.

72 būsalīk



41 būsalīk below 6 būsalīk (g - c').

It is probable that no especial importance attaches to the inclusion in this list of 71 and 72, and that most other modes could be extended beyond the octave if the performer so desired.

One mode mentioned by Şafī al-Dīn, salmak, has been omitted from the above list. It will be referred to in parts 2 and 3.

part 2

chapter 3

It is evident that there are a number of differences between Şafī al-Dīn's account of the modal system and that presented in the durrat al-tāj. Apart from any historical or geographical considerations, this fact alone renders it imperative to deal with the two separately, at least in the initial stages of enquiry. We may begin with that of Şafī al-Dīn which is, conveniently enough, the smaller as well as the earlier.

In all, Şafī al-Dīn mentions 20 mode-names, 16 of which relate to octave scales (in the case of ḥijāzī one name is appended to two scales). Of the others three ((23a) māya, (24a) shahnāz, and salmak) designate modes characterized by particular melodic features. These will be discussed in chapter 7. Here we shall be concerned primarily with the octave scales plus the remaining mode, 37 nawrūz, and an attempt will be made to ascertain what, if anything, they have in common and hence to define the principles underlying the structure of that part of the modal system they represent.

In addition, Şafī al-Dīn mentions 21 of the 29 species of third, fourth, and fifth. As the comments on the octave

scales show, these species may be thought of as the component parts from which more extended scales are formed. But here a distinction must be maintained between those which owe their existence to the requirements of a sometimes arbitrary method of scale analysis and are mere theoretical abstractions, and those which may be said to exist independently of the scales in which they occur. It is the latter which form, in effect, the raw material from which the system is constructed, and as such they demand separate consideration.

We may begin, however, by examining the particular groupings of modes recognized by Ṣafī al-Dīn. The two main groups are the shudūd and the āwāzāt, comprising between them 18 modes. We are further informed that a number of scales are called murakkabāt, although only one example is given. Finally, two of the modes he lists are not assigned to any of the above and may be held, provisionally, to belong to a fourth category. (Quṭb al-Dīn discards these categories, at least in the form established by his predecessor, and attempts to classify scales along different lines. Most later theorists, however, adhere to them and reproduce Ṣafī al-Dīn's version of the shudūd and the āwāzāt, which were evidently thought to embody the most significant part of the

modal repertoire.¹)

Of these categories that of the shudūd is by far the largest, comprising 12 modes and, since for one of these two forms are mentioned, 13 of the 18 scales under consideration. They are divided by Ṣafī al-Dīn into three sub-groups, each being associated with a particular emotion or set of emotions which the modes in it are thought to evoke. The sub-groups are:

(a)	40	<u>'ushshāq</u>	G	A	B	c	d	e	f	g
	41	<u>būsālīk</u>	G	A \flat	B \flat	c	d \flat	e \flat	f	g
	42	<u>nawā</u>	G	A	B \flat	c	d	e \flat	f	g

said to inspire strength (quwwa), courage (shajā'a), and pleasure (baṣṭ)

(b)	43	<u>rāst</u>	G	A	B \sharp	c	d	e \sharp	f	g
	45	<u>'irāq</u>	G	A \sharp	B \sharp	c	d \sharp	e \sharp	f	f \sharp g
	66	<u>iṣfahān</u>	G	A	B \sharp	c	d	e \sharp	f	f \sharp g

said to inspire refined pleasure (baṣṭ laḥḥīdh laṭīf)

¹ It is likely that their continuing importance two centuries later may be ascribed to other factors as well, notably the tradition of extra-musical associations to which these groups were particularly subject, and the almost canonical stature that Ṣafī al-Dīn's writings acquired. Although he was criticized on certain points, his versions of these modes were reproduced unquestioningly down to the end of the 15th century, by which time they had long since ceased to accord fully with actual practice.

(c) 32 <u>rāhawī</u>	G	A♭	B♭	c	d♭	e♭	f	g
46a <u>hijāzī</u>	G	A♭	B♭	c	d♭	e♭	f	g
?and/or 44 <u>hijāzī</u>	G	A♭	B♭	c	d♭	e♭	f	g
48 <u>ḥusaynī</u>	G	A♭	B♭	c	d♭	e♭	f	g
54 <u>buzurg</u>	G	A♭	B(♭)c	c♯	d	e	f♯	g
57a <u>zankūla</u>	G	A	B♭	c	d♭	e♭	f (f♯)	g
58a <u>zīrāfkand</u>	G	A♭	B♭	c	d♭	e♭	e♭	f♯ g

said to inspire sadness (ḥuzn) and languor (futūr)¹

In (b) Ṣafī al-Dīn also includes 37 nawrūz G A♭ B♭ c d♭ e♭ f, although it is not one of the shudūd.

One might be tempted to dismiss this classification as subjective. It is a simple reflection of the doctrine of ethos which had previously been presented with complex ramifications in the treatises of al-Kindī and the rasā'il of the Ikhwān al-Ṣafā', and which reappears with equal profusion in a number of post-13th century musical texts. However, it is clear that these sub-groups may also be related to certain aspects of scale-structure. For instance, (a) consists of diatonic scales, (b) and (c) of non-diatonic or Zalzalian² scales. Further, if one disregards the division

1 Given in the kitāb al-adwār, chapter 14, fī ta'thīr al-naghām (BM. MS. Or. 136, ff. 37v-38). Compare the three-fold classification in Mas'ūdī, murūj al-dhahab, viii, 96, and a further such division, although based on different principles, in Kaykā'ūs, qābūs-nāma, 111.

2 We shall term all species and scales containing neutral intervals Zalzalian, whether or not the wuṣṭā zalzal itself would have been used to produce them.

of the upper whole-tone in 45 'irāq and 66 iṣfahān,¹ it will be seen that all the scales in (a) and (b) can be analysed in terms of parallel conjunct tetrachords while most of those in (c) cannot. We may expand these statements and say that

- (a) contains only scales with parallel conjunct diatonic tetrachords
- (b) contains only scales with parallel conjunct Zalzalian tetrachords (plus, in two cases, a divided disjunctive whole-tone). 37 nawrūz is also of this type.
- (c) however comprises
 - (i) scales with parallel conjunct Zalzalian tetrachords (44 ḥijāzī and 48 ḥusaynī)
 - (ii) scales with non-parallel conjunct Zalzalian tetrachords (32 rāhawī, 46a ḥijāzī and 57a zankūla)
 - (iii) scales with a Zalzalian tetrachord and pentachord (54 buzurg and 58a zīrāfkand)

Thus the major difficulty in attempting to equate Ṣafī al-Dīn's divisions with a structural distinction relating to the nature and distribution of the species in these scales is

¹ In the present chapter, which is primarily a discussion of the modal categories according to Ṣafī al-Dīn, the analysis of iṣfahān given by him has been assumed to be valid since, clearly, it may have influenced the choice of the sub-group to which this mode is assigned. Although there can be little doubt that his analysis obscures the relationship between 66 and 67, which was surely crucial to the identity of the mode, it may nevertheless reflect the assimilative pressure exerted by 43 rāst.

that there is no apparent reason to justify the inclusion of (i) in (c) rather than (b). However, it is likely that when defining these sub-groups (in which the mode-names are listed without any notation) Ṣafī al-Dīn used the name ḥijāzī to refer specifically to 46a ḥijāzī, which has non-parallel tetrachords and is the only form of this mode cited by later authorities as in current use. Also it could be suggested that the placing of 48 ḥusaynī in (c) is attributable to a desire to differentiate it from the almost identical 37 nawrūz in (b). It is interesting to note here that the sharḥ makes certain reservations with regard to the emotional content of ḥusaynī and ḥijāzī (although this presumably means 46a ḥijāzī¹), stating that the sadness and languor they inspire is tempered by a certain gaiety.² Thus they could be thought of as a separate class between (b) and (c). The sub-groups according to the sharḥ therefore become

(a) 40 'ushshāq, 41 būsalīk, 42 nawā

(b) 43 rāst, 45 'irāq, 66 iṣfahān (and 37 nawrūz)

intermediate: 46a ḥijāzī, 48 ḥusaynī

(c) 32 rāhawī, 54 buzurg, 57a zankūla, 58a zīrāfkand

The sharḥ also draws attention to the structural relationship between the modes in each sub-group, but

1 Since the sharḥ calls 44 "the ḥijāzī of the ancients" (BM. MS. Or. 2361, fol. 104v).

2 Ibid., fol. 149v.

expresses this in a slightly different way. Mention is made not of the parallel/non-parallel distinction drawn above, but solely of the type of species involved. Each sub-group is characterized by one particular type occurring in all of its modes, the types being in

- (a) diatonic species
- (b) strong non-diatonic species, i.e. Zalzalian tetrachords containing not more than three intervals
- (c) with the exception of ḥusaynī and ḥijāzī: isolate species (ajnās mufrada), viz. 4 rāhawī G A♭ B♭ B, 20 buzurg G A♭ B(♭) c c♯ d, and 25a G A♭ B♭ B♭ c♯ d¹

But this classification breaks down at the same point:

ḥusaynī and ḥijāzī have to be excluded from (c), and according to the criteria given could be included in (b). In addition, as has been noted, the identification of 4 rāhawī with a segment of 32 rāhawī G A♭ (B♭ c d♭ e♭) f g is quite unconvincing and is certainly of no importance as far as practice is concerned. As a result, the definition offered of the common factor in (c) may be dismissed as an example of over-simplification as well as of ingenuity, and the problem of elucidating the nature of the differences between the modes in (b) and those in (c) remains unresolved.

1 Ibid.

If, however, we accept that husaynī and hijāzī form an intermediate category, it becomes possible to reformulate the first set of definitions and provide a clear-cut distinction between the two, for we may now say that while

- (b) contains Zalzalian scales with parallel conjunct tetrachords,
- (c) contains Zalzalian scales which either do not have parallel tetrachords, or cannot be divided into conjunct tetrachords.

With only these criteria it is however impossible to give a satisfactory explanation for the separate status of 48 husaynī and (presumably 46a) hijāzī. For 48 husaynī one must revert to the argument, proposed above, that it was felt undesirable to include it in the same sub-group as the very similar 37 nawrūz. If however 46a hijāzī is examined from a different standpoint, namely that of the number of intervallic consonances (fourths and fifths) it contains, it transpires that it does occupy an intermediate position between the modes in (b) and the modes with conjunct tetrachords in (c). This aspect will be dealt with more fully below.

Finally it may be pointed out that while Ṣafī al-Dīn's classification is based primarily on the type of species and the arrangement of the species within the octave, no importance is attached to the arrangement of the intervals within the species. Thus the modes in (a) show that the variations in

emotional content which in the West would be associated with the contrast of major and minor thirds (and sixths) were either not perceived, or were regarded as insignificant: it is the size of the intervals within the species that matters, not their disposition.

Given that the sub-groups are determined by features of intervallic organization, it may be asked what this tells us about the shudūd as a whole: notably, is there any reason why these particular modes should be classed together and separated from the other four octave scales mentioned by Ṣafī al-Dīn? The similarity between the modes in (a) and those in (b) is obvious: all are analysed as having parallel conjunct tetrachords. But what do they have in common with those in (c)? If, following Ṣafī al-Dīn's own approach, we continue to think in terms of conjunct tetrachords, affinities may be found between the modes in (a) and (b) and four of the others:

32 <u>rāhawī</u>	G	A♯	B♯	c	d♯	e♭	f	g
46a <u>ḥijāzī</u>	G	A♯	B♭	c	d♯	e♯	f	g
(?and/or 44 <u>ḥijāzī</u>	G	A♯	B♯	c	d♯	e♯	f	g)
48 <u>ḥusaynī</u>	G	A♯	B♭	c	d♯	e♭	f	g
57a <u>zankūla</u>	G	A	B♯	c	d♯	e♯	f	(f♯) g

although in 32 rāhawī, 46a ḥijāzī, and 57a zankūla the tetrachords are non-parallel. The remaining two shudūd, however,

54	<u>buzurg</u>	G	A♭	B(♭)	c	c♯	d	e	f♯	g
58a	<u>zīrāfkand</u>	G	A♭	B♭	c	d♭	e♭	e♭	f♯	g,

do not fit into this pattern. With the latter one can see a certain similarity, in the partial parallelism at the fourth (G A♭ B♭/c d♭ e♭), to the modes of (a) and (b), but 54 buzurg has neither parallelism nor conjunct tetrachords.

At this stage, therefore, it would appear that there are no sufficiently distinctive common features to justify isolating these particular 12 (or 13) scales. Any general statement of the type: the shudūd are octave scales which may be resolved into conjunct tetrachord plus whole-tone or into tetrachord and pentachord is far too vague, being in fact valid for all the octave scales listed by both Ṣafī al-Dīn and Quṭb al-Dīn. In addition, to anticipate once more, there do not seem to be any features of consonance shared by the shudūd which could be added to the above definitions to form the basis of a structural definition precise enough to exclude other existing octave scales. According to the criteria laid down by Ṣafī al-Dīn,¹ 60 muḥayyir ḥusaynī is as consonant as any of the Zalzalian scales and considerably more consonant than 54 buzurg.

The contrast between the structure of 54 buzurg (and to a lesser extent of 58a zīrāfkand) and the other scales provokes

¹ BM. MS. Or. 136, ff. 11v-12.

a further question: why should there have been 12, and not 10 or 11 shudūd? Here it is likely that extra-musical factors were involved. In all probability a group of 12 was chosen as a significant entity because of the wide range of macrocosmic associations that had crystallized around the signs of the Zodiac.¹ It may also be noted that 12 is a multiple of 4, the number of the strings of the lute² which, from al-Kindī onwards, had been linked with several sets of phenomena or concepts arranged in fours (e.g. the humours, seasons, elements). The choice of these particular 12 modes should probably not be ascribed to Ṣafī al-Dīn,³ but rather to a gradual selection process of an instinctive, not conscious, nature. By the mid-13th century, if not before, the process had been completed, and it is evident from the way they are presented in the kitāb al-adwār that the shudūd were regarded as the nucleus and most essential part of the modal repertoire.

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- 1 It is true that neither Ṣafī al-Dīn nor Quṭb al-Dīn mention this aspect, but this is to be attributed to the primarily scientific nature of their approach (cf. the relevant passages in the introduction). Several later writers, especially those not strictly concerned with expounding the doctrines of the Systematist school, delight in listing whole series of such correspondences, and it is certain that they were felt to be of importance during the 13th century too.
- 2 Long before the 13th centuries the number had been increased to five, but the significance of the four as a set remained just as strong.
- 3 Had he chosen them, one would not expect to find the hesitation over the form of ḥijāzī which the kitāb al-adwār betrays.

Hence it may be assumed that all were well-known and frequently performed. But there were others apparently equally popular, and so it is still not clear how these were chosen - which brings us back to the original problem of finding distinctive common features among the shudūd or, less positively, criteria of differentiation with regard to the other modal categories.

Of these the most important is the class of āwāzāt, made up of the following six modes:

50	<u>kardāniya</u>	G	A	B♭	c	c♯	d	e	f♯	g
59a	<u>kawāsht</u>	G	A♭	B♭	c	d♭	e♭	e♯	f♯	g
37	<u>nawrūz</u>	G	A♭	B♭	c	d♭	e♭	f		
23a	<u>māya</u>	G	B♭	c	e♭	f				
24a	<u>shahnāz</u>	G	A♭	B♭	B♭	A♭	G			
	<u>salmak</u>	G	A	B	c♯	d	e♯ ¹			

Here one is faced by a multiplicity of scale-types, a fact which in itself could be considered a justification of the attempt to detect some kind of structural unity among the shudūd. Indeed, the only reason for forming these six modes into a set - apart from any extra-musical factors that might be involved - would appear to be the totally negative one that in contrast to the shudūd no common features are in evidence.

1 BM. MS. Or. 136, fol. 21 (transposed from c).

With the exception of 37 nawrūz the non-octave āwāzāt will be discussed in chapter 7. It may however be noted that in comparison with the other scales listed by Ṣafī al-Dīn they are all unique structures: 23a māya is the only example of a transilient scale;¹ salmak apparently omits the fourth;² and 24a shahnāz has a range of a mere neutral third, being in effect a melodically limited variation of 1 zīrāfkand. Such anomalies, given that they may be viewed as such within the context of an overall system, would tend to be eliminated, and it is therefore of interest to find Quṭb al-Dīn giving a substantially different account of these three modes.

In contrast, the other three āwāzāt appear to have much in common with the shudūd. But paradoxically it is probably 37 nawrūz G A♭ B♭ c d♭ eb f, the non-octave scale, which stands the closest, although it is by no means just an incomplete form of 48 ḥusaynī G A♭ B♭ c d♭ eb f g. It is true that an equal, if not greater, degree of similarity would appear to obtain between 59a kawāsht G A♭ B♭ c d♭ eb e♭ f♯ g and 58a zīrāfkand G A♭ B♭ c d♭ eb e♭ f♯ g. However, the evidence provided by Quṭb al-Dīn in 34 iṣfahānak (or kawāsht) G A♭ B♭ c d♭ eb e♭ suggests that

1 Oddly enough the G - B♭ interval in māya was later increased to G - B♭. This may perhaps be explained as an assimilation to the rāst scale, but it is nevertheless extraordinary that the third (whether minor or neutral) should have remained undivided.

2 Taking Quṭb al-Dīn's description of salmak into account it is difficult to determine if any one note should be regarded as the tonic, and if so which.

basically this mode was not an octave but a neutral sixth in range, and that the form given by Şafī al-Dīn is a theoretical levelling by analogy with 58a zīrāfkand. Although not conclusive support, it is interesting to note that the melody in kawāsht presented in the kitāb al-adwār contains only the notes from A♯ to e♯ (inclusive).¹ 50 kardāniya G A B♯ c c♯ d e f♯ g on the other hand in undoubtedly an octave scale: but it is also unique, for it has disjunct tetrachords with between them a divided whole-tone (whereas in 54 buzurg G A♯ B(♯) c c♯ d e f♯ g the intervals c - c♯ and c♯ - d² are integral parts of a pentachord). The large number of variant forms listed by Quṭb al-Dīn for kardāniya (49, 51 - 53) suggest that this was felt to be unusual and tended to be avoided.

It would be unwise to ascribe a source to a particular modal form on the evidence of its name alone. Nevertheless it should be noted that both the term āwāz and the names of the six modes in the group are of Persian derivation. Unfortunately only one of these, nawrūz, is to be found in earlier lists of Persian melody- or mode-names, and even here there is no guarantee of continuity with regard to the modal form itself.³ Hence there is no way of telling whether or not

1 Transcription in chapter 8.

2 See also the comments on 20 buzurg and 26 kardāniya.

3 Cf. also the suggestion of a Turkish rather than Persian origin for 23a māya (q.v.).

the āwāz group was formed before that of the shudūd, which have mixed Arabic and Persian names. The only thing that can be stated with any certainty is that the numerical relationship of the 6 āwāzāt to the 12 shudūd was of some significance, although as was to be expected neither Ṣafī al-Dīn nor Quṭb al-Dīn refer to this. It was left to later writers to expatiate on the extra-musical correspondences between the two sets. The āwāzāt were sometimes held to be derived from the shudūd, and sometimes to be their origin, the former view being the more widely accepted. The various groupings made relate not to intervallic similarities or the way the species are arranged but to the already established cosmological affiliations of each mode.

The third category of modes according to Ṣafī al-Dīn, or rather potential category since only one example is given, is that of the murakkabāt.¹ This is a technical term by which scales are defined according to their constituent tetrachords and pentachords, and in theory could be applied to any of the octave scales discussed above: thus 43 rāst G A B♯ c d e♯ f g is a murakkab of the tetrachord 8 rāst and the pentachord 16 rāst, while 58a zīrāfkand G A♯ B♭ c d♯ e♭ e♯ f♯ g is a murakkab of 9 nawrūz and the pentachord 25a. Treatises sometimes devote a certain amount of space to

1 BM. MS. Or. 136, fol. 22v.

discussing the propriety of using this method as an alternative description for modes which already have a name.¹ At a later period the term murakkab, or rather the related form tarkīb, is used to designate a number of modes outside the previously established groups of shudūd and āwāzāt. For Ṣafī al-Dīn, however, murakkab is merely an adjunct to the vocabulary of theoretical analysis, and in the 13th century there was no such class of modes. The example given to illustrate this category is according to some manuscripts

G A♭ B♭ c d♭ e♭ e f g

and according to others

G A♭ B♭ c d e♭ f f♯ g.

The accompanying description ("a combination of iṣfahān and hijāzī") could be applied to either, but the former is the more likely. In any case it is probably no more than a hypothetical example. Ṣafī al-Dīn attaches no name to it and says nothing to suggest that it might have been used in practice. Neither scale is included in the lists of modes found in later texts,² and in the sharḥ the former is dismissed

1 An example (which also quotes Ṣafī al-Dīn's remarks on the subject) may be found in the passage from the durrat al-tāj translated in chapter 7.

2 Including Ṣafī al-Dīn's own risāla al-sharafiyya.

as dissonant.¹ For these reasons they have not been included in the list in the previous chapter, and will be disregarded in what follows.

Şafī al-Dīn mentions two further octave scales, both named, but fails to assign them to a particular modal category.² They are

60	<u>muḥayyir ḥusaynī</u>	G	A♯	B♭	c	d	e♯	f	g
62a	<u>nihuft (al-ḥijāzī)</u>	G	A♯	B♯	c	d	e♯	f	g.

If the octave āwāzāt can be differentiated from the shudūd by structural features these two cannot, for, like 32 rāhawī, 46a ḥijāzī and 57a zankūla, they may be divided into non-parallel conjunct tetrachords.³ The reason for their being excluded from the shudūd (instead of, say, buzurg and zīrāfkand) is probably that they were considered to be derived from two modes already included in that group, and hence, presumably, were felt to be of lesser importance. Theorists of the Systematist school, as we have seen, posit a relationship between 62a nihuft and 44 ḥijāzī, stating that the former

1 BM. MS. Or. 2361, fol. 104v. The causes of dissonance according to Şafī al-Dīn are discussed in chapter 4.

2 For Quṭb al-Dīn, muḥayyir ḥusaynī is an āwāz.

3 Or alternatively into disjunct tetrachords. There is no particular advantage to be gained by preferring this division in the case of 62a nihuft, but in 60 muḥayyir ḥusaynī the disjunct tetrachords are parallel. The composition in this mode which concludes the section on music in the durrat al-tāj accords almost equal prominence to fourth and fifth.

occurs when the latter is transposed to B♯ with G remaining as tonic:

44 hijāzī G A♯ B♯ c d♯ e♯ f g —————→
 B♯ c d e♯ f g a♯ b♯ (c' d' e♯' f' g')

Similarly 60 muhayyir husaynī was held to be 48 husaynī transposed to the 17th ṭabaqa:

48 husaynī G A♯ B♯ c d♯ e♯ f g —————→
 d e♯ f g a♯ b♯ c' d' (e♯' f' g')

The process of derivation in the second case is just as artificial as in the first, but nevertheless much closer to the truth. For if 62a nihuft is related rather to 46a hijāzī G A♯ B♯ c d♯ e♯ f g, occurring when the prominent fourth of the latter is taken as the tonic, 60 muhayyir husaynī may be derived in exactly the same way from 48 husaynī which, according to Quṭb al-Dīn, also has a prominent fourth. In the risāla al-sharafiyya these two modes are listed together with the shudūd and are stated to be frequently played,¹ but this does not in itself invalidate the suggestion that they were considered secondary forms. It may be added that apart from a single oblique reference to nihuft (called in any case hijāzī) they receive no mention at all in the kitāb

1 D'Erlanger, la musique arabe, iii, 134-136.

al-adwār.

The above remarks on the non-shudūd octave scales present various reasons why they may not have been considered suitable for inclusion in that category. If these are accepted, it would appear that since the structural affinities between 54 buzurg and 58a zīrāfkand and the remainder of the shudūd appear insufficient justification for their being grouped together, the inclusion of these two modes should be attributed to a purely negative cause - the absence of any non-derived octave scales with a greater degree of affinity. The modes as described by Ṣafī al-Dīn could then be allocated to the categories he established on the following basis:

The shudūd comprise all those octave scales in common use which are divisible into conjunct tetrachords (but excluding derived forms of these) or into tetrachord and pentachord where the pentachord is an indivisible unit.

The remaining modes, again with the exception of the two derived from shudūd, form the āwāz group.

But in one respect at least this formulation is misleading. There are grounds for supposing that the presentation of (54) buzurg and (57a) zankūla as octave scales is suspect, and that as with 59a kawāsh Ṣafī al-Dīn may have been less concerned with providing an accurate account of musical practice than with accomodating the form of these

two modes to the prevailing pattern of the other shudūd. This statement, which will be amplified in the following chapter, implies that even if the sub-groups within the shudūd may still be related to broad distinctions in structure, the incidence of common features among the shudūd as a whole is reduced still further.

chapter 4

Thus far the discussion has centred round the categories established by Ṣafī al-Dīn, and some justification has been sought for the particular distribution of scales within them. In turning to a consideration of the 18 scales as a set it may be advisable to begin by following a different line of analysis, although again one adumbrated in the kitāb al-adwār. This work contains what is in effect a theory of consonance in relation to octave scales, expressed at first negatively in the chapter "On the causes of dissonance" (fī al-asbāb al-mūjiba li'l-tanāfur)¹ and then positively when criteria for distinguishing consonant from non-consonant scales are set forth.² As there is a certain amount of confusion in the terminology employed, while in addition it is not immediately clear whether certain remarks refer to octave or tetrachord, it will be necessary to examine this material briefly.

The causes of dissonance are stated to be four in number,

1 BM. MS. Or. 136, ff. 8-8v.

2 Ibid., ff. 11-13v.

and are couched in the following terms:

- (1) exceeding the limit of the lower tetrachord, c, e.g. with three whole-tones (\mathbb{T}) - G A B c#, or four intervals of category J^1 - G A^{-c} B \flat B d \flat in the Systematist notation, equivalent to G A \sharp B \flat B c \sharp or d \flat .
- (2) combining the three interval categories \mathbb{T} , J and B within a tetrachord.
- (3) placing a category B interval below a category J interval.
- (4) having a category B interval follow another category B interval.

In the next chapter² Şafī al-Dīn goes on to say that if these dissonant combinations of intervals are avoided only 7 tetrachord species are possible; and further that only 9 pentachord species are possible if causes (1) and (2) are avoided with respect to the section c - f³ of the pentachord c - g, while otherwise 13 pentachord species are permissible. (Şafī al-Dīn lists the 7 tetrachords and 12 of the 13 pentachords, and it is from these that the theoretical corpus

1 For Şafī al-Dīn, as we have seen, J has two values (minor whole-tone and apotome), but in this context the distinction is of no importance. Nor is it with B (limma or comma).

2 BM. MS. Or. 136, ff. 8v-10v.

3 I.e. the lower tetrachord rules of (1) are applied to the upper tetrachord (c - f).

of 84 octave scales is compounded.)¹ It would appear from this that the four causes do not necessarily always incur dissonance, and that they were formulated primarily as a negative aid towards the definition of permissible tetrachords, i.e. those occurring in practice.² But apart from this function Ṣafī al-Dīn evidently considered them to be relevant to the octave, for elsewhere³ he states that the dissonance of any octave scale is the result of its containing (at least) one of the combinations of intervals they refer to. The implication is that any one of the four will suffice to render the scale dissonant, but this is not consistent with the admission that a number of pentachords fail to avoid causes (1) and (2). In fact it would appear that of the combinations mentioned (3) B J and (4) B B were thought dissonant wherever they occurred, as was (1) J J J J, despite the fact that (1) is concerned ostensibly with the lower tetrachord only. Ṣafī al-Dīn dismisses G A B♭ c d♯ e♭ f g as dissonant because the sequence J J J J occurs between A and e♭,⁴ and G A♯ B♭ B c d♯ e♭ e f g because (3) B J is included between B and d♯.⁵ There is unfortunately no case

1 All 19 species will be found listed in chapter 2.

2 One may contrast the risāla al-sharafiyya, in which a whole armoury of chromatic and enharmonic species is paraded.

3 BM. MS. Or. 136, fol. 11v.

4 Ibid., fol. 13v.

5 Ibid., fol. 11v.

in Ṣafī al-Dīn's works in which a scale is rejected because of the occurrence of (4) B B, but when the 84 octave scales are listed in the sharḥ all those containing this particular sequence are classed as dissonant.¹ Of the remaining two combinations of intervals alluded to (1) ♯ ♯ ♯ is evidently dissonant not per se, since it is found in the consonant 41 būsalīk G A♭ B♭ c d♭ e♭ f g, but only when it results in the omission of c; similarly the juxtaposition of ♯ J B (whatever the order) referred to in (2) is impermissible within the tetrachord G - c but not necessarily so elsewhere, for although it may not occur within the tetrachords c - f and d - g it may within the pentachord c - g if f is omitted. Like (1) ♯ ♯ ♯ it may also appear in an octave scale partly in one tetrachord and partly in another without incurring dissonance.

It is apparent then that these combinations of intervals are only partially relevant to octave scales. In effect, since they are by definition excluded from the tetrachord species recognized by Ṣafī al-Dīn, and with two exceptions (♯ ♯ ♯ and ♯ J B) from the pentachords, they can only occur among the 84 octave scales in strictly definable circumstances, so that we may state quite simply that with reference to the 84 those scales are dissonant which contain

1 BM. MS. Or. 2361, ff. 102-105.

the sequences B B, B B¹, or J J J J.

The species from which the 84 octave scales are derived are all consonant (or at least non-dissonant). The octave scales however are considered to fall into three categories which we may term consonant, intermediate, and dissonant. Here, unfortunately, Şafī al-Dīn uses two sets of terms and, what is worse, two sets of definitions. However, in both cases the degree of consonance depends in the main upon the number of consonant intervals (octave, fifth, and fourth) the scale contains. In determining this number all possible fourths and fifths are counted, including those which might be considered inversions, e.g. c - g as well as G - c; d - g as well as G - d. The notes G c f g are termed fixed (thābit), although Şafī al-Dīn recognizes that f, unlike the others, is not found in all the 84 scales.

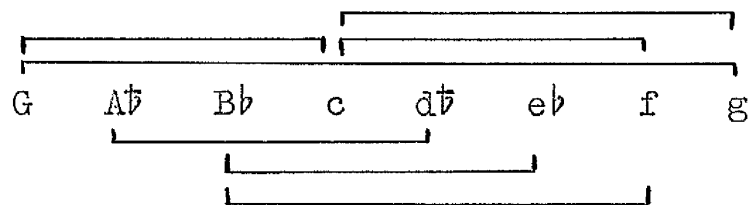
The first set of categories consists of

- (a) consonant (mulā'im): scales containing as many consonant intervals as notes (octave included)
- (b) dissonant (mutanāfir): scales containing one of the above-mentioned causes of dissonance

¹ In relation to practice one ought perhaps to draw attention once more to the ambiguity of the designations B and J. In certain contexts two successive semitones, generally written J B, could also be given as B J (and in at least one case were by Quṭb al-Dīn), but remained consonant nevertheless.

(c) intermediate (khafī al-tanāfur): scales containing¹
fewer consonant intervals than notes.

Stated in this way (b) and (c) are not necessarily exclusive of one another, and it would be simpler to define (c) as comprising all scales not included in (a) and (b). The parallelism required for a scale to belong to (a) precludes the possibility of it containing one of the dissonant combinations referred to in (b).² Curiously enough Ṣafī al-Dīn almost immediately proceeds to disregard the dividing line between (a) and (c), for he presents as consonant (mulā'im) a number of parallel conjunct tetrachord scales one of which has fewer consonant intervals than notes:³



The second set consists of

(b') dissonant (zāhir al-tanāfur): scales with consonant intervals occurring between the fixed notes only

1 BM. MS. Or. 136, ff. 11-11v.

2 The one exception to this rule is provided by the conjunct repetition of 11 iṣfahān, as in G A♯ B♭ B c d♯ e♭ e f g referred to above, where B J occurs between B and d♯.

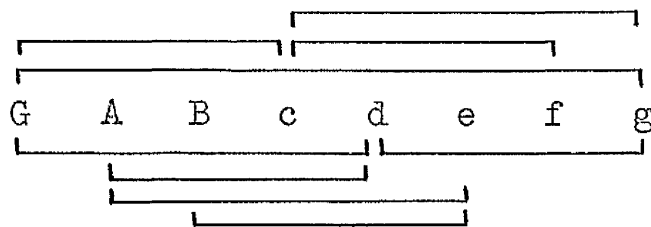
3 Ibid., fol. 12.

(c') intermediate (mutalā'im): scales with more consonant intervals than those in (b') (but with less than those in)

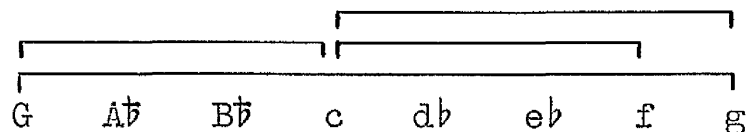
(a') consonant (kāmil fī al-talā'um): as (a) above.¹

Ignoring the obvious disparity between the terms used in (c) and (c') the two sets can be reconciled easily enough, producing a scheme whereby scales are considered consonant if they have as many consonant intervals as notes; dissonant if they contain one of the sequences B B, B J, and J J J J and/or if they have no consonances apart from those between the fixed notes G c f g; and otherwise intermediate.²

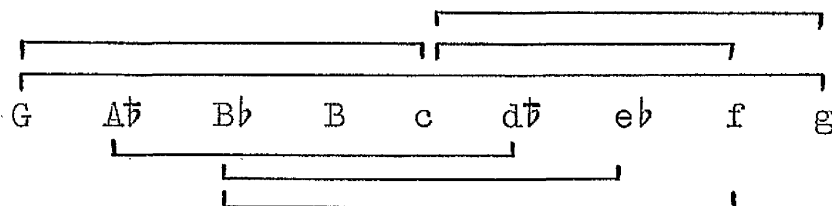
Hence 40 'ushshāq



with 9 consonant intervals to 8 notes, is consonant, while



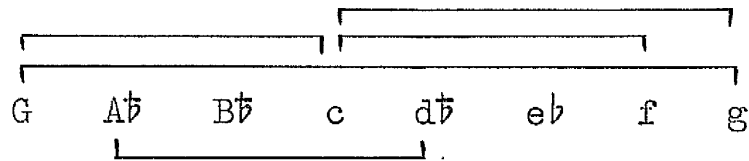
with consonances between the fixed notes only, and



1 Ibid.

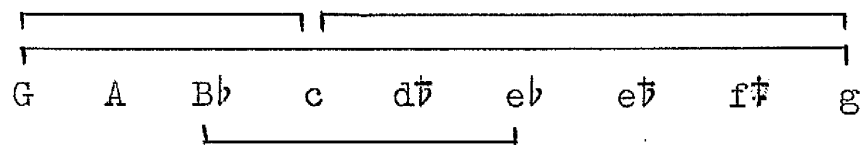
2 Cf. al-Lādhīqī, BM. MS. Or. 6629, ff. 52-52v.

which contains 7 consonant intervals to 9 notes but also the sequence B J between B and d♯, are dissonant. An example of an intermediate scale is 32 rāhawī



with 5 consonant intervals to 8 notes.

The only obscure point in this scheme arises from the fact that one of the fixed notes, f, is not always present. A scale which has consonances only between G, c, and g is evidently dissonant, but Ṣafī al-Dīn says nothing about the status of, say,



in which the total number of consonances, although no more than the 4 produced by the full complement of fixed notes, includes one not between these. However, this scale is stated to be dissonant in the sharḥ,¹ and it may therefore be concluded that a scale must always have more than 4² consonant intervals in order to avoid dissonance.

1 BM. MS. Or. 2361, fol. 103v.

2 f is omitted in three pentachords; 25a c d♯ e♭ e♯ f♯ g, 26 c c♯ d e f♯ g, and 27a c d e♯ f♯ g. This particular situation can only arise in scales containing 25a, since the presence of d in the other two automatically supplies two consonances.

We have seen that by terming consonant a scale with fewer consonances than notes Ṣafī al-Dīn does not adhere strictly to definition (a). After giving the second set of definitions he further obscures the picture by stating that the intermediate (khafī al-tanāfur) scales among the 84 are those containing not more than 5 consonances (those with 4 remaining dissonant (zāhir al-tanāfur)).¹ This of course implies that a scale with 6 should be in the consonant category, a definition markedly different from (a). Thus it would appear that despite the terminology of the first set the essential distinction is that maintained between on the one hand consonant and intermediate scales and on the other dissonant scales. Although the further distinction between consonant and intermediate is no doubt a useful one, Ṣafī al-Dīn's hesitation as to where the dividing line should be may be taken as an indication of the subjective element involved. The upper limit of the dissonant category can be established on the basis of the scales recognized by him, for given that no frequently performed mode can be considered dissonant the fact that 32 rāhawī G A♯ B♯ c d♯ e♭ f g has only 5 consonant intervals precludes the possibility of scales with more than 4 such intervals being dissonant.² However, in

1 BM. MS. Or. 136, fol. 13v.

2 Assuming that no dissonant sequence (B B, B J, J J J J) was present.

It should perhaps be pointed out that the consonance categories were not formulated in order to distinguish the scales occurring in practice from the remainder of the 84.

spite of the wide gulf between 32 rāhawī and 40 'ushshāq
 G A B c d e f g (with 9 consonant intervals), there is
 no similar objective basis for separate classification. The
sharḥ for instance attacks definition (a) as being too
 rigorous, and suggests that a scale with one or two fewer
 consonant intervals than notes should be considered consonant.
 As the boundary between consonant and intermediate is a matter
 of convenience and nothing more the proposal is an eminently
 sensible one, for it divides the corpus of non-dissonant
 scales into nearly equal parts. A definition of the two
 categories might then be: an 8-note scale (octave included)
 is intermediate if it has 5 consonances, consonant if it has
 more;² a 9-note scale is intermediate if it has 5 or 6
 consonances, consonant if it has more.

According to these criteria 12 of the octave scales
 mentioned by Ṣafī al-Dīn as occurring in practice are
 consonant and 5 (32 rāhawī, 54 buzurg, 57a zankūla, 58a
zīrāfkand and 59a kawāsht)³ are intermediate. Although it
 would be possible to make some tentative comparisons between
 this division and the structural alignments suggested in the
 discussion of the modal groups, it is essentially nothing more

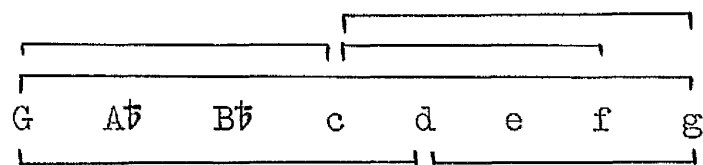
1 BM. MS. Or. 2361, fol. 99.

2 For 8-note scales this scheme therefore corresponds to
 Ṣafī al-Dīn's last statement, given above.

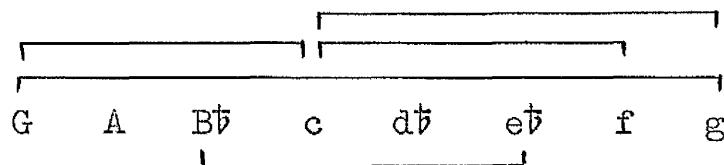
3 Assuming for present purposes that zankūla and kawāsht
 are octave scales. In evaluating the grading of the latter
 the interval B♯ - f♯ is not considered consonant, for reasons
 that will be given below.

than an empty statistic. Şafī al-Dīn may have sensed that this kind of difficulty might arise, for he makes virtually no use of the categories except to illustrate the proposition that dissonant scales are not generally found in practice.

It might however be possible to utilize these categories in an attempt to determine why it is the 17 scales mentioned by Şafī al-Dīn that occur and not others. For this purpose the above formulations are imprecise and in one important respect misleading: the fact that both G - d and d - g are counted distorts the evaluation of a scale containing d when compared with one that does not. In effect, any 8-note scale containing G, c, d, f and g will have 6 consonant intervals and should therefore be consonant irrespective of what the other notes are. Thus if one compares

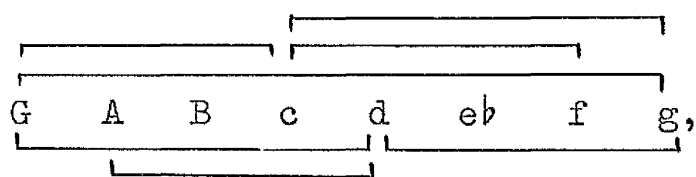


with



it will be seen that although the latter has only 5 consonant intervals, it contains two notes, A and d♭, that do not stand in a consonant relationship with one or more other notes while the former contains three, A♭, B♭, and e. We shall term these unattached notes. Thus in certain cases Şafī al-Dīn's method of evaluation may judge a scale with a fewer number of

unattached notes than another to be the less consonant. In other words the anomaly may arise of the scale with the greater degree of parallelism between the upper and lower tetrachords being considered the less consonant. It is rather surprising, in view of the obviously normative nature of conjunct tetrachord structure, implicit in the way scales are analysed and presented by theorists of the Systematist school, that none of them should have remarked on this weakness. Nevertheless it would appear to have been recognized, even if only tacitly, for in the sharh the scale

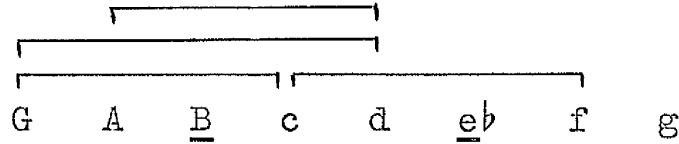


its 7 consonant intervals notwithstanding, is classed as intermediate.¹ The only reason that can be suggested for this is that the presence of the two unattached notes B and eb was felt to detract from the consonance of the scale. This, it may be added, is by no means an isolated case.

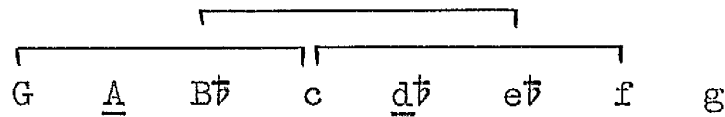
It will be apparent that a more accurate estimate of the comparative degrees of consonance of various scales may be achieved by combining a count of the unattached notes with that of the consonant intervals. With regard to the latter it will be necessary not to include both G - d and d - g; and for the sake of simplicity we may at the same time ignore

¹ BM. MS. Or. 2361, fol. 102.

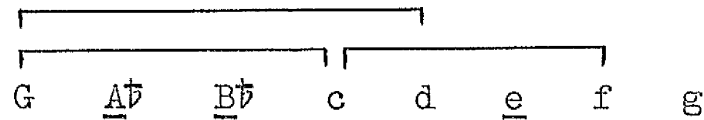
the ever-present octave note and one of the pair G - c and c - g. The scales given above, which we shall call 7-note rather than 8-note scales, may therefore be said to have:



4 consonant intervals and 2 unattached notes (4 : 2);



3 consonant intervals and 2 unattached notes (3 : 2);



3 consonant intervals and 3 unattached notes (3 : 3). Hence the first scale may be considered the most consonant and the third the least consonant. These examples also show that a 7-note scale with two unattached notes will have partial parallelism, i.e. one note will be different in each tetrachord, while a scale with three (or more) unattached notes will be devoid of parallelism.

But used in isolation the consonance classification as it now stands is still of little help in determining why these particular 17 scales should be popular. If 32 rāhawī (3 : 2) represents the lowest level of consonance acceptable in a 7-note scale, it will be found that there are among the

84 octave scales a further 18 with an equal or better consonance ratio. As for 8-note scales, even if we discard 54 buzurg (3 : 3) on the grounds that it is an artificial structure and take as the lowest permissible ratio that of 58a zīrāfkand (4 : 1), there are still among the 84 another 5 scales with an acceptable degree of consonance. Hence the potential scales number 23 as against the 17 in existence.

This amended classification possesses however the advantage of directing attention to a factor of crucial importance, namely that the pattern of interrelated notes is as significant as their number. This brings us back once again to a consideration of the way tetrachords and pentachords are deployed within existing scales. To say that a scale has no unattached notes, and to say that it has parallel conjunct (or disjunct) tetrachords, are no doubt two ways of expressing the same phenomenon, and in dealing with a purely diatonic modal system more than one approach might be superfluous. But when considering the Arabian and Persian system of this period the difference of approach represents more than just a change of perspective, for the tetrachords and pentachords are not vague entities abstracted from the octave scales, but constitute in themselves the basic units or melodic cells which may exist independently of the compounds in which they are generally found. Thus in one sense it would be legitimate to consider the consonant intervals present in the octave scales to be secondary phenomena resulting from the

juxtaposition of these units. In addition, then, to positing a number of potential scales on the basis of relative degrees of consonance, we should reexamine the way units are combined within existing scales in order to detect any patterns of distribution which might constitute further criteria of acceptability.

In accordance with Quṭb al-Dīn's notation all the units listed in chapter 2 were transcribed from G. Ṣafī al-Dīn, however, generally places tetrachords on G and pentachords on c, and in addition some tetrachords may be thought to begin on d. It may therefore be clearer to adopt a symbolism which remains constant whatever the point of departure, and for e.g. /G A B♯ c/, /c d e♯ f/, and /d e f♯ g/ we shall substitute /1 2 3♯ 4/, the numbers (other than 1) relating to the major intervals with the distribution of tones and semitones between them being in consequence that found in the c mode.

As has been seen, Ṣafī al-Dīn isolates 19 units: 7 tetrachords and 12 pentachords. Of the latter 7 may be considered extensions of the tetrachords, adding an undivided whole-tone /T/ above, so that we may symbolize

c d e f g as /1 2 3 4/T/
 c d e♭ f g as /1 2 3♭ 4/T/
 c d♭ e♭ f g as /1 2♭ 3♭ 4/T/
 c d e♯ f g as /1 2 3♯ 4/T/

c d[♭] e[♭] f g as /1 2[♭] 3[♭] 4/T/

c d[♭] e[♭] f g as /1 2[♭] 3[♭] 4/T/ and

c d[♭] e[♭] e f g as /1 2[♭] 3[♭] 3 4/T/.

A further 4 can be similarly related to the tetrachords, but with the whole-tone either below

(c d e[♭] f[♯] g, symbolized as /T/1 2[♭] 3[♭] 4/, and

c d e[♭] f f[♯] g, symbolized as /T/1 2[♭] 3[♭] 3 4/);

divided into semitones (/SS/)

(c d[♭] e[♭] f f[♯] g, symbolized as /1 2[♭] 3[♭] 4/SS/);¹

or both

(c c[♯] d e f[♯] g, symbolized as /SS/1 2 3[♭] 4/).

The remaining pentachord, c d[♭] e[♭] e[♭] f[♯] g, cannot be so related. Thus if we ignore the disjunctive whole-tone the 19 units identified by Ṣafī al-Dīn can be reduced for purposes of analysis to the following 8:

5 /1 2 3 4/

6 /1 2[♭] 3[♭] 4/

7 /1 2 3[♭] 4/

8 /1 2 3[♭] 4/

9 /1 2[♭] 3[♭] 4/

10 /1 2[♭] 3[♭] 4/

11 /1 2[♭] 3[♭] 3 4/

25a /1 2[♭] 3[♭] 3[♭] 4[♯] 5/

1 c d e[♭] f f[♯] g could, alternatively, be symbolized as /1 2 3[♭] 4/SS/, a division which has little to recommend it but is sanctioned by Ṣafī al-Dīn's own approach.

In one respect this is however an oversimplification: what Ṣafī al-Dīn notates as $c \ d^{-c} \ e^{-c} \ f \ g^{-c} \ g$ may, as in 45 'irāq, have the expected value $c \ d\flat \ e\flat \ f \ f\sharp \ g$ (and hence be reducible to /1 2 \flat 3 \flat 4/SS/), but it can also represent 20 buzurg G A \flat B(\flat) c c \sharp d, which must be considered an independent and indivisible unit.¹ To the above 8 we shall therefore add /1 2 \flat 3 4 4 \sharp 5/, omitting the fictitious \flat on B (3).

Octave scales containing both d and f may be represented either as conjunct (/tetrachord/tetrachord/T/) or as disjunct (/tetrachord/T/tetrachord/). Since Ṣafī al-Dīn lays evident stress on the conjunct pattern both possibilities will be listed only when the conjunct tetrachords are not parallel. Hence the 17 octave scales assume the following form:

32 <u>rāhawī</u>	G A \flat B \flat c d \flat e \flat f g	/1 2 \flat 3 \flat 4/1 2 \flat 3 \flat 4/T/
40 <u>'ushshāq</u>	G A B c d e f g	/1 2 3 4/1 2 3 4/T/
41 <u>būsalīk</u>	G A \flat B \flat c d \flat e \flat f g	/1 2 \flat 3 \flat 4/1 2 \flat 3 \flat 4/T/
42 <u>nawā</u>	G A B \flat c d e \flat f g	/1 2 3 \flat 4/1 2 3 \flat 4/T/
43 <u>rāst</u>	G A B \flat c d e \flat f g	/1 2 3 \flat 4/1 2 3 \flat 4/T/
44 <u>hijāzī</u>	G A \flat B \flat c d \flat e \flat f g	/1 2 \flat 3 \flat 4/1 2 \flat 3 \flat 4/T/
45 <u>'irāq</u>	G A \flat B \flat c d \flat e \flat f f \sharp g	/1 2 \flat 3 \flat 4/1 2 \flat 3 \flat 4/SS/

1 We may remember that the analysis of 54 buzurg into 10 'irāq G A \flat B \flat c and 26 kardāniya c c \sharp d e f \sharp g, given in the kitāb al-adwār (BM. MS. Or. 136, fol. 16v), is apparently replaced in the risāla al-sharafiyya (D'Erlanger, la musique arabe, iii, 136) by a division into 20 buzurg and 8 rāst. There is no other example of a pentachord/tetrachord division in Ṣafī al-Dīn's treatises.

46a <u>hijāzī</u>	G A♭ B♭ c d♭ e♭ f g	/1 2♭ 3♭ 4/1 2♭ 3♭ 4/T/
48 <u>husaynī</u>	G A♭ B♭ c d♭ e♭ f g	/1 2♭ 3♭ 4/1 2♭ 3♭ 4/T/
50 <u>kardāniya</u>	G A B♭ c c♯ d e f♯ g	/1 2 3♭ 4/SS/1 2 3♭ 4/
54 <u>būzurg</u>	G A♭ B(♭) c c♯ d e f♯ g	/1 2♭ 3 4 4♯ 5/1 2 3♭ 4/
57a <u>zankūla</u>	G A B♭ c d♭ e♭ f g	/1 2 3♭ 4/1 2♭ 3♭ 4/T/ ¹
58a <u>zīrāfkand</u>	G A♭ B♭ c d♭ e♭ e♭ f♯ g	/1 2♭ 3♭ 4/1 2♭ 3♭ 3♭ 4♯ 5/
59a <u>kawāsht</u>	G A♭ B♭ c d♭ e♭ e♭ f♯ g	/1 2♭ 3♭ 4/1 2♭ 3♭ 3♭ 4♯ 5/
60 <u>muḥayyir</u>	G A♭ B♭ c d e♭ f g	/1 2♭ 3♭ 4/1 2 3♭ 4/T/
<u>husaynī</u>		or /1 2♭ 3♭ 4/T/1 2♭ 3♭ 4/
62a <u>nihuft</u>	G A♭ B♭ c d e♭ f g	/1 2♭ 3♭ 4/1 2 3♭ 4/T/
		or /1 2♭ 3♭ 4/T/1 2♭ 3♭ 4/
66 <u>iṣfahān</u>	G A B♭ c d e♭ f f♯ g	/1 2 3♭ 4/1 2 3♭ 4/SS/
		or /1 2 3♭ 4/T/1 2♭ 3♭ 3 4/ ²

Taking the alternatives into account it will be seen from this table that

/1 2 3 4/, /1 2 3♭ 4/, and /1 2♭ 3♭ 4/ do not combine with any other unit;

/1 2 3♭ 4/ combines with /1 2♭ 3♭ 4/, /1 2♭ 3♭ 4/, /1 2♭ 3♭ 3 4/, and /1 2♭ 3 4 4♯ 5/;

1 Or G A B♭ c d♭ e♭ f f♯ g /1 2 3♭ 4/1 2♭ 3♭ 4/SS/.

2 Here the disjunct version is included because it includes 11 iṣfahān /1 2♭ 3♭ 3 4/. These two divisions and the one proposed in chapter 2, /T/1 2♭ 3♭ 4/1 2♭ 3♭ 3 4/, receive further discussion below.

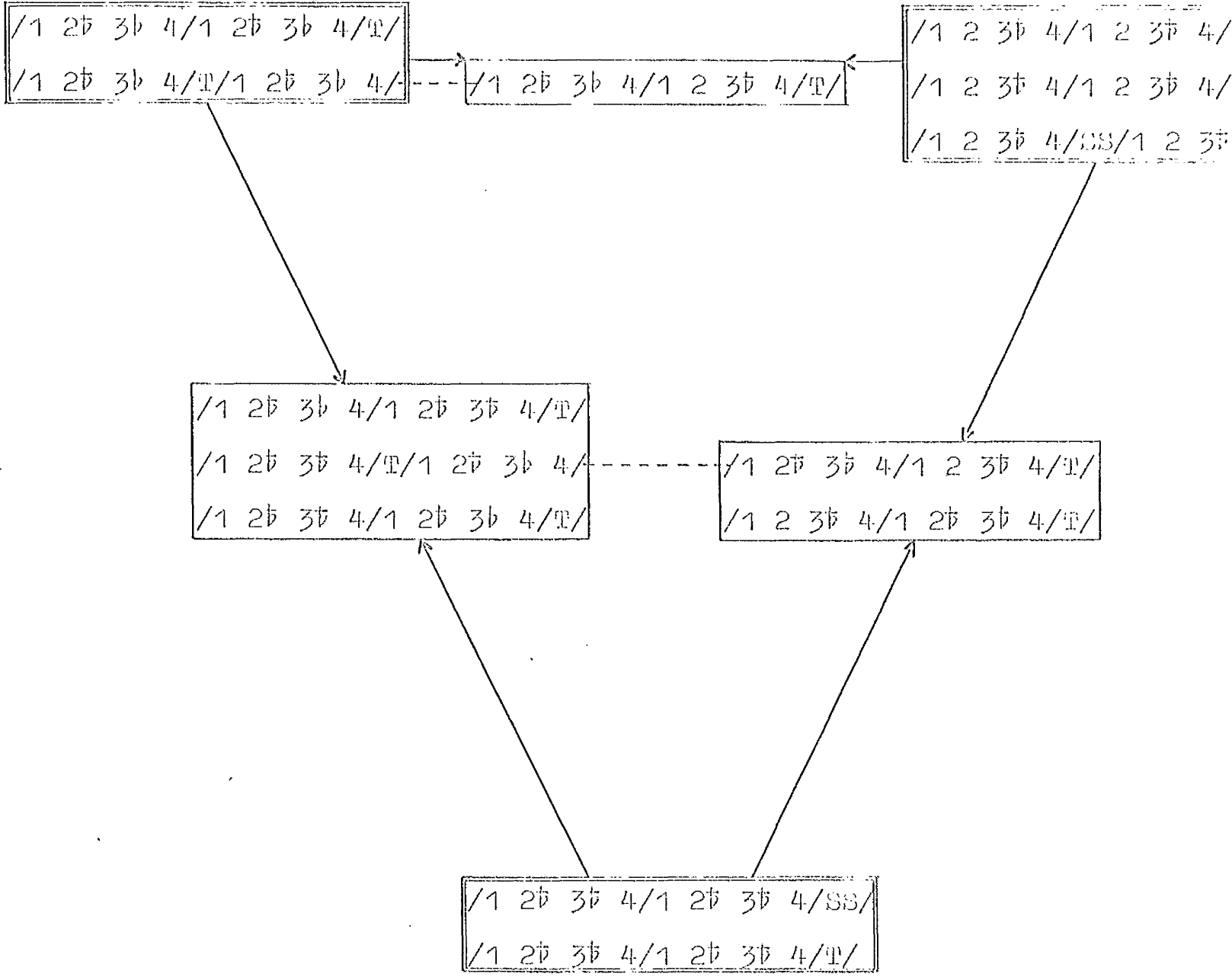
$/1\ 2\flat\ 3\sharp\ 4/$ combines with $/1\ 2\ 3\flat\ 4/$, $/1\ 2\flat\ 3\flat\ 4/$, and $/1\ 2\flat\ 3\flat\ 3\sharp\ 4\sharp\ 5/$;

$/1\ 2\flat\ 3\flat\ 4/$ combines with $/1\ 2\ 3\flat\ 4/$, $/1\ 2\flat\ 3\sharp\ 4/$, and $/1\ 2\flat\ 3\flat\ 3\sharp\ 4\sharp\ 5/$;

$/1\ 2\flat\ 3\flat\ 3\ 4/$ combines with $/1\ 2\ 3\flat\ 4/$;

$/1\ 2\flat\ 3\flat\ 3\sharp\ 4\sharp\ 5/$ combines with $/1\ 2\flat\ 3\sharp\ 4/$ and $/1\ 2\flat\ 3\flat\ 4/$;
and $/1\ 2\flat\ 3\ 4\ 4\sharp\ 5/$ combines with $/1\ 2\ 3\flat\ 4/$.

Of the units which combine with others the two pentachords must do so within an octave scale. Hence the four Zalzalian tetrachords are the only units used in combination for which this is not a necessary condition. The scales made up of three of them, $/1\ 2\ 3\flat\ 4/$, $/1\ 2\flat\ 3\sharp\ 4/$, and $/1\ 2\flat\ 3\flat\ 4/$, may be related in diagrammatic form thus:



(Broken lines link alternative representations of the same scale.)

As it combines with only one other unit, the position of /1 2♯ 3♯ 3 cannot be similarly fixed. By assigning an arbitrary position to this unit and the two pentachords, and assuming a mirror symmetry between the diatonic units and the three Zalzaliam units shown above, this basic scheme may be expanded to include all 17 octave scales:

/1 2 3b 4/1 2 3b 4/T/

/1 2b 3b 4/1 2b 3b 4/T/

/1 2 3 4/1 2 3 4/T/

/1 2b 3b 4/1 2b 3b 4/T/
/1 2b 3b 4/T/1 2b 3b 4/

/1 2b 3b 4/1 2 3b 4/T/

/1 2 3b 4/1 2 3b 4/T/
/1 2 3b 4/1 2 3b 4/SS/
/1 2 3b 4/SS/1 2 3b 4/

/1 2b 3b 4/1 2b 3b 3b 4# 5/

/1 2 3b 4/T/1 2b 3b 3 4/

/1 2b 3b 3 4/

/1 2b 3b 3b 4# 5/

/1 2b 3 4 4# 5/1 2 3b 4/

/1 2b 3 4 4# 5/

/1 2b 3b 4/1 2b 3b 4/T/
/1 2b 3b 4/T/1 2b 3b 4/
/1 2b 3b 4/1 2b 3b 4/T/

/1 2b 3b 4/1 2 3b 4/T/
/1 2 3b 4/1 2b 3b 4/T/

/1 2b 3b 4/1 2b 3b 3b 4# 5/

/1 2b 3b 4/1 2b 3b 4/SS/
/1 2b 3b 4/1 2b 3b 4/T/

(With regard to 59a kawāsht the alternative form suggested above, G Aḅ Bḅ c dḅ eḅ eḅ, can be entered at the same point on the diagram as the octave form G Aḅ Bḅ c dḅ eḅ eḅ fḅ g if we accept that /1 2ḅ 3ḅ 3ḅ 4ḅ 5/ is closely related to, if not an extension of, /1 2ḅ 3ḅ 3ḅ/, and that the two could therefore be placed in the same box.)

Clearly, such a diagram is to a certain extent impressionistic. For instance, everything placed within the triangle formed from /1 2 3ḅ 4/, /1 2ḅ 3ḅ 4/ and /1 2ḅ 3ḅ 4/ could with equal validity be placed outside it. But the difference is no more than that between describing these three units as a nucleus or as a frame, and is equally unimportant since what is shown here is primarily a distributional relationship, not an organic one (in which case the difference between the arrangements - and the metaphors - would be significant).

We have seen that by taking the consonance levels 3 : 2 and 4 : 1 as the lowest admissible for 7- and 8-note octave scales respectively there are a further 24 possibles among the 84. Of these only four could be included in the diagram as it stands: all the others would require additional boxes and lines linking them. But to disregard them because of this would be tantamount to saying that the diagram, which is meant to do no more than compress a number of descriptive statements, constitutes a definition of the limits beyond which combinations of units must be rejected, and on a purely

synchronic level this is evidently unjustified. However, by considering the modal system as described by Şafī al-Dīn in historical perspective it becomes possible to regard certain features of the diagram as virtually immutable, while others may be liable to alteration and expansion.

The most obviously normative of these features is the strict segregation of diatonic and Zalzalian units. It will be remembered that Şafī al-Dīn assigns the diatonic modes to a separate sub-class within the shudūd with its own emotional connotations. In later texts the distinction is maintained, and although mention is made of one or two scales combining diatonic and Zalzalian units such juxtapositions appear to have been of an exceptional and transitory nature: from the 13th to the 16th century (and perhaps beyond) the two types formed quite distinct groups, coexisting but not interpenetrating.¹ Thus we may with some confidence reject as potential additions all scales in which both occur.

The 24 possibles are thereby reduced to 13. Five of the

1 One of the most striking features of the diatonic group is the fact that it contains only three scales, giving the Zalzalian group an overwhelming numerical superiority. Diatonicism, the foundation of the early Arabian modal system of the 8th and 9th centuries, is now, four hundred years later, apparently of only marginal importance. One can do no more than guess at the reasons for this drastic shift in emphasis, for in the 11th century diatonic and Zalzalian units seem to have been fairly evenly balanced, so that the shift presumably occurred for the most part during the 12th century, a period for which information on such matters is sadly lacking.

13 are diatonic, and with regard to these it should be observed that because of the larger number of whole-tones they contain, diatonic combinations have, other things being equal, a higher consonance ratio than Zalzalian combinations. That of the three diatonic scales listed by Ṣafī al-Dīn (40 'ushshāq, 41 būsalīk, 42 nawā), 6 : 0, is found in only two of the five:

G A B \flat c d e f g, and G A \flat B \flat c d e \flat f g.

The others all have the much inferior ratio 4 : 2, and may for this reason be discounted, thus bringing the total down to 10.

This number is made up of the above two diatonic scales, three 7-note and five 8-note Zalzalian scales. Three of the 8-note scales,

G A \flat B \flat c d e \flat f f \sharp g
 G A \flat B \flat c d \flat e \flat f f \sharp g and
 G A \flat B \flat c d e \flat f f \sharp g,

differ from 60 muḥayyir ḥusaynī, 46a ḥijāzī, and 62a nihuft respectively only by virtue of including f \sharp , i.e. having a divided upper whole-tone. Previously, when considering the relationship between the tetrachords and pentachords described by Ṣafī al-Dīn, no particular attention was drawn to the fact that some pentachords contain /SS/ while others have /T/. There are however two pairs of pentachords in which this is the only distinguishing feature:

/1 2 3^b 4/T/ and /1 2 3^b 4/SS/;

/1 2^b 3^b 4/T/ and /1 2^b 3^b 4/SS/.

Correspondingly, a contrast may be made between the following:

43 rāst G A B^b c d e^b f g and

66 iṣfahān G A B^b c d e^b f f[#] g;

44 ḥijāzī G A^b B^b c d^b e^b f g and

45 'irāq G A^b B^b c d^b e^b f f[#] g.

Ṣafī al-Dīn's analysis of 66 iṣfahān has already been commented on briefly, and this mode will be further discussed below. We may recall that the upper pentachord may be viewed either as /1 2 3^b 4/SS/ or as /T/1 2^b 3^b 3 4/. In all likelihood emphasis would be placed in performance on the tetrachord 11 iṣfahān /1 2^b 3^b 3 4/ (d - g), thus providing a modal characteristic sufficient to distinguish 66 iṣfahān from 43 rāst with the f[#] added as an ornament. In other words it may be suggested that the presence or absence of the f[#] was not in itself a crucial differentiating factor. The same may well be true with regard to the other pair. For Quṭb al-Dīn 'irāq is 44, of which 45 is no more than a variant.¹ It is in fact conceivable (the point will be argued in the following chapter) that Ṣafī al-Dīn included the non-critical f[#] in 45 'irāq simply in order to distinguish the two in notation, whereas in practice they were identified by

1 Later texts also list 'irāq both with and without the f[#].

other features which his methods of scale analysis either ignored or distorted. More positively, it may be pointed out that Ṣafī al-Dīn himself provides variant forms of 57a zankūla, one with the f[♯] and one without.¹ Hence it seems reasonable to regard these three 8-note scales as implicit in already existing scales, or as non-significant variants of them, especially when the one corresponding to 60 muḥayyir ḥusaynī does in fact appear in the durrat al-tāj,² where it is not considered to be anything but that mode.

We are thus left in the final analysis with 7 possibles out of the 24 originally postulated. They are:

G	A	B ^b	c	d	e	f	g
G	A ^b	B ^b	c	d	e ^b	f	g
G	A	B [♯]	c	d	e [♯]	f [♯]	g

1 We may also note that the sharḥ (BM. MS. Or. 2361, fol. 105v) calls G A^b B^b c d^b e^b f f[♯] g a shu'ba, derived form, of 41 būsalīk G A^b B^b c d^b e^b f g. It would appear from this that f[♯] was often an optional extra which could be added, presumably as a grace-note, without affecting the identity of the mode in question. Apart from the two pairs of modes discussed here, the addition of this note would nowhere cause ambiguity.

2 It appears in a composition stated to be by Ṣafī al-Dīn. As a counter-argument it could be argued that in this scale, as in G A[♯] B[♯] c d e[♯] f f[♯] g, the upper pentachord could be analysed as /T/1 2[♯] 3^b 3 4/, again drawing attention to 11 iṣfahān. But this does not in itself disprove the thesis that they were non-significant variants, and it is significant in this respect that in the composition referred to the f[♯] is added in a passage stressing the tetrachord d - g, but while a modulation into 11 iṣfahān is noted elsewhere, this is not stated to be one.

G	A♯	B♯	c	d	e♯	f♯	g	
G	A♯	B♭	c	d	e♯	f♯	g	
G	A♯	B♭	c	d♯	e♭	e	f	g
G	A♯	B♭	B	c	d	e♯	f	g

All appear to share features of consonance and unit compatibility observable in existing modes. But there is one interesting difference: with the sole exception of G A♯ B♭ c d♯ e♭ e f g they are all either necessarily disjunct, omitting f, or preferably so, having parallel disjunct tetrachords.¹ Now we have seen that of the 17 octave scales recognized by Ṣafī al-Dīn only four may be classed as disjunct:

50 <u>kardāniya</u>	/1	2	3♯	4/SS/1	2	3♯	4/	
66 <u>iṣfahān</u>	/1	2	3♯	4/T/1	2♯	3♭	3	4/
60 <u>muḥayyir ḥusaynī</u>	/1	2♯	3♭	4/T/1	2♯	3♭	4/	
62a <u>nihuft</u>	/1	2♯	3♯	4/T/1	2♯	3♭	4/	

and it has been suggested that the latter two were derived from conjunct modes in which the prominent fourth tended to usurp the rôle of tonic. In view of this it would seem reasonable to regard at least some of the 7 possible scales as similar potential derivations, especially when we remember that according to Quṭb al-Dīn a large number of the then existing modes were characterized (at least in part) by the

¹ Ignoring the extra note in the lower tetrachord of G A♯ B♭ B c d e♯ f g. G A♯ B♯ c d e♯ f♯ g both omits f and has parallel disjunct tetrachords.

prominence of the fourth. They would thus be further manifestations of a process of historical development which had already resulted in the emergence as independent modes of 60 muḥayyir ḥusaynī and 62a nihuft.

We may first of all establish the following correlations:

(48 <u>ḥusaynī</u>	/1	2♯	3♭	4/1	2♯	3♭	4/T/————→
	/1	2♯	3♭	4/T/1	2♯	3♭	4/ 60
46a <u>ḥijāzī</u>	/1	2♯	3♭	4/1	2♯	3♯	4/T/————→
	/1	2♯	3♯	4/T/1	2♯	3♭	4/ 62a)
41 <u>būsalīk</u>	/1	2♭	3♭	4/1	2♭	3♭	4/T/————→
	/1	2♭	3♭	4/T/1	2♭	3♭	4/
42 <u>nawā</u>	/1	2	3♭	4/1	2	3♭	4/T/————→
	/1	2	3♭	4/T/1	2	3♭	4/
44 <u>ḥijāzī</u>	/1	2♯	3♯	4/1	2♯	3♯	4/T/————→
	/1	2♯	3♯	4/T/1	2♯	3♯	4/
32 <u>rāhawī</u>	/1	2♯	3♯	4/1	2♯	3♭	4/T/————→
	/1	2♯	3♭	4/T/1	2♯	3♯	4/

Here four of the possibles (first, second, fourth and fifth) are related to modes listed by Ṣafī al-Dīn, and if we accept the thesis of modal development adumbrated above we should expect to find these scales cited in later treatises. In fact only two of them, those relating to 41 būsalīk and 44 ḥijāzī (G A♭ B♭ c d e♭ f g and G A♯ B♯ c d e♯ f♯ g), are attested; the non-appearance of the other two, however, can hardly be considered a refutation, for the same

texts reveal that the modes to which they relate, 42 nawā and 32 rāhawī, failed to survive in the form described by Ṣafī al-Dīn. 32 rāhawī and its derivate (G A♭ B♭ c d e♯ f♯ g) have the lowest consonance ratio of all the 7-note scales he recognizes, and it would appear that this was beginning to be felt insufficient: it is exceeded by all the octave scales known to have been in existence during the 14th and 15th centuries. The reason for the subsequent changes in the structure of 42 nawā, and hence for the non-appearance of its disjunct correlate (G A B♭ c d e f g) is not clear: from later treatises we can however see that 7 /1 2 3♭ 4/ was the least used of the basic units.

Ṣafī al-Dīn mentions a further three conjunct scales from which similar derivations may be made:¹

40	<u>'ushshāq</u>	/1	2	3	4/1	2	3	4/T/—————→
		/1	2	3	4/T/1	2	3	4/
43	<u>rāst</u>	/1	2	3♯	4/1	2	3♯	4/T/—————→
		/1	2	3♯	4/T/1	2	3♯	4/
57a	<u>zankūla</u>	/1	2	3♯	4/1	2♯	3♯	4/T/—————→
		/1	2♯	3♯	4/T/1	2	3♯	4/

The upper pentachords of the derivates are not recognized by Ṣafī al-Dīn, and therefore these scales do not form part of his theoretical corpus of 84 scales, from which the 7 possibles

¹ That is if we consider, for present purposes, 45 'irāq to coincide with 44 ḥijāzī.

are taken. Nevertheless, they conform to the criteria governing the final selection of these, and two of them occur later. The third again has the minimum consonance ratio 3 : 2, as does the mode to which it relates, 57a zankūla; its non-appearance is thus no more surprising than the changes that subsequently affect zankūla itself.¹ This evidence seems to confirm that under given conditions relating to consonance new modes were being added in the way suggested: 14th and 15th century texts attest the existence of all but one of the scales derived from the conjunct tetrachord modes known to Ṣafī al-Dīn which have a consonance ratio in excess of 3 : 2.

The scales discussed above are made up of the following units:

5 /1	2	3	4/	6 /1	2 ^b	3 ^b	4/	7 /1	2	3 ^b	4/
8 /1	2	3 ^b	4/	9 /1	2 ^b	3 ^b	4/	10 /1	2 ^b	3 ^b	4/

In the previous diagram the distributional relationships obtaining between these units are presented synchronically, so that the historical development postulated here is not apparent, even with reference to 60 muḥayyir ḥusaynī and 62a nihuft. In order to show it we may change the format to a three-dimensional one:

¹ In fact, as has been stated above, Ṣafī al-Dīn's notation of zankūla may well be misleading. The structure of this mode will be further discussed below.

/1 2 3b 4/1 2 3b 4/T/

(a)

Conjunct diatonic scales listed by Şafî al-Dîn

/1 2b 3b 4/1 2b 3b 4/T/

/1 2 3 4/1 2 3 4/T/

Disjunct diatonic scales listed by later theorists

/1 2b 3b 4/T/1 2b 3b 4/

/1 2 3 4/T/1 2 3 4/

/1 2b 3b 4/1 2b 3b 4/T/

/1 2 3b 4/1 2 3b 4/T/ ¹

(b)

Conjunct Zalzalian scales listed by Şafî al-Dîn

/1 2b 3b 4/1 2b 3b 4/T/
/1 2b 3b 4/1 2b 3b 4/T/

/1 2 3b 4/1 2b 3b 4/T/
/1 2b 3b 4/1 2 3b 4/T/

/1 2b 3b 4/1 2b 3b 4/SS/
/1 2b 3b 4/1 2b 3b 4/T/

Disjunct Zalzalian scales listed by Şafî al-Dîn

/1 2b 3b 4/T/1 2b 3b 4/

/1 2b 3b 4/T/1 2b 3b 4/

/1 2b 3b 4/T/1 2b 3b 4/

/1 2 3b 4/T/1 2 3b 4/

Disjunct Zalzalian scales listed by later theorists

/1 2b 3b 4/T/1 2b 3b 4/

/1 2 3b 4/T/1 2b 3b 4/

/1 2b 3b 4/T/1 2b 3b 4/

¹ The relationship between 50 kardaniya and 66 lofahin will be discussed below.

The modes represented on the upper planes of (a) and (b) are not, with one possible exception, supplanted by those they engender, but continue to exist alongside them.

If we wish to consider this form of modal development in the wider context of the whole repertoire of octave scales listed by Şafī al-Dīn as occurring in practice, plus the 7 possibles, in order to see if it has any further validity, we must examine the following three questions:

(1) Can the remaining three possible scales be related to existing modes in the same, or a similar, way, and are they attested later?

(2) How can we explain the presence of two apparently non-derived disjunct modes (50 kardāniya and 66 işfahān) in Şafī al-Dīn's list?

(3) Did this development also result in the derivation of modes from those (54 buzurg, 58a zīrāfkand, and 59a kawāsht) to which the conjunct tetrachord pattern does not apply?

(1)

One of the three, G A B♭ c d e♭ f♯ g, may be arrived at by this process if we assume that 62a nihuft tended to be assimilated to the prevailing conjunct pattern. We would then have:

62a nihuft /1 2♯ 3♯ 4/T/1 2♯ 3♯ 4/ becomes

" /1 2♯ 3♯ 4/1 2 3♯ 4/T/→/1 2 3♯ 4/T/1 2♯ 3♯ 4/

G A B♭ c d e♭ f♯ g

This scale would thus result from a second cycle of change which in this case, however, would be contemporary with several instances of the first, since 62a nihuft is itself one of the earliest disjunct derivatives to appear. G A B♯ c d e♯ f♯ g is cited in one later treatise, the sharḥ,¹ where it is called majlis afrūz.

The remaining two may be related not to conjunct scales listed by Ṣafī al-Dīn but to each other:

/1	2♯	3♭	4/1	2♯	3♭	3	4/T/	—————→
/1	2♯	3♭	3	4/T/1	2♯	3♭	4/	

However, it may be noted that both contain 11 iṣfahān /1 2♯ 3♭ 3 4/, and they may be best discussed in conjunction with the one mode in Ṣafī al-Dīn's list to contain this unit, 66 iṣfahān.

(1) and (2)

If we make the following assumptions: that in the mid-13th century the standard pattern for octave scales was conjunct; that disjunct forms derive from already existing conjunct scales; and that diatonic and Zalzalian units do not combine, then it follows that the first scale containing

¹ Such names have previously been dismissed as fanciful and as no guarantee that the scale in question was known in practice, on the grounds that this work names all consonant scales among the 84, and that few of them are reported elsewhere. In this case, however, one can set against the silence of other treatises the fact that majlis afrūz is the name of a modern Arab maqām and a modern Persian gūshe.

11 iṣfahān we should expect to find is not the apparently disjunct 66 iṣfahān, but one of these two scales,

G A♭ B♭ c d♭ e b e f g /1 2♭ 3♭ 4/1 2♭ 3♭ 3 4/T/1¹

From this, as we have seen, we may derive the other possible scale, but not 66 iṣfahān. However, we need not immediately abandon the concept of conjunct to disjunct development as irrelevant with regard to 66 iṣfahān, for if we postulate a conjunct scale from which this mode could be derived, and extend the sequence in both directions, this will include not only both possibles but the other disjunct mode, 50 kardāniya, as well:

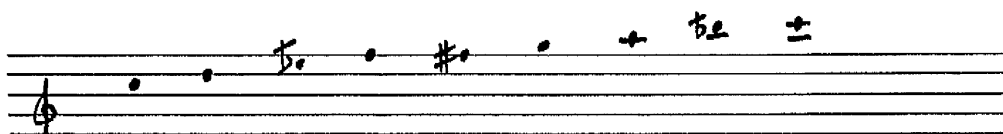
$\begin{array}{l} \text{G A}^\flat \text{ B}^\flat \text{ c d}^\flat \text{ e b e f g} \\ /1 \quad 2^\flat \quad 3^\flat \quad 4/1 \quad 2^\flat \quad 3^\flat \quad 3 \quad 4/T/ \end{array}$

$\begin{array}{l} \text{A}^\flat \text{ B}^\flat \text{ c d}^\flat \text{ e b e f g} \\ /1 \quad 2^\flat \quad 3^\flat \quad 3 \quad 4/T/1 \quad 2^\flat \quad 3^\flat \quad 4/ \end{array}$

$\begin{array}{l} \text{B}^\flat \text{ c d}^\flat \text{ e b e f g} \\ /T/1 \quad 2^\flat \quad 3^\flat \quad 4/1 \quad 2^\flat \quad 3^\flat \quad 3 \quad 4/ \end{array}$

$= /1 \quad 2 \quad 3^\flat \quad 4/T/1 \quad 2^\flat \quad 3^\flat \quad 3 \quad 4/ \quad 66 \text{ iṣfahān}$

1 But not however G A♭ B♭ B c d♭ e b f g, since this contains the dissonant sequence B J between B and d♭.



/I/1 2♭ 3♭ 3 4/1 2 3♭ 4/
 = /1 2 3♭ 4/SS/1 2 3♭ 4/ 50 kardāniya

The existence of the two possible scales is attested by Quṭb al-Dīn, for whom A B♭ C D E♭ F F♯ G is 67 iṣfahān and D E♭ F F♯ G A B♭ c d 61 muḥayyir zīrkesh. But while this suggests that the above scheme need not be considered a total abstraction based on purely hypothetical forms, it only reinforces the impression of a theoretical reconstruction of an historical development that is both fanciful and spurious: not only are the "earlier" forms mentioned by the later writer, but there is an intermediate stage, with a quite different name, between the two versions of iṣfahān. However, even if the scheme must be rejected as a whole, it may be maintained that the relationships posited between the first two modes and between the last two is substantially correct. A more convincing picture results if we combine them with the suggestion, put forward in chapter 2, that the two versions of iṣfahān (66 and 67) differ in that they extend in opposite directions to form octave scales from an original form made up of just two tetrachords, /1 2♭ 3♭ 4/1 2♭ 3♭ 3 4/. We would then have:

66 isfahān basic form 50 kardāniya

67 61 muḥayyir zīrkesh

This indicates that 66 isfahān and 50 kardāniya might after all be conjunct in origin, but with the disjunctive whole-tone below, a scale-type never mentioned by Ṣafī al-Dīn when dealing with practice. However, neither the previous analysis of these two modes as medial disjunct, nor even the Systematist conjunct division, need be summarily rejected. The original structure of each would tend to be gradually assimilated to the prevailing pattern in which the focal points were tonic and fourth. Thus the importance of the tetrachord between second and fifth would be undermined, the process being no doubt reinforced by the emergence of a second set of parallel tetrachords when the fourth is emphasized. A more accurate account of the way the two are related might therefore be:

66 isfahān

50 kardāniya

It may be doubted whether the last stage given of 66 iṣfahān, to which Ṣafī al-Dīn's analysis corresponds, ever replaced the previous one. Had it done so, it is likely that iṣfahān would have lost its own individual character to become no more than a hardly distinguishable variant of 43 rāst G A B♭ c d e♯ f g.

There is one other disjunct scale containing 11 /1 2♯ 3♭ 3 4/ that might be mentioned:

G A♯ B♭ B c d e♯ f f♯ g /1 2♯ 3♭ 3 4/T/1 2♯ 3♭ 3 4/

Despite being included in Ṣafī al-Dīn's corpus of 84 scales it has not been discussed previously because it is somewhat unusual in having 9 notes (all those stated by him to occur in practice having 7 or 8). In the sharḥ it is said to be a shu'ba, derived form, of iṣfahān,¹ but it receives no mention elsewhere. If it did occur in practice we may assume that it did not result from any conjunct to disjunct development, for its conjunct correlate, G A♯ B♭ B c d♯ e♭ e f g, is dissonant, containing the sequence B J from B to d♯.² No further 9-note scales from the 84 require discussion.

1 BM. MS. Or. 2361, fol. 105.

2 We may suppose that by the late 14th century, when the disjunct pattern had become common, new disjunct scales could be added which were unrelated to conjunct ones. The iṣfahān referred to is almost certainly not one of the two octave scales of that name, but the tetrachord 11 iṣfahān.

(3)

We now come to the three modes made up of a tetrachord and an indivisible pentachord. Two of them contain the pentachord /1 2♯ 3♭ 3♯ 4♯ 5/¹, and the rules laid down by Ṣafī al-Dīn preclude the possibility of this unit occurring as the lower segment of a scale, the reason being that any such scale would omit the fourth. However, the omission of the fourth in certain modes is recognized by writers of the 14th and 15th centuries, so that it would appear not unreasonable to posit, parallel to the form of derivation examined above, the following developments:

58a <u>zīrāfkand</u>	/1	2♯	3♭	4/1	2♯	3♭	3♯	4♯	5/—————→
	/1	2♯	3♭	3♯	4♯	5/1	2♯	3♭	4/
59a <u>kawāsht</u>	/1	2♯	3♯	4/1	2♯	3♭	3♯	4♯	5/—————→
	/1	2♯	3♭	3♯	4♯	5/1	2♯	3♯	4/

The resulting scales are not themselves attested, but may be compared with, respectively,

<u>sunbula</u>	G	A♯	B♭	B♯	d	e♯	f	g	(listed by al-Lādhiqī) ²
<u>ḥiṣār</u>	G	A♯	B♭	B♯	c♯	d	e♯	f♯	(as defined by ‘Abd al-Qādir) ³

1 Assuming for present purposes that 59a kawāsht is an octave scale.

2 D’Erlanger, la musique arabe, iv, 441-2.

3 Bodleian MS. Marsh 282, fol. 51. It is possible that this form is prefigured in the definition supplied by Quṭb al-Dīn (see the remarks on 25b ḥiṣār).

There are no further consonant combinations of /1 2 \flat 3 \flat 3 \sharp 4 \sharp 5/ with a tetrachord unit above which could be regarded as additional possible scales.

The remaining mode, 54 buzurg G A \flat B(\flat) c c \sharp d e f \sharp g, is the only one to contain the other pentachord unit, /1 2 \flat 3 4 4 \sharp 5/.¹ Since this occurs as the lower segment we may postulate a scale from which 54 buzurg might be derived:

/1 2 3 \flat 4/1 2 \flat 3 4 4 \sharp 5/ —————→
 /1 2 \flat 3 4 4 \sharp 5/1 2 3 \flat 4/ 54 buzurg

This would be notated by Ṣafī al-Dīn as G A B^{-c} c d^{-c} e^{-c} f g^{-c} g, i.e. in exactly the same way as the 8-note version of 57a zankūla. Although, as we shall see, this may not be entirely fortuitous, it is nevertheless unlikely that there was any such developmental link between zankūla and buzurg. But the two do have something in common that sets them apart from all the other modes recognized by Ṣafī al-Dīn: they both have the surprisingly (and suspiciously) low consonance ratio 3 : 3.² Not only is this much lower than that of the other 8-note scales (4 : 1 or better), but it also compares unfavourably with that of 32 rāhawī (3 : 2), a mode

1 As distinct from /1 2 \flat 3 \flat 4/SS/, identical in Ṣafī al-Dīn's notation.

2 This is true of the 8-note version of zankūla, not the 7-note. In neither case will the consonance ratio be affected by whether we consider buzurg to contain B \flat or B, zankūla e \flat or e.

which seems to have hardly outlived Ṣafī al-Dīn in the form he knew precisely because of the consonance factor. In view of this it would not appear unreasonable to suggest that the way in which Ṣafī al-Dīn notates buzurg and zankūla is in certain respects a disguise imposed in order to create the impression of uniformity of scale structure throughout the shudūd group.

The process through which the notated form of 54 buzurg arose may have been one of elimination. Given that a mode consisting essentially of the pentachord 20 buzurg /1 2♯ 3 4 4♯ 5/ has to be extended upwards to form an octave scale, all the tetrachord units available for this purpose are to a greater or lesser degree unsatisfactory: the best consonance ratio would result from the addition of /1 2 3 4/ or /1 2♯ 3♯ 4/, but the former would involve the combination of diatonic and Zalzalīan units, while the latter would produce the dissonant sequence B J from c♯ to e♯, as would /1 2♯ 3♯ 4/; /1 2 3♭ 4/ and /1 2♯ 3♭ 4/, which produce an acceptable consonance ratio, also suffer from one or other of these disadvantages, while /1 2♭ 3♭ 4/ combines them. We are thus left with /1 2 3♯ 4/, which neither infringes the norms of unit distribution nor produces a dissonant sequence of intervals, however unsatisfactory the resulting scale may be from the point of view of consonance.

The above argument may be thought conjectural. However, it should be realized that Şafī al-Dīn's notation of 54 buzurg is suspect not merely because of its low consonance ratio, and that in addition he provides an obviously artificial division of its scale. In the risāla al-sharafiyya he lists the pentachord 20 buzurg among the isolate species (ajnās mufrada) and is at pains to define, by means of ratios, the interval notated as $A^{-c} - B^{-c}$ as being larger than a whole-tone. No mention is made of a possible division into tetrachord and divided whole-tone, and the very name implies that this would be erroneous, buzurg being an abbreviation of zīrāfkand (-i) buzurg, i.e. "the major species omitting the zīr-string note",¹ which presumably means that the original form was /1 2[♯] 3 4[♯] 5/. And yet this is precisely the division Şafī al-Dīn adopts, along with the misleading notation, when presenting the octave scale 54 buzurg in the kitāb al-adwār: /G A^{-c} B^{-c} c/c d^{-c} d e g[♯] g/. This is an evident theoretical fiction which does little to bolster one's confidence in the accuracy of his account.

Later treatises provide little evidence either to confirm or to deny these suspicions. As has been noted, most of them simply reproduce the account of the shudūd and āwāzāt found in the kitāb al-adwār. An exception, in this respect at

¹ The corresponding "minor species" being 1 zīrāfkand (-i kūček) /1 2[♯] 3[♯] 3[♯]/.

least, is provided by the durrat al-tāj, which includes 54 buzurg, but lists in addition two variants:

55	G	A♭	B(♭)	c	c♯	d	e♭	f	f♯	g
56	G	A♭	B(♭)	c	c♯	d	e♭	f♯	g	

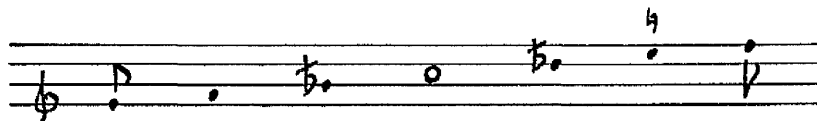
These are quite unlike the other variant forms mentioned by Quṭb al-Dīn, which generally differ in only a single note from their parent scales, and should more properly be termed substitutes. They replace the unsatisfactory /1 2 3♭ 4/ with Zalzalian tetrachords producing a far larger number of consonant intervals but at the same time the dissonant sequence B J, and in the case of 55 an exceptional 9-note structure. The fact that 55 and 56 are found only in the durrat al-tāj suggests that because of this they were unable to establish themselves as viable entities, or that they embody no more than an alternative way of solving an intractable (but purely academic) problem that was rejected by later theorists. Nearly all of these adopt Ṣafī al-Dīn's version, but al-Lādhiqī states that in his day this mode consisted of no more than the pentachord 20 buzurg.¹ His evidence is valuable, although unfortunately not decisive, as he was writing two centuries later.

The above discussion has dealt to some extent with the primarily theoretical aspects of notation, scale division,

1 BM. MS. Or. 6629, fol. 67.

and the quest for structural uniformity among the shudūd. The problems of consonance levels and dissonant sequences, on the other hand, are clearly relevant to practice. As chapter 7 makes clear, a composition would seldom be based on just one of the units we have isolated: usually it would be a case of combining them, either in a fixed arrangement, i.e. in one of the modes presented in chapter 2, or freely, according to the artist's taste and skill. But this freedom, like most others, would be limited, in this instance by considerations which found expression in the theorists' statements on consonance and dissonance. Hence the seemingly abstract formulation of the problem in the terms used above: what unit, given such-and-such rules, can be combined with 20 buzurg to form an octave scale?, needs little alteration to express the executant's difficulty: what unit, given the norms of consonance observed in such sequences, can precede or follow 20 buzurg, and at what pitch?

That Ṣafī al-Dīn's notation of zankūla as an octave scale might also be an artificial extension is suggested by the description of this mode in the durrat al-tāj. From this it would appear that a more correct representation (with a quaver indicating a weak or unimportant note) would be:



c is stated to be the centre around which the melody

1
 revolves.

In view of the greater detail in Quṭb al-Dīn's definition (including comments on melodic movement), it would seem reasonable to consider his version the more reliable. And since he ascribes to Ṣafī al-Dīn the composition transcribed in chapter 8, in the course of which zankūla occurs in the above form, we may assume that his is also a fairly accurate account of this mode as it was known to Ṣafī al-Dīn some 50 years before. If so, one would expect Ṣafī al-Dīn to notate it not with notes on either side of a tonic G, but as here, from G to f, since the function of c as tonic would not then be radically different from the pivotal rôle of the prominent fourth in other modes. As he indicates neither prominent nor weak notes, zankūla would in that case conform in appearance to the conjunct tetrachord pattern of the majority of the shudūd: it would therefore be natural to complete the disguise by adding the pseudo-octave note g.

But why then introduce a further version with a fictitious f# as well? The most likely answer to this is suggested by the lack of agreement between Ṣafī al-Dīn and Quṭb al-Dīn as to whether zankūla has e# or e. If the above

1 BM. MS. Add. 7694, fol. 234. The passage in question (which may be found translated in chapter 7) mentions neither G nor f. Their presence may however be inferred from an earlier remark, and they do in fact occur in a section of a notated composition in zankūla.

argument is correct, Ṣafī al-Dīn would analyse (G) A B♭ c d♭ e (f) as /1 2 3♭ 4/1 2♭ 3 4/ and wish to extend this for the sake of conformity to /1 2 3♭ 4/1 2♭ 3 4/T/. But when it comes to actually notating this a further difficulty arises, for he does not recognize the unit /1 2♭ 3 4/ (12 hijāzī). One way of resolving the difficulty would be to begin by adopting in place of an already artificial pentachord /1 2♭ 3 4/T/ the one unit in which he does recognize a larger than whole-tone interval, although of course one masked in the notation: /1 2♭ 3 4 4♯ 5/. (G) A B♭ c d♭ e (f) would thus appear as G A B♭ c d♭ e(♭) f f♯ g, from which the redundant f♯ could be discarded to provide the other and more realistic form. This we may accordingly amend, in conformity with our notation of 20 buzurg, from G A B♭ c d♭ e♭ f g to G A B♭ c d♭ e(♭) f g. That Quṭb al-Dīn, in the list transcribed in chapter 2, should also include the redundant f♯ (which he gives in fact as g♭), may be considered no more than an obeisance to the authority of Ṣafī al-Dīn. If the f♯ were ever used in practice it would almost certainly represent a change from zankūla to buzurg.

chapter 5

In chapter 2 it was suggested that 21 buzurg G A♭ B c c♯ d, Quṭb al-Dīn's addition, may not be a variant form but simply a way of notating the buzurg pentachord more accurately than in 20 buzurg G A♭ B(♭) c c♯ d. In chapter 4 it has been contended that the differences in the notation of zankūla provide a parallel case. But if, in these two instances, we would consider it valid to replace Ṣafī al-Dīn's /1 2♭ 3♭ 4.../ with Quṭb al-Dīn's /1 2♭ 3 4.../, it follows that in other modes, too, what appears in Ṣafī al-Dīn's version as /1 2♭ 3♭ 4/ might be a theoretical adjustment of /1 2♭ 3 4/ if the latter occurs in the corresponding version given in the durrat al-tāj. In this respect we may contrast the following pairs:

	Ṣafī al-Dīn		Quṭb al-Dīn
22a	G A♭ B♭ c d	22b	<u>'uzzāl</u> G A♭ B c d
27a	G A B♭ c♯ d	27b	<u>nīrīzī</u> G A B♭ c♯ d
46a	<u>hijāzī</u> G A♭ B♭ c d♭ e♭ f g	46b	<u>hijāzī</u> G A♭ B♭ c d♭ e f g
62a	<u>nihuft</u> G A♭ B♭ c d e♭ f g	62b	<u>nihuft</u> G A♭ B c d e♭ f g

with which one may also compare:

32 rāhawī G A♯ B♯ c d♯ e♭ f g 33 rāhawī G A♯ B c d♯ e♭ e

The possibility that in these instances too, Quṭb al-Dīn's notation may be simply the more accurate, and thus (except for the upper segment of rāhawī) faithfully represents these modes as they were also known to his predecessor, is reinforced by a passage in the kitāb al-adwār concerned with quite a different matter. In the course of a discussion of the term murakkab, combination, Ṣafī al-Dīn raises the following objection to the descriptive formula it involves: "If one subscribes to it [i.e. calls a certain scale a combination of such-and-such units], why not call rāhawī a combination of nawrūz and ḥijāzī; zankūla a combination of ḥijāzī and rāst; and iṣfahān a combination of iṣfahān and rāst?"¹ What is significant here is not the argument, which amounts to no more than saying why use a compound name referring to the constituent units when the scale in question already has a simple name, but the fact that Ṣafī al-Dīn twice uses the term ḥijāzī to designate one such unit. Both the examples in which it occurs, (32) rāhawī and (57a) zankūla, are cited above; and it will be seen that in each case the tetrachord referred to is given by Quṭb al-Dīn as /1 2♯ 3 4/, 12 ḥijāzī, but by Ṣafī al-Dīn as /1 2♯ 3♯ 4/, 10 'irāq. Not

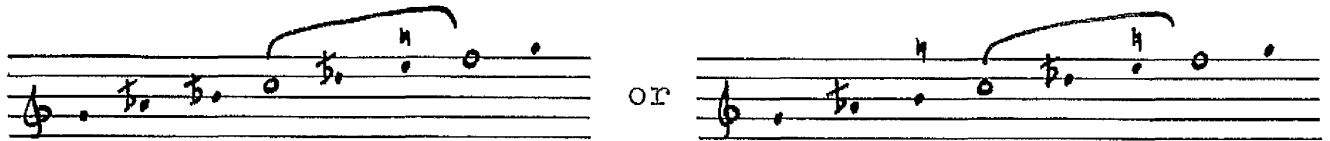
¹ BM. MS. Or. 136, fol. 22v.

only does Ṣafī al-Dīn not recognize /1 2♯ 3 4/, but he also omits all mention of the name hijāzī when defining and listing the tetrachord species. This makes the occurrence of the name here all the more interesting, especially as it is used in conjunction with zankūla, with regard to which we have already suggested, in the previous chapter, that Quṭb al-Dīn's version with /1 2♯ 3 4/ should be considered the more accurate.

We cannot of course be sure that this passage is an inadvertent admission of the presence of 12 hijāzī /1 2♯ 3 4/ in the modal system of Ṣafī al-Dīn's day. But as all the other tetrachord names he uses correspond to those found in the durrat al-tāj it would be reasonable to assume that this is so in the present case too. If not, hijāzī would have to be explained either as a mere synonym of 10 'irāq /1 2♯ 3♯ 4/, or as one of an alternative set of terms known to Ṣafī al-Dīn in which it replaced 10 'irāq. Neither explanation convinces. Again, any attempt to relate the correspondences between the two lists to regional variations or differences of tradition would be faced with the same difficulty - explaining why Ṣafī al-Dīn does not refer to 'irāq rather than to hijāzī.

If we accept, provisionally, the identification of Ṣafī al-Dīn's hijāzī with 12 hijāzī /1 2♯ 3 4/ it follows that rāhawī and zankūla become G A♯ B c d♯ e♭ f g and

G A B \flat c d \flat e f g respectively, the latter being identical with the version proposed in the previous chapter.¹ Further, if we admit that these two modes contain 12 hijāzī, we may expect to find it also in 46a hijāzī and the mode derived from it, 62a nihuft. Again, the resulting forms coincide with those listed by Quṭb al-Dīn. In the case of 44 hijāzī G A \flat B \flat c d \flat e \flat f g, however, there is no corresponding form in the durrat al-tāj: nevertheless, it is reasonable to assume that /1 2 \flat 3 4/ would occur here too, and if we accept, by analogy with 46b hijāzī, that c and f were prominent, the following two forms are possible:



44 hijāzī would thus be differentiated from 44 'irāq (Quṭb al-Dīn)



with regard to both the position of the prominent notes and the nature of the constituent units. This suggests that in 45 'irāq G A \flat B \flat c d \flat e \flat f f \sharp g the f \sharp may have been added to avoid any confusion between this mode and the notated form Ṣafī al-Dīn gives to 44 hijāzī: for Quṭb al-Dīn, it may be remembered, 45 'irāq is no more than a variant of

¹ Ignoring for the moment the status of the octave note.

44 'irāq.

These modifications are based on the assumption that Ṣafī al-Dīn's references to a tetrachord named hijāzī constitute an "inadvertent admission". Further, that other explanations of the presence of this name are unsatisfactory. But this type of argument fails in one important respect: no solution is offered to the fundamental problem of why Ṣafī al-Dīn should neither list nor define 12 hijāzī /1 2[♯] 3 4/ if it did in fact occur in a number of well-known modes.

The answer to this - if there is one - can only be pieced together from evidence scattered through Ṣafī al-Dīn's two treatises, none of it concerned directly with the question, much of it therefore open to argument.

Firstly, we may repeat that we already have in 20 buzurg a clear example of misleading notation, a larger than whole-tone interval being given as a whole-tone. But the risāla al-sharafiyya contains a further and even more explicit example of this process of falsification. The intervals of the pentachord^{25a}/are analysed in the first instance as 128, 139, 49, 231, and 155 cents, but Ṣafī al-Dīn comments that it would be preferable to effect a division in which the interval of 231 cents is replaced by a whole-tone, giving 128, 139, 49, 204 and 182 cents,¹ and it is to the latter

1 Bodleian MS. Marsh 521, ff. 65-65v.

form that the notation (c d^{-c} eb e^{-c} gb g, listed elsewhere) would appear to relate. The obvious conclusion to be drawn from this is that a larger than whole-tone interval was used in practice (otherwise the first analysis would be entirely unnecessary), but that for theoretical purposes it was more convenient to consider it, and notate it, as a whole-tone.

What these theoretical purposes were, however, is not entirely clear. It is possible that it was rather a question of a theoretical compromise. In the kitāb al-adwār Ṣafī al-Dīn distinguishes three classes of intervals according to size:

- (i) kubrā, large: double octave, octave plus fifth, octave plus fourth, octave.
- (ii) wuṣṭā, medium: fifth, fourth.
- (iii) sughrā, small: \mathbb{T} J B; \mathbb{T} being defined as 9 : 8, J as approximately 16 : 15, B as approximately 30 : 29.¹

(It will be noted that intervals between whole-tone (\mathbb{T}) and fourth are not mentioned.) In the risāla al-sharafiyya (i) and (ii) are the same, but the situation with regard to (iii) is somewhat more complex. This class comprises all intervals of the form $x + 1 : x$ (x being an integer) smaller than the fourth (4 : 3), and is subdivided into (p), large; (q), medium; and (r), small, the definitions being:

¹ BM. MS. Or. 136, ff. 6-7.

- (p) $2p > 4 : 3$. I.e. $5 : 4$, $6 : 5$, and $7 : 6$.
 (q) $4 : 3 - 2q < q$. I.e. $8 : 7$, $9 : 8$, and $10 : 9$.
 (r) smaller intervals.¹

Later Ṣafī al-Dīn states that, in a melody, group (p) intervals are undesirable as undivided entities.² Hence it is understandable to find him defining as $8 : 7$ (group (q)) the interval defined by Quṭb al-Dīn in 21 buzurg G A♯ B c c♯ d and 25b hiṣār G A♯ B♭ B♯ c♯ d as $7 : 6$ (group (p)). But if $8 : 7$ is admissible there seems to be little reason to substitute $9 : 8$ in 25a G A♯ B♭ B♯ c♯ d (both in the ratios and in the notation) and 20 buzurg G A♯ B(♯) c c♯ d (in the notation). It is here that the compromise may come in, $8 : 7$ being mentioned in the analysis of these units, but $9 : 8$ being used instead in the notation in order to make them conform to the rather more rough and ready categories T J and B arrived at in the earlier work. Ṣafī al-Dīn's remark to the effect that musicians employ $9 : 8$ for all three intervals in group (q)³ may perhaps be understood simply as a justification of this compromise, for if taken at face

1 Bodleian MS. Marsh 521, ff. 47v-48.

2 Ibid., fol. 68 . There would seem to be no objective basis for this curious restriction. 23 a māya contains an undivided minor third; the composition notated by Quṭb al-Dīn and ascribed to Ṣafī al-Dīn contains leaps of a fourth and, in all probability, a minor sixth; and one of the examples of notation given by Ṣafī al-Dīn himself even contains leaps of a minor seventh.

3 Ibid., fol. 48v.

value it would mean that the distinction maintained between major and minor whole-tone in his theoretical gamut is quite pointless when considered in relation to practice, since it would follow that certain pairs of modes could not be told apart by intervallic structure alone.

Even if the above argument is found unconvincing, it is at least certain that the process whereby Şafī al-Dīn might arrive at the notated form $G \ A^{-c} \ B^{-c} \ c$ for hijāzī has a parallel in his treatment of 20 buzurg and 25a. It may also be noted in this respect that in all probability Şafī al-Dīn would analyse hijāzī as 13 : 12, 8 : 7, 14 : 13 - exactly the ratios (in two of the four versions) for the three lower intervals of 20 buzurg. But this is not all: if we compare these ratios with the ratios and the notation given for 10 ¹ 'irāq:

$$\begin{array}{ccccccc} 10 : 9 & & 9 : 8 & & 16 : 15 & & \\ G & & A^{-c} & & B^{-c} & & c \end{array}$$

it will be seen that two ways of notating hijāzī suggest themselves: $G \ A\flat \ B^{-c} \ c$ and $G \ A^{-c} \ B \ c$ (that given by Quṭb al-Dīn). The former would be unacceptable, however, since the interval $A\flat - B^{-c}$ is 294 cents, larger than the already undesirably large 7 : 6. $G \ A^{-c} \ B \ c$ is therefore

1 The ratios are given only by Quṭb al-Dīn, but there can be little doubt that these are the values Şafī al-Dīn would have adopted too.

the obvious choice; but it will be noted that, if adopted, the ratio value 16 : 15 in 'irāq would be notated as a larger interval than the 14 : 13 in hijāzī. This anomaly may be added to the considerations which dictated the notation $A^{-c} - B^{-c}$ (in place of $A^{-c} - B$) in 20 buzurg as a further impetus towards the notation of hijāzī as $G \ A^{-c} \ B^{-c} \ c$. A more concrete disadvantage of $G \ A^{-c} \ B \ c$ is that it would give rise in 32 rāhawī (in amended notation $G \ A\sharp \ B \ c \ d\sharp \ e\flat \ f \ g$) to the dissonant sequence $B \ J$ between B and $d\sharp$.

There is yet another possible factor. It has been pointed out that despite being in the mainstream of the Peripatetic tradition, Ṣafī al-Dīn was perhaps not entirely unaffected by the doctrine of ta'thīr, ethos; and there is one highly relevant indication that betrays the influence of the symbolic importance the doctrine attached to certain numbers. When defining the tetrachord and pentachord species he remarks that by making certain concessions with regard to proscribed (dissonant) series of intervals, 13 pentachord species are possible; yet he deliberately restricts himself to listing only 12¹ - a number of some significance, as we have seen in connection with the shudūd. Now, the inclusion of 12 hijāzī would have meant on the one hand an increase in the number of tetrachords to 8, which would probably have been quite

1 It is true that the pentachord not listed, /1 2 3 4 5/, does not occur in any of the scales which, according to Ṣafī al-Dīn, are found in practice - but then nor does /1 2 3 4 5/, which is one of the 12 listed.

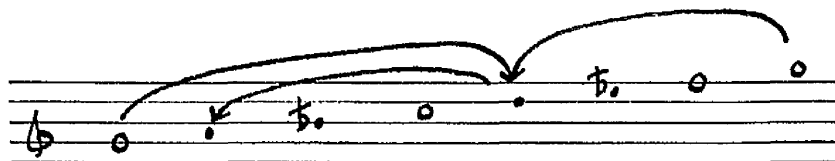
acceptable, 8 being conveniently related to 4 and 12, both important, but on the other hand an increase in the number of pentachords, which would appear to have been unacceptable. Again, it may be noted that the addition of 12 ḥijāzī would have upset the symmetrical balance between the three diatonic tetrachords (/1 2 3 4/, /1 2 3^b 4/, /1 2^b 3^b 4/) and the three 4-note Zalzalīan tetrachords (/1 2 3[♯] 4/, /1 2[♯] 3[♯] 4/, /1 2[♯] 3^b 4/).

The above arguments will, it is hoped, go some way towards explaining why and how 12 ḥijāzī /1 2[♯] 3 4/ might have come to be notated in the same form as 10 'irāq /1 2[♯] 3[♯] 4/. But they do not provide the answer to the problem of why, in that case, Ṣafī al-Dīn failed to state, when defining and listing the tetrachord species, that the notation G A^{-c} B^{-c} c stood for both. To do so would, no doubt, have constituted an admission that there were certain shortcomings or artificialities in his system of interval and unit analysis. But if this defect had to be covered up by mentioning only one of them, the obvious choice would have been to omit any reference to 'irāq, since 12 ḥijāzī would appear to occur in far more modes.

The most likely answer to this problem may be found in the hypothesis that 12 ḥijāzī is not fortuitously related to 10 'irāq by the imperfections of a particular notation, but is derived from it. This would mean that it is less a

question of hijāzī "becoming" 'irāq in notation than of 'irāq becoming hijāzī in practice. It would be quite natural to find Ṣafī al-Dīn giving the anterior form only (being as it were both 'irāq in esse and hijāzī in posse), especially if the latter was in his day a relatively new development frowned upon by the stricter upholders of tradition.

Support for this hypothesis is to be drawn not from the texts, which are silent on the matter, but from an examination of the structure of these units. 10 'irāq /1 2♯ 3♯ 4/ has been frequently placed alongside 8 rāst /1 2 3♯ 4/ and 9 nawrūz /1 2♯ 3♯ 4/, as if the three formed a set. In some ways, of course, they do; but /1 2♯ 3♯ 4/ differs from the others in one important respect: it does not, like them, contain a whole-tone (and a minor third) from the framing or, to borrow Ṣafī al-Dīn's term, fixed notes 1 and 4. Admittedly, the degree, and hence the importance, of the consonance of whole-tone and minor third is less than that of the fourth, both generally, within the series of overtones, and specifically, within the modal system under discussion. But the contrast becomes significant nevertheless when these units are reduplicated to form parallel conjunct tetrachord scales. Thus in

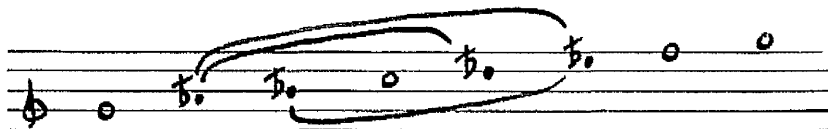


d stands in a consonant relationship with G (and g), one of

the fixed notes, and A with d. A similar pattern is observable in



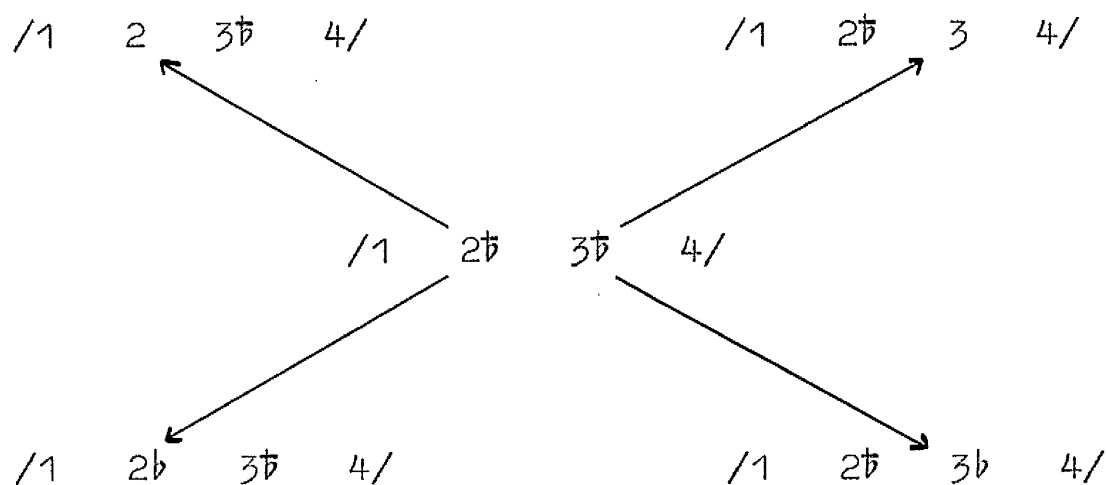
In both cases only one note in each tetrachord cannot be so related, directly or indirectly, to a fixed note. The same situation arises (except in the soon to be discarded 32 rāhawī) when these two combine with other tetrachord units to form consonant octave scales. However, when /1 2♭ 3♭ 4/ is reduplicated (or combined with another unit) the interior notes cannot be so related:



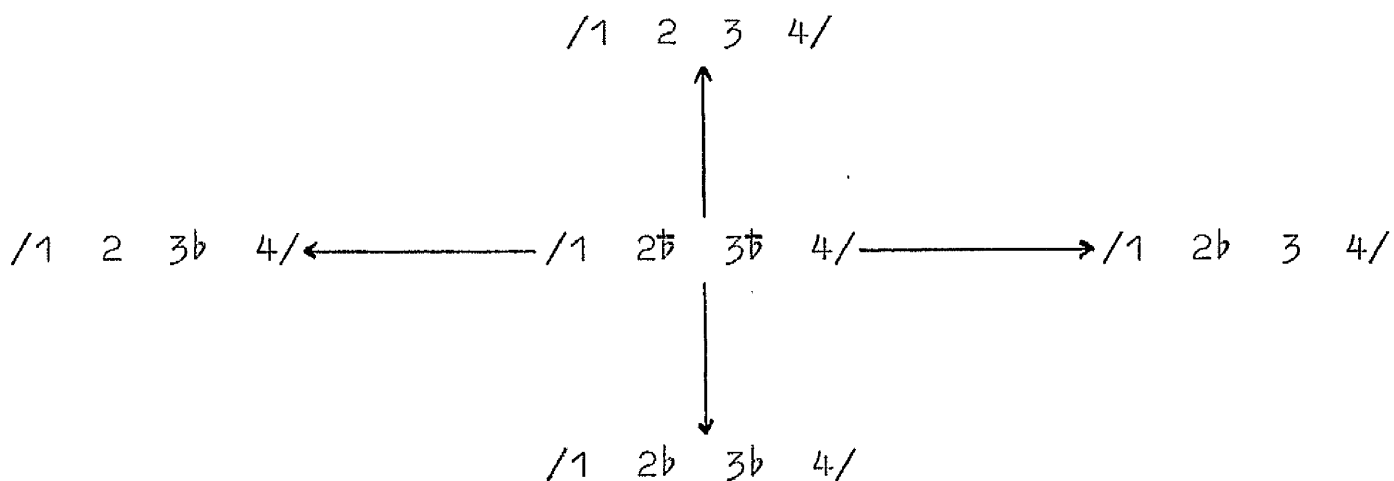
If it is accepted that in the first two examples the stability of the whole-tones G - A, c - d, B♭ - c, and e♭ - f is to some extent dependent on consonant relationships with the fixed noted G c f g (themselves established by consonance), then it may be suggested that in contrast the size of the A♭ - B♭ and d♭ - e♭ intervals in the last example would tend to vary over a much wider range since they can only be defined precisely as whole-tones by consonances with e♭ and A♭ respectively, neither of which are fixed notes.

It follows from this that within the tetrachord /1 2♭ 3♭ 4/ both 2♭ and 3♭ should be potentially unstable notes. By altering each of them separately four tetrachords may be

obtained:



Two of these are already in existence - 8 rāst /1 2 3♯ 4/ and 9 nawrūz /1 2♯ 3♭ 4/. A further four tetrachords may be produced by altering both notes simultaneously:



Of these three are already in existence - 5 'ushshāq /1 2 3 4/, 6 būsālīk /1 2♭ 3♭ 4/, and 7 nawā /1 2 3♭ 4/. We are thus left with three possible transformations which preserve the independence of the unit: /1 2♯ 3 4/, /1 2♭ 3 4/, and /1 2♭ 3♯ 4/. The first two of these are definitely no more than alternative forms of 12 hijāzī, for Quṭb al-Dīn notes that the central interval of this unit,

normally $2\sharp - 3$, was in practice sometimes enlarged to $2\sharp - 3$.¹ It is quite reasonable to assume that the third tetrachord may also have occurred as a variant of 12 hijāzī, for the interior notes of this unit can be no more defined by reference to the fixed notes than those of $/1\ 2\sharp\ 3\sharp\ 4/$. It is feasible to suppose that the same musician may have produced in ascent and descent varying forms, e.g. $/1\ 2\sharp\ 3\ 4/$ and $/4\ 3\sharp\ 2\flat\ 1/$. The interior notes would in effect tend to function partly as leading notes of 1 and 4,² according to the melodic context, and the emergence of 12 hijāzī may be explained, especially if we take the variant $/1\ 2\flat\ 3\ 4/$ into consideration, in terms of the attraction exerted on the unstable notes $2\sharp$ and $3\sharp$ in 10 'irāq by their respective adjacent fixed notes. In fact, the impulse to alter the structure of this unit would appear to have been sufficiently powerful to render acceptable scale forms with a greater number of unattached notes: one may compare e.g. 46b hijāzī G A \sharp B \flat c d \sharp e f g (consonance ratio 4 : 1) with the scale it presumably replaced, 46a hijāzī G A \sharp B \flat c d \sharp e \sharp f g (consonance ratio 5 : 0). In none of the octave scales, however, does the replacement of 10 'irāq by 12 hijāzī bring the consonance ratio down to the critical level - 3 : 2.³

1 BM. MS. Add. 7694, fol. 222.

2 I.e. considering $2\flat$ to function as a leading note in relation to 1, 3 in relation to 4.

3 The change of unit does not alter the consonance ratio in 32 rāhawī and 57a zankūla.

Presumably because of this development, /1 2♯ 3♯ 4/ seems hardly to have survived as an independent entity. The only form of 'irāq recognized by al-Lādhiqī¹ is Quṭb al-Dīn's other version, 2 'irāq /1 2♯ 3♯/. This is of course just as unstable, and would appear to owe its continuing existence to the use of 4̣ rāst as a parent scale from which further modes were derived by giving prominence to successive degrees, usually starting from the fourth, which tends to become the tonic in rāst as in other modes:

G	A	B♯	c	d	e♯	f	g	(a	b♯	c')
			/1	2	3♯	4/				
				/1	2♯	3♯	4/			
					/1	2♯	3♯/	2	<u>'irāq</u>	

The lack of a fourth in this form of 'irāq may thus relate to the fact that rāst contains a, not a♯.

1 BM. MS. Or. 6629, fol. 66v.

2 A similar situation would appear to obtain in modern Arab practice. If we take G as the lowest note, yakāh, then B♯ is called 'irāq. One may also compare the ascending line of the modern maqām 'irāq, which adheres to the notes of the rāst scale, and is divided into units as follows (D'Erlanger, la musique arabe, v, 148):



The use of 4̣ rāst as a parent scale may also explain the position of the prominent segment in 44 and 45 'irāq (according to Quṭb al-Dīn):

*

*

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It follows from the conclusions reached above, and in previous chapters, that Ṣafī al-Dīn's notation of a number of modes may be considered of questionable accuracy, and the doubtful parts will henceforth be placed in brackets, as with 20 buzurg. There is one further amendment: it has been argued that Ṣafī al-Dīn's first ratio analysis of the pentachord 25a is more realistic than his notation (c ḍ ẹ ẹ f̣ g), and for this we may substitute Quṭb al-Dīn's version, 25b /1 2̣ 3̣ 3̣ 4̣ 5/. The change will affect 58a zīrāfkand and 59a kawāsht.

The following are therefore the final notated forms to be adopted for all the octave or quasi-octave scales stated by Ṣafī al-Dīn to occur in practice:

32 <u>rāhawī</u>	G Ạ B(̣) c ḍ ẹ f g
40 <u>'ushshāq</u>	G A B c d e f g
41 <u>būsalīk</u>	G Ạ Ḅ c ḍ ẹ f g
42 <u>nawā</u>	G A Ḅ c d ẹ f g

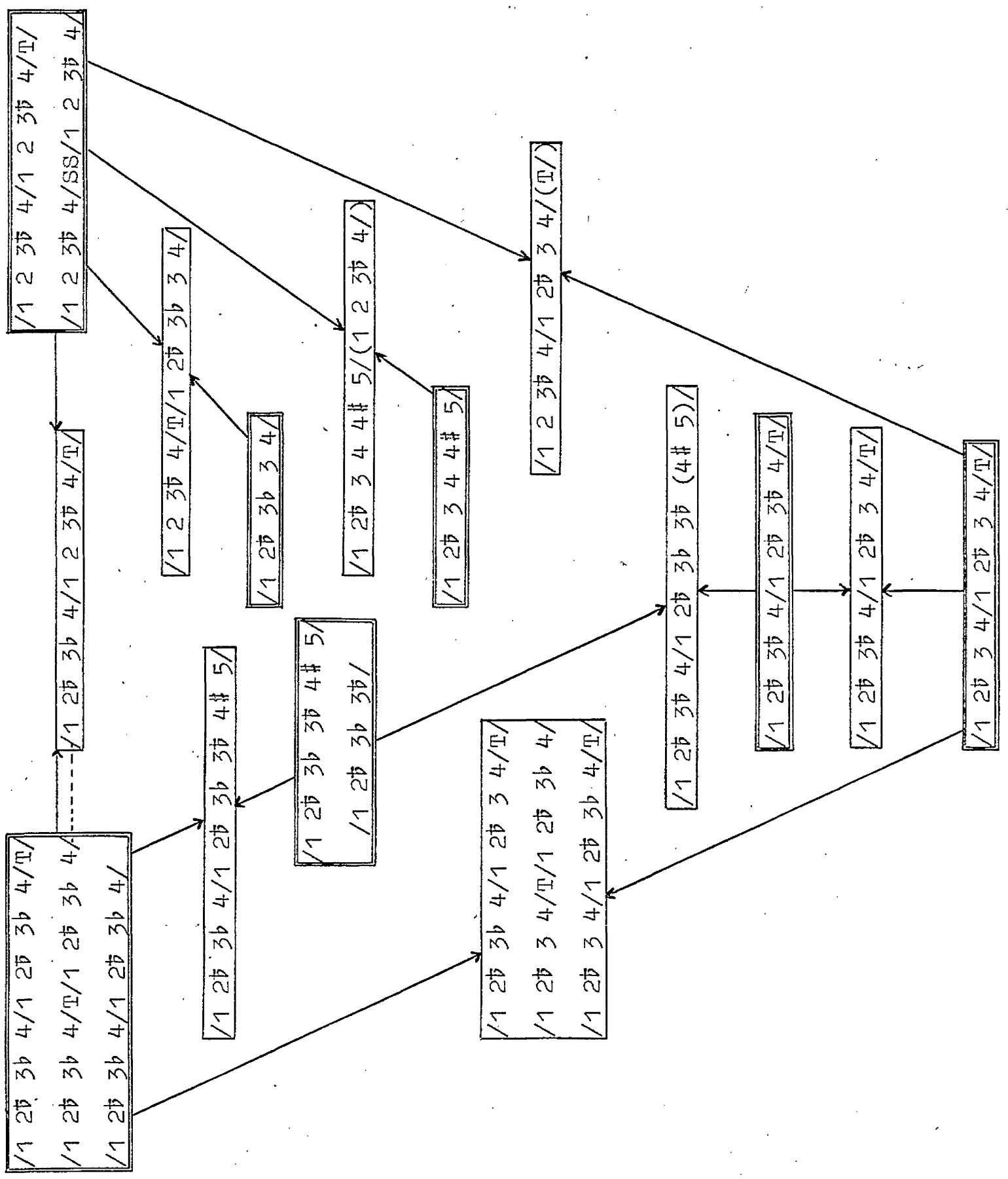
G A Ḅ c d ẹ f g (a ḅ c')

'irāq 1 2̣ 3̣ 4 5̣ 6̣
 the completion with ạ being by analogy with both the lower unit and the prevailing octave structure.

43 <u>rāst</u>	G A B♭ c d e♭ f g
44 <u>hijāzī</u>	G A B♭ or B(♭) c d♭ e(♭) f g
45 <u>'irāq</u>	G A♭ B♭ c d♭ e♭ f (f♯) g
46a <u>hijāzī</u>	G A♭ B♭ c d♭ e(♭) f g
48 <u>ḥusaynī</u>	G A♭ B♭ c d♭ e♭ f g
50 <u>kardāniya</u>	G A B♭ c c♯ d e f♯ g
54 <u>buzurg</u>	G A♭ B(♭) c c♯ d (e f♯ g)
57a <u>zankūla</u>	G A B♭ c d♭ e(♭) f ((f♯) g)
58a <u>zīrāfkand</u>	G A♭ B♭ c d♭ e♭ e♭ f♯ g
59a <u>kawāsht</u>	G A♭ B♭ c d♭ e♭ e♭ (f♯ g) ¹
60 <u>muḥayyir ḥusaynī</u>	G A♭ B♭ c d e♭ f g
62a <u>nihuft</u>	G A♭ B(♭) c d e♭ f g
66 <u>iṣfahān</u>	G A B♭ c d e♭ f f♯ g

The diagrammatic representation of the distribution of Zalzalian units in these scales (plus 37 nawrūz G A♭ B♭ c d♭ e♭ f) needs little adjustment in order to incorporate 12 hijāzī /1 2♭ 3 4/ and the other amendments:

1 See the remarks on pp. 142-143.



To conclude, we may formulate a number of brief descriptive statements based on the examination, in this and the preceding chapters, of Ṣafī al-Dīn's account of the modal system:

With the apparent exception of salmak, the modes may be discussed in terms of the following units:

? /1 2♯ 3♯/ ¹	/1 2♯ 3♭ 3♯/	
/1 2 3 4/	/1 2 3♭ 4/	/1 2♭ 3♭ 4/
/1 2 3♯ 4/	/1 2♯ 3♯ 4/	/1 2♯ 3 4/
/1 2♯ 3♭ 4/	/1 2♯ 3♭ 3 4/	/1 3♭ 4/
/1 2♯ 3 4 4♯ 5/	/1 2♯ 3♭ 3♯ 4♯ 5/	

One mode (shahnāz) is certainly based on a single unit (/1 2♯ 3♭ 3♯/), and another (54 buzurg) may be (on /1 2♯ 3 4 4♯ 5/). The remainder consist of a combination of two units, or of the same unit repeated. We may distinguish non-octave scales:

parallel conjunct tetrachords (23a māya - /1 3♭ 4/;
37 nawrūz - /1 2♯ 3♭ 4/)

non-parallel conjunct units (57a zankūla - /1 2 3♯ 4/,
/1 2♯ 3 4/; ? 59a kawāsht - /1 2♯ 3♯ 4/,
/1 2♯ 3♭ 3♯/)

1 Only if we wish to separate this unit from /1 2♯ 3♯ 4/ in the light of Quṭb al-Dīn's notation of 44 and 45 'irāq. It has not been given below.

octave scales:

parallel conjunct tetrachords:

diatonic (40 'ushshāq - /1 2 3 4/; 41 būsalīk -
/1 2 \flat 3 \flat 4/; 42 nawā - /1 2 3 \flat 4/)

Zalzalian (43 rāst - /1 2 3 \flat 4/; ? 44 hijāzī - /1 2 \flat
3 4/; 45 'irāq - /1 2 \flat 3 \flat 4/; 48 husaynī -
/1 2 \flat 3 \flat 4/)

non-parallel conjunct tetrachords (32 rāhawī - /1 2 \flat 3
4/, /1 2 \flat 3 \flat 4/; ? 44 hijāzī - /1 2 \flat 3 \flat 4/,
/1 2 \flat 3 4/; 46a hijāzī - /1 2 \flat 3 \flat 4/, /1 2 \flat 3
4/; 60 muḥayyir husaynī - /1 2 \flat 3 \flat 4/, /1 2 3 \flat 4/)

parallel disjunct tetrachords (50 kardāniya - /1 2 3 \flat
4/; 60 muḥayyir husaynī - /1 2 \flat 3 \flat 4/)

non-parallel disjunct tetrachords (62a nihuft - /1 2 \flat
3 4/, /1 2 \flat 3 \flat 4/; 66 iṣfahān - /1 2 3 \flat 4/,
/1 2 \flat 3 \flat 3 4/)

tetrachord and pentachord units (? 54 buzurg - /1 2 \flat 3
4 4 \sharp 5/, /1 2 3 \flat 4/; 58a zīrāfkand - /1 2 \flat 3 \flat
4/, /1 2 \flat 3 \flat 3 \flat 4 \sharp 5/; ?59a kawāsht - /1 2 \flat 3 \flat
4/, /1 2 \flat 3 \flat 3 \flat 4 \sharp 5/)

Of the disjunct scales 66 iṣfahān appears to relate to an original conjunct form, while the other three may be derived from existing scales of conjunct form, the fourth becoming the tonic. During the 14th century, if not beyond, the

system continued to be enlarged by this process of modal development.

Diatonic units do not combine with any other unit. The distributional relationships of the Zalzalian units have been shown in the above diagram.

Among the octave scales, according to the criteria discussed, both possible consonant combinations with /1 2^b 3^b 3^b 4[#] 5/ occur, while there is no satisfactory combination including /1 2^b 3 4 4[#] 5/. If /1 2^b 3^b 4/ and /1 2^b 3 4/ are classed together (as representing stages in the evolution of the one unit), then in conjunct tetrachord octave scales all possible consonant combinations of /1 2 3^b 4/, /1 2^b 3^b 4/, /1 2^b 3^b 4/ and /1 2^b 3^b 3 4/ occur, with the sole exception of (67 iṣfahān) /1 2^b 3^b 4/ 1 2^b 3^b 3 4/T/.¹

¹ Of the alternatives /1 2^b 3 4/ 1 2^b 3^b 3 4/T/ and /1 2^b 3^b 4/ 1 2^b 3^b 3 4/T/ the latter is unacceptable, having three unattached notes. However, with the admission of 12 hijāzī elsewhere, the dissonant status of the B J sequence, which occurs in the former between B and d^b, becomes open to question.

part 3

(217)

chapter 6

In considering the account of the modal system presented in the durrat al-tāj, it may be remarked first of all that Quṭb al-Dīn does not simply take over the shudūd/āwāzāt classification of his predecessor. He does refer to these categories; but his views on which modes are to be assigned to them differ in some instances at least from those of Ṣafī al-Dīn, for he classes 60 muḥayyir ḥusaynī as an āwāz,¹ while māya and shahnāz (āwāzāt for Ṣafī al-Dīn) are stated to belong to another group, the shu'bas.² However, as he fails to supply a full list of the modes he considers to be āwāzāt, there is little point in reopening the debate on the structural principles, if any, underlying these two categories.

For mode and scale Quṭb al-Dīn uses the generic term parda,³ which therefore comprises the shudūd, the āwāzāt, and the shu'bas, an important group not mentioned by Ṣafī al-Dīn which the durrat al-tāj discusses in some detail. The shu'bas,

1 BM. MS. Add. 7694, fol. 233.

2 Ibid.

3 The durrat al-tāj appears to be the first text to use "maqām" as a generic term for mode. It occurs infrequently.

which are stated to be modal forms characterized by particular¹ melodic features and derived from already existing pardas, will be discussed in chapter 7, as will the following, the names of which suggest a combination of a shu'ba and another unit:

30 (<u>segāh wa hijāzī</u>)	G	A♯	B	c	d	e♯
31 (<u>segāh wa husaynī</u>)	G	A♯	B♭	c	d	e♯
38 (<u>chahārgāh wa hijāzī</u>)	G	A♯	B	c	d	e♯ f
39 (<u>chahārgāh wa iṣfahān</u>)	G	A♯	B♭	B	c	d e♯ f

In the preceding examination of the scales mentioned by Ṣafī al-Dīn it was suggested that in certain cases his notation should be amended. The resulting forms coincide with the versions put forward by Quṭb al-Dīn, thus reducing the differences between their respective accounts. If we accept these amendments, the following are the scales listed in the durrat al-tāj which Ṣafī al-Dīn fails to cite:

33 <u>rāhawī-yi tamām</u>	G	A♯	B	c	d♯	e♭	e
34 <u>iṣfahānak</u>	G	A♯	B♯	c	d♯	e♭	e♯
35 variant of <u>iṣfahānak</u>	G	A♯	B	c	d♯	e♭	e♯
36 <u>kūchek-i tamām</u>	G	A♯	B♭	c	d♯	e♭	e♯
47 <u>husaynī</u>	G	A♯	B♭	c	d	e♭	f g
49 <u>kardāniya</u>	G	A	B♯	c	d	e	f♯ g
51 variant of <u>kardāniya</u>	G	A	B	c	d	e	f♯ g

1 Ibid., fol. 233v.

52	variant of <u>kardāniya</u>	G	A	B♭	c	d	e	f♯	g					
53	variant of <u>kardāniya</u>	G	A	B	c♯	d	e	f♯	g					
55	variant of <u>buzurg</u>	G	A♭	B(♭)	c	c♯	d	e♭	f	f♯	g			
56	variant of <u>buzurg</u>	G	A♭	B(♭)	c	c♯	d	e♭	f♯	g				
61	<u>muḥayyir zīrkesh</u>	G	A♭	B♭	B	c	d	e♭	f	g				
63	<u>kardāniya nīrīzī</u>	G	A	B♭	c♯	d	e	f♯	g					
64		G	A	B♭	c	d	e♭	f♯	g					
65		G	A♭	B♭	c	d	e♭	f	g					
67	<u>iṣfahān</u>	G	A♭	B♭	c	d♭	e♭	e	f	g				
68		G	A♭	B	c	d	e♭	f	g	a				
69	<u>nihuft-i kāmil</u>	G	A♭	B♭	c	d♭	e	f	g	a♭	b♭	c'		
70	<u>nihuft-i kāmil</u>	G	A♭	B	c	d	e♭	f	g	a♭	b	c'		
71	<u>buzurg-i kāmil</u>	G	A♭	B(♭)	c	c♯	d	e♭	f	f♯	g	a♭	b	c'
72	<u>būsālīk</u>	G	A♭	B♭	c	d♭	e♭	f	g	a♭	b♭	c'		

If 59a kawāsht is amended to coincide with 34 iṣfahānak, then 59b G A♭ B♭ c d♭ e♭ e♭ f♯ g may be added.

For Ṣafī al-Dīn a number of these scales would be dissonant. The proscribed sequence B J occurs in 55 and 56 (between c♯ and e♭), 33 and 35 (between B and d♭), while in 71 it appears twice (from c♯ to e♭ and from f♯ to a♭). In a further two scales, 53 and 63, the fourth is omitted. However, some of these "dissonances" are no more than the result of Quṭb al-Dīn's recognition of 12 ḥijāzī /1 2♭ 3 4/, and occur also when this unit is substituted for 10 'irāq /1 2♭ 3♭ 4/ in certain modes notated by Ṣafī al-Dīn. In effect, the sequence B J may be rejected as a valid criterion

of dissonance with reference to the corpus of scales in the durrat al-tāj. It should be noted that all these scales would appear to be satisfactory structures when viewed in terms of consonant intervals and unattached notes. It is true that the two non-octave modes listed by Ṣafī al-Dīn which do not just consist of one unit (23a māya G B♭ c e♭ f and 37 nawrūz G A♯ B♭ c d♯ e♭ f) have better consonance ratios (4 : 0 and 5 : 0 respectively) than most of the non-octave combinations given above (33 rāhawī-yi tamām, 3 : 1; 34 iṣfahānak, 4 : 1; 35 variant of iṣfahānak, 3 : 2, 36 kūček-i tamām, 4 : 0), but only one of these has the same low ratio as the octave scale 32 rāhawī.

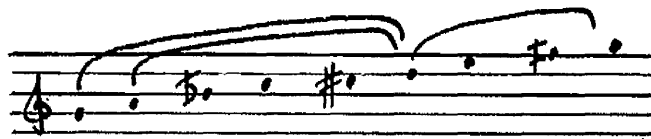
Of the two non-tetrachord units which figure in these four combinations, 1 zīrāfkand-i kūček /1 2♯ 3♭ 3♯/ is found in conjunction with /1 2♯ 3♭ 4/, /1 2♯ 3♯ 4/ and /1 2♯ 3 4/, while 4 rāhawī /1 2♯ 3♭ 3/ combines only with /1 2♯ 3 4/. If one regards these two units as being in some way related to, respectively, 25 /1 2♯ 3♭ 3♯ 4♯ 5/ and 11 /1 2♯ 3♭ 3 4/, it will be seen that the combinations in which they are found closely resemble those in which the latter appear. The diagram representing the distributional relationships obtaining among the Zalzalīan units described by Ṣafī al-Dīn plus 12 hijāzī /1 2♯ 3 4/ (p. 212) would thus need hardly any alteration in order to accommodate them. In fact, it is likely that at least some of them were known to Ṣafī al-Dīn: it may be recalled that although /1 2♯ 3♭

3♯/ appears only once, and then in a specific melodic form (24a shahnāz), while /1 2♯ 3♭ 3/ does not occur in any of the scales he lists, he does go to the trouble of defining both, by ratios as well as by notation, in the risāla al-sharafiyya. It would therefore be surprising if they were not in common use during his lifetime also, and the four non-octave modes listed here by Quṭb al-Dīn are among the most consonant conjunct combinations possible with these two units.

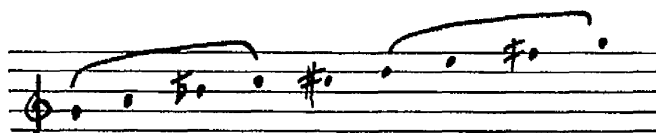
The octave scales, all of which have a consonance ratio better than the critical 3 : 2, may for the sake of convenience be dealt with in two groups, the first comprising

49 <u>kardāniya</u>	G	A	B♯	c	d	e	f♯	g
51 variant of <u>kardāniya</u>	G	A	B	c	d	e	f♯	g
52 variant of <u>kardāniya</u>	G	A	B♯	c	d	e	f♯	g
53 variant of <u>kardāniya</u>	G	A	B	c♯	d	e	f♯	g
63 <u>kardāniya nīrīzī</u>	G	A	B♯	c♯	d	e	f♯	g
64	G	A	B♯	c	d	e♯	f♯	g

We may safely assume, contrary to the headings in the durrat al-tāj, that the original form of kardāniya, to which most of these scales relate, or were thought to relate, was Ṣafī al-Dīn's version, 50 kardāniya G A B♯ c c♯ d e f♯ g. It has been suggested that this mode was derived from iṣfahān, appearing first as



but that this was subsequently assimilated to the standard octave-scale pattern which laid emphasis not on the tetrachord A - d, but on the tetrachord G - c. The resulting form



is however unique in that the medial disjunctive whole-tone is divided. Most of the above six scales may be explained in terms of an attempt, on the part of practising musicians, to normalize the structure of this mode by avoiding this unusual feature.

The most obvious course of action would be simply to omit the major source of difficulty, the c#, thus producing 49 kardāniya G A B \flat c d e f \sharp g. But the existence of the other variants suggests that this change was felt at the time to be insufficient or somehow unsatisfactory.¹ The reason is probably that the same scale was incipient elsewhere in the modal system, for Qutb al-Dīn gives c as the prominent note in 43 rāst G A B \flat c d e \flat f g, and it is the starting point for the shu'bas derived from this scale. Already at this period, therefore, it is likely that the modal development

¹ Although 49 does survive at least until the end of the 15th century, being recognized by both 'Abd al-Qādir and al-Lādhiqī.

whereby the fourth becomes the tonic was also being applied to 43 rāst:

/1 2 3♯ 4/1 2 3♯ 4/T/ → /1 2 3♯ 4/T/1 2 3♯ 4/

The resulting scale is identical with 49 kardāniya.

Thus for kardāniya to preserve its individuality at the same time as regularizing its structure, either a further change is desirable in 49, or an alternative change in 50, the original form. The former process may be seen in 51 G A B c d e f♯ g and 52 G A B♯ c d e f♯ g, the latter in 63 G A B♯ c♯ d e f♯ g. In 51 the lower tetrachord of 49 kardāniya, /1 2 3♯ 4/, is replaced by /1 2 3 4/, and in 52 the upper. However, both scales are again unusual, for they combine diatonic and Zalzalian units, and the non-appearance of 52 in later accounts of the modal system may perhaps be attributed to this factor.¹ In 63 the sequence c c♯ d in 50 kardāniya is obviated by omitting the fourth, c. That this expedient was also felt to be unsatisfactory is suggested by the presence of 64 G A B♯ c d e♯ f♯ g which may be derived from 63, the fifth becoming the tonic:

63 G A B♯ c♯ d e f♯ g
 /T/1 2♯ 3 4/1 2 3♯ 4/ → /1 2 3♯ 4/T/1 2♯ 3 4/
 G A B♯ c d e♯ f♯ g 64

¹ 51 is however mentioned in later texts, where it is generally called māhūr.

64, with its prominent fourth, would thus be in effect an analogical back-formation.

The status of 53 G A B c# d e f# g as a variant of kardāniya is less easily explained. As it is the only other octave scale listed by Quṭb al-Dīn in which the fourth is omitted it would seem logical to link it with 63 G A B# c# d e f# f. The differences between the two are however considerable, and there would certainly seem to be no good reason for drastically altering the latter while leaving the main irregularity, the omission of the fourth, undisturbed. But if the appellation of 53 is difficult to account for, the actual scale could be arrived at quite easily by assuming a process of development parallel to that postulated for the two forms of iṣfahān:

The diagram illustrates the development of scale 53. On the left, a single staff shows a scale with a missing fourth degree, indicated by a bracket and a curved line above the notes. This staff branches into two staves on the right. The top staff is labeled '40 uṣhshāq' and the bottom staff is labeled '53'. Both staves show a scale with a missing fourth degree, indicated by a bracket and a curved line above the notes.

But this still does not explain why a scale with such an unusual structure should come to be adopted at all. The fact that 53 is only recorded in the durrat al-tāj suggests that, whatever its origin, it was an experimental form quickly abandoned.

The other group consists of:

47 <u>ḥusaynī</u>	G	A♭	B♭	c	d	e♭	f	g		
55 variant of <u>buzurg</u>	G	A♭	B(♭)	c	c♯	d	e♭	f	f♯	g
56 variant of <u>buzurg</u>	G	A♭	B(♭)	c	c♯	d	e♭	f♯	g	
61 <u>muḥayyir zīrkesh</u>	G	A♭	B♭	B	c	d	e♭	f	g	
65	G	A♭	B♭	c	d	e♭	f	g		
67 <u>iṣfahān</u>	G	A♭	B♭	c	d♭	e♭	e	f	g	

These are simply the remainder of the octave scales, placed together for convenience. Some of them have been discussed in previous chapters. 67 iṣfahān was considered in conjunction with Ṣafī al-Dīn's version, 66 iṣfahān G A B♭ c d e♭ f f♯ g, and it was suggested that 61 muḥayyir zīrkesh derives from it:

67 G	A♭	B♭	c	d♭	e♭	e	f	g									
/1	2♭	3♭	4/1	2♭	3♭	3	4/T/	→/1	2♭	3♭	3	4/T/1	2♭	3♭	4/		
									61 G	A♭	B♭	B	c	d	e♭	f	g

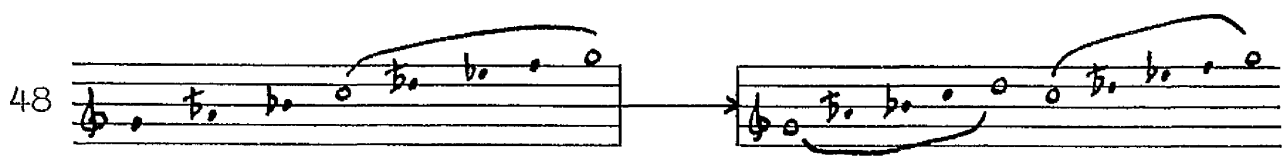
Similarly it has been suggested that 65 may be derived from 41 būsalīk:

41 G	A♭	B♭	c	d♭	e♭	f	g									
/1	2♭	3♭	4/1	2♭	3♭	4/T/	→/1	2♭	3♭	4/T/1	2♭	3♭	4/			
									65 G	A♭	B♭	c	d	e♭	f	g

The two variants of buzurg, 55 and 56, have been discussed in conjunction with 54 buzurg G A♭ B(♭) c c♯ d e f♯ g. Although much more satisfactory than 54 buzurg when considered in terms of consonant intervals and parallelism (at the

fifth), both appear to have been short-lived.

The origins of the remaining mode, 47 husaynī G A♯ B♭ c d e♭ f g, are obscure. In the other form of husaynī, that recognized by both authors, 48 G A♯ B♭ c d♯ e♭ f g, the prominent unit is the c - g pentachord, 18 husaynī, and it would therefore be natural to find c becoming the tonic. As we have seen, this had in fact already happened in Ṣafī al-Dīn's lifetime or earlier, the resulting mode being 60 muḥayyir husaynī G A♯ B♭ c d e♯ f g. However, there appears to be no particular reason for deriving a further scale from this by substituting e♭ for e♯, and such a change would hardly have occurred unmotivated. It is perhaps more likely that 47 should be related to 48, arising indirectly out of the performer's desire for unit symmetry, i.e. in this case reproducing the pentachord 18 husaynī /1 2♯ 3♭ 4/T/ from G as well as from c:



The d♯ would tend to be discarded in favour of d if the lower pentachord then assumed greater importance, and 47 husaynī would result.

Among the scales exceeding the octave

68 G A♯ B c d e♯ f g a

with the contrast of A♯ and a, can perhaps be similarly

explained as resulting from an impulse on the part of the performer to balance the lower pentachord (G - d) with another (d - a), although in this case the two are not parallel. The quest for consonance and symmetry might again be seen as the motive dictating the choice of the upper tetrachords (g - c') in

70 nihuft-i kāmīl G A♭ B c d e♭ f g a♭ b c'

71 buzurg-i kāmīl G A♭ B(♭) c c# d e♭ f f# g a♭ b c'

72 būsalīk G A♭ B♭ c d♭ e♭ f g a♭ b♭ c'

The other form of nihuft-i kāmīl, 69 G A♭ B♭ c d♭ e f g a♭ b♭ c', does not conform to this pattern, although it may be pointed out that considered separately the octaves G - g and c - c' are both satisfactory structures. It must be remembered, however, that 69 and 70 are alternative renderings of the same entry in Quṭb al-Dīn's list, and it is by no means certain that both were found in practice. If 69 did occur, it might conceivably have resulted from a fusion, or deliberate overlapping, of 32 rāhawī (G - g) and 62 nihuft (c - c').

To return to the octave scales, it may be noted that Quṭb al-Dīn's additions include four of the seven possible scales postulated in chapter 4 if one allows the substitution of 12 hijāzī /1 2♭ 3 4/ for 10 'irāq /1 2♭ 3♭ 4/ in the upper tetrachord of G A B♭ c d e♭ f♯ g. They also

include a number of scales with sequences of intervals considered dissonant by Ṣafī al-Dīn, and two in which the disjunctive whole-tone is placed below. These therefore provide further patterns of unit distribution in conformity with which another group of possible scales might be posited. However, there would be little point in examining such scales in order to determine why they did or did not subsequently occur, for if the evidence of the durrat al-tāj indicates that the period 1250-1300 saw an increase in the repertoire of octave scales, later texts suggest that despite the continued addition of new derived forms the trend was rather towards a reduction in the total number of octave scales in current use, so that by the late 15th century it would appear that they were outweighed in importance by modes based generally on a single unit (tetrachord or pentachord in most cases), and characterized by particular melodic features, i.e. modes comparable to the shu'bas described by Quṭb al-Dīn.

*

* *

The following is a schematic summary of the developmental relationships between octave scales examined in this and the preceding chapters.

Hypothetical forms (given on two pitch levels to avoid

confusion or transposition elsewhere) are linked to the relevant attested forms by a broken line. Derivation by the fourth¹ becoming the tonic is indicated by an arrow, derivation by dissimilation or assimilation by a wavy arrow. In doubtful cases these signs are doubled. The two entries for a scale listed by both Şafī al-Dīn and Quṭb al-Dīn² are linked thus:



(the clef sign ♩ being omitted for reasons of space).

The last column includes only scales not mentioned by either of them: the non-appearance of any given scale in it should not therefore be taken to indicate that it did not occur later.

1 Or, in one case, the fifth.

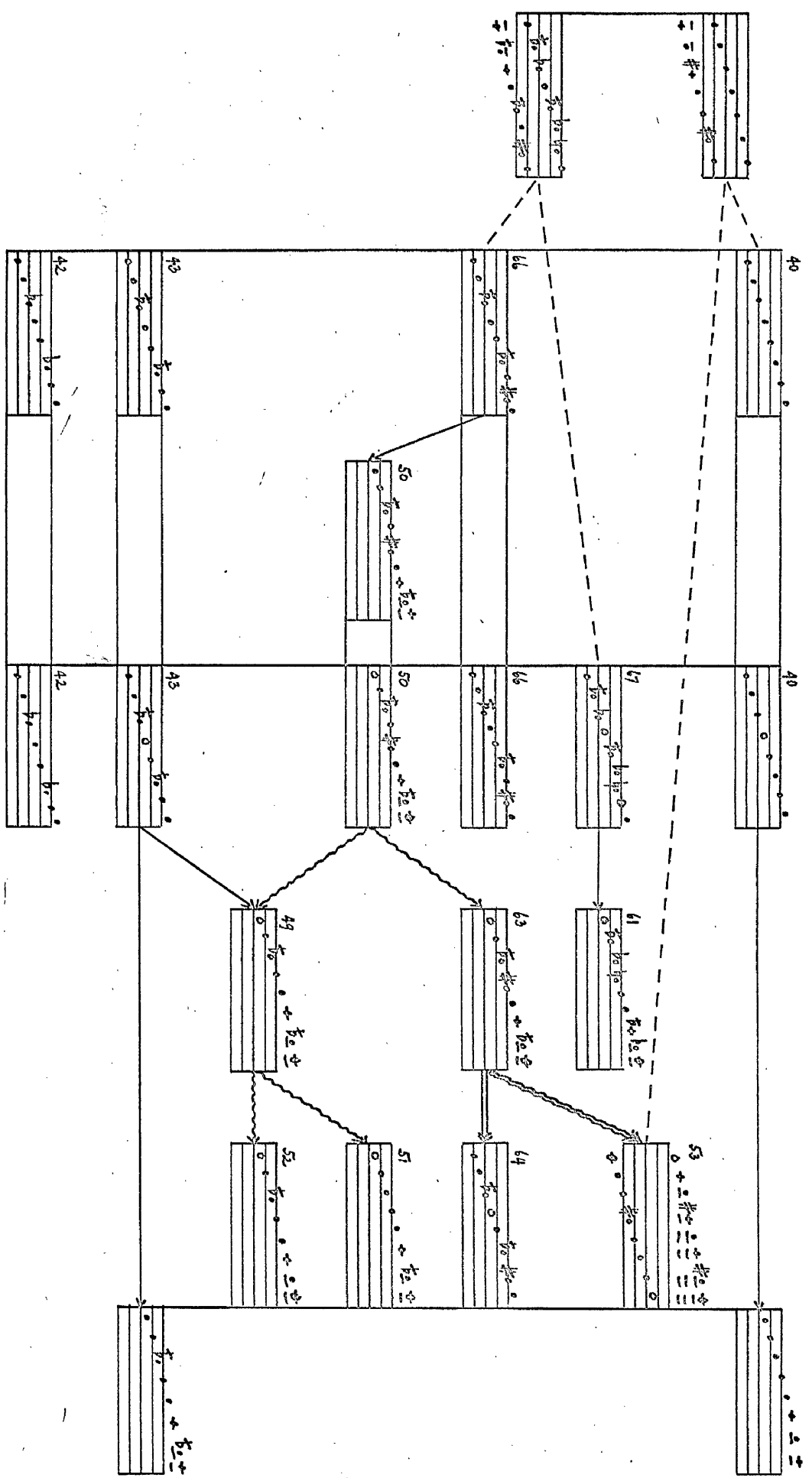
2 66 işfahān has been included among those entered twice: although not listed by Quṭb al-Dīn, its existence is recognized by him.

hypothetical forms

scales listed by Safi al-Din

scales listed by Qufb al-Din

scales listed by later writers



scales listed by Safi al-Din

scales listed by Qutb al-Din

scales listed by later writers

<p>41</p>		<p>41</p>	<p>65</p>	
<p>45</p>		<p>44, 45</p>		
<p>44</p>				
<p>46</p>		<p>46</p>		
<p>62</p>	<p>62</p>	<p>62</p>		
<p>57</p>		<p>57</p>		

scales listed by Saifi al-Din

scales listed by Qutb al-Din

scales listed by
later writers

The diagram displays a grid of musical notation for scales. The scales are organized into columns and rows, with some scales connected by lines. The scales are numbered as follows:

- Column 1 (left): 32, 53, 54, 58, 59, 59, 59
- Column 2: 60, 60
- Column 3: 48, 48, 48, 47
- Column 4: 55, 56
- Column 5 (right): 48, 48, 48, 47

The notation consists of five-line staves with various notes, accidentals (sharps, flats, naturals), and clefs. A wavy line connects scale 55 to scale 56. The scales are arranged in a grid-like fashion, with some scales appearing in multiple columns.

If this table is at all accurate as a statement of diachronic relationships, it is valid only with regard to the sequence of events through which the modal system expanded. It should not be thought to give an accurate indication of the dating of these events. The fact that Quṭb al-Dīn records more than twice as many modes as Ṣafī al-Dīn cannot be taken to mean that the modal system doubled in extent in a mere half-century or less: Ṣafī al-Dīn himself makes it clear in both of his treatises that the modes he includes are only the best-known. Thus although it would seem likely that some of those listed later were already in use during his lifetime, we have no means of determining how many and which; nor of course can we tell whether there were further modes, familiar to him but soon to be discarded. It is possible, as has been hinted in connection with his non-recognition of 12 ḥijāzī /1 2[†] 3 4/, that Ṣafī al-Dīn regarded certain changes being adopted or even already firmly established in his day as unacceptable innovations: it would certainly be consistent with his position as an influential and highly respected court musician for him to adopt a steadfastly conservative attitude, especially towards the novelties of younger rivals. It is perhaps worth mentioning in this respect that although his second treatise, the risāla al-sharafiyya, was composed after the sack of Baghdad and while he was in the service of the Mongol Īl-Khāns, it betrays no outside influence, Mongol or Turkish. Even the E mode, listed in the durrat al-tāj and the sharḥ, where it is stated to be in common use

among the Turks,¹ is absent from it: yet the Turks had long exerted a cultural, as well as a military, influence in Baghdad; and it is clear that this influence must have extended to the music of the court, resulting in the addition of new elements and, through the demands of taste, the favouring of certain existing elements at the expense of others.²

A corresponding synchronic statement of the patterns of unit distribution obtaining in the corpus of fixed scales listed by Quṭb al-Dīn may again be presented diagrammatically.

1 /1 2♭ 3♭ 3♯/ and 4 /1 2♭ 3♭ 3/ are entered at the same points as the units to which they may be related - 25 /1 2♭ 3♭ 3♯ 4♯ 5/ and 11 /1 2♭ 3♭ 3 4/ respectively. 10 /1 2♭ 3♯ 4/ and 12 /1 2♭ 3 4/ are held to constitute one composite entry, and in addition no distinction is drawn between /1 2♭ 3♯/ and /1 2♭ 3♯ 4/. 66 iṣfahān G A B♭ c d e♭ f f♯ g is included, while 45 'irāq G A♭ B♭ c d♭ e♭ f (f♯) g is subsumed under 44 'irāq G A♭ B♭ c d♭ e♭ f g. The non-octave scales (with the exception of 30, 31, 38 and 39, to be discussed in the following chapter) and those exceeding the octave are also included.

1 BM. MS. Or. 2361, fol. 103.

2 The earliest example of a new addition from this source is in fact furnished by the durrat al-tāj, in which one of the rhythmic modes is called turkī (BM. MS. Add. 7694, fol. 239).

/1 2 3b 4/1 2 3b 4/T/

/1 2b 3b 4/1 2b 3b 4/T/
/1 2b 3b 4/1 2b 3b 4/T/1 2b 3b 4/
/1 2b 3b 4/T/1 2b 3b 4/

/1 2 3 4/1 2 3 4/T/
/T/1 2 3 4/1 2 3 4/

/1 2b 3b 4/T/1 2b 3b 4/

/1 2 3 4/T/1 2 3b 4/
/1 2 3b 4/T/1 2 3 4/

/1 2b 3b 4/1 2b 3b 4/T/
/1 2b 3b 4/T/1 2b 3b 4/
/1 2b 3b 4/1 2b 3b 4/

/1 2b 3b 4/1 2 3b 4/T/

/1 2 3b 4/1 2 3b 4/T/
/1 2 3b 4/T/1 2 3b 4/
/1 2 3b 4/SS/1 2 3b 4/

/1 2b 3b 4/1 2b 3b 3b/
/1 2b 3b 4/1 2b 3b 3b 4# 5/

/1 2b 3 4 4# 5/(1 2 3b 4/)

/1 2b 3b 3 4/T/1 2b 3b 4/
/1 2b 3b 4/1 2b 3b 3 4/T/

/1 2 3b 4/T/1 2b 3b 3 4/

/1 2b 3b 3b/
/1 2b 3b 3b 4# 5/

/1 2b 3 4 4# 5/

/1 2b 3b 3/
/1 2b 3b 3 4/

/1 2b 3 4 4# 5/1 2b 3b 3 4/

/1 2b 3 4 4# 5/1 2b 3b 3 4/1 2b 3 4/

/1 2b 3b 4/1 2b 3b 3b/
/1 2b 3 4/1 2b 3b 3b/
/1 2b 3b 4/1 2b 3b 3b 4# 5/

/1 2b 3 4 4# 5/1 2b 3 4/

/1 2b 3 4/T/1 2b 3b 4/
/1 2b 3b 4/1 2b 3 4/T/
/1 2b 3 4/T/1 2b 3b 4/1 2b 3 4/
/1 2b 3b 4/1 2b 3 4/T/1 2b 3b 4/
/1 2b 3 4/T/1 2b 3b 4/T/

/1 2b 3 4/1 2b 3b 3/

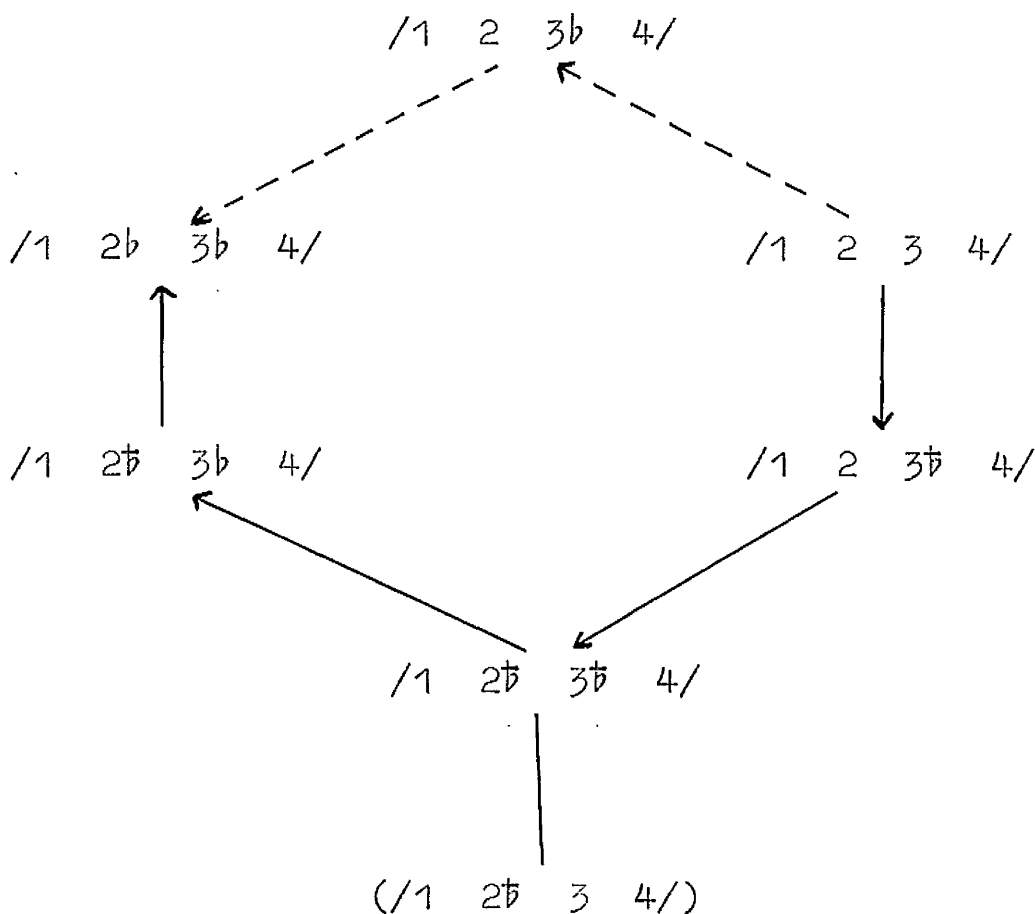
/1 2 3b 4/1 2b 3 4/(T/)
/T/1 2b 3 4/1 2 3b 4/
/1 2 3b 4/T/1 2b 3 4/

/1 2b 3 4/

/1 2b 3b 4/1 2b 3b 4/T/

Given that /1 2♭ 3 4/ and /1 2♭ 3♭ 4/ are different manifestations of the same unit, it will be seen that the only asymmetrical feature of this diagram is occasioned by the placing of 55 variant of buzurg G A♭ B(♭) c c♯ d e♭ f f♯ g (the only 9-note octave scale) and the related 71 buzurg-i kāmīl G A♭ B(♭) c c♯ d e♭ f f♯ g a♭ b c'.

In contrast to the previous diagrams, which could be variously arranged, the position of the outer triangle of Zalzalīan units is now fixed, and is mirrored by the triangle of diatonic units. They are connected by a regular progression:



The broken arrows show a progression by a semitone

lowering of one note, the others by a quartertone lowering. The particular direction chosen (up or, as here, down) is without significance.

One may also note the balance within the Zalzalian triangle, where the one 5-note tetrachord is flanked by the two indivisible pentachords.

It is clear that an arrangement of this type is to be expected in a system where the combination of units is governed by principles of consonance, for the above progression juxtaposes units which show the greatest degree of similarity. Nevertheless, it should be remarked that the lines joining the diatonic and Zalzalian groups are to some extent exceptional when viewed in the context of the historical development of the modal system. As has been seen, *Ṣafī al-Dīn* makes no reference to the scales they represent; and later treatises mention only one or two combining /1 2 3 4/ and /1 2 3♯ 4/. In effect, the line linking these two units marks an escape route from the presumably unsatisfactory 50 kardāniya G A B♯ c c♯ d e f♯ g. On the other side of the diagram 47 ḥusaynī G A♯ B♭ c d e♭ f g is found only in the durrat al-tāj, and if the diagram were adapted in order to represent the modes in current use during the following two centuries the link between /1 2♭ 3♭ 4/ and /1 2♯ 3♭ 4/ would disappear.

Thus the connection between the two diatonic units

/1 2 \flat 3 \flat 4/ and /1 2 3 \flat 4/ and the others is somewhat tenuous, and it is interesting to note that by the time of al-Lādhiqī the names attached to them by Ṣafī al-Dīn and Quṭb al-Dīn are used to denote other units, būsalīk referring to /1 2 3 \flat 4 5/ and nawā to /1 2 \flat 3 \flat 4/. The change in the latter, certainly, is hardly surprising, for to judge by Quṭb al-Dīn's list /1 2 3 \flat 4/ was the least used tetrachord: it is found in just one octave scale, and its lack of importance is underlined by the fact that it is the only unit for which no indication is given of the presence of a prominent note or notes. Such indication is also lacking in the octave scale 42 nawā, and the alteration in the order of presentation of the tetrachord species may be taken as further evidence: for Ṣafī al-Dīn the order is the logical sequence /1 2 3 4/, /1 2 3 \flat 4/, /1 2 \flat 3 \flat 4/, but in the durrat al-tāj /1 2 3 \flat 4/ is placed after the other two, and in addition the catalogue of pentachords omits /1 2 3 \flat 4/.

*

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In conclusion we may present a summary of scale types akin to that given at the end of the preceding chapter. Where a scale is identical with one given there the unit(s) it contains will not be mentioned. 30, 31, 38 and 39 are

again excluded from consideration.

To the units found in the modes recognized by Şafī al-Dīn /1 2♯ 3♭ 3/ may be added.

We may distinguish:

modes based on a single unit (23b māya - /1 3♭ 4/T/;
25b hişār - /1 2♯ 3♭ 3♯ 4# 5/; ? 54 buzurg)

modes based on a combination of units:

non-octave scales:

parallel conjunct units ¹ (24b shahnāz - /1 2♯ 3♭ 3♯/; ²
33 rāhawī-yi tamām - /1 2♯ 3 4/, /1 2♯ 3♭ 3/;
34 işfahānak - /1 2♯ 3♯ 4/, /1 2♯ 3♭ 3♯/; 36
kūchek-i tamām - /1 2♯ 3♭ 4/, /1 2♯ 3♭ 3♯/;
37 nawrūz)

non-parallel conjunct units (35 variant of işfahānak -
/1 2♯ 3 4/, /1 2♯ 3♭ 3♯/; 57 zankūla)

octave scales:

parallel conjunct tetrachords: ¹
diatonic (40 'ushshāq; 41 būsalīk; 42 nawā. With

1 The term parallel is used here to refer also to those cases where all the notes of a four-note unit are reproduced in a five-note unit, e.g. /1 2♯ 3 4/ in /1 2♯ 3♭ 3 4/. When e.g. /1 2♯ 3♭ 4/ is placed below /1 2♯ 3♭ 3♯/ in a non-octave combination the same situation may be held to arise since the upper note of the lower unit coincides with the lower note of the upper unit.

2 Parallelism in this instance is at the neutral third.

lower disjunction: 53 variant of kardāniya - /1 2
3 4/)

Zalzalian (43 rāst; 44 (? and 45) ‘irāq; 48 ḥusaynī;
67 iṣfahān - /1 2♯ 3♭ 4/, /1 2♯ 3♭ 3 4/)

non-parallel conjunct tetrachords (46 ḥijāzī; 60 muḥayyir
ḥusaynī. With lower disjunction: 63 kardāniya
nīrīzī - /1 2♯ 3 4/, /1 2 3♯ 4/)

parallel disjunct tetrachords:

diatonic (65 - /1 2♭ 3♭ 4/)

Zalzalian (49 kardāniya - /1 2 3♯ 4/; 50
kardāniya; 60 muḥayyir ḥusaynī; 61 muḥayyir
zīrkesh - /1 2♯ 3♭ 3 4/, /1 2♯ 3♭ 4/)

non-parallel disjunct tetrachords :

Zalzalian (62 nihuft; 64 - /1 2 3♯ 4/, /1 2♯ 3
4/; 66 iṣfahān)

diatonic and Zalzalian (47 ḥusaynī - /1 2♯ 3♭ 4/,
/1 2♭ 3♭ 4/; 51 variant of kardāniya - /1 2 3
4/, /1 2 3♯ 4/; 52 variant of kardāniya -
/1 2 3♯ 4/, /1 2 3 4/)

tetrachord and pentachord units (? 54 buzurg; 55 variant
of buzurg - /1 2♯ 3 4 4♯ 5/, /1 2♯ 3♭ 3 4/;
56 variant of buzurg - /1 2♯ 3 4 4♯ 5/, /1 2♯
3 4/; 58b ḥiṣār - as 58a zīrāfkand; 59b (ḥiṣār
wa iṣfahānak) - as 59a kawāsht)

scales exceeding the octave

add a whole-tone to an octave scale (68 - to 62 nihuft)

add a tetrachord to an octave scale

above (70 nihuft-i kāmīl - /1 2♯ 3 4/ to 62

nihuft; 71 buzurg-i kāmīl - /1 2♯ 3 4/ to 55

variant of buzurg; 72 būsalīk - /1 2♯ 3♯ 4/ to

41 būsalīk)

below (69 nihuft-i kāmīl - /1 2♯ 3♯ 4/ to 62

nihuft)

chapter 7

As has been pointed out, the information Quṭb al-Dīn provides about the modal system of his time is not confined to the catalogue of scales transcribed in chapter 2. Much of the remaining material is compressed in two sub-sections (mabḥath) of the concluding section of the fourth discourse (maqāla). Neither of these is based directly on Ṣafī al-Dīn's treatises, although references to these are made. In the first mabḥath we are presented with a short commentary on the modal categories established by Ṣafī al-Dīn and, far more important for the present study, a considerable amount of extremely valuable material on the shu'bas, a group of modes ignored by Ṣafī al-Dīn. In the second Quṭb al-Dīn goes on to detail a large number of further possible unit combinations or sequences, from which it is clear that in practice musicians were by no means limited to the combinations found in the scales discussed above.

These two mabḥaths are of sufficient interest to warrant giving in full. Quite apart from the intrinsic value of the contents, which greatly extend our knowledge of the musical practice of the period in relation to the development of the

modal system, they constitute a representative example of the sometimes sophisticated, sometimes logically naive types of argument found in the more interesting treatises of the Systematist school.

In the following translation, additions to the text are placed within square brackets. Notes and explanations are given on the pages opposite.

An explanation of the terms
parda, āwāz, tarkīb and shu'ba.

A parda, as used by practising musicians, can be shown by induction to consist of a limited series of notes usually bounded by a major consonant interval,¹ and is therefore synonymous with jam', group.² Some groups, however, such as kardāniya, nawrūz, muḥayyir and iṣfahānak, are called āwāzes,³ and others tarkībs,⁴ combinations, such as the second buzurg octave, said to be a combination of iṣfahān and buzurg,⁵ and the third,⁶ said to be a combination of ḥijāzī and buzurg.⁷

In the kitāb al-adwār Ṣafī al-Dīn objected to the term tarkīb. With reference to the first example [i.e. the second buzurg octave], the objection should be voiced thus: "If that octave is called a tarkīb because it combines the tetrachord iṣfahān with the pentachord buzurg,⁵ why is zankūla not called a combination of 'uzzāl and the tetrachord rāst,⁸ or iṣfahān-i aṣl a combination of the tetrachord iṣfahān and the pentachord rāst?⁹" - and not in the way he put it, which was to ask why rāhawī¹⁰ is not described as a combination of nawrūz and ḥijāzī, zankūla [as a combination] of ḥijāzī and rāst,¹¹ or iṣfahān-i aṣl [as a combination] of iṣfahān and rāst.¹² [This is] because the first two examples [he gives] are erroneous: rāhawī is not a combination of nawrūz and ḥijāzī, nor zankūla [a combination] of ḥijāzī and

- 1 Usually octave, fifth, or fourth. But from later examples it appears that Quṭb al-Dīn also includes the third
- 2 Ṣafī al-Dīn defines jam' as the association of three or more notes, the association of two constituting an interval.
- 3 50 kardāniya G A B♭ c c♯ d e f♯ g (or 49, omitting the c♯); 37 nawrūz G A♭ B♭ c d♭ e♭ f; 60 muḥayyir ḥusaynī G A♭ B♭ c d e♭ f g; 34 iṣfahānak G A♭ B♭ c d♭ e♭ e♭. iṣfahānak may be equated with kawāsht, one of the āwāzāt listed by Ṣafī al-Dīn: these do not however include 60 muḥayyir ḥusaynī.
- 4 55 G A♭ B(♭) c c♯ d e♭ f f♯ g.
- 5 11 iṣfahān /1 2♭ 3♭ 3 4/; 20 buzurg /1 2♭ 3 4 4♯ 5/.
- 6 56 G A♭ B(♭) c c♯ d e♭ f♯ g.
- 7 12 ḥijāzī /1 2♭ 3 4/; 20 buzurg /1 2♭ 3 4 4♯ 5/.
- 8 57 zankūla G A B♭ c d♭ e f (g); 22b 'uzzāl /1 2♭ 3 4/T/; 8 rāst /1 2 3♭ 4/.
- 9 66 iṣfahān(-i aṣl) G A B♭ c d e♭ f f♯ g; 11 iṣfahān /1 2♭ 3♭ 3 4/; 16 rāst /1 2 3♭ 4/T/.
- 10 32 rāhawī G A♭ B(♭) c d♭ e♭ f g; 9 nawrūz /1 2♭ 3♭ 4/; 12 ḥijāzī /1 2♭ 3 4/.
- 11 See note 8. 12 ḥijāzī /1 2♭ 3 4/; 8 rāst /1 2 3♭ 4/.
- 12 See note 9. 11 iṣfahān /1 2♭ 3♭ 3 4/; 8 rāst /1 2 3♭ 4/.

rāst. Similarly with the third example, unless by "iṣfahān" he means the tetrachord iṣfahān and by "rāst" the pentachord rāst.¹

We shall now state the truth of the matter.

Although technical terms are not subject to controversy, for since [the individual's] desires are not at variance with each other [his use of] terminology will be consistent - indeed, he may establish his own terminology - yet there is no² doubt that to observe a proportion among terms commensurate with that obtaining among the objects they designate is the rule obeyed by the wise. One of the requirements of this rule is that when a convenient word is used generically to designate a set of items, and a further item shares in this generic sense with the set, then the term is also applicable to that item. To use the term specifically for the set, to the exclusion of the particular item, is to restrict [its applicability] improperly. Therefore since these groups (jumū'), some of which are called āwāzes and others tarkībs (the term parda not being applied to them),³ have in common with the pardas the fact that they are all limited series of notes bounded by a major consonant interval, there is no distinction known which could justify not applying the term parda to them.⁴

Even if a distinction is drawn from the fact that the notes of iṣfahānak and nawrūz are not bounded by a major consonant interval,⁵ this objection may be refuted by the

1 It could be argued that Quṭb al-Dīn rejects Ṣafī al-Dīn's analysis of rāhawī simply because he does not recognize the latter's version of this mode. In the other two cases, however, it is clear that his objection is to Ṣafī al-Dīn's (perfectly straitforward) ellipsis whereby only the two constituent tetrachord units are mentioned, the reader being left to supply the position of the disjunctive whole-tone himself.

2 The rendering of the beginning of this paragraph is somewhat free: Quṭb al-Dīn resorts to Arabic phrases and clichés which do not greatly further his argument.

3 This remark is a clear indication that in ordinary usage the term parda was not used indiscriminately of any mode or scale, but corresponded to Ṣafī al-Dīn's term shadd (pl. shudūd).

'Abd al-Qādir confirms this, remarking that what the Arabs call shudūd are known as pardas or maqāms in Persia.

4 Commenting on this argument, 'Abd al-Qādir observes that the pardas are all consonant combinations of intervals, whereas according to Quṭb al-Dīn's definition a dissonant scale could equally be termed a parda (Bodleian MS. Marsh 282, ff. 45v-46).

5 34 iṣfahānak G A♯ B♯ c d♯ e♭ e♯; 37 nawrūz
G A♯ B♭ c d♯ e♭ f.

The former has a range of a neutral sixth, the latter of a minor seventh.

example of rāhawī-yi tamām,¹ which contradicts it, and on the other hand by the example of kardāniya and muḥayyir among the āwāzes.²

If it is said that kardāniya, for instance, is one of the forms taken by iṣfahān when transposed, as has been stated by Ṣafī al-Dīn,³ we may reply that būsalīk is also one of the transposed forms of 'ushshāq, and therefore it too should not be a parda.⁴ The truth of this proposition has been demonstrated previously, [when it was shown] that even if a transposed form of one particular scale coincides with another the two do not necessarily produce an identical effect on the listener; nor is one necessarily derived from the other.⁵

If it is said that in these āwāzes it is standard practice to begin the composition on the highest note, this [statement] is not valid for iṣfahānak, nor for muḥayyir,⁶ as may be seen from some of Ṣafī al-Dīn's compositions. In refutation one may cite ḥusaynī and the pentachord ḥiṣār,

1 33 rāhawī-yi tamām G A♭ B c d♭ e♭ e.

2 50 kardāniya G A B♭ c c♯ d e f♯ g; 60 muḥayyir
ḥusaynī G A♭ B♭ c d e♭ f g.

This paragraph contains a damaging admission, for once Quṭb al-Dīn concedes that some of the scales he wishes to class as pardas (i.e. iṣfahānak and nawrūz) do not fulfil the condition of being "bounded by a major consonant interval" his case is seriously weakened. To get round this difficulty one can hardly speak of a refutation - he first cites a parda (rāhawī-yi tamām) with a range of a major sixth, not a "major consonant interval", and then two non-pardas which are octave scales.

3 In the kitāb al-adwār (BM. MS. Or. 136, fol. 22v).

4 In theory a scale could be transposed to any one of the seventeen notes of the Systematist gamut. If, as a result, its notes coincided with those of another scale (not transposed), the latter might be thought to be derived from it despite the fact that the tonic would not be the same. Thus 66 iṣfahān /1 2 3♭ 4/T/1 2♭ 3♭ 3 4/ in the 17th ṭabaqa is d e f♯ g a b♭ c' c♯' d', the notes being the same as those of kardāniya (see note 2). In the scale "derived" in this way G (or g) remains the tonic. 41 būsalīk G A♭ B♭ c d♭ e♭ f g can be similarly "derived" from 40 'ushshāq /1 3 4/1 2 3 4/T/ in the 5th ṭabaqa: e♭ f g a♭ b♭ c' d♭' e♭'

5 In the passage alluded to (BM. MS. Add. 7694, fol. 232) Quṭb al-Dīn approaches the question from a different angle, observing that by taking the second note of 40 'ushshāq G A c d e f g as tonic 42 nawā /1 2 3♭ 4/1 2 3♭ 4/T/ results, from which it follows that within a given sequence of notes modal identity is determined by the position of the tonic

6 34 iṣfahānak G A♭ B♭ c d♭ e♭ e♭; 60 muḥayyir
ḥusaynī G A♭ B♭ c d e♭ f g.

which disprove [the statement].¹

If various other objections are made, the verdict on them will become clear after careful investigation. The first, indeed essential, step is that they should all be called pardas. Şafī al-Dīn's objections to this are in fact invalid, since we have previously demonstrated that a number of groups may share the same name while differing in range: thus Şafī al-Dīn designates both a tetrachord and an octave scale by the name rāst.² Similarly with the rest of the ten species³ which he first of all listed thus:⁴

(1) <u>'ushshāq</u>	♯	♯	B		G	A	B	c
(2) <u>nawā</u>	♯	B	♯		G	A	B♭	c
(3) <u>būsalīk</u>	B	♯	♯		G	A♭	B♭	c
(4) <u>rāst</u>	♯	J	J		G	A	B♯	c
(5) <u>nawrūz</u>	J	J	♯		G	A♯	B♭	c
(6) <u>'irāq</u>	J	♯	J		G	A♯	B♯	c ⁵
(7) <u>işfahān</u>	J	J	J	B	G	A♯	B♭	B c
(8) <u>buzurg</u>	J	♯	J	J B	G	A♯	B(♯)	c c♯ d
(9) <u>zīrāfkand</u>	J	J	B		G	A♯	B♭	B♯
(10) <u>rāhawī</u>	J	J	J		G	A♯	B♭	B

He further completed these species³ with a pentachord or tetrachord and entered them under the same names in the list of pardas.⁶

From the objection voiced above⁷ it is known that according to Şafī al-Dīn the upper pentachord in zankūla

1 48 husaynī G A♭ B♭ c d♭ e♭ f g; 25b hiṣār G A♭ B♭ B♭ c♯ d. Quṭb al-Dīn's rebuttal again takes the form of citing āwāzes which do not conform to the statement, and pardas which do. That 25b hiṣār should be considered a parda in this context is somewhat surprising.

2 rāst denotes /1 2 3♭ 4/, /1 2 3♭ 4/1 2 3♭ 4/T/, and also the pentachord /1 2 3♭ 4/T/.

These strictures on Ṣafī al-Dīn are difficult to justify. Ṣafī al-Dīn nowhere discusses whether all scales (and groups) should or should not be called shadd (= parda), and hence makes no objection to the proposal. The objection quoted above is concerned solely with the use of the term tarkīb.

3 aqsām, lit. "divisions".

4 This list is taken from the risāla al-sharafiyya (Bodleian MS. Marsh 521, fol. 90v). It will be noted that 12 hijāzī is not mentioned.

5 For Quṭb al-Dīn this is rū-yi 'irāq, 'irāq being 2 /1 2♭ 3♭/.

6 This statement is inaccurate. zīrāfkand G A♭ B♭ B♭ and rāhawī G A♭ B♭ B do not in fact occur in the list of pardas (i.e. shudūd) supplied by Ṣafī al-Dīn. The scales resulting from the addition of a tetrachord to these two units are, respectively, 36 kūchek-i tamām G A♭ B♭ c d♭ e♭ e♭ and 33 rāhawī-yi tamām G A♭ B c d♭ e♭ e, and not the octave scales zīrāfkand and rāhawī given by Ṣafī al-Dīn.

7 On p. 244.

is hijāzī¹, and that the lower pentachord in iṣfahān is rāst². Since the names are used like this, why may one not describe the scales both ways, so that the octave zankūla is called both zankula and a combination of 'uzzāl and the tetrachord rāst³, and the octave iṣfahān-i aṣl is called iṣfahān-i aṣl and a combination of the tetrachord iṣfahān⁴ and the pentachord rāst?

As for the question put by Ṣafī al-Dīn in the kitāb al-adwār:⁵ "Why does he who subscribes to this [view] not say that such-and-such a mode is a combination of such-and-such [units]?"⁶, he answers it by discussing combinations in the manner reported above: however, his remarks do not accord with what we have stated.⁷

[the shu'bas]

As for the shu'bas, for practicing musicians there are nine of these, as is well known:

dūgāh, segāh, chahārgāh, panjgāh, zāwlī, rū-yi 'irāq,⁸
mubarqa', māya, and shahnāz.

A shu'ba can also be defined by induction as a specific melodic movement upon the notes of a [given] parda, scale. This statement may be clarified thus: the masters of the practical art progress through the notes of the parda in such a way as to place emphasis on a certain note. (This has been alluded to in the sixth mabḥath.)⁹ As a result this note predominates,

- 1 57 zankūla G A B♭ c d♭ e f (g). The upper pentachord is 12 hijāzī /1 2♭ 3 4/ (c - f) plus whole-tone, i.e. 22b 'uzzāl.
- 2 66 iṣfahān G A B♭ c d e♭ f f# g; 16 rāst /1 2 3♭ 4/T/.
- 3 The lower tetrachord of 57 zankūla (see note 1) is 8 rāst /1 2 3♭ 4/.
- 4 The upper tetrachord (d - g) of 66 iṣfahān(-i aṣl) (see note 2) is 11 iṣfahān /1 2♭ 3♭ 3 4/.
- 5 BM. MS. Or. 136, fol. 22v.
- 6 Quṭb al-Dīn here repeats in abstract form the passage from the kitāb al-adwār quoted on p. 244 together with the preceding phrase.
- 7 The text of the last phrase is corrupt, and the translation therefore conjectural.
- 8 For Ṣafī al-Dīn māya and shahnāz are āwāzes. According to Quṭb al-Dīn's criteria the terms āwāz and shu'ba are not necessarily mutually exclusive, but the possibility of his assigning these two modes to both categories may be discounted.
- 9 See note 5, p. 249.

together with those that are most consonant with it. If this note is the lowest note [or tonic] (mafrūda)¹ of the parda, or the fourth upwards from the tonic, the melody is said to be in that parda. For instance if, in the parda rāst, the prominent note is c,² then the melody is in rāst, absolutely.

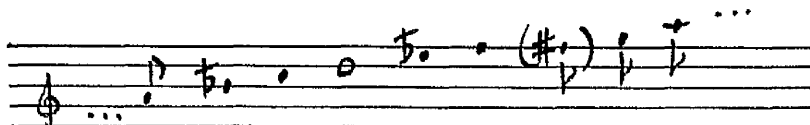
[dūgāh]

If the second note from c, i.e. d, is prominent, then it is said to be in dūgāh-i rāst. Further if, in progressing upwards, the note g is reached, or if A is reached downwards,³ the melody will indubitably produce the effect of nawrūz; if f# is also used it becomes iṣfahān;⁴ and if one goes beyond g to a it becomes ḥusaynī.⁵

In this case the name dūgāh is used when the melody both begins and ends on d, the second note [in relation to c]. Originally, indeed, the [melodic] progression in dūgāh may only have been on the notes close to d, i.e. without reaching the fourth from d, so that the impression proper to rāst was not transformed into that created by nawrūz. Subsequently, however, artistic licence and daring led musicians to extend its range, with the result that all the melodies composed in dūgāh-i rāst have the effect of the above-mentioned pardas, the only difference being that in those pardas it is customary to begin on the highest note and to end on the lowest, whereas in dūgāh d is both the initial and the final note.⁶

- 1 Equivalent to thaqīl al-mafrūdāt, the term used for the proslambanomenos of the systema teleion.
- 2 A fourth above the lowest note, or tonic, G, rāst being 43 G A B♭ c d e♭ f g.
- 3 Both d e♭ f g and A B♭ c d are 9 nawrūz /1 2♭ 3♭ 4/, while combined they form 37 nawrūz /1 2♭ 3♭ 4/1 2♭ 3♭ 4/.
- 4 d e♭ f f♯ g is 11 iṣfahān /1 2♭ 3♭ 3 4/.
- 5 d e♭ f g a is 18 ḥusaynī /1 2♭ 3♭ 4/T/, while A B♭ c d e♭ f g a is 48 ḥusaynī /1 2♭ 3♭ 4/1 2♭ 3♭ 4/T/.
- 6 In accordance with this description we may represent dūgāh as

73 dūgāh



In this and a number of further transcriptions the position of the initial and final notes (here d) is not indicated. It must be borne in mind that dūgāh does not have a fixed range: the dots therefore indicate that further notes from the parent scale 43 rāst G A B♭ c d e♭ f g might be added. The dots fulfil the same function below.

(230)

[segāh]

The case of segāh is analogous. Thus when its range is extended it sometimes gives the impression of 'irāq if f# is not used; ¹ sometimes of iṣfahānak if f# [or g^b] is used, together with d, c, and B^b; ² and sometimes of [zīrāfkand-i] kuchek if these three notes are omitted. ³

[chahārgāh]

chahārgāh is also analogous, except that the impression it evokes is similar to that of rāst. This is because of the prominence accorded f, a fourth from c. As a result of this consonant relationship c is swiftly established [as an important note] when chahārgāh is heard, from which it follows that other notes are perceived in relation to it, the cause being nevertheless [the prominence of] f. The effect produced is similar to that of rāst, especially when c often recurs. However, should c seldom recur, and d often (because of the [consonant] minor third relationship between f and d), then the d will impress itself upon the listener when he hears chahārgāh, and for this reason its notes will create an effect corresponding to that of dūgāh, especially when d is made the final note. ⁴

[panjgāh]

panjgāh is again similar, except that the effect it produces is even closer to that of rāst (the consonance of

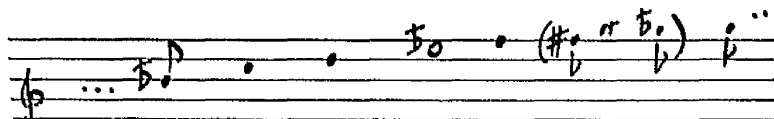
1 $e\flat$ f g is 2 /1 2 \flat 3 \flat /, 'irāq according to Qutb al-Dīn. The form of the statement implies that f \sharp was frequently added, at least in 4 $\bar{3}$ rāst.

2 B \flat c d e \flat f g \flat g is 34 iṣfahānak /1 2 \flat 3 \flat 4/ /1 2 \flat 3 \flat 3 \flat /. Considered in relation to a mode the units of which begin on B \flat and e \flat , the value of the theoretical notation g^{-c} need not necessarily have been f \sharp , which relates strictly to the octave G - g. g \flat is a minor third above e \flat .

3 e \flat f g \flat g is 1 zīrāfkand-i kūček /1 2 \flat 3 \flat 3 \flat / (see note 2).

From these remarks we may derive the notation

74 segāh

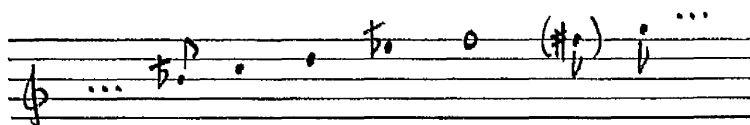


4 In 4 $\bar{3}$ rāst G A B \flat c d e \flat f g, c is prominent.

Hence the "effect produced" by chahārgāh, based on the upper tetrachord (c - f) and according to prominence to f, will tend to coincide with that of the lower tetrachord of rāst. It might be thought that d was sometimes made the final note in order to avoid this resemblance; but if so one would expect something similar to occur in panjgāh.

We may notate chahārgāh as

75 chahārgāh



g and c being more perfect than that of other notes), especially when c is made the final note, as is the custom among present-day musicians.¹

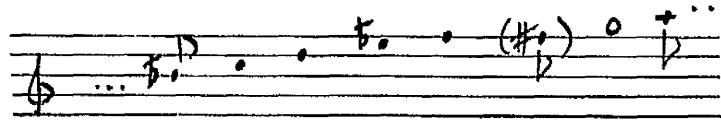
It will be apparent from this discussion that in the usage of a number of musicians "absolute" rāst is also one of the particular melodic movements in the scale (parda) of rāst.² The same approach can be applied to other scales, so that for each parda there may be a dūgāh, a segāh, a chahārgāh and a panjgāh. This, however, is not common usage at the present time.³

It is also clear that if this approach is applied to the notes A, B♯, c and d considered in relation to G the same forms, with the above names, will occur.⁴ However, since it is customary in the parda rāst to accord prominence to c - as will subsequently become apparent - [the occurrence of these forms in] the positions [described] above render [s their occurrence] here superfluous.

Another point is that in, for instance, the scale of nawrūz the shu'ba dūgāh gives the impression of 'irāq; the shu'ba segāh that of "absolute" rāst; the shu'ba chahārgāh that of nawrūz itself; while the shu'ba panjgāh is not used if G is made the final note, since the interval G - d♯ is not consonant.⁵ Thus the shu'bas of rāst enable us to dispense with the shu'bas of nawrūz, and similarly with

1 From this we may deduce

76 panjgāh



panjgāh thus corresponds to the upper pentachord of 43 rāst, giving prominence to the octave note, g.

2 Quṭb al-Dīn here makes a distinction between mode and scale. Having pointed out that rāst has in effect become a parent scale from which various shu'bas are derived by giving prominence to successive degrees, he now underlines the fact that the mode rāst also has characteristic features (at least of prominence) which distinguish it from a mere abstract succession of notes.

3 A purely theoretical digression. Another/could ^{mode} presumably be turned into a parent scale provided that the derived scales conformed in intervallic structure to the principles underlying the whole system (thus 54 buzurg G A♭ B(♭) c c♯ d e f♯ g would not be a possible parent scale) However, as Quṭb al-Dīn makes clear in the next passage, the only scale thus used was 43 rāst G A B♭ c d e♭ f g.

4 I.e. it would be possible to base dūgāh, segāh, chahārgāh and panjgāh on the lower tetrachord also.

5 In 37 nawrūz G A♭ B♭ c d♭ e♭ f dūgāh will be ...A♭ B♭ c ..., equivalent to 2 'irāq /1 2♭ 3♭/, or ... A♭ B♭ c d♭..., equivalent to 10 'irāq /1 2♭ 3♭ 4/; segāh will be ... B♭ c d♭ e♭..., equivalent to 8 rāst /1 2 3♭ 4/; and chahārgāh will be ... c d♭ e♭ f, equivalent to 9 nawrūz /1 2♭ 3♭ 4/. In panjgāh d♭ would be prominent.

those of 'irāq.¹

[zāwlī]

In segāh the final note may be d, lightly touched, or c, in which case it is called zāwlī; and since c to e[♯] constitutes a group (jam') according to the conditions which define a group, it is not an error if we term zāwlī a parda,² in the same way as we termed the āwāzes pardas.

[rū-yi 'irāq]

If B[♯] is made the final note [of segāh] it is called rū-yi 'irāq, and there is even greater reason for considering rū-yi 'irāq a parda.³

[rakbī]

rakbī is a particular melodic movement on the notes of zīrkesh ḥusaynī such that one begins from B and ends on G.⁴ c is little used while B is prominent.

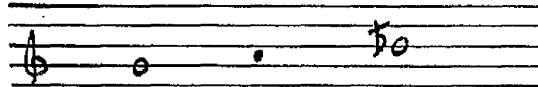
[mubarqa']

mubarqa' is derived from iṣfahānak. It is characterized by the frequent recurrence of d[♯], and by the fact that the range rarely extends beyond one or two notes on either side of it. c is the final note, or B[♯], briefly touched - although practising musicians may be daring enough to draw⁵ out this note.

1 In 44 'irāq G A♯ B♯ c d♯ e♯ f g, dūgāh will coincide with 8 rāst /1 2 3♯ 4/; segāh with 9 nawrūz /1 2♯ 3♯ 4/; chahārgāh with 10 'irāq /1 2♯ 3♯ 4/; while d♯ is again prominent in panjgāh.

2 This mode has already been listed as

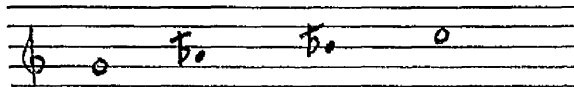
3 zāwlī



It is here thought of as c d e♯. Presumably, as with segāh, the range could be extended.

3 Again, this mode has been listed as

10 rū-yi 'irāq



Here it is thought of as B♯ c d e♯. Quṭb al-Dīn's remarks underline the relationship between 10 'irāq /1 2♯ 3♯ 4/ and the rāst scale discussed in chapter 5.

4 zīrkesh ḥusaynī is 19 G A♯ B♭ B c d. One may therefore represent rakbī as

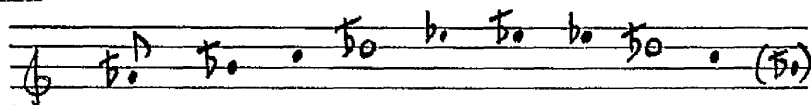
77 rakbī



According to later writers rakbī consists essentially of the notes G A♯ B♭, to which others could be added for embellishment (tazyīn). It is not among the nine shu'bas listed at the beginning of this section.

5 iṣfahānak is 34 G A♯ B♯ c d♯ e♯. Hence mubarqa' may be represented as

78 mubarqa'



Although somewhat different, later accounts agree on the importance of d♯ and c in this mode.

(202)

[salmak]

As for salmak, Şafī al-Dīn has suggested that it is [derived from] zankūla,¹ in spite of the fact that he counts it among the āwāzes, which he does not consider to be pardas.² What he says is quite self-contradictory, and the example of salmak given in his list bears no relation to zankūla.³ In fact, as may be ascertained from his own compositions and from those of present-day artists, it is a particular melodic movement in that parda [i.e. zankūla] such that c often recurs while the [type and range of] movement is similar to that in mubarqa.⁴ One then progresses from c through panjgāh, the final note being the final note of rāst - i.e. the c of zankūla is assumed to be the g of rāst, so that one ends on the c of rāst.

[māya and shahnāz]

With regard to māya and shahnāz, Şafī al-Dīn has stated that they are specific melodic movements. From his remarks it is evident that they are not in any particular parda,⁵ for he states in the kitāb al-adwār: "As for māya, it is an ascending and descending movement; similarly shahnāz".⁶ Also, in that the two are counted among the āwāzes, what he says here is self-contradictory, for the āwāzes are included by him among the octave scales (adwār). This is stated in the kitāb al-adwār: "Some of the octave scales are called āwāz".⁷ Thus māya and shahnāz should both be octave scales,⁸ and as such would not be limited melodic movements. Nor is

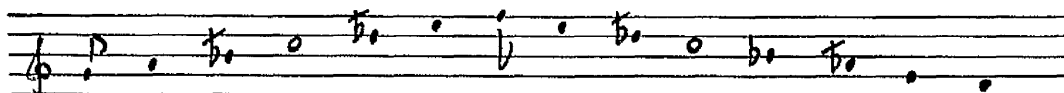
1 In the kitāb al-adwār (BM. MS. Or. 136, fol. 22v).

2 zankūla is a parda (or shadd). This is a curious objection: Quṭb al-Dīn says nothing against the previously quoted identification of kardāniya (an āwāz) with işfahān (a shadd).

3 Not so: salmak is given by Şafī al-Dīn as c d e f# g a# , notes present in 57 zankūla when transposed to the 17th ṭabaqa: d e f# g a# b(b) c' (d'). What lies behind Quṭb al-Dīn's objection here is probably the fact that salmak is not an octave scale, i.e. that the notes of zankūla, when transposed, are not all to be found in it.

4 We may therefore notate salmak as

79 salmak



salmak, like rakbī, is not one of the nine shu'bas listed at the beginning of this section. For Şafī al-Dīn it is an āwāz.

5 I.e. they cannot be related to (nor be considered derived from) other modes in the way that dūgāh is related to rāst or rakbī to zīrkesh ḥusaynī.

6 BM. MS. Or. 136, fol. 22v.

7 Ibid.

8 However interesting Quṭb al-Dīn's arguments may be, they are by no means logically sound. From "some octave scales are called āwāz" it does not follow that all āwāzes are octave scales. A limited melodic movement might also relate to an octave scale, although one may presume from what Quṭb al-Dīn says that modes thus characterized did not in fact occur in practice.

the real nature of this melodic movement apparent from the way he represents them in his list: ¹ this is contradicted by all the well-known compositions in māya, by Şafī al-Dīn as well as by others, for they are without exception melodies based on the notes of a pentachord species as shown in our list. ² The same is true of shahnāz, although compositions in this mode are few, for the reason alluded to. ³ On the basis of the above remarks we may count both of them among the groups (jumū') and call them pardas.

There is much disagreement among practising musicians over the shu'bas and tarkībs because of their lack of discernment. It may often happen, in accordance with usage, that a particular melodic movement develops out of a [given] scale (parda). If this should become a fixed form, they say that it is a parda. ⁴ They are confused about its true nature, in spite of the fact that the tonic and the other notes are the same [as in the parent scale] - all this because they fail to distinguish essences from accidents. ⁵ The ordinary musician, who has but little aptitude for differentiating concepts, often makes mistakes of this kind. Investigation ⁶ [into such matters] falls to another group of people: hence if a practising musician should entertain doubts about some of the ideas expressed in this mabḥath he ought not to voice his disagreement without first reflecting carefully, for it may lack coherence. Each person has a rôle for which he is fitted.

1 This is rather unfair: Şafī al-Dīn at least suggests a melodic contour in the way he notates shahnāz - G A♯ B♭ B♯ A♯ G. Quṭb al-Dīn provides no such information, and in addition does no more than quote Şafī al-Dīn's terse verbal definition of the nature of the melodic movement involved, and then only in order to criticize.

2 I.e. 23b māya G B♭ c d. Şafī al-Dīn gives māya as 23a G B♭ c e♭ f.

3 Quṭb al-Dīn lists shahnāz as 24b G A♯ B♭ B♯ c d♯ d. Unfortunately there does not appear to be any previous remark giving a reason for the paucity of compositions in this mode.

4 Whereas Quṭb al-Dīn would term it a shu'ba. It would seem that he maintains a distinction in general between on the one hand pardas, āwāzes, and tarkībs, all of which he insists should be termed pardas, and on the other shu'bas, melodically limited derived forms. The four shu'bas he also terms pardas are zāwlī and rūyi 'irāq, with regard to which no particular melodic features are mentioned; and māya and shahnāz, which cannot be derived from already existing pardas.

5 The philosophical terminology is conventional. It nevertheless brings out clearly the assumption that the shu'bas, modes characterized by, in most cases, a specific melodic movement, are secondary phenomena - incomplete manifestations of the abstract scale embodying the notes used in them.

6 I.e. philosopher-theorists such as Quṭb al-Dīn himself.

It should be realized that each mode possesses a particular form that presents itself to the mind. In certain circumstances this form is not attained by [using] all the notes of the scale, although it may depend on this for its perfect realization.¹ The mode zankūla is a case in point: when c often recurs and there is an ascending and descending melodic progression on the notes c ḍ Ḅ A the characteristic form of zankūla becomes manifest, especially when e is itself added.² Şafī al-Dīn's statement identifying salmak with zankūla relates only to this, [a fact]³ which the above-mentioned objections do however take into account.

- 1 This last remark may be no more than a quibble - an oblique reference to another philosophical commonplace, the distinction between potential (bi 'l-quwwa) and actual (bi 'l-fi'l).
- 2 This description is well illustrated in the composition from the durrat al-tāj transcribed in the following chapter, a short section of which is in zankūla.
- 3 See notes 2 and 3, p. 263.

This grudging admission means in fact that the only valid objection (from Quṭb al-Dīn's point of view) that may still be levelled against the identification is the rather curious one about the difference in modal category. The definition of zankūla given here is in effect virtually identical with that of the first section of salmak (before the modulation into panjgāh).

On the mixing of modes.

Further remarks on well-known modes (maqāmāt).¹

It should be known that these groups (jumū') and shu'bas are interrelated, and that to pass from each one to another related to it in the course of a composition is a source of greater splendour and freshness. The relationship may be [between modes] on the same base (markaz), i.e. the tonics (mafrūḍa) are at the same pitch level (ṭabaqa) in both, or, as will be indicated below, it may be [between modes] on two bases, i.e. there is an interval between the prominent notes of each.² In the latter case the appropriate position of each, in relation to the other, may be above or below. One example is the major third species rāhawī with the pentachord ḥusaynī, another the major third species rāhawī with the tetrachord nawrūz:³ between the tonics of each is a fourth, with rāhawī above.⁴ Likewise with the combined groups (jumū' i murakkaba)⁵ established in the list. When an interval is postulated between the tonics [of each member] of these and their [respective] positions above and below are defined.

For the sake of example we shall now indicate some of these relationships. The others may be entrusted to the ingenuity and insight of those who have delved into the practical art.

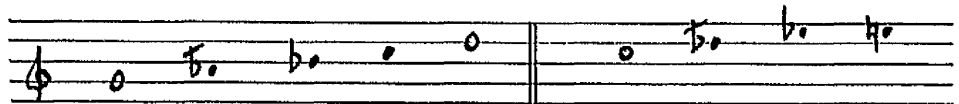
1 The use of the term maqām here is of no particular significance. It should not be considered merely another equivalent of shadd, a narrower meaning which it acquires in later treatises.

2 and 3 It would appear that in this passage no distinction is maintained between the expressions "tonic" and "prominent note".

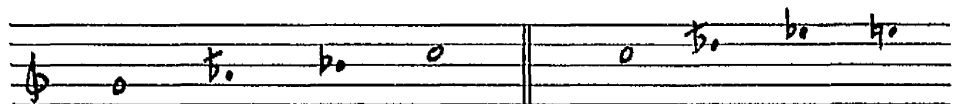
4 4 rāhawī /1 2♯ 3♭ 3/; 18 ḥusaynī /1 2♯ 3♭ 4/T/;
9 nawrūz /1 2♯ 3♭ 4/.

Assuming the tonic of the lower unit to be (a conventional) G, we may obtain from this description

80 ḥusaynī//rāhawī



81 nawrūz//rāhawī



5 The reference could be either forward, to the list given in the following pages, or backward, to the list transcribed in chapter 2. If the latter, Quṭb al-Dīn could presumably include in the term "combined groups" all scales exceeding a fifth (30-72), since they may be analysed as unit combinations, although it is more likely that the reference would be specifically to 30 (segāh wa ḥijāzī), 31 (segāh wa ḥusaynī), 38 (chahārgāh wa ḥijāzī), and 39 (chahārgāh wa iṣfahān).

List of the relationships of pardas and shu'bas:

Relationship on the same base: ¹

husaynī

rāhawī

husaynī

kūchek

husaynī

hijāzī

husaynī

nawrūz

husaynī

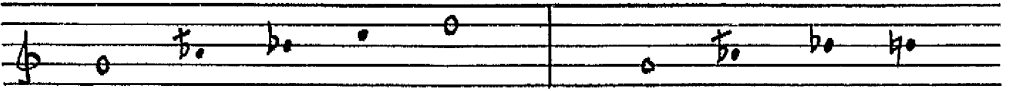
būsalīk

husaynī

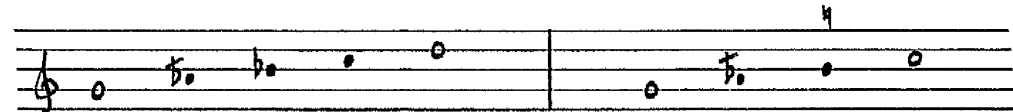
işfahān

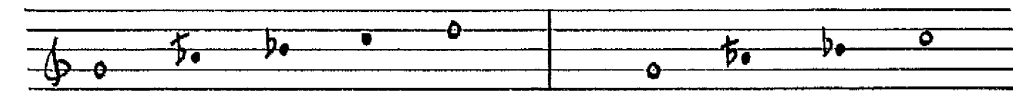
1 It may be assumed from the above reference to combinations of species of third, fourth, and fifth that the names which relate to both a unit and a combination of units (usually an octave scale) denote in this and the following list only the former. The assumption is confirmed below by Quṭb al-Dīn.

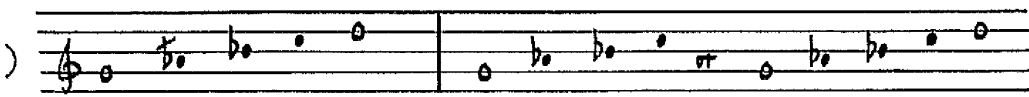
Entries marked by an asterisk are those in which the relative position of the constituent units is not absolutely certain. They will be discussed below.

82 (18/4) 

83 (18/1) 

84 (18/12) 

85 (18/9) 

86 (18/6 or 14) 

87 (18/11) 

ḥusaynī'uzzālḥusaynīrakbīḥusaynīdūgāhiṣfahāndūgāhḥijāzīkūchekḥijāzīdūgāhshahnāzḥiṣārshahnāzbuzurgbuzurgmāya

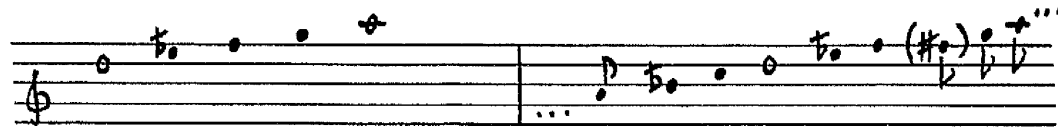
88 (18/22b)



89 (18/77)*



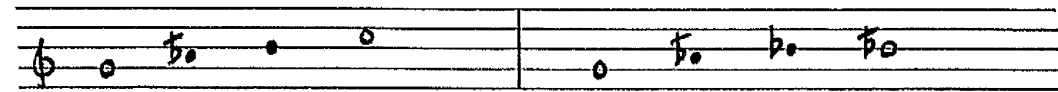
90 (18/73)*



91 (11/73)*



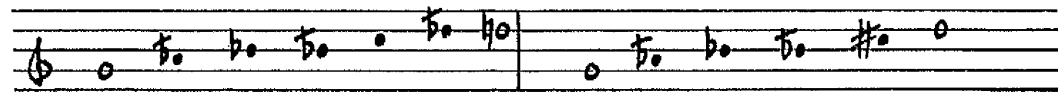
92 (12/1)



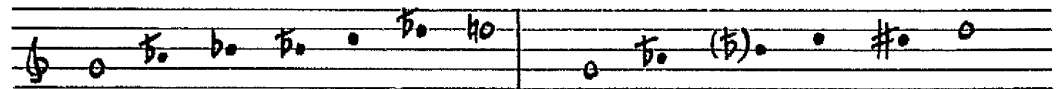
93 (12/73)*



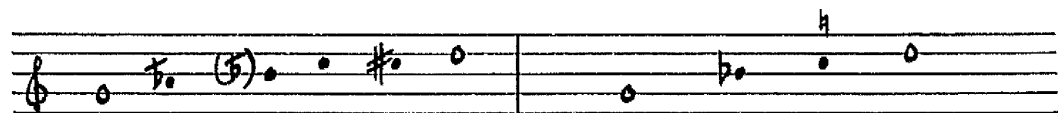
94 (24b/25b)



95 (24b/20)



96 (20/23b)



buzurgrāhawībuzurg'irāqrāhawīdūgāhrakbīdūgāhrakbīişfahānrakbīnawrūznawrūzişfahānkūcheksegāh'irāqsegāh

97 (20/4)

98 (20/2 or 10)

99 (4/73)*

100 (77/73)*

101 (77/11)*

102 (77/9)*

103 (9/11)

104 (1/74)*

105 (2 or 10/74)*

ḥijāzīsegāhḥusaynīmāya'ushshāqrāstkūchekdūgāhnawrūzdūgāh'ushshāqchahārgāhiṣfahānsegāh

or

iṣfahānaksegāhzankūlarāhawī

It should be realized that these pardas also are the smaller species (jumū'-i ṣighār).¹

106 (12/74)*

107 (18/23b)

108 (5 or 13/
8 or 16)

109 (1/73)*

110 (9/73)*

111 (5 or 13/75)*

112 (11/74)*

or

(34/74)*


iṣfahān and iṣfahānak are MS. variants.


113 (57/4)*

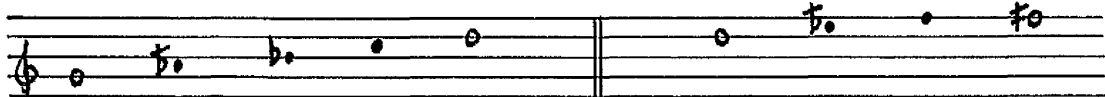
1 I.e. species of third, fourth, and fifth, rather than octave.

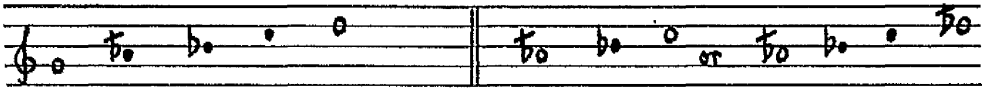
Relationship on two bases:

below	interval between the two bases	above
<u>nawrūz</u>	fourth	<u>rāhawī</u>
<u>nawrūz</u>	fourth	<u>iṣfahān</u>
<u>ḥusaynī</u>	fifth	<u>kūchek</u>
<u>ḥusaynī</u>	three-quartertone ¹	<u>'irāq</u>
<u>māya</u>	fifth	<u>dūgāh</u>
<u>māya</u>	neutral third ²	<u>'irāq</u>
<u>'ushshāq</u>	major third	<u>būsalīk</u>


81 (9//4) 


114 (9//11) 

115 (18//1) 


116 (18//2 or 10) 

1 Quṭb al-Dīn gives here the ratio 10 : 9, i.e. a minor whole-tone.

117 (23b//73)* 

118 (23b//2 or 10)* 

2 Given as 6 : 5, a minor third. This will be discussed below.

119 (5 or 13//6 or 14) 

ḥusaynī

fifth

būsalīknawrūz

three-quartertone

'irāqrāhawī

three-quartertone

chahārgāh

These two relationships are approximate.¹ The progressions are common ones.

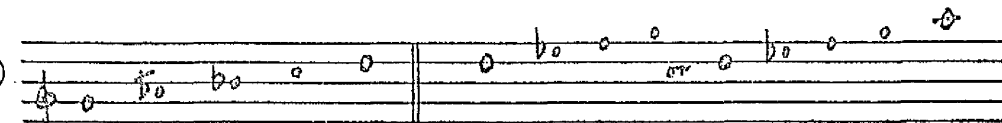
'irāq

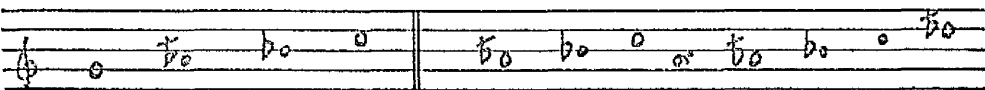
neutral third

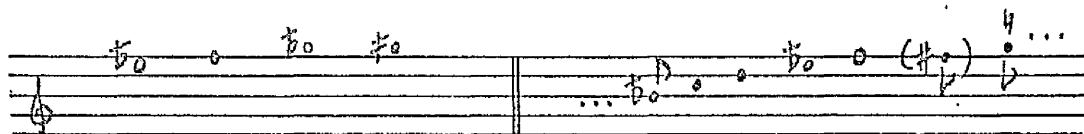
kūchek'irāqneutral third²ḥusaynī

Now that these relationships have been made clear, it should be realized that some of the best-known modes (maqāmāt) consist of such combinations (tarkībs):³ dūgāh wa ḥijāzī for example, which begins and ends with dūgāh and has a central section in ḥijāzī;⁴ dūgāh wa rāhawī, which begins in dūgāh, has a central section in buzurg, and ends in rāhawī;⁵ and humāyūn, which begins in zankūla and ends in rāhawī.⁶

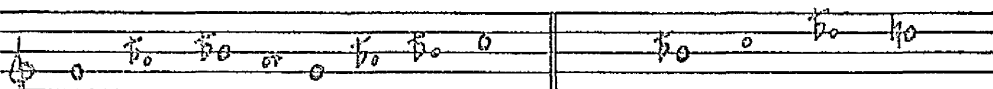
The well-known modes (maqāmāt), in the usage of present-day musicians, are confined to the pardas, shu'bas, and tarkībs which we have set forth.

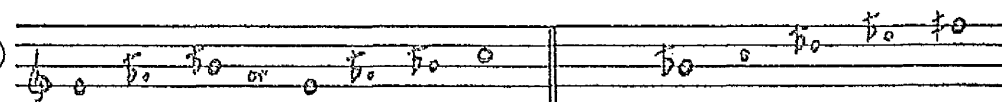
120 (18//6 or 14) 

121 (9//2 or 10) 

122 (4//75)* 

1 I.e. the three-quartertone is given as 16 : 15, the ratio equivalent established by Şafī al-Dīn for category J intervals.

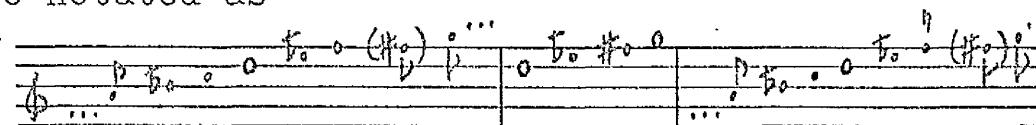
123 (2 or 10//1) 

124 (2 or 10//18) 

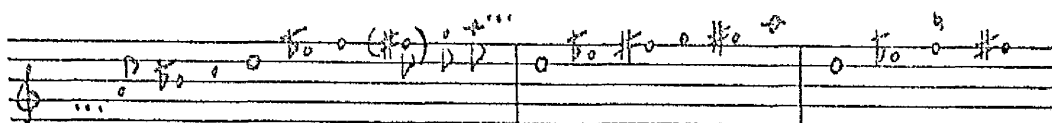
2 Given in both cases as 5 : 4.

3 The meaning of tarkīb here evidently differs somewhat from the particular sense accorded the related term murakkab in the kitāb al-adwār.

4 This may be notated as

125 (73/12/73)* 

5 This may be notated as

126 (73/20/4)* 

6 From this brief description humāyūn cannot be distinguished from a combination given above, 113 (57/4)*. One may also note the similarity between 125 and 93 (12/73)*.

*

* *

The first part of the first mabḥath, an examination of the criteria according to which the modes are assigned to the various categories, is in the main self-explanatory. As various points of difficulty have been dealt with in the notes, no further discussion of this section seems necessary here.

Of far greater importance for the present study is the following section. In conjunction with the description of the shu'bas it contains we may also examine Ṣafī al-Dīn's definitions of māya, shahnāz and salmak. As the name implies, the shu'bas were held by Quṭb al-Dīn to be derived from already existing modes, scales and units. Further, they are stated to be characterized by particular melodic features.¹ They may therefore be taken to represent a second type of modal development, quite different to that already examined, and which we may for the moment term development by functional specialization. However, it is clear that the degrees and methods of specialization are by no means uniform, and a distinction may be drawn at once between a group

¹ As has been seen, exceptions to these statements, in varying degrees, are provided by māya, shahnāz, zāwlī and rū-yi 'irāq.

consisting of dūgāh, segāh, chahārgāh and panjgāh, together with the apparently related shu'bas zāwlī and rū-yi 'irāq, and the rest.

73 dūgāh, 74 segāh, 75 chahārgāh and 76 panjgāh all relate to 43 rāst G A B[♯] c d e[♯] f g, and are derived by according prominence to successive degrees of that scale, starting from the fourth. But, as Quṭb al-Dīn makes apparent, the feature of prominence alone is not sufficient to distinguish them from other modes, especially when their range is extended beyond the original nucleus of four or five notes. Their autonomy is ensured by defining the final note in addition to the prominent note and, in the case of 73 dūgāh, the initial note as well.¹

They are not, however, unique in possessing such modal characteristics. In arguing against the separation of āwāzes and pardas Quṭb al-Dīn states that in the āwāzes, with the exception of 34 iṣfahānak and 60 muḥayyir ḥusaynī, the highest note is initial, while in the pardas, with the exception of 48 ḥusaynī and 25b ḥiṣār, it is not. Further, when discussing 73 dūgāh, he remarks that in 37 nawrūz, 66 iṣfahān, and ḥusaynī (all three being termed pardas), the highest note is initial and the lowest note final. Ignoring

1 In chahārgāh and panjgāh even this would appear to have been hardly sufficient: the latter is barely differentiated from rāst itself, while the former is stated to be either like rāst or, with d as final note, like dūgāh.

the contradiction involved, it will be seen that we have here explicit statements on the position of the initial note (the highest) for a number of non-shu'bas, and on the position of the final note (the lowest) for three; in addition, it would appear from the first remark that in most pardas the highest note was not initial, and as it would be curious to find in practice a situation where only one specific note was thus excluded, it may reasonably be assumed that in these pardas too the initial note was defined positively, being presumably either the lowest or some other prominent note. Thus it would appear that the degree of melodic specialization in 73 dūgāh, 74 segāh, 75 chahārgāh and 76 panjgāh was not significantly greater than that found in most non-shu'bas. With reference to these four, therefore, no particular significance should be attached to Quṭb al-Dīn's introductory definition in terms of "specific melodic movement": we may remember that in the course of discussing them he concedes that 43 rāst itself could be described in exactly the same way - in other words that there is no significant variation in the extent of melodic specialization between 43 rāst and the shu'bas derived from it.

These may also include 3 zāwlī and 10 rūyi 'irāq. Quṭb al-Dīn relates both to 74 segāh, and they are similarly defined by the position of the final note. Although both are included in the list of species, being considered species of third and fourth respectively, it is likely that, as with

the others, the range could be extended,¹ in which case a distinction should probably be drawn between the shu'ba rū-yi 'irāq and the unit 10 rū-yi 'irāq /₂ 2[♯] 3[♯] 4/ considered as an element of combinations.

From Quṭb al-Dīn's remarks it would appear that 73 dūgāh and 74 segāh had acquired a greater degree of independence from the parent scale 43 rāst than 75 chahārgāh and 76 panjgāh. The suggestion of a progressive development is borne out by the relative frequencies of occurrence of these shu'bas in the combinations listed in the second mabḥath: dūgāh appears 11 times, segāh 4, chahārgāh twice, while panjgāh does not appear at all. In Quṭb al-Dīn's day, therefore, panjgāh may have been a relatively recent addition. A century later it would seem to have become reasonably well established, for two forms are reported.³

The remaining shu'bas are 77 rakbī, 78 mubarqa', 79 salmak, 23 māya and 24 shahnāz. Quṭb al-Dīn makes specific statements about melodic movement only for the first three of these; and if we except the second part of 79 salmak (the

1 Although this is not mentioned in later treatises.

2 rū-yi 'irāq appears in the composition transcribed from the durrat al-tāj in the following chapter. Unfortunately it is restricted to one brief phrase, e[♯] d c B[♯], from which nothing can be inferred as to any characteristic features it may have possessed (apart from the position of B[♯] as final note).

3 By 'Abd al-Qādir (Bodleian MS. Marsh 282, fol. 51).

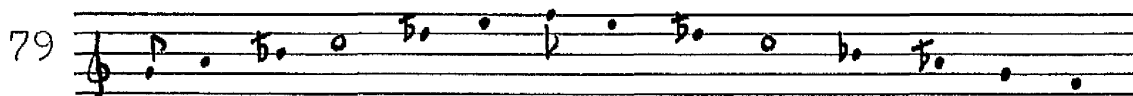
modulation into panjgāh) they show a considerable degree of similarity in structure: in each case a prominent note furnishes a centre of gravity around which the melody revolves, and from which it is rarely more than two notes distant. It may be added that his suppositions about the original form of 73 dūgāh suggest that the melodic movement was of the same type in this shu'ba too. If we consider all four together

77 <u>rakbī</u>	G)	A♯	B♭	<u>B</u>	c	d
78 <u>mubarqa'</u>	G	A♯)	B♯	c	<u>d♯</u>	e♭ e♯
79 <u>salmak</u>	G)	A	B♯	<u>c</u>	d♯	e (f
73 <u>dūgāh</u>	...)	B♯	c	<u>d</u>	e♯	f (...

it will be seen that certain common features emerge: neutral intervals preponderate within the central cluster; taking the pivotal prominent note as a juncture between hypothetical units, in no case would these be parallel; in three of the four modes the intervals flanking the pivotal note are the same. These features may be related. The lack of parallelism (resulting from Zalzalian combinations or pseudo-combinations where no whole-tone adjoins the pivotal note) may have prompted the search for another kind of balance, and the partial mirror symmetry furnished by the identical flanking intervals could have provided such balance. Such considerations may help to explain how the particular melodic shape of these modes emerged, although they offer no answer to the question of why, in rakbī and mubarqa', B and d♯ respectively

became prominent.

Thus far we have taken only the first section of 79 salmak into account. Viewed as a whole, however, this mode is of a somewhat different pattern: it is a fixed combination of two elements at the same pitch level. Further, it may be considered a secondary derived form, for it is based in part on another shu'ba, 76 panjgāh, while in addition the first section relates to a mode already possessing "particular melodic features". Neither of these aspects is mentioned by Ṣafī al-Dīn, nor could they be inferred from his notation of 79 salmak as c d e f# g a#; and were it not for Quṭb al-Dīn's description one would be inclined to dismiss his identification of salmak with 57 zankūla as an irritating academic digression having no bearing whatever on practice. If, for ease of comparison, we transpose Ṣafī al-Dīn's version down a fifth (F G A B# c d#), it will however be seen that it contains all but one of the notes in the central cluster (A - e) in the first section of Quṭb al-Dīn's version



The presence of the F in the earlier form suggests the possibility of development by assimilation (F G A B# c d# e —————> F G A B# c d# e —————> G A B# c d# e —————> 57 zankūla), with the ending in panjgāh being added later, perhaps in order to safeguard the threatened independence of the mode. It may be added that the descent through

panjgāh provides partial parallelism, the octave f - F coinciding in intervallic structure with 64 G A B♭ c d e♭ f♯ g.

In discussing māya and shahnāz Quṭb al-Dīn unfortunately seems more concerned with criticizing his predecessor's versions than with saying anything positive about their melodic structure. It has already been suggested in the comments on 24 shahnāz that the specific melodic form represented by Ṣafī al-Dīn as G A♭ B♭ B♯ A♭ G gradually came to be felt too restricted, and that there emerged in consequence the more extended form known to Quṭb al-Dīn, 24b G A♭ B♭ B♯ c d♭ d. It should however be admitted that, viewed against the structural norms found elsewhere in the modal system, such a development is somewhat unexpected: parallelism occurs not at the fourth but at the neutral third, and there is in addition no other example of a functionally specialized form being expanded by repetition at another pitch level. One would expect, rather, that if an extension of the range was felt desirable this would be effected by incorporating additional notes from the related unit 25 /1 2♭ 3♭ 3♯ 4♯ 5/, or by a process of combination with another unit. In fact, the former type of development is attested later,¹ while the form known to Quṭb al-Dīn appears to have been swiftly abandoned.

1 By al-Lādhiqī (BM. MS. Or. 6629, fol. 56).

Şafī al-Dīn's remark about "ascending and descending" melodic movement is the only hint we have as to the nature of the specialization characteristic of māya. It is interesting to note, however, that while Şafī al-Dīn lists māya as G B♭ c e♭ f, Quṭb al-Dīn is quite adamant in maintaining that the range is no more than a fifth. The change may perhaps be viewed as an assimilation, the range of the other shu'bas (or the melodically most significant parts of them) being a fifth or less. We may remember that Quṭb al-Dīn stresses the difference between octave scales and modes definable primarily in terms of functional specialization, and there may well have been a direct correlation between range and the degree of melodic definition. It is thus possible that Şafī al-Dīn has given us a maximal version of māya (analogous to his account of 57 zankūla) containing more notes than the performer habitually employed.

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With regard to the material contained in the second mabḥath, it may be advisable to consider first the list of "relationships on two bases" (pp. 278-281), for the resulting juxtapositions of units are similar in type to those occurring in the fixed octave scales; indeed, they are exactly comparable in the five combinations the constituent units of which are a fourth or a fifth apart. Quṭb al-Dīn's use of the term tarkīb, combination, suggests in this context something less unified or integrated than the octave scales: it might be thought that in practice the two units would not form an entity distinguishable from the sum of its parts, and that by comparison with the octave scales there would be greater emphasis on developing separately the melodic possibilities of each unit, thus rendering intervallic relationships between the two units of correspondingly lesser significance. It would follow from this that one might not expect to find in these combinations strict conformity with the patterns of unit distribution and the norms of consonance observable in the octave scales. In the event, however tenuous the link between the two units may have been in terms of melodic utilization, these combinations fail to present us with what, according to the ^{criteria} previously adopted, would be considered dissonant unit juxtapositions. Considered purely as a sequence of intervals, 120 ḥusaynī// (6) būsalīk is identical with a previously established octave scale, 47 ḥusaynī G A♯ B♭ c d e♭ f g, while 114 nawrūz//iṣfahān similarly coincides with the section G - f,

and 81 nawrūz//rāhawī with the section G - e, of the octave scale 67 işfahān G A♯ B♭ c d♯ e♭ e f g.¹ 115

husaynī//kūček contains virtually the same units as 36 kūček-i tamām G A♯ B♭ c d♯ e♭ e♯,² but with parallelism at the fifth, not the fourth. (117 māya//dūgāh will be discussed later, as will all the other combinations marked as doubtful.) If we take into account only consonances between the units, i.e. in 115 husaynī//kūček



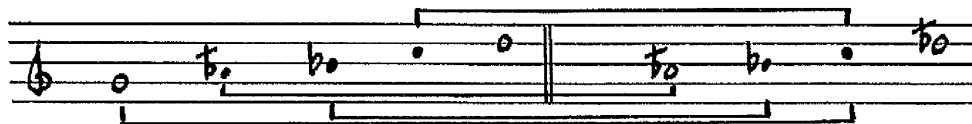
G - d, A♯ - e♯, B♭ - f, c - f, but not G - c, it will be seen that the consonance ratios in the above four combinations are: 120 husaynī//6 būsalīk, 6 : 1; 114 nawrūz//işfahān, 5 : 1; 81 nawrūz//rāhawī, 3 : 1; and 115 husaynī//kūček, 4 : 1. The alternative form of 120, husaynī//14 būsalīk,³ has a 7 : 1 consonance ratio. It will therefore be seen that all four are on a level of consonance comparable to that observable in the (mainly octave) fixed scales previously examined.

1 These statements should not be taken to imply any identity of melodic potential. In this respect 81 nawrūz//rāhawī will obviously be quite different from 67 işfahān.

2 The former has 18 husaynī /1 2♯ 3♭ 4/T/, the latter the related 9 nawrūz /1 2♯ 3♭ 4/.

3 The comparatively high ratios such as 6 : 1 and 7 : 1 result from the inclusion of consonances (e.g. c - g as well as G - c) not counted previously, but which cannot here be taken for granted.

A similar picture is presented by the other five non-doubtful combinations "on two bases". As the intervening intervals in these are all smaller than in the above combinations, the units overlap to a greater or lesser extent. Where they do, they may perhaps be better thought of as being superimposed, rather than as occupying discrete positions in tonal space. In addition to degrees of consonance we may therefore speak of degrees of identity and, in assessing the consonance/identity ratio of these combinations, take into account the number of notes they have in common. Thus in 116 ḥusaynī//(10) 'irāq



the units have three notes in common while the G, which has no corresponding note, stands in a consonant relationship with c in the other unit. To d, however, corresponds d♯, a (horizontally) "dissonant" relationship which may be considered the equivalent of the (vertically) "dissonant" unattached note, although two notes are in fact involved. Thus according to these criteria the consonance/identity ratio of this combination is 4 : 1. In other cases a note which cannot be related in either of the above ways to a note in the other unit may be considered neutral (and remain uncounted) if it stands in a consonant relationship with a note in the same unit, and unattached if it does not. The consonance/identity ratios of these five combinations are in consequence:

- 116 husaynī//2 'irāq, 4 : 0; husaynī//10 'irāq, 4 : 1
 119 'ushshāq//būsalīk - 5//6, 5 : 0; 5//14, 6 : 0;
 13//6, 6 : 0; 13//14, 7 : 0
 121 nawrūz//'irāq, 4 : 0
 123 2 'irāq//kūchek, 4 : 0; 10 'irāq//kūchek, 5 : 0
 124 2 'irāq//husaynī, 5 : 0; 10 'irāq//husaynī, 6 : 0

These figures are not exactly comparable to those arrived at in evaluating the relative degrees of consonance among the octave scales, but if we consider identity the equivalent of parallelism the situation they reflect evidently is. This emerges quite clearly if we superimpose the units concerned, giving

- 116 G A♭ B♭ c d or G A♭ B♭ c d/d♭
 119 G A B c d e or G A B c d e f♯
 121 G A♭ B♭ c or G A♭ B♭ c d♭
 123 G A♭ B♭ c d♭ d
 124 G A♭ B♭ c d♭ e♭ f♯

Features such as the sequence d♭ e♭ f♯ in 124 only appear unusual because of the arbitrary notation from G (in practice one would probably find B♭ c d e♭ f g a), and because no reference has been made to the position of the prominent notes. In 121 and the first alternatives of 116 and 119 these provide the only means of distinguishing the combination from part of an existing octave scale.

Within the larger class of combinations "on one base"

there are 16 (82-88, 92, 94-98, 103, 107 and 108) to be considered if we again disregard those marked doubtful. Here it will be simpler to speak only of degrees of identity, i.e. of the extent to which the notes of one unit are the same as, or clash with, those of the other. The following categories may, for the sake of convenience, be distinguished:

- 1 the unit with the lesser range coincides with the corresponding section of the other

85 /G A \flat B b c d/, /G A \flat B b c/

- 2a one unit omits one note occurring in the other but otherwise coincides with it

103 /G A \flat B b c/, /G A \flat B b B c/

107 /G A \flat B b c d/, /G B b c d/

- 2b the unit with the lesser range contains one note not found in the corresponding section of the other but otherwise coincides with it

82 /G A \flat B b c d/, /G A \flat B b B/

83 /G A \flat B b c d/, /G A \flat B b B \flat /

87 /G A \flat B b c d/, /G A \flat B b B c/

97 /G A \flat B(\flat) c c \sharp d/, /G A \flat B b B/

- 2c within the area common to both the units differ in one note (there is one "dissonant" relationship)

84 /G A \flat B b c d/, /G A \flat B c/

86 /G A♯ B♭ c d/, /G A♭ B♭ c/ or /G A♭ B♭ c d/

88 /G A♯ B♭ c d/, /G A♯ B c d/

98 /G A♯ B(♯) c c♯ d/, /G A♯ B♯/ or /G A♯ B♯ c/

108 /G A B c/ or /G A B c d/, /G A B♯ c/ or /G A B♯ c d/

3 within the area common to both the units differ in one note and one unit contains a note not matched in the other

92 /G A♯ B c/, /G A♯ B♭ B♯/

94 /G A♯ B♭ B♯ c d♯ d/, /G A♯ B♭ B♯ c♯ d/

4 combinations with a lesser degree of identity

95 /G A♯ B♭ B♯ c d♯ d/, /G A♯ B(♯) c c♯ d/

96 /G A♯ B(♯) c c♯ d/, /G B♭ c d/

Here a combination in which one unit contains, say, B and the other B♭ and B♯ is held to comprise one "dissonant" relationship and one note not common to both units; alternatively it would be possible to speak of two "dissonant" relationships: the category sequence would not be affected.

In comparing this sequence with the degrees of consonance established for the fixed scales, it would appear reasonable to consider category 1 roughly equivalent to scales containing no unattached notes; 2 to scales containing one; 3 to scales containing two; and 4 to scales containing more

than two unattached notes.¹ It therefore follows that the type of unit combination characteristic of the consonant octave scales also seems to prevail in all but two (those of group 4) of these combinations, so that they appear to provide yet another illustration of the preference for parallel structures (identity being parallelism at the unison). This evidence is of particular value, for it is above all in the combinations "on one base" that one might have expected to encounter a number of more unusual unit juxtapositions: owing to the fact that it is not possible to reduplicate the same unit, as is done in parallel tetrachord scales, complete identity is in any case excluded, and it would further be natural to find this necessary differentiation of the two units reinforced through contrast. On occasion, no doubt, the desire for contrast was felt, leading to the creation of somewhat "dissonant" examples: Qutb al-Dīn suggests as much when he speaks of leaving other combinations to the experts.² But his wording suggests equally that the "consonant" combinations he lists were the ones most commonly employed.³ Furthermore, we may note that

1 There is no equivalent to the grading achieved by the consonant interval count for fixed scales since the corresponding feature here, the number of common notes, or unisons, will also vary with the range of the units concerned.

2 p. 268.

3 Cf. also the final remark (p. 280): "the well-known modes ... are confined to the pardas, shu'bas and tarkībs which we have set forth".

(277)

the combinatory pattern most frequently found among them is one in which the units coincide in all but one note within the area common to both, so that the extent of the differentiation is reduced to a minimum.¹

With this in mind we may turn to the combinations marked doubtful. The reason for so marking them is that, as a result of Quṭb al-Dīn's failing to distinguish between the terms "tonic" and "prominent note" in the introduction to the second mabḥath,² two or three versions of each are in theory possible. In the units occurring in the combinations already examined the tonic (or lowest note) is always a prominent note and sometimes the only one, so that it provides the obvious base; but if we take, say, 73 dūgāh, it will be seen that there are three notes that could furnish the "base": G, the tonic of 43 rāst, the mode from which dūgāh is derived; c, the note on which it properly begins; and d, its prominent note. However, since the previous discussion has established the validity of known patterns of unit distribution for this section of the modal system, we may accordingly expect that combinations containing dūgāh should also conform to them, and this can only occur if the third possibility, the prominent note d, is taken as the "base". Two examples may

1 The combination of G A[♯] B^b c (d) and G A[♯] B^b B (c) occurs three times, while the note series /1 2[♯] 3^b 3 4 (5) or (4[♯] 5)/ arises from superimposing the units in no less than seven combinations.

2 p. 268.

suffice in demonstration. With G as "base" 91 iṣfahān/dūgāh would be /G Aḅ Bḅ B c/, /(G A) Bḅ c d eḅ f .../, which with two dissonant relationships and one note not common to both units belongs to category 4. With c as "base" it would be /c dḅ eḅ e f/, /...Bḅ c d eḅ f .../, which also belongs to category 4. With d as "base", however, we have

/d eḅ f f# g/, /... Bḅ c d eḅ f ((f#) g ...)/

which belongs to category 1.

Similarly 93 ḥijāzī/dūgāh is with G as "base" /G Aḅ B c/, /(G A) Bḅ c d eḅ f .../, category 3; with c as "base" /c dḅ e f/, /... Bḅ c d eḅ f .../, also category 3; and with d as "base"

/d eḅ f# g/, /... Bḅ c d eḅ f ((f#) g ...)/,

category 2.

With d as "base" the distribution among the four categories of the combinations with 73 dūgāh (100 rakbī/dūgāh excepted) is:

- | | | | |
|---|-----|----------------------|--|
| 1 | 90 | <u>ḥusaynī/dūgāh</u> | /d eḅ f g a/, /..Bḅ c d eḅ f ((f#)g a)/ |
| | 91 | <u>iṣfahān/dūgāh</u> | /d eḅ f f# g/, /..Bḅ c d eḅ f ((f#)g a)/ |
| | 99 | <u>rāhawī/dūgāh</u> | /d eḅ f f#/ , /..Bḅ c d eḅ f ((f#)g..)/ |
| | 110 | <u>nawrūz/dūgāh</u> | /d eḅ f g/, /..Bḅ c d eḅ f ((f#)g..)/ |
| 2 | 93 | <u>ḥijāzī/dūgāh</u> | /d eḅ f# g/, /..Bḅ c d eḅ f ((f#)g..)/ |

- 109 kūchek/dūgāh /d eṭ f fṭ/, /..Bṭ c d eṭ f ((fṭ) g..)/
- 3 117 māya//dūgāh /G Bṭ c d/, /(G A) Bṭ c d eṭ f../
- 4 no example

If we accept that d is the "base" for the combinations with dūgāh, it follows that eṭ will be the "base" for those with segāh, and f for those with chahārgāh. We will therefore have, arranged according to category:

- 1 104 kūchek/segāh /eṭ f gṭ g/, /..c d eṭ f (gṭ) g../
 105 2 'irāq/segāh /eṭ f g/, /..c d eṭ f (fṭ/gṭ) g../
 112 iṣfahānak/segāh /Bṭ c d eṭ f gṭ g/,
 /(Bṭ) c d eṭ f (gṭ) g../
 2 105 10 'irāq/segāh /eṭ f g aṭ/, /..c d eṭ f (fṭ/gṭ) g (a)/
 111 'ushshāq/chahārgāh /f g a bṭ (c)/,
 /..c d eṭ f (g a bṭ c)/
 3 106 ḥijāzī/segāh /eṭ f gṭ aṭ/, /..c d eṭ f (fṭ/gṭ) g (a)/
 112 iṣfahān/segāh /eṭ f gṭ gṭ aṭ/, /..c d eṭ f (gṭ) g (a)/
 122 rāhawī//chahārgāh /eṭ f gṭ gṭ/, /..c d eṭ f (g a)/
- 4 no example

Both possibilities have been included for 105 and 112. For 112, iṣfahānak/segāh (category 1) seems the far more likely alternative. If iṣfahān/segāh did in fact occur it is just conceivable that the note sequence eṭ f fṭ g aṭ (/1 2ṭ 3ṭ 3ṭ 4/) was used as an approximation to

11 iṣfahān /1 2♯ 3♭ 3 4/, in which case this combination would belong to category 2. Again, if g♯ was admissible as a variant of the optional f♯ in chahārgāh as well as in segāh 122 rāhawī//chahārgāh would also belong to category 2 rather than 3.

Before passing on to the remaining combinations marked doubtful we may consider here the four scales previously listed by Quṭb al-Dīn and given compound names in which segāh and chahārgāh figure. Quṭb al-Dīn notates them as:

30 (<u>segāh wa hijāzī</u>)	G	A♯	B	c	d	e♯
31 (<u>segāh wa ḥusaynī</u>)	G	A♯	B♭	c	d	e♯
38 (<u>chahārgāh wa hijāzī</u>)	G	A♯	B	c	d	e♯ f
39 (<u>chahārgāh wa iṣfahān</u>)	G	A♯	B♭	B	c	d e♯ f

The names suggest the possibility that these forms might be compressed notations of combinations "on two bases".

According to the method used above these would appear as:

30

31

38

39

But if they were in fact combinations of this nature it is not at all clear why they were listed together with the fixed scales. Frequency of occurrence might be put forward as a reason, but in that case one would have expected to find in the same list a number of combinations with dūgāh, which appears to have been far more popular than either segāh or chahārgāh. Further, as combinations "on two bases" the above are unusual in the size of the intervals (neutral sixth and minor seventh) between the "bases", and, consequently, in the negligible degree of overlap between the two units. It would therefore appear likely that they do properly belong to the corpus of fixed scales: all have partial or incipient parallelism at the fifth, and may perhaps be considered restricted forms related to already existing octave scales (60 muḥayyir ḥusaynī G A♭ B♭ c d e♭ f g, 61 muḥayyir zīrkesh G A♭ B♭ B c d e♭ f g, and 62 nihuft G A♭ B c d e♭ f g). We may remember also that the form of the heading ("has no name ... it may be called ...") is the same in all four cases, and - apart from making it virtually certain that these modes were not of frequent occurrence - suggests that the titles may be no more than convenient captions giving some indication of the intervallic structure and at the same time of the position of the prominent notes.

Of the other combinations to be considered four include 77 rakbī. In 73 dūgāh it was possible to establish that it is d, the prominent (and final) note, that furnishes the

"base". By the same criteria we may establish that in rakbī the note in question is G, the final note and tonic of the species from which rakbī is derived, rather than B, the prominent note. (Taking B as "base" and considering for present purposes the notes occurring in rakbī, G A♯ B♭ B c d, as a simple sequence without particular melodic properties, it will be seen that rakbī/dūgāh (with rakbī transposed up a minor third to make the two "bases" coincide) becomes /B♭ c♯ d♭ d e♭ f/, /... B♯ c d e♯ f .../, belonging to category 4. With G as "base", however, this combination (with rakbī transposed up a fifth) becomes /d e♯ f f♯ g a/, /... B♯ c d e♯ f ((f♯) g a)/, belonging to category 1.)

We have therefore according to category

- | | | | |
|---|-------|----------------------|---|
| 1 | 100 | <u>rakbī/dūgāh</u> | /d e♯ f f♯ g a/, /... B♯ c d e♯ f ((f♯) g a)/ |
| | 101 | <u>rakbī/iṣfahān</u> | /G A♯ B♭ B c d/, /G A♯ B♭ B c/ |
| 2 | 89 | <u>ḥusaynī/rakbī</u> | /G A♯ B♭ c d/, /G A♯ B♭ B c d/ |
| | 102 | <u>rakbī/nawrūz</u> | /G A♯ B♭ B c d/, /G A♯ B♭ c/ |
| 3 | and 4 | no examples | |

With regard to 113 zankūla/rāhawī it should be remarked that the lack of further combinations containing zankūla renders the choice more problematical. Nevertheless, in this case it is evidently preferable to take the pivotal prominent note c as the "base" for zankūla, rather than G. The former results in

113 zankūla/rāhawī /((G) A Ḅ c ḍ e (f))/,
/c ḍ ẹ e/

belonging to category 2, and the latter in /((G) A Ḅ c ḍ e (f))/, /G Ạ Ḅ B/ , category 4. Further evidence in support of this interpretation is provided by the fact that there is no example elsewhere of the juxtaposition of /1 2 3̣ 4/ and /1 2̣ 3̣ 3/, while /1 2̣ 3̣ 4/ combines with /1 2̣ 3̣ 3/ in 33 rāhawī-yi tamām G Ạ B c ḍ ẹ e.

The one remaining doubtful combination presents a rather different problem. In 118 māya//'irāq the interval between the two units is stated by Quṭb al-Dīn to be 6 : 5, and one's first reaction is to accept this figure at face value. However, with the units a minor third apart the combination becomes /G Ḅ c d/, /Ḅ c̣ ḍ (ẹ)/, which belongs to category 3 but nevertheless appears rather odd: c̣ occurs nowhere else, and in addition one would expect 'irāq to begin on Ḅ rather than Ḅ.¹ Now, we have seen that the equal parts into which the neutral third divides the fifth were interpreted as 5 : 4 and 6 : 5, and that while the interval of a neutral third was usually given the former ratio, the latter also occurs on occasion.² If therefore

1 If 'irāq is taken from Ḅ, with the units kept a minor third apart, we will have /G̣ Ḅ c̣ ḍ/, /Ḅ c̣ ḍ (ẹ)/, which looks even odder, since G̣, c̣ and ḍ occur nowhere else.

2 E.g. in the ratio definition of 1 zīrāfkand-i kūchek.

we interpret the 6 : 5 ratio here as designating a neutral and not a minor third we will have the far more satisfactory /G B♭ c d/, /B♭ c d (e♭)/ (category 2).

In the concluding passage of the second mabḥath Quṭb al-Dīn mentions another three combinations which are stated to be well-known. Since it is not made clear whether they are on one "base" or two (or in one case three), these should also be considered doubtful. It would nevertheless seem reasonable to suppose them to be on one "base", for the resulting unit juxtapositions are similar to those examined above. One indeed appears to be identical: humāyūn is said to "begin in zankūla and end in rāhawī", a description that could equally well be applied to 113 zankūla/rāhawī. Whether or not the two did in fact coincide in practice cannot unfortunately be determined from this one brief remark. (Later accounts of humāyūn also relate it to zankūla and rāhawī, but it is difficult to draw any positive conclusions from them.)¹ It may be noted that for Quṭb al-Dīn the structure of humāyūn would appear to have been of the same type as that of 79 salmak, both consisting of fixed combinations (presumably on one "base"), and both having in addition 57 zankūla as their first element.

1 'Abd al-Qādir gives the notes G A B♭ c d♭ e♭ f, which coincide with zankūla from G to d♭, but can only be associated with 32 rāhawī, which Quṭb al-Dīn does not recognize. The form listed by al-Lādhiqī is c d♭ c d♭ f e d♭ c d d♭ (? or c♯) c B c, which relates to the upper tetrachord of zankūla and a later development of rāhawī.

Of the others 125 dūgāh wa hijāzī, being in effect dūgāh/hijāzī/dūgāh, seems to be no more than an extension of 93 hijāzī/dūgāh. 126 dūgāh/buzurg/rāhawī on the other hand is of considerable interest, for it demonstrates that more than two units could be combined in a standard sequence. Although it is impossible to generalize from an isolated example, it may be remarked that this particular sequence (given that all three units are on the one "base") does not show a progressive departure from the first unit. In fact, rāhawī is closer to dūgāh in terms of identity than is buzurg, and thus may have given the impression of a partial return.

*

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If we accept all the above versions of the "doubtful" combinations it follows that 80-126 constitute a group in which, mutatis mutandis, the same standards of consonance (or consonance/identity) seem to obtain as in the fixed scales 30-72. Hence one might expect to find among them similar patterns of unit distribution also.

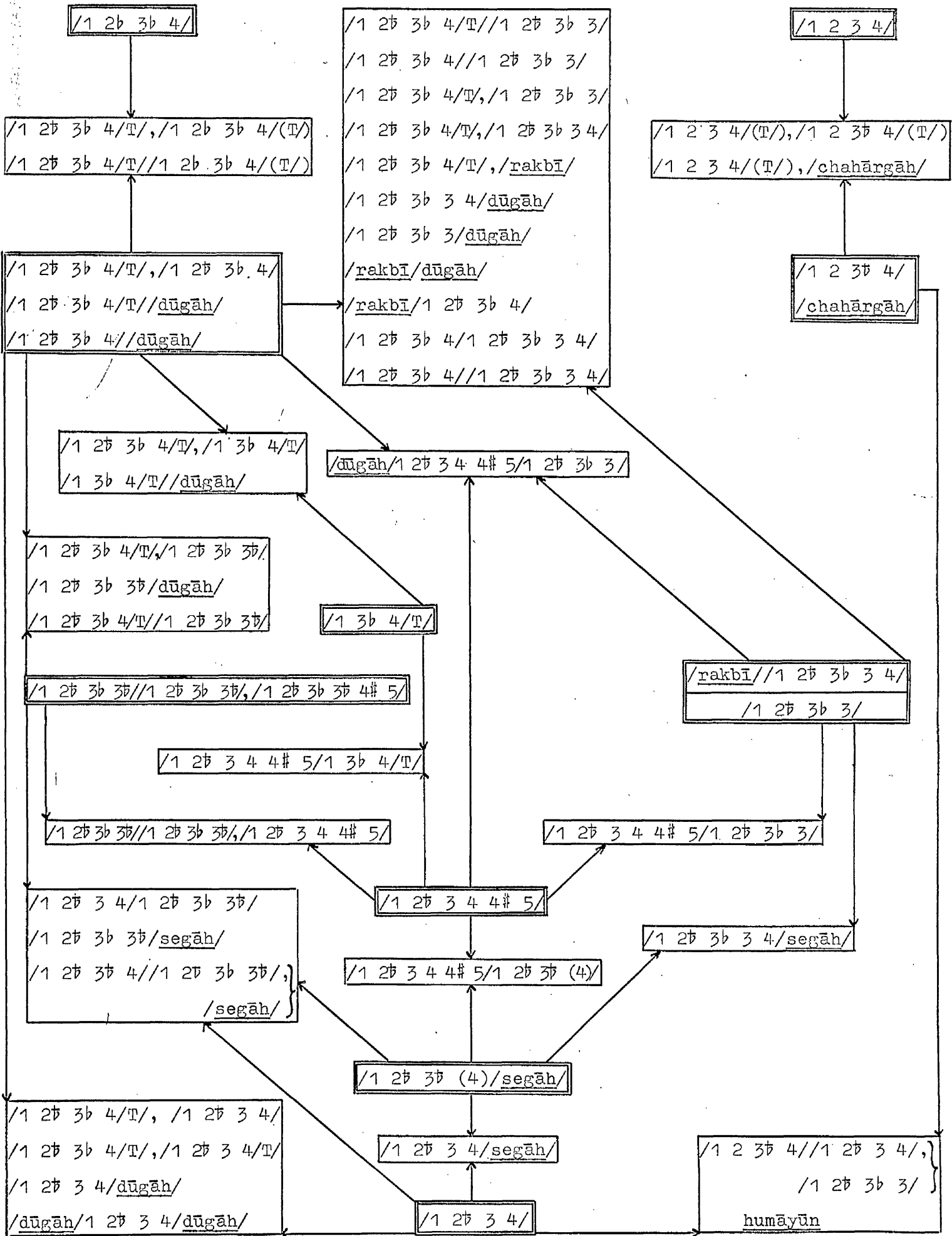
For the sake of comparison, such patterns may be shown graphically, as before. The following diagram represents all the combinations at the fourth, fifth, and unison. In

addition to units shown in previous diagrams it therefore includes the shu'bas 73 dūgāh, 74 segāh, 75 chahārgāh, 77 rakbī, 23b māya and 24b shahnāz. As Quṭb al-Dīn points out, the first three of these tend to coincide with 9 nawrūz /1 2[♯] 3[♯] 4/, 2 'irāq /1 2[♯] 3[♯]/, and 8 rāst /1 2 3[♯] 4/ respectively:¹ thus they may be entered at the same points as these units while being distinguished by name. 77 rakbī, which similarly aligns itself with 19 zīrkesh ḥusaynī /1 2[♯] 3[♯] 3 4/T/, is in consequence entered at the same point as 11 iṣfahān /1 2[♯] 3[♯] 3 4/, and is also distinguished by name. 24b shahnāz is given as a reduplication of /1 2[♯] 3[♯] 3[♯]/.

Combinations on one "base" are separated by a single stroke, and where confusion could result by a comma;² Those on two "bases" are separated by a double stroke.

1 In dūgāh we have on either side of the melodic fulcrum /1 2[♯] 3[♯] 4/: A B[♯] c d and d e[♯] f g. /1 2[♯] 3[♯]/ occurs above the corresponding note in segāh (e[♯] f g), and the related /1 2[♯] 3[♯] 4/ below (B[♯] c d e[♯]). There is no evidence that the area above the prominent note in chahārgāh was of comparable importance to that below (c d e[♯] f, /1 2 3[♯] 4/).

2 In 112 iṣfahānak/segāh and 113 it is the upper unit of the first element, not the lower, that has been taken to be on the same "base" as the second element.



Apart from the omission of /1 2 3^b 4/ and the addition of /1 3^b 4/T/, the one obvious difference between the patterns of distribution in this and the preceding diagram results from the alteration in the position of 20 buzurg /1 2^b 3 4 4[#] 5/. As the combinations of this unit with 73 dūgāh (= /1 2^b 3^b 3 4 5/), 23^b māya (/1 3^b 4/T/) and 'irāq (/1 2^b 3^b (4)/) are evidently more satisfactory in a system where like units attract than that with 8 rāst (/1 2 3^b 4/), which appears in 54 buzurg,¹ this change can hardly be considered unexpected.

Of perhaps greater importance, however, are the differences in density. In the diagram for the fixed scales the units /1 2^b 3^b 4/, /1 2^b 3^b 4/ (with /1 2^b 3 4/), and /1 2 3^b 4/ form a triangle within which, and along the sides of which, the great majority of combinations are to be found; in addition, they are fairly evenly spread over this area. The present diagram is by comparison unbalanced: the area of greatest density is concentrated within the inner triangle formed by the nodes in which /1 2^b 3^b 4/, /1 2^b 3^b 3 4/, and /1 2^b 3^b (4)/ (with /1 2^b 3 4/) appear, and even here there is no even spread, a relatively large number of combinations being situated on the line joining the first two of these nodes.

1 In the fixed scales, the combinations of 20 buzurg with 11 iṣfahān /1 2^b 3^b 3 4/ and 12 hijāzī /1 2^b 3 4/ (in 55 and 56 respectively) are comparable to the combination 97 buzurg/rāhawī (4 rāhawī /1 2^b 3^b 3/).

Such changes indicate a significant variation in the frequency of occurrence of certain units. The extent of the variation may be seen more clearly from the following table.

The columns denote

- 1 The number of occurrences in the fixed scales ¹
- 2 The percentage for each entry in 1
- 3 The number of occurrences in the combinations listed in the present chapter ²
- 4 Percentages derived from 3 by omitting all units not occurring in 1

For present purposes a number of related tetrachords and pentachords (e.g. /1 2♯ 3♭ 4/ and /1 2♯ 3♭ 4/T/) are placed together to form a single entry.

1 Excluding 32 rāhawī. In 69 and 70, which are uncertain, only hijāzī (one occurrence) and nawrūz (one occurrence) have been counted.

2 segāh is only counted once in 112 iṣfahān/segāh or iṣfahānak/segāh. humāyūn is ignored.

The figures in 3 are also percentages, the sum of the column being, fortuitously, 101.

	1	2	3	4
<u>nawrūz</u> /1 2♭ 3♭ 4/, <u>ḥusaynī</u> /1 2♭ 3♭ 4/T/	17	20	22	29
<u>rāst</u> /1 2 ⁻ 3♭ 4/, /1 2 3♭ 4/T/	14	17	2	3
<u>ḥijāzī</u> /1 2♭ 3 4/, <u>'uzzāl</u> /1 2♭ 3 4/T/	13	16	7	9
<u>būsalīk</u> /1 2♭ 3♭ 4/, /1 2♭ 3♭ 4/T/	8	10	3	4
<u>'irāq</u> /1 2♭ 3♭ (4)/, /1 2♭ 3♭ 4/T/	7	8	8	11
<u>'ushshāq</u> /1 2 3 4/, /1 2 3 4/T/	6	7	3	4
<u>iṣfahān</u> /1 2♭ 3♭ 3 4/	6	7	6	8
<u>buzurg</u> /1 2♭ 3 4 4# 5/	4	5	5	7
<u>kūchek</u> /1 2♭ 3♭ 3♭ ¹ /	3	4	11	14
<u>ḥiṣār</u> /1 2♭ 3♭ 3♭ 4# 5/	2	2	1	1
<u>nawā</u> /1 2 3♭ 4/, /1 2 3♭ 4/T/	2	2	0	0
<u>rāhawī</u> /1 2♭ 3♭ 3/	1	1	8	11
<u>dūgāh</u>			11	
<u>rakbī</u>			4	
<u>segāh</u>			4	
<u>māya</u>			4	
<u>chahārgāh</u>	==	==	<u>2</u>	==
	83	99	101	101

1 If shahnāz is listed separately from kūchek, the figures for both will be

<u>kūchek</u>	3	4	7	9
<u>shahnāz</u>	0	0	2	3

If ḥiṣār is then listed together with kūchek, we obtain

<u>kūchek</u> , <u>ḥiṣār</u>	5	6	8	11
<u>shahnāz</u>	0	0	2	3

These figures should be approached with some caution. The catalogue of fixed scales may be exhaustive, but the lists of combinations, on Quṭb al-Dīn's own admission, are incomplete. Furthermore, too great a reliance should not be placed on the figures in column 4, for the frequencies they indicate are to some extent dependent upon the incidence of units omitted from it. But however wary we must be of generalizing from this table, there are nevertheless a number of features too striking to be dismissed as merely coincidental. Comparing columns 2 and 4, it will be seen that there are considerable differences in the figures for nawrūz/ḥusaynī (20, 29); rāst (17, 3); ḥijāzī/‘uzzāl (16, 9); būsalīk (10, 4); kūček (4, 14); and rāhawī (1, 11).

The discrepancy in the figures for nawrūz/ḥusaynī can be explained to some extent by the inherent defect in column 4 mentioned above. In this particular case, the relatively high frequency of occurrence in the combinations is partly attributable to the presence of the structurally similar 73 dūgāh. An additional factor is the increase in the number of occurrences of 1 kūček /1 2ḅ 3ḅ 3ḅ/ and 4 rāhawī /1 2ḅ 3ḅ 3/, with which nawrūz and ḥusaynī form consonant combinations.

The relative infrequency of būsalīk in the combinations

1 Even if kūček is taken with ḥiṣār instead of shahnāz the difference remains considerable (6, 11).

may be considered symptomatic of the position of the diatonic species as a whole. Taken together they form 19 per cent of the total for the fixed scales, but only 6 per cent of the combinations. Admittedly if, as seems likely, Zalzalian and diatonic combinations were generally avoided, the fact that there only occur three diatonic units clearly reduces the possible number; nevertheless, the possibilities were by no means exhausted, for nawā /1 2 3^b 4/ fails to appear at all. In effect, the evidence of the lists of combinations only serves to underline the lack of importance of the diatonic units vis-à-vis the Zalzalian, and suggests that at this period they may have been losing further ground to them.

That rāst was also losing ground is on the other hand unlikely. There are as it happens relatively few units with which it can combine to produce acceptable results in terms of consonance/identity,¹ and the importance of the rāst scale (4³ G A B^b c d e^b f g) is amply demonstrated by the vitality of the shu'bas generated from it, especially 7³ dūgāh.

The variations in the percentages for 1 kūchek /1 2^b

1 Principally, in addition to those found, /1 2^b 3^b 4/ and /1 2^b 3^b 3 4/ at the fifth, /1 2^b 3^b 4/ and /1 2 3^b 4/ at the fifth, fourth, or unison. Most of these reproduce already existing structures, while combinations with the diatonic /1 2 3^b 4/ would be unusual.

(212)

3b 3b/ and 4 rāhawī /1 2b 3b 3/ are of greater interest. These units could be described as having a high density relative to the majority of tetrachord species, i.e. they contain as many notes (and are presumably as rich in melodic possibilities) but compressed within the confines of a smaller interval. The evidence of the lists of combinations would appear to suggest that their importance within the modal system as a whole was comparable to that of the Zalzalian tetrachord species, but that for structural reasons they were generally excluded from the fixed scales: because of their higher density they would tend to unbalance a (vertically) extended modal structure, in particular by reducing the significance of parallelism at the fourth or fifth through the prominence of the third.¹ In all probability it is this factor which best explains the anomaly in Ṣafī al-Dīn's treatises whereby 1 kūček and 4 rāhawī are laboriously defined, but with the exception of one melodically specialized form relating to kūček fail to appear in the corpus of modes discussed by him. In fact, both are by nature excluded from the type of formal organization exemplified by the octave scales (with which Ṣafī al-Dīn and the majority of his followers were primarily concerned).

1 One may compare in this respect the coexistence of the two iṣfahān octave scales, outwardly so dissimilar (66 G A Bb c d eb f f# g, 67 G Ab Bb c db eb e f g). 11 iṣfahān /1 2b 3b 3 4/ is also a "high density" unit, and because of this may have provided such a strong centre of gravity that the position of the nominal tonic was relatively unimportant.

(514)

Hence their true importance can only be gauged, however approximately, from their frequency and context of occurrence in the lists of combinations supplied by Quṭb al-Dīn.

The difference in the figures for ḥijāzī may, as with rāst, be explained in part by the fact that there are relatively few units with which it might form consonant combinations not already found in the fixed scales. It does however seem rather curious that while ḥijāzī occurs less frequently in the combinations the opposite appears to be true of the related 'irāq, so that taken together the two sets of figures suggest that the development 10 'irāq /1 2♯ 3♯ 4/ —————→ 12 ḥijāzī /1 2♯ 3 4/ is paradoxically more clearly revealed in the fixed (and hence presumably more stable) scales than in the combinations. The paradox may be resolved if we assume that the 'irāq referred to in the combinations is in most cases not 10 /1 2♯ 3♯ 4/ but 2 /1 2♯ 3♯/. It appears from Quṭb al-Dīn's indications that in /1 2♯ 3♯/ the third was prominent, a feature which would tend, in an octave scale, to undermine, and be undermined by, the tonic - fourth and fourth - minor seventh relationships. Thus it is possible that /1 2♯ 3♯/ may have been employed quite often (perhaps more often than /1 2♯ 3♯ 4/), but that because it differed in structure from the units which combine to form octave scales, it appeared almost exclusively in the contexts defined in the above lists.

In conclusion, it may be suggested that the evidence provided by Quṭb al-Dīn demonstrates quite conclusively that his predecessor's account of the modal system is incomplete and therefore to a certain extent misleading. The material contained in the two mabḥaths translated above indicates that the melodic utilization of the units basic to the system was not confined within the one type of compound organization discussed by Ṣafī al-Dīn.¹ It further reveals the context of occurrence of the non-tetrachord units and shu'bas without an examination of which a balanced view of the modal system as a whole is impossible. It is safe to assume that the majority of the shu'bas were equally prominent in Ṣafī al-Dīn's day; his failure to discuss them may be attributed in part, perhaps, to conservatism, but above all to his overriding preoccupation with a theoretical (and inflexible) analysis of the octave and its parts. The resulting scheme, together with its attendant disadvantages, is taken over virtually intact by Quṭb al-Dīn: but by supplying such a wealth of supplementary information he enables us to realize the extent to which elements important in practice might be disguised or even disregarded for the sake of the theory.

¹ The kitāb al-adwār contains just one isolated remark ("every octave scale has a fundamental part (aṣl) on which it is based" - BM. MS. Or. 136, fol. 19v) that can be construed as indicating the melodic primacy of the individual unit.

chapter 8

The last chapter in the kitāb al-adwār (entitled fī mubāsharat al-‘amal) is the only one to be devoted exclusively to practice. It presents, with brief comments, four examples of notation, two of which are reproduced in the risāla al-sharafiyya. Ṣafī al-Dīn uses the alphabetic notation previously employed in the chapters defining the octave gamut, and hence also in listing the 84 octave scales (adwār) and the transpositions (ṭabaqāt) of the twelve shudūd. To it are added numbers indicating the relative duration of each note, and a statement of the type of composition being notated.

Since rhythm and form have not been discussed, the following brief remarks may be prefaced to the transcriptions.

rhythm

Ṣafī al-Dīn's approach to rhythmic analysis is traditional: much of the terminology used to describe the various rhythmic cycles is derived from prosody. Each cycle is divided into feet (watad, sabab, fāṣila), these being defined in terms of long and short syllables. A short syllable is equivalent

to one time unit, along syllable to two. For example, the rhythmic cycle al-thaqīl al-thānī is represented as

tanan tanan tan tanan tanan tan
i.e./ √ - / √ - / - / √ - / √ - / - /

The time units are therefore to be divided:

/1 2 3/4 5 6/7 8/9 10 11/12 13 14/15 16/

In each foot the first time unit is marked by a percussion, the last in general not, while any others may or may not be so marked, the performer being in some cases bounded by convention and in others able to choose. Thus if we symbolize the first time unit of a foot as X (an obligatory percussion), the final one as . (generally omitted), and others as o (generally an optional percussion), this cycle becomes:

/X o . X o . X . X o . X o . X . /

It will be seen from this that the rhythmic cycles are distinguished not only by the number of time units but, equally important, by an accentual pattern also which the performer may embroider within certain limits, but in theory not alter. A further means of identification according to Ṣafī al-Dīn is the ḍarb al-aṣl or fundamental pattern in which just two of the possible percussion are used. If we underline these, and in addition symbolize as x (instead of o or .) those time units conventionally marked by a

percussion which are not initial in a foot, the rhythmic cycles described by Ṣafī al-Dīn may be represented as follows:

al-thaqīl al-awwal /X o . X o . X o o . X . X o o . /
(or) - -

al-thaqīl al-thānī /X o . X o . X . X o . X o . X . /

khafīf al-thaqīl /X . X x X . X x X . X x X . X x /

thaqīl al-ramal
/X o o . X o o . X . X . X . X . X . X . X o o . /

al-ramal /X . X . X . X . X o o . /

khafīf al-ramal /X . X o . X o X o . /

al-hazaj /X o o . X o . X o . X . /

al-fākhitī /X . . . X . X . . . X . . . X . X . . . /¹

It is unlikely that the ḍarb al-aṣl was ever used on its own to define a cycle in practice, for unless there was a strictly maintained gradation of tempo between cycles the patterns provided by the ḍarb al-aṣl for al-thaqīl al-thānī (12 + 4), khafīf al-thaqīl (12 + 4), thaqīl al-ramal (18 + 6), and, in the second version, al-thaqīl al-awwal (12 + 4), would all coincide.

1 No ḍarb al-aṣl is given for this cycle. Ṣafī al-Dīn states that only the initial time unit in each foot is marked by a percussion.

The principal variant forms are, according to Ṣafī al-Dīn:
al-thaqīl al-thānī /X o . X o . X . /
al-hazaj /X o o . X . /
khafīf al-thaqīl /X . X x /
al-ramal /X . X . X o o . X o o . /
khafīf al-ramal /X . X o o . /
al-fākhitī /X . X . . . X . . . X . X . . . X . . . /

form

Neither Ṣafī al-Dīn nor Quṭb al-Dīn discuss formal procedures. The sharḥ contains a few brief comments on the nawba and its movements,¹ but it is not until the 15th century that we encounter, in the works of 'Abd al-Qādir, a presumably comprehensive account of the forms of composition then in use.² In general, distinctions between forms are expressed in terms of the language and structure of the verse sung, so that an overtly musical analysis of the various song-types is not given. In certain cases, however, the composition is defined technically: in the kull al-ḡurūb, for example, one progresses through a number of rhythmic cycles, while a performance of the kull al-naḡham either passes through all the pardas, āwāzes, and shu'bas, or combines various modes so as to include all the notes of the gamut.

The examples of notation given by Ṣafī al-Dīn are stated to be in two forms, ṭarīqa and ṣawt. Of these, unfortunately, little is known: the former is an instrumental piece, employed chiefly as a prelude to a vocal composition; the latter appears to be one of the less complex vocal forms.³ As the first example demonstrates, a ṭarīqa might be transformed into a ṣawt by being sung to words.

1 BM. MS. Or. 2361, fol. 151v.

2 E.g. maqāsid al-alḡān, 103-106.

3 The sharḥ states (loc. cit.) that it is qalīl al-ajzā'.

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In addition to the various MSS. of the kitāb al-adwār, some of these examples of notation may be found in the risāla al-sharafiyya, the durrat al-tāj, and various commentaries on the kitāb al-adwār. In establishing the transcriptions the following sources have been used:

- A Bodleian MS. Marsh 521, ff. 32-33v (kitāb al-adwār)
- B Bodleian MS. Marsh 521, ff. 156-157 (kitāb al-adwār)
- C Bodleian MS. Marsh 161, ff. 41v-42v (kitāb al-adwār)
- D Bodleian MS. Marsh 161, ff. 80v-81v (kitāb al-adwār)
- E Bodleian MS. Marsh 115 (risāla al-sharafiyya)
- F Bodleian MS. Marsh 521 (risāla al-sharafiyya)
- G BM. MS. Add. 7694 (durrat al-tāj)
- H BM. MS. Or. 2361, fol. 67v (a commentary on the kitāb al-adwār)
- I BM. MS. Add. 7471 (a commentary on the kitāb al-adwār)
- J BM. MS. Or. 136 (kitāb al-adwār)
- K BM. MS. Or. 2361 (kitāb al-adwār)
- L BM. MS. Or. 2361 (the text of the kitāb al-adwār reproduced in the sharḥ)
- M A photographic reproduction of a MS. of the kitāb al-adwār introduced by Ḥusayn 'Alī Maḥfūz, Baghdad, 1961.

Example 1a

Sources: A B C D J K L M

Form: ṭarīqaMode: nawrūzRhythm : ramal

The notation is given thus:

f	e ^b	d ^{-c}	e ^b	d ^{-c}	c
6	6	12	6	6	12

Taking the accentual pattern of the rhythmic cycle into account, this may be transcribed in the following (albeit more cumbersome) form:



If however we take the ḍarb al-aṣl to represent the main accentual division within the cycle, this may be simplified to:



Example 1b

The above is immediately repeated and enlarged in the form of a ṣawt, each shaṭr of the verse repeating the melodic pattern.

Sources: A B C D H I J K L M

A number of MS. variants occur in 1b. In transcribing these the verse has been omitted, since the alignment of syllables and notes is in most cases imprecise. Further, because of the alterations in the durational values no attempt has been made to indicate the structure of the rhythmic cycle. The variants are:

B C D
J K M

A

L

H I

I then continues

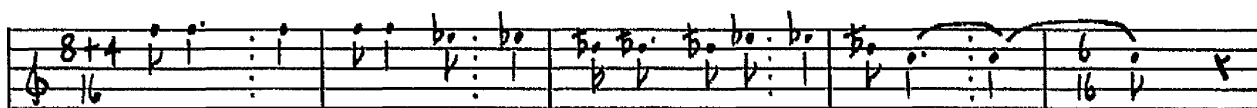
Except for H and I (and the last shatr of A, where there is a possibility of scribal omission) all MSS. agree on a melodic outline which coincides with that of 1a and may be unhesitatingly accepted as correct:

The rhythmic values, on the other hand, present some difficulty. Even if we again discard H and I, it will be found that the number of time units in each shaṭr is in B C D J K and M, 50, 50, 50 and 50; in A, 50, 50, 46 and 38; and in L, 54, 54, 54 and 54, so that in no case do we encounter a compound of the 12 time units of the ramal cycle. The sharḥ, commenting on text L, states that f and eb extend over two rhythmic cycles (24 time units), while the remaining notes of the shaṭr, dḥ eb dḥ c, take up two and a half cycles (30 time units).¹ However, the sharḥ concedes, in remarks on the later examples,² that text L is unreliable, and it is in fact the only one to which this interpretation could be applied. The 50 time units upon which the great majority of MSS. agree cannot be divided in this way, and the repetition of an entity consisting of four complete cycles plus two time units seems unlikely in the extreme. The most reasonable solution to this problem may perhaps be found in the fact that Ṣafī al-Dīn nowhere employs a rest sign, for a pause at the end of each shaṭr would hardly be unexpected, especially as a long high note follows. If, in conformity with the sharḥ (and, it may be added, Ṣafī al-Dīn himself, who gives a variant of ramal of six time units in risāla al-sharafiyya) we allow the division of the cycle into halves, we may assign the value of four time units to the

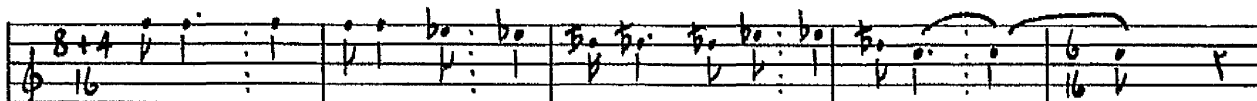
1 BM. MS. Or. 2361, fol. 152.

2 Ibid., fol. 152v.

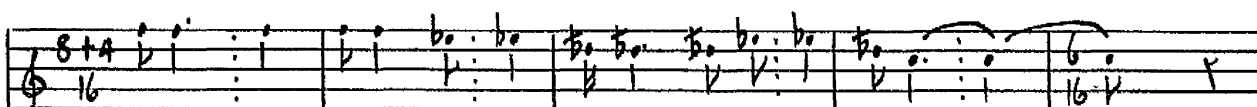
hypothetical pause and transcribe thus:



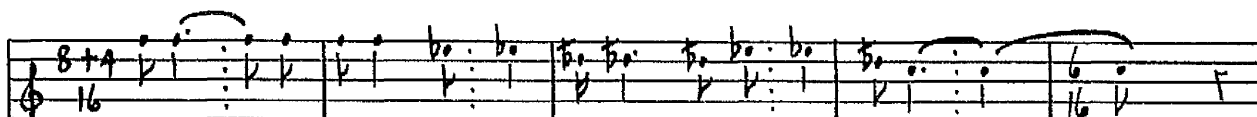
'alā ṣabbikum yā ḥā-kimī-na taraffaqū



wa min waṣṣlikum yawman 'alayhi taṣaddaqū



wa lā tutlifū-hū bi'l-ṣudūdi fa'in-nahū



yuḥā-dhiru 'an yashkū 'ilaykum fatashfaqū

In the text the note length of the individual syllable is only given at the beginning of the fourth cycle of each shaṭr, where the $d\ddot{t}$ corresponds to a short syllable. This arises simply from the fact that the duration of the $d\ddot{t}$ is two time units. Elsewhere one finds e.g. the value 18 (time units) entered under 'alā ṣabbikum - only the total duration of the note is given irrespective of the syllables sung to it.


Example 2a

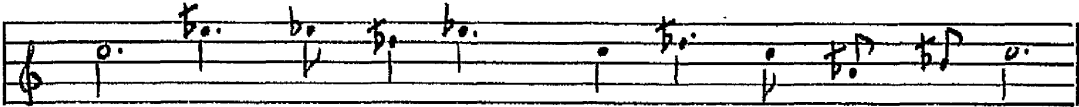
Sources: A B C D K L M

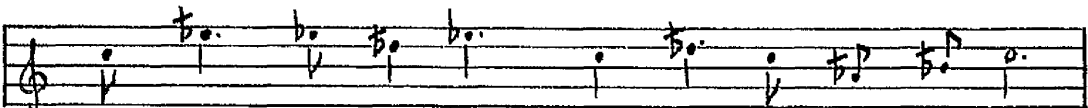
Form: ṭarīqa

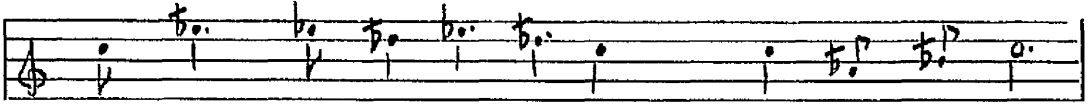
Mode: kawāsht

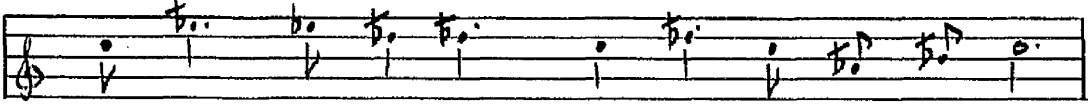
Rhythm: ramal

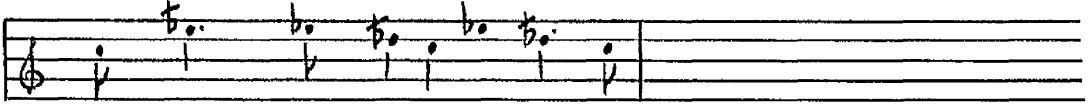
The following variants occur ( indicating a note the durational value of which is illegible or omitted):

K 

L M 

C 

B D 

A 

In B D L and M the total number of time units is 48, four cycles of the ramal rhythm. As there seem to be no grounds for preferring L M to B D or vice versa, we may transcribe thus:



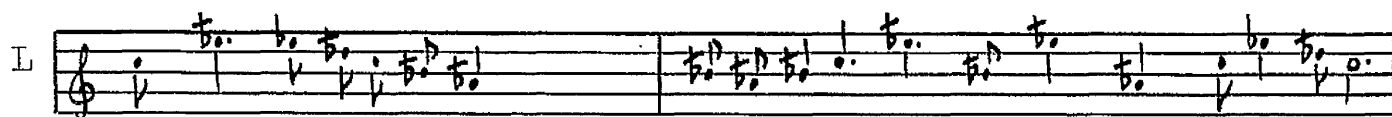
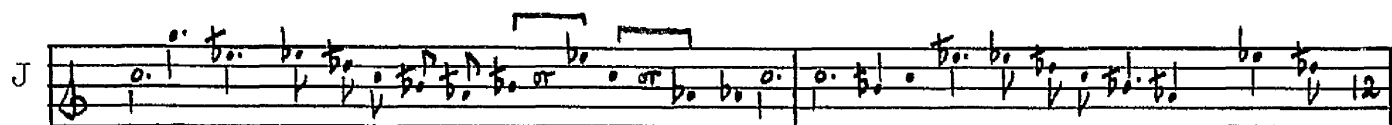
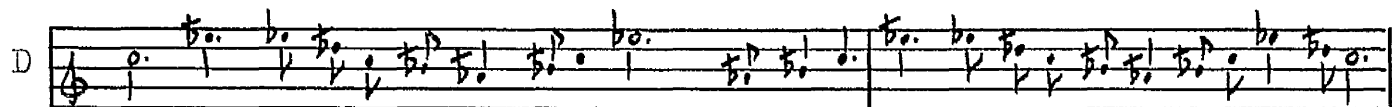
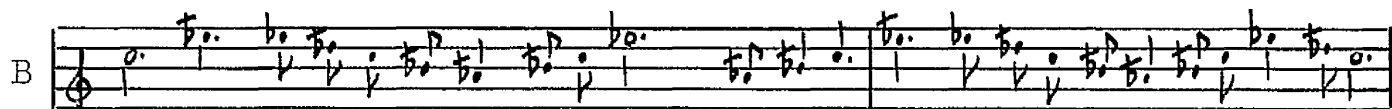
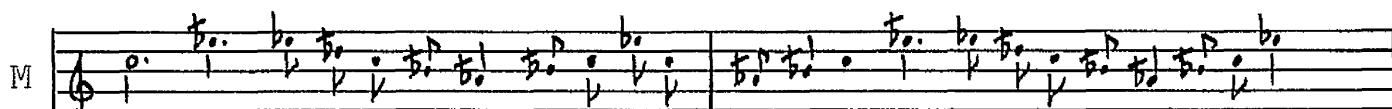
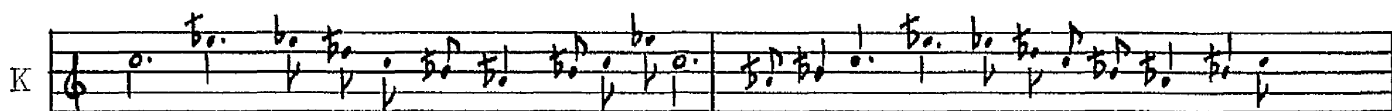
Example 2b

The relationship between 2b and 2a is exactly the same as that between 1b and 1a: the above is repeated in extended

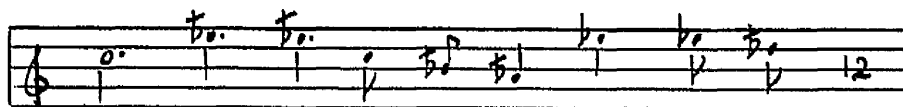
form as a sawt. In this case, however, the melodic line of 2a is not strictly adhered to.

Sources: B D J K L M

For the first line of verse the following variants occur (a durational value for which no pitch indication is given being rendered by the relevant numeral):



In one MS., J, notation is given for the second shaṭr of the second line:

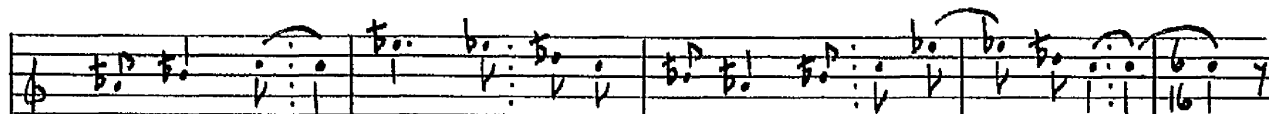


From the resemblance of this to the second shaṭr of the first line and, especially, the absence of notation in the other MSS., it may be presumed that the melody of the first line was repeated unchanged in the second.

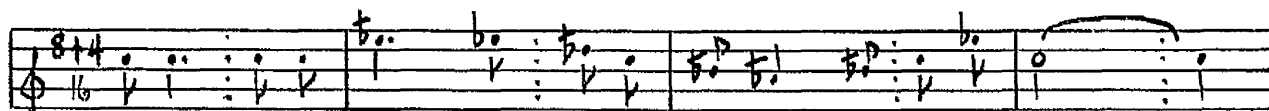
As with 1b, there is more agreement in the melodic line than in the durational values. The total number of time units for the first shaṭr in K is 48 (four cycles of the ramal rhythm), and this may be accepted as correct. The last three notes assigned to the first shaṭr in B and D may therefore be considered to belong properly to the second. In this, however, the number of time units is nowhere 48, and it would appear reasonable, as in 1b, to posit a pause (here of two time units) at the end of each line. We have in consequence:



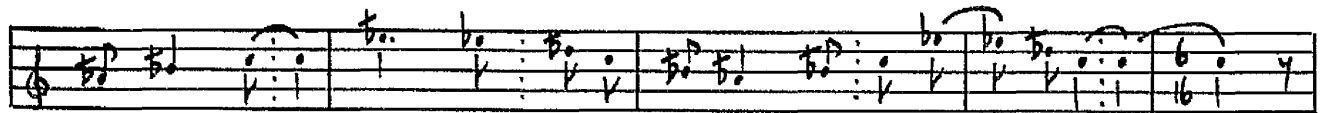
'a-lā al-hajri lā wa'l-lāhi mā 'a-na ṣābi—ru



wa ghayrī 'a-lā faqdi al-'aḥibbati qā—diru



katantu ha-wā—kum khīfatan min 'awādhilī



wa lī wa la-kum 'inda al-liqā-'i sarā—'iru

Example 3

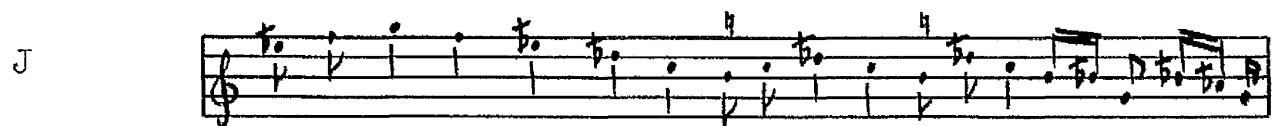
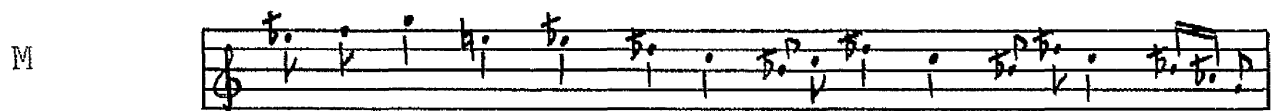
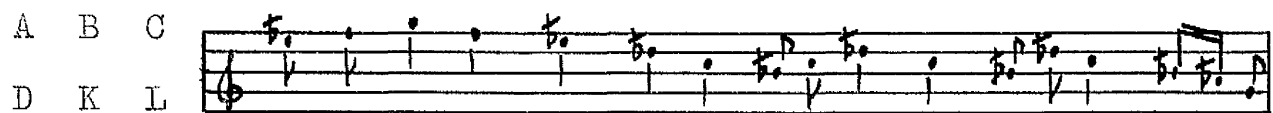
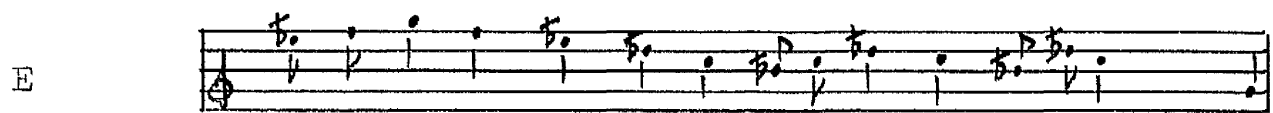
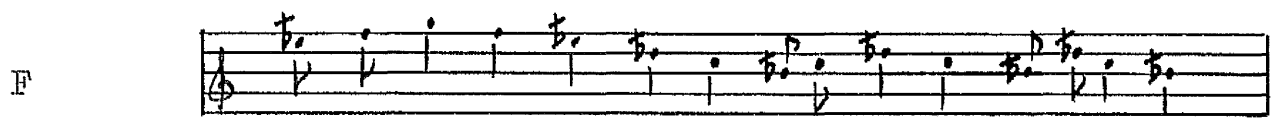
Sources: A B C D E F J K L M

Form: ṭarīqa

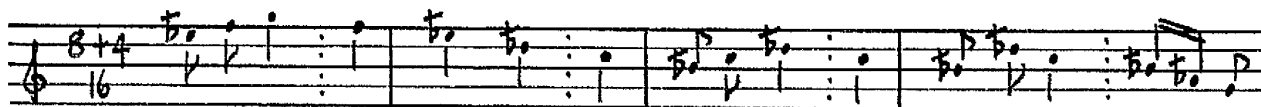
Mode: ? mujannab

Rhythm: ramal

The following variants occur:



The version in A B C D K L may be accepted without hesitation. It comprises four cycles of the ramal rhythm:

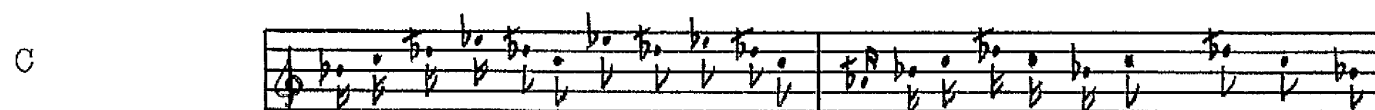
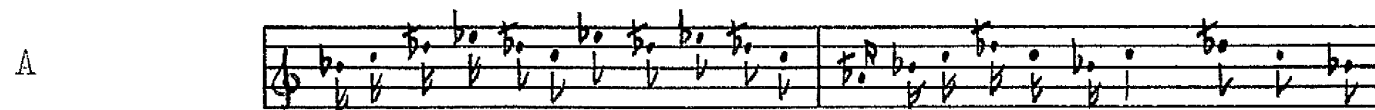
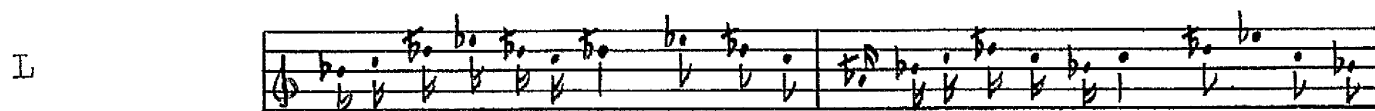
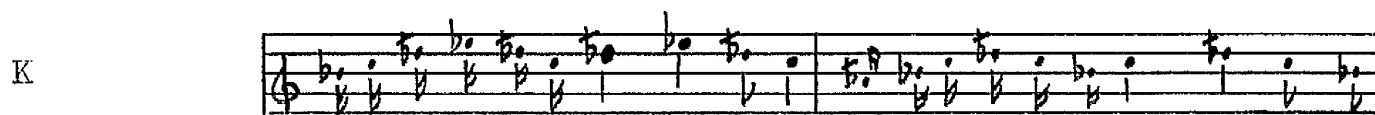
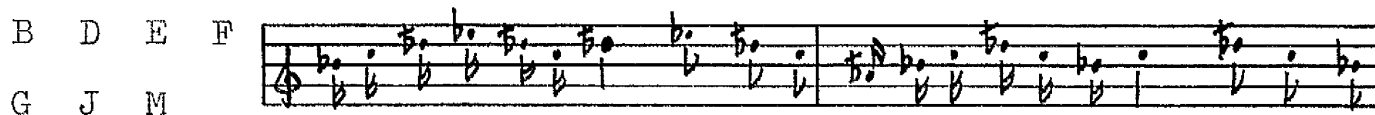


Example 4

Sources: A B C D E F G J K L M

Form: ṭarīqaMode: ? muṭlaqRhythm: thaqīl awwal

This composition comprises nine rhythmic cycles, each being notated separately. The variants for the first two cycles are:

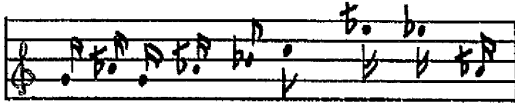


The version in B D E F G J M is given for cycles

3 and 4 also in A B C D E F G K L M. It is clear, therefore, that cycles 3 and 4 repeat cycles 1 and 2 exactly. For the remaining cycles the variants are:

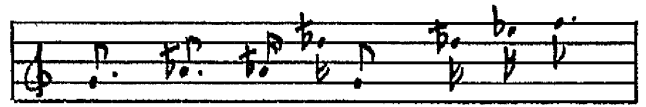
5

E

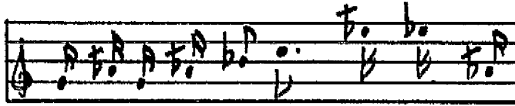


6

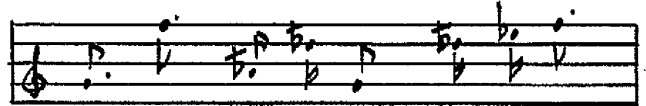
D



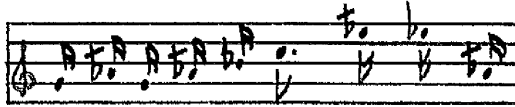
B D
F K



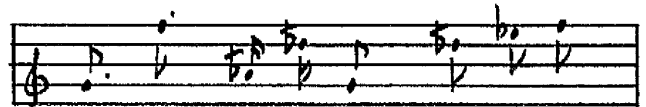
B E F
J L



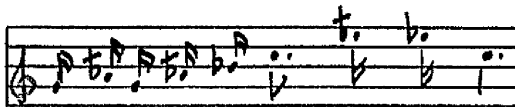
J



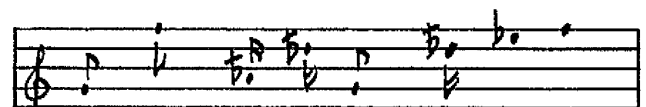
K C



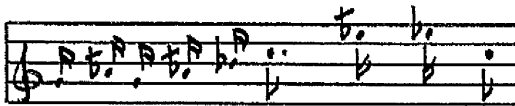
A



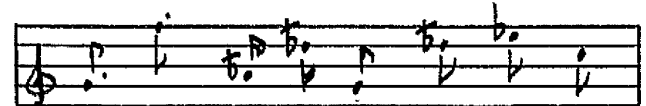
M



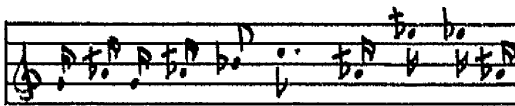
C



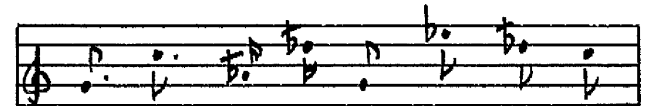
A



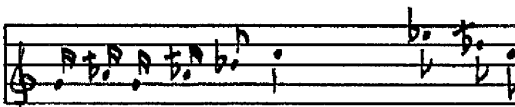
L



G



G



A B C

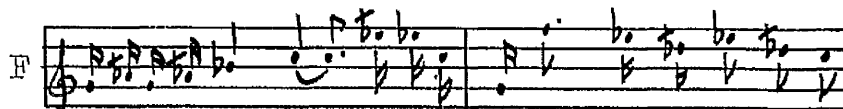
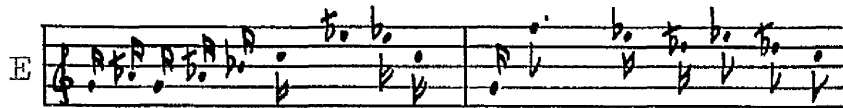
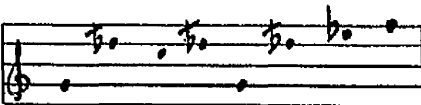
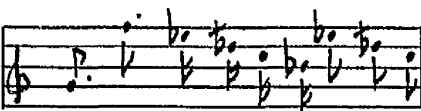
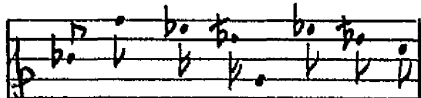
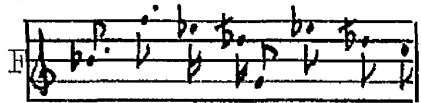
D E F

J K

M

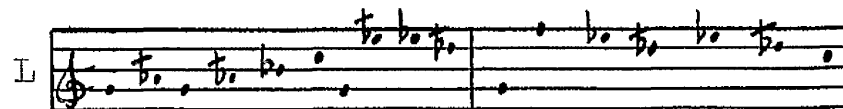
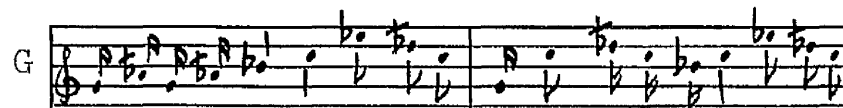
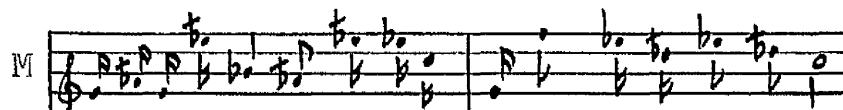
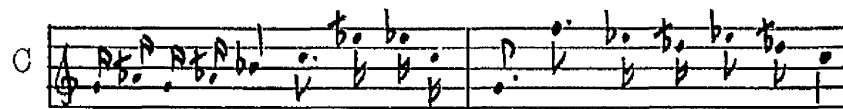
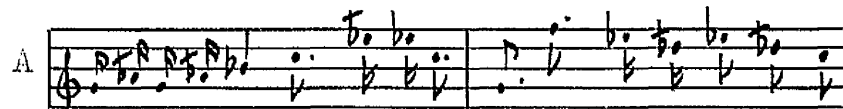
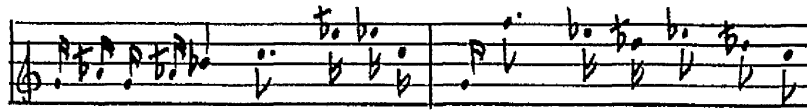
G

L

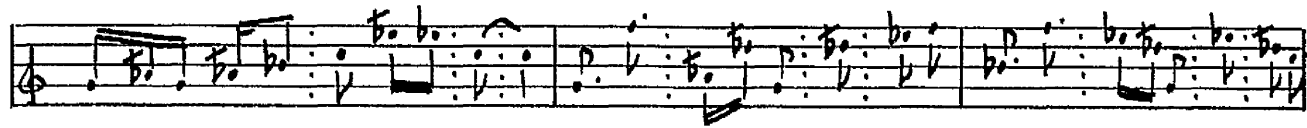
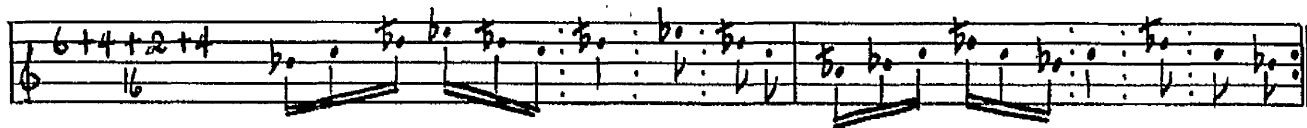


B J

K D



Taking the accentual pattern of the rhythmic cycle into account, the following version may be tentatively proposed:



*

*



*

The above four examples may best be discussed in conjunction with the more extended composition notated in the durrat al-tāj. This, according to Quṭb al-Dīn, is a gawl: unfortunately it does not correspond exactly to the earliest description of the form, that contained in the sharḥ,¹ and there are no later notated examples with which its structure might be compared. The mode is 60 muḥayyir ḥusaynī (with others being briefly introduced), and the

1 BM. MS. Or. 2361, fol. 151v.

rhythm khafīf. Ṣafī al-Dīn does not mention the khafīf cycle, which according to Quṭb al-Dīn consists of 16 time units with the following accentual pattern:

X . X . X x o . X . X . X o o .

The method of notation, although related to that used by Ṣafī al-Dīn, is far more complex and detailed. It consists of 6 horizontal lines marked off by 17 vertical lines encompassing the 16 time units of the rhythmic cycle. The notes employed are entered between the top two horizontal lines. Below them dots (from one to five to the time unit) indicate percussions (naqarāt) to be produced, presumably, on an accompanying instrument. The layout suggests that a tambourine rather than a drum might be employed. The dots are on two levels: the higher will be transcribed , the lower . Between the third and fourth horizontal lines are given the changes of mode. Each time the basic mode (60 muḥayyir ḥusaynī, not itself mentioned in the notation) is temporarily replaced the name of the new mode is entered, the writing being extended horizontally to coincide with its duration. Several, but not all, of the next set of entries correspond to expression marks in Western notation: the terms used will be given below. Finally, the syllables to be sung are entered between the fifth and sixth lines.

The notation comprises 15 rhythmic cycles, but certain sections of the whole are repeated. At the end of the tenth

cycle a repeat from the first is indicated, and at the end of the 15th a repeat of the fifth to tenth cycles is called for. There are therefore 31 cycles in all: 1-10, 1-15, and 5-10. In the first ten cycles certain notes and other signs are in red, and it has been assumed in the transcription that these relate to the repeats.

The terms in the notation referred to above have been rendered as follows:

madd: indicates the prolongation of a note beyond the time unit box in which it is entered. It is incorporated in the time value assigned to that note in the transcription.

waqf: indicates a pause, and is rendered by a rest.

jahr is transcribed by f.

mushaddad is transcribed by sf.

jahr and mushaddad, considered as a composite entry, are rendered by ff.

khufūt is transcribed by p \rightrightarrows .

mufakhkham occurs once, above the syllable lā, and may only indicate a velarized pronunciation. It is rendered by rfz.

mukhtalas is transcribed by a dot ($\dot{\quad}$).

Unless otherwise indicated, the above apply only to the note they are placed under. Any additional signs are placed in brackets.

Three MSS. have been consulted: BM. Add. 7694; and India Office Ethé 2219 and 2220. Most of the variants have been included in the transcription, which is as follows:

1

16
8

yā malī—kan bihī ya—tī—

ossia:

Detailed description: This system contains a vocal line and a piano accompaniment. The vocal line is on a single staff with a treble clef and a key signature of one sharp (F#). It begins with a whole rest, followed by a series of quarter notes: G4, A4, B4, A4, G4, F#4, E4, D4. The final note is a half note with a fermata. The piano accompaniment is on a single staff with a bass clef. It starts with a whole rest, followed by a series of eighth notes: G3, A3, B3, A3, G3, F#3, E3, D3. There are two 'ossia' alternatives for the piano part, each consisting of a pair of eighth notes: G3-A3 and B3-A3.

2

sf *ff*

Detailed description: This system contains a vocal line and a piano accompaniment. The vocal line is on a single staff with a treble clef and a key signature of one sharp (F#). It begins with a whole rest, followed by a series of quarter notes: G4, A4, B4, A4, G4, F#4, E4, D4. The final note is a half note with a fermata. The piano accompaniment is on a single staff with a bass clef. It starts with a whole rest, followed by a series of eighth notes: G3, A3, B3, A3, G3, F#3, E3, D3. There are two 'ossia' alternatives for the piano part, each consisting of a pair of eighth notes: G3-A3 and B3-A3.

3

bu za—mā—

Detailed description: This system contains a vocal line and a piano accompaniment. The vocal line is on a single staff with a treble clef and a key signature of one sharp (F#). It begins with a whole rest, followed by a series of quarter notes: G4, A4, B4, A4, G4, F#4, E4, D4. The final note is a half note with a fermata. The piano accompaniment is on a single staff with a bass clef. It starts with a whole rest, followed by a series of eighth notes: G3, A3, B3, A3, G3, F#3, E3, D3. There are two 'ossia' alternatives for the piano part, each consisting of a pair of eighth notes: G3-A3 and B3-A3.

4

nī dum madā al-dah—

ossia:

Detailed description: This system contains a vocal line and a piano accompaniment. The vocal line is on a single staff with a treble clef and a key signature of one sharp (F#). It begins with a whole rest, followed by a series of quarter notes: G4, A4, B4, A4, G4, F#4, E4, D4. The final note is a half note with a fermata. The piano accompaniment is on a single staff with a bass clef. It starts with a whole rest, followed by a series of eighth notes: G3, A3, B3, A3, G3, F#3, E3, D3. There are two 'ossia' alternatives for the piano part, each consisting of a pair of eighth notes: G3-A3 and B3-A3.

5

Musical score for measure 5. The top staff is a vocal line in treble clef with a key signature of one sharp (F#). The lyrics are "- ri rā — fi — la —". The bottom staff is a piano accompaniment in treble clef, featuring triplet patterns and sixteenth-note runs. A dynamic marking "sf" is present. An "ossia" variation is shown below the main accompaniment.

6

Musical score for measure 6. The top staff is a vocal line in treble clef with a key signature of one sharp (F#). The bottom staff is a piano accompaniment in treble clef, featuring sixteenth-note runs. A dynamic marking "sf" is present. An "ossia" variation is shown below the main accompaniment.

7

Musical score for measure 7. The top staff is a vocal line in treble clef with a key signature of one flat (Bb). The bottom staff is a piano accompaniment in treble clef, featuring sixteenth-note runs. An "ossia" variation is shown above the main accompaniment. A dynamic marking "sf" is present.

8

Musical score for measure 8. The top staff is a vocal line in treble clef with a key signature of one flat (Bb). The bottom staff is a piano accompaniment in treble clef, featuring sixteenth-note runs. An "ossia" variation is shown below the main accompaniment. A dynamic marking "sf" is present.

9

_____ n fī al-'amā _____

ossia:

10

_____ nī _____ tililililara dir

11

lā ba-riḥ ta al-za-mā na fī _____

ossia:

12

sf- ff-

13

zil—li 'ay

14

shin 'ā—mi—nan mi—n

ossia:

15

ta—wā—ri—qi

ossia:

16

ossia:

17

Musical notation for measure 17. The upper staff is a treble clef with a melodic line. The lower staff is a bass clef with a rhythmic accompaniment, including a triplet of eighth notes.

ossia:

Alternative musical notation for measure 17, labeled "ossia:". It shows a different melodic line in the treble clef and a different rhythmic accompaniment in the bass clef.

18

Musical notation for measure 18. The upper staff is a treble clef with a melodic line. The lower staff is a bass clef with a rhythmic accompaniment, including two triplet markings.

ossia:

Alternative musical notation for measure 18, labeled "ossia:". It shows a different melodic line in the treble clef and a different rhythmic accompaniment in the bass clef.

19

Musical notation for measure 19. The upper staff is a treble clef with a melodic line. The lower staff is a bass clef with a rhythmic accompaniment, including a triplet. The lyrics "al- ha- dathā" are written below the staff.

ossia:

Alternative musical notation for measure 19, labeled "ossia:". It shows a different melodic line in the treble clef and a different rhythmic accompaniment in the bass clef.

20

Musical notation for measure 20. The upper staff is a treble clef with a melodic line. The lower staff is a bass clef with a rhythmic accompaniment, including a triplet. The lyrics "ni tili lili lara dir" are written below the staff.

21

nā tililililaradir tān tān tā dir dir nā

22

tā nā taradiri talanaladililinalaradiritalanaladililili

23

lililililā nā tala dililaradiri tililililānānānā nā nā

ossia:

24

tā nā tara diri nā tililililā

25

tililililā 'ā mi-nan min

26

ta-wā-ri-qi

sf-

ossia:

27

sf-

ossia: 7

28

ossia:

29

Musical notation for exercise 29, featuring a treble clef staff with a key signature of two flats and a bass clef staff with a 3/4 time signature. The melody consists of eighth and quarter notes, while the bass line features a triplet of eighth notes and a series of quarter notes.

ossia:

30

Musical notation for exercise 30, featuring a treble clef staff with a key signature of two flats and a bass clef staff with a 3/4 time signature. The melody includes the lyrics "al-ha dathā" under a long note. The bass line includes a triplet of eighth notes and a series of quarter notes.

ossia:

31

Musical notation for exercise 31, featuring a treble clef staff with a key signature of two flats and a bass clef staff with a 3/4 time signature. The melody includes the lyric "ni" under a long note. The bass line features a triplet of eighth notes and a series of quarter notes.

When compared with the above composition, the four examples of notation supplied by Ṣafī al-Dīn appear to be no more than simplified and abbreviated text-book illustrations. Certainly Ṣafī al-Dīn implies, at the end of chapter 14 in the kitāb al-adwār, that other compositions might be far more complex, for he states that his intention is to give some examples of the ṭarīqa and ṣawt forms that are easy to grasp (sahlat al-tanāwul).

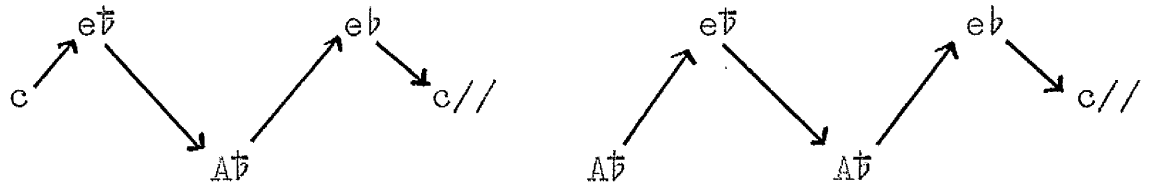
The simplest of the four is the first, consisting of a descending 3-note phrase which is then repeated one step lower. The whole does not exceed the limit of the one unit, 9 nawrūz /1 2♯ 3♭ 4/. After presenting 1b, Ṣafī al-Dīn states that the mode of the piece might be changed to ḥijāzī (12 /1 2♯ 3 4/) by substituting e(♯) for e♭; to rāst (8 /1 2 3♯ 4/) by substituting d and e♯ for d♯ and e♭ respectively; and to zīrāfkand (1 /1 2♯ 3♭ 3♯/) by substituting e♯ for f. This suggests that example 1 might not in fact be an actual composition - or even the bare outlines of one - but an elementary illustration of the technique of notation and nothing more.

The second example is somewhat more interesting. While 1a and 1b coincide in melodic shape, 2a and 2b do not. The

1 BM. MS. Or. 136, fol. 38.

2 Ibid., fol. 39. Thus we have here another instance of the use of the term ḥijāzī, which does ^{not} appear in the list of species, to designate one such unit.

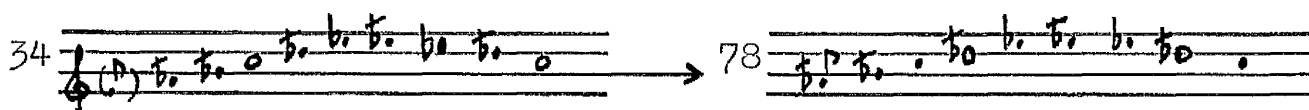
reason for this is not clear: however the melodic movement in both is of the same type and differs from that of 1, being not a descending sequence but an up and down movement pivoting on c, which is both the initial and the final note. Thus the outline of 2b may be schematically represented as:



Except for a leap of a neutral third and another of a minor third the melodic progression, as in example 1, is stepwise throughout.

It has already been noted that the compass of this example, which comprises the notes from A♭ to e♭ of the scale 59a kawāsht G A♭ B♭ c d♭ e♭ e♭ f♯ g, might be cited in support of the suggestion that 59a could be a theoretical extension of a mode listed by Quṭb al-Dīn, 34 iṣfahānak (or kawāsht) G A♭ B♭ c d♭ e♭ e♭. But to whichever scale this example properly relates, the units of which it is formed are not developed separately: there is no suggestion of a movement away from c to dwell, however temporarily, on another prominent (unit boundary) note. It may also be pointed out that the up and down melodic motion around the pivotal c corresponds exactly to Quṭb al-Dīn's account of the modal characteristics of a number of shu'bas (73 dūgāh, 77 rakbī, 78 mubarqa', and the first segment of

79 salmak), and of 57 zankūla. One of these shu'bas, 78 mubarqa', does in fact relate to the iṣfahānak scale, although with $d\flat$ as the pivotal prominent note. Conceivably, therefore, its melodic properties may be derived from those of iṣfahānak, given that example 2 is representative, especially when we consider that the final note in mubarqa' is not the prominent $d\flat$, but generally c . We would thus have:



Example 3 is stated to be in an ancient (qadīm) mode called mujannab, a term otherwise used by Ṣafī al-Dīn only to designate a fret on the lute and the note it produces. Two such notes, $A\flat$ and $d\flat$, occur in this piece if we assume G , c , and f to relate to the open strings. According to 'Abd al-Qādir,¹ however, mujannab was also one of the terms used in connection with the six tetrachords known collectively as the aṣābi',² fingerings. These tetrachords are in fact the familiar units /1 2 3 4/, /1 2 3 \flat 4/, /1 2 3 \flat 4/, /1 2 \flat 3 \flat 4/, /1 2 \flat 3 \flat 4/ and /1 2 \flat 3 \flat 4/, so that the aṣābi' as such would appear to be little more than indications of how to produce them on the fingerboard of

1 maqāṣid al-alḥān, 96-97.

2 Another term employed to designate the set is mawājib.

the lute, starting always from the open string.¹ The history of these terms is nevertheless obscure, and at an earlier period they may have implied specific modal properties. Also, it would appear that at one stage they were compounded with six of the rhythmic cycles (one of them being ramal) to produce a corpus of 36 ṭarā'iq, and it is conceivable that example 2 is a survival from this group. Certainly the heading, mujannab al-ramal,² is of the same type as those cited by 'Abd al-Qādir, and unless there were some particular association of this nature there would seem to be no good reason for failing to assign this example to 'irāq G A♯ B♯ c d♯ e♯ f (f♯) g.

The fourth example has a similar heading: ṭarīqa fī al-qadīm thaqīl awwal muṭlaq, muṭlaq again designating one of the aṣābi'. But what is meant by this term in the context of the present example is not clear, and in conformity with Ṣafī al-Dīn's usual method of analysis one might suggest that it should be considered a compound of the units 9 nawrūz /1 2♯ 3♯ 4/ (G - c) and 1 zīrāfkand /1 2♯ 3♯ 3♯/ (c - e♯) in cycles 5 and 8, while cycles 6, 7, and 9 consist of 37 nawrūz G A♯ B♯ c d♯ e♯ f. Cycles 1 - 4 could belong either to 37 nawrūz or to the compound of 9 nawrūz and 1

1 There may even have been a pedagogic element in this since all the finger positions (frets) are thereby brought into play.

2 loc. cit.

zīrāfkand,¹ for neither f nor e♯ occur in them.² However, it should be pointed out that the units are not developed separately, especially in cycles 6, 7, and 9, where wide leaps occur.

In addition to exhibiting the predominantly stepwise structure found in examples 1 - 3, cycles 1 - 5 and 8 evince certain similarities with the up and down movement characteristic of example 2. Further, cycles 1 - 4 reflect the structure of example 1 in the exact repetition of a phrase one step lower in the scale. The remaining cycles, however, 6, 7, and 9, would appear to contain none of these features, and the leaps of a fourth and a minor seventh, using the notes G, c, and f especially, suggest that the melodic articulation in these cycles may have been influenced by instrumental techniques, in particular the use of the open strings of the lute. Since the open string note is termed muṭlaq there may even be some connection between this feature and the heading.

Certain aspects of the structure of these examples are given in the following tables, which take into account 1b, 2a, 2b, 3 and all cycles of 4. It must however be stressed

1 Which coincides with the mode (listed only by Qutb al-Dīn) 36 kūchek-i tamām G A♯ B♭ c d♯ e♭ e♯.

2 The sharḥ contains a rather curious analysis of this piece (BM. MS. Or. 2361, ff. 152v-153) in which the suggestion is made that cycles 5 and 8 may be considered to belong to nawrūz with an extra note added.

that the four examples constitute far too small a sample for firm conclusions to be drawn.

1		1b	2	3	4
	melodic ambitus	fourth	fifth	octave	minor seventh
	initial note	f	c	e \flat	B \flat
	final note	c	c	G	c

2 direction of movement between contiguous notes

	1b	2a	2b	3	4	total	%
falling	16	5	28	11	40	100	42.9
rising	7	5	20	5	39	76	32.6
level	48	0	9	0	0	57	24.5

3 incidence of interval types

	falling	%	rising	%	total	%
quarternote	7	7	0	0	7	4
three-quarternote	58	58	38	50	96	54.5
whole-tone	17	17	17	22.4	34	19.3
minor third	6	6	5	6.6	11	6.3
neutral third	5	5	7	9.2	12	6.8
fourth	3	3	4	5.3	7	4
fifth less quarternote	2	2	1	1.3	3	1.7
fifth	1	1	1	1.3	2	1.1
minor sixth	0	0	1	1.3	1	0.6
sixth less quarternote	1	1	0	0	1	0.6
minor seventh	0	0	2	2.6	2	1.1
	100		76		176	

In the transcription of the composition notated in the durrat al-tāj one of the sets of indications given by Quṭb al-Dīn has not been included. This shows the changes of mode, and is incorporated in the following summary which is a conflation of cycles 1 - 20, followed by cycles 21 - 25, intended to show the melodic contour in abstract, without reference to durational values. Repeated notes are ignored, and phrase endings are marked by half bars.

(i) (ii) (iii) (iv) (v) (vi) (vii) (viii) (ix) (x) (xi) (xii) (xiii) (xiv) (xv) (xvi) (xvii) (xviii) (xix) (xx)

rū-yi 'irāq

hiṣār

iṣfahān zankūla

(joining up with cycle 5)

phrase (i) (cycles 1,2) revolves round the upper octave note, g, which it serves to establish. By ending abruptly on d it also serves to identify the limits of the upper unit /1 2♯ 3♭ 4/ (d - g). (The c♯ may be considered a grace-note: it is not intrinsic to the mode, which is 60 muḥayyir ḥusaynī G A♯ B♭ c d e♯ f g.)

phrase (ii) (cycle 2) fills out this tetrachord, beginning with e♯, the note missing from (i). The cadence figure c - f - c, however, draws attention away from the d - g unit to another tetrachord, thereby underlining the duality inherent in the upper pentachord of muḥayyir ḥusaynī (/1 2 3♯ 4/T/ or /T/1 2♯ 3♭ 4/), of which it completes the exposition.

phrase (iii) (cycle 3) contains the first modulation¹ to occur. It consists of a simple descending phrase identifiable as 10 rū-yi 'irāq /1 2♯ 3♯ 4/ only by the final note, B♯.

phrase (iv) (cycles 3,4) returns with an abrupt and dissonant jump (B♯ - f) to reestablish the upper octave note.

phrase (v) (cycles 4,5) pursues the exploration of the upper unit (d - g) with a florid passage in which f♯ is added. No indication of a change of mode is given, even though the f♯ cannot be considered a grace-note (like the c♯ in (i)) or a leading note (f♯ - g does not occur). In spite of

1 Used here to mean change of mode: no reference to alteration of pitch is implied.

Qutb al-Dīn's silence on the matter the prominence accorded the f#, together with the fact that this long phrase remains strictly within the limits of the d - g unit, renders it nevertheless likely that (v) should be identified with 11 iṣfahān: presumably the juxtaposition of 11 iṣfahān /1 2♯ 3♭ 3 4/ and /1 2♯ 3♭ 4/ was so common that it was hardly considered a modulation.¹

phrase (vi) (cycle 6) reverts to "pure" muḥayyir ḥusaynī, again stressing the d - g unit, but completing the upper pentachord by ending on a long-held c.

phrase (vii) (cycle 7) again emphasizes d and c, and at the same time continues the descending movement into the lower tetrachord (G - c), although without introducing the tonic G.

phrase (viii) (cycle 8) begins as a repeat of (vii) one step lower in the scale, being thus reminiscent of the sequential patterns which occur in the examples of notation given by Ṣafī al-Dīn. The repeat only continues for the first few notes, however, and after briefly touching the tonic G the phrase rises into the c - f tetrachord before terminating on the same note as (vii), B♭.

phrases (ix) and (x) (cycle 9) should almost certainly be taken together. They constitute the most puzzling passage in the whole piece: not only is there no indication of a modulation, despite the prominence of the intrusive e♭, but

¹ Cf. the large number of combinations derived from the juxtaposition of these and related units (presented schematically on p. 307).

there is also no parallel to the leaps of a minor sixth, a feature which contrasts markedly with the almost exclusively stepwise movement found elsewhere.¹ The mode could be the not unrelated 47 ḥusaynī G A \flat B \flat c d e \flat f g, although there are other possibilities. It might also be conjectured that (ix) and (x), which terminate a section extending over cycles 5 - 10, are designed as a bravura climax before the more sober delivery of the last word(s) in the line of verse. If so, the wide leaps might form a deliberate contrast with what follows.

phrase (xi) (cycles 9,10) is linked to (x) in the repeat. It forms a cadential figure descending through the lower tetrachord to end on the tonic G, thus concluding both lines of verse (cycles 10, 20) and the whole composition (cycle 31). A \flat is briefly introduced.

phrase (xii) (cycle 10) is a short rising link passage spanning the c - f tetrachord which leads in to the repeat of phrases (i) to (xi) for the second line of verse. Its function is simply to take the melody back up from the tonic G to the upper octave note.

The following phrases in cycles 21 - 25 constitute a separate section before the return of the last hemistich. Like phrase (xii), they are sung to nonsense syllables.

1 So much so that one might be tempted to consider ! (G) a scribal error for \flat (d). However, all three MSS. are in agreement.

phrase (xiii) (cycle 21) repeats phrase (xii) one step higher in the scale, thus emphasizing the arrival at the upper octave note (and hence incidentally the d - g tetrachord).

phrase (xiv) (cycle 22) should perhaps be considered a part of (xiii), which in a sense it summarizes.

phrase (xv) (cycle 22) is the second modulation to be marked in by Quṭb al-Dīn. The mode is 25b hiṣār /1 2♯ 3♭ 3♯ 4♯ 5/ (c - g), particular attention being paid to the two thirds (e♭ and e♯).

phrase (xvi) (cycle 22) presents a further modulation, into 11 iṣfahān /1 2♯ 3♭ 3 4/ (c - f) with the fifth, g, added. It consists of a simple descent and ends, like (xv), on the tonic c.

phrases (xvii) and (xviii) (cycles 23,24) comprise the final modulation, a more extended presentation of 57 zankūla G A B♯ c d♯ e f. If we disregard the presence of G, (xvii) could be considered a model illustration of Quṭb al-Dīn's description of this mode (given in chapter 7):

"When c often recurs and there is an ascending and descending melodic progression on the notes c d♯ B♯ A the characteristic form of zankūla becomes manifest, especially when e is itself added". The notes are introduced in exactly this order, with e only appearing as the last note of the phrase. (xviii) completes the upper tetrachord by adding f, and ends on the pivotal prominent c.

phrase (xix) (cycle 24) may be considered a reassertion of G as tonic after a series of modulations in which c is

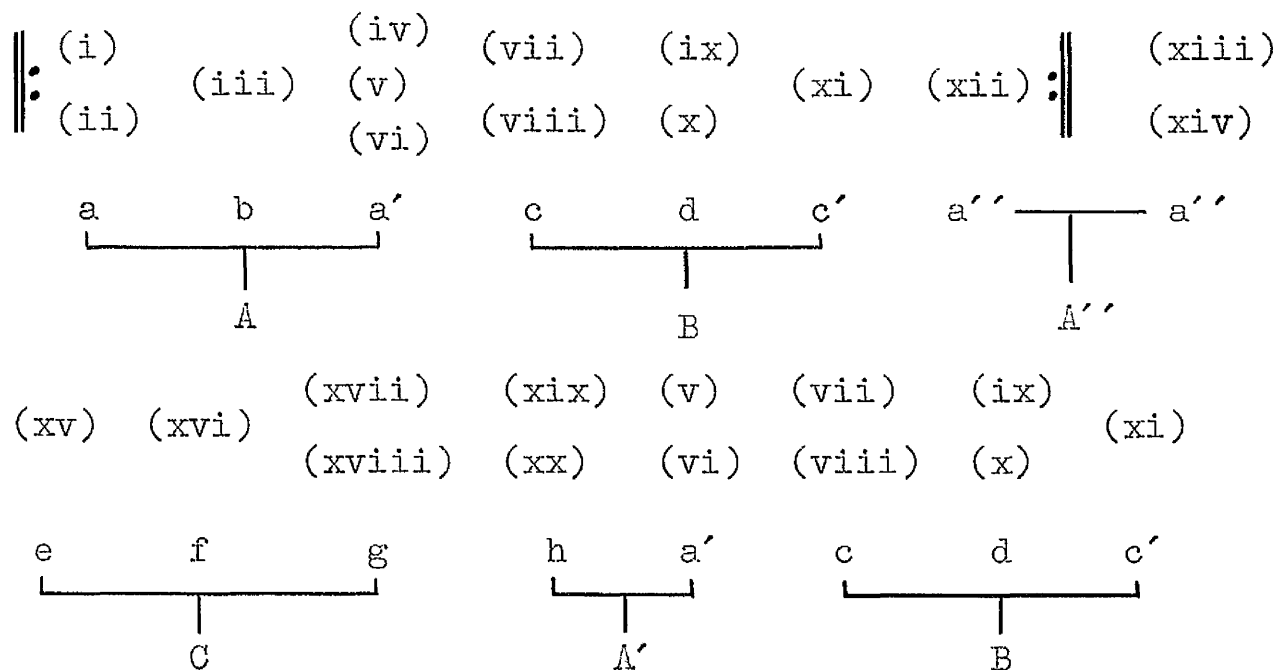
prominent.

phrase (xx) (cycle 25) leaps from this straight to the upper octave note, reinforcing the effect of (xix) and preparing the reintroduction of the last hemistich which begins in the upper unit (d - g).

The structure of the whole may be summarized thus:

(cycle)		range	
(i)	1,2	tetrachord d-g	c#-a♭] exposition of the
(ii)	2	tetrachord d-g → tetrachord c-f	c - g] upper pentachord c-g
(iii)	3	modulation: <u>rū-yi 'irāq</u>	B♭-e♭
(iv)	3,4	return to tetrachord d-g	e♭- g] <u>first hemistich</u>
(v)	4,5	(?inherent) modulation: <u>iṣfahān</u>	d - g] development of the
(vi)	6	return: restatement of c-g pentachord	c - a♭] upper pentachord c-g
(vii)	7	entry of pentachord G-d	A♭- d] exposition of the
(viii)	8	completion	G - e♭] lower pentachord G-d
(ix)	9	modulation:	G - f]
(x)		?47 <u>ḥusaynī</u>	
(xi)	9,10	return, cadence	G - c] <u>restatement of the lower tetrachord G-c</u> <u>second hemistich</u>
(xii)	10	bridge passage → repeat of (i)-(xi), then	c - f] reintroduction of
(xiii)	21,22	continuation	d - g] upper pentachord
(xiv)			
(xv)	22	modulation: <u>ḥiṣār</u>	c - g] modes with
(xvi)	22	modulation: <u>iṣfahān</u>	c - g] c as tonic
(xvii)	23,24	modulation: <u>zankūla</u>	G - f]
(xviii)			
(xix)	24,25	return: bridge passage	G] G reestablished
(xx)		→ repeat of (v)-(xi)	f - g] as tonic

This may be further reduced to:



In addition to the balanced structure resulting from this arrangement, a further pattern of alternation may be discerned in the division of the verse:

cycle	first hemistich	cycle	second hemistich
		4	<u>dum madā al-dah-</u>
1	<u>yā malīkan bihī yaṭī</u> _____	5	<u>ri rāfilan</u> _____
		6	_____
2	_____	7	_____
		8	_____
3	_____ <u>bu zamā</u> _____	9	_____ <u>fī al-amā</u> _____
4	<u>nī</u> _____ //	10	<u>nī</u> _____ //

In each hemistich the style is relatively simple and declamatory, presumably in the interests of comprehensibility, for the sections

/yā malīkan bihī ya/

/bu zamānī/

/dum madā al-dahri rāfi/

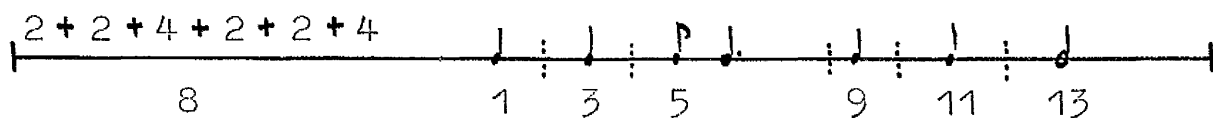
/fī al-amānī/.

The medial syllables /tī/ and /lan/, however, are stretched out over two and four cycles respectively, and it is in these that the ornate passages exploring the melodic potential of the various units occur. A concomitant differentiation of range is also found. For /yā malīkan bihī ya/ the range is f - g; for /bu zamānī/ e[♯] - g; for /dum madā al-dahri rāfi/ e[♯] - g; and for /fī al-amānī/ G - c. The range for /tī/, on the other hand, is B[♯] - a[♯], and for /lan/ G - a[♯].

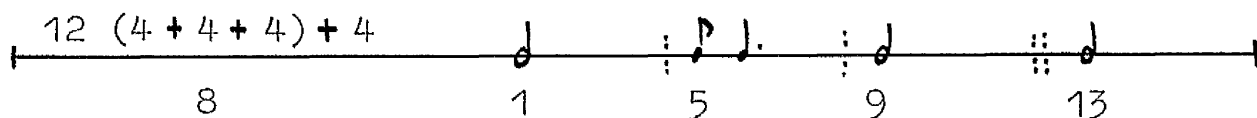
With regard to the relationship between the melodic phrases and the accentual pattern of the rhythmic cycle, it may be recalled that the latter was symbolized as

/X . X . X x o . X . X . X o o . /

which might be rendered by

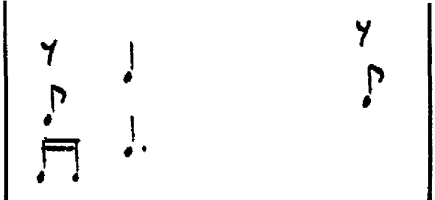


Since time units 3 and 11 are seldom marked we may for present purposes simplify this, at the same time incorporating the ḍarb al-aṣl, to



But even this pattern is not strictly adhered to: time unit

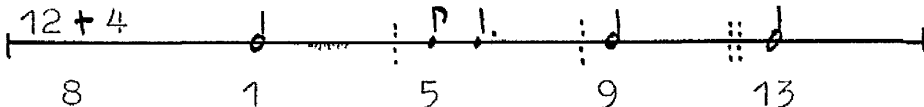
5 is not marked by a separate note in 16 of the 31 cycles, nor time unit 9 in 13; and time units 1 and 13, for all that they represent the darb al-aṣl, fail to be marked in 6 and 4 cycles respectively. With regard to the present composition, the normative patterns within the rhythmic cycle appear rather to be of the following order:

time units 1 - 4:  (occurs in 20 cycles)

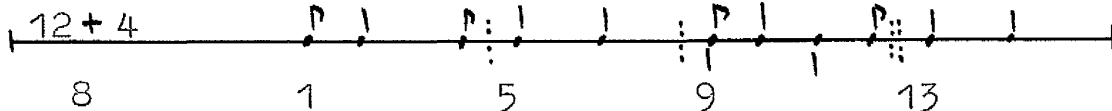
time units 5 - 8:  (occurs in 25 cycles)







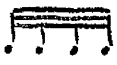





time units 9 - 12: the pattern given for time units 1 - 4 occurs in 11 cycles, while that given for time units 5 - 8 occurs in 14 cycles.

time units 13 - 16: the pattern given for time units 5 - 8 occurs in 21 cycles.

Thus in place of 

one might suggest as a more accurate abstract in the present instance the following:



The percussions indicated accompany the melodic phrases closely. The lower level, in which one finds ,  and , relates strictly to time values of  and above in the melody, while the upper line, consisting of , , ,  and , generally corresponds to .  is almost always followed by , which is the most frequent pattern in the upper level. Where both levels occur in the same cycle the change generally, although by no means always, occurs at time units 5, 9, or 13.

The various features of intervallic organization in the examples of notation from the kitāb al-adwār which were presented in tables 2 and 3 may be compared with the following tables relating to the above composition. No account has been taken of the variants.

direction of movement between contiguous notes

	total	%
falling	219	48.9
rising	180	40.9
level	49	10.9

incidence of interval types

	falling	%	rising	%	total	%
quarternote,	5	2.3	1	0.6	6	1.5
semitone	26	11.9	15	8.2	41	10.25
three-quarternote	92	42	72	40	164	41
whole-tone	73	33.3	59	32.8	132	33
whole-tone plus quarternote	5	2.3	2	1.1	7	1.75
minor third	1	0.5	1	0.6	2	0.5
neutral third	2	0.9	5	2.8	7	1.75
major third	1	0.5	5	2.8	6	1.5
fourth	5	2.3	6	3.3	11	2.75
fifth less quarternote	0	0	2	1.1	2	0.5
fifth	0	0	2	1.1	2	0.5
minor sixth	9	4.1	6	3.3	15	3.75
minor seventh	0	0	3	1.7	3	0.75
octave	0	0	1	0.6	1	0.25
	<u> </u>		<u> </u>		<u> </u>	
	219		180		399	

The relatively low figure for the level category here relates to the high incidence of melismatic passages in which there are few repeated notes. Such passages are lacking in the examples of notation supplies by Ṣafī al-Dīn, a fact which might be cited in support of the contention that these examples (especially the first) were deliberately chosen for their simplicity, and thus can hardly be considered representative of the melodic style of the period.

A higher degree of correlation is observable in the other table. In both cases the three-quartertone and the whole-tone account between them for over 70% of the total. What variations there are may be attributed simply to the fact that within such a small sample not all units can occur: thus although it may be taken as a further illustration of the relative importance of Zalzalīan and diatonic units, no especial significance attaches to the absence of the semitone in the table for Ṣafī al-Dīn's examples.

The units occurring in these, taking into account the substitutions mentioned for the first, are:

/1 2♯ 3♭ 3♯/, /1 2 3♯ 4/, /1 2♯ 3♯ 4/, /1 2♯ 3 4/,
and /1 2♯ 3♭ 4/.

In the composition in the durrat al-tāj the units occurring are:

/1 2 3♯ 4/, /1 2♯ 3♯ 4/, /1 2♯ 3 4/, /1 2♯ 3♭ 4/,
/1 2♯ 3♭ 3 4/, /1 2♯ 3♭ 3♯ 4♯ 5/, ?/1 2♭ 3♭ 4/ or ?/1 2 3♭ 4/.

part 4

The following text of the kitāb al-adwār is based on four MSS.:

- (۱) - BM. Or. 136. Dated 792/1390. Clear naskhī. The folio numbers given relate to this MS.
- (۲) - BM. Or. 2361. Dated 1073/1662. Small, occasionally careless, but generally clear nasta'liq.
- (۳) - BM. Or. 2361: the text of the kitāb al-adwār incorporated in the sharḥ. Dated 1074/1663. Same hand as (۲).
- (۴) - Photographic reproduction of a MS., published by Ḥusayn 'Alī Maḥfūz (Baghdad, 1961). Dated 870/1465. The pointing is incomplete.

Considerable similarities exist between (۱) and (۴), the latter being distinguished chiefly by what it omits. No reference has been made to these omissions, and as a general rule (۴) is mentioned in the notes only when it contains material not found in the other three MSS.. All the variants in (۱), (۲), and (۳), as well as several marginalia, are included, with the sole exception of the variants for the musical examples in the last chapter: these, together with the versions from several other MSS., have been presented in chapter 8. Any additions to the text are given in brackets.

There are a large number of MSS. of the kitāb al-adwār in existence. The above four were chosen not for any textual reasons, but merely on grounds of convenience. Although it is hoped that the text as given here is both accurate and comprehensible, no attempt has been made to purify it of all later accretions: the occasional explanatory insertion may even be found useful.

كتاب الادوار فى علم الموسيقى

للشيخ الحكيم الفيلسوف صفى الدين عبد المؤمن

تغمده الله تعالى بخفرانه آمين يا رب العالمين

د: كتاب الادوار فى معرفة النظم والادوار صنفه الحكيم اعجوبة زمانه
ونادرة اوانه صفى الدين عبد المؤمن البغدادى .
العنوان لم يظهر فى ب ج .

(٢٥٢)
بسم الله الرحمن الرحيم

الحمد لله رب العالمين وصلواته (١) على خاتم الانبياء (٢) محمد

وآله اجمعين .

اما بعد فقد امرنى من يجب على امتثال اوامره والتمسك بالسعى فى

مسالك (٣) مرامى خواطره ان اضع له مختصرا فى معرفة النغم ونسب (٤)

ابعادها وادوارها وادوار الايقاع وانواعه على نهج يفيد العلم والعمل .

فبادرت الى ما امر به ممثلا وبينت ما سنح للخاطر فيه ، فاذا (٦)

امعن الناظر فيه انكشف له ما لم يتفطن اليه الاكثر (٧) من افنى

جل زمانه فى هذه الصناعة . وجعلت مداره اولا على وتر واحد لئلا

يتعذر على المبتدئ استخراجها ، وذلك لان الاصعب على من يروم المباشرة

عملا (٢ ص) هو اصطحاب (٨) الاوتار ، والوتر الواحد لا يفتقر الى الاصطحاب

١ . ج : صلوة .

١ . ٢ : على سيدنا .

٣ . سقطت من ا .

١ . ٤ : سبب .

٥ . ج : فبادرت .

٦ . ب ج : ما انا .

٧ . ج : اكثر .

٨ . ا : اصطحاب . وكذا فيما ياتى .

ويقول مؤلف « شرح مبارك شاه بر ادوار » : اصطحاب ، وهو
فى اللغة تجاوب الاصوات . قال الشاعر :

ان الضفادع فى الغدران تصطخب .

وفى اصطلاحهم مساوقة وترين او اكثر حتى تكون نسبة احدها الى

الآخر نسبة معينة .

ان الاصطحاب نسبة مطلق وتر الى آخر .

ورتبته خمسة عشر فصلا : (١)

الفصل الاول في تعريف النغم^(٢) وبيان الحدة والثقل .

الفصل الثاني في تقسيم الدساتين .

الفصل الثالث في نسب الابعاد .

الفصل الرابع في الاسباب الموجبة للتنافر .

الفصل الخامس في التاليف الملائم^(٣) .

الفصل السادس في الادوار ونسبها . (ص ٢ ب)

الفصل السابع في حكم الوترين .

الفصل الثامن في تسوية اوتار العود واستخراج الادوار منه .

الفصل التاسع في اسماء الادوار المشهورة .

الفصل العاشر في تشارك نغم الادوار .

الفصل الحادي عشر في ادوار الطبقات .

الفصل الثاني عشر في الاصطحاب الغير المعهود .

الفصل الثالث عشر في ادوار الايقاع . (ص ٣)

الفصل الرابع عشر في تاثير النغم .

الفصل الخامس عشر في مباشرة الحمل .

١ . ب : ورتبته (كذا) فصولا . ٢ . ب : نغمة . ٣ . ج : تاليف الملائم .

الفصل الاول

فى تعريف النغم وبيان الحدة والثقل .

- النغمة صوت لابت زمانا ما على حد ما من الحدة والثقل
- (١) محنون اليه بالطبع . ولكل نغمة نظيرة من الحدة والثقل ، ثم ولا
- (٢) يقال للنغمة انها ثقيلة او حادة الا بالنسبة الى اخرى ، فان
- النغمة المسموعة من نصف الوتر حادة بالنسبة الى النغمة المسموعة
- من مطلقه ، ثقيلة بالنسبة الى النغمة المسموعة من ربحه . (٣) وكذلك
- النغمة المسموعة من الربح حادة بالنسبة الى النغمة المسموعة من
- نصفه ، (من ٣ ب) ثقيلة بالنسبة الى النغمة المسموعة من الثمن . (٤)
- وكل واحدة من هذه النغمات الاربع (٥) نظيرة بعضها لبعض ، وتقوم
- كل واحدة منها مقام الاخرى فى التاليف .
- وللثقل والحدة (٧) اسباب . فاسباب الثقل طول الوتر وغلظته
- وارخاؤه ، (٨) وسعة الثقب فى الآلات نوات النفخ وبعدها من المنفاخ .
- واسباب الحدة ما يقابل ذلك كقصر الوتر ودقته وتوتره ، (٩) وضيق
- الثقب وقربها (١٠) من فم النافخ . (١١)

-
- ١ . ب ج : ثم ولا . ١ : ولا .
٢ . ا : وان .
٣ . ج : الربع .
٤ . ب ج : الى نغمة الثمن .
٥ . ب : الاربعة .
٦ . ا ج : يقوم .
٧ . ج : للحدة والثقل .
٨ . ج : ارخاؤه وغلظته .
٩ . ا : تزيين .
١٠ . ب ج : قربه .
١١ . ا : من المنفاخ والله اعلم بالصواب . وفى الحاشية : من فم النافخ .

الفصل الثاني

في اقسام الدساتين .

(١) هي علامات توضع على سواعد الآلات نوات الاوتار (٢)

ليستدك بها على مخارج النفخ من اجزاء الوتر . والنغمات التي عليها

مدار الالحان سبع عشرة (٣) نغمة موجودة في وتر واحد .

فلنقسم (٤) وتر / م / بمسامين متساوين + على نقطة (٥) ونعلم (٤)

عليها (ص ٤) / ب / . وليكن جانب المشط / م / ، وجانب الانف / ا / .

ثم نقسم الوتر ثلاثة اقسام ونعلم على نهاية القسم الاول منه / يا / ،

وهو القسم الواقع في الطرف الاثقل + جهة الانف . (٦)

ثم نقسم الوتر اربعة اقسام ونعلم على نهاية القسم الاول منه / ح / .

ثم نقسم / ح م / اربعة اقسام ونعلم على نهاية القسم الاول منه / يه / .

ثم نقسم الوتر تسعة اقسام ونعلم على نهاية القسم الاول منه / د / .

ثم نقسم / د م / تسعة اقسام ونعلم على نهاية القسم الاول منه / ز / .

ثم نقسم / ح م / ثمانية اقسام ونضيف الى الاقسام قسما آخر من جانب

الثقل ونعلم على نهايته / ه / .

ثم نقسم / ه م / ثمانية اقسام ونضيف اليها ايضا من جانب الثقل قسما

١ . ب : تقسيم .

٢ . هنا زيادة من حاشية ا : على نسب مخصوصة .

٣ . ا ب ج : سبعة عشر .

٤ . ا : فليقسم . . . ويعلم . ويتبع ا نفس الطريق فيما يلي .

٥ . + . . . زيادة من ب ج . ٦ . + . . . زيادة من ا .

ونعلم على نهايته /ب/ .

ثم نقسم /ب م/ ثلاثة اقسام ونعلم على نهاية القسم الاول منه /يب/ .

ثم نقسم /ب م/ اربعة اقسام ونعلم على نهاية القسم الاول منه /ط/ .

ثم نقسم (ص ٤ ب) /ط م/ اربعة اقسام ونعلم على نهاية القسم الاول

منه /يو/ .

ثم نقسم /يوم/ بقسمين متساويين ونضيف اليهما قسما آخر مساويا

لاحد القسمين من جانب الثقل ونعلم على نهايته /و/ .

ثم نقسم /وم/ ثمانية اقسام ونضيف الى الاقسام قسما آخر ⁺ من

جانب الثقل ⁺(١) ونعلم على نهايته /ج/ .

ثم نقسم /جم/ اربعة اقسام ونعلم على نهاية القسم الاول منه /ى/ .

ثم نقسم /ى م/ اربعة اقسام ونعلم على نهاية القسم الاول منه /يز/ .^x(٢)

ثم نقسم /وم/ اربعة اقسام ونعلم على نهاية القسم الاول منه /يج/ .^(٣)

ثم نقسم /دم/ ثلاثة اقسام ^(٤) ونعلم على نهاية القسم الاول منه /يد/ .

ا ب ج د ه ز ح ط ي يا يب يج يد يه يو يز يح يط ك كاك كج كد كه كه كز كح كط ل لا لب ل ج د ه

المسطح

الارض

٠١ + ٠٠٠٠ + زيادة من ج . ٠٢ x ٠٠٠٠ x سقطت من ج .

٠٣ زيادة من ج : ثم نقسم /زم/ ثلاثة اقسام ونعلم على نهاية القسم الاول منه /يز/ .
وفى الحاشية : ثم نقسم /ى م/ اربعة اقسام . ٠٠٠ /يز/ . ويقول مؤلف الشرح : وفى بعض النسخ
/ى م/ اربعة اقسام . ٠٠٠ /يز/ والاول اظهر لما يراعى فيه نسبة نى الخمس ورعايته اولى
والثانى اقرب لموافقته لدساتين العود . ١٠٤ /وم/ ثلاثة اقسام . ج : /زم/ اربعة اقسام .

فهذه هي جملة امكنة الدساتين باسرها . فان قسمنا من /يح /
 ما بقى من الوتر بنصفين متساويين ، واعلمنا عليه /له / ، وقسمنا ما
 بين /له / ^(١) كما قسمنا ما بين /يح / ا / ، حصل لكل نغمة
 من النغمات نظيرة في ^(٢) الحدة . فاما نغمة ا / فحدثها كما علمت
 /يح / ، ان نغمة منتصف كل وتر هي ^(٣) حدة لنغمة مطلقه ^(٤)
 فحينئذ تكون نغمة الجزء الثاني من النصف الثاني حدة للجزء الثاني
 من النصف الاول الذي هو ^(٦) نغمة /ب / ، والثالث للثالث والرابع
 للرابع ، وكذلك البواقي .

ولنضع لذلك مثالا ، ونعلم على الحواد كما اعلمنا ^(٧) على النغمات
 فقال ، على هذا المثال ، فهذه هي النغمات وحوادها :
 ا / يح ب يط ج ك د كا ه كب و كج ز كد ح كه
 ط كو ي كز يا كح ييب كط يج ل يد لا يه لب يو لج
 يز لد يح له / . ^(٨)

-
- | | |
|-----------------------|---|
| ١٠١ : له / و / يح / . | ٠٢ ج : من . |
| ١٠٣ : فهي . | ١٠٤ : مطلقها . |
| ١٠٥ : يكون . | ١٠٦ : التي هي . |
| ١٠٧ : علمنا . | ١٠٨ : زيادة من ا : والله اعلم بالصواب . |

الفصل الثالث

في نسب الابعاد .

البعد هو مجموع نغمتين مختلفتين في الحدة والثقل ، لانا لو فرضنا وترين وجعلنا نغمتيهما ^(١) واحدة كنغمتي وترى البم والمثلث حال ما يجعلان ^(٢) كنغمة واحدة ، وجستا معا او احدهما ^(٣) ثم الاخرى لا يقال ان بينهما بعدا . ^(٤) ثم اعلم (ص ٥ ب) ان كل نغمتين اذا جستا فلما ان تتفقا او تتنافرا ، فان اتفقا فهو البعد المتفق ، وان تنافرتا فهو البعد المثنافر .

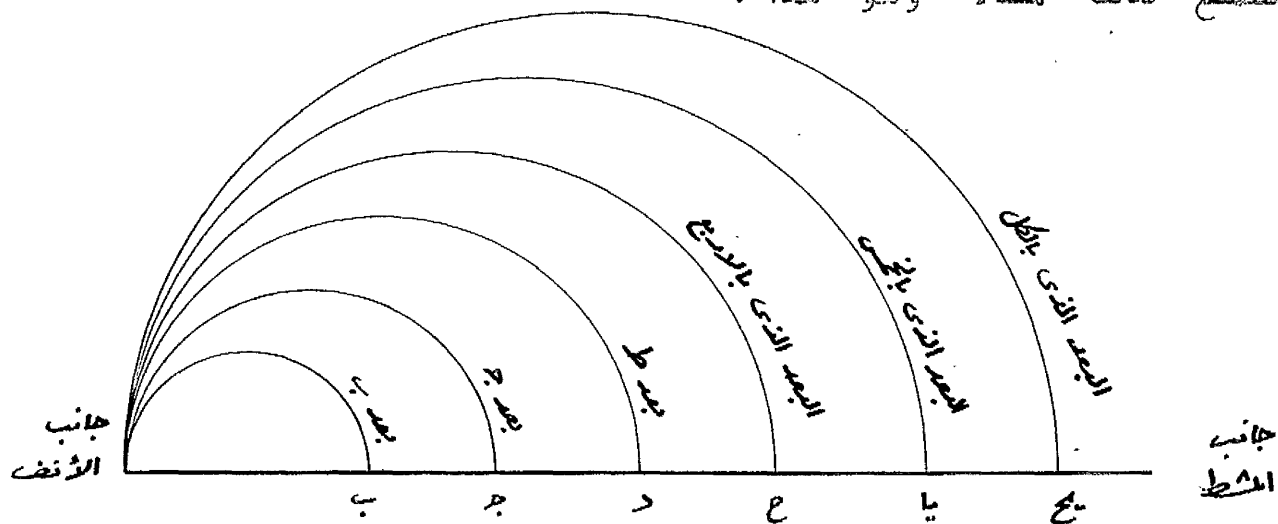
ثم البعد المتفق اما ان يكون في غاية الاتفاق بحيث لو جستا معا كانتا كأنهما نغمة واحدة وقام كل منهما مقام الاخرى في التاليف اللحنى كنغمتي / ا يج / ، ويسمى هذا البعد الذي بالكل ، فنسبة / ا / الى / يج / نسبة الضعف لان نغمة / ا / مقدار وترها ضعف مقدار وتر / يج / ، واما ان تتفقا معا ولا تقوم احدهما ^(٥) مقام الاخرى ^(٣) في التاليف اللحنى ، ^(٦) وهما بعدان : البعد الذي بالخمس والبعد الذي بالاربع ؛ فاما البعد الذي بالخمس فنغمتي / ا يا / فنسبة / ا / الى / يا /

-
- | | |
|---------------------|---------------------------------|
| ١٠١ : نغمتيهما . | ٠٢ ب ج : يجعلان . |
| ١٠٣ ب ج : احديهما . | ٠٤ ب : بعد . |
| ١٠٥ ب ج : يقوم . | ٠٦ × ٠٠٠ × : زيادة من حاشية ا . |

نسبة المثل والنصف ، لان وتر نغمة / ا / مثل وتر نغمة / يا / ومثل
 نصفه ،^(١) واما البعد الذي بالاربع فكنخمتى / ا ح / ، فنسبة / ا / الى
 / ح / نسبة المثل والثلاث ، لان وتر نغمة / ا / مثل وثلاث وتر نغمة^(٢)
 / ح / ، واما ان تتفقا^(٣) (ص ٦) اذا اتبعنا احدهما^(٤) بالاخري ولا
 تتفقا^(٥) اذا جستا معا ، كنخمتى / ا د / ونخمتى / ا ج / ونخمتى
 / ا ب / . فاما مجموع نخمتى / ا د / فهو البعد الطينى ، فنسبة / ا /
 الى / د / نسبة المثل والثمان ، لان وتر نغمة / ا / مثل وثمان وتر
 نغمة / د / ،^(٧) واما نسبة / ا / الى / ج / ، فنسبة^(٨) المثل وجزء
 من خمسة عشر^(٩) بالتقريب ،^(١٠) واما نسبة / ا / الى / ب / ، فهي كنسبة
 المثل وجزء من تسعة عشر بالتقريب^(١١) وتسمى^(١٢) بعد بقية . واما بعد
 / ا ج / فلم اجد له اسما بين ارباب هذه الصناعة . فلنسم^(١٣) بعد / ا د /
 بعد / ط /^(١٤) وبعد / ا ج / بعد / ج / وبعد / ا ب / بعد / ب / .

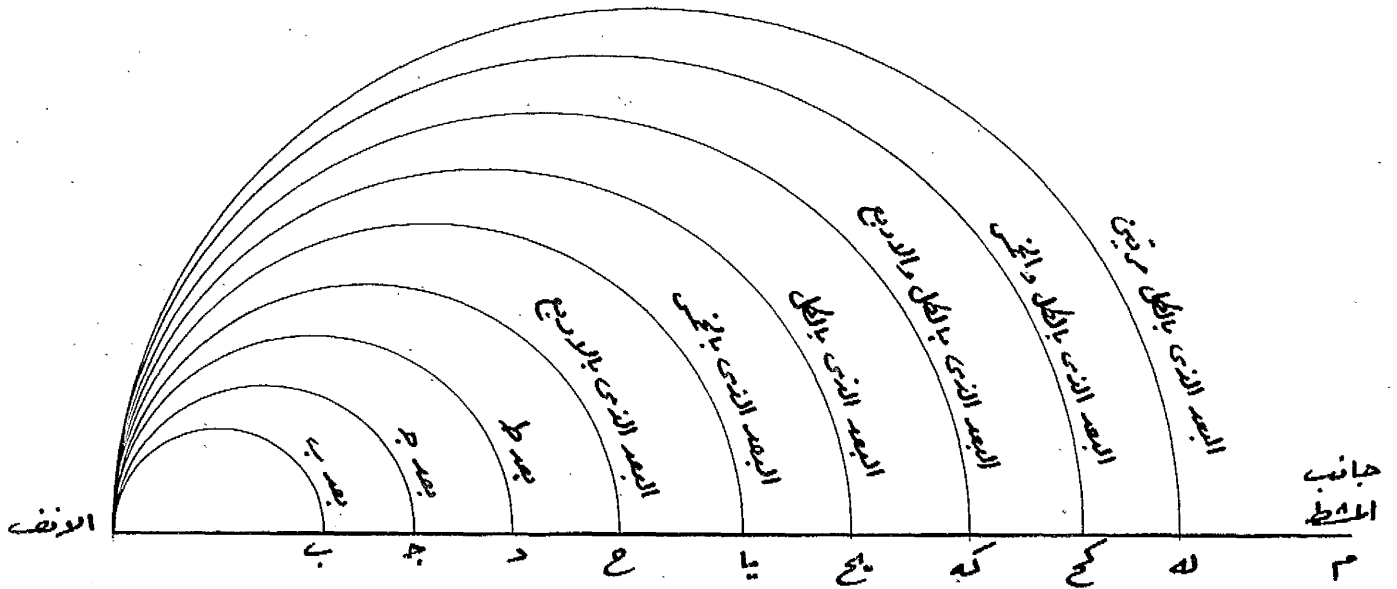
-
- ١٠٢ : لوتر .
 ١٠٤ : ا ب ج : انا اتبع احديهما .
 ١٠٦ : ا ج : فاما نخمتا / ا د / .
 ١٠٧ : لوتر نغمة / د / . ب : ... وثمان نغمة وتر / د / .
 ١٠٨ : ا ج : فنسبة . وفي حاشية ج : فنسبة . ١٠٩ : ا ج وفي حاشية ب : المثل وثلاث
 خمس . وفي حاشية ج : المثل وجزء من خمسة عشر .
 ١٠٩ : زيادة من د : لانها نسبة ستة عشر الى اربعة عشر وثلاث .
 ١١١ : زيادة من د : لانها نسبة عشرين الى ثمانية عشر وخمسة اسداس .
 ١١٢ : ا ب ج : ويسمى .
 ١١٣ : ج : فلتسم .
 ١٠١٤ : / د / .

ولنضع لذلك مثالا وهو هذا :



(ص ٦ ب) واما نسبة ١ / الى / له / التي نسبتها ^(١) الى / يح / نسبة الضعف فنسبة ^(٢) الاربعة الاضعاف ^(٣) لان وتر ١ / م / اربعة امثال وتر له / م / ^(٤) ويسمى البعد الذي بالكل مرتين لان طرفيها يشتملان ^(٥) على سائر النغمات وحوادها . واما نسبة ١ / الى / ك / فهي نسبة الضعف ^(٦) والثلثين ^(٧) وتسمى البعد ^(٨) الذي بالكل والاربع . واما نسبة ١ / الى / كح / فهي نسبة الثلاثة الامثال ^(٩) وتسمى البعد ^(١٠) الذي بالكل والخمس . فهذه الثلاثة ايضا اذا جئت نغمتا كل واحد منها معا ^(١١) اتفقتا ان حكمها حكم الثلاثة الاولى ^(١٢) فلنضع ^(١٣) لذلك مثالا

- | | |
|---|------------------------------|
| ١ . ج : نسبا . | ٢ . ب ج : نسبة . |
| ٣ . ١ : امثال . وفي حاشية ١ : اضعاف . ع . سقطت / م / من ١ . | ٤ . سقطت / م / من ١ . |
| ٥ . ا ب ج : يشتمل . | ٦ . + . + . + . زيادة من ب . |
| ٧ . ١ : فتسمى . ج : ويسمى . | ٨ . ١ : بالبعد . |
| ٩ . + . + . + . زيادة من ب . | |
| ١٠ . ١ : فتسمى . ب : ويسمى . ج : فيسمى . | |
| ١١ . ج : اذا جئت نغمتان منها . | ١٢ . ١ : ج : الاول . |
| ١٣ . ج : ولنضع . | |



فهذه تسعة ابعاد ، ثلاثة منها تسمى الابعاد الصغرى وهي (٢) الابعاد (ص٧)

اللحنية وهي بعد / ا / د / وبعد / ا / ج / وبعد / ا / ب / ، والستة الاخرى هي الابعاد الكبرى⁺ وقد يسمى بعد نى الخمس وبعد نى الاربع الابعاد الوسطى⁺ (٣) وانا كانت (٤) نسبة / ا / الى / ح /^(٥) نسبة المثل والثلاث فبنسبة / ب / الى / ط / ايضا^(٦) كذلك ونسبة / ج / الى / ي / و / د / الى / يا / و / هـ / الى / يب / و / و / الى / يجا /^(٧) و / ز / الى / يد / و / ح / الى / يه / و / ط / الى / يو / و / ي / الى / يز / و / يا / الى / يج / و / يب / الى / يطر / و / يجا /^(٨) الى / ك / و / يد / الى / كا / و / يه / الى / كب / و / يو / الى / كجا /^(٩) و / يز / الى / كد / و / يج / الى / هـ / ، كل منها البعد الذى

١ . سقطت من ا . ٢ . سقطت من ا .

٣ . + . . . + . زيادة من ب . ٤ . ا ج : كان .

٥ . ا : ج / . ٦ . سقطت من ج .

٧ . ا : يج / . ٨ . ا : يج / .

٩ . ا : كح / .

١٠ . ا : يج / .

١١ . ا : كح / .

(١) وانا سمع المرتاض بسمع النغمات وتحقق عنده حال نسبتها
 نوقا لا تقليدا ، اشتبه^(٢) عليه البعد الذى بالاربع بالبعد الذى بالخمس
 انا سمع الطرف الاحد منه اولا ثم الطرف الاثقل .^(٣) ولنبيين سبب
 الاشتباه : اما علمت^(٤) ان نسبة / ح / الى / يج / هي^(٥) البعد الذى
 بالخمس ؛ فاذا سمع بعد / ح / نغمة / ا / فكانما سمع / ح / ثم / يج /
 ولا كذلك انا تقدم الاثقل فى الجس^(٦) على الاحد . (ص ٧ ب) وكذلك .
 ايضا يشته عليه البعد الذى بالخمس بالبعد الذى بالاربع للسبب المذكور .
 واما غير المرتاض فلا ، ان ليس التقليد كالوقوف على الكنه .
 وانا كان / ا / يا / بعد نى الخمس فكذلك / ب / يب / ، و / ج / يج / ،
 و / د / يد / ، وقس الباقي على هذا الحساب .^(٧) وكذلك الابعاد الصغرى :
 فان نسبة / ب / الى / ه / ، و / ج / الى / و / ، و / د / الى / ز / ابعاد
 طنينية .

فالبعد الذى بالكل مرتين طرفاه / ا / له / يشتمل على الابعاد التسعة ،
 وطرفا الكل والخمس يشتملان^(٨) على ثمانية ، والكل والاربع على سبعة ،

-
- ١ . ج . نسبتها .
 ٢ . ج . يشته .
 ٣ . ا . الاثقل ثانيا .
 ٤ . ا . ولنبيين سبب الاشتباه النسبى اما علمت . ب . ج . وسبب الاشتباه ما علمت .
 ٥ . ا . ب . ج . هو .
 ٦ . ا . ب . ج . فى الجس .
 ٧ . ا . ب . ج . وقس الباقي عليه .
 ٨ . ا . ب . ج . يشتمل .

والكل على ستة ، والبعد بالخمس على خمسة ، والبعد بالاربع على اربعة ،
والطينى على ثلاثة ، وبعد /ج/ على اثنين ، وبعد /ب/ على واحد
وهو (١) اصغر الابعاد .

وكل بعد اكبر فانما يعده بعد اصغر . فاذا طرح من بعد /ج/

بعد /ب/ فما يبقى /ب/ . وان طرح من /ط/ /ج/ فما يبقى /ب/ . (٣) +

وان طرح من بعد ذى الاربع /ط/ /ب/ فما يبقى /ب/ ، وان طرح منه

ثلاثة ابعاد على نسبة بعد /ج/ فما يبقى /ب/ . وان طرح من (٤) ×

بعد (ص ٨) ذى الخمس بعد (٥) /ط/ فما يبقى بعد ذى الاربع ، او طرح (٦)

ذو الاربع فما يبقى بعد (٥) /ط/ . وان طرح من بعد (٥) ذى الكل بعد ذى

الخمس فما يبقى بعد ذى الاربع ، وان طرح من بعد ذى الكل بعد ذى

الاربع فما يبقى بعد ذى الخمس . (٧) × وان طرح /ط/ من بعد ذى

الكل والخمس فما يبقى بعد ذى الكل والاربع ، وان طرح من بعد (٨) × (٩)

ذى الكل والخمس ذو الكل والاربع فما يبقى (١٠) /ط/ . وان طرح من

ذى الكل مرتين بعد ذى الكل والخمس فما يبقى بعد ذى الاربع .

وقس على هذا . (١١)

- | | |
|--------------------------------|-------------------------|
| ١٠١ : فهو . ب : هو . | ٢ . ج : من /ج/ /ب/ . |
| ٣ . + . + . سقطت من ا . | ٤ . × . × . سقطت من ج . |
| ٥ . سقطت من ج . | ٦ . زيادة من ب . |
| ٧ . + . + . زيادة من ب . | ٨ . × . × . سقطت من ا . |
| ٩ . سقطت من ب . | ١٠ . ا : بقى . |
| ١١ . زيادة من ا : والله اعلم . | |

الفصل الرابع

في الاسباب الموجبة للتنافر .

اعلم ان بعد /ب/ ليس في الحقيقة من الابعاد الملائمة ، بل لما طرح من بعد ^(١) ذي الاربع ضعف /ط/ بقيت لتمام البعد ^(٢) بقية وهي من /ذ/ الى /ح/ . فلكونها متممة للبعد مازجت وان لم تكن ^(٣) في نفسها ملائمة ، وكذلك ^(٤) اذا جست ثلاث نغمات ^(٥) على نسبة واحدة هي /ب/ ^(٦) تنافرت تنافرا ظاهرا . فليس حينئذ كلما الفت ^(٧) بين جماعة ^(٨) نغمات كيف اتفق فانها تلائم (ص ٨ ب) بل لا بد وان تقف ^(٩) على الاسباب الموجبة للتنافر ليتوقاها ، ^(١٠) وهي اسباب اربعة .

الاول هو التعدي من الطرف ^(١١) الاحد من بعد ذي الاربع الاول الذي هو ^(١٢) نغمة /ح/ . فان ثلاثة ابعاد /ط/ على التتالي متنافرات النغم ^(١٣) لان الثالث طرفه ^(١٤) الاحد /ي/ ، وكذلك اربعة ابعاد على نسبة /ج/ لان

-
- ١ . سقطت من ج .
 - ٢ . ج وفي حاشية ب : بعدا /ط/ بقيت لتمام البعدين .
 - ٣ . ج : يكن .
 - ٤ . ب : لذلك .
 - ٥ . ا : ثلاثة من النغمات .
 - ٦ . ا : وهي /ب/ . ب : على نسبة /ب/ ، وفي الحاشية : على نسبة واحدة هي /ب/ .
 - ٧ . ا ج : السف .
 - ٨ . سقطت من ج .
 - ٩ . ا : يقف .
 - ١٠ . ا : ليتوقاها .
 - ١١ . ا : طرف .
 - ١٢ . ا ب ج : الاولى التي هي .
 - ١٣ . سقطت من ج .
 - ١٤ . ا : طرفها . ج : الثالثة طرفها .

الطرف الاحد من الرابع نغمة /ط/ .

الثاني هو الجمع بين الابعاد الثلاثة اللحنية في بعد نى الرابع .

الثالث جعل الطرف الاحد من بعد /ب/ طرفا اثقل من بعد /ج/ . (١)

الرابع تتالى بعدين على نسبة /ب/ ما وقد (٢) عرفت .

فهذه هي (٣) الاسباب الموجبة للتنافر . (٤)

١ . ب : اثقل ل/ج/ .

٢ . ا : فقد .

٣ . زيادة من د .

٤ . زيادة من ا : والله اعلم .

الفصل الخامس

في التاليف الملائم

- وانا توقيت هذه الاسباب لم يمكن تقسيم بعد^(١) ذي الاربع (ص ٩) الا
بسبعة^(٢) اقسام ، والبعد الذي بالخمسة^(٣) الا بتسعة اقسام ، ان اشترط فيه
ان لا يجمع بين الابعاد الثلاثة اللحنية في بعد ذي الاربع^(٤) الذي في
بعد ذي الخمس^(٥) ولا يخل بحس^(٦) الطرف الاحد من بعد ذي الاربع ، فلا
ينتقل^(٧) الى نخمة / يح / الا من / به / فتصير / ح / ذات نسبتين . واما^(٨)
انا لم يشترط فيه الا حفظ احد الطرفين فبالاخال^(٩) بنخمة / به / مع
الجمع فيه بين الابعاد الثلاثة اللحنية ، يمكن انقسامه^(١٠) ثلاثة عشر
قسما . وقد بينا منها اثني عشر قسما وبيننا ادوارها . واما الثالث
عشر فان استخراجها^(١١) عليك سهل ان كنت ذا عناية في التفتيش .
وقد ركبنا لها جدولا لتضيفها الى الاقسام السبعة .
فلنقسم اولا بعد ذي الاربع الاول^(١٢) ولنسمه^(١٣) الطبقة الاولى . ثم
لا بد من ان نفرض^(١٤) اول الابعاد اما / ط / واما / ج / واما / ب / .^(١٥)

- | | |
|---|--|
| ١ . سقطت من ا . | ٢ . ب : سبعة . |
| ٣ . ا : البعد ذي الخمس . | ٤ . ب : . . . اللحنية فيه . ج : في ذي الاربع . |
| ٥ . + . . . + زيادة من ج . | ٦ . ا ج : بحس . |
| ٧ . ج د : من بعد ذي الاربع وفي بعد ذي الخمس ان لا ينتقل . | ٩ . ب : احدهما فبالاخال . ج : حفظ الطرفين |
| ٨ . د : . . . من / به / واما . | ١٠ . ب : تقسيم بعد ذي الخمس . |
| ١١ . ا ج ب : استخراجها . | ١٢ . ج : الاولى . |
| ١٣ . ا . ولنسميه . | ١٤ . ا ب : يفرض . ج : وان نفرض . |
| ١٥ . ب : / ط / او / ج / او / ب / . | |

فان فرض /ط/ فيلزمنا اتمام البعد اما ببعدي /طب/ او /ب ط/ (ص ٩ب)

او /جج/ لا غير. وان فرضنا اول الابعاد /ج/ لزمنا (١) ان نضيف اليه

اما /ج ط/ او /ط ج/ او /ج ج ب/. وان فرضناه /ب/ فليس الا ان يتم (٢)

البعد ببعدي /ط/ لا غير، لان اضافة /ط ج/ او /ج ط/ (٣) توجب (٤) تنافرا.

اما /ط ج/ (٥) فلانه لا يفي بتمام القسمة فيفتقر الى اضافة ما يبقى

وهو بعد /ب/، فيحصل (٦) الاخلال (٧) بتوقى السبب الثاني + موجبا للتنافر. (٨)

واما /ج ط/ (٩) فلاخلال (١٠) بتوقى السبب الثاني والثالث والرابع.

فهذه سبعة اقسام بعد نى الاربع الاول: (١١)

القسم الاول / ط ط ب /	نغماتها / ا د ز ح /
القسم الثاني / ط ب ط /	نغماتها / ا د ه ح /
القسم الثالث / ب ط ط /	نغماتها / ا ب ه ح /
القسم الرابع / ط ج ج /	نغماتها / ا د و ح /
القسم الخامس / ج ج ط /	نغماتها / ا ج ه ح /
القسم السادس / ج ط ج /	نغماتها / ا ج و ح /
القسم السابع / ج ج ج ب /	نغماتها / ا ج ه ز ح /

- ١. ب : يلزمنا .
- ٢. ج : يتم .
- ٣. ج : /ج ط/ او /ط ج/ .
- ٤. ج : يوجب .
- ٥. ب : /ج ط/ .
- ٦. ب، و في حاشية ا : فيكون .
- ٧. ج : الاختلال . ب : فلاخلال .
- ٨. + + + . زيادة من ب . ج : فيكون موجبا للتنافر . في حاشية ا : موجبا .
- ٩. ب : /ط ج/ .
- ١٠. ج : الاولى .
- ١١. ا . ١ : فلاخلال .

فهذه سبعة اقسام (ص ١٠) كل قسم اربع نغمات حاصلة من ثلاثة
 ابعاد ، الا قسما واحدا وهو ^(١) خمسة . ولذلك يسمى البعد الذي بالاربع .
 ولنقسم بعد ذي الخمس الباقي لتمام بعد ذي الكل اثنى عشر ^(٢) عشر

قسما ، ولنسمه الطبقة الثانية :

القسم الاول	/ ط ط ب ط /	نغماتها	/ ح يا يد يه يج /
القسم الثاني	/ ط ب ط ط /	نغماتها	/ ح يا يب يه يج /
القسم الثالث	/ ب ط ط ط /	نغماتها	/ ح ط يب يه يج /
القسم الرابع	/ ط ج ج ط /	نغماتها	/ ح يا يج يه يج /
القسم الخامس	/ ج ج ط ط /	نغماتها	/ ح ي يب يه يج /
القسم السادس	/ ج ط ج ط /	نغماتها	/ ح ي يج يه يج /
القسم السابع	/ ج ج ج ب ط /	نغماتها	/ ح ي يتا يد يه يج /
القسم الثامن	/ ط ج ج ج ب /	نغماتها	/ ح يا يج يه يز يج /
القسم التاسع	/ ج ط ج ج ب /	نغماتها	/ ح ي يج يه يز يج /
القسم العاشر	/ ج ب ط ج ج /	نغماتها	/ ح ي يا يد يو يج /
القسم الحادي عشر	/ ج ج ب ط ج /	نغماتها	/ ح ي (ص ١٠ ب) يب يج يو يج /
القسم الثاني عشر	/ ط ج ط ج /	نغماتها	/ ح يا يج يو يج /

١٠١ : هو .

٢٠٢ : اثنى .

فهذه سائر اقسام الطبقتين. فنغمات^(١) / ا ح يه يح / هي موجودة
 في سائر الاقسام التسعة . ونغمة⁺ / ا / موجودة باعتبار ان / يح / موجودة
 وهي قوة او نظيرة لها .^{(٢) +} وتفقد في البواقي نغمة / يه / . وتسمى^(٣)
 النغمات الثوابت والبواقي المتبدلات ان توجد^(٤) في البعض دون البعض .
 ولقائل ان قال ان القسم العاشر يجب ان يكون متنافر النغمات ،
 ان / ح يد / منه طرفا بعد دون ندى الاربع وقد جمع فيه بين
 الثلاثة الابعاد اللحنية وهي / ج ب ط / ، والجواب انه لما كان البعد
 الذي بالكل مركبا^(٥) من بعدى ندى الاربع وبعد واحد هو / ط / ، قسمنا
 بعد / ا ح / وبعد / يا يح / من غير ان نجمع^(٦) فيهما بين الابعاد
 الثلاثة اللحنية ، ثم جعلنا البعد الطينى الباقي وسطا فامكن تقسيمه^(٧)
 ببعدى / ج ب / (ص ١١) كما امكن في القسم الثامن والتاسع حيث جعل
 في الطرف الاحد^(٨) فلم يحصل^(٩) الجمع بين الابعاد^(١٠) الثلاثة (اللحنية)
 في هذا القسم .

وهذه الاقسام اذا اضيف بعضها الى بعض صار كل جماعسة منها

- | | |
|------|---------------------------------|
| ١٠١ | ب ج : فنغمة . |
| ١٠٢ | ب ج : نظيرة له . |
| ١٠٣ | ب ج : يسمى . |
| ١٠٤ | ب ج : يوجد . |
| ١٠٥ | ب ج : سقطت من ب . |
| ١٠٦ | ب ج : يجمع . |
| ١٠٧ | ب ج : تقسيمها . |
| ١٠٨ | ب ج : كما امكن في الطرف الاحد . |
| ١٠٩ | ب ج : فليس . |
| ١٠١٠ | ب ج : سقطت من ب . |

مشملا عليها^(١) بعد نى الكل ، وكل منها دائرة اولها / ا / ، وآخرها

/ يح / . وستعلم ان كل دائرة من هذه ، اذا اسقط منها / ا / وفرض

اولها^(٢) / ب / او / ج / او ما^(٣) شئت من النغمات وروعى ترتيب ابعادها ،

لم يقع فى ذلك خلل . فهذه الدائرة العاشرة واقعة^(٤) هاهنا فى غير

طبقتها ، فلذلك اشتبهت بالمتنافر .^(٥)

١ . ج : على . ٢ . ج : فرضت اوائلها . ب : فرضت اولها .

٣ . ج : مما . ٤ . ج : الواقعة .

٥ . زيادة من ا : والله اعلم .

الجملة الاخيرة غامضة . ويعلق عليها مؤلف « شرح مولانا مبارك شاه بر ادوار » قائلا: اراد بهذا مزيد توضيح للجواب ورفع الحجاب ولم يزد بذلك الا خبطا واشتباها ، لانه ان كان المراد العمل الاول (اى الانتقال مع رعاية ترتيب النغمات) الذى يختل بنظام الابعاد ، فلا تجتمع الابعاد الثلاثة اللحنية ولا يبقى القسم العاشر قسما براسه ، بل يرتد الى قسم آخر من الاقسام وان كان المراد العمل الثانى (اى الانتقال مع رعاية ترتيب الابعاد) فلا تجد به نفعاً ان لا يختل نظام الابعاد فى شئ من الطبقات .

ونظن ان الاشتباه الذى اشار اليه مؤلف « الشرح » يصدر من ان القسم العاشر ، الذى يقال له هنا « الدائرة العاشرة » ، ليس قسما طبيعيا لكه اصطناعي . ويبدو ان صفى الدين اصطنع القسم العاشر كى يدس فى تحليله النظرى دورا تصعب المطابقة بينه وبين هذا التحليل . الدور هو « كردانيه » ، وابعاده : ط ج ج ب ط ج ج . ويظهر انه يتالف من بعدى نى الاربع / ط ج ج / منفصلين :

ط ج ج ب ط ج ج

وعلى هذا النظام لا يوجد فيه « الجمع بين الابعاد الثلاثة اللحنية » فى بعد نى الاربع . ولكن لا يمكن الانفصال فى نظرية صفى الدين ولذلك اضطر الى تقطيع آخر اشتق منه القسم العاشر (ج ب ط ج ج) . ويحاول الاعتذار عنه بان يزعم انه « فى غير طبقاته » - اى انه يقع فى « كردانيه » بين / ح / و / يح / ، لا بين / ا / و / يا / . والمفهوم ايضا من كلامه ان هذا القسم المنفرد غير مستقل كالاقسام الاخرى ولا يمكن التلحين فيه الا وهو جزء من دور « كردانيه » .

الفصل السادس

في الادوار ونسبها .

ونحن اذا اضفنا جماعات الطبقة الثانية الى جماعات الطبقة الاولى ،
كلا الى نوعها وغير نوعها ، حصل من سائرهما اربع^(١) وثمانون دائرة ، بعضها
ملائمة ، وبعضها متنافرة ، وبعضها (ص ١١ب) خفية المتنافر . واما
المتنافرة^(٢) فللجمع بين ابعاد توجب^(٣) ايجاد احد الاسباب السابق ذكرها .^(٤)
واما خفية^(٥) المتنافر فلنقصان نسبها عن^(٦) عدد نغماتها . واما الملائمة^(٧)
فلوجود النسب بعدد نغماتها .

فلنضف اولا الى كل قسم من اقسام الطبقة الاولى مثل قسمه^(٨) من
الطبقة الثانية . وهي ست (دوائر)^(٩) : الدائرة الاولى اضافة الاول الى
الاول^(١٠) ، الدائرة الثانية اضافة الثاني الى الثاني^(١١) ، الدائرة الثالثة اضافة
الثالث الى الثالث ، الدائرة الرابعة اضافة الرابع الى الرابع ، الدائرة
الخامسة اضافة الخامس الى الخامس ، الدائرة السادسة اضافة السادس الى
السادس . فان اضفنا السابع الى السابع^(١١) كانت متنافرة لجعل الطرف الاحد

-
- ١ . ا ب ج : اربعة .
 - ٢ . ا ب ج : اربعة . ج : واما ما نجدها متنافرة .
 - ٣ . ا ب ج : يوجب .
 - ٤ . ا ب ج : الاسباب المذكورة السابق ذكرها .
 - ٥ . ا ب ج : الخفية .
 - ٦ . ا ب ج : من .
 - ٧ . ا ب ج : الملائم .
 - ٨ . ا ب ج : قسمها .
 - ٩ . ا ب ج : وهي ستة .
 - ١٠ . ا ب ج : الاولى الى الاولى .
 - ١١ . ا ب ج : الثانية الى الثانية ... السابعة الى السابعة .

من بعد (١) /ب/ طرفا اثقل ل/ج/. (٢) + وستاملها في الادوار المتنافرة. (٣)+

وهذه الدوائر الست (٤) وما عداها من الادوار الملائمة يتفاوت (٥)

عدد نسبها. فالدائرة الاولى (ص ١٢) فيها من نسب المثل والنصف ثلاثة

ومن نسب المثل والثلث خمسة ، وكذلك الدائرة الثانية ايضا. (٦) واما

الدائرة الثالثة فان فيها من نسب المثل والنصف ثلاثة ومن نسب المثل

والثلث اربعة. (٧) واما الدائرة الرابعة فان فيها من نسب المثل

والنصف اثنين (٨) ومن نسب المثل والثلث خمسة ، فهي ناقصة عن الاولى

بوحدة (٩) هي مثل ونصف. واما الدائرة الخامسة فان فيها من نسب

المثل والنصف اثنين (٨) ومن نسب المثل والثلث اربعة. واما الدائرة

السادسة فهي ايضا مساوية في عدد نسبها للخامسة. (١٠) ونسبة الضعف

في الكل (١١) موجودة .

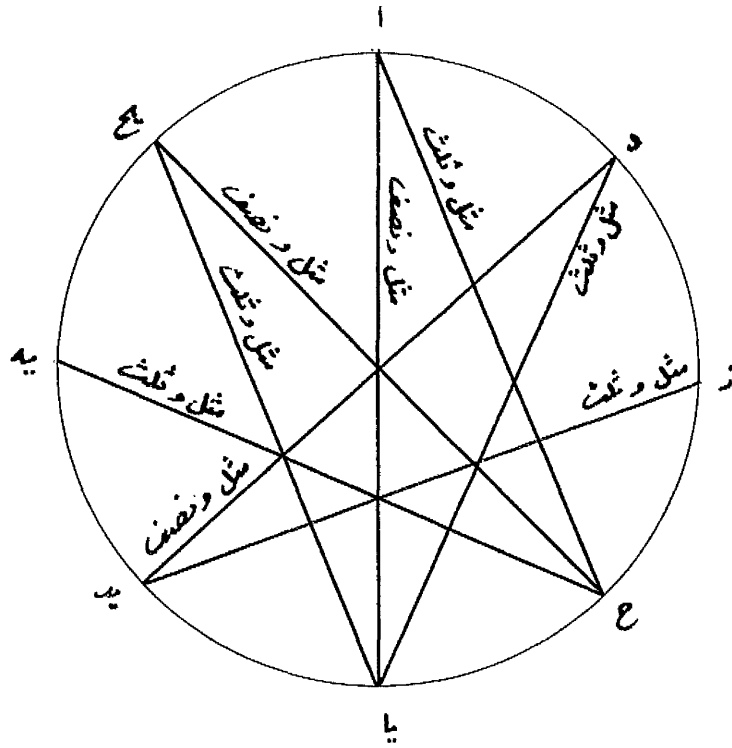
ولنضع لكل جماعة مثلا ونصل بين نسبها ليكون اوضح بيانا. (١٢)

فما (١٣) نسبها بين نعماتها الثوابت فقط فهي ظاهرة التنافر + وما

-
- | | |
|---|---|
| ١. سقطت من ج . | ١.٢ : اثقل من بعد ل/ج/ ، ب : اثقل من بعد ج/ . |
| ٢. +. +. +. سقطت من ج . | ١.٤ : ب : الستة . |
| ٥. ج : متفاوت . | ٥.٦ : ب : والدائرة الثانية ايضا كذلك . |
| ٧. في حاشية ا : وكذلك الدائرة الخامسة . (وهذا خطأ) . | |
| ٨. ب ج : اثنان . | ١.٩ : واما الدائرة الرابعة فان نسبتها |
| ناقصة عن الاولى بوحدة . ج : ... فان نسبها ينقص عن الاول بوحدة . | |
| ١٠. مساوية للثالثة . وفي حاشية ا : فعدد نسبها للخامسة . | |
| ١١. ج : كل . | ١.١٢ : سقطت من ج . |
| ١٣. ا : واما . | |

(1) فيها زيادة على ذلك فهي متلائمة وما فيها (1) من النسب بعدد
 النغمات فهي كاملة في التلاؤم. (2) وهذه (هي) الدوائر وامثلتها: + (3)

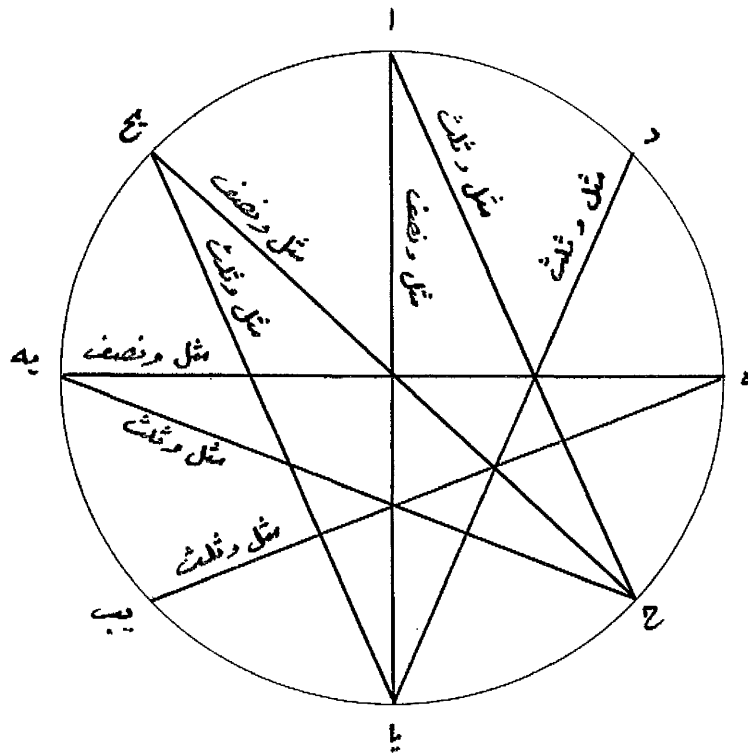
اضافة القسم الاول الى الاول



وفيها (4) تسعة من النسب: خمسة مثل وثلاث وثلاثة مثل ونصف
 ونسبة الضعف. وقد حصل بواسطة الاضافة في هذه الدائرة (5) القسم
 الثاني وهو من / د / الى / يا / و القسم (ص ١٢ ب) الثالث وهو (7) من
 / ز / الى / يد / .

- ١٠١ ب: فيه .
- ١٠٢ ب: التلائم .
- ١٠٣ ا: امثلة . + + . سقطت من ج .
- ١٠٤ ا ب ج: وفيه .
- ٥ ب ج: وقد حصل فيها بواسطة الاضافة .
- ٦ ا: / د / .
- ٧ ج: وهي .

اضافة القسم الثاني الى الثاني



وفيها ^(١) من نسب المثل والثالث خمسة ومن نسب المثل والنصف

ثلاثة ، فهي كالأولى في نسبتها ، مع الضعف . وقد حصل بواسطة هذه ^(٢)

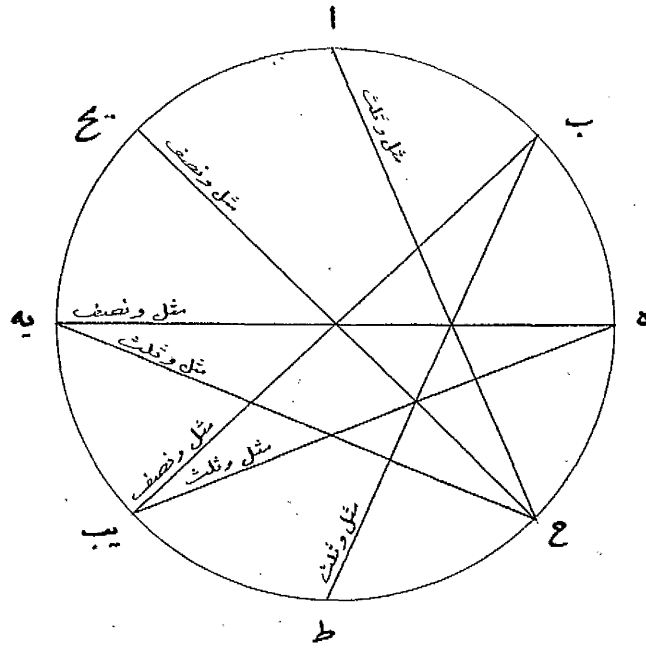
الاضافة في هذه الدائرة القسم الثالث وهو ^(٣) من / د / الى / يا / ،

والقسم ^(٤) الاول وهو من / هـ / الى / يب / ، وتكرر الثالث وهو من / يا /

الى / يح / ، ^(٥) + والقسم الثاني وهو من / ح / الى / يه / . ^(٦) ×

- | | |
|------------------------------|----------------------------|
| ١ . ا ب ج : فيه . | ٢ . سقطت من ج . |
| ٣ . ج : وهي . | ٤ . سقطت من ج . |
| ٥ . + + + + + زيادة من ب ج . | ٦ . × × × × × زيادة من ج . |

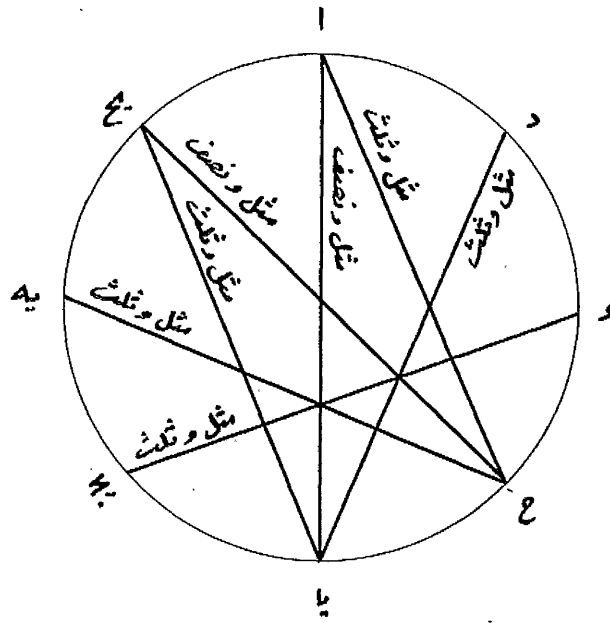
إضافة القسم الثالث الى الثالث



وفيها من نسب المثل والثلاث اربعة ومن نسب المثل والنصف
 ثلاثة ، فمجموعها سبعة غير الضعف⁺ ثمانية مع الضعف⁺ (١) وقد
 حصل في هذه الدائرة^(٢) من الاقسام بواسطة الاضافة القسم الاول
 وهو من /ب/ الى /ط/ ، والثاني وهو من /هـ/ الى /يب/ .

١ . زيادة من ج وحاشية ا .
 ٢ . ١ : ذلك .

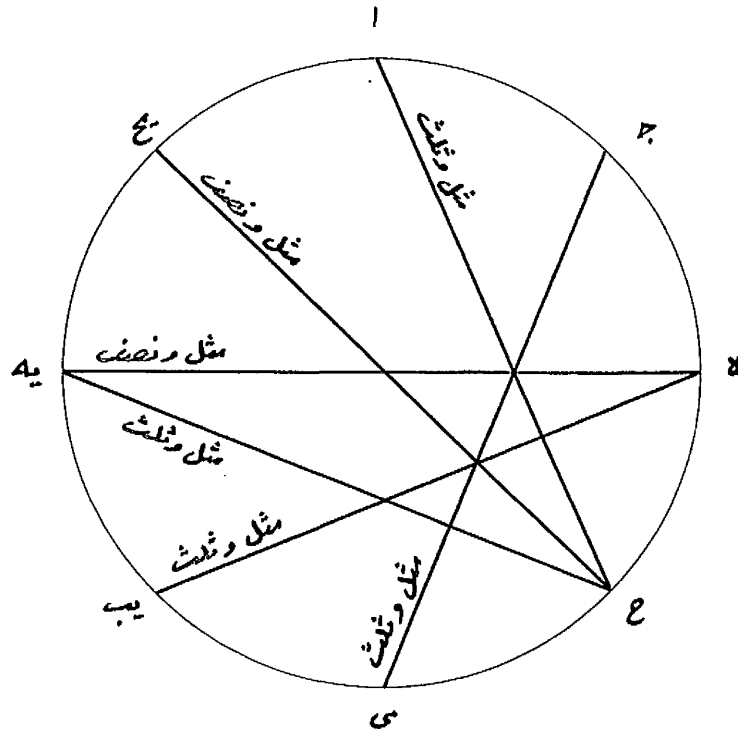
اضافة القسم الرابع الى الرابع



وفيها ^(١) من نسب المثل والثلث (ص ١٣) خمسة ومن نسب المثل والنصف اثنان ، فهي مساوية للثلاثة . وقد حصل في هذه الدائرة بواسطة هذه ^(٢) الاضافة القسم الخامس وهو من / د / الى / يا / ، والسادس وهو من / و / الى / يج / . وتكرر الخامس من ^(٣) / يا / الى / ج /

- ١ . ب ج : فيه .
- ٢ . سقطت من ج .
- ٣ . ج : ويكرر الخامس وهو من .

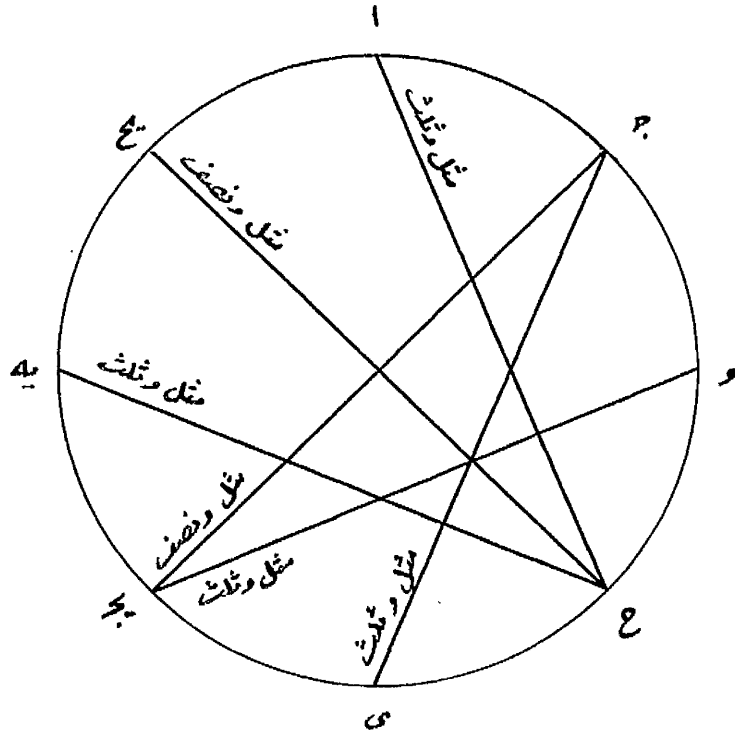
اضافة القسم الخامس الى الخامس



- وفيها (١) من نسب المثل والثلاث اربعة ومن نسب المثل والنصف
 اثنان. (٢) وقد حصل في هذه الدائرة بواسطة الاضافة القسم السادس
 وهو من /ج/ الى /ى/ والرابع وهو من /ه/ الى /يب/ .

١. ا ب ج : وفيه .
 ٢. زيادة من ا : فهي مساوية للثالثة . (وهذا خطأ .)

اضافة القسم السادس الى السادس



وفيها ^(١) من نسب المثل والثلث اربعة ومن نسب المثل والنصف
 اثنان ، فهي كالخامسة. وقد حصل في هذه الدائرة بواسطة الاضافة القسم
 الرابع وهو من ج/ الى ي/ و الخامس وهو من و/ الى ج/ .
 فان اضعنا كلا منها الى غير نوعه حصل ^(٢) من سائرهما - اى من
 المضاف الى نوعه وغير نوعه ^(٣) - اربع ^(٤) وثمانون دائرة بعضها ملائمة ،
 وقد عرفته ^(٥) وبعضها خفية التنافر ، وهي التي لا تزيد ^(٦) نسبتها على
 خمسة ، وبعضها ظاهرة التنافر ، وهي التي لا نسب فيها ^(٧) بين نعماتها

- | | |
|---|------------------------------------|
| ١ . ا ب ج : وفيه . | ٢ . ب : يحصل . |
| ٣ . ا : مع المضاف الى نوعه . ب : اى مع المضاف | |
| ٤ . ا ب ج : اربعة . | ٥ . ا : كما عرفته . ب : وقد عرفت . |
| ٦ . ا : يزيد . | ٧ . ج : فيما . |

المتبدلة ، بل الثوابت فقط وهي اربعة من النسب ، لسوء الاضافة ، كالدائرة

الحاصلة من اضافة القسم الخامس من الطبقة^(١) الثانية الى الرابع (من

الطبقة الاولى) . فيحصل فيها^(٢) بواسطة هذه الاضافة اربعة ابعاد على

نسبة بعد /ج/ ، وقد علمت ان اربعة ابعاد /ج/ اذا تتالت تنافرت

لتحديدها عن طرف^(٣) ذي الاربع .

وقد وضعنا (ص ١٤) لكل دور مثلا لتتامل^(٤) النسب في كل دائرة

وتفرق بين المتنافر وغيره على هذا القياس :^(٥)

١ . زيادة من ج .

٢ . سقطت من ا . ب ج : فيسه .

٣ . في حاشية ب : احد .

٤ . ا ج : ليتامل .

٥ . ا : ويفرق . . . على هذا المثال . ب : وتقف على المتنافر وغيره .

وفي حاشية ب : تفرق بين .

		ا ب ج د ه و ز ح ط ی یا یب یج ید یه یو یز یح						
اول	اول	ا	د	ز ح	یا	ید یه	یح	اول
اول	اول	ا	د	ز ح	یا یب	یه	یح	ثانی
اول	اول	ا	د	ز ح ط	یب	یه	یح	ثالث
اول	اول	ا	د	ز ح	یا	یج	یح	رابع
اول	اول	ا	د	ز ح	ی	یب	یح	خامس
اول	اول	ا	د	ز ح	ی	یج	یح	سادس
اول	اول	ا	د	ز ح	ی	یب	یح	سابع
اول	اول	ا	د	ز ح	یا	یج	یح	ثامن
اول	اول	ا	د	ز ح	ی	یج	یح	تاسع
اول	اول	ا	د	ز ح	ی	یا	یح	عاشر
اول	اول	ا	د	ز ح	ی	یب	یح	حادی عشر
اول	اول	ا	د	ز ح	یا	یج	یح	ثانی عشر

ا ب ج د ه و ز ح ط ی یا یب یج ید یه یو یز یح

ثانی	ا	د ه	ح	یا	ید	یه	یح	اول
ثانی	ا	د ه	ح	یا یب	یه	یح	ثانی	
ثانی	ا	د ه	ح ط	یب	یه	یح	ثالث	
ثانی	ا	د ه	ح	یا یج	یه	یح	رابع	
ثانی	ا	د ه	ح ی	یب	یه	یح	خامس	
ثانی	ا	د ه	ح ی	یج	یه	یح	سادس	
ثانی	ا	د ه	ح ی	یب ید	یه	یح	سابع	
ثانی	ا	د ه	ح	یا یج	یه	یز یح	ثامن	
ثانی	ا	د ه	ح ی	یج	یه	یز یح	تاسع	
ثانی	ا	د ه	ح ی	یا ید	یو	یح	عاشر	
ثانی	ا	د ه	ح ی	یب یج	یو	یح	حادی عشر	
ثانی	ا	د ه	ح	یا یج	یو	یح	ثانی عشر	

	ا ب ج د ه و ز ح ط ی یا یب یج ید یه یو یز یح						
ثالث	ا ب ه ح یا ید یه یح	اول					
ثالث	ا ب ه ح یا یب یه یح	ثانی					
ثالث	ا ب ه ح ط یب یه یح	ثالث					
ثالث	ا ب ه ح یا یج ید یه یح	رابع					
ثالث	ا ب ه ح ی یب یه یح	خامس					
ثالث	ا ب ه ح ی یج ید یه یح	سادس					
ثالث	ا ب ه ح ی یب ید یه یح	سابع					
ثالث	ا ب ه ح یا یج ید یه یز یح	ثامن					
ثالث	ا ب ه ح ی یج ید یه یز یح	تاسع					
ثالث	ا ب ه ح ی یا ید یو یح	عاشر					
ثالث	ا ب ه ح ی یب یج ید یو یح	حادی عشر					
ثالث	ا ب ه ح یا یج ید یو یح	ثانی عشر					

		ا ب ج د ه و ز ح ط ی یا یب یج ید یه یو یز یح				
اول	رابع	یح	ید	یا	ح و د	ا
ثانی	رابع	یح	یه	یا یب	ح و د	ا
ثالث	رابع	یح	یه	یب	ح و د ط	ا
رابع	رابع	یح	یه	یا یج	ح و د	ا
خامس	رابع	یح	یه	یب	ح و د ی	ا
سادس	رابع	یح	یه	یج	ح و د ی	ا
سابع	رابع	یح	ید	یب	ح و د ی	ا
ثامن	رابع	یح یز	یه	یا یج	ح و د	ا
تاسع	رابع	یح یز	یه	یج	ح و د ی	ا
عاشر	رابع	یح یو	ید	یا	ح و د ی	ا
حادی عشر	رابع	یح یو	یب یج	ی	ح و د ی	ا
ثانی عشر	رابع	یح یو	یج	یا	ح و د ی	ا

ا ب ج د ه و ز ح ط ی یا یب یج ید یه یو یز یج							
سادس	ا	ج	و	ح	یا	ید یه	اول یج
سادس	ا	ج	و	ح	یا یب	یه	ثانی یج
سادس	ا	ج	و	ح ط	یب	یه	ثالث یج
سادس	ا	ج	و	ح	یا	یج یه	رابع یج
سادس	ا	ج	و	ح	ی	یب یه	خامس یج
سادس	ا	ج	و	ح	ی	یج یه	سادس یج
سادس	ا	ج	و	ح	ی	یب ید یه	سابع یج
سادس	ا	ج	و	ح	یا	یج یه	ثامن یج
سادس	ا	ج	و	ح	ی	یج یه	تاسع یج
سادس	ا	ج	و	ح	ی یا	ید یو	عاشر یج
سادس	ا	ج	و	ح	ی	یب یج یو	حادی عشر یج
سادس	ا	ج	و	ح	یا	یج یو	ثانی عشر یج

	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	اول
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	ثانی
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	ثالث
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	رابع
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	خامس
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	سادس
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	سابع
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	ثامن
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	تاسع
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	عاشر
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	حادی عشر
سابع	ا	ب	ج	د	ه	و	ز	ح	ط	ی	یا	یب	یج	ید	یه	یو	یز	یح	ثانی عشر

فهذه هي الدوائر بأسرها. (١) وأصولها هي الأقسام وقد تسمى (٢) الأبحر.

فيقولون: البحر الأول من الدائرة الرابعة، أي من الدوائر الستة المذكورة

قبل الجدول، هو (٣) + (٤) هذه الأربعة:

ا . . . د . و . ح

والبحر الثاني منها هو (٥) (٤) هذه الأربعة الأخرى: (٧)

د . و . ح . يا

والبحر الثالث منها هو (٤) هذه الأربعة الأخرى: (٧)

و . ح . يا . يج

والبحر الرابع منها هو (٨) (٤) هذه الأربعة الأخرى: (٧)

ح . . يا . يج . يه

وأما البحر الخامس فهو (٩) هذه الأربعة الأخرى: (١٠)

يا . يج . يه . يج

وانت تعلم ان هذه هي بعينها (١١) الأصول . فالبحر (١٢) الثاني هو

- | | |
|---|----------------------------------|
| ١ . سقطت من ج . | ٢ . ج : يسم . |
| ٣ . زيادة من د . | ٤ . ا : وهي . ب ج : هي |
| ٥ . زيادة من ج . ا : | والبحر الثاني وهو القسم الثاني . |
| ٦ . زيادة من ج . | ٧ . سقطت الأخرى من ج . |
| ٨ . زيادة من ب . | ٩ . ا ب ج : فهي . |
| ١٠ . سقطت « الأخرى » من ج ، و « الأربعة الأخرى » من ب . | |
| ١١ . ا : ان هذه بعينها هي . | ١٢ . ب ج : والبحر . |

- القسم الخامس من الاقسام الماضى (١) ذكرها ، والثالث من الابحر هو (٢)
- بعينه القسم السادس ، والرابع من الابحر هو بعينه (٣) الرابع من
- الاقسام (٤) والخامس من الابحر (٥) هو الخامس من الاقسام .
- وانا كانت الاقسام (٦) عبارة عن الابحر (٧) فلا جائز ان يقال ان (٨)
- الدائرة الرابعة محتوية على (٩) + خمسة ابحر بل على (٩) + ثلاثة ،
- لان الاول كالرابع والثانى (ص ١٨) كالخامس (١٠) وليس الفرق بينهما
- الا (١١) ان احدهما فى غير طبقة الآخر . الا اذا كانت الابحر عبارة
- عن هذه الاقسام ، مع انها فى طبقة اخرى (١١) فيلزم من هذا ان

- ١ . ا ب ج : الماضية .
- ٢ . ج : هى .
- ٣ . ج : هى بعينها .
- ٤ . سقطت من الاقسام من ج .
- ٥ . زيادة من ب : بعينه .
- ٦ . زيادة من ب : هى .
- ٧ . ج : وانا كانت الابحر عبارة عن الاقسام .
- ٨ . سقطت من ج .
- ٩ . + . + . + . + . زيادة من حاشية ا ومن
- متن ب لكن شطبت منه . ١٠ . ا : لان الاولى كالرابع والثانية
- كالخامس . ج : لان الاول كالرابعة والثانية كالخامسة .
- ١١ . ا : الا ان احدهما فى غير طبقة الاخرى الا اذا كان الابحر عبارة
- عن هذه الاقسام وان كانت فى طبقة اخرى .
- وفى حاشية ا : مع انها فى طبقة اخرى .
- ب ، وفى حاشية ا : الا ان الخامسة واقعة فى طبقة اخرى وكنا
- الرابعة الا ان اشترط ان يكون وقوعها فى طبقة اخرى يوجب ان
- يقال لها بحر .
- وفى حاشية ب : الا ان احدهما فى غير طبقة الاخرى الا اذا كان
- البحر عبارة عن هذه الاقسام مع انها فى طبقة اخرى . الا ان
- اقسام فى غير طبقة الاخرى الا اذا كان الابحر عبارة عن هذه الاقسام
- وان كان فى غير الطبقة الاخرى .

تكون (١) الأبحر سبعة عشر ، اللهم الا ان يشترط (٢) ان لا يتعدى بعد (٣) نى الكل . فحينئذ تكون (٤) الأبحر عبارة عن الاقسام التى يشتمل عليها بعد نى الاربع منتقلا الى (٥) طبقات عدة يشتمل عليها بعد نى الكل (٦) من غير مجاوزة عن مركز بعد (٧) بالكل الذى هو (٨) الطرف الاحد منه .
فهذه هى الادوار باسرها . (٩)

ج: الا ان احدهما فى غير الطبقة الاخرى الا اذا كان الأبحر عبارة عن هذه الاقسام وان كان فى غير الطبقة الاخرى .
د: الا ان احدهما فى غير طبقة الاخرى الا اذا كان البحر عبارة عن هذه الاقسام وان كانت فى الطبقة الاخرى .
ويدل اختلاف المتون والحواشى ، مع اغلاطها اللغوية ، على ان اقوال صفي الدين هنا وفيما يلى غير واضحة .
والظاهر ان كلمتى « قسم » و « بحر » ليستا مترادفتين . لـ « قسم » معنى نظرى : انه نوع من انواع بعد نى الاربع يمكن ان ينتقل الى كل الطبقات - اى درجات السلم النظرى . ومن المتوقع انه كان لـ « بحر » معنى عملى : يبدو مما قاله صفي الدين ان الأبحر مشتقة من دور « راست » التى هى اشهر الشدود واهمها ، ولذلك يخص للبحر الواحد مركز واحد ولا يمكن الانتقال . مثلا اذا فرضنا / ١ / مركزا للبحر الاول فلا يجوز ان نبتدى بعين التسلسل من ب / .
١ . ب ج : يكون .
٢ . ١ : اشترط .
٣ . ج : عن .
٤ . ج : يكون .
٥ . ب : فى .
٦ . ج : عليها ذو الكل .
٧ . سقطت من ب ج .
٨ . ب : التى هى . ج : الذى هى .
٩ . ب : فهذه الادوار باسرها . وشطببت الجملة .

الفصل السابع

في حكم الوترين .

- (١) اعلم انه وان كان لاهل هذه الصناعة في سرعة الانتقال يد
 باسطة، خصوصا (٢) من له رياضة وتمكن ودربة (ص ١٨ ب) وافرة، (٣)
 ولكن لم (٤) يمكنهم الجمع بين نغمتين في زمان واحد . فلذلك وضعوا
 آلات نوات وترين (٥) ونوات ثلاثة واربعة واكثر من ذلك تسهيلا .
 فاما اصطحاب (٦) الوترين فانهم يجعلون نغمة مطلق الاسفل منهما
 مساوية لنغمة / ح / من الاعلى فتصير نسبة (٧) المثل والثلاث لكل نغمة
 في (٨) مقابلتها ، لانه اذا جعلت نغمة (٩) مطلق الاسفل مساوية لنغمة
 / ح / ، فجزؤها الثاني / ط / ، والجزء الثاني من الاعلى / ب / ، ونسبة (١١)
 / ب / الى / ط / مثل وثلاث ، وهي (١٢) في مقابلتها . وكذلك البواقي .
 فاننا اردنا (١٣) استخراج دور ما ، وليكن الاول (١٤) مثلا : فاننا نجس
 مطلق الاعلى ، ورابع اجزائه ، وسابعه ، ومطلق الاسفل ، ورابعه ، وسابعه ، وثامنه ،

-
- ١ . ب وفي حاشية ا : اعلم ان لاهل ... يدا .
 ٢ . ج : وخصوصا .
 ٣ . ب ، وفي حاشية ا : خصوصا للمتمكنين ممن له رياضة ودربة وافرة .
 ٤ . ا : ولكن لما لم .
 ٥ . ج : الوترين .
 ٦ . ا : اصطحاب .
 ٧ . ا ج : فيصير نسبة . ب : فيصير نسب .
 ٨ . في حاشية ا : مع .
 ٩ . ا ب ج : جعل .
 ١٠ . سقطت من ب .
 ١١ . ا : فالجزء الثاني من الاسفل مساوية لنغمة / ط / والجزء الثاني من الاعلى / ب / .
 ١٢ . ا : وهو .
 ١٣ . ا : اردت .
 ١٤ . ج : الاولى .

والجاءى عشر .

(1) فـدساتين الـوترين عـشرة والـبواقى مستـغنى عـنها .

١٠١ : والباقى مستغنى عنه .

الفصل الثامن

في ذكر العود وتسوية اوتاره واستخراج الادوار منه .

ثم (١) ان القدماء وضعوا آلة ذات خمسة اوتار وجعلوا مطلق كل

وتر مساويا لثلاثة ارباع ما فوقه . فصارت الدساتين المفتقر (٢)

اليها سبعة . وكملت الجماعات لوجود كل نغمة وحدتها .

وقد خصوا كل دستان باسم . فلنضع لها مثالا ، ونذكر اسما

الاورار والدساتين على اصطلاحهم . وهذا مثاله :

حار	زير	مثنى	مثلث	بم	مطلق
كط	كب	يه	ح	ا	دستان الزائد
ل	كج	يو	ط	ب	دستان العجيب
لا	كد	يز	ى	ج	دستان السبابية
لب	كه	يج	يا	د	دستان وسطى الفرس (٣)
لج	كو	يط	يب	ه	دستان وسطى زلزل
لد	كز	ك	يجد	و	دستان البنصر
له	كح	كا	يد	ز	دستان الخنصر
لو	كط	كب	يه	ح	

١ . ١ : اعلم . ٢ : ب : المفتقرة . ج : المقصودة .

١ . ٣ : الوسطى فرس . ج : وسطى فرس .

فالمطلق من البسم حدثته : سبابة المثنى ، وحدة سبابة البسم :

بنصر المثنى ، وحدة بنصر البسم : (١) مجنب الزير (ص ١٩ ب) ، ومطلق

المثلث : سبابة الزير ، وسبابة المثلث : بنصر الزير ، وبنصر المثلث :

مجنب الحاد ، ومطلق المثنى : سبابة الحاد ، وسبابة المثنى : بنصر

الحاد . فنسبة مطلق البسم الى بنصر الحاد نسبة بعد^(٢) نى الكمل

مرتين .

٠٢ ج : البعد .

٠١ ب : وبنصر البسم حدثها .

الفصل التاسع

في أسماء الادوار المشهورة .

واهل هذه الصناعة يسمون الادوار شدودا ، ولكل دور اصل

يبتنى (١) عليه . والادوار عندهم اثنا عشر (٢) : عشاق ، نوى ،

ابوسليك (٣) ، راست ، عراق ، اصفهان ، زيرافكند ، بزرك ، زنكوله ،

راهوى (٤) ، حسينى ، حجازى .

فاما عشاق فهى الدائرة الاولى (٥) .

ونوى هى (٦) الدائرة الرابعة عشر .

وابوسليك هى (٧) الدائرة السابعة والعشرون .

وراست هى (٧) الدائرة الاربعون .

وعراق (ص ٢٠) هى الدائرة التاسعة (٨) والستون .

واصفهان هى الدائرة الرابعة والاربعون .

وزيرافكند هى الدائرة التاسعة والخمسون .

وبزرك هى الدائرة السبعون .

وزنكوله هى الدائرة الثانية والاربعون .

١٠١ : يبتنى .

٢ . ب ج : اثنى .

٣ . ب : بوسليك .

٤ . ا : راهوى .

٥ . ب : الاول .

٦ . ب ج : فهى .

٧ . ج : فهى .

٨ . ا : السادسة (والستون - وهى التاسعة والستون محذوفا منها / يز /) .

- وراهوى هي الدائرة الخامسة والستون .
- وحسينى هي الدائرة الثالثة والخمسون .
- وحجازى هي الدائرة الرابعة والخمسون .

واما ^(١) بواقى الادوار فان المتنافرة منها لا يلتفت اليها لتنافرها .

وربما صنّفوا منها اصواتا وذلك بحسن ^(٢) التلطف في الانتقال ، ويطول

شرحه . ^(٣) واما الادوار الاخر فان بعضها هي الادوار المذكورة ^(٤) في

غير مواضعها المعهودة . فان لكل دائرة سبعة عشر موضعا تسمى ^(٥)

الطبقات وسنذكرها ، فانا تأملتها وامعنت النظر فيها وجدتها كذلك .

فلنذكر منها طرفا يسيرا وتامل انت الباقي . ^(٦) فالدائرة السادسة

والسبعون اصفهان في الطبقة الثانية ، والخامسة (ص ٢٠ ب) والخمسون

هي ^(٧) ايضا اصفهان ^(٨) ولكن في الطبقة الثالثة ، والسادسة والاربعون ^(٩)

(اصفهان) في الطبقة السابعة عشر . ^(١٠) ومنهم من يقول : حجازى

هي الدائرة الرابعة والستون في الطبقة الاولى . ^(١١) واما ما قلنا

- ١ . ا : اما .
 - ٢ . ا : لحسن .
 - ٣ . ج : فلا نطول شرحها .
 - ٤ . ا : الادوار المشهورة المذكورة .
 - ٥ . ب : يسمونها .
 - ٦ . زيادة من ب : من نفسك .
 - ٧ . زيادة من ا .
 - ٨ . ج : اصفهان ايضا .
 - ٩ . ب : السادسة والسبعون . ج : وفي حاشية ب : السابعة والاربعون .
 - ١٠ . ب : في الطبقة الثانية . ج : وفي حاشية ب : في الطبقة السابعة عشر
 - ١١ . ا : ... الرابعة والستون ولكن لا
- وهي التي تسمى كردانيا .
- في الطبقة الاولى بل بان يجعل /يا/ مبدأ .

حجازي (١) فهي عراق اذا اضيف اليها / يز / . فالدائرة الرابعة (٢) والخمسون

حينئذ هي ايضا حجازي ولكن في الطبقة الثانية .

ولنضع لهذه جدولا (٣) ونذكر (٤) الادوار على اصطلاحهم: (٥)

عشاق	سبابة	مطلق	بنصير	سبابة	مطلق	بنصير	سبابة	مطلق
	الزير	الزير	المثنى	المثنى	المثنى	المثنى	المثلث	المثلث
نوى	سبابة	مطلق	فرس	سبابة	مطلق	فرس	سبابة	مطلق
	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث
ابو سليك	سبابة	مطلق	فرس	زائد	مطلق	فرس	زائد	مطلق
	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث
راست	سبابة	مطلق	زلزل	سبابة	مطلق	زلزل	سبابة	مطلق
	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث

١.١ : انها حجازي .

١.٢ ب : السادسة . وفي حاشية ب : الرابعة .

١.٣ : لهذه جداول . ج : لهذا جدولا .

٤ . زيادة من ب : طبقات .

٥ . زيادة من ا ب : واما استخراج الادوار من اوتار (سقطت من ا)

العود في سائر طبقاتها فهو على (ا : فعلى) هذا المثلث . ثم شطبت

الجملة في ب . وفي ب ج توجد هذه الجملة في الفصل العاشر .

وفي ا هنا جدول الآوازيات . ويوجد جدول الشدود والفقرة

التالية حول الآوازيات في الفصل العاشر .

عراق	سبابة	مجنب	مطلق	زلزل	مجنب	مطلق	زلزل	مجنب	مطلق
	الزير	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث
اصفهان	سبابة	مجنب	مطلق	زلزل	سبابة	مطلق	زلزل	سبابة	مطلق
	الزير	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث
زيرافكند	سبابة	زائد	زلزل	فرس	مجنب	مطلق	فرس	مجنب	مطلق
	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث	المثلث
بزرک	سبابة	زائد	ينصير	سبابة	مجنب	مطلق	زلزل	مجنب	مطلق
	الزير	الزير	المثنى	المثنى	المثنى	المثلث	المثلث	المثلث	المثلث
زنكوله ^(١)	سبابة	مطلق	زلزل	مجنب	مطلق	زلزل	سبابة	مطلق	
	الزير	الزير	المثنى	المثنى	المثلث	المثلث	المثلث	المثلث	
راهوى	سبابة	مطلق	فرس	مجنب	مطلق	زلزل	مجنب	مطلق	
	الزير	الزير	المثنى	المثنى	المثلث	المثلث	المثلث	المثلث	
حسينى	سبابة	مطلق	فرس	مجنب	مطلق	فرس	مجنب	مطلق	
	الزير	الزير	المثنى	المثنى	المثلث	المثلث	المثلث	المثلث	
حجازى	سبابة	مطلق	زلزل	مجنب	مطلق	فرس	مجنب	مطلق	
	الزير	الزير	المثنى	المثنى	المثلث	المثلث	المثلث	المثلث	

(ص ٢٢ ب) وبعض الادوار يسمونه آواز^(٢) وبعضها لا اسم له^(٣) بل

يسمونه^(٤) مركبا كالدائرة السابعة^(٥) والستين . فانهم يقولون : هي^(٦) مركبة

-
- ١ . ج : زنكوله : سبابة الزير مجنب الزير مطلق الزير
٢ . ب : آوازا .
٣ . ب : لها .
٤ . ا : نسمعه .
٥ . ب : الثامنة . وتحتها : السابعة .
٦ . ا : انها .

(١١٧)
من اصفهان وحجازى. (١) والقائل بهذا لم (٢) لا يقول عن راهوى انها

مرکبة من نوروز وحجازى ، وعن زنگوله انها مرکبة من حجازى وراست ،
وعن اصفهان انها مرکبة من اصفهان وراست .

واما الآوازيات فهى ستة : كواشت وهى الدائرة الحادية والسبعون ،

وگردانيه (٣) وهى الدائرة (٤) السادسة والاربعون - وكلاهما (٥) اصفهان انا

عرفت الطبقات : فاما گردانيه فهى (٦) الطبقة السابعة عشر ، واما كواشت

فهى (٧) عشر الطبقات - وسلمك وهى زنگوله ، (٨) ونوروز وهى حسينى

محدوفا منها (٩) /يح / . واما ما به فهى (١٠) هيئة فى التقديم والتاخير (١١)

فى اللحن ، وكذلك شهناز (١٢) + وهى بعض طبقات زيرافكند . + (١٣)

فلنجعل للسته جدولا ونعرف اسماءها على هذه الصورة : (١٤)

١. زيادة من ب : المصنف .

١٠٢ : فالقائل بهذا ليته لم . ج : ولقائل

بهذا لم .

٠٣ ج : گردانيا .

٤ . سقطت من ج .

٠٥ زيادة من ا : من .

٠٦ ا : واما گردانيه فهى . ب : فاما گردانيه فهى فى . ج : فاما گردانيا فهى .

٠٧ زيادة من اب : فى .

٠٨ سقطت وهى زنگوله من ج .

زيادة من د : انا كان اول الدائرة / يا / .

٠٩ ا ب ج : منه .

٠١٠ ب : فانها .

٠١١ ج : التقديم والتاخر .

٠١٢ ب : فى الجس وكذلك شهناز .

١ : وكذلك شهناز فى الحسن .

٠١٣ + + + + زيادة من ج ومن حاشية ب .

٠١٤ ا : اسماءها وكيفية التركيب على هذه الصورة . ب : اسماءها .

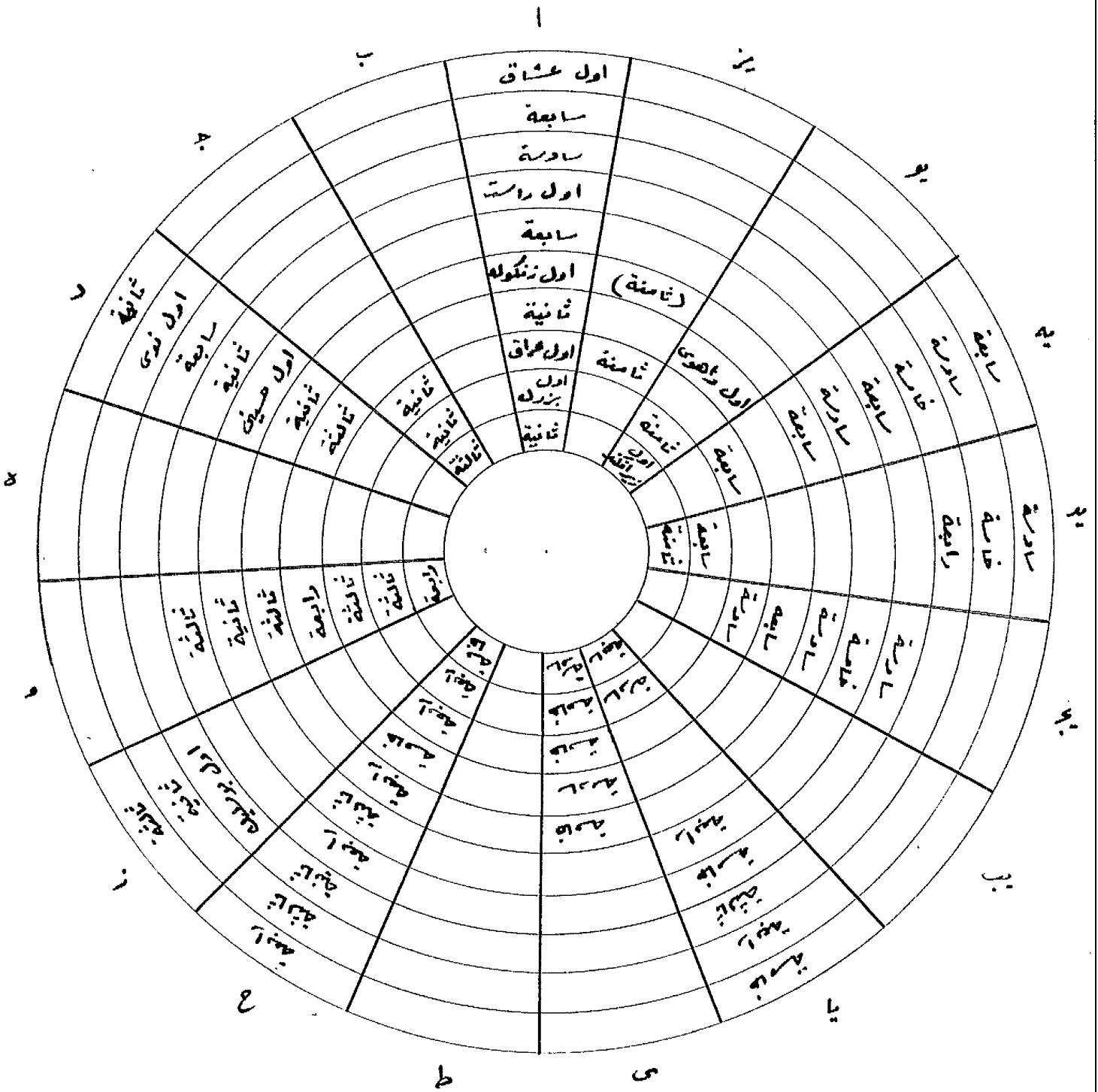
كواشت	سبابة الزير	زائد الزير	زلزل المثنى	فرس المثنى	مجنب المثنى	مطلق المثنى	زلزل المثلث	مجنب المثلث	مطلق المثلث
كر دانيه	سبابة الزير	زائد الزير	بنصر المثنى	سبابة المثنى	مجنب المثنى	مطلق المثنى	زلزل المثلث	سبابة المثلث	مطلق المثلث
نوروز	سبابة الزير	مطلق الزير	زلزل المثنى	سبابة المثنى	مطلق المثنى	زلزل المثلث	سبابة المثلث		
سلمك	زلزل الزير	سبابة الزير	زائد الزير	بنصر المثنى	سبابة المثنى	مطلق المثنى			
مايه	سبابة الزير	مطلق الزير	سبابة المثنى	مطلق المثنى	سبابة المثلث				
شهنار	مطلق الزير	مجنب الزير	زلزل الزير	فرس الزير	مجنب الزير	مطلق الزير			

الفصل العاشر

في تشارك نغم الادوار .

- وانت انا تاملت الادوار وجدت دائرة عشاق ونوى^(١) وابوسليك
 دائرة واحدة ، ان لو فرض / د / اول نوى^(١) وافقت مراكزها مراكز
 عشاق ، وكذلك انا فرض^(٢) سابع نوى^(١) اول دور عشاق ، وكذلك انا
 فرض سادس ابوسليك اول عشاق^(٣) . وكذلك راست وحسيني^(٤) انا جعل
 ثاني راست اول حسيني . واما (ص ٢١ ب) راهوى^(٥) فانها توافق^(٦) ستة
 من^(٧) مراكز زنگوله انا جعل^(٨) ثاني راهوى اول زنگوله وتخالفها^(٩)
 بنغمة^(١٠) / يز / ، وبنغمة / ب / ايضا ان قسم بعد / ط / الآخر^(١١)
 + يبعدي / ج ب / . +^(١٢) وعراق تخالف^(١٣) زنگوله بنغمة واحدة هي الثانية ،
 لانها / ج / في عراق^(١٤) و / د / في زنگوله . وزيرافكند وبزرک دائرتاهما
 ايضا واحدة انا جعل ثاني وزيرافكند اول بزرک .^(١٥)

-
- ١ . ١ : نوا .
 ١ . ٣ : اولاً لعشاق . ب ج : اول العشاق .
 ٤ . سقطت « راست وحسيني » من ا . ٥ . ب : راهوى
 ٦ . ج : يوافق . ٧ . سقطت من ا .
 ٨ . ج : جعلت . ٩ . ب ج : يخالفها .
 ١٠ . سقطت من ا . ١١ . ا : الاخير .
 ١٢ . + . + . + زيادة من ا ب .
 ١٤ . ا : العراق .
 ١٥ . يزيد ا : على هذا المثال .



فى طبقات الادوار .

وانت يمكنك ان تفرض اول الادوار اى نغمة شئت . مثاله اذا

اردنا ان نجعل^(١) اول الادوار /ب/ مثلا ، وانا اردنا دور راست^(٢)،

فانا نجس /ب/ ثم /هـ/ ثم /ز/ ثم /ط/^(٣) ثم /يب/ ثم /يد/^(٤) ثم /يو/
ثم /يط/ .

فهذه الادوار فى غير مواضعها تسمى^(٥) الطبقات . والطبقات باسرها

سبعة عشر بحدود النغمات . فاول الطبقات /ا/ والثانى /ح/ والثالث /يه/

والرابع /هـ/ والخامس /يب/ والسادس /ب/ والسابع /ط/ والثامن /يو/

والتاسع /و/ والعاشر /يج/ والحادى عشر /ج/ والثانى عشر /ى/ والثالث

عشر /يز/ والرابع عشر /ز/ والخامس عشر /يد/ والسادس عشر /د/

والسابع عشر /يا/ .^(٦)

ولنعمل^(٧) لذلك جدولا ونبين دورا منها فى سائر طبقاتها^(٨)،

واستخرج من نفسك بواقى الادوار . وهذه صورتها :

١ . ج : ن فرض . ١٠٢ : عشاق . وفى حاشية ا : راست .

١٠٣ : /ب/ ثم /ح/ ثم /ط/ . ١٠٤ : /يه/ .

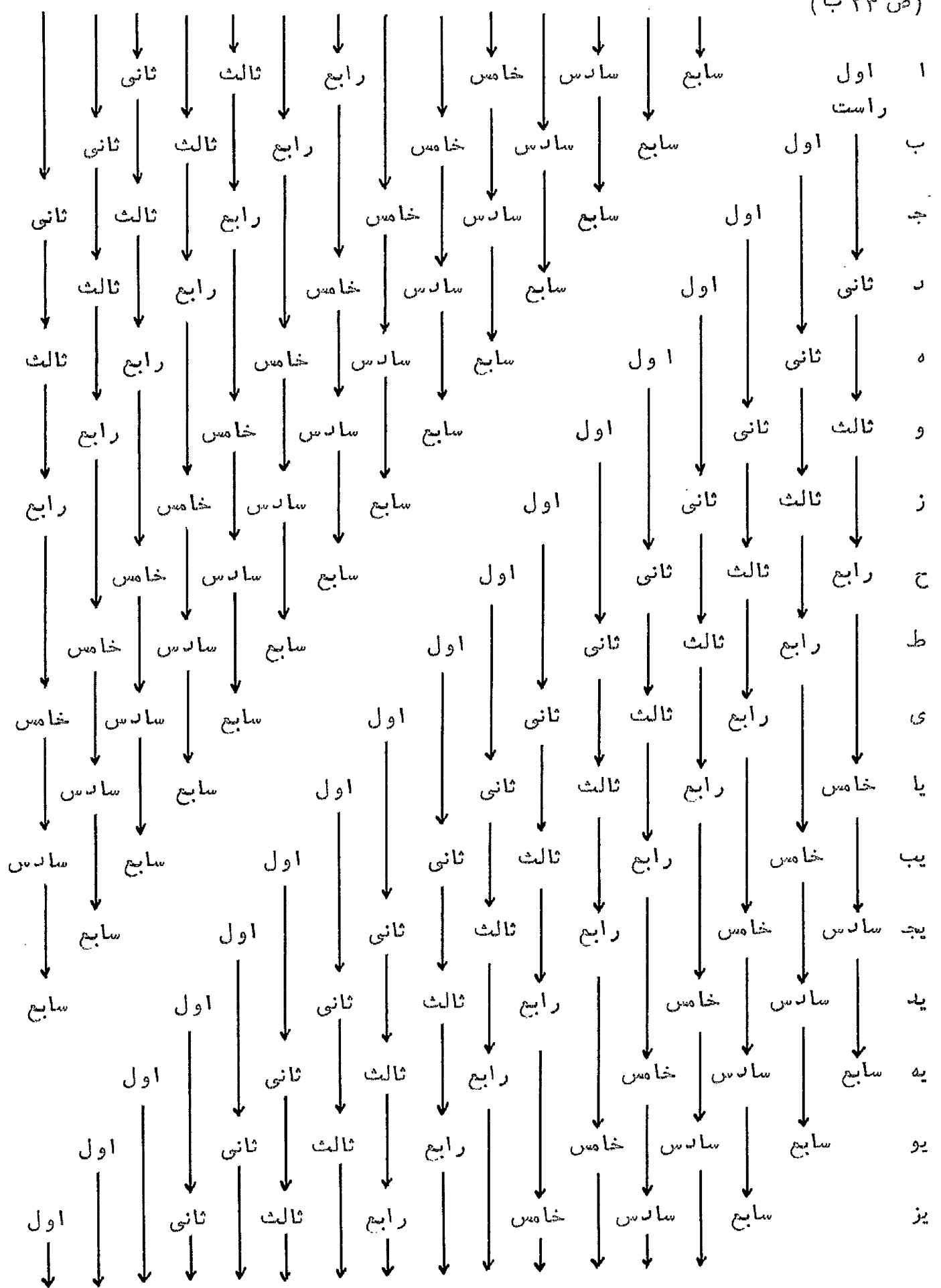
٥ . ج : يسمى .

٦ . ج : فاول الطبقات /ايج/ والثانى /حكه/ /يهلب/ /هكب/ /يبكط/ .

/بيط/ /طكو/ /يولج/ /وكج/ /يجل/ /جك/ /ىكز/ /يزلد/

/زكد/ /يدلا/ /دكا/ /ياكح/ .

٧ . ب . ولنمثل . ٨ . ج . الطبقات .



(ص ٢٤) ⁺ واما استخراج الادوار من اوتار العود في سائر طبقاتها (ف)على

هذا المثال: ⁺(١)

ادوار عشاق

اول الطبقات	ا	د	ز	ح	يا	يد	يه	يح
ثاني الطبقات	ح	يا	يد	يه	يح	كا	كب	كه
ثالث الطبقات	يه	يح	كا	كب	كه	كح	كط	كب
رابع الطبقات	ه	ح	يا	يب	يه	يح	يط	كب
خامس الطبقات	يب	يه	يح	يط	كب	كه	كو	كط
سادس الطبقات	ب	ه	ح	ط	يب	يه	يو	يط
سابع الطبقات	ط	يب	يه	يو	يط	كب	كج	كو
ثامن الطبقات	يو	يط	كب	كج	كو	كط	ل	لج
تاسع الطبقات	و	ط	يب	يج	يو	يط	ك	كج
عاشر الطبقات	يج	يو	يط	ك	كج	كو	كز	ل
حادى عشر الطبقات	ج	و	ط	ى	يج	يو	يز	ك
ثاني عشر الطبقات	ى	يج	يو	يز	ك	كج	كد	كز
ثالث عشر الطبقات	يز	ك	كج	كد	كز	ل	لا	لد
رابع عشر الطبقات	ز	ى	يج	يد	يز	ك	كا	كد
خامس عشر الطبقات	يد	يز	ك	كا	كد	كز	كح	لا
سادس عشر الطبقات	د	ز	ى	يا	يد	يز	يح	كا
سابع عشر الطبقات	يا	يد	يز	يح	كا	كد	كه	كح

٠ + ٠٠ + ٠٠٠ + ٠٠٠٠ + ٠٠٠٠٠ + ٠٠٠٠٠٠ + ٠٠٠٠٠٠٠ + ٠٠٠٠٠٠٠٠ + ٠٠٠٠٠٠٠٠٠ + ٠٠٠٠٠٠٠٠٠٠ + ٠٠٠٠٠٠٠٠٠٠٠

ادوار نوی

اول الطبقات	ا	د	ه	ح	یا	یب	یه	یح
ثانی الطبقات	ح	یا	یب	یه	یح	یط	کب	که
ثالث الطبقات	یه	یح	یط	کب	که	کو	کط	لب
رابع الطبقات	ه	ح	ط	یب	یه	یو	یط	کب
خامس الطبقات	یب	یه	یو	یط	کب	کج	کو	کط
سادس الطبقات	ب	ه	و	ط	یب	یج	یو	یط
سابع الطبقات	ط	یب	یج	یو	یط	ک	کج	کو
ثامن الطبقات	یو	یط	ک	کج	کو	کز	ل	لج
تاسع الطبقات	و	ط	ی	یج	یو	یز	ک	کج
عاشر الطبقات	یج	یو	یز	ک	کج	ک	کز	ل
حادی عشر الطبقات	ج	و	ز	ی	یب	ید	یز	ک
ثانی عشر الطبقات	ی	یج	ید	یز	ک	کا	کا	کز
ثالث عشر الطبقات	یز	ک	کا	کا	کز	کح	لا	لا
رابع عشر الطبقات	ز	ی	یا	ید	یز	یح	کا	کا
خامس عشر الطبقات	ید	یز	یح	کا	کا	ک	کح	لا
سادس عشر الطبقات	د	ز	ح	یا	ید	یه	یح	کا
سابع عشر الطبقات	یا	ید	یه	یح	کا	کب	ک	کح

ادوار ابوسليك

(ص ٢٤ ب)

اول	الطبقات	ا	ب	ه	ح	ط	يب	يه	يج
ثاني	الطبقات	ح	ط	يب	يه	يو	يط	كب	كه
ثالث	الطبقات	يه	يو	يط	كب	كج	كو	كط	كب
رابع	الطبقات	ه	و	ط	يب	يج	يو	يط	كب
خامس	الطبقات	يب	يج	يو	يط	ك	كج	كو	كط
سادس	الطبقات	ب	ج	و	ط	ي	يب	يو	يط
سابع	الطبقات	ط	ي	يج	يو	يز	ك	كج	كو
ثامن	الطبقات	يو	يز	ك	كج	كد	كز	ل	لب
تاسع	الطبقات	و	ز	ي	يج	يد	يز	ك	كج
عاشر	الطبقات	يج	يد	يز	ك	كا	كد	كز	ل
حادي عشر	الطبقات	ج	د	ز	ي	يا	يد	يز	ك
ثاني عشر	الطبقات	ي	يا	يد	يز	يج	كا	كد	كز
ثالث عشر	الطبقات	يز	يج	كا	كد	كه	كح	لا	لد
رابع عشر	الطبقات	ز	ح	يا	يد	يه	يج	كا	كد
خامس عشر	الطبقات	يد	يه	يج	كا	كب	كه	كح	لا
سادس عشر	الطبقات	د	ه	ح	يا	يب	يه	يج	كا
سابع عشر	الطبقات	يا	يب	يه	يج	يط	كب	كه	كح

ادوار راست							(ص ۲۵ ب)
ا	ر	و	ح	یا	یج	یه	اول الطبقات
ح	یا	یج	یه	یح	ک	کب	ثانی الطبقات
یه	یح	ک	کب	که	کز	کظ	ثالث الطبقات
ه	ح	ی	یب	یه	یز	یط	رابع الطبقات
یب	یه	یز	یط	کب	کد	کو	خامس الطبقات
ب	ه	ز	ط	یب	ید	بو	سادس الطبقات
ط	یب	ید	بو	یط	کا	کج	سابع الطبقات
یو	یط	کا	کج	کو	کح	ل	ثامن الطبقات
و	ط	یا	یج	یو	یح	ک	تاسع الطبقات
یج	یو	یح	ک	کج	که	کز	عاشر الطبقات
ج	و	ح	ی	یج	یه	یز	حادی عشر الطبقات
ی	یج	یه	یز	ک	کب	کد	ثانی عشر الطبقات
یز	ک	کب	کد	کز	کظ	لا	ثالث عشر الطبقات
ز	ی	یب	ید	یز	یط	کا	رابع عشر الطبقات
ید	یز	یط	کا	کد	کو	کح	خامس عشر الطبقات
ر	ز	ط	یا	ید	بو	یح	سادس عشر الطبقات
یا	ید	بو	یح	کا	کج	که	سابع عشر الطبقات

ادوار عراق

اول الطبقات	ا	ج	و	ح	ى	يج	يه	يز	يج
ثاني الطبقات	ح	ى	يج	يه	يز	ك	كب	كد	كه
ثالث الطبقات	يه	يز	ك	كب	كد	كز	كط	لا	لب
رابع الطبقات	ه	ز	ى	يب	يد	يز	يط	كا	كب
خامس الطبقات	يب	يد	يز	يط	كا	كد	كو	كح	كط
سادس الطبقات	ب	د	ز	ط	يا	يد	يو	بيح	يط
سابع الطبقات	ط	يا	يد	يو	بيح	كا	كج	كه	كو
ثامن الطبقات	يو	بيح	كا	كج	كه	كح	ل	لب	لج
تاسع الطبقات	و	ح	يا	يج	يه	بيح	ك	كب	كج
عاشر الطبقات	يج	يه	بيح	ك	كب	كه	كز	كط	ل
حادي عشر الطبقات	ج	ه	ح	ى	يب	يه	يز	يط	ك
ثاني عشر الطبقات	ى	يب	يه	يز	يط	كب	كد	كو	كز
ثالث عشر الطبقات	يز	يط	كب	كد	كو	كط	لا	لج	لد
رابع عشر الطبقات	ز	ط	يب	يد	يو	يط	كا	كج	كد
خامس عشر الطبقات	يد	يو	يط	كا	كج	كو	كح	ل	لا
سادس عشر الطبقات	د	و	ط	يا	يج	يو	بيح	ك	كا
سابع عشر الطبقات	يا	يج	يو	بيح	ك	كج	كه	كز	كح

ادوار اصفهان

(ص ٢٩ ب)

اول	الطبقات	ا	د	و	ح	يا	يج	به	يز	يج
ثاني	الطبقات	ح	يا	يج	يه	يج	يه	ك	ك	كه
ثالث	الطبقات	يه	يج	ك	كب	كه	كز	كط	لا	لب
رابع	الطبقات	ه	ح	ى	يب	يه	يز	يط	كا	كب
خامس	الطبقات	يب	يه	يز	يط	كب	كد	كو	كح	كط
سادس	الطبقات	ب	ه	ز	ط	يب	يد	يو	يج	يط
سابع	الطبقات	ط	يب	يد	يو	يط	كا	كج	كه	كو
ثامن	الطبقات	يو	يط	كا	كج	كو	كح	ل	لب	لج
تاسع	الطبقات	و	ط	يا	يج	يو	يج	ك	كب	كج
عاشر	الطبقات	يج	يو	يج	ك	كج	كه	كز	كط	ل
حادى عشر	الطبقات	ج	و	ح	ى	يج	يه	يز	يط	ك
ثانى عشر	الطبقات	ى	يج	يه	يز	ك	كب	كد	كو	كز
ثالث عشر	الطبقات	يز	ك	كب	كد	كز	كط	لا	لج	لد
رابع عشر	الطبقات	ز	ى	يب	يد	يز	يط	كا	كج	كد
خامس عشر	الطبقات	يد	يز	يط	كا	كد	كو	كح	ل	لا
سادس عشر	الطبقات	د	ز	ط	يا	يد	يو	يج	ك	كا
سابع عشر	الطبقات	يا	يد	يو	يج	كا	كج	كه	كز	كح

ادوار زیرافکند

(ص ٢٨)

اول	الطبقات	ا	ج	ه	ح	ی	یب	یج	یو	یح
ثانی	الطبقات	ح	ی	یب	یه	یز	یط	ک	کج	که
ثالث	الطبقات	یه	یز	یط	کب	کد	کو	کز	ل	لب
رابع	الطبقات	ه	ز	ط	یب	ید	یو	یز	ک	کب
خامس	الطبقات	یب	ید	یو	یط	کا	کج	کد	کز	کط
سادس	الطبقات	ب	د	و	ط	یا	یج	ید	یز	یط
سابع	الطبقات	ط	یا	یج	یو	یح	ک	کا	کد	کو
ثامن	الطبقات	یو	یح	ک	کج	که	کز	کح	لا	لج
تاسع	الطبقات	و	ح	ی	یج	یه	یز	یح	کا	کج
عاشر	الطبقات	یج	یه	یز	ک	کب	کد	که	کح	ل
حادی عشر	الطبقات	ج	ه	ز	ی	یب	ید	یه	یح	ک
ثانی عشر	الطبقات	ی	یب	ید	یز	یط	کا	کب	که	کز
ثالث عشر	الطبقات	یز	یط	کا	کد	کو	کح	کط	لب	لد
رابع عشر	الطبقات	ز	ط	یا	ید	یو	یح	یط	کب	کد
خامس عشر	الطبقات	ید	یو	یح	کا	کج	که	کو	کط	لا
سادس عشر	الطبقات	د	و	ح	یا	یج	یه	یو	یط	کا
سابع عشر	الطبقات	یا	یج	یه	یح	ک	کب	کج	کو	کح

اول الطبقات	ا	ج	و	ح	ی	یا	ید	یو	یح
ثانی الطبقات	ح	ی	یج	یه	یز	یح	کا	کچ	که
ثالث الطبقات	یه	یز	ک	کب	کد	که	کح	ل	لب
رابع الطبقات	ه	ز	ی	یب	ید	یه	یح	ک	کب
خامس الطبقات	یب	ید	یز	یط	کا	کب	که	کز	کط
سادس الطبقات	ب	ر	ز	ط	یا	یب	یه	یز	یط
سابع الطبقات	ط	یا	ید	یو	یح	یط	کب	کد	کو
ثامن الطبقات	یو	یح	کا	کچ	که	کو	کط	لا	لج
تاسع الطبقات	و	ح	یا	یج	یه	یو	یط	کا	کچ
عاشر الطبقات	یج	یه	یح	ک	کب	کچ	کو	کح	ل
حادی عشر الطبقات	ج	ه	ح	ی	یب	یج	یو	یح	ک
ثانی عشر الطبقات	ی	یب	یه	یز	یط	ک	کچ	که	کز
ثالث عشر الطبقات	یز	یط	کب	کد	کو	کز	ل	لب	لد
رابع عشر الطبقات	ز	ط	یب	ید	یو	یز	ک	کب	کد
خامس عشر الطبقات	ید	یو	یط	کا	کچ	کد	کز	کط	لا
سادس عشر الطبقات	ر	و	ط	یا	یج	ید	یز	یط	کا
سابع عشر الطبقات	یا	یج	یو	یح	ک	کا	کد	کو	کح

اول الطبقات	ا	و	ح	ی	یج	یه	یح
ثانی الطبقات	ح	یا	یج	یه	یز	کب	که
ثالث الطبقات	یه	یح	ک	کب	کد	کز	کط
رابع الطبقات	ه	ح	ی	یب	ید	یز	یط
خامس الطبقات	یب	یه	یز	یط	کا	کد	کو
سادس الطبقات	ب	ه	ز	ط	یا	ید	یو
سابع الطبقات	ط	یب	ید	یو	یح	کا	کج
ثامن الطبقات	یو	یط	کا	کب	که	کح	ل
تاسع الطبقات	و	ط	یا	یج	یه	یح	کج
عاشر الطبقات	یج	یو	یح	ک	کب	که	کز
حادی عشر الطبقات	ج	و	ح	ی	یب	یه	یز
ثانی عشر الطبقات	ی	یج	یه	یز	یط	کب	کد
ثالث عشر الطبقات	یز	ک	کب	کد	کو	کط	لا
رابع عشر الطبقات	ز	ی	یب	ید	یو	یط	کا
خامس عشر الطبقات	ید	یز	یط	کا	کج	کو	کح
سادس عشر الطبقات	د	ز	ط	یا	یج	یو	یح
سابع عشر الطبقات	یا	ید	یو	یح	ک	کج	که

ادوار راهوی

(ص ۲۷)

اول الطبقات	ا	ج	و	ح	ی	یب	یه	یح
ثانی الطبقات	ح	ی	یج	یه	یز	یط	کب	که
ثالث الطبقات	یه	یز	ک	کب	کد	کو	کط	لب
رابع الطبقات	ه	ز	ی	یب	ید	یو	یط	کب
خامس الطبقات	یب	ید	یز	یط	کا	کج	کو	کط
سادس الطبقات	ب	د	ز	ط	یا	یج	یو	یط
سابع الطبقات	ط	یا	ید	یو	یح	ک	کج	کو
ثامن الطبقات	یو	یح	کا	کج	که	کز	ل	لج
تاسع الطبقات	و	ح	یا	یج	یه	یز	ک	کج
عاشر الطبقات	یج	یه	یح	ک	کب	کد	کز	ل
حادی عشر الطبقات	ج	ه	ح	ی	یب	ید	یز	ک
ثانی عشر الطبقات	ی	یب	یه	یز	یط	کا	کد	کز
ثالث عشر الطبقات	یز	یط	کب	کد	کو	کح	لا	لد
رابع عشر الطبقات	ز	ط	یب	ید	یو	یح	کا	کد
خامس عشر الطبقات	ید	یو	یط	کا	کج	که	کح	لا
سادس عشر الطبقات	د	و	ط	یا	یج	یه	یح	کا
سابع عشر الطبقات	یا	یج	یو	یح	ک	کب	که	کح

ادوار حسینی

اول الطبقات	ا	ج	ه	ح	ی	یب	یه	یح
ثانی الطبقات	ح	ی	یب	یه	یز	یط	کب	که
ثالث الطبقات	یه	یز	یط	کب	کد	کو	کط	لب
رابع الطبقات	ه	ز	ط	یب	ید	یو	یط	کب
خامس الطبقات	یب	ید	یو	یط	کا	کج	کو	کط
سادس الطبقات	ب	ر	و	ط	یا	یج	یو	یط
سابع الطبقات	ط	یا	یج	یو	یح	ک	کج	کو
ثامن الطبقات	یو	یح	ک	کج	که	کز	ل	لج
تاسع الطبقات	و	ح	ی	یج	یه	یز	ک	کج
عاشر الطبقات	یج	یه	یز	ک	کب	کد	کز	ل
حادی عشر الطبقات	ج	ه	ز	ی	یب	ید	یز	ک
ثانی عشر الطبقات	ی	یب	ید	یز	یط	کا	کد	کز
ثالث عشر الطبقات	یز	یط	کا	کد	کو	کج	لا	لد
رابع عشر الطبقات	ز	ط	یا	ید	یو	یح	کا	کد
خامس عشر الطبقات	ید	یو	یح	کا	کج	که	کج	لا
سادس عشر الطبقات	ر	و	ح	یا	یج	یه	یح	کا
سابع عشر الطبقات	یا	یج	یه	یح	ک	کب	که	کج

ادوار حجازی

اول الطبقات	ا	ح	ه	ح	ی	یج	یه	یح
ثانی الطبقات	ح	ی	یب	یه	یز	ک	کب	که
ثالث الطبقات	یه	یز	یط	کب	کد	کز	کط	لب
رابع الطبقات	ه	ز	ط	یب	ید	یز	یط	کب
خامس الطبقات	یب	ید	یو	یط	کا	کد	کو	کط
سادس الطبقات	ب	ر	و	ط	یا	ید	یو	یط
سابع الطبقات	ط	یا	یج	یو	یح	کا	کج	کو
ثامن الطبقات	یو	یح	ک	کج	که	کح	ل	لج
تاسع الطبقات	و	ح	ی	یج	یه	یح	ک	کج
عاشر الطبقات	یج	یه	یز	ک	کب	که	کز	ل
حادی عشر الطبقات	ج	ه	ز	ی	یب	یه	یز	ک
ثانی عشر الطبقات	ی	یب	ید	یز	یط	کب	کد	کز
ثالث عشر الطبقات	یز	یط	کا	کد	کو	کط	لا	لد
رابع عشر الطبقات	ز	ط	یا	ید	یو	یط	کا	کد
خامس عشر الطبقات	ید	یو	یح	کا	کج	کو	کح	لا
سادس عشر الطبقات	ر	و	ح	یا	یج	یو	یح	کا
سابع عشر الطبقات	یا	یج	یه	یح	ک	کج	که	کح

في الاصطحاب^(١) الغير المعهود .

وان^(٢) جعل مطلق المثلث مساويا لنخمة /ز/ التي هي بنصر البم ،

وكذلك بواقى الاوتار ، كل واحد لينصر الاعلى ، تعذر على من لا

مكنة له استخراج الادوار منها ، الا على المتمكن . فانه متى عرف

اماكن النخمت و كان له مكنة السرعة في الانتقال^(٣) لا يتعذر عليه

ذلك . وكذلك اذا جعل مطلق كل وتر مساويا لوسطى زلزل ما

فوقه^(٤) او وسطى الفرس .^(٥)

ولنبين كيفية استخراج دور من الادوار على اصطحاب^(٦) وسطى

الفرس . فنقول اذا اردنا استخراج^(٧) دور راست ، وصار^(٨) مطلق كل

وتر مساويا لوسطى الفرس مما فوقه^(٩) ، فانا نجس مطلق البم ثم

سببته ، ثم زائد المثلث وسببته ، ثم مجنب المشنى ، ثم مطلق

الزير ومجنبيه ، ثم زائد الحاد .^(١٠) وعلى هذا فقس البواقى .

- ١ . ١ . ب : اصطحاب .
 ١ . ٢ : اعلم انه ان .
 ١ . ٣ : الانتقالات .
 ١ . ٤ : لوسطى زلزل . ب : لوسطى زلزل الاعلى .
 ١ . ٥ : لوسطى الفرس .
 ١ . ٦ : اصطحاب .
 ١ . ٧ : زيادة من ج .
 ١ . ٨ : زيادة من ب .
 ١ . ٩ : ب : لوسطى فرس الاعلى .
 ١ . ١٠ : ا : مطلق البم / ا / ثم سببته / د /
 ثم زائد المثلث / ط / وسببته / يا / ثم مجنب المشنى / يز / ثم مطلق
 الزير / كب / ومجنبيه / كد / ثم زائد الحاد / ل / .

فان كان كل وتر مطلقه (١) مساويا (٢) لزلزل الاعلى ، و اردنا (ص ٣٠ ب)

استخراج دور راست ، فانا نجس مطلق البم ثم سبائته ووسطى زلزله -
او مطلق المثلث عوضا عن الزلزل - ثم مجنب المثلث ، ثم مطلق المثنى
ثم مجنبه ثم وسطى فرسه ، ثم مجنب الزير .

وان قد علم (٣) ذلك فحينئذ يمكن ان لا يصطخب (٤) الوتر اصلا ، بل

ينظر (٥) الى طبقات النغمات ، فان كان الجميع (٦) في طبقة واحدة فليجعل (٧)

حكمها حكم الوتر الواحد ، وان كانت مختلفة فليتنظر (٨) نسبتها واين

انتقلت النغمات فينتقل (٩) بحسب مواضعها .

ولنمثل لذلك اصطحابا (١٠) مجهولا على غير نظام . وليكن مطلق المثلث

مساويا لبصر البم ، ومطلق المثنى لزلزل المثلث ، ومطلق الزير لغرس المثنى ،

ومطلق الحاد لسبابة الزير . وان (١١) اردنا استخراج دور ما (١٢) وليكن

راست ، فانا نجس مطلق البم ثم سبائته وزلزله ، ثم زائد المثلث

و (١٣) وسطى فرسه ، ثم زائد المثنى وسبائته ، ثم مجنب الزير ، ثم يعود

الدور . وان قد (١٤) علم ذلك فلنذكر طرفا من علم الايقاع .

-
- | | |
|---|-----------------|
| ١ . ب : مطلقها . ج : مطلق كل وتر . ١ . ٢ : مساو . | ١٠ . ١٢ : دور . |
| ٢ . ب : علمت . | ١٠ . ١٤ : وقد . |
| ٣ . ب : علمت . | |
| ٤ . ب : علمت . | |
| ٥ . ١ : نظير . | |
| ٦ . ١ : الجمع . | |
| ٧ . ١ : فلنجمع . | |
| ٨ . ١ : فلننظر . | |
| ٩ . ١ : فننتقل . | |
| ١٠ . ١ : اصطحابا . | |
| ١١ . سقطت من ب ج . | |
| ١٢ . ج : دور . | |
| ١٣ . ج : ثم . | |

(١) في الايقاع .

الايقاع جماعة^(٢) نقرات بينها ازمنة محدودة المقادير لها ادوارمتساوية^(٣) الكمية على اوضاع مخصوصة يدرك^(٤) تساوى تلك الازمنةوالادوار بميزان الطبع السليم المستقيم .^(٥) وكما ان ادوار^(٦) عروض الشعر

متفاوتة الاوضاع مختلفة الاوزان لا يفتقر الطبع السليم في ادراك تساوى

ادوار كل نوع^(٧) منها الى ميزان العروض ،^(٨) كذلك لا يفتقر الطبعالسليم^(٩) في ادراك تساوى ازمنة كل دور^(١٠) من ادوار الايقاع الى ميزانيدرك به ذلك ،^(١١) بل هو غريزة قد جبل عليها الطبع السليم . وتلكالغريزة للبعض دون البعض ، وقد لا يحصل بكد واجتهاد . كيف^(١٢) لا ،وقد شاهدنا جماعة قد تبتلوا^(١٣) لمعرفة هذا الفن - اعنى الايقاع -وجدوا واجتهدوا ، واجتهد معلمهم غاية الاجتهاد ،^(١٤) زمانا وافرا من(ص ٣١ ب) العمر على ان يتعلموا ذلك^(١٥) ويصير ملكة لهم بكثرة

١٠١ : في ادوار الايقاع .

٢ . ب : الايقاع هن جماعة .

١٠٣ ج : مساويات .

٤ . ا : يدك .

١٠٥ : الطبع السليم . وفي الحاشية : المستقيم . ب : الطبع المستقيم .

٦ . سقطت من ج .

٧ . ب : كل نوع نوع .

٨ . ج : لا يفتقر الطبع السليم فيها الى ميزان العروض .

٩ . ج : كذلك لا يفتقر . ويزيد المشرح : صاحب الطبع السليم .

١٠ . ب : كل دور دور .

١١ . ا : تدرك به ذلك . ب : يدرك به .

١٢ . ج : وكيف .

١٣ . ب : بتتلوا . ج : شغفوا .

١٤ . ب . وجدوا واجتهد معلمهم غاية الاجتهاد . ج . وجدوا واجتهدوا غاية الاجتهاد .

١٥ . ج . يتعلموا بذلك .

الادمان ، فلم يجد^(١) عليهم الا التعب ، اللهم الا نادرا - مع ان المجتمع

منهم تراه عالما بالعلوم الدقيقة ،^(٢) سريع الهجوم على ادراك الحقائق .

فلنورد منها طرفا . فنقول انت يمكنك ان تلفظ باسباب ثقال على

التتالي حافظا لتساوي الازمنة ، وتقرن بكل حركة حركة من الاسباب

نقرة نقرة حال التلفظ بها معا ،^(٣) كقولك تنّ تنّ تنّ تنّ . ويمكنك

ايضا ان تلفظ^(٤) بجماعة اسباب خفاف على التتالي وتقرن بتاء كل سبب

منها نقرة نقرة دون نونها الساكنة^(٥) كقولك تنّ تنّ تنّ تنّ .

ويمكنك ايضا ان تلفظ^(٤) بجماعة اوتاد^(٧) على التتالي وتقرن بتاء كل وتد

منها نقرة دون الآخرين ،^(٨) كقولك تنسن تنسن . ويمكنك ان تلفظ^(٤)

بجماعة فواصل صغرى على التتالي وتقرن بكل اول حركة منها نقرة دون

الحركات الاخر منها ، كقولك تنسنن تنسنن . وليكن (ص ٣٤) تلفظك

ونقراتك^(٩) معتدلا^(١٠) بين السريع والبطيء .

وانت تعلم ان ازمنة ما بين نقرات الاسباب الثقال اقصر من

ازمنة ما بين نقرات الاسباب الخفاف . وازمنة ما بين نقرات الاوتاد

١ . ب : وتصير ملكة لهم بكثرة الادمان فلم نجد . ج : ويصير لهم ملكة فلم نجد .

٢ . ج : الدقيق . ٣ . سقطت من ج .

٤ . ج : تلفظ . ٥ . ب : منها نقرة .

٦ . ب ج : الساكن ٧ . ا : اوتاد مجموعة .

٨ . زيادة من ا ب : من حركتيهما . زيادة من د : بينهما حركتا النونين لانهم

لا يقرنون بين النون الساكنة والمحركة لتساوي زمانى حركتيهما .

٩ . ب : نقرتك . ١٠ . زيادة من د : وهذا الاعتدال

يادرك بالطبع المستقيم .

اقصر من ازمنة ما بين نقرات الفواصل ، واطول من ازمنة ما بين

نقرات الاسباب الخفاف . فلنسم الازمنة التي بين نقرات الاسباب الثقال

زمان / ا / ، والخفاف ^(١) / ب / ، وازمنة ^(٢) ما بين نقرات الاوتاد ^(٣) / ج / ،

والفواصل / د / . وزمان ^(٤) ما تلفظ ^(٥) فيه بثمانية اسباب ثقال ^(٦) مثلا

مساو لزمان ^(٧) ما تلفظ ^(٨) فيه بربع فواصل ، ان لو فرض اثنان ، احدهما

لافظ بالاسباب الثقال ^(٩) والآخر بالفواصل ، مبتدئين معا حافظين لنسبة

الازمنة بالطبع ، واراها اعادة الدور ، وقعت نقرتا دوريهما الثاني معا .

وكذلك زمان ما تلفظ ^(١٠) فيه بربعة اوتاد وفاصلة واحدة مساو لزمان

ما تلفظ ^(١١) فيه بربع فواصل او ثمانية اسباب .

وانا ادرج (ص ٣٢ ب) الالفاظ بالاسباب الثقال نقراته المقرونة

بنونات اسبابه صار كل زمانين من ازمنة / ا / مع زمان النقرة المدرجة

واحدا مساويا لزمان / ب / . وكذلك اذا ادرج الالفاظ بالاسباب الخفاف

من ^(١٢) بين كل نقرتين نقرتين نقرة نقرة صار ^(١٣) كل زمانين من

-
- | | |
|---------------------------|---------------------|
| ١ . زيادة من ا : زمان . | ٢ . ا : زمان . |
| ٣ . زيادة من ا : مجموعة . | ٤ . ب : فزمان . |
| ٥ . ب ج : يتلفظ . | ٦ . ب : ثقال ثقال . |
| ٧ . ج : كزمان . | ٨ . ج : يتلفظ . |
| ٩ . زيادة من ب . | ١٠ . ا : يلفظ . |
| ١١ . ا ب : يلفظ . | ١٢ . سقطت من ب . |
| ١٣ . ج : كان . | |

ازمنة /ب/ مع زمان النقرة المدرجة واحدا مساويا لزمان /د/ . (١)

وكذلك اذا درج الالفاظ بالاوتاد من بين كل نقرتين نقرتين من نقراته

نقرة نقرة (٢) صار كل زمانين من ازمنة /ج/ مع زمان النقرة المدرجة

واحدا زائدا على زمان /د/ بمقدار زمان /ب/ ،⁺ لانه يكون قد تلفظ

فيما بين النقرتين بثلاثة احرف متحركة وحرفين ساكنين ، والثلاثة

مع الساكن زمانها /د/ و زمان الساكن الآخر /ب/ . (٣) +

وان قد (٤) عرفت ذلك فاعلم ان ادوار الضروب المشهورة عند ارباب

هذه (٥) الصناعة (٦) من العرب ستة ، (٧) وهى الثقيل الاول ، والثقيل الثانى ،

وخفيف الثقيل ، والرمل ، وخفيف الرمل ، والمهزج .

فاما الثقيل الاول فزمان كل دور من ادواره بازاء ما تلفظ (٨) فيه

بثمانية (٩) اسباب ثقال ، فيكون حينئذ عدد (١٠) (ص ٢٣) نقراته ستة عشر ،

الا انهم يسقطون منها احدى عشرة (١١) نقرة يجعلونها ازمنة مضافة الى

ازمنة /ا/ . فلنجعل عوضا عن الاسباب الثمانية وتدين وفاصلتين وسببا

خفيفا ، ونقرن (١٢) باول كل حركة منها نقرة نقرة على هذا الوضع :

- | | |
|-------------------------------|---|
| ١.٠١ : /ج/ . | ١.٠٢ : . . نقرتين من نقراته — . |
| ١.٠٤ : اذا . | ١.٠٣ : . . نقرتين نقرة نقرة من نقراته . |
| ١.٠٦ : زيادة من ج : العملية . | ١.٠٥ : سقطت من ج . |
| ١.٠٨ : يلفظ . | ١.٠٧ : ب : هى ستة . |
| ١.١٠ : سقطت من ب . | ١.٠٩ : ثمانية . |
| ١.١٢ : تقرن . | ١.١١ : ج : احد عشر . ب : احدى عشر . |

تنن تنن تننن تن تننن

٢ ٢ ٢ ٢ ٢

وليكن علامة المتحرك /م/ ، والساكن والمتحرك (١) الذي لا نقرة معه (٢)

متروكا ، ان ترك العلامة علامة . وزمان (٣) ما بين نقرته الاولى

والثانية مساو لزمان ما بين نقرته الثانية والثالثة ، ان كل واحد

منهما زمان /ج/ . وزمان ما بين نقرته الثالثة والرابعة مساو

لزمان ما بين نقرته الخامسة والاولى لمن اعاد الدور ،⁺ ان كلاهما

زمان /د/ .⁺ (٤) وزمان ما بين النقرة (٥) الرابعة والخامسة هو (٦) زمان

/ب/ ، وليس في الدور له (٧) مساو . فقد وجدنا (٨) في هذه الدائرة الازمنة

الثلاثة ، وهي ازمنة /ب ج د/ . والموقع ربما قرن بكل حركة من

حركات الاوتاد والاسباب والفواصل ، ما عدا السواكن ، نقرة نقرة .

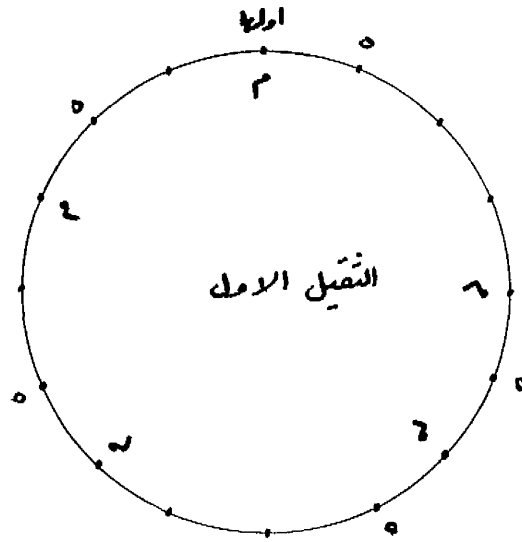
فالخمس (ص ٣٣ب) الاولى (٩) هي اعمدة الحركات ، والخمس السواكن هي اعمدة

السكنات. (١٠) والباقي (١١) ان شئت قرنت وان شئت ادرجت . ومنهم من

يقرن بكل دور نقرتين ويدرج الباقي ، ويسميه ضرب الاصل ، وهي الثالثة (١٢)

-
- | | |
|--------------------|---|
| ١ . سقطت من ا ب . | ٢ . ب : معها . |
| ٣ . ب : فزمان . | ٤ . + سقطت من ا . ج : لان كل واحد منها زمان /د/ . |
| ٥ . سقطت من ج . | ٦ . ا : وهو . |
| ٧ . ا ب ج : لها . | ٨ . ا : وجد . |
| ٩ . ا : الاول . | ١٠ . ج : السواكن . زيادة من حاشية ب : وتسمى بالمدرجات . |
| ١١ . ب : البواقي . | ١٢ . ا : ثالثة . |

والخامسة من النقرات الخمسة المذكورة . ومنهم من يقرن بثالث حركات
 الفاصلة الاولى نقرة وباول الفاصلة الاخيرة نقرة ، ويجعل الباقي زمانا
 (مضافا الى زمان / /) . وقد مثلنا لذلك (١) دائرة :

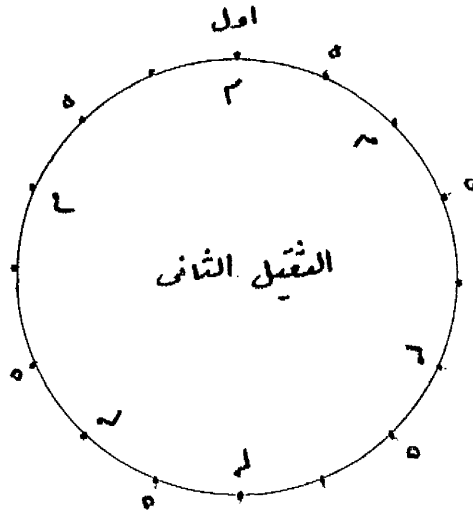


واما الثقل الثاني فان زمان كل دور منه (٢) مساو لزمان دور
 الثقل الاول ، الا ان الموقع يسقط من نقراته (٣) عشرة ويأتي بستة ، وهي
 الاولى والرابعة والسابعة والتاسعة والثانية عشرة (٤) والخامسة عشرة ، مثاله :

تنن تنن تن تنن تنن تن
 ٢ ٢ ٢ ٢ ٢ ٢

-
- ١ . ب : ولنمثل لها .
 - ٢ . ب : منها .
 - ٣ . ا ب : نقراتها .
 - ٤ . ا ب ج : عشر .

فرمان ما بين نقرته^(١) الاولى والثانية وما بين الثانية والثالثة
 متساويان ، ان (ص ٣٥) كل منهما زمان /ج/ . وكذلك زمان^(٢) ما
 بين النقرة الرابعة والخامسة وما بين الخامسة والسادسة . و زمان ما
 بين الثالثة والرابعة والسادسة والاولى في اعادة الدور متساويان ، ان
 كلاهما زمان /ب/ .^(٣) فقد وجدنا في هذه الدائرة اربعة ازمنة على
 نسبة /ج/ وزمانيين من ازمنة /ب/ . فالنقرات الستة المذكورة^(٤) هي اعمدة
 الحركات ، والستة^(٥) السواكن هي اعمدة السككنات . وما يبقى ان شئت ادرجت
 وان شئت لم تدرج . فقد اسقط زمان /د/ في هذه الدائرة . ومنهم من
 يقرن بالتاء الاولى^(٦) من الوند الاول^(٧) نقرة وبالحركة^(٨) الثانية من الوند
 الرابع نقرة ، وهي ضرب اصلها . وهذه دائرتها :^(٩)



- ١ . ١ : نقرة .
 ٢ . ١ : ج : زمانى .
 ٣ . زيادة من ج : وهذه دائرتها .
 ٤ . سقطت من ج .
 ٥ . ج : الست .
 ٦ . ١ : الاول .
 ٧ . ج : الاولى .
 ٨ . ب : وبحركة .
 ٩ . + + + + + سقطت من ج .

واما خفيف الثقيل فزمان دوره ايضا مساو لزمان دور الثقيل الاول ،

الا ان الموقع يدرج (ص ٣٥ ب) منها اربعة ، وهى الثانية والسادسة

والعاشرة والرابعة عشرة ، (١) ويأتى (٢) بالبواقى ، على هذا المثال :

تن تن تن تن تن تن تن تن تن تن تن تن
م م م م م م م م م م م م

وضرب (٣) الاصل منها النقرة الاولى من السبب الاول والاولى (٤) من السبب

السابع (٥) فقد وجد فى هذه الدائرة اربعة ازمونة على نسبة /ب/

وثمانية من ازمونة /ا/ ، وفقد فيها (٦) زمانا /ج/ د/ . (٧)

ومنهم من يقول انه لما كان زمان /د/ مخصوصا بالاول سمي (٨)

الثقيل الاول ، ولما كان زمان (٩) /ج/ فى الثانى دون الثالث سمي

الثقيل الثانى ، وسمى (١٠) الثالث بخفيف (١١) الثقيل لفقدان /د/ فيه . ومنهم

من يقول لا بل دور الثقيل الثانى ثمانية ، وهى تنسن تنسن تن ،

وخفيف الثقيل اربعة ، وهى تن تن تن ، ثم تن تن دائرة ثانية . فعند

القائل بهذا كل دورين من الثانى يقوم مقام دور من الاول ، وكل

دورين من الثالث يقوم مقام دور من الثانى ، فلذلك سمي الاول بالثقيل

١٠٢ : تاتى .

١٠٤ : ب : الاول .

١٠٦ : ب : ج : منه .

١٠٨ : ج : يسمى .

١٠١٠ : يسمى .

١٠١ : ب : عشر .

١٠٣ : الضرب .

١٠٥ : ب : الرابع .

١٠٧ : زمان /ج/ و /د/ .

١٠٩ : زيادة من ا .

١٠١١ : خفيف . ب : بالخفيف .

الاول ، والثانى (ص ٣٦) بالثقل الثانى ، والثالث بخفيف^(١) الثقيل . ومنهم
من يخص الثانى باسم خفيف الثقيل والثالث باسم الثقيل الثانى . وذلك لان
الاصوات والطرائق المصنفة فى الثقيل الثانى ، اذا^(٢) غنى بها ووقع واحد
ايقاعها وآخر^(٣) ايقاع خفيف^(٤) الثقيل ، فانه يسرع فى تتالى النقرات اكثر
من العادة ليلحق الموقع^(٥) ايقاعها ، وان اوقع على عادته^(٦) يحتاج الى^(٧)
ان يثقل الموقع ايقاع الثقيل الثانى اكثر من المعتاد ، فان اسرع موقع
الثقل الثانى^(٨) خلافا لعادته^(٩) فربما^(١٠) وقع لموقع خفيف الثقيل عجز^(١١) عن
لحوق الضرب^(١٢) لشدة^(١٣) سرعته .

وهذه دائرتها :



ومنهم من يسميه الخمس .

- | | | |
|--|---|------------------|
| ١ . ب ج : بالخفيف . | ٢ . ا ب ج : ان . | ٣ . ا : الآخر . |
| ٤ . ب : الخفيف . | ٥ . زيادة من ج : لخفيف الثقيل . (ولكن الموقع هنا موقع | |
| الثقل الثانى .) | ٦ . ا : عادة . | ٧ . زيادة من ا . |
| ٨ . ا ب : فان اسرع فى ايقاعه . | ٩ . + . + . + . + . كذا فى ج وحاشية ب . | |
| ١٠ . ا : ربما وقف الموقع بخفيف الثقيل عجزا . ب وحاشية ج : فربما وقف الموقع | | |
| للخفيف الثقيل عجزا . | ١١ . × . × . × . × . زيادة من ج . | |

واما ثقيل الرمل⁺ فزمان دوره اثنا عشر سببا⁺ (١) فتكون

نقراته (٢) اربعة وعشرين^(٣) فهي (٤) مثل ونصف لزمان الثقيل^(٥) الاول .

الا ان الموقع يجعل زمان^(٦) ما بين نقرته الاولى والثانية (وما

بين الثانية) والثالثة (ص ٣٦ ب) مساويا لزمان / د / ، والبواقي ازمنة

/ ب / . وربما جعل زمان ما بين الدورين ايضا / د / ، على هذا

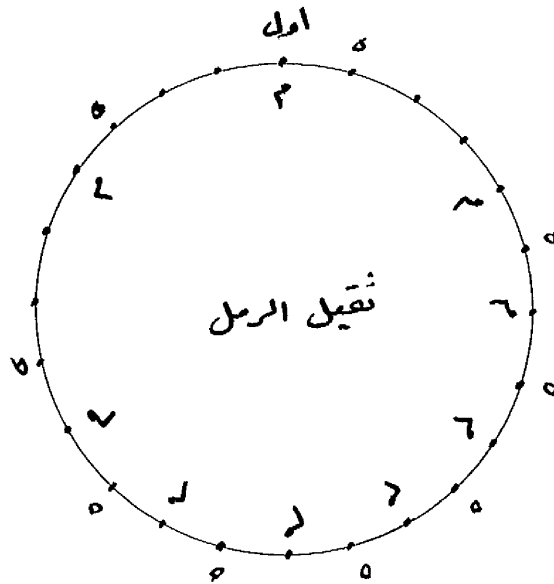
المثال :

(٧)
تننن تننن تن تن تن تن تن تن تن تن تن تن
م م م م م م م م م م

وسائر الحجم يسمون هذا ضرب الاصل ، واكثر مصنفاتهم في هذا الضرب .

وضرب اصله النقرة الاولى من الفاصلة الاولى والاولى من^(٨) السبب السادس .

⁺ وهذه دائرتها :^(٩)



١ سقطت من ج . ٢ . ب ج : فيكون نقراتها .

٣ . ١ : اربعا وعشرين . ج : اربعة وعشرون . ب : وهي .

٥ . ج : زمان للثقيل . ٦ . ج : زمانى .

٧ . ١ : تننن تننن تن تن تن تن تن تن تن تن تن تن .

٨ . ١ : والاوّل عن الفاصلة الثالثة او من . ٩ سقطت من ج .

واما الرمل فزمان دوره اثنتا عشرة^(١) نقرة ، فهي ستة اسباب
يقرن^(٢) باول تاء^(٣) كل سبب نقرة . ومنهم من يدرج نقرة تاء السبب
السادس من الاسباب جاعلا زمان ما بين الدورين زمان / د / ، لئلا
تساوي^(٤) الازمنة فيجهل^(٥) الدور . مثاله :

تن تن تن تن تن تن
م م م م م م
ومثال من يدرج :
تن تن تن تن تن تن
م م م م م م
+ (٦)

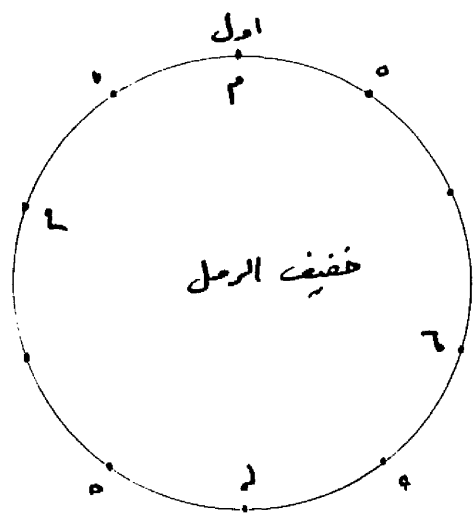
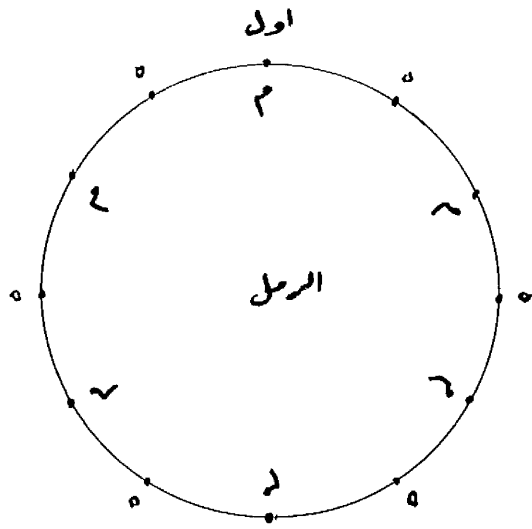
واما ضرب الاصل^(٧) من هذه النقرات الخمس فهو^(٨) الاولى والخامسة ،
فانما اوقعت هاتان النقرتان^(٩) في دور مضاعف^(١٠) الرمل (ص ٣٧) فقط
يسمونه^(١١) المرسل . ومنهم من يقول ان الرمل ايضا زمان دوره^(١٢)
مثل زمان دور الاول ، والاوّل ليس برمّل بل هو^(١٣) المخصوص^(١٤)
بضرب الاصل .

- ١ . ١ : اثنا عشر . ب : اثني عشرة . ج : اثني عشر .
- ٢ . ١ : تقرن .
- ٣ . سقطت من ب .
- ٤ . ب ج : يتساوى .
- ٥ . ج : فتجهل .
- ٦ . + . . . + . سقطت من ا .
- ٧ . ا ب ج : فهي .
- ٨ . ا ب ج : فهي .
- ٩ . ا : فانما وقعت هاتان النقرتان .
- ١٠ . سقطت من ا ب .
- ١١ . ا : يسموه . ج : يسمى .
- ١٢ . ب : دورها .
- ١٣ . ا : الاولى والاولى ليست برمّل .
- ١٤ . ج : الضرب المخصوص .

واما خفيف الرمل فهو (١) من عشرة ، وهي: (٢)

تن تنن تن تنن
م م م م

وهاتان دائرتاهما: (٣)



وضرب اصلها الاولي والرابعة .

- ١ . ب ج : فهي .
- ٢ . سقطت من ا .
- ٣ . ا : وهاتان دائرتاهما . ج : وهذه دائرتها .
- ٤ . ب : ويسمى تركي ضرب .

واما الهزج فزمان دوره مساو لزمان دور الرمل، (١) وهو: (٢)

تننن تنن تنن تن
م م م م

وضرب اصله النقرة الاولى ونون (٤) الوتد الثاني . ومنهم من يقول ان

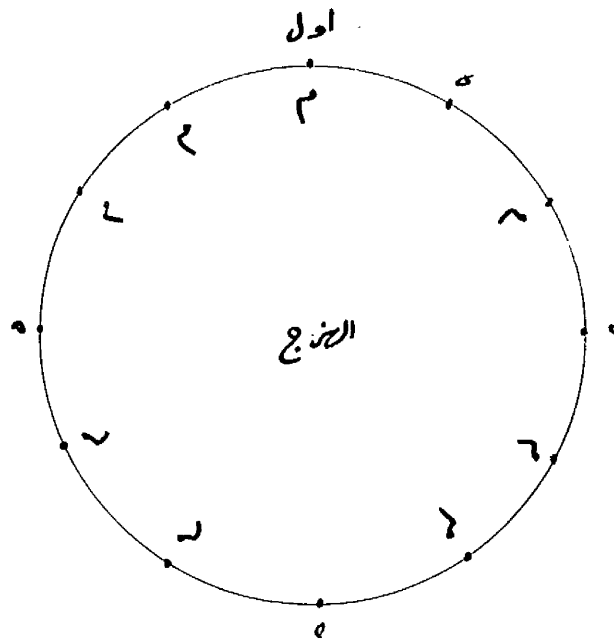
الهزج كل دورين منه (٥) بازاء دور من الرمل ، على هذا الوضع :

تننن تن .

(م م م م)

وضرب اصلها الاولى والرابعة . (٦) وهاتان دائرتها (٧) على الوجهين المذكورين :

(ص ٣٧ ب)

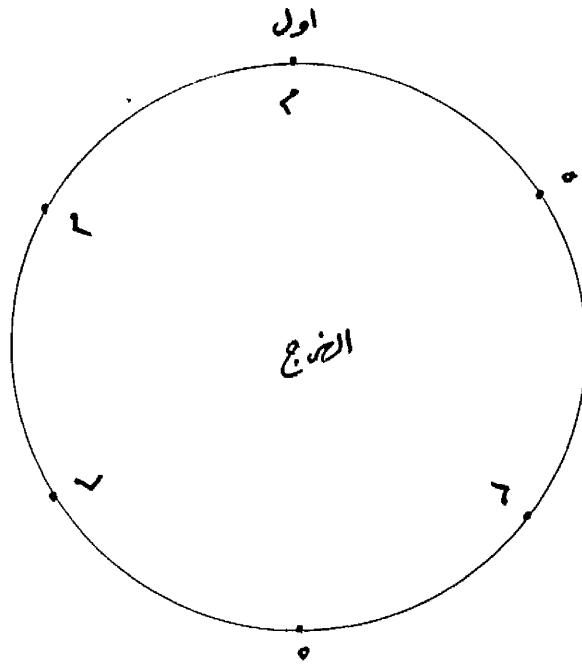


١ . ا ب : لزمان خفيف الرمل . ٢ . ا ب ج : وهي .

٣ . ب : تننن تنن تنن . ٤ . ا : النون .

٥ . ب : منها . ٦ . ا : الخامسة .

٧ . ا ج : وهذه دائرتها . وفي حاشية ج : وهاتان دائرتها .



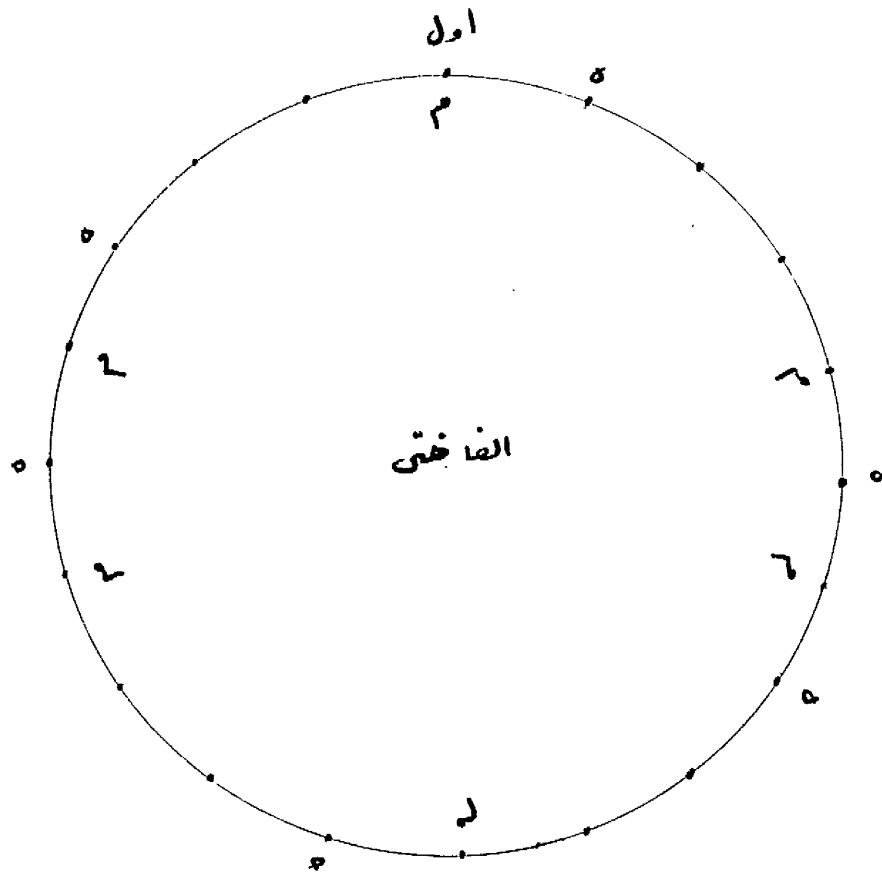
وللمعجم ضرب يسمونه ضرب الفاختى،^(١) وقليلًا ما يصنف في هذا

الضرب.^(٢) وزمان دوره عشرون نقرة على هذا المثال :

تننن تن تننن تننن تن تننن تننن
 ٤ ٤ ٤ ٤ ٤ ٤ ٤

ثم لا يزيدون عدد^(٤) نقراتها على هذا. وهذه^(٥) دائرتها :

-
١. ب: الضرب الفاختى . ج: الفاختى . ٢. زيادة من ا : شىء .
 ٣. ا : تنن تنن تنن تنن تنن تنن تنن . ٤. سقطت من ب .
 ٥. ا : وهذا . ج: فهذه .



فهذه الدوار الايقاعات المشهورة .

الفصل الرابع عشر

في تأثير النخم.

اعلم ان كل شد من الشدود له تأثير في النفس ملذ ، الا انها
مختلفة . (١) فمنها (٢) ما يؤثر قوة وشجاعة (ص ٣٨) وبسطا ، وهي ثلاثة :
عشاق ونوى وابوسليك ، (٣) ولذلك تلائم طباع (٤) الترك والحبشة والزنج
وسكان الجبال .

واما راسد ونوروز وعراق واصفهان فانها تبسط النفس بسطا
لذيذا لطيفا .

واما بزرك وراهوى وزيرافكند وزنكوله وحسينى وحجازى فانها
تؤثر (٥) نوع حزن وفتور .

فينبغى حينئذ (٦) ان يقرن بكل شد من الشدود شعرا (٧) يناسب

ذلك . (٨) فان انشد (٩) مثلا في شد زيرافكند ابياتا تليق بحال الفرحان ،
كقول القائل : (١٠)

وقع الرضا وتيسر الوصل (١١)
بعد القلى وتجمع الشمل

-
- | | |
|-----------------------------------|--------------------------------------|
| ١ . ج : مختلف . | ١ . ٢ : فمته . |
| ١ . ٣ : عشاق وابوسليك ونوا . | ١ . ٤ : وهي تلائم طبائع . ب ج : وذلك |
| ١ . ٥ : يلائم طباع . | ١ . ٥ : تورث . |
| ١ . ٦ : سقطت من ا . | ١ . ٧ : بكل شد ما . |
| ١ . ٨ : زيادة من ج : من الاشعار . | ١ . ٩ : كذا في د . ا ب ج : الناشد . |
| ١ . ١٠ : زيادة من ب : شعر . | ١ . ١١ : ج : الوصل . |

يكون غير لائق بالشد.

وان قد علم ذلك فلنبيين طرفا من العمل ، وليكن طرائق واصواتا

سهلة التناول. (١)

الفصل الخامس عشر

في مباشرة العمل

وانت يمكنك ان تقرن بكل حركة حركة من حركات (ص ٣٨ ب)
 الاسباب والاوراد والفواصل نقرة نقرة بالمضرب على الوتر. وليكن الضرب
 مستديرا بحيث تكون^(١) 'تا' كل سبب نقرتها على الوتر متوجهة الى جهة
 السفلى ، ونونها متوجهة الى جهة^(٢) الفوق . فلنضع الآن بازا^(٣) كل
 نغمة عدد نقراتها بالخط الهندي .

طريقة في^(٤) نوروز في ضرب الرمل

(٥)	يه	يب	ى	يب	ى	ح
	٦	٦	١٢	٦	٦	١٢

الصوت

على صيكم يا حاكمين^(٦) ترفقوا ومن وصلكم يوما عليه تصدقوا
 ولا تلتفوه^(٧) بالصدود فانه يحاذر ان يشكو^(٨) اليكم فتشفقوا

- | | |
|-------------------------|-----------------------------|
| ١.٠ ا ب ج : يكون . | ٢.٠ ا ج : ونونها الى جهة . |
| ب : ونونها متوجهة الى . | ٣.٠ ب ، وفي حاشية ا : تحت . |
| ٤.٠ ا : من . | ٥.٠ ا : يع يه ح ه ج . |
| ٦.٠ ج : حاكمي . | ٧.٠ ب : تلتفوه . |
| ٨.٠ ب ج : يشكوا . | |

على صبكم	يا	حا	كمين	ترف	فـقوا
يه	يب	ى	يب	ى	ح
١٨	٦	٦	٦	٢	١٢
ومن وصلكم	يوما	عليه	تصد	ر	قوا
يه	يب	ى	يب	ى	ح
١٨	٦	٦	٦	٢	١٢
ولا تتفوا	ه	بالص	صدود	فان	نـه
يه	يب	ى	يب	ى	ح
١٨	٦	٦	٦	٢	١٢
يحاندر ان	يشكو	اليكم	فتش	فـقوا	
يه	يب	ى	يب	ى	ح
١٨	٦	٦	٦	٢	١٢

(ص ٣٩) وانت^(١) يمكنك ان تضرب هذا الصوت بعينه فى حجازى بان

تاخذ نغمة /يج/ عوضا عن نغمة /يب/ ^(٢) والباقى على حالها ، والالفاظ

والنقرات كما هى . ويمكنك^(٣) ان تضرب هذا الصوت بعينه فى راست

بان تاخذ /يج يا/ عوضا عن /يب ي/ . ^(٥) ويمكنك^(٦) ايضا ^(٧) ان تضرب

-
- ١ . سقطت من ج .
 ٢ . ب ج : عوضا عن نغمة /يب/
 ٣ . زيادة من ج : ايضا .
 ٤ . كذا فى ر . ا ج : ان تضربه . ب : ان تضرب هذا .
 ٥ . ا . عوضا عن /يب ي/ /يج يا/ . ا . يمكن . وفى حاشية ا . يمكنك .
 ٧ . زيادة من ج .

هذا ^(١) بعينه ^(٢) في زيرافكند بان تاخذ عوضا عن ^(٣) /يه/ /يج/ ، والباقي
على حالها. ^(٤)

طريقة في كواشت على ضرب الرمل ايضا ^(٥)

ح	يج	يب	ى	يب	ح	ى	ح	ج	و	ح
٢	٦	٢	٤	٦	٤	٦	٢	٢	٢	١٢

^(٦) +
الصوت

على الهجر لا والله ما انا صابر وغيرى على فقد ^(٧) الاحبة قادر
كتمت هواكم خيفة من عوانلى ولى ولكم عند اللقاء سرائر

على الهجر لا والله ما انا صابر

ح	يج	يب	ى	ح	و	ج	و	ح	يب	ح
١٢	٦	٢	٢	٢	٢	٤	٢	٢	٢	١٢

و غيرى على فقد الا حب بة قا د ر

ج	و	ح	يج	يب	ى	ح	و	ج	و	ح	يب	ى	ح
٢	٤	٦	٦	٢	٢	٢	٢	٤	٢	٢	٤	٢	١٢

١. ج: ان تضربه.
٢. زيادة من ب: ايضا.
٣. زيادة من ب ومن حاشية ا: نغمة.
٤. ا: بحاله. ج: على حاله.
٥. ا: طريقة في الرمل كواشت.
٦. +. +. +. سقطت من ا.
٧. ا: هجر.

(كتمت هـوا كم خيفة من عوا ن لى

ح	يج	يب	ى	ح	و	ج	و	ح	يب	ح
١٢	٦	٢	٢	٢	٢	٤	٢	٢	٢	(١٢)

و لى و لكم عند اللقاء سرا و

ج	و	ح	يج	يب	ى	ح	و	ج	و	ح	يب	ى	ح
٢	٤	٦	٦	٢	٢	٢	٢	٤	٢	٢	٤	٢	١٢

(ص ٣٩ ب) طريقة فى القديم يعرف بمجنب^(١) الرمل

يج	يه	يح	يه	يج	ى	ح	و	ح	ى	ح	و	ى	ح	و	ج	ا
٢	٢	٤	٤	٤	٤	٤	٢	٢	٤	٤	٢	٢	٤	٢	١	٢

طريقة فى القديم ثقيل اول مطلق وهى تسعة ادوار

الاول	ه	ح	ى	يب	ى	ح	ى	يب	ى	ح
	١	١	١	١	١	١	١	١	١	١
الثانى	ج	ه	ح	ى	ح	ه	ح	ى	ح	ه
	١	١	١	١	١	١	١	١	١	١
الثالث	ه	ح	ى	يب	ى	ح	ى	يب	ى	ح
	١	١	١	١	١	١	١	١	١	١
الرابع	ج	ه	ح	ى	ح	ه	ح	ى	ح	ه
	١	١	١	١	١	١	١	١	١	١

الخامس	ا	ج	ا	ج	ه	ح	يجب	يب	ح
	ا	ا	ا	ا	ا	ا	ا	ا	ا
السادس	ا	يه	ج	ي	ا	ي	يب	يه	
	ا	ا	ا	ا	ا	ا	ا	ا	
السابع	ه	يه	يب	ي	ا	يب	ي	ح	
	ا	ا	ا	ا	ا	ا	ا	ا	
الثامن	ا	ج	ا	ج	ه	ح	يجب	يب	ح
	ا	ا	ا	ا	ا	ا	ا	ا	ا
التاسع	ا	يه	يب	ي	يب	ي	ح		
	ا	ا	ا	ا	ا	ا	ا	ا	

ولنكتف بهذا القدر في هذا الفن. (1)

-
١. زيادة من ا: ونختم الكتاب بحمد الله تعالى. ثم في الحاشية: وحده والصلوة على من لا نبي بعده ونستغفر الله تعالى عما يؤدي الى الضلالة.
- زيادة من ب: والله اعلم بالصواب واليه المرجع والمآب وصلى الله على سيدنا محمد وآله الطيبين الطاهرين اجمعين وسلم تسليما كثيرا كثيرا.

A printed edition of the ḍurrat al-tāj exists (ed. Sayyid Muḥammad Mashkūt and Naṣr Allāh Taqwā, Teheran, 1939-46), but the section on music is unfortunately quite unreliable. The following text of the passages translated in chapter 7 (pp. 244-80) is based on three MSS.:

(۱) BM. Add. 7694. Dated 1020/1611. Small but on the whole clear nasta'līq.

The folio numbers given relate to this MS.

(۲) India Office Ethé 2219. Dated 1075/1664. Small, somewhat careless naskhī.

(۳) India Office Ethé 2220. Dated 1177/1764. Clear naskhī.

All variants are given.

قطب‌الدین محمود بن مسعود شیرازی

دره التاج لغره الدباج

فن چهارم از جمله چهارم که در علم ریاضی است

در علم موسیقی است یعنی علم الحان

وآن مشتمل است بر مقدمه و پنج مقالت

مقالت چهارم

و او مشتمل است بر چهار فصل و خاتمه

خاتمه

در مباحث عود و استخراج اجناس از آن

وآن مشتمل است بر یازده مبحث

مبحث هشتم و مبحث نهم

در بیان حقیقت پرده و آواز و ترکیب و شعبه

پرده در استعمال ارباب عمل بحسب استقراء تام عبارت از
 نغماتی بود مرتب بر ترتیبی^(۱) محدود ، چنانکه بعدی شریف غالباً مستغرق
 آن بود ، پس او مرادف جمع باشد. لکن بعضی^(۲) از جموع را ، مثل
 گردانیا و نوروز و محیر و اصفهانک آواز می گویند ، و بعضی را ترکیب ، مانند
 نوع دوم از دور بزرگ ، چه گویند که آن مرکب است از اصفهان
 و بزرگ ، و مانند نوع سیم ، چه گویند که آن مرکب است از حجاز و بزرگ.
 و صاحب شرفیه رحمه الله در ادوار بر ترتیب^(۳) اعتراض کرده است .
 و تقریر آن برین وجه باید کرد ، که در مثال اول گوئیم : اگر آن
 دور را^(۴) بسبب ترکیب از اصفهان ذو الاربع و بزرگ ذو الخمس مرکب
 می خوانند ، پس چرا نگویند که زنگوله مرکب است از عزال و راست ذو
 الاربع ، و اصفهان اصل^(۵) از اصفهان ذو الاربع و راست^(۶) ذو الخمس .
 نه بر آن وجه که او کرده است ، که چرا رهاوی را نگویند که مرکب

- ۱.۱ : بر شتی . ب : ج : بر ترتیبی .
 ۱.۲ : ج : بعضی . ب : بعض .
 ۱.۳ : ج : بر ترتیب . ب : ترتیب .
 ۱.۴ : ج : دور را . ب : دورا .
 ۱.۵ : ج : و اصفهان اصل . ب : در اصفهان اصل .
 ۱.۶ : ب : و راست . ج : راست .

است از نوروز و حجاز ، و زنگوله از حجاز^(۱) و راست ، و اصفهان اصل از اصفهان و راست ، چه اول و دوم باطل است ، چه رهاوی مرکب از نوروز و حجاز نیست ، و نه زنگوله از حجاز^(۲) و راست ، و همچنین ثالث الا آنک باصفهان اصفهان نو الاربع خواهد و بر راست راست نو الخمس .

وما آنچه حق است درین مقام بیان کنیم ان شاء الله تعالی . و گوئیم اگر چه در اصطلاحات مناقشت نیست از^(۳) لا نزاع فی الشهوات ولا مشاحة فی الاصطلاحات ، بل لکل احد ان یسمى ما شاء بما شاء ، اما شبهت نیست در آنک رعایت تناسب در اسامی بحسب^(۴) تناسب مسمیات^(۵) قانون علماست . و یکی از مقتضیات^(۶) این قانون آنک چون

لفظی متواطی بحسب مفهوم کلی خود بر جزئی چند اطلاق کنند ، و جزئی دیگر با آن جزئیات در آن مفهوم کلی مشارک بود ، آن لفظ را بر آن جزئی نیز اطلاق کنند ، و اگر نه تخصیص او بدان جزئیات دون این جزئی بی مخصص بود .^(۷)

و چون این جموع که بعضی را آواز می خوانند و بعضی را^(۸) ترکیب ، و اسم پرده بر آن اطلاق نمی کنند ، با پردها^(۹) در آنک همه نغماتند

- | | |
|---------------------------------------|---------------------------------|
| ۱ . ا ب ج : حجازی . | ۲ . ا ج : حجازی . |
| ۳ . ا ب : از . ج : او . | ۴ . ج + : تناسب در اسامی بحسب . |
| ۵ . ب ج : مسمیات . ا : — . | ۶ . ا : مقیضات . ب : مقیضات . |
| ج : مقیضات . | ۷ . ا ب : مخصص . ج : تخصیص . |
| ۸ . ا : و بعضی از . ب ج : و بعضی را . | ۹ . ا : پردها . ب ج : پردها . |

مرتب بترتیب محدود و بعدی عظیم مستغرق آن مشارک اند ، هیچ^(۱) فارقی
که مانع بود از اطلاق اسم پرده بر آنها معلوم نه .

چه اگر فارق آن گویند که در اصفهانک و نوروز بعدی شریف
مستغرق نعمات نیست ، از جهت طرف بمثل رهاوی^(۲) تمام منقوض^(۳)
بود ، و از جهت عکس بمثل^(۴) گردانیا و محیر نزد ایشان .

و اگر گویند که گردانیا مثلا طبقه است از طبقات اصفهان ، چنانکه
صاحب ادوار گفته است ، گوئیم بوسلیک نیز طبقه است از طبقات
عشاق ، پس آن نیز پرده نبود . و حقیقت این سخن پیش ازین
(ص ۲۳۳) مقرر شد که از آنجا که طبقه از دوری بعینه طبقه
دوری دیگر باشد ، تساوی دورین در مسموع لازم نیاید ، و نه آنکه یکی
فرع دیگری بود .

و اگر گویند که درین آوازاها التزام کرده اند که ابتداء تلهین از
نغمه احد کنند ، در اصفهانک مسلم نبود و همچنین در محیر ، چنانکه
در بعضی از تصانیف صاحب شرفیه توان یافت ، و از جهت طرف بمثل
حسینی و حصار ذو^(۵) الخمس منقوض بود .

۱. ۱. ۱ ب ج : و هیچ .
۱. ۲ ب : راهوی . ج : رهاوی .
۱. ۳ : منقوض . ب ج : منقوض .
۱. ۴ : مثل . ب ج : بمثل .
۱. ۵ : و ذو . ب ج : ذو .

و اگر غیر ازین وجوه (۱) چیزی گویند ، بعد از تحقیق (۲) آن حکم آن (۳)

روشن گردد. (۴) پس اولی بل واجب آن باشد که همه را پرده خوانند ،

و اعتراض صاحب ادوار بحقیقت ساقط است ، چه پیش ازین بیان کردیم که باشد

که چند جمع در یک اسم مشترك باشند و بآتم (۵) و آنقص مختلف ، چنانکه صاحب

شرفیه رحمه الله راست نو الاربع را راست خواند و دور راست را هم راست ،

و همچنین سایر اقسام ده گانه که اولاً در جدول وضع کرده است برین گونه :

اول	ط ط ب	نغمه ا د ز ح	عشاق
الثانی	ط ب ط	نغمه ا د ه ح	نوی
الثالث	ب ط ط	نغمه ا ب ه ح	بوسلیک
الرابع	ط ج ج	نغمه ا د و ح	راست
الخامس	ج ج ط	نغمه ا ج ه ح	نوروز
السادس	ج ط ج	نغمه ا ج و ح	عراق
السابع	ج ج ج ب	نغمه ا ج ه ز ح	اصفهان
الثامن	ج ط ج ج ب	نغمه ا ج و ح ی یا	بزرگ
التاسع	ج ج ب	نغمه ا ج ه و	زیرافکنند
العاشر	ج ج ج	نغمه ا ج ه ز	رهاوی (۶)

۱۰۱ ج : وجوه . ب : — .

۱۰۳ ج : آن . ب : — .

۱۰۵ ب . باتم . ج . یاتم .

۰۲

۱۰۴ : شود . ب ج : گردد .

۱۰۶ . راهوی . ب ج . رهاوی .

وباز همان اقسام را بذو الخمس و^(۱) ذو الاربع تمام کرده وبهمان نام در جدول پردها موسوم کرده. واز صورت نقض^(۲) که ایراد کرده است معلوم می شود که پیش او ذو الخمس احد در زنگوله حجازست و ذو الخمس اثقل در اصفهان راست. وچون حال اسامی برین وجه است، چرا نشاید که تسمیه بهر دو وجه کنند، تا دور زنگوله را هم زنگوله گویند وهم مرکب^(۳) از عزال وراست ذو الاربع، ودور اصفهان اصل را اصفهان اصل گویند و مرکب از اصفهان ذو الاربع وراست ذو الخمس.

پس آنچه صاحب شرفیه در ادوار گفته است: «فالقائل^(۴) بهذا لیتنه لم لا^(۵) يقول ان فلانا^(۶) مرکب من کذا وکذا»،^(۷) فیجیب^(۸) عنه بانه يقول بالترکیب فیما ذکرته، الا انه لا يقول به علی ما قلنا به.^(۹)

واما شعبه نزد ارباب عمل نه است^(۱۰) بحسب مشهور: دوگاه، وسه گاه، وچهارگاه، وپنج گاه، وزاولی، وروی عراق، ومبرقع، ومایه، وشهناز. وحقیقت شعبه هم بحسب استقراء هیئت انتقال بود بر نغمات پرده بر وجهی مخصوص. وبیان این سخن آن است که ارباب صناعت عملی

۱. ب ج: و. ا: — .
 ۲. بعض. ب ج: نقض.
 ۳. راست. ب ج: مرکب.
 ۴. فالقائل. ج: بالقائل.
 ۵. السقه لم لا. ب: البته لم لا. ج: السته لم. ۶. ا ب ج: فلان.
 ۷. ا ب: من کذا وکذا. ج: من کذاکذا.
 ۸. ا: حیجیب. ب: فیجیب.
 ۹. ج: فیجیب.
 ۱۰. حاشیه ب: علی انلرنه به. ج: علی انکرنه به. ا: — .
 ۱۱. ا ب: نه است. ج: نیست.

پیوسته انتقال بر نغمات پرده چنان کنند که موجب ایقاع نغمه معین

بود ، چنانکه در مبحث ششم اشارتی بدان رفت . و آن چنان بود که

آن^(۱) نغمه در استعمال غالب بود با^(۲) نغماتی که با آن نسبی شریف

داسته باشند . پس اگر آن نغمه مفروضه آن پرده بود یا ذو الاربع

مفروضه ، گویند که لحن در آن پرده است . مثلاً در پرده راست

اگر قصد ایقاع / ح / بود لحن در پرده راست بود مطلقاً ، و اگر قصد

ایقاع نغمه دوم / ح / بود - اعنی / یا / - آنرا دوگاه راست خوانند .

پس اگر در انتقال^(۳) از طرف حدت بنغمه / بیج / رسند یا از طرف

ثقل بنغمه / د / صورت مسموع آن لحن بی شک صورت (ص ۲۳۳ ب)

مسموع نرروز گردد ، و اگر نغمه / یز / نیز استعمال کنند^(۴) (۵)

اصفهان شود ، و اگر از / بیج / به / کا / تجاوز کنند^(۶) حسینی شود .

ودوگاه بدان اعتبار خوانند که ابتداء لحن از^(۷) / یا / بود که دوم

نغمه است و انتهای هم بدو . و در اصل وضع همانا که انتقال در

دوگاه بر نغمات قریبه^(۸) / یا / بوده باشد ، یعنی که ازو بذو الاربع

نرسد ، تا صورت مسموع راست^(۹) بصورت^(۱۰) مسموع نرروز مستحیل نگردد .

۱ . ا ب : آن . ج : — .

۲ . ا ب : انتقال . ج : اسقال .

۳ . ا ج : کنند . ب : کنند .

۴ . ا ج : کنند . ب : کنند .

۵ . ا ج : از . ا : — .

۶ . ا ج : بصورت مسموع راست .

۷ . ا : با . ب : ج : یا .

۸ . ا : نغم یزب . ب : ج : نغمه یز .

۹ . ا ج : کنند . ب : کنند .

۱۰ . ا : قریبه . ب : ج : قریبه .

۱۱ . ا ج : بصورت . ب : بصورت .

اما بعد از آن ارباب عمل بطریق تساهل^(۱) و جرات در عرصه او
 افزودند،^(۲) و چنان شد که الحان مصنفه در دوگاه راست جمله معطی
 صورت پردهها مذکور است، الا آنک در پردهها مذکور ابتداء از حدت
 و انتها به نقل بود بحسب عادت و در دوگاه مبدا و منتهی نغمه / یا /
 بود.

وسه گاه را برین قیاس باید کرد، و چون عرصه او فسیح گردد گاه
 معطی صورت عراق بود چون نغمه / یز / مستعمل نبود، و گاه اصفهانک
 چون نغمه / یز / مستعمل بود با نغمات / یا ح / و /، و گاه کوچک چون
 بی اینها^(۳) بود.

و هم برین قیاس چهارگاه الا آنک صورت مسموع او بصورت راست
 نزدیک بود بسبب آنک غالب در استعمال نغمه / یه / بود^(۴) که با / ح /
 نو الاربع است، و بسبب نسبت^(۵) شریف از استماع آن نغمه / ح / زود
 مرتسم^(۶) شود، و چون / ح / ارتسام یابد^(۷) مناسبات با او عائد گردد،
 لکن بواسطه / یه / پس صورت مسموع^(۸) مشابه صورت راست بود، خصوصا
 که رجوع بنغمه / ح / بسیار افتد.^(۹) اما اگر رجوع بآن کم افتد

-
- | | |
|------------------------------|------------------------------|
| ۱. ۱ : تشاهل . ب ج : تساهل . | ۲. ۱ : تشاهل . ب ج : تساهل . |
| ۳. ۱ : تشاهل . ب ج : تساهل . | ۳. ۱ : تشاهل . ب ج : تساهل . |
| ۴. ۱ : تشاهل . ب ج : تساهل . | ۴. ۱ : تشاهل . ب ج : تساهل . |
| ۵. ۱ : تشاهل . ب ج : تساهل . | ۵. ۱ : تشاهل . ب ج : تساهل . |
| ۶. ۱ : تشاهل . ب ج : تساهل . | ۶. ۱ : تشاهل . ب ج : تساهل . |
| ۷. ۱ : تشاهل . ب ج : تساهل . | ۷. ۱ : تشاهل . ب ج : تساهل . |
| ۸. ۱ : تشاهل . ب ج : تساهل . | ۸. ۱ : تشاهل . ب ج : تساهل . |
| ۹. ۱ : تشاهل . ب ج : تساهل . | ۹. ۱ : تشاهل . ب ج : تساهل . |

ورجوع با نغمه / یا / بیشتر بود بسبب آنک^(۱) / یه / با / یا / بر نسبت کُل و سدس است ، از استماع آن نغمه / یا / در سامعه ارتسام یابد ،^(۲) و بدان سبب صورت مسموع اند که مناسب صورت دوگاه گردد ، خصوصا که محط / یا / سازند .

و هم برین قیاس پنج گاه الا آنک صورت مسموع او مشابه تر بود با راست ، بسبب آنک نسبت / یح / با / ح / شریفتر از نسب سائر نغمات است ، سیما که محط نغمه / ح / بود چنانک درین زمان مستعمل ارباب عمل است .

و ازین بحث معلوم گردد که راست مطلق بحسب استعمال طائفه هم هیئتیت^(۳) از هیأت انتقال در پرده راست . و همین اعتبارات در دیگر پرده ها می توان کرد چنانک هر پرده را دوگاه^(۴) و سه گاه و چهارگاه و پنج گاه بود ، اما متعارف این زمان نیست .

و پوشیده نماند که این اعتبارات اگر در نغمات / د و ح یا / کنند بقیاس با / ا / همین هیأت با این اسامی باز آید . اما چون معهود^(۵) در پرده راست ایقاع نغمه / ح / بود ، چنانک بعد ازین روشن گردد ، آن امکانه ازین مخفی آید .

۱ . ج : + : که . ۱ . ۲ : یابد . ب : یابد . ج : باید . ۳ . ج : هیاتیت . ب : هیاتیت .
 ۴ . ا ب : دوگاه . ج : درگاه .
 ۵ . ا : محدود . ب : ج : معهود .

و نیز در پرده نوز مثلث شعبه دوگانه آن معطی صورت عراق بود ، و شعبه سه گانه آن معطی صورت راست مطلق ، و شعبه چهارگانه آن معطی صورت نفس او . و شعبه پنج گانه او خود مستعمل نبود اگر محظ / ا / سازند ، چه بعد / ی / (۱) ملایم نبود . پس بشعب راست از شعب او مستغنی شدند ، و هم برین قیاس از شعب عراق .

و سه گانه را باشد که محظ / یا / کنند باختلاس و باشد که / ح / ، و آنرا زاوی (۲) خوانند . و چون / یج / (۳) با / ح / جمعیت بشرايط جموع ، پس لا جرم زاوی را پرده خوانیم بهمان وجه که آوازه‌ها را (۴) پرده می خوانیم .

و اگر محظ / و / سازند آنرا روی عراق خوانند و بطریق اولی که روی عراق پرده بود . (۵)

و رکیب هیئت انتقالی بود بر نغمات زیرکش حسینی چنانکه ابتدا ، از نغمه / ز / کنند (۶) و محظ / ا / سازند و استعمال / ح / کم کنند و غالب در استعمال نغمه / ز / بود .

و مبرقع فرع اصفهانک بود . و اصل آن چنان بود که نغمه / ی / را

- | | |
|---|--------------------------------------|
| ۱ . ا ب : ی ا . ج : ا . | ۲ . ا : از اولی . ب ج : زاوی . |
| ۳ . ا ج : یج . ب : یج . | ۴ . ا : او آزه‌ها . ب ج : آوازه‌ها . |
| ۵ . ا ب : . . روی عراق خوانند و بطریق اولی که روی عراق پرده بود . ج : . . روی عراق پرده بود . | ۶ . ا ج : کنند . ب : کنند . |

ملازم گردد و از طرفین او جز بیک نغمه یا دو بندرت تجاوز کند (۱)
 ومحط /ح/ کند یا /و/ باختلاس ، اما ارباب عمل بطریق جرات
 باشد که عرصه (۲) او را فسحتی (۳) دهند .

واما سلمك صاحب ادوار چنین آورده است که او زنگوله است ،
 با آنک او را از آوازه‌ها شمرده است و آوازه‌ها را پرده شمرده . (۴) و این
 سخن بس متناقض است ، و مثال آن که در جدول نهاده با زنگوله نسبتی
 ندارد . و بحقیقت ، چنانک از تصانیف او و اهل روزگار محقق (۵) می‌گردد ،
 هیئت (۶) انتقالی است (۷) در آن پرده بوجهی که /ح/ را ملازم شوند
 و انتقال برو مانند انتقال مبرقع کنند ، و بعد از آن از /ح/ بطریق
 پنج‌گاه انتقالی (۸) کنند و بر نغمه محط راست محط سازند - اعنی فرض کنند
 که /ح/ زنگوله /یح/ راست باشد و بر /ح/ راست محط کنند .

واما مایه و شهناز چنان آورده است که دو هیئت انتقالند . و از
 سخن او چنان معلوم می‌شود که بهیچ پرده مخصوص نیستند ، چه در
 ادوار گفته است که : « واما مایه فهی هیئة فی التقدیم والتاخیر
 و كذلك شهناز » . و این سخن نیز با تعداد آن دو در

- | | |
|------------------------------|--|
| ۱ . ا ب ج : نکند . | ۲ . ا ب : عرصه . ج : عرضه . |
| ۳ . ا ب : فسحتی . ج : سختی . | ۴ . ا ب : و آوازه‌ها پرده شمرده . ج : و آوازه‌ها |
| ۵ . ا ج : محقق . ب : تحقق . | ۶ . ا ج : هیئت . ب : هیآت . |
| ۷ . ا ب : است . ج : — . | ۸ . ا ج : انتقالی . ب : انتقال . |

جمله آوازا متناقض است ، (ص ۲۳۴) چه آوازا از ادوار نهاده است

چنانك در ادوار گفته است: «وبعض الادوار يسمونه آواز». پس مايه

وشهناز دو دور باشند وچون دور باشند هيئت انتقال نباشند . واز

صورت مثال كه در جدول موضوع است حقيقت آن انتقال هم معلوم

نمی شود. اما تصانیف مشهور در مايه ازان او وديگران^(۱) جمله بر

خلاف آن است ، چه تصانیف مايه جمله تلحين بر نغمات جمع نو

الخمسيست بر آن وجه كه ما در جدول نهادیم . وهمچنين شهناز وتصنيف

در آن نادرست بدان^(۲) سبب كه ياد كرديم . و بنا برين ما هر دورا

از جموع شمردیم^(۳) و پرده خوانيم .

وارباب عمل را در شعب وتراكيب خلاف بسيار افتد بسبب^(۴) ضعف

تميز میان^(۵) آنها . وبسيار باشد كه بحسب عرف پرده بهيئت انتقالی^(۶)

مخصوص شده باشد چنانك اگر آن هيئت معين بگردد^(۷) بگویند كه آن

پرده است . ودر حقيقت آن متحیر شوند با آنك مراکز نغمات ونغمه

مفروضه یکی بود ، واین بسبب آن^(۸) بود كه ما بالذات را از ما

- | | |
|---------------------------------|-------------------------------------|
| ۱. ا ج : ديگران . ب : ديگر . | ۲. ا : بران . ب ج : بدان . |
| ۳. ا ب : شمردیم . ج : شمردیم . | ۴. ب ج : بسبب . ا : — . |
| ۵. ا ب : تميز میان . ج : تميز . | ۶. ا ج : انتقالی . ب : انتقال . |
| ۷. ا : بگردد . ب ج : نگردد . | ۸. ا : از برای آن . ب ج : بسبب آن . |

بالعرض تمیز نگنند. و عوام را که قوت تمیز میان معانی ضعیف بود
 این نوع غلط بسیار افتد. و تحقیق کار طایفه دیگرست ، پس اگر از ارباب
 عمل کسی را در بعضی معانی این مبحث تردیدی افتد ، باید که پیش
 از استعمال رویت و تدقیق نظر بر مخالفت اقدام ننماید لعلها لا تناسبه ،
 وکل میسر لما خلق له .

و بپایند دانست که هر پرده را هیئتیت متمثل در نفس ، و حصول
 آن در بعضی مشروط بتمام نغمها پرده نیست اگر چه کمال آن بدان
 مشروط بود ، ماننده پرده زنگوله که چون / ح / را ملازم شوند و بر
 نغمات / ح ی و د / بتصاعد و تنازل ^(۱) انتقال کنند ^(۲) هیئت زنگوله
 متمثل شود ، خصوصا که / ید / بذاتها مضاف شود. و سخن صاحب
 شرفیه را که سلمک زنگوله است جز این بمجمل ^(۳) نیست ، هر چند ایراد
 مذکور بر آن مستوجه است .

۰۲ ا ج : کنند . ب : کنند .

۱ . ۱ ج : تنازل . ب : تناول

۰۳ ا : بمجمل . ب ج : مجمل .

مبحث نهم

در خلط پردها با یکدیگر و بقیت سخن در مقامات مشهور.

بباید دانست که این جموع و شعب را با یکدیگر^(۱) مناسبات افتد،

و در تلاحین^(۲) انتقال از هر یکی بمناسب آن سبب زیادت رونق و طراوت

لحن گردد. و مناسبت گاه باشد که در يك مرکز بود - یعنی مفروضه

هر دو در يك طبقه باشند - و گاه باشد که در دو - یعنی میان نغمه

مقصد هر دو، چنانکه بعد ازین بدان اشارت رود، بعدی بود.

و برین^(۳) تقدیر وضع هر یکی بنسبت^(۴) با دیگری یا^(۵) از طرف ثقل مناسب

آید یا از طرف حدت. مثال اول رهاوی^(۶) کل و ربع با^(۷) حسینی نو

الخمس، و مثال دوم رهاوی کل و ربع با^(۸) نوروز نو الاربع، چون

میان مفروضه هر دو نسبت نو الاربع بود، و رهاوی از طرف حدت.

و مانند جموع مرکبه که در جدول مثبت^(۹) است وقتی که^(۱۰) بعد میان

مفروضه ایشان بعد موضوع بود و وضع از طرف حدت و ثقل وضع موضوع.

و ما^(۱۱) از جهت مثال ببعضی^(۱۲) ازین مناسبات اشارت کنیم، و باقی^(۱۳)

۱. ۱. + لحن. ۲. ا ب: تلاحین. ج: ا تلاحین.

۳. ۱. ج: و برین. ب: برین. ۴. ا ب: بنسبت. ج: نیست.

۵. ب ج: یا. ا: —. ۶. ا ب: رهاوی. ج: هادی.

۷. ا ب: یا. ج: یا. ۸. ا ج: یا. ب: یا.

۹. ا ب: مثبت. ج: مثبت. ۱۰. ا: وقتی که. ب ج: که وقتی که.

۱۱. ا: و ما. ب: و ما. ج: و و ما. ۱۲. ا: بعضی. ب ج: ببعضی.

۱۳. ا ب: باقی. ج: باقی:

بلطف ذهن (۱) و صفاء قریحت مستصدیان فن عملی (۲) مفوض است .

جدول تناسب پردها و شعب

تناسب در يك مركز

حسینی	رهاوی	حسینی	کوچک
حسینی	حجاز	حسینی	بوروز
حسینی	بوسلیک	حسینی	اصفهان
حسینی	عزال (۳)	حسینی	رکبی
حسینی	دوگاه	اصفهان	دوگاه
حجاز	کوچک	حجاز	دوگاه
شهناز	حصار	شهناز	بزرگ
بزرگ	مایه	بزرگ	رهاوی
بزرگ	عراق (۴)	رهاوی	دوگاه
رکبی	دوگاه	رکبی	اصفهان
رکبی	نوروز	نوروز	اصفهان (۵)
کوچک	سه گاه	عراق	سه گاه
حجاز	سه گاه	حسینی	مایه

۱ . ا ب : ذهن . ج : دین .
 ۲ . ج : عملی . ب : عملی موسیقی . ا : ——— .
 ۳ . ا : عراق . ب : ج : عزال .
 ۴ . ا ج : عراق . ب : دوگاه .
 ۵ . ا ج : نوروز اصفهان . ب : ——— .

دوگاه	کوچک	راست	عشاق
چهارگاه	عشاق	دوگاه	نوروز
رهاوی	زنگوله	سه‌گاه	اصفهان (۱)

+ این پرده‌ها را هم (۲) از جموع صغار باید دانست. + (۳)

(ص ۲۳۴ ب) تناسب در دو مرکز

طرف ثقل	بعد میان هر دو مرکز	طرف حدت
نوروز	دو الاربع	رهاوی
نوروز	دو الاربع	اصفهان
حسینی	دو الخمس	کوچک
حسینی	کل و تسع	عراق
مایه	دو الخمس	دوگاه
مایه	کل و خمس	عراق
عشاق	ضعف طنینی	بوسلیک
حسینی	دو الخمس	بوسلیک

۱. ا ج : اصفهان . ب : اصفهانك . ۲. ب : هم . ۱ : — .
 ۳. + . + . + . در ج حذف شده است .

عراق	کل وجزء من ۱۵	نوروز
چهارگاه	کل وجزء من ۱۵	رهاوی

+ این دو تناسب تقریبی بود ، و انتقال متداول + (۱)

عراق	کل وربع	کوچک
عراق	کل وربع	حسینی

وچون این تناسبات روشن شود (۲) ببايد دانست که بعضی مقامات

مشهور ازین تراکیب ، مثل دوگاه و حجاز ، و آنرا ابتدا ، و انتها ، دوگاه

بود و حجاز وسط ، و دوگاه و رهاوی ، و آنرا ابتدا ، دوگاه بود و وسط

بزرگ و رهاوی انتها ، (۳) و همایون ، و آنرا ابتدا ، زنگوله بود و انتها ،

رهاوی . و مقامات مشهور بحسب استعمال اهل این زمان درین (۴)

پردها و شعب و تراکیب که مفصل شد منحصرست .

۱ در ج حذف شده است . ۲ . اب : شود . ج :
 ۳ . اب : و رهاوی انتها . ج : و رهاوی انتهای .
 ۴ . اج : این . ب :

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