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CHAPTER IV

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CHAPTER IV

TRITONES

TRITONES

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CHAPTER IV

TRITONES

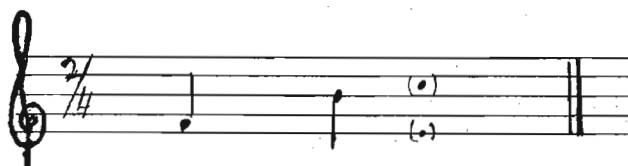
1. TRITONE : AN ORIENTAL FEATURE

1.1 The Melodic Tritone

In this study, the term 'tritone' designates an interval of three whole tones, both as an augmented fourth and, inverted, as a diminished fifth. The tritone interval may be in direct form (without notes intervening between the extremes of the interval) or be present in indirect form (with notes intervening between extremes) :

Direct Tritone:

Augmented 4th:



Diminished 5th:



Indirect Tritone:

Augmented 4th:



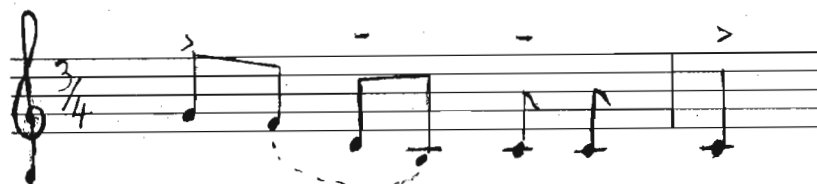
Diminished 5th:



Through either metre or rhythm, one, other or both of the intervallic extremes may be stressed. Stressing of extremes strengthens the effect of the tritone in indirect form. The following example shows metrical accentuation:

Example 58:Corpus 272, bars 5 - 6

Lack of accentuation of, or distance between extremes may weaken, blur or obliterate a tritonic effect. In this example, No 2 hereunder, lack of metric accentuation robs a notated tritone of its aural effects :

Example 59:Corpus 20, bars 1 - 2

1.2 The Tritone and Ecclesiastical Music

In early Western ecclesiastical music (fourth to sixteenth century), the melodic use of the tritone was forbidden (diabolus in musica); and a similar aversion to this interval seems to be implicit in folk song of Northern and Western Europe. On the other hand, Byzantine chant fully endorsed the use of the tritone; and folk songs of Eastern Europe and the Middle East amply evidence a proclivity towards augmented intervals.

It is a safe presumption that early Western plain chant was greatly influenced by Eastern, and especially by synagogical prototypes¹. Earliest musical manuscripts written in neumes, without pitch or interval indication,

1. E. Werner: The Sacred Bridge, 'The Psalmodic Forms and their Evolution', p. 145.

show no prohibition of the tritone by prescribing a b-flat². Diastematic manuscripts of the eleventh century and later indicate a b-flat in the usual manner. Meantime, the b-flat (b-rotundum distinguished from the b-quadratum, the angular b-natural) was introduced into the range of Gregorian pitches as a chromatic note. The addition of the b-flat was first attested by Anonymous de la Fage in the Divisio Monochordi, in the ninth century, and later, by Odo, abbot of Cluny, in his Dialogus de musica³. The most obvious reason for the introduction of this chromatic note of b-flat appears to be the avoidance of the tritone⁴. Probably the first theorist, however, to forbid explicitly the tritone was Guido of Arezzo⁵.

The tritone, as a forbidden interval, came clearly to light through the medieval theory of hexachords. The compass of tones was achieved not by the joining of octaves but the overlapping of hexachords, or groups of six tones. The following example illustrates the three hexachords :

g a b c d e
 c d e f g a
 f g a b^b c d.

When the syllables me-fa were taken from two successive hexachords, they created an interval of a tritone :

g a b c d e
 c d e f g a
 f g a b^b c d.

-
2. W. Apel: Gregorian Chant, 'The Tonality', p. 153.
 3. Odo of Cluny died in 942. A method of designating pitches by letters, standard in the Middle Ages from the 10th century, has been ascribed to this theorist. (G. Reese: Music in the Middle Ages, p. 21, footnote 44.)
 4. W. Apel: Op. cit., p. 152.
 5. Guido of Arezzo (c. 990-1050) in Micrologus, Chapter viii. Guido said that the b-rotundum (b-flat) was added to the scale because f had no concordance with its fourth, being the distance of a tritonium.

Singers were cautioned against this special and dangerous intervallic progression by the warning: me contra fa. Later the tritone was subsumed under the rule: me contra fa, diabolus in musica⁶.

In Eastern chant, the tritone progression is fully acceptable, especially in its indirect form. Usually, the leap of an augmented fourth is modified by the interpolation of an intermediary note or notes. The interval f' - b' may be tempered into f' - a' - b' - a'.

Examples 60 and 61, which follow, illustrate the use of indirect and direct tritones in Byzantine melody⁷.

Example 60 contains an indirect tritone at bar 4 :

Example 60: ⁸Kylismo: Byzantine Melodic Figuration with Indirect Tritone



6. W. Apel: Harvard Dictionary of Music, 'Tritone', p. 868.

In spite of the Western medieval aversion to the tritone, the progression has managed to survive in a few Gregorian chant examples. The following instance, from the cadence of a Gradual in mode three, is transcribed in staff notation :



Liber Usualis (ed. 1961), Gradual for the First Sunday of the Passion, p. 571.

7. Direct tritones are indicated in notations by the symbol of a brace (—). and indirect tritones, by the symbol of a curved arrow (↷).

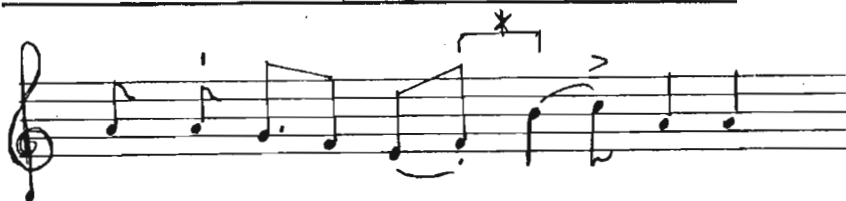
8. O. Strunk: Essays on Music in the Byzantine World, 'The Tonal System of Byzantine Music', p. 10.

Example 61 features both direct and indirect tritone usages. The example (below) is in two parts⁹:

- (a) A Fragment in Mode I
- (b) A Fragment in Mode II.

Example 61:

- (a) Byzantine Melodic Fragment in Mode I, with a direct tritone progression, f' - b'



- (b) Byzantine Melodic Fragment in Mode II, with both direct and indirect tritone progression, b' - f'



The tonal system of medieval Byzantine chant is wholly diatonic, with a central octave running from d' - d". Supplied accidentals are inadmissible. When a tritone is taken either directly or indirectly, the substitution of a b-flat for a b-natural is unwarranted. To supply an accidental in order to avoid a tritone would amount to applying to Eastern melody a rule formulated in the West¹⁰.

1.3 Tritone in Western and Eastern Folk-song

In the folk-song of Northern and Western Europe, the tritone seems to be viewed as an interval of difficult intonation. Cecil Sharp comments on the scarcity of lydian melodies (an augmented fourth lies between first and

9. O.Strunk: Op. cit., 'The Doxastikon', p. 17.

10. O.Strunk: Op. cit., 'The Tonal System of Byzantine Music', p. 8.

fourth degrees) in the repertoire of English folk-song. This scarcity, Sharp suggests, is due to an aversion of folk singers for the 'harsh effects of the tritone'¹¹. Travelling East to Austria, it is possible to hear the tritone, especially in Alpine music. One species of Alpine horn, Alphorn-fa, sounds an interval between a perfect and an augmented fourth - the eleventh harmonic of the natural scale¹². The untempered tritone is also to be heard in Alpine calls¹³. As in the case of other intervals of difficult intonation, the interval of the tritone is more readily accepted by, and is better suited to the acoustical climate of Eastern Europe and, generally, of the East¹⁴. Bartók commented on the popularity and 'highly interesting treatment of the tritone' in Rumania and in Slovakia¹⁵. Example 62, which follows overleaf, is taken from the folk music of Rumania :

11. A.L. Lloyd: Folk Song in England, p. 44.
12. The Alphorn or Alpine horn is the instrument of Alpine herdsmen, used for distance-signalling with simple melodies. This wooden instrument (made from strips of birch bark) varies in length from three to ten feet, and may be bent or straight. Basically, the tones produced are those of the harmonic series. In particular, the Alphorn-fa sounds the non-tempered tritone of the natural harmonic series. (Willi Apel: Harvard Dictionary of Music (Second and revised edition), 'Alphorn, alpine horn', p. 30.
13. Grove's Dictionary of Music and Musicians, (Fifth edition), Volume III, 'Folk Music: Austria', p. 188.
14. The interval of an augmented 4th is strongly dissonant to Western ears. With a' as diapason, the vibration-ratio between f' and b' is 261,6 as against 370.
15. Die Musik in Geschichte und Gegenwart, 'Tritonus', Gustave Reese, p. 700

Example 62 : Excerpt from a Rumanian Folk Melody, illustrating both Direct and Indirect Tritone Progressions



Tritones, direct and indirect, are common in Hungarian giusto melodies¹⁶, and are present in the following example, No. 63 :

Example 63: A Hungarian Folk Melody, illustrating both direct and indirect tritones, indicated by brace and by curved arrow, respectively¹⁷

Hűcs ki, disznó, a be-rök-ből, csak a fü-le lát-szik,

Bo-kor mel-lett ka-nász-buj-tár mö-nyecské-vel ját-szik.

Ödd mög, fe-ne, a ka-nászt mög a buj-tár-gyát is,

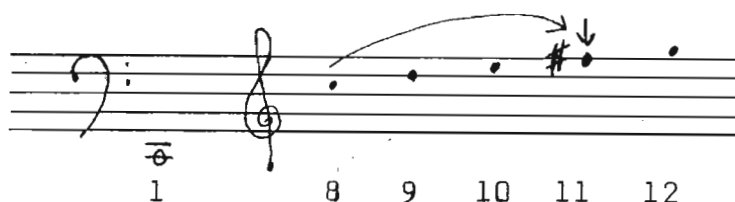
Mér vág-ta lő a sis-kát mög a ma-la-cát is!

15a. B. Bartók: Rumanian Folk Music (Ed. Suchoff),
Volume II, 8C, p. 59, bars 5 - 7.

16. Giusto melodies (i.e. in strict rhythm, suitable for dancing) fall into three separate groups, according to syllabic structure and the rhythmic pattern of their section endings. The melodic contours of the three variants form a single type: tune-forms are interrelated and form a massive block. Two hundred and twenty-two examples are contained in Bartók and Kodály: A Magyar Népzene Tára, VI, Típus I, pp. 63 - 222.
17. B. Bartók and Z. Kodály: A Magyar Népzene Tára, VI Népdaltípusok, I, No. 8, p. 69

Example 64, which follows next, exemplifies an untempered or a natural tritone of the overtone series¹⁸. This tritone interval occurs in the natural scale of overtones between the eighth and the eleventh harmonics. With C as fundamental, the extremes of an augmented fourth are c" and f#" , with the second extreme slightly lower than tempered pitch:

Example 64: An Illustration of an Untempered Tritone in the overtone series of C, formed by the eighth and eleventh Harmonics



Example 65 below is taken from the Bartók-Kodály Hungarian Collection¹⁹. The melody is of the giusto type:

Example 65: A Hungarian Melody¹⁹, illustrating the Untempered Tritone, between the extremes of c" and of f#" , slightly lowered



The untempered and indirect tritone, contained in bars 2 - 3 and 6 - 7, of the above example may be described as a 'minor' augmented 4th.

18. W. Apel: Harvard Dictionary of Music, 'Acoustics', IV, p. 10.

19. B. Bartók and Z. Kodály: A Magyar Népzene Tára, IV, Népdaltípusok, I, No. 49, p. 97.

In a song from Serbia, in Yugoslavia, entitled Kad se Jangin (Hear me, Dearest), in which a frustrated wife pleads with her husband to leave his drinking and come home, a direct tritone is sung over a melodic break at bars 3 - 4, and is repeated as an indirect tritone at bars 9 and 13.

This song is now reproduced in Example 66, which follows :

Example 66: A Serbian folk-song, Kad se Jangin²¹, which illustrates the use of a Direct Tritone, at bars 3 - 4, and Indirect Tritones, at bars 9 and 13

Allegro non troppo

1. Kad se — jan - gin iz me - ha - ne po - mo - li;
1. Hear me — dear- est, straight- way — come out from the bar.

4. Kad se — jan - gin iz — me - ha - ne — po - mo - li;
Hear me — dear- est, straight - way come out — from the bar.

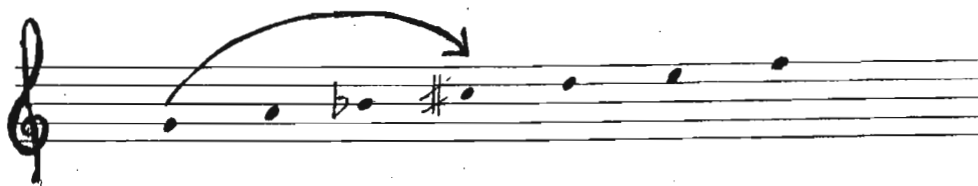
7. ej vaj, ej vaj, po - mo - li, — aj - de mi haj!
please come out — now let us go!

11. ej vaj, ej vaj, po - mo - li, — aj - de mi haj!
please come out — now let us go!

20. The National Republic of Yugoslavia is made up of the Republics of Croatia, Slovenia, Serbia, Montenegro and Macedonia. South-East of present Yugoslavia (Serbia, Macedonia, Bosnia, Herzegovina in Croatia) was occupied by the Turks in the 14th century. Turkish traits survive in the folk cultures of these once-occupied regions.

21. C. Haywood, Editor: Folk Songs of the World, p. 190.

The above song, Kad se Jangin, is built on the melodic material of an Oriental minor scale. The form of this scale is as follows:



As indicated by a curved arrow, the interval of a tritone is created by the first and fourth degrees of the scale.

Two examples from Arabic cultures, Nos 67 and 68, below, illustrate, respectively, tritone-function in relation to the opening and closing of melodies. Example 67 is from Iraq - a love-song entitled Yammil Abaya (Lovely Maiden) :

Example 67 : Yammil Abaya (Lovely Maiden), a love-song from Iraq²², will illustrate tritone-usage in the opening of a melody

Andante

1. Yam - mil A - ba - ya, Hil - wa A - ba -
Love - ly maid - en Wear - ing the A -

2. 3.

4. 5. 6. 7. 8. 9. 10.

tich. Ya - sam - ra H - wa - ya,
ba. Love - ly is your face,

Zi - na B - si - fa - tich. Ha - la - wo - me - et Ha -
Full of glow - ing grace. A thou - sand wel -

The above extract extends from bars 1 - 8. The opening tritone ($d'' \rightarrow a^b'$), bar 1, is transposed a fifth lower ($g' \rightarrow d^b'$) at bar 7.

22. C. Haywood: Folk Songs of the World, p. 202.

In Example 68 which follows, an Adhān (or muezzin's call to prayer) illustrates, in line three, a cadential tritone (b' - f') :

Example 68 : Muezzin's Call to Prayer from Oasis of Oulad Yanez²³, illustrating a cadential tritone in line 3



A song-example, É Lala É Liyo, from Chad, north central Africa, seems especially worth quoting: two direct tritones in this eight-bar melody are part of a cadential sequence. This song-dance, Example 69 hereunder, forms part of a ceremony by young girls in a new-moon celebration :

Example 69: A Chad Folk-song, É Lala É Liyo²⁴, which illustrates the use of two Direct Tritones in a Cadential Sequence

Allegretto marcato

Solo *Chorus*

É la - la é li - yo, E la - la é li - la - yo.

1. 2. 3. 4.

Solo *Chorus*

La - ra la - ra dsoum ka i dé, La - ra la - ra li - la - yo.

5. 6. 7. 8.

Moon - light shin-ing, join in the dance, Danc-ing in the moon - light.

23. D. Thompson: International Cyclopedia of Music and Musicians (1964), 'Oriental Music', p. 1549.

24. C. Haywood: Folk Songs of the World, p. 259.

In the above song (a unitary melody in eight bars: 4 + 4), a short cadential sequence begins at bars 5 - 6, with a direct tritone, and ends at bar 8 with a second tritone of the direct kind.

The initial tritone, $g^{\sharp'} - d'$, can be heard as a dominant force resolving on $c^{\sharp''} - g^b'$, in bar 8. The sequence may be epitomised as follows :



In the Far East, where folk-music loses some of its Middle East complexity, there are found, side by side, simple pentatonic lines, coupled with chromatic changes. In Example 70, which appears below, a Chinese song, Wóu Liàng²⁵, rounds off a pentatonic fragment with an indirect tritone, bars 6 - 7 :

Example 70: Wóu Liàng (Hymn to Buddha), a Chinese folk-song illustrating the use of an indirect tritone (bars 6 - 7) as the conclusion to a falling Pentatonic Fragment (bars 2 - 5)

Allegro

1. Wóu liàng — 2. a a 3. Fó 4. — a -
Blest e - ter - nal Bud - dha — a -

5. yào — tch'ōu — 7. kīa ya,
band - oned wife and — child, —

25. C. Haywood: Folk Songs of the World, p. 231

The pentatonic line quoted above, bars 2 - 5, is based on the tonal series of F-Pentatonic, Mode I, scale: f g a c d.

In brief, the history of Western ecclesiastical and medieval music shows a growing aversion for the melodic tritone. The introduction of a chromatic b-flat into the range of Gregorian pitches helped towards avoiding this augmented interval, which lay between f and b. By the eleventh century, theorists like Guido of Arezzo positively forbade the tritonus. In the folk-songs of North-Western Europe, the tritone is an unpopular interval of difficult intonation. However, from Alpine Austria to the Far East tritone use is common in most folk-musics.

2. THE MELODIC TRITONE IN THE DE NORAIKH COLLECTION

2.1 Introduction

In a study of the melodic tritone in the De Noraidh Collection, examples of this interval were found in ninety songs from a possible 306 melodies of the Corpus. In a conservative reckoning, 243 tritones were clearly present in these ninety songs. Three aspects of the tritone interval will now be discussed:

1. The Augmented and Diminished Tritone.
2. The Tempered and Non-tempered Tritone.
3. The Direct and Indirect Tritone.

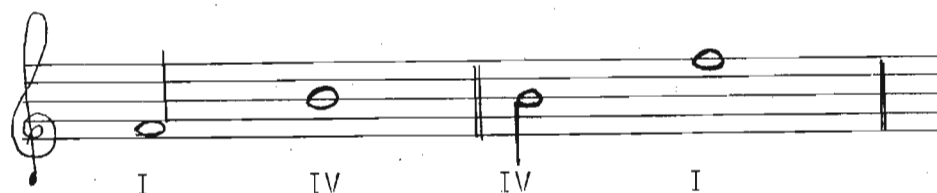
For purposes of explanation, these three aspects will be treated separately. However, in practice, classifications are fluid and overlap.

2.1.1 The Tritone : Augmented and Diminished

The tritone interval is expressed in a double form of an augmented fourth and a diminished fifth. A distinction between these two forms is based on intervallic position - root and inverted. As in the case of other intervals, a root position or augmented fourth may move in either a rising or falling direction. Movements from f' to b' to f' do not alter the essence of the interval. However, when an upper intervallic note remains in its original place, and the lower one 'steps over its head', taking a pitch an octave higher than it had, an inversion and complementary form of interval takes place.²⁶ Example 71, which follows, illustrates this :

26. The converse is realised when the lower remains, and the upper steps over, taking the pitch an octave lower than it had. (P. Scholes: Oxford Companion to Music, (Ninth edition), 'Intervals, Inversion of Intervals', p. 522.

Example 71: An Illustration of a root position tritone of an augmented 4th in F-lydian becoming, through inversion, a diminished 5th



Root Position
Augmented 4th

Inverted Position
Diminished 5th

In the Corpus, augmented tritones outweigh diminished by a frequency of more than two to one.

2.1.2 The Tritone : Tempered and Non-tempered

Tempered tritones are realised through the medium of equal tempered pitch. The principle on which equal tempering rests, is to divide the octave into twelve equal semitones. In such a tempered system, intervals other than the octave are not acoustically pure²⁷. The vast majority of tritones in the Corpus, in so far as one can judge on the evidence of the De Noraidh manuscripts, seem to fit into this category.

Non-tempered tritones are conditioned by the character and the extent of the non-temperament inherent in the tonal systems from which they spring. Generally speaking, one expects to hear in non-Western folk-musics intervals which do not fit in with fixed-pitched instruments of the West²⁸. What seems like a radical example of non-tempering is present in the tonal systems of Java. The recognised basic types of Javanese tuning - eighteen in

27. W. Apel: Harvard Dictionary of Music, 'Temperament: Equal Temperament', p. 835.

28. B. Nettl : Folk and Traditional Music of the Western Continents, 'Studying the Structure of Folk Music', pp. 22 - 23.

In this Example 72, the arrowed Harmonics 7, 11, 13 and 14 are slightly lower than their notated positions in equal tempered pitch³¹. From the above list, Harmonic 11 can be seen as one extreme of both augmented and diminished tritones in non-tempered form. As to actual pitch, Harmonic 11 is as close to f^{\flat} as it is to f^{\sharp} , occupying a quarter-tone position between³². For this reason, the intervallic distance between c and $f^{\sharp\downarrow}$ is less than the distance of its equal tempered counterpart, by a quarter of a tone. In this study, such a non-tempered interval is termed a 'minor' augmented fourth: it is minor or less in the overtone series by a quarter-tone. As to its diminished inversion, it is clear that what was lost by an augmented fourth has been gained by its inversion, a diminished fifth. This diminished position of the tritone $f^{\sharp\downarrow} - c$ is here termed 'major', because it is major, or more extended (by a quarter tone), than its correspondent in equal temperament.

In the Collection, tempered tritones are the norm. Nevertheless, non-tempered tritones, which will be explained later, appear to be part of clear-cut evidence of a non-tempered condition within tonal systems of the Corpus.

31. Harmonic 7, in Example 72, is slightly lower than the b^{\flat} of equal temperament. Reckoned in cents, from c , Harmonic 11 stands at 996 cents; the b^{\flat} of equal temperament is a rounded 1000 cents.

Harmonic 13 is closer to g^{\sharp} than to a . (g^{\sharp} = 800 cents; the 13th harmonic = 840; a = 900.)

32. Expressed in cents, the comparative position of Harmonic 11 to f^{\flat} and f^{\sharp} is as follows:

f^{\flat} (tempered)	= 500 cents
11 harmonic	= 551 cents
f^{\sharp} (tempered)	= 600 cents.

(W. Apel: Harvard Dictionary of Music, 'Acoustics: Harmonics, Overtones', p. 10, and 'Cents', pp. 140 - 141.)

2.1.3 The Tritone : Direct and Indirect

The direct tritone (in either augmented or diminished form) makes an intervallic movement without the help of notes intervening between extremes of the interval. The extremes or limits (terminus a quo and terminus ad quem) are the real elements which constitute the interval. A direct tritone presents these elements bluntly, a circumstance which helps to make this interval, especially in its augmented form, clearly perceptible and unmistakable in ethos. A special tension seems to characterise the relationship between a tonic and its raised or sharpened fourth. This is especially the case when the interval is exposed without a resolution of any kind³³.

On the other hand, the indirect tritone (which has notes intervening between the extremes of the interval) is exposed to influences of metre, rhythm and melodic context. An indirect tritone tends to present the basic interval in a manner which has become refined, subtle and difficult for aural perception. Because the indirect tritone is an illusive entity, the compiling of a 'Comprehensive Tritone Table' became one of the most exacting exercises in this study³⁴. Borderline cases were judged and re-judged. Instances in which the tritone-effect was

33. D. Cooke: The Language of Music, 'The Elements of Musical Expression', pp. 84 - 90.

Deryck Cooke seems to think that the nickname 'diabolus in musica' pointed to one expressive function of the augmented fourth: the suggesting of 'devilish and inimical forces'. (Op. cit., p. 90).

Cooke leads evidence from classical composers to support his theory. Especially apposite is a quotation of Faust's invocation of Lucifer in Dokter Faust of Busoni (1866 - 1924).

Tritone Example from Busoni's Doktor Faust :

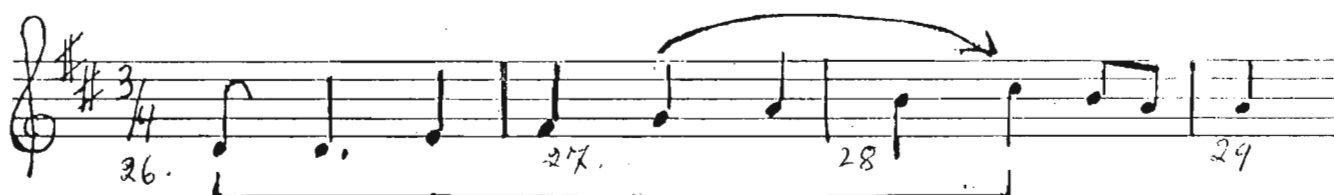


D. Cooke: Op. cit., Example k, p. 86.

34. Refer Appendices to this Chapter IV, Table No. 13, pp. 252 - 263.

blurred or obliterated by melodic context, were rejected. Examples 73, 74, 75, which follow now, did not qualify for inclusion:

Example 73: An Illustration of the Tritone interval with blurred effect from Corpus 195, bars 26 - 29



Collection-examples of the tritone are mostly indirect in form.

In brief, this introduction to the melodic tritone in the Corpus explains, under separate headings, three aspects of the tritone interval which are found in the Collection. Aspect One has to do with intervallic position, root and inverted. Aspect Two is tonal, and is concerned with conditions of tempering and non-tempering. Aspect Three deals with the absence or presence of an intervallum between extremes of the tritone interval. In practice, these aspects are fluid and overlap.

2.2 Tritone Statistics in the De Noraidh Collection

2.2.1 Some Criteria used in the Collection and Classification of Tritones in the Corpus

In the collecting and classifying of tritones in the Corpus, on which statistics were based, a conservative method of reckoning was employed. This approach was necessary, especially in discerning indirect tritones which merited to be classed both as aural and notated - perceptible to eye and ear. Notated tritones which were lost to the ear in performance were discarded. Both metrical and rhythmic accentuations of tritone-extremes were deemed to help in promoting the aural effect of this interval, especially in indirect form. The effectiveness of accentuation seemed to work in the following order of importance:

1. Emphasis on both extremes of the interval - terminus a quo and terminus ad quem.
2. Emphasis on the second extreme of the interval - terminus ad quem.
3. Emphasis on the first extreme of the interval - terminus a quo.

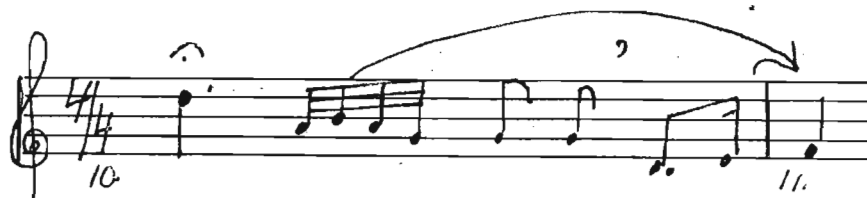
Examples, which follow, serve to make clear the three types of accentuation mentioned above. (Tritone extremes are arrowed.)

1. Example 76 : Corpus 251, bars 1 - 4 (d-mixolydian), illustrating accentuation of both extremes in an Indirect Tritone



In the above example, accentuation in bar 3 is from metre; in bar 4, from syncopation.

2. Example 77 : Corpus 11, bars 10 - 11 (d-dorian), illustrating an accentuation of the second extreme of an Indirect Tritone



In this example from Corpus 11, the emphasis on the second intervallic extreme, at bar 11, is metric.

3. Example 78 : Corpus 95, bar 8 (a-dorian), illustrating an accentuation of the first extreme of an Indirect Tritone



In Example 78, just quoted, the stressing of the first extreme of the tritone is, once again, metric.

When an emphasis falls on one, other or both intervallic extremes of an indirect tritone, the numbers of notes which intervene between essential components of the interval do not seem to be a matter of much importance. The aural effect of the tritone usually prevails.

There is a fourth type of emphasis, which stems neither from metric nor rhythmic stress, but rests on an accepted tritone formula. In Example 79, hereunder, a known Irish mixolydian formula (fa-me-do-ta-do) does duty for other types of accentuation:

Example 79: Corpus 19, bars 15 - 16 (d-mixolydian), illustrating the rôle of tritone formula in emphasising the aural aspect of an Indirect Tritone



Lydian inflections which contain a tritone are usually emphatic. Example 80 below contains a specimen of Lydian influence, clearly heard in Dorian.

Example 80 : Corpus 259, bars 29 - 31 (d-dorian), illustrating the emphatic quality of a Lydian tritone inflection in Dorian



In the above example, in spite of a melodic filling-

in between intervallic extremes of a tritone, the strong relationship between b' , in bar 29, and f' , in bar 30, is heard.

In the case of Diminished tritones with the extremes in outerparts, the tritone effect is normally stated in an adequate manner. Example 81 hereunder illustrates this :

Example 81 : Corpus 226, bars 1 - 3 (d-mixolydian), illustrating tritone effect in an ascending scalar line in which the extremes of a diminished tritone are contained in outerparts



In the above example, the outerparts are $f\sharp'$ and c'' .

As intervallic extremes become less marked and tend to encompass more tones between, the tritone interval grows in subtlety until its components merge into a melodic context and are beyond customary discernment of the ear.

2.2.2 Basic Tritone Categories : Statistics

A conservative method of selecting tritones, employed in this study, showed that this category of melodic interval was present in ninety songs - almost one-third of the entire De Noraiddh Collection. Over the span of these ninety songs 343 tritones were present. From the grand total of 343 examples, 238 were augmented (Root position) and 105 diminished (Inverted position). Pitch-wise, 325 were tempered tritones and eighteen, non-tempered. From the aspect of

form, five were in direct form and 338 in indirect form. Chart 17 below shows this information in diagrammatic presentation :

CHART 17 : Illustrating the Tritone Interval within the De Noraidh Collection, under the headings of Augmented and Diminished; Tempered and Non-tempered; Direct and Indirect, together with Percentages of Tritone Grand Total, related to each of these three headings

<u>Tritone Interval</u>	<u>Tritone Interval</u>	<u>Percentage</u>
<u>Aspect</u>	<u>Frequency</u>	<u>of Tritone</u>
		<u>Grand Total</u>
1. Augmented	238	69,4%
Diminished	105	30,6%
2. Tempered	325	94,8%
Non-tempered	18	5,2%
3. Direct	5	1,5%
Indirect	338	98,5%

It is important to note that the three aspects of the tritone, detailed in Chart 17 above, are not sealed compartments, but overlap. Beginning with the basic aspect of position, an augmented tritone must carry inherent relationships to pitch and form. A given tritone, in augmented position, may, for example, be tempered in pitch and direct in form. In order to carry forward and charter relationships between the three aspects of the tritone interval, it is useful to include the following information at this point. From the angle of temperament, non-tempered tritones of the Corpus, eighteen in number, are augmented in fourteen instances and are diminished in four. As to the five examples of tritones which are in direct form, two are present in augmented position, and three in diminished. Charts 18

and 19, which now follow, relate tritone position (augmented and diminished) to aspects of Non-tempered Pitch and Direct Form :

CHART 18 : Illustrating the relationship between Augmented and Diminished Tritones to the Aspect of Non-tempered Pitch, under the headings of Song Number and Tritone Frequency

<u>Augmented Tritone</u>		<u>Diminished Tritone</u>	
<u>Song No.</u>	<u>Tritone Fre-</u> <u>quency</u>	<u>Song No.</u>	<u>Tritone Fre-</u> <u>quency</u>
53	2	39	2
71	2	53	2
82	1		
158	1		
159	2		
166	2		
175	1		
219	2		
274	1		
<u>9</u>	<u>14</u>	<u>2</u>	<u>4</u>

Chart 19 below, complementary to Chart 18, above, presents the relationship of augmented and diminished tritones to direct form, under the headings of Song Number and Tritone Frequency :

CHART 19 : Illustrating the relationship between Augmented and Diminished Tritones to the Aspect of Direct Form, under the headings of Song Number and Tritone Frequency

<u>Augmented Tritone</u>		<u>Diminished Tritone</u>	
<u>Song No.</u>	<u>Tritone Fre-</u> <u>quency</u>	<u>Song No.</u>	<u>Tritone Fre-</u> <u>quency</u>
105	1	156	1
216	1	229	2
<u>2</u>	<u>2</u>	<u>2</u>	<u>3</u>

Table No. 14, which is contained in the Appendices³⁵ to this Chapter IV, pages 264 - 266, presents a complete list of augmented and diminished tritones, from aspects of tempered and non-tempered pitch, together with direct and indirect forms. A related song number and tritone-total, in separate columns, are provided for each entry in this Table.

2.2.3 Songs and Related Tritones in the Corpus : Statistics

Instances of the tritone interval are present in ninety songs of the De Noraïdh Collection³⁵. Chart 20, which now follows, illustrates the number of songs which contain tritones in augmented, diminished and mixed forms, respectively :

CHART 20 : Illustrating Song Totals which Correspond, respectively, to Tritones in Augmented, Diminished and Mixed Positions, as contained in the De Noraïdh Collection

<u>Tritone Position</u>	<u>Total of Songs</u>
Augmented	44
Diminished	15
Augmented and Diminished mixed	31
	<hr/>
	90
	<hr/>

Among songs which contained a mixture of augmented and diminished tritones, there were eighteen songs with an augmented preponderance; in nine songs, diminished tritones outweighed augmented; four songs showed augmented and diminished tritones in equilibrium.

The highest number of tritones, thirteen, was shared by songs numbered 183 and 158, in which the ratios seven-to-six and eleven-to-two favoured augmented. Tritones in Song number 101 totalled twelve, eight

35. A complete list of Song numbers is contained in Table No. 14, Chapter Appendices, pp. 264 - 266.

augmented and four diminished intervals. Songs numbered 281 and 5 were exclusively root-position, with eleven and ten tritones, respectively.

The songs of equibalanced augmented and diminished tritones were :

Song number 177, with one augmented and one diminished example.

Song number 251, with a ratio of two-against-two.

Song number 266, which contained two tritones of both varieties.

Song number 274, with a ratio of one non-tempered interval (augmented) to one tempered interval (diminished).

In several examples, there was a pattern of quasi-balance, favouring augmented, as shown in Chart 21, hereunder :

CHART 21 : Illustrating Songs in the De Noraidd Collection which contained a quasi-balance between frequencies of Augmented and Diminished Intervals

<u>Song number</u>	<u>Augmented Tritone</u>	<u>Diminished Tritone</u>
65	1	2
118	2	1
120	2	1
138	1	2
183	7	6
189(b)	4	3
246	1	2
<u>7</u>	<u>18</u>	<u>17</u>

2.3 Rarer Manifestations of the Tritone Interval in the Corpus : Tritones Non-tempered in Pitch and Tritones Direct in Form.

In the Collection, there are numerous examples of Tempered Tritones, and Tritones indirect in form. Because these types are frequently illustrated, there is no special need to quote them here. However, tritones in non-tempered pitch and tritones which are direct in form are unusual, and merit an explanation in this section.

2.3.1 The Tritone in Non-tempered Pitch: Illustrations

In De Noraidh's Corpus tritones of non-tempered pitch are the result of either intervallic expansion, intervallic contraction, or stem from a slid degree³⁶. Examples 82, 83 and 84 below demonstrate these three aspects of tritone non-tempering:

Example 82: Corpus 39, bars 16 - 18 (d-dorian)
Illustrates a Microtonal Expansion
of the Tritone in Diminished position,
beyond the limits of
Tempered Pitch



In this example, $f\sharp^1$ is microtonally lowered by a quarter of a tone approximately. In this way, the diminished interval ($c'' - f\sharp^1$ lowered) becomes a tritone interval of a 'major' or slightly enlarged diminished fifth.

Example 83, in contra-distinction to Example 82, contains a slightly contracted augmented fourth.

36. 'Non-tempered Pitch as an Oriental Trait' is examined in Chapter V of this Volume II.

Example 83 follows immediately :

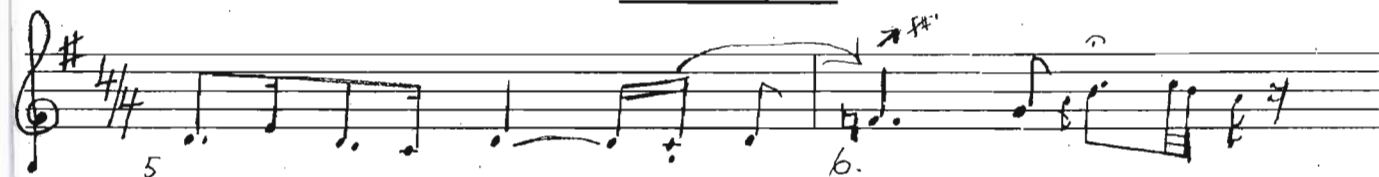
Example 83: Corpus 82, bars 20 - 21 (d-aeolian)
illustrates the Microtonal Contraction of a Tritone in Augmented position and Non-tempered Pitch



In the above-quoted Example 83, f^1 is microtonally raised about a quarter tone above tempered pitch. Since this raising is not fully to the degree of $f^{\sharp 1}$, an augmented and tempered tritone ($f^{\sharp 1} - c^1$) is not realised. The result is a contracted or 'minor' augmented fourth.

Example 84 hereunder contains the third aspect of non-tempering usage: the slid tritone. In this example an augmented fourth interval is achieved by a non-tempered means - an upward slide of approximately a semitone:

Example 84 : Corpus 219, bars 5 - 6 (d-mixolydian)
illustrating an Augmented Tritone in Non-tempered Pitch, created by an upward slide on the second tritone extreme, f^1



Briefly, Examples 82, 83 and 84 illustrate, respectively, a tritone interval which has been non-tempered by microtonal expansion and contraction, and by the sliding of a note in an upward direction, for, approximately, a semitone.

2.3.2 The Location of Non-tempered Tritones - Augmented and Diminished - in the De Noraïdh Collection, together with related Totals

Over the span of ten songs, eighteen non-tempered tritones are present in the Collection. Chart 22, which follows, lists where non-tempered tritones are to be found in the Corpus, under headings of Song Numbers and corresponding Bar References:

CHART 22: Illustrating the Location of Non-tempered Tritones in the De Noraïdh Collection under the headings of Song Numbers and Bar References

<u>Song Numbers</u>	<u>Bar References</u>
39	17; 44.
53	7; 7; 15; 15.
71	11 - 12; 15 - 16.
82	20.
158	44 - 45.
159	1; 5.
166	5; 13.
175	7.
219	5 - 6; 13 - 14.
274	11 - 12.

The eighteen non-tempered tritones of the Collection are made up of fourteen in augmented position and four in diminished position. Chart 23 which follows collates Augmented and Diminished Tritones of this section under separate headings, with three vertical columns for Song Numbers, Bar Numbers and Tritone Totals :

CHART 23: Containing a List of Non-tempered Tritones in the De Noraidh Collection under the separate headings of Augmented and Diminished, together with Parallel References to Song Numbers, Bar Numbers and Tritone Totals

Non-tempered Tritones : Augmented

<u>Song Numbers</u>	<u>Bar Numbers</u>	<u>Tritone Totals</u>
53*	7; 15	2
71	11 - 12; 15 - 16	2 <u>via</u> slide ⁺
82	20	1
158	44-45	1
159	1; 5	2
166	5; 13	2
175	7	1
219	5 - 6; 13 - 14	2 <u>via</u> slide ⁺
274	11 - 12	1 <u>via</u> slide ⁺
		<u>14</u>

Non-tempered Tritones : Diminished

39	17; 44	2
53*	7: 15	2
		<u>4</u>

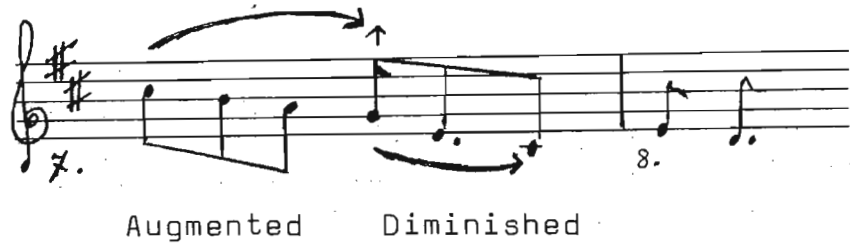
In the above Chart 23, Song 53 contains in bar 7 and, again, in bar 15, double tritones, augmented and diminished. Example 85 which follows, illustrates how, in a falling melody, an augmented tritone (c^{#1} - g' raised), and a diminished tritone (g' raised - c^{#1}) are realised :

In Chart 23 -

* Song 53 contains both augmented and diminished positions of non-tempered tritones in bars 7 and 15.

+ In Songs 71, 219 and 274, the slide was semitonal approximately.

Example 85: Corpus 53, bars 7 - 8 (D-Ionian), illustrates both the Microtonal Contraction of a Tritone in Augmented position and the Microtonal Expansion of a Tritone in Diminished position, resulting in a non-tempering of intervals



In this Example 85, bar 7, g' is raised about a quarter of a tone to a non-tempered degree between a tempered g' and a tempered $g\sharp'$.

The upward slides which occur in Songs 71, 219 and 274 (Chart 23) cannot be reproduced on a fixed-pitched instrument, as a piano, and must be classed as non-tempered. The length of these slides may, in general, be termed semitonal, but this is only an approximation.

2.4 Tritone and Mode

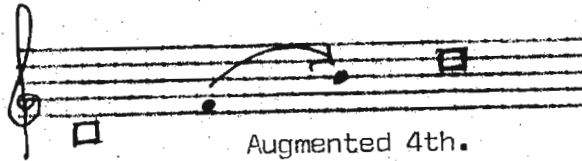
2.4.1 Tritone and the Medieval Modes

Generally speaking, the modality of the De Noraïdh Collection corresponds with medieval modal structures, and offers similar opportunities for the creating of melodic tritones. As can be seen from Chart 24, which is to follow, the tritone interval, in augmented or diminished positions, is likely to be found in the compasses of the Modes: Dorian, Phrygian, Lydian, Mixolydian, Aeolian and Ionian. Dorian, Phrygian and Lydian modes are productive of an augmented fourth, which lies between f and b. Of these three modes, Lydian appears to be the tritone mode par excellence: the compass of an octave (from f' to f'') is built upon an augmented fourth in the lower tetrachord, and a diminished fifth in the upper pentachord. In Mixolydian, the same tritonic structures are reflected, if one reckons from sub-tonic to upper sub-tonic - a compass shared with Lydian. Ionian positions the augmented fourth and diminished fifth inversely: the augmented tritone is found in the upper pentachord (b' to f'') and a diminished fifth, between the sub-tonic and sub-dominant. Within the compass of an octave, Aeolian contains a diminished fifth, between second and sixth degrees. The addition of an upper super-tonic to the range of Aeolian creates an augmented fourth between the sixth degree and upper sub-tonic of the mode. Varying positions of Modal Tritones are shown in staff notation in Chart 24 which follows overleaf:

CHART 24...

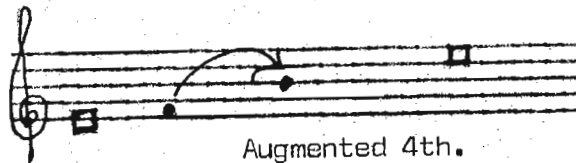
CHART 24: Illustrating where an Augmented 4th and its Inversion, a Diminished 5th, are found in the compass of the Medieval Modes

Dorian:



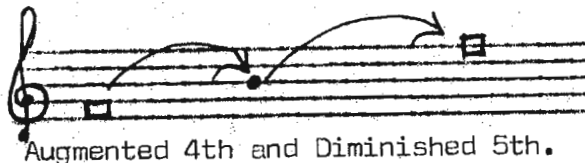
Between 3rd
and 6th
degrees.

Phrygian:



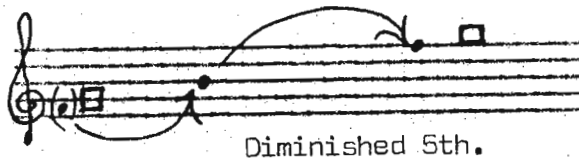
Between 2nd
and 5th
degrees.

Lydian:



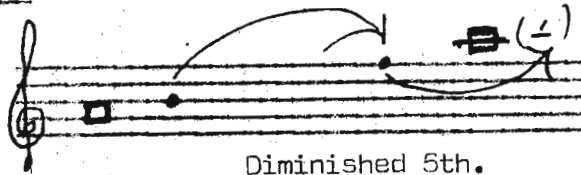
Between 1st
and 4th, 4th
and 8ve degrees.

Mixolydian:



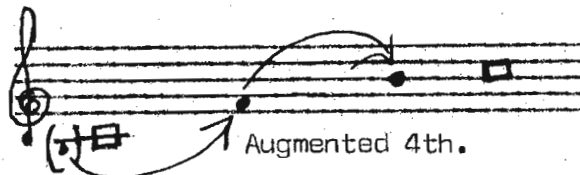
Between 3rd
and 7th
degrees.

Aeolian:



Between 2nd
and 6th
degrees.

Ionian:



Between 4th
and 7th
degrees.

Explanatory Footnote:

Lydian compass contains both an augmented 4th and a diminished 5th. In Dorian, Phrygian and Ionian modes, an augmented 4th occurs within the octave. Similarly, in Mixolydian and Aeolian, a diminished 5th is present.

In practice, by adding to Mixolydian a sub-tonic, and to Aeolian, a super-tonic above the octave, an additional augmented 4th appears. An added sub-tonic to Ionian creates a diminished 5th.

2.4.2 Tritone and Modes in the De Noraïdh Collection: Statistics

In the De Noraïdh Collection, tritone patterns usually reflect the natural position of the tritone in the compass of respective modes, as illustrated in Chart 24 (page 238). Modes which, in the Corpus, yield the bulk of tritone intervals, are Dorian, Lydian, Mixolydian and Ionian. Dorian, Lydian and Mixolydian totals form GROUP A, below, and are as follows :

<u>GROUP A</u>	{ Dorian	: 21 tritones
	{ Lydian	: 79 tritones
	{ Mixolydian	: 94 tritones.

To these totals must be added Aeolian, Ionian and Tonal mixtures, which make up GROUP B as follows :

<u>GROUP B</u>	{ Aeolian	: 1 tritone
	{ Ionian	: 141 tritones
	{ Modal Mixture	: 7 tritones.

If the above groups are compared, Group A, with a total of 194 tritones, contains 56,6% of the total of 343 tritone examples. Group B has a total of 149 tritones which comprises 43,4% of all tritones.

Chart 25, which follows overleaf, contains tritone statistics under modal headings relating to song totals, tritone totals (with examples of non-tempering included), together with corresponding percentages :

CHART 25...

CHART 25 : Illustrating Song Totals, Tritone Totals and related Percentages for Dorian, Lydian, Mixolydian, Aeolian plus Modal Mixture, Ionian, together with Totals for Tritones of Non-tempered Pitch, included within General Figures

(Non-tempered pitch symbol : \sharp)

MODE	SONG TOTAL	TRITONE TOTAL	PERCENTAGES
Dorian	12	21 (2^{\sharp})	6,1%
Lydian	14	79 (2^{\sharp})	23,0%
Mixolydian	20	94 (4^{\sharp})	27,5%
Aeolian and Modal Mixture	2	8 (1^{\sharp} Aeolian)	2,3%
Ionian	42	141 (9^{\sharp})	41,1%
	90	343 (18^{\sharp})	100,0%

From the above Chart, the following information is evident: Ninety songs of the Corpus contain 343 tritones, eighteen of which are non-tempered in pitch. In the matter of tritone frequency, Modes follow this order of importance: Ionian, Mixolydian, Lydian, Dorian, Aeolian. Seven tritones have been classified under a heading of modal mixture - a situation in which a single mode was not clearly evident. (Refer paragraph 2.4.2, Group B, on previous page.)

In order to provide the reader with a scheme of ready reference for the relating of Augmented and Diminished tritones, expressed in Tempered and Non-tempered pitch, to the modes, Chart 26 has been prepared and is presented overleaf :

CHART 26 : Illustrating, under the Modal Headings of Dorian, Lydian, Mixolydian, Aeolian, Ionian and Modal Mixture, the Melodic Tritone, Tempered and Non-tempered in Augmented and Diminished Positions, within the De Noraídh Collection

<u>MODE</u>	<u>TEMPERED AUGMENTED</u>	<u>NON- TEMPERED AUGMENTED</u>	<u>TEMPERED DIMINISHED</u>	<u>NON-TEM- PERED DIMI- NISHED</u>	<u>TOTAL</u>
Dorian	17		2	2	21
Lydian	64	2	13		79
Mixolydian	54	4	36		94
Aeolian		1			1
Ionian	83	7	49	2	141
Modal Mixture	6		1		7
	<u>224</u>	<u>14</u>	<u>101</u>	<u>4</u>	
	<u>238</u>		<u>105</u>		<u>343</u>

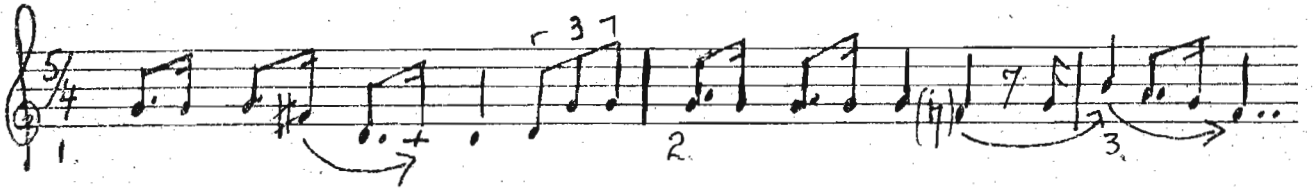
From the above Chart 26, it is evident that, in a combination of tempered and non-tempered, more than two-thirds of the tritone total in the Corpus are of a general augmented kind. Two hundred and thirty-eight tritones (69,4%) are augmented as against 105 (30,6%) in the diminished position. In the sub-class of non-tempered, the emphasis on augmented, or root position, is even more radical. From a total of eighteen non-tempered tritones, fourteen are of the augmented kind. From the view-point of position, then, augmented or root tritones are the norm in the Collection. From the aspect of pitch, it is of interest to note that the single tritone which occurs in the Aeolian mode is non-tempered.

2.4.3 Tritone Patterns and the Modes

Although melodic patterns in songs of the Collection usually reflect the natural position of tritones in respective modes, some tritones do result from the

introduction of double degrees and chromatic notes. Example 86 below indicates how tritones arise from a double seventh degree, f^{\sharp} , and f^{\flat} , in g-mixolydian :

Example 86: Corpus 156, bars 1 - 3 (g-mixolydian), illustrating Augmented Tritones, marked by the symbol of a curved arrow, which arise from a double seventh degree



Tritone patterns also show interrelations between the modes. F-Lydian and g-mixolydian relate to one another as neighbouring structures. A tritone in the lower tetrachord of g-mixolydian is mirrored in the upper pentachord of C-Ionian. A d-dorian sometimes employs a Lydian inflection created by the dorian third and sixth degrees. Chart 27 hereunder depicts a sharing of tritone material between Lydian and four other modes :

CHART 27: A Diagrammatic Presentation of F-Lydian³⁷ as a Tritone Prototype, sharing Tritone material with g-mixolydian³⁷, C-Ionian³⁷, d-dorian, and a-aeolian

	↑ (Augmented)	↑ (Diminished)
F-Lydian	I	IV
g-mixolydian	IIV	III
C-Ionian	IV	IIV
d-dorian	III	VI
a-aeolian		II
		VI

37. Capitalisation symbolises a major character in these modes.

Some illustrations of typical characteristics in modal tritones follow immediately. These illustrations contain a sharing of tritonic inflection and cadential function - a mirror-effect of the tritone within modes.

The illustrations are marked from A to D as follows :

Illustration A

A Lydian Fragment in dorian



Illustration B

An F-Lydian Cadence, b'-g'-e'-f' shared with C-Ionian in the upper tetrachord of this second mode

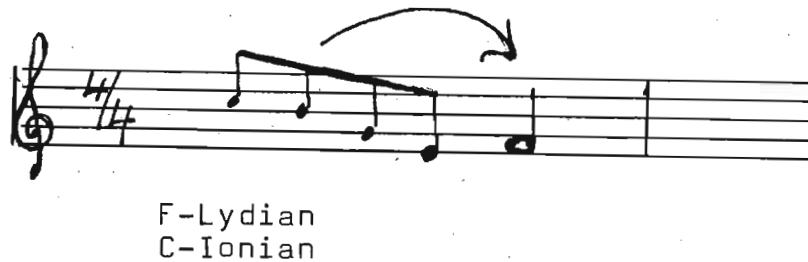


Illustration C

A g-mixolydian Cadence, using virtually the same cadential material of Illustration B : b'-g'-f'

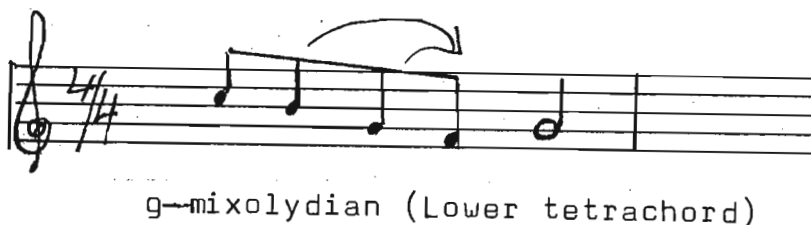


Illustration D

A Tritone which forms part of a g-mixolydian cadence, as in Illustration C, is here mirrored in the upper tetrachord of C-Ionian



C-Ionian, upper tetrachord.

In short, a tritone pattern stems not only from its natural position which it holds within a particular mode: it may also arise from altered degrees and from sharing of interrelations which exist between modes in the matter of tritone material.

2.4.4 Variety of Tritone Expression in Modes of the De Noraith Collection

The Modal Tritone appears in the De Noraith Collection in a variety of contexts :

1. Lydian and Mixolydian opening and closing phrases.
2. Mixolydian Tritone Formula.
3. Unusual Tritone Expression.

2.4.4.1 Lydian and Mixolydian in opening and closing phrases

Lydian inflections are very explicit, especially when these inflections emphasise a Lydian ambitus of the tritone interval.

Example 87 below contains an F-Lydian opening in a d-dorian song :

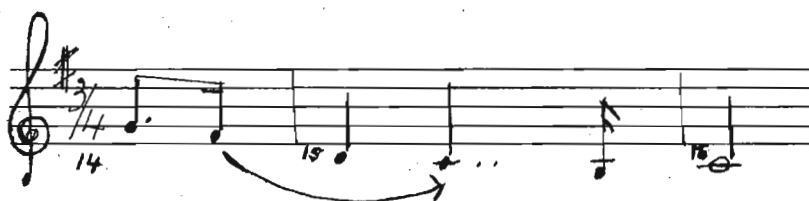
Example 87 : Corpus 244, up-beat, to bar 2, illustrating an F-Lydian opening in d-dorian



In the above example, a Lydian character is reinforced by a type of 'return'-technique: the melody rises from f' to b', and immediately falls to its point of departure, f'.

Lydian cadences, of the typical kind, have an abrupt and incisive quality which swiftly and effectively achieves a clear-cut close. This trait can be heard in Example 88 hereunder :

Example 88 : Corpus 205, bars 14 - 16, illustrating a Full-Close in C-Lydian



Example 89 which follows contains a half-close in F-Lydian. A 'return'-technique, already seen in Example 87, again appears in the melodic progression f' - c'' - b' - f' :

Example 89 : Corpus 175, bars 1 - 3, illustrating a Half-Close in F-Lydian



In this Example 89, two factors combine to emphasise a strong Lydian quality in this imperfect cadence :

(a) a stressing of the initial tone, f' :



- (b) an emphatic return to this departure point, f', before a melodic drop to c', the cadential resting note, in bar 3 :



Mixolydian means literally 'half-Lydian'³⁸. The Mixolydian mode adjoins the Lydian, as a 'next-door neighbour' : there is a sharing of ambitus, so that the finalis of F-Lydian, for example, becomes, in turn, the sub-finalis of g-mixolydian. These modes also share a tritone interval.

In F-Lydian, this augmented fourth is created by the first and fourth degrees of the mode, i.e. f and b. In g-mixolydian, the shared extremes of this tritone, f to b ascending become the seventh and third degree of this mixolydian 'neighbour'.

Although Lydian and Mixolydian share a tritone, the musical context and expression of this interval vary. Mixolydian beginnings and endings are less conclusive than counterparts in Lydian. This may be due to the fact that a Lydian seventh is a leading-note, while the Mixolydian seventh has a whole-tone approach to its finalis. Example 90 below contains a Mixolydian ritone, as a beginning within a song in the modality of d:

38. The Greek prefix Mixo in 'Mixolydian' means half, and also refers to a people who spoke a 'half-Lydian' dialect. (P. Scholes: The Oxford Companion to Music, (Ninth edition), 'Modes', p. 658, section 7.

Example 90 : Corpus 266, bars 9 - 10, illustrating, in d-mixolydian, an opening of the second section of this song

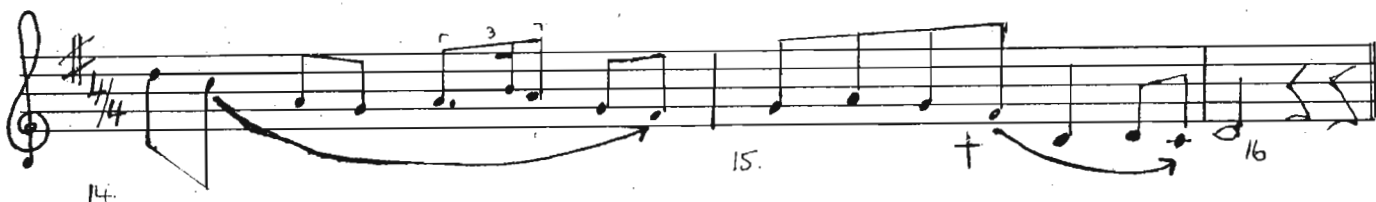


+ Initial tritone.

In the above example, the effect of a whole-tone or sub-finalis approach to the finalis, d', can be heard.

Example 91 which now follows, contains the final cadence of Corpus 266. The tritone material of an opening, quoted in Example 90 above, is used now in the final cadence of the same song, bars 15 - 16 :

Example 91 : Corpus 266, bars 14 - 16, in d-mixolydian, illustrating a Mixolydian Tritone in the context of a Final Cadence



+ Cadential Tritone

2.4.4.2 Mixolydian Tritone Formula

Although Mixolydian Tritones, generally speaking, express a less final character than Lydian, nevertheless they are unmistakable because of a stereotyped tritonic pattern. In this study, the pattern in question is termed 'the Mixolydian formula'. In solfège terminology, the pattern may be expressed in either of two ways:

(a) Fa me do ta do

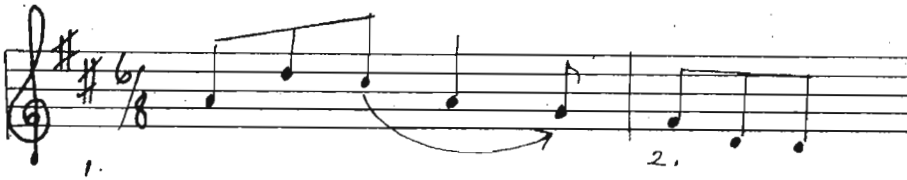
(b) Do' ti sol fa sol.

Solfège (a) reflects the Mixolydian lower tetra-chord, sub-finalis, 'ta', included.

Solfège (b) reflects the Ionian upper pentachord.

Although the appellation 'Mixolydian formula' has been derived from that mode, it is, nevertheless, a recurring melodic pattern in varying modal context of the Collection. Examples which now follow indicate the versatility of this formula:

Example 92: Corpus 60, bars 1 - 2, illustrating the 'Mixolydian formula' in D-Hemitonic



Example 93: Corpus 133, bars 1 - 3, illustrating the 'Mixolydian formula' in the context of C-Major



Example 94: Corpus 219, bars 3 - 4, illustrating the 'Mixolydian formula' as a component in a C-Lydian cadence within the modality of d-mixolydian



2.4.4.3 Unusual Tritone Expression

Some unusual Tritones in the Collection are derived from factors of ornament, acciaccatura and slide, each of which helps to form the interval of an augmented fourth. Examples 95 and 96, which follow,

contain ornaments within which one extreme of a tritone interval appears :

Example 95 : Corpus 88, bar 13, illustrating in D-Ionian an Ornamental pattern within which is found one extreme of the Tritone Interval



Example 96 : Corpus 293, bar 3, illustrating in d-mixolydian an Ornamental* context of the Tritone Interval



Example 97 hereunder contains an instance of a sliding movement on the second extreme of the tritone interval. This slide of approximately a semitone results in an interval of a fully augmented fourth :

Example 97 : Corpus 219, bars 13 - 14, d-mixolydian, illustrating a Tritone Interval of an Augmented Fourth which is the result of a Semitonal Slide on the Second Extreme of this Interval³⁹



39. De Noraïdh's footnote to Corpus 219 states that the slide in bar 14 begins on f^4 (or a little lower), and moves to $f^\#$.

In the above example, the slid note is marked by an upward-slanting arrow, at bar 14. Staff-notation indicates the terminus ad quem of the slide.

A fourth example of an unusual tritone in the Corpus contains an interval, the first extreme of which is an acciaccatura and the second, a degree which is slid semitonally: this appears in Example 98 immediately hereunder -

Example 98: Corpus 274, bars 11 - 12, in D-Ionian, illustrating an Interval of an Augmented Fourth, of which the first extreme is an acciaccatura and the second, a semitonally slid degree ⁴⁰



As in Example 97, an upward slanting arrow is a symbol of the slide

In short, the history of early medieval church music in the West reveals an attitude of opposition to and, in the East, an acceptance of the melodic tritone. By the mid-eleventh century, Western intolerance had been crystallized in the tritone nick-name 'devil in music' - a 'dangerous interval' of difficult intonation. In contradistinction to the Latin view, the Byzantine ecclesiastical world fully accepted this intervallic progression. Folk songs in the West and East continued to reflect similar approaches. In Western Europe, the tritone remained a harsh and difficult interval, while

40. The Collector's footnote to Corpus 274 states that the slide (in bar 12) moves from about c4'' to c#''.

in the East, the interval prospered in a climate of non-tempered pitch. Irish folk music uses liberally the tritonic possibilities of the medieval modes. In the De Noraïdh Collection, from a possible 306 items, tritones were found in ninety songs - in almost one-third of the entire Corpus. Over these ninety songs, a conservative reckoning accepted 343 examples, 238 of which were in augmented (or root) position, and 105, in diminished (or inverted) position. A special interest of the Collection lies in eighteen non-tempered tritones, fourteen of which were of the augmented type. De Noraïdh's Collection also displays considerable tritone-variety in modal pattern and expression.

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TRITONES

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TRITONES

TABLE NO. 13

A COMPREHENSIVE TRITONE TABLE

(A Table of Tritones, contained in the De Noraïdh Collection)

TABLE NO.13 : A COMPREHENSIVE TRITONE TABLE

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Song No.	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
4	5	4; 12; 19; 23; 28.		5	4	1 (Bar 19)		G-Major (with d-mixolydian inflections)
5	10	1; 3; 5; 6; 7; 8; 11; 13; 14; 15.		10	10			D-Lydian
11	1	10 - 11		1	1			d-dorian
19	8	1 - 2; 3 - 4; 5 - 6; 6; 7; 13 - 14; 14; 15.		8	6	2		d-mixolydian
20	8	2 - 3; 3 - 4; 5; 6 - 7; 7; 13; 14-15 15 - 16.		8	8			F-Lydian
25	3	2 - 4; 12 - 13; 14 - 16.		3	3			D-Lydian
34	3	3 - 4; 11 - 12; 13.		3		3		G-Major

Footnote : *This symbol indicates a tritone of non-tempered pitch.

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No.

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
39	2	17 ^A ; 44 ^A .		2		2 ^A Major (Expanded) (c"-f#1 ↓)	2 ^A	d-dorian, with slightly raised 3rd degree.
41	2	1; 6.		2	2			d-dorian.
50	5	Upbeat - 2; 2 - 3; 10 - 11; 11 - 12; 13 - 14.		5	5			C-Lydian
53	7	2; 3; 7 ^A ; 7 ^A ; 10; 15 ^A ; 15 ^A		7	2 2 ^A Minor (Bars 7;15)	1 2 ^A Major (Bars 7;15)	4 ^A	D-Major (raised 4th degree, bars 7 and 15 creating 4 un-tempered Tritones).
59	1	4		1		1		G-Major
60	4	1; 3; 5; 7.		4	4			D-Major
61	4	5 - 6; 7; 11 - 12; 15.		4	4			C-Major
65	3	2; 28; 50		3	1	2		C-Lydian

Footnote : ^A This symbol indicates a tritone of non-tempered pitch.

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No.
13

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
67	5	3 - 4; 4 - 5; 11 - 12; 12 - 13; 29 - 30		5		5		d-mixolydian
71	2	11 - 12 ^A ; 15 - 16 ^A		2	2 ^A (Slid) (g' → d')		2 ^A	D-Major No foot-note guide. Either Minor or fully Augmented Tritone.
82	1	20 ^A		1	1 ^A Minor (Contracted) (f' → c')		1 ^A	Aeolian d-aeolian with raised 3rd degree.
83	4	4; 8; 14; 18.		4	4			D-Major
84	3	3 - 4; 11 - 12; 13 - 14.		3	2	1 (Bars 13-14)		D-Major
85	2	3 - 4; 7 - 8.		2	2			d-dorian
88	1	13.		1	1			D-Major
90	1	28		1	1			F-Lydian

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
94	4	2 - 4; 4 - 5; 10; 12 - 13.		4	3	1 (Bar 10)		G-Major, with lowered 7th degree, bars 4, 12.
95	1	8		1	1			a-dorian
98	7	1; 5; 11; 11; 13-14; 17; 22.		7	5	(Bars ² 1; 11)		D-Major
100	5	1; 4; 5; 11; 13.		5	4	1 (Bar 4)		D-Lydian
101	12	2 - 3; 3 - 4; 9-10; 10-11; 11-12; 14 - 16; 16 - 17; 17 - 18; 25 - 26; 26 - 27; 27 - 28; 30 - 32.		12	8	4		D-Lydian
103	9	2 - 3; 3 - 4; 4; 6 - 7; 7 - 8; 8; 10 - 11; 15 - 16; 16.		9	3 (Bars 3-4; 7-8; 15; 16).	6		G-Major

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No.
13

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
105	2	6; 14 - 15.	1 (Bar 6)	1	2			d-mixolydian
117	3	2; 3 - 4; 5.		3	3			C-Lydian (Variable 4th)
118	3	1 - 2; 3 - 4; 5 - 6.		3	2	1 (Bars 3-4)		D-Major (Variable 7th)
119	2	8 - 9; 9.		2	2			d-mixolydian (or G-Major)
120	3	1; 2; 11.		3	2	1 (Bar 1)		d-mixolydian.
130	1	10 - 11		1		1		d-mixolydian
133	4	2; 6; 10; 14.		4	4			C-Major.
138	3	2 - 3; 6 - 7; 13.		3	1 (Bars 3-4)	2		G-Major
139	1	6		1	1			D-Major

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No.
13

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
143	3	1; 5; 13.		3	3			D-Lydian
152	2	9; 9.		2	2			G-Major
154	2	3; 11 - 12.		2	2			C-Major
156	7	1; 2 - 3; 3; 7; 9; 11; 15.		7	7			Mixolydian:g-plagal, with elements of d. (Variable 7th)
157	1	5.		1	1			C-Major
158	13	3 - 4; 10; 12 - 13; 22; 28 - 29; 34; 35 - 36; 44 - 45; 52 - 53; 57; 60 - 61; 70; 76.	1 (bar 76)	12	10 1 ^A Minor (Contracted) (c ⁴ - f' [↑] (Raised)).	2 (Bars 3-4; 35-36).	1 ^A (bars 44-45)	D-Major (Variable 7th, 3rd)
159	4	1 ^A ; 2; 5 ^A ; 6 - 7.		4	2 2 ^A (Minor) (b' [↓] - f')		2 ^A	F-Lydian 4th degree untempered.

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No.
13

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
162	1	14		1	1			C-Major
163	1	12		1	1			G-Major
166	6	3; 5 ^A ; 13 ^A ; 23; 27; 29 - 30.		6	3 2 ^A (Minor) (f' ↑ (raised -c'))	1 (Bars 29-30)	2 ^A	d-mixolydian Untempered 3rd degree.
169	3	7; 12; 15.		3		3		G-Major.
172	8	2 - 3; 3; 6 - 7; 6 - 7; 8 - 9; 11; 14 - 15; 14 - 15.		8	2 (Bars 3; 11).	6		G-Major (Final Cadences)
175	7	2; 2 - 3; 6; 6 - 7 ^A ; 10; 14; 14 - 15.		7	6 1 ^A (Minor) (f' - b' ↗) (Slide)		1 ^A	C-Major slid 7th degree.
177	2	11 - 12; 14 - 15.		2	1	1		d-mixolydian (Variable 7th)
179	2	2; 14.		2		2		D-Major.

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
181	1	10		1	1			G-Major
183	13	5 - 6; 9 - 10; 12 - 13; 16 - 17; 21 - 22; 25 - 26; 28 - 29; 32 - 33; 34 - 36; 37 - 38; 41 - 42; 42 - 43; 44 - 45.		13	7	6 (Bars 5-6; 9-10; 21-22; 25-26; 37-38; 41-42).		D-Lydian
187	1	8 - 9.		1		1		D-Major
189 ^a	3	3; 7; 15.		3	3			D-Major
189 ^b	7	1 - 2; 3; 5 - 6; 7; 12; 13 - 14; 15.		7	4	3 (Bars 3; 7; 15)		d-mixolydian
193	7	2 - 3; 5; 6 - 7; 7; 9; 10 - 11; 14 - 15		7	6	1 (Bar 7)		Mixture : d-mixolydian D-Major.
196	1	11.		1		1		D-Major (Variable 7th)

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No
13

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
200	1	6		1	1			a-dorian
205	1	14 - 15.		1	1			C-Lydian
216	5	Upbeat - 1; 4 - 5; 9; 11; 12 - 13.	1 (bar 11)	4	1 (Bar 11)	4		d-mixolydian
219	8	2; 3 - 4; 5 - 6 ^A ; 7; 9 - 10; 11 - 12; 13 - 14 ^A ; 15.		8	4 2 ^A (Slid) (c b' - f b' → f#')	2 (Bars 2; 9-10)	2 ^A	d-mixolydian (slid 3rd degree from slightly below e' to f#')
226	3	1 - 2; 9 - 10; 21 - 22.		3		3		d-mixolydian
229	4	1; 4; 9; 12	(bars 4; 12)	2		4		d-mixolydian
236	1	10		1	1			d-dorian (Variable 3rd degree)
241	3	1 - 2; 10 - 11; 20. Tones 31-34.		3	3			d-dorian

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
244	2	Upbeat - 1; 1.		2	2			d-dorian (Variable 3rd)
246	3	22 - 23; 26; 27; 28 - 29.		3	1	2		d-mixolydian
248	1	5		1		1		D-Major (Variable 7th)
251	4	3 - 4; 9; 10 - 11; 11 - 12.		4	2	2		d-mixolydian
252	7	9 - 10; 11; 13; 14 - 15; 15; 15 - 16; 16.		7	1 (Bars 14 - 15)	6		G-Major
259	2	13 - 14; 29 - 30.		2	2			d-dorian
261	8	1: 3; 5; 6 - 7; 7 - 8; 11; 13; 15 - 16.		8	8			D-Lydian
262	3	4-5; 8 -9; 13 - 14.		3	3			D-Major

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIKH COLLECTION

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
266	4	6; 9; 14; 15.		4	2	² (Bars 6; 14)		d-mixolydian
268	3	1; 5; 13.		3	3			D-Major
269	3	10; 14; 14.		3	2	¹ (Bar 14)		D-Major
270	1	4		1		1		D-Major
272	1	5 - 6		1	1			D-Major (lowered 7th)
274	2	8 - 9; 11 - 12 ^a		2	¹ ^a (Slid)	1	¹ ^a	D-Major (Slid, 7th) (From about c ⁴ ^a → c [#])
278 ^a	4	7; 10-11; 11-12; 15		4	¹ (Bars 11-12)	3		A-Major
278 ^b	2	6-7; 14-15		2		2		A-Major
281	11	5 - 7; 13 - 15; 29 - 31; 38; 42 - 43; 43 - 44; 44 - 45; 61 - 62; 68 - 69; 76 - 77; 93 - 95		11	11			d-mixolydian

A TABLE OF TRITONES, CONTAINED IN THE DE NORAIDH COLLECTION

Tritone
Table No.
13

Song No	Total	Bar-reference	Direct Form	Indirect Form	Augmented 4th	Diminished 5th	Non-tempered Pitch	Modality/Tonality
285	5	3; 4; 7; 12; 15.		5	2 (Bars 4; 12)	3		d-mixolydian
290	2	1; 1-2.		2	2			d-dorian
293	4	3; 7; 11; 15.		4	4			d-mixolydian
299	2	4; 12		2		2		e-dorian
300	3	4 - 5; 15 - 16; 20 - 21.		3	3			G-Major (Variable 7th)

TABLE NO. 14

ILLUSTRATING AUGMENTED AND DIMINISHED
TRITONES IN TEMPERED AND NON-TEMPERED
PITCH, AS THEY OCCUR IN THE DE NORAIDH
COLLECTION

TABLE NO. 14, ILLUSTRATING AUGMENTED AND DIMINISHED TRITONES,
IN TEMPERED AND IN NON-TEMPERED PITCH, AS THEY OCCUR IN THE DE
NORAIKH COLLECTION.

(Symbol + indicates songs in which direct tritones
are found. ⁺A : augmented; ⁺D : diminished)

SONG NO.	TRITONE TOTAL	AUGMENTED		DIMINISHED	
		Tempered	Non-Temp.	Tempered	Non-Temp.
4	5	4		1	
5	10	10			
11	1	1			
19	8	6		2	
20	8	8			
25	3	3			
34	3			3	
39	2				2
41	2	2			
50	5	5			
53	7	2	2	1	2
59	1			1	
60	4	4			
61	4	4			
65	3	1		2	
67	5			5	
71	2		2		
82	1		1		
83	4	4			
84	3	2		1	
85	2	2			
88	1	1			
90	1	1			
94	4	3		1	

Continued/...

Table No. 14 (continued)

SONG NO.	TRITONE TOTAL	AUGMENTED		DIMINISHED	
		Tempered	Non-Temp.	Tempered	Non-Temp.
95	1	1			
98	7	5		2	
100	5	4		1	
101	12	8		4	
103	9	3		6	
105 ⁺ A	2	2			
117	3	3			
118	3	2		1	
119	2	2			
120	3	2		1	
130	1			1	
133	4	4			
138	3	1		2	
139	1	1			
143	3	3			
152	2	2			
154	2	2			
156 ⁺ D	7	7			
157	1	1			
158	13	10	1	2	
159	4	2	2		
162	1	1			
163	1	1			
166	6	3	2	1	
169	3			3	
172	8	2		6	
175	7	6	1		
177	2	1		1	
179	2			2	
181	1	1			
183	13	7		6	
187	1			1	
189(a)	3	3			
189(b)	7	4		3	
193	7	6		1	

Continued/...

Table No. 14 (continued)

SONG NO.	TRITONE TOTAL	AUGMENTED		DIMINISHED	
		Tempered	Non-Temp.	Tempered	Non-Temp.
196	1			1	
200	1	1			
205	1	1			
216 ^{+A}	5	1		4	
219	8	4	2	2	
226	3			3	
229 ^{+D}	4			4	
236	1	1			
241	3	3			
244	2	2			
246	3	1		2	
248	1			1	
251	4	2		2	
252	7	1		6	
259	2	2			
261	8	8			
262	3	3			
266	4	2		2	
268	3	3			
269	3	2		1	
270	1			1	
272	1	1			
274	2		1	1	
278(a)	4	1		3	
278(b)	2			2	
281	11	11			
285	5	2		3	
290	2	2			
293	4	4			
299	2			2	
300	3	3			

TABLE NO. 15

ILLUSTRATING TRITONE TOTALS UNDER MODALITY
GROUPINGS WITH SONG NUMBER REFERENCES, AS
THEY OCCUR IN THE DE NORAIKH COLLECTION

TABLE NO 15: ILLUSTRATING TRITONE TOTALS UNDER MODALITY GROUPINGS WITH SONG NUMBER REFERENCES

(The symbol Δ indicates tritones of non-tempered pitch.)

DORIAN		LYDIAN		MIXOLYDIAN		AEOLIAN		MAJOR		TONAL MIXTURE		GRAND TOTAL	
Songs	Tri-tones	Songs	Tri-tones	Songs	Tri-tones	Songs	Tri-tones	Songs	Tri-tones	Songs	Tri-tones	Songs	Tri-tones
13	21(2 Δ)	14	79(2 Δ)	20	94(4 Δ)	1	1 Δ	42	141(9 Δ)	1	7	90	343(18 Δ)

PARTICULARS

DORIAN		LYDIAN		MIXOLYDIAN		AEOLIAN		MAJOR		TONAL MIXTURE	
Song No.	Tri-tones	Song No.	Tri-tones	Song No.	Tri-tones	Song No.	Tri-tones	Song No.	Tri-tones	Song No.	Tri-tones
11	1	5	10	19	8	82	1 Δ	4	5	193	7
39	2 Δ	20	8	67	5			34	3		
41	2	25	3	105	2			53	7(4 Δ)		
85	2	50	5	119	2			59	1		
95	1	65	3	120	3			60	4		
200	1	90	1	130	1			61	4		
236	1	100	5	156	7			71	2 Δ		
241	3	101	12	166	6(2 Δ)			83	4		
244	2	117	3	177	2			84	3		
259	2	143	3	189 ^b	7			88	1		
290	2	159	4(2 Δ)	216	5			94	4		
299	2	183	13	219	8(2 Δ)			98	7		
13	21(2 Δ)	205	1	226	3			103	9		
		261	8	229	4			118	3		
		14	79(2 Δ)	246	3			133	4		
				251	4			138	3		
				266	4			139	1		
				281	11			152	2		
				285	5			154	2		
				293	4			157	1		
				20	94(4 Δ)			158	13(1 Δ)		
								162	1		
								163	1		
								169	3		
								172	8		
								175	7(1 Δ)		
								179	2		
								181	1		
								187	1		
								189 ^a	3		
								196	1		
								248	1		
								252	7		
								262	3		
								268	3		
								269	3		
								270	1		
								272	1		
								274	2(1 Δ)		
								278 ^a	4		
								278 ^b	2		
								300	3		
								42	141(9 Δ)		

TABLE NO. 16

A SUMMARY TRITONE TABLE ILLUSTRATING
BASIC TRITONE DATA OF THE DE NORAIDH
COLLECTION

TABLE NO. 16 : A SUMMARY TRITONE TABLE ILLUSTRATING
BASIC TRITONE DATA OF THE DE NORAIDH
COLLECTION

1. Tritone Songs

Songs containing the Augmented Tritone	44
Songs containing the Diminished Tritone	15
Songs containing a Combination of Aug- mented and Diminished Positions	<u>31</u>

90
==

2. Tritone Position

Augmented Tritones of Tempered Pitch	224
Augmented Tritones of Non-tempered Pitch	<u>14</u>

238

Diminished Tritones of Tempered Pitch	101
Diminished Tritones of Non-tempered Pitch	<u>4</u>

105

343
==

3. Tritone Form

Direct Form	5
Indirect Form	<u>338</u>

343
==

Continued...

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4. Tritone ModalityDorian -

Tempered Pitch	19	
Non-tempered Pitch	<u>2</u>	21

Lydian -

Tempered Pitch	77	
Non-tempered Pitch	<u>2</u>	79

Mixolydian -

Tempered Pitch	90	
Non-tempered Pitch	<u>4</u>	94

Aeolian -

Non-tempered Pitch only	<u>1</u>	1
-------------------------	----------	---

Ionian -

Tempered Pitch	132	
Non-tempered Pitch	<u>9</u>	141

Mixed Modes -

Tempered Pitch only	<u>7</u>	<u>7</u>
		<u>343</u>

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CHAPTER V

NON-TEMPERED PITCH

(i)

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NON-TEMPERED PITCH

1. NON-TEMPERED PITCH : AN ORIENTAL TRAIT

Introduction

Most folk song of Northern and Western Europe fits into the tempered system of pitch¹. The peculiar sound of some non-Western music is due to the fact that there are pitches and corresponding intervals which do not match our system of notation, nor do they agree with our fixed-pitch instruments². On the other hand, Eastern Europe, the Balkans, the Middle East, India, Japan, Java, Oceania and the Philippines display a variety of pitch and interval which is foreign to a twelve-degree system. Since the rhythms and scales of non-Western folk music do not agree with the Western system, it is very difficult to reproduce the music of Eastern cultures in conventional notation. Béla Bartók, in his collecting of Hungarian, Rumanian and Slavonic music, seems to have explored the ultimate possibilities of intricate notation, while remaining within a Western conventional system³. An example from Bartók's Rumanian collecting gives some indication of the enormous patience and acute hearing, involved in such a notational task:

Example 99 : Illustrating some notational complexities in the Transcription of a Rumanian Folk Song by Béla Bartók 4

Crăncești (Bihar), o muzică, 1933.

1. W. Schmid : Introduction to Tribal, Oriental and Folk Music: A Rationale and Syllabus. (Ph.D. Thesis, Eastman School of Music of the University of Rochester, 1971). University Microfilms, High Wycombe, England, p. 72.
2. B. Nettl : Folk and Traditional Music of the Western Continents, p. 23.
3. B. Nettl : Op. cit., p. 28.
4. B. Bartók : Rumanian Folk Music, Vol. II, Edited by B. Suchoff, Appendix II, 2, p. 719.

In the folk singing of Eastern Europe, intervals smaller than a minor second, and intervals somewhere between a major or minor third are in general use. Yugoslavia's body of heroic epic song displays scales and intervals which are quite unusual in Western Europe. In the following sample of Yugoslav epic song, quoted by Nettl⁵, the use of additional marks⁶ for microtonal raising or lowering of pitch has been necessary, in order to notate objectively the peculiarities of the scale used :

Example 100 : Illustrating instances of Non-tempered Pitch in a Sample of Yugoslav Epic Song, transcribed by Béla Bartók⁷

Šě - nluk cí - nî jod Ză - da - ra ba - ne,

I, u - fâ - ti - jo slú - gu Ra - do - jî - cu,

Ej, Ra - do - jî - cu tür-skú pri - dvö - ri-cu, (17) Ej,

Microtonic intervals are common in Islamic music - a cultural style which reaches, in a crescent, from Cordoba in Spain, over the North African Coast, to Samarkand in Uzbekistan. Although, at the terminals of this crescent, traditions are mixed, there is, nevertheless, a unity of culture, which may

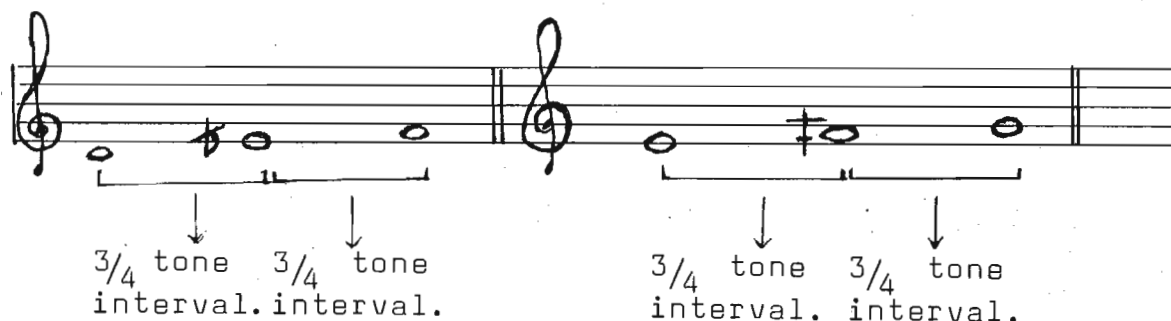
5. B. Nettl : Folk and Traditional Music of the Western Continents, 'Eastern Europe', p. 90.

6. Vertical arrows, upward and downward-pointing.

7. Milman Parry and Albert B. Lord: Serbo Croatian Heroic Songs, Vol. I (Cambridge, Mass., Harvard University Press, 1954), p. 440.

be termed a pan-Islamic tradition⁸. In Persian musical theory, an octave is divided into fifteen intervals; from these, seven-note scales are derived. This arrangement involves, among other things, a minor second which is slightly less than a 100 cents, and a neutral third (neither major nor minor) of about 355 cents⁹. Arabic music has a symbol indicating half-a-flat (lowering of a quarter tone) and half-a-sharp (raising of a quarter tone). A resultant three-quarter tone is a basic Arabic interval¹⁰. Example 101, which follows, illustrates this Arabic interval :

Example 101 : Illustrating the Arabic Non-tempered Interval of a three-quarter tone created by Non-tempered Pitches of half-a-flat and half-a-sharp



In Ethiopian music¹¹, non-tempered pitch is indicated by the use of special signs: these symbols are called milikit, and

8. W.P. Malm : Music Cultures of the Pacific, the Near East and Asia, p. 39.

9. W.P. Malm : Op. cit., p. 49.

10. S. El Mahdi : 'The Arab Musical Tradition'; 'Islam and the Arab World', in Journal of World History (1953 - 1972) and Cultures, p. 199

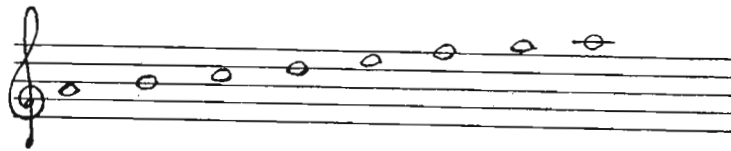
11. Ethiopian, together with Syrian, Melchite, Armenian, Coptic and Slavonic varieties, are part of Eastern and Byzantine church music. Eastern church music is sung in a nasal voice, with apparently impure intervals. Intervals which sound 'impure' are, in fact, part of scalar systems, far richer and more varied than Western counterparts.

(Grove's Dictionary of Music and Musicians, (editor Eric Blom), (Fifth Edition, 1954), 'Eastern Church Music : Introduction', pp. 860 - 861.)

belong to the notational systems of Ethiopian church manuscripts¹². The signs guide the singer in melodic interpretation. One of these indications is termed tchiret, a downward glissando on 'Ah'. An upward glissando, kinat, is performed on the same vocalisation.

Three modes of Ethiopian music are always mentioned in old accounts: 'Ezel, Ge'ez and Araráj. These modes have lost their name-meanings¹³. All three commonly feature glissando¹⁴. Example 102, which follows, illustrates the basic structure of Ge'ez :

Example 102 : An illustration of the Basic Structure of the Ethiopian Mode, Ge'ez



Of the three modes, mentioned above, Ge'ez is the least complicated. Its simple and unadorned style matches the shared mood of vigil, fast and funeral.

Example 103 below contains a chant in the Ge'ez mode¹⁵. There are two instances of glissando :

Example 103 : Illustrating glissando in Ethiopian Ecclesiastical Chant based on the Ge'ez Mode, at bars 1 and 5



12. M. Powne : Ethiopian Music: an Introduction, 'Ecclesiastical Music', p. 91.

13. Grove's Dictionary of Music and Musicians: (Fifth edition), 'Eastern Church Music: The Ethiopian Church', p. 868.

14. M. Powne : Ethiopian Music : An Introduction, 'Additional Musical Examples', Nos. 28, 29, 30, pp. 135 - 136.

15. M. Powne: Op. cit., Example 28, p. 135.

In the music of India, theory divides an octave of twelve semitones into a further twenty-two microtones, or śrutis, of slightly unequal size¹⁶. With this norm of twelve semitones, allowance should be made for many minute deviations and minor variations, conscious as well as unconscious¹⁷.

In China, certain instrumental music makes considerable technical demands on the performer, so that a wide range of subtle inflections may be achieved. In the playing of the chyn (a seven-stringed zither made of hollowed wood), subtle inflections of portamento, glissando and vibrato involve various ways of plucking and handling the string¹⁸. A string may be plucked towards or away from the player, struck or rubbed with the left hand. There are said to be no fewer than twenty-six varieties of vibrato alone¹⁹.

Tibet, at different times, has been influenced by the musics of China and India. Nevertheless, Tibetan music has developed distinctive characteristics which are especially apparent in Lamaist monastic chant. Liturgical chanting is in a very low register. Voices move in small steps which are often microtonal. The compass of melody is usually a narrow one²⁰.

In Japanese tradition, fluctuating pitches are present, especially in the music of the Noh drama²¹. In this music

16. W. Kaufmann: Involvement with Music: The Music of India, p. 4
P. Holdroyde : Indian Music, p. 139.

Peggy Holroyde says: 'It is impossible for our tempered scale to capture the fleeting, illusive movements between tones and semitones.'

17. N.A. Jairazbhoy : The Rāgs of North Indian Music. 'Basic Elements of Theory'. p. 36.

18. W. Apel: Harvard Dictionary of Music, (Second Edition, Revised), 'Chyn (Ch'in)', p. 170.

19. E. Wellesz : The History of Sound in Music, 'An Introduction to Ancient and Oriental Music', p. 15.

20. E. Wellesz : Op. cit., 'An Introduction to Ancient and Oriental Music', pp. 19 - 20.

21. The majority of the Noh plays were written in the second half of the fourteenth century. Among great masters of the style were Kannami (1333-1384) and his son, Zdami (1363 - 1443).

one pitch is established in relation to another. In general, a gliding attack from below a note and fluctuating pitches are constant features in the music of Japan²².

In the cultures of the Pacific, non-tempered pitch is found in Maori songs. This tribal chanting, genealogical and historical, centres on a reciting note, called the oro. The oro, as a tonal core, is surrounded by notes of indeterminate pitch. From such chanting style no specific scale system emerges. A more extreme form of non-tempered intonation prevails among Maori of New Zealand. Music for their dances in Polynesian tradition, e.g., the haka, is provided by a speech-song declamation which can be notated more effectively by a graph rather than by the Western five-line staff²³. Generally speaking, Oceanic peoples express their orally transmitted history and mythology in litany-style with an abundant use of slid pitches²⁴.

In Java, the five-tone slendro - one of two basic scales - divides an octave into five non-tempered steps. Slendro intervals vary slightly from less than 200 cents to slightly more than 300 cents. The non-tempered situation is greatly augmented by reason of the fact that the gamelan (Indonesian orchestra) has a tuning pattern which produces a different intervallic structure for each octave. No two gamelan have precisely the same intervallic structure!²⁵ Recent research has shown that both the Javanese five-toned slendro and seven-toned pelog are essentially non-equidistant scale-systems²⁶, although the slendro tends towards an octave, divided into five equal steps. This is why slendro-sound, to Western ears, resembles Chinese pentatonic melody²⁷.

22. Akira Taba : 'The Music of the Noh', in The World of Music, 2/1978, p. 3

23. W.P. Malm : Music Cultures of the Pacific, the Near East and Asia, 'Australia and the Pacific Islands', pp. 12 - 13

24. W.P. Malm : Op. cit., pp. 20 - 21.

25. W. Apel : Harvard Dictionary of Music, 'Java', p. 436

26. M. Hood : The Nuclear Theme as a Determinant of Patet in Javanese Music, pp. 194 et seq.

27. New Oxford History of Music, Vol. I. L. Picken: 'The Music of Far Eastern Asia', p. 166

Of special interest in this study are the non-tempered intervals of:

- a neutral third;
- a three-quarter tone (or neutral second); and
- a quarter tone.

Bruno Nettl describes a neutral third as an interval which lies between a major and a minor third²⁸. A neutral second is slightly more, and a quarter tone slightly less than a minor second. Intervals which are smaller than the minor second, and thirds which are neither major nor minor, are common in folk musics of Eastern Europe and especially of the Balkans, where Middle East influence has been effective for centuries²⁹. Arabic folk music, through symbols for half-a-sharp and half-a-flat, easily expresses both quarter and three-quarter tones³⁰. Discussing these matters in cents, W. Malm notes that, in Persian music, a neutral third is about 355 cents, a neutral second about 150 cents, and a minor second slightly less than a 100 cents³¹. Many of these 'out-of-tune' intervals are performed with precision and artfulness by non-Western virtuosi.

28. B. Nettl: Folk and Traditional Music of the Western Continents, 'Studying the Structure of Folk Music', p. 23.

29. B. Nettl: Op. cit., 'Eastern Europe', p. 87.

30. S. El Madhi: 'The Arab music tradition', in Islam and the Arab World, p. 199.

Half-a-flat: symbol \flat .
 Half-a-sharp: symbol \sharp .

31. W. Malm: Music Cultures of the Pacific, the Near East and Asia, 'Moslem Africa and the Near East', p. 49.

2. NON-TEMPERED PITCH AND INTERVAL IN THE DE NORAI DH COLLECTION

2.1 Introduction

The importance which De Noraïdh attached to non-tempered pitch as a trait of Irish folk-music can be gleaned from his Preface to Ceol ón Mumhain³², and from manuscriptal footnotes which comment on examples, as these appear in melodies.

It was De Noraïdh's view that one of the difficulties of Irish melodic notation lay in capturing on paper, sounds which did not fit into Western systems. Anyone wanting to abide by fundamental principles of folk-music would be required to study the modality of melodies and their quality of non-tempered pitch. Failure to preserve a pure tradition was often due to a lack in understanding Irish modal structure, and the use of fixed-pitched instruments in the performance and accompaniment of the music. In Irish rural areas, instruments which invariably offended in this matter were melodians, accordions and pipes, fitted with regulators. The old Irish pipe was well capable of handling non-tempered pitches³³. Writing on the contamination of Arabic folk-music, Professor Salah El Madhi, from Tunisia, re-echoes the views of De Noraïdh :

We have almost lost a great number of our ancient modes through the use of Occidental instruments, incapable of producing the quarter tone of our music³⁴.

Melody in Arabic music is confined to a scale system termed Maqām'āt. Melody is inspired within the framework

32. L. de Noraïdh: Ceol ón Mumhain (Music from Munster), 'Réamhrá' (Preface), p. 10. (Refer: Vol. I, Appendix II, pp. 149 - 158).

33. L. de Noraïdh: Op. cit., 'Réamhrá' (Preface), p. 10. (Refer : Vol. I, Appendix II, p. 152).

34. A. Daniélou : The Situation of Music and Musicians in Countries of the Orient, p. 67.

of the maqam, and non-tempered pitches and intervals are tied to the system. Arabic symbols used in the lowering and raising microtonally of pitch might be useful in the notation of Irish folk-music³⁵.

In the De Noraïdh Collection, non-tempered pitches are invariably described in footnotes to the songs. Apart from the slide, marked by an upward-slanting arrow, the collector does not seem to have devised a system of symbols to cope with the variety of non-tempered pitches and resultant intervals, inherent in the melodies. However, signs are used which locate the pitches and, furthermore, footnotes of a very precise kind enable one to calculate non-tempered pitches and ensuing intervals. Table No. 17, entitled 'De Noraïdh's Symbols and Footnotes relating to Non-Tempered Pitch, in Song Sequence, together with Some Relevant Comments by the present Writer' is contained in the Appendices of this Chapter V, pp. 300 - 303.

2.2 Non-tempered Pitches in the Corpus

In this study, types and categories of non-tempered pitch had to be deduced from the Collector's manuscriptal footnotes and comments. Two basic types of non-tempered pitch have been observed by the present writer :

1. The fixed non-tempered pitch.
2. The moving non-tempered pitch.

2.2.1 The Fixed Non-tempered Pitch

In the Corpus, a fixed non-tempering of pitch was achieved by either a microtonal raising or a microtonal lowering of a tempered sound. This raising and lowering seem to fit into the category of a quarter tone. De Noraïdh's footnotes suggest that, in some instances, minimal qualifications on the sides of plus and minus could be made. For example, in Songs Numbers 39, 158, 220 and 225, the rating of a quarter tone might well be qualified by a

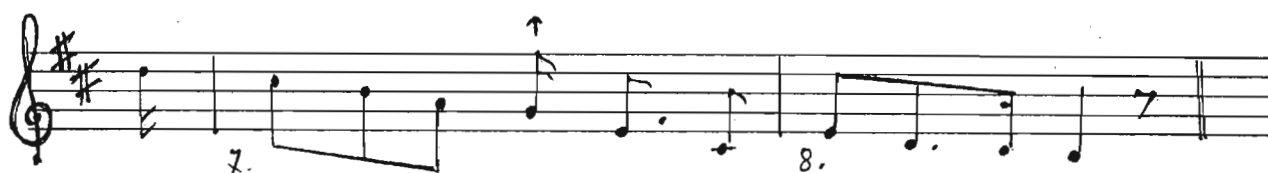
35. Refer this Chapter V, Footnote 30, page 276.

minus symbol. Nevertheless, all non-tempered pitches of the fixed type, to be found in the Collection, are microtonal; and a quarter tone appears to be a correct approximation for microtonal alteration which falls under the above heading.

In order to indicate the abovementioned non-tempering, symbols are used in this study. The vertical and upward-pointed arrow indicates a non-tempered raising of pitch, while the vertical and downward-pointing arrow is a sign of non-tempered lowering.

Example 104 which follows, instances a microtonal raising of a sound above the level of tempered pitch :

Example 104 : Corpus 53, bars 7 - 8 (D-Ionian), illustrating a Microtonal raising of a tempered sound by a quarter tone



In the above example, the fourth degree of D-Ionian has been raised above tempered pitch by a quarter tone. The non-tempered pitch, therefore, lies approximately between g-natural and g-sharp. This raising imparts something of a D-Lydian quality to bar 7.

2.2.2 The Moving or Slid Non-tempered Pitch

In terms of his Collection, De Noraídh describes a slide as a sound which rises during performance ³⁶. He suggests that accuracy in determining the length of a slide should be learned by repeated listening.

36. See Volume I, Appendix II, Liam de Noraídh's 'Introduction to Irish Folk Music' (in English Translation), p. 158.

Slid non-tempered pitch in the Collection appears in three varieties, and is symbolised generally by a slanting and upward-pointing arrow :

- a) Quartertonal slide
- b) Semitonal slide
- c) Three-quartertonal slide.

2.2.2 (a) The Quartertonal Slide

An example of the quartertonal slide is present in Corpus 191, on a lowered seventh degree of C-Ionian as seen hereunder :

Example 105 : Corpus 191, bars 1 - 2, illustrating in bar 2, on the lowered seventh degree of C-Ionian a Quartertonal Slide, beginning on one-lined b-flat and moving microtonally in the direction of b-natural



In the above example, the Collector has notated, in bar 2, the terminus a quo of the slide, b-flat', and comments on the very little distance of the movement. The present writer has interpreted that distance as approximately a quarter of a tone.

2.2.2 (b) The Semitonal Slide

Corpus 183 contains a semitonal slide in the opening bar of a D-Lydian melody:

Example 106: Corpus 183, bars 1 - 2, illustrating, in bar 1, on the lowered fourth degree of D-Lydian a Semitonal Slide from one-lined g-natural to g-sharp



Once again as in Example 105, De Noraïdh has notated the slide from the terminus a quo. A footnote confirms that this slide is semitonal.

2.2.2 (c) The Three-quarter-tonal Slide

One example only of the three-quarter-tonal slide is present in the Corpus. The slide appears in Song Number 169, bar 15, and is illustrated in Example 107 below :

Example 107 : Corpus 169, bars 14 - 16 (G-Ionian)
illustrating at bar 15 a Three-
quarter-tonal Slide moving from
e-natural twolined to a pitch
between f-natural and f-sharp



From the Example 107, it can be seen that, in bar 15, De Noraïdh notates the terminus ad quem of the slide. In a footnote, the Collector states that this long slide moved quickly from e-natural" in the direction of f-sharp", without actually reaching the tempered pitch of the f-sharp".

2.2.3 Arabic Symbols for Non-tempered Pitch, with possible Application to the Situation of Non-tempered Pitch in the De Noraïdh Collection

In both Arabic and Irish folk traditions, pitches are reckoned according to aural perception and not in terms of cents. Basic Arabic symbols for micro-tonal pitches are related to the half-sharp and half-flat. In order to cater for a non-tempering of a three-quarter tone, symbols for a sharp-and-a-half together with a flat-and-a-half are provided. For ready reference a chart illustrating the Arabic symbols for these four non-tempered pitches is now included :

CHART 28 :

A Graphic Presentation of Four Arabic Symbols
for Non-tempering of Pitch : Raising Symbols,
Half-a-sharp and a Sharp-and-a-half; Lowering
Symbols, Half-a-flat and a Flat-and-a-half

Raising symbols -

Half-a-sharp	: $\frac{1}{4}$ tone	\sharp
A sharp + half-a-sharp	: $\frac{3}{4}$ tone	$\sharp\sharp$

Lowering symbols -

Half-a-flat	: $\frac{1}{4}$ tone	\flat
A flat+ half-a-flat	: $\frac{3}{4}$ tone	$\flat\flat$

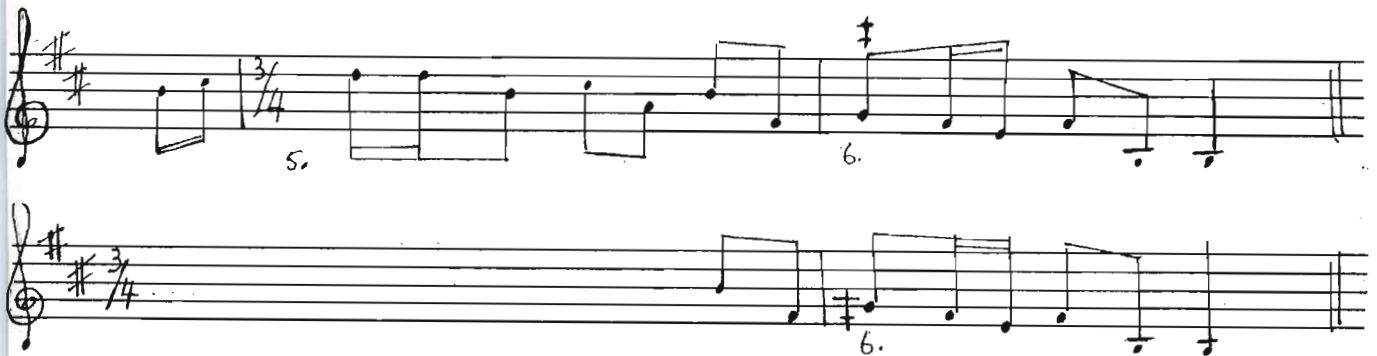
In his Collection, De Noraídh normally placed a mark over pitches which were non-tempered by either a raising or a lowering³⁷. Invariably, the rising slide carried the symbol of an upward-slanting arrow. Otherwise, De Noraídh relied entirely on footnotes which very painstakingly described actual tonal levels of non-tempering. It appears that certain previous collectors paid little attention to the non-tempered aspect of Irish folk music. De Noraídh may have felt that, in view of this circumstance, a descriptive method was more valuable than a symbolic one in conveying what he had actually heard of non-tempering during the performances of folk singers³⁸.

-
37. Corpus 55 is a notable exception. In the manuscript of this song, 'Na Connereys', notated in December 1940, a footnote relating to non-tempering has been omitted. However, De Noraídh, in his publication of the song, Ceol ón Mumhain (1965), p. 43, notes that the third degree of the mode (one-lined and two-lined e) was subject to a non-tempered lowering through the performance.
38. Refer Table 17, relating to De Noraídh's symbols and footnotes : Appendices to this Chapter V, pp. 300 - 303.

It is a view of the present writer that some Arabic pitch symbols, as outlined in Chart 28 above, could very well fit the Irish situation of non-tempering, as it is found in the Collection. (Refer Chart 28, p 282.)

Three examples which follow, are illustrations of how Arabic symbols, once understood, could express aspects of non-tempered pitch in the Corpus which have to do with microtonal raising and lowering of pitch and with a slide. In these illustrations, De Noraïdh's notation is provided on the upper staff. Beneath non-tempered bars, a notation which includes Arabic symbols, mentioned already, is suggested. In Example 108 below, upper staff, De Noraïdh has used the sign as a pointer to a one-lined g-natural which the singer raised approximately by a quarter-tone. A footnote in the Manuscript describes the microtonal raising :

Example 108 : Corpus 12, bars 5 - 6 (b-aeolian)
illustrating, at bar 6, De Noraïdh's
notation of a microtonal raising of
pitch by approximately a quarter-
tone, together with a suggested ap-
plication of an Arabic symbol for
half-a-sharp (†) in a second nota-
tion beneath †



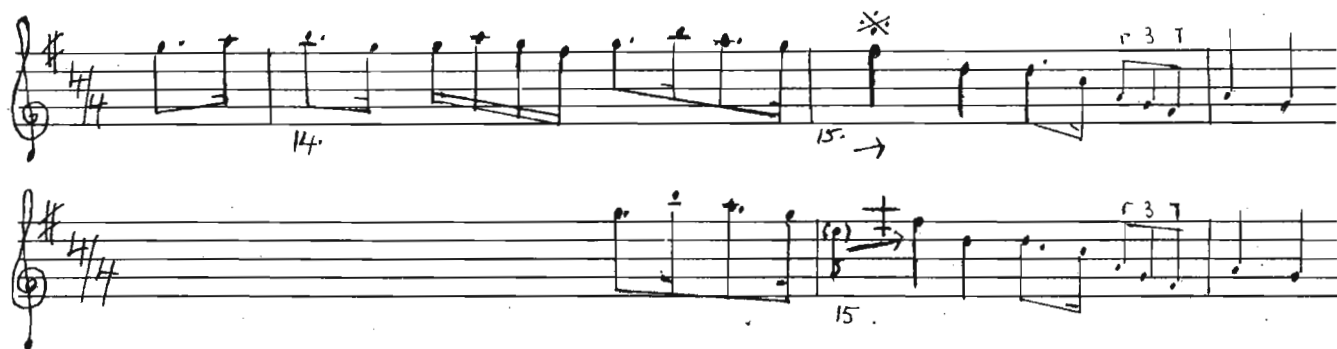
Example 109 which follows contains an instance of microtonal lowering by approximately a quarter-tone. De Noraïdh's notation is presented in the upper staff:

Example 109 : Corpus 55, bars 12 - 14 (tonal structure of C-major, with a microtonally lowered third degree throughout the song), illustrating at bars 12 and 14 a quarter-tone lowering of one-lined e and two-lined e, respectively, together with the use of an Arabic symbol for a half-flat in the second staff (\flat)



Example 110 below relates to a three-quarter-tone slide and is found in Corpus 169, at bar 15. De Noraïdh referred to this as a long slide, which began on two-lined e, and moved in the direction of two-lined f-sharp. This appears to be a slid pitch of approximately a three-quarter tone :

Example 110 : Corpus 169, bars 14 - 15, illustrating at bar 15, lower staff, a slide from two-lined e to approximately two-lined f, raised by a quarter-tone. The second extreme of the slide is marked by the Arabic symbol for half-a-sharp (\sharp)



In short, it seems that De Noraïdh, much as an Arabic musician would do in his own sphere, listened to Irish non-tempered pitches, some of which were less than a semitone and others between a semitone and a whole tone. These non-temperings De Noraïdh described very carefully, but did not use symbols which indicated the actual pitches involved. For the designation of such pitches in notation, Arabic pitches appear to have important possibilities.

2.2.4 Statistics relating to Non-tempered Pitches in the De Noraïdh Collection

Thirty songs in the Corpus provide examples of non-tempered pitches. The songs are listed as follows :

CHART 29 :

A Listing in Song Number Sequence of Songs in the De Noraïdh Collection which contain instances of Non-tempered Pitches

<u>Song Number Sequence</u>		
3	80	175
12	82	183
37	93	189a
39	99	191
48	131	219
49	149	220
53	158	225
55	159	268
69	166	274
71	169	281

Total of Songs : 30

Over these thirty songs, listed above, there is a total of sixty-eight instances in which pitches are non-tempered by a microtonal raising and lowering and by slides taken in an upward direction. Non-tempering by a microtonal raising or lowering amounts, approximately, to a quarter-tone. Slides are found

in the categories of quarter-tone, semitone and three-quarter-tone. The following data relate to sub-totals of each sub-class of non-tempering :

Microtonal Raising of Pitch	: 27 instances
Microtonal Lowering of Pitch	: 19 instances
Slid Pitches	: 22 instances
<hr/>	
Total of Non-tempered Pitches	: 68
	<hr/>

In the Appendices to this Chapter, Tables 18 and 19 present comprehensive and summary information, respectively, relating to salient aspects of non-tempering within the Collection.* From these tables, which are research-sources for reference, three charts, which follow, have been compiled.

Chart 30 contains data relating to microtonal raising of pitch, which is frequently designated in publications by a vertical and upwards-pointing arrow.

Chart 31 relates to slid pitches, symbolised by De Noraïdh through a slanting and upward-pointing arrow.

Chart 32 has to do with microtonal lowerings, conventionally indicated by a vertical and downward-pointing arrow :

* Table 18 - pp. 304 - 339
Table 19 - pp. 340 - 341.

CHART 30 :

A Listing of Song Numbers and related
Totals of Microtonal Raisings of Pitch
(approximately quartertonal) in the De
Noraidh Collection

<u>Song Number Sequence</u>	<u>Totals of Microtonal Raising</u>
12	3
53	2
69	4
82	5
93	2
98	2
99	4
149	1
158	4
	<hr/>
	27
	<hr/>

CHART 31 :

A Listing of Song Numbers and related
Totals of Slid Non-tempering of Pitches
which move in an upwards direction in
the De Noraidh Collection

<u>Song Number Sequence</u>	<u>Totals of Slid Pitches</u>	<u>Tonal Des- cription</u>
37	1	quarter-tone
48	1	quarter-tone
49	1	quarter-tone
71	2	quarter-tone
80	2	quarter-tone ⁺
131	1	quarter-tone
169	1	three-quarter-tone
175	1	quarter-tone
183	1	semitone
189a	3	quarter-tone
191	2	quarter-tone
219	2	semitone
274	1	semitone
281	2	quarter-tone
* 268 (See p. 288)	1	quarter-tone
	<hr/>	
	22	
	<hr/>	

*In Chart 31 just given, Song Number 268 contains both the slide and the non-tempered lowering of pitch. In sectional song-totals, this Corpus number should be reckoned once only. In Chart 32, which follows, Song Number 268 will be placed between brackets, for non-inclusion in the over-all total of songs - which is thirty.

CHART 32 :

A Listing of Song Numbers and related
Totals of Microtonal Pitch-Lowerings
(approximately a quarter-tone) in the
De Noraïdh Collection

<u>Song Number Sequence</u>	<u>Totals of Microtonal Lowering</u>
3	2
39	2
55	9
159	2
220	2
225	1
(268)	1
	<hr/>
	19
	<hr/>

Briefly, then, non-tempering of pitch is found in thirty songs of the Collection, and in three sub-classes. Non-tempered raisings of pitch provided twenty-seven examples; slides totalled twenty-two; non-tempered lowerings made up the remaining nineteen instances. A grand total of sixty-eight non-temperings mainly featured the microtonal emphasis of a quarter-tone.

2.3 Non-tempered Interval: Sequal to Non-tempered Pitch

2.3.1 Introduction

Non-tempered pitches do not stand in isolation. They are part of a melodic line, and form immediate relationships with tones of approach and of departure. Tonal arrivals at and departures from non-tempered pitches normally create resultant intervals which are also non-tempered. Both fixed and moving non-temperings have been discussed in section 2.2 of this Chapter. In the case of all fixed non-tempered pitches, a tone of immediate approach and a tone of departure, both produce, of necessity, intervals which are in themselves non-tempered. As to moving or slid non-tempered pitches, the situation is not quite the same. Should a slide terminate on a tempered pitch, which, in turn, is followed by a second tempered degree, the intervallic distance of departure is quite clearly a tempered one. On the other hand, a slide may move between two non-tempered pitch-extremes, in which case resultant intervals of both approach and departure will be non-tempered. However, irrespective of conditions of slid extremes, the actual sliding process is formally a non-tempered procedure which cannot be achieved on keyboard instruments. This circumstance prompted De Noraídh's disapproval of such instruments as vehicles for authentic performance of old-style melodies. Because of the importance which the Collector attached to non-tempering as a feature of Irish tradition, the accordion and melodian were viewed by him as insufficiently flexible for an adequate reproduction of such music³⁹.

39. L. de Noraídh: Preface to Ceol ón Mumhain, English Translation, Volume I, Appendix II, 'Contamination of the Music', p. 152.

2.3.2 Statistics relating to Non-tempered Intervals in the De Noraïdh Collection

As a rule, non-tempered pitch within the Corpus creates a double interval, which, in aspects of both arrival and departure, is also non-tempered. From a total of sixty-eight non-temperings, already mentioned, sixty-four instances create double intervals. The exceptions are four slid pitches of the semitonal kind, which produce non-tempered intervals of approach only⁴⁰. A summary chart, which follows immediately (Chart 33), illustrates basic statistics relating to non-tempered pitch and resultant non-tempered interval :

CHART 33 :

A Listing of Basic Statistics relating to Non-tempered Pitch and resultant Non-tempered Interval in the De Noraïdh Collection

<u>Pitch Total</u>	<u>Resultant Interval Total</u>
64	128
4	4
<u>68</u>	<u>132</u>

From the total of 132 non-tempered intervals, listed above, there emerge six intervallic sub-classes which share in non-tempering: the three-quarter-tone interval; the three-quarter-tone interval, realised via a slide; the neutral third interval (pitched between a major and minor third); the neutral sixth interval (pitched between a major and minor sixth); a microtonally reduced minor third interval; a major third interval, realised via a slide.

40. Refer Corpus 183, bar 1;
219, bar 6; bar 14; and
274, bar 12.

Chart 34 hereunder illustrates the intervallic frequency of each of these six sub-classes of non-tempered interval :

CHART 34 :

Illustrating Six Sub-classes of Non-tempered Interval, with corresponding Frequency Totals, as found in the De Noraïdh Collection

<u>Description of Interval</u>	<u>Frequency Total</u>
Threequarter-tone	67
Threequarter-tone, via a slide	14
Neutral 3rd	44
Neutral 6th	2
Microtonally reduced Minor 3rd	1
Major 3rd, via a slide	4
<hr/>	<hr/>
6	132
<hr/>	<hr/>

Tables 18 and 19, which are to be found in the Appendices to this Chapter, contain both comprehensive and summary data, as a guide for further reference and enquiry. (Refer pages 304 - 339 - Table 18; and pages 340 - 341 - Table 19.)

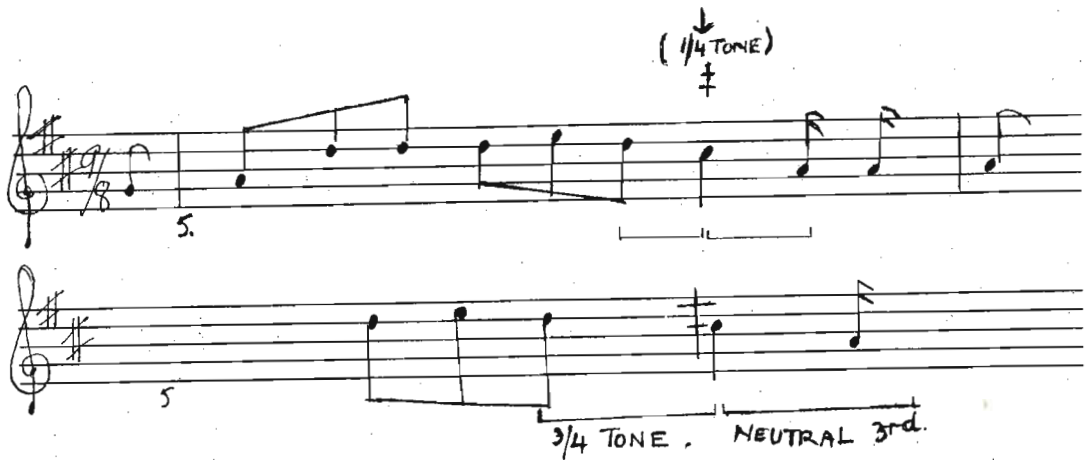
2.3.3 Examples of Non-tempered Intervals in the De Noraïdh Collection

The following are examples of the principal types of non-tempered intervals which result from non-tempered pitches in the Collection :

In each example, the first staff carries De Noraïdh's notation, and the second, a suggested use of Arabic or other symbols, as more accurate notational guides to the kind of non-tempering involved in the examples. Resultant intervals are marked by a brace () Example 111 which follows overleaf illustrates both a three-quarter-tone interval and a neutral third

interval, which result from a quarter-tone-pitch lowering of a two-lined c-sharp :

Example 111 : Corpus 3, bar 5 (D-Ionian), illustrating the Non-tempered Intervals of a three-quarter tone and of a neutral third, which result from a quarter-tone lowering of the seventh modal degree, two-lined c-sharp



In the above example, second staff, the Arabic symbol for half-a-sharp (\sharp) has been employed, in order to symbolise more precisely a quarter-tone lowering of two-lined c-sharp.

Example 112 below contains the interval of a major third which has been reached via a slid pitch of half-a-tone. The major third interval extends from one-lined a to two-lined c-sharp. This interval has been completed by a slide from two-lined c-natural to two-lined c-sharp. In other words, a sliding semitone becomes the 'tail' of the interval :

Example 112 : Corpus 274, bars 11 - 12, illustrating the conversion of a minor third interval into a major third interval via a semitonal slide

Handwritten musical notation for Example 112. The top staff shows bars 11 and 12 in G major, 2/4 time. A half-tone slide is indicated between bars 11 and 12 with a double-headed arrow and the text "(1/2 TONE)". The bottom staff shows the same notation with the text "MAJOR 3rd VIA SLIDE" written below the staff.

In the example just quoted, staff one, as usual, carries De Noraïdh's notation. In staff two, a suggestion has been made as to how the slid semitone could be more clearly indicated.

An interval of a three-quarter tone is exemplified in the next illustration. This interval is realized between one-lined b and two-lined c-natural, slid to a quarter-tone :

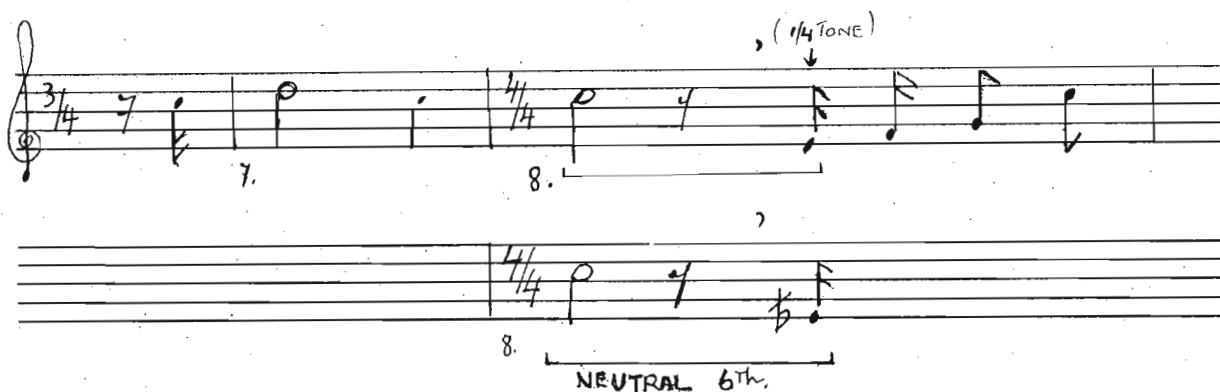
Example 113 : Corpus 131, bars 8 - 9 (d-dorian or d-mixolydian), illustrating at bar 8 an interval of a three-quarter tone, which takes place between one-lined b and two-lined c-natural, extended by a slide of a quarter tone

Handwritten musical notation for Example 113. The top staff shows bars 8 and 9 in D minor, 6/8 time. A three-quarter tone interval is indicated between bars 8 and 9 with a double-headed arrow and the text "(3/4 TONE)". The bottom staff shows the same notation with the text "3/4 TONE, VIA SLIDE" written below the staff.

In the second staff of the above example, the Arabic symbol for half-a-sharp is suggested as a notational help towards expressing the quarter-tone slide embraced within the interval of a three-quarter tone.

Example 114 contains the non-tempered interval of a neutral sixth, which stems from a quarter-tone lowering of one-lined e⁴¹.

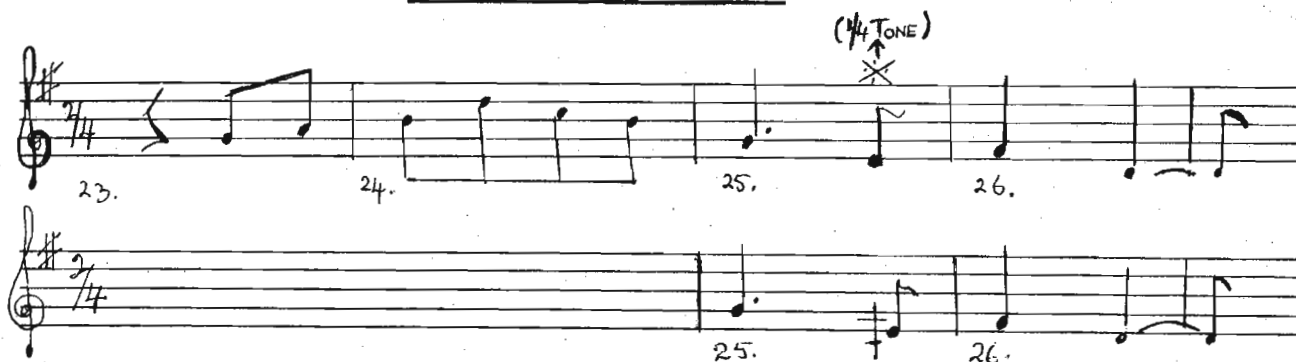
Example 114 : Corpus 55, bars 7 - 8, illustrating, at bar 8, the interval of a neutral 6th, between two-lined c and one-lined e which has been lowered by a quarter-tone



In the second staff of the above example, the Arabic symbol for a half-flat is suggested as a notational device for indicating the quarter-tone lowering of e'-natural.

A final example in this section relates to a microtonally contracted or reduced minor third. The reduction is due to the microtonal raising of pitch on one-lined e-natural :

Example 115 : Corpus 149, bars 23 - 26 (G-Ionian), illustrating, at bar 25, a microtonally reduced Minor Third Interval, from one-lined g-natural to one-lined e-natural microtonally raised



41. The reader's attention is directed to a footnote in the published volume of De Noraídh: Ceol ón Mumhain, p. 43, (translated version, Appendices to this Chapter V, Table 17, Song No. 55). This footnote reads in translation :
'The third degree of the mode (the note E in this case) is, throughout the song, lower than the third degree of the major scale in use today.'

In the example just quoted, there is the suggested use of a quarter-tone symbol, the Arabic half-sharp, as an approximation for the actual pitch-raising, bar 25, which takes place on e'.

In summary: there are three basic types of non-tempered intervals which stem from non-tempered pitches in the De Noraïdh Corpus: three-quarter tone intervals, together with third and sixth intervals. The three-quarter tone variety is found with and without a slide; the category of third intervals features a microtonally reduced minor third, a neutral third, and a major third, incorporating a slide; there are a couple of examples of the neutral sixth.

2.4 Non-tempered Pitch and Modality in the De Noraïdh Collection

2.4.1 Introduction

Until now, discussion of non-tempering in the Corpus has centred on non-tempered pitches considered in themselves, and on their immediate intervallic relationships with neighbouring tones. The result of this examination establishes that sixty-eight non-tempered pitches create 132 non-tempered intervals over the span of thirty songs. In order to assess more fully the Irish realization of this Oriental trait, it seems important to take the research one step further into the domain of modality, in order to determine to what extent non-tempering of pitch influences the modal structures of the Collection. The more thoroughly non-tempering of pitch has infiltrated tonal planes and become widely diffused, the more significantly is non-tempering present, as an Oriental trait, in the Corpus.

2.4.2 Non-tempered Pitch and Individual Modes

Non-tempering of pitch takes place in five modes :

Dorian, Lydian, Mixolydian, Aeolian and Ionian. No instance has been found in the Phrygian mode. The following chart (No. 35) illustrates song-total and non-tempered pitch-frequency which relate to each of these five modes, mentioned above :

CHART 35 :

A Diagrammatic Presentation, in three columns, which relates Song-Totals and Non-tempered Pitch-Frequencies to Modes in the De Noraïdh Collection

<u>Mode Name</u>	<u>Total of Songs</u>	<u>Frequency of Non-tempered Pitches</u>
Dorian	6	12
Lydian	2	3
Mixolydian	5	9
Aeolian	3	12
Ionian	14	32
<u>5 Modes</u>	<u>30</u>	<u>68</u>

2.4.3 Non-tempered Pitch and Modal Degrees

Generally speaking, modal degrees affected by non-tempering are the third, the fourth, the sixth and the seventh. It is significant that important or pillar-degrees of the second, the fifth and the final (II, V, I) are free from any non-tempering modifications. Otherwise, non-tempered degrees vary from mode to mode. In Dorian songs the third degree, and in Lydian the fourth, are the degrees exclusively non-tempered. Mixolydian modifications relate to both the third and the seventh degrees. Aeolian melodies are affected in third and sixth degrees. The Ionian mode provides examples of non-tempering in all four degrees: the third, the fourth, the

sixth, the seventh. Generally, the third degree is most varied in non-tempering: instances are found in Dorian, Mixolydian, Aeolian and Ionian. This degree is highest in frequency of non-tempering, with a total of thirty-nine instances. Chart 36 below, lists, under degree-headings, related modes, together with non-tempering frequencies:

CHART 36:

Illustrating under the degree-headings of Third, Fourth, Sixth and Seventh, Modes related to these degrees, together with corresponding Frequencies of Non-tempering

Degree III -

<u>Name of Mode</u>	<u>Frequency of Non-Tempering</u>
Dorian	12
Mixolydian	6
Aeolian	8
Ionian	13

Degree IV -

<u>Name of Mode</u>	
Lydian	3
Ionian	4

Degree VI -

<u>Name of Mode</u>	
Aeolian	4
Ionian	2

Degree VII -

<u>Name of Mode</u>	
Mixolydian	3
Ionian	13
	<u>68</u>

2.4.4 The Varieties of Non-tempering which occur in Modes of the De Noraídh Collection

The information which has been given until now has to do with frequency of non-tempering, and with non-tempered degrees - aspects of the general topic which are found in each of five modes: Dorian, Lydian, Mixolydian, Aeolian and Ionian. In order to complete the picture, it seems important to include the varieties of pitch-non-tempering which characterise these modes. In Dorian, two varieties occur: microtonal slides, of which there are three, and microtonally raised pitches, of which there are nine. Two brands of non-tempering are also found in the Lydian mode: a slid pitch and a microtonally lowered one. In the tonal context of Mixolydian, there is diversity of microtonal raisings and lowerings, together with slides - quartertonal and semitonal. In Aeolian, all non-tempering is achieved by a raising of tempered pitch by about a quarter-tone. Ionian melodies display all three basic aspects of non-tempering: pitches are raised and lowered microtonally, and there are slides. A table of reference, Table No. 20, has been placed in the Appendices to this Chapter, pp. 342 - 344. Under sub-headings of the five modes, already mentioned, data are presented in five parallel columns: Song Number, Mode, Degrees Altered, Non-tempered Pitches (both described and totalled) and Bar References. This reference-source makes readily available for the reader essential aspects of non-tempered pitches within the framework of modality.

In chapter-summary, it is possible to say that non-tempering of pitch is characteristically and specifically an Oriental trait which is found across the globe from Eastern Europe to the Far East. Its character varies from altered degrees to fully non-tempered systems. In De Noraídh's Irish Collection, non-tempering of pitch is found in thirty songs, and is mainly

microtonal to the extent of about a quarter-tone. Relationships between non-tempered pitches and neighbouring tones of approach and departure have produced 132 non-tempered intervals. Generally speaking, these intervals are made up of a variety of three-quarter tones, various thirds and also two neutral sixths. From the view-points of mode and of modal degree, the Ionian mode and the third modal degree reflect non-tempering most. Appendices containing four tables, complete this chapter.

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COMMENCEMENT OF

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Tables 17 - 20, illustrating Aspects of Non-tempered Pitches and resultant Non-tempered Intervals in the De Noraïdh Collection

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NON-TEMPERED PITCH

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NON-TEMPERED PITCH

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TABLE NO. 17

NON-TEMPERED PITCH





DE NORAIKH'S SYMBOLS AND FOOTNOTES RELATING
TO NON-TEMPERED PITCH IN SONG SEQUENCE, TO-
GETHER WITH SOME RELEVANT COMMENTS BY THE
PRESENT WRITER

A TABLE OF DE NORAIÐH'S SYMBOLS AND CORRESPONDING FOOT-NOTES, RELATING TO NON-TEMPERED PITCH,
TOGETHER WITH SOME RELEVANT COMMENTS BY THE PRESENT WRITER

Song No	Symbol in De Noraidh Manuscript	Tonality	Bar reference	Collector's Footnotes, Translated, and some relevant comments by the present writer - indicated with an asterisk
3		D-Ionian, Gapped 3rd degree	1; 5.	The sound of this note is lower than $c^{\#}$, without reaching $c^{\#}$.
12	\pm	b-aeolian	6; 8; 10.	In the singer's version, this sound was a little higher than g^{\flat} .
37	$\ast \rightarrow$	d-dorian	8	This sound (f') slides in the direction of $f^{\#}$.
39	\pm	d-dorian	17; 44.	The notation, $f^{\#}$, is only an approximation. The sound of the note was closer to $f^{\#}$ than to f^{\flat} .
48	$\ast \rightarrow$	D-Ionian	2	The sound (c^{\flat}) slides quickly in the direction of $c^{\#}$.
49	$\ast \rightarrow$	G-Ionian	7	This sound slides quickly from b^{\flat} in the direction of b^{\flat} .
53	\pm	D-Ionian	7; 15.	This sound was sung a little higher than g^{\flat} .
55		C-Ionian with slightly lowered 3rd degree		* Collector's note is absent from the manuscript. However, in the published version of the song, <u>Ceol ón Mumhain</u> , p. 43, De Noraidh inserted this foot-note: "The third degree of the mode (the note E in this case) is, throughout the song, lower than the third degree of the Major scale, in use today."

*Present writer's added comments.

TABLE 17 (continued)

Song No.	Symbol in De Noraidh Manuscript	Tonality	Bar reference	Collector's Footnotes, Translated, and some relevant comments by the present writer - indicated with an asterisk
69		d-aeolian	1 - 4	<p>In the first line of the stanza the sounds notated, a b^b and f', were sung a little higher. Once the singer's version of the first line almost corresponded with the following notation :</p>  <p>In the last line, the f' on the syllable 'sta' (posta) and the f' on the syllable 'ctn' (Cailin) are raised in a similar manner.</p>
71		D-Major	11; 15	* <u>Thesis comment</u> : A foot-note is absent from the collection-page. One is left to interpret the slide-sign in terms of the notes, accompanying Nos 48, 49.
80		d-dorian		<p>* A foot-note reads :</p> <p>"The sound of the note slides quickly from f^b towards $f^\#$. In this case, it approaches $f^\#$ very closely."</p> <p>In the photo-copy of the manuscript, the marking of the slid note is not clearly visible. Likely, the slide occurs on the $f^\#$, stanzas I and II, bar One.</p>
82		d-aeolian	4; 9; 10; 19; 20.	The sound of this note is higher than f^b , without being as high as $f^\#$.
93		d-dorian	II, 4; III, 4.	This sound is a little higher than f^b .

* Present writer's added comments.

TABLE 17 (continued)

Song No	Symbol in De Noraídh Manuscript	Tonality	Bar reference	Collector's Foot-notes, Translated
99	✱	d-dorian, gapped 6th degree	1; 6; 8; 10.	This note sounds a little higher than f ^{h'} .
131	✱ ↗	d-mixolydian gapped 3rd degree	8	This sound (c ^{h''}) slides towards c [#] , without actually reaching that pitch.
149	✱	G-Ionian	25	This sound is a little higher than e'.
158 (i)	✱	D-Ionian	II, 2	In the singer's version, the sound was closer to c ^{h''} than to c [#] . This does not apply to the corresponding note in stanza V.
158(ii)	⊕	D-Ionian	II, 7; III, 13; V, 7.	This sound was closer to f ^{h'} than to f [#] .
166	✱	d-mixolydian	5; 13	I have notated this sound as f'. However, it was difficult to be certain of the pitch throughout the song. That is not to say that if one were certain of the pitch, it would be possible to notate the sound. In my opinion, the sound was closer to f ^{h'} than to f [#] .
169	✱ ↗	G-Ionian	15	There is a long slide here. The sound begins on e'', and slides quickly in the direction of f ^{h''} .
175	✱ ↗	G-Ionian	7	The sound (b ^{h'}) slides a little in the direction of b ^{h'} .

Table 17 (continued)

Song No	Symbol in De Noraidh Manuscript	Tonality	Bar reference	Collector's Foot-notes, Translated
183		D-Lydian	1	This sound (g ^b ') slides to g [#] '.
189 ^a		D-Ionian	2; 6; 14.	This sound (c ^b ') slides in the direction of c [#] '.
191		C-Ionian	2; 6	This sound (b ^b ') slides a little in the direction of b ^b '.
219		d-mixolydian	6; 14	There is a slide here. The sound begins on f ^b ' , or at a slightly lower pitch, and then slides to f [#] '.
220		d-mixolydian, gapped at the 6th degree	4; 8	This sound was closer to c [#] ' than to c ^b '.
225		d-dorian, gapped at 6th degree	9	This sound was closer to f [#] ' than to f ^b '.
268		D-Ionian	3; 12	Bar 3 : The pitch of this note is a little lower than f [#] '. Bar 12 : Collector's note is absent: one can be certain that the upward-slanting arrow indicates a slide on c ^b '.
274		D-Ionian	12	The pitch of the note slides from about c ^b ' , upward, to c [#] '.
281		d-mixolydian	29; 75	This sound (f ^b ') slides in the direction of f [#] '.

CHAPTER V

NON-TEMPERED PITCH

TABLE 18

NON-TEMPERED PITCH

AN ANALYTICAL TABLE ILLUSTRATING NON-
TEMPERED PITCHES (DEGREES) AND RESULTANT
NON-TEMPERED INTERVALS IN THE DE NORAIKH
COLLECTION

(For clarity, Totals for Non-tempered
Pitch and for Non-tempered Intervals
are framed in separate 'windows' for
each song in this comprehensive table)

AN ANALYTICAL TABLE ILLUSTRATING NON-TEMPERED PITCHES (DEGREES)
AND RESULTANT NON-TEMPERED INTERVALS IN THE DE NORAIKH COLLECTION

SONG NO. 3

Example No. (a)

Corpus 3, bar 1

Tonality :
D-Major, gapped
3rd degree

Handwritten musical notation on a staff. The key signature is one sharp (F#) and the time signature is 9/8. The notation shows a sequence of notes: a quarter note, followed by a half note, then a quarter note, and finally a half note. An arrow points down to the fourth note, labeled $\frac{1}{4}$ tone. Below the staff, there is a bracketed label: $\frac{3}{4}$ TONE | NEUTRAL 3rd.

Non-tempered Pitch (degree) :

Location :

Bars 1 and 5.

PITCH	
TOTAL	
Lowering by $\frac{1}{4}$ tone	: 2

Description :

A microtonally lowered c[#]", 1/4 tone (↓).
---oOo---

Resultant non-tempered Intervals :

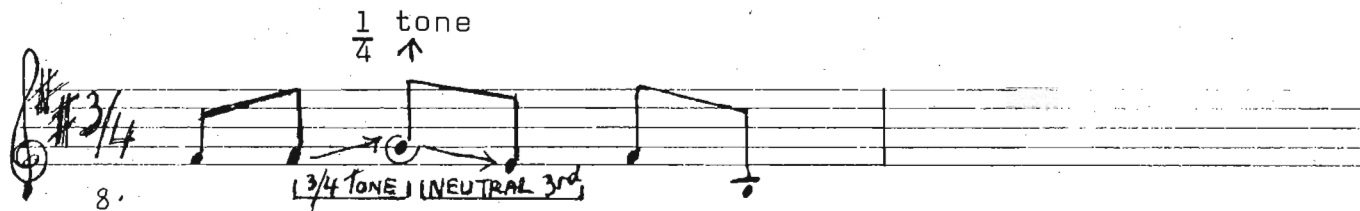
Bar 1

d" - c[#]" : $\frac{3}{4}$ tone
↓
c[#]" - a' : neutral 3rd.

Bar 5

d" - c[#]" : $\frac{3}{4}$ tone
↓
c[#]" - a' : neutral 3rd.

INTERVAL	
TOTAL	
$\frac{3}{4}$ Tones	: 2
Neutral 3rds	: <u>2</u>
	4

SONG NO. 12Example No. (b)Corpus 12, bar 8b-aeolianNon-tempered Pitch (degree)Location :

Bars 6; 8; 10.

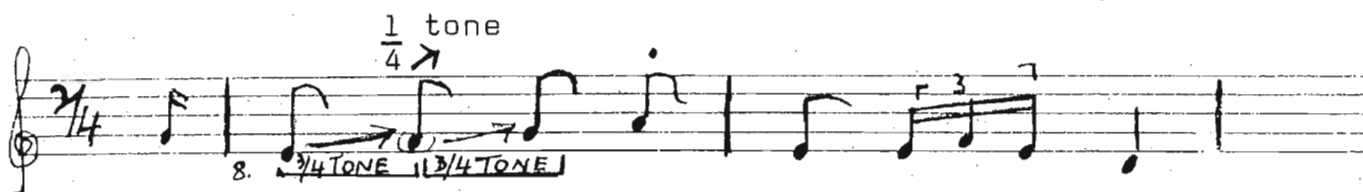
Description :g^b", microtonally raised 1/4 tone (↑).

---o0o---

Resultant non-tempered Intervals :Bars 5 - 6f[#] - g[↑] : 3/4 toneg[↑] - f[#] : 3/4 tone.Bar 8f[#] - g[↑] : 3/4 toneg[↑] - e : neutral 3rd.Bar 10f[#] - g[↑] : 3/4 toneg[↑] - f[#] : 3/4 tone.INTERVAL

<u>TOTAL</u>	
3/4 tones	: 5
Neutral 3rd	: 1
	6
	=

PITCHTOTALRaising by
1/4 tone : 3

SONG NO. 37Example No. (c)Corpus 37, bar 8d-dorianNon-tempered Pitch (degree)Location :

Bar 8.

Description :

An ascending microtonal slide on $f^{\sharp 4}$, (\nearrow)
about $1/4$ tone)

---oDo---

Resultant non-tempered Intervals :

e' - $f^{\sharp 4}$: $3/4$ tone, via $1/4$ tone slide.

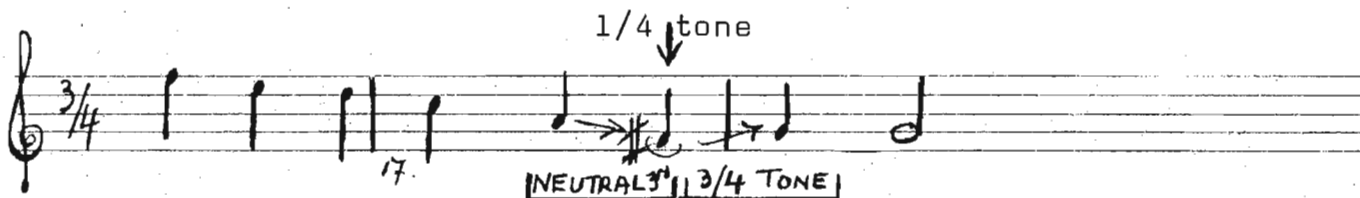
$\uparrow f^{\sharp 4}$ - g' : $3/4$ tone.

INTERVAL

<u>TOTAL</u>	
$3/4$ tone (via slide) :	1
$3/4$ tone :	<u>1</u>
	2
	—

PITCHTOTAL

Sliding
 $1/4$ tone : 1

SONG NO. 39Example No. (d)Corpus 39, bar 17d-dorianNon-tempered Pitch :Location :

Bars 17 and 44.

Description :A microtonally lowered $f\sharp$, $\frac{1}{4}$ tone (\downarrow).

---o0o---

Resultant non-tempered Intervals :Bar 17
 $a' - \downarrow f\sharp' : \text{neutral 3rd}$
 $\downarrow f\sharp' - g' : \frac{3}{4} \text{ tone.}$
Bar 44

Same interval : neutral 3rd

Same interval : $\frac{3}{4}$ tone.

PITCH

TOTAL

Lowering by

 $\frac{1}{4}$ tone : 2

INTERVAL

TOTAL

Neutral 3rds : 2

 $\frac{3}{4}$ tones : 2

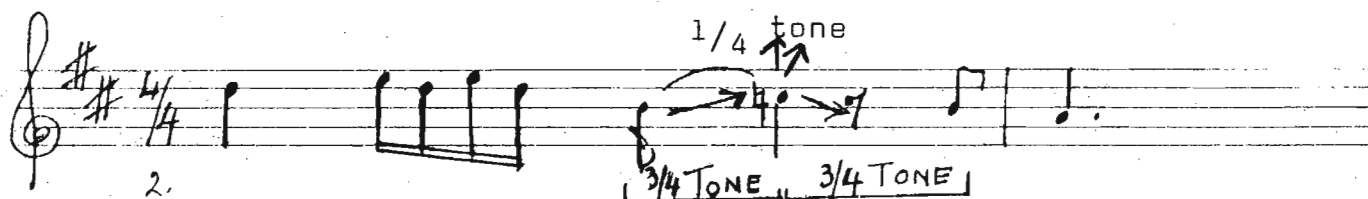
4

==

SONG NO 48

Example No. (e)

Corpus 48, bar 2

D-Major

Non-tempered Pitch :

Location :

Bar 2

Description :

A fast ascending microtonal slide, from c^{\sharp} , (\nearrow) $\frac{1}{4}$ tone.

----- 000 -----

Resultant non-tempered Intervals :

Bar. 2

b' - c[↑] slide : 3/4 tone

$c \overset{\uparrow}{b}'' - b'$: $3/4$ tone.

INTERVAL

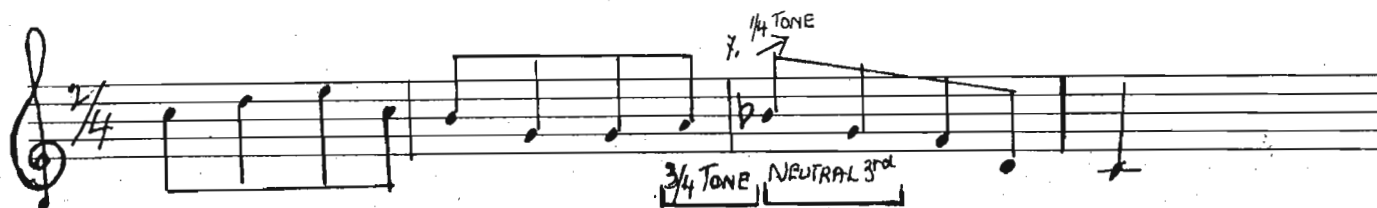
TOTAL

3/4 tone, via slide : 1

3/4 tone : 1

2

==

SONG NO. 49Example No. (f)Corpus 49, bar 7G-MajorNon-tempered Pitch :Location :

Bar 7

PITCH

TOTAL

Sliding

 $\frac{1}{4}$ tone

: 1

Description :

A fast ascending microtonal slide on b^1 , (\nearrow) $\frac{1}{4}$ tone.

-----oOo-----

Resultant non-tempered Intervals :

$a^1 - b^1$: $\frac{3}{4}$ tone, via slide

$b^1 - g^1$: neutral 3rd.

INTERVAL

TOTAL $\frac{3}{4}$ tone, via slide : 1

Neutral 3rd : 1

-

2

-

SONG NO. 53

Example No. (g)

Corpus 53, bar 7

D-Major



Non-tempered Pitch :

Location :

Bars 7; 15

Description :

A microtonally raised g^{\sharp} (\uparrow), $\frac{1}{4}$ tone

-----oOo-----

Resultant Intervals :

Bar 7 :

$a' - \overset{\uparrow}{g^{\sharp}}$: $\frac{3}{4}$ tone

$\overset{\uparrow}{g^{\sharp}} - e'$: neutral 3rd.

Bar 15 :

$a' - \overset{\uparrow}{g^{\sharp}}$: $\frac{3}{4}$ tone

$\overset{\uparrow}{g^{\sharp}} - e'$: neutral 3rd.

PITCH

TOTAL

Raising by	
$\frac{1}{4}$ tone	: 2

INTERVAL

TOTAL

$\frac{3}{4}$ tones : 2

Neutral 3rds : 2

—

4

=

SONG NO. 55

The modal structure resembles C-Major, but is non-tempered in a lowered third degree throughout the song (↓)

(Footnote, Ceol ón Mumhain, p. 43)

A. Non-tempered Third : e', (↓), $\frac{1}{4}$ tone.

Location of Pitch :

Upbeat - bar 1; bars 3; 8; 12; 14 - 15. (TOTAL : 5)

Description :

A microtonally lowered e' (↓), $\frac{1}{4}$ tone.
-----o0o-----

Resultant non-tempered Intervals : (TOTAL : 10)

Up-beat to bar 1 :

c' - ↓e' : neutral 3rd

↓e' - f : $\frac{3}{4}$ tone.

Bar 3 :

d' - ↓e' : $\frac{3}{4}$ tone

↓e' - d : $\frac{3}{4}$ tone.

Bar 8 :

c'' - ↓e' : neutral 6th

↓e' - f' : $\frac{3}{4}$ tone.

(A - contd)
(Song No. 55)

Bar 12 :

d' - \downarrow e' : 3/4 tone

\downarrow e' - f' : 3/4 tone.

Bars 14 - 15 :

f' - \downarrow e' : 3/4 tone

\downarrow e' - d : 3/4 tone.

B. A microtonally lowered Third degree in upper octave :

e" (\downarrow),
 $\frac{1}{4}$ tone.

Location of Pitch :

Bars 2; 4 - 5; 8 - 9; 14.

(TOTAL : 4)

-----oOo-----

Resultant Non-tempered Intervals

(TOTAL : 8)

Bar 2 :

d" - \downarrow e" : 3/4 tone

\downarrow e" - c" : neutral 3rd.

Bars 4 - 5 :

c" - \downarrow e" : neutral 3rd

\downarrow e" - d" : 3/4 tone.

Bars 8 - 9 :

c" - \downarrow e" : neutral 3rd

\downarrow e" - d" : 3/4 tone.

(B - contd)

Bar 14 :

$$d'' - \downarrow e'' : \text{neutral 3rd}$$

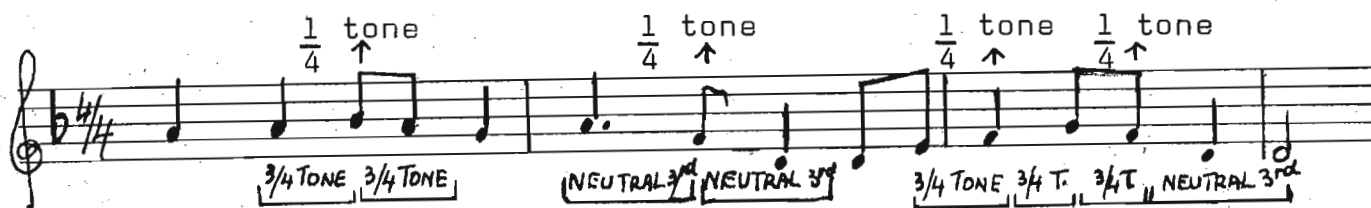
$$\downarrow e'' - d'' : 3/4 \text{ tone.}$$
GRAND TOTALS

PITCH

<u>TOTAL</u>	
Lowering by $\frac{1}{4}$ tone on :	
3rd degree, e'	: 5
3rd degree, 3''	: $\frac{4}{9}$
	=

INTERVALS

<u>TOTAL</u>	
3/4 tones	: 12
Neutral 3rds:	5
Neutral 6th :	1
	<hr/>
	18
	<hr/>

SONG NO. 69Example No. (h)Corpus 69, bars 1 - 4d-aeolianNon-tempered Pitch :Location :

Bars 1 - 4

PITCH

TOTAL

Raising by

 $\frac{1}{4}$ tone : 4Description :Microtonally raised b^b and f^{\sharp} (\uparrow), $\frac{1}{4}$ tone.

-----oOo-----

Resultant non-tempered Intervals :Bar 1 a^{\flat} - b^{\flat} : $\frac{3}{4}$ tone \uparrow
 b^{\flat} - a^{\flat} : $\frac{3}{4}$ tone.Bar 2 a^{\flat} - f^{\sharp} : neutral 3rd \uparrow
 f^{\sharp} - d^{\flat} : neutral 3rd.Bars 2 - 3 a^{\flat} - f^{\sharp} : $\frac{3}{4}$ tone \uparrow
 f^{\sharp} - g^{\flat} : $\frac{3}{4}$ tone

Song No. 69 - contd.

g' - [↑]f# ' : 3/4 tone

[↑]f# ' - d' : neutral 3rd.

INTERVAL

TOTAL

3/4 tones : 5

Neutral 3rds : 3

—

8

=

SONG NO. 71

Example No. (i)

Corpus 71, bar 11

D-Major

Musical notation for Example No. (i) in D-Major, 6/8 time. The notation shows a melodic line starting on a G note (labeled '11.'). The first interval is a 3/4 tone. The second interval is a 1/4 tone slide, indicated by an arrow and the text '1/4 tone'. The third interval is another 3/4 tone. The notation is written on a five-line staff with a treble clef and a key signature of one sharp (F#).

Non-tempered Pitch :

Location :

Bars 11; 15.

Description :

g', slid a $\frac{1}{4}$ tone in upward direction (↗).
-----o0o-----

PITCH	
TOTAL	
Sliding	
$\frac{1}{4}$ tone	: 2

Resultant Intervals :

Bar 11

f# - g' : 3/4 tone, via $\frac{1}{4}$ tone slide.
↑
g' - f# : 3/4 tone.

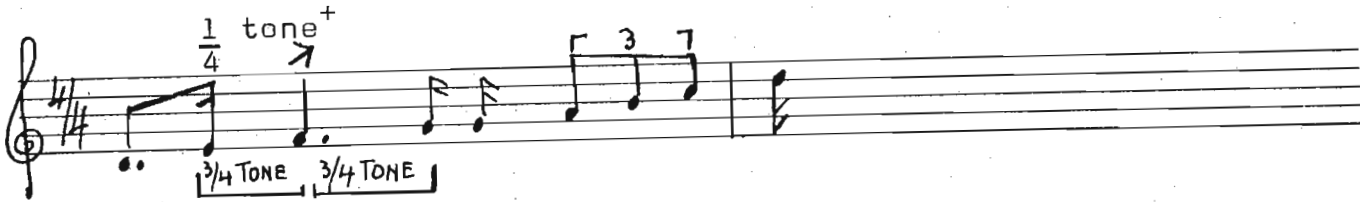
Bar 15

f# - g' : 3/4 tone, via $\frac{1}{4}$ tone slide.
↑
g' - f# : 3/4 tone.

INTERVAL	
TOTAL	
3/4 tones	: 2
3/4 tones via slides	: <u>2</u>
	4
	=

Example No. (j)

Corpus 80, Stanza I, bar 1.

d-dorianNon-tempered Pitch :Location :

Stanza I, bar 1; Stanza II, bar 1.

PITCH	
<u>TOTAL</u>	
Sliding	
$\frac{1}{4}$ tone ⁺	: 2

Description :

A microtonal upward slide, from f^{\sharp} towards $f^{\sharp\sharp}$, without actually reaching that degree (a slide of a $\frac{1}{4}$ tone, plus) (\nearrow).

-----oOo-----

Resultant non-tempered Intervals :Stanza I, bar 1 :

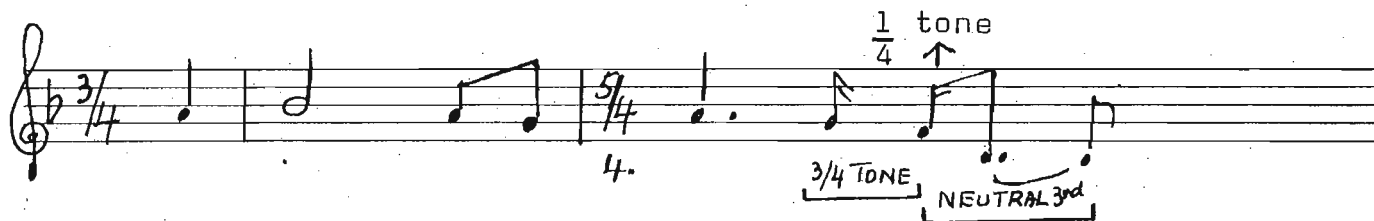
$e' - f^{\sharp} : 3/4 \text{ tone}^+$
 $\uparrow f^{\sharp} - g^{\sharp} : 3/4 \text{ tone}^-$

Stanza II, bar 1 :

$e' - f^{\nearrow} : 3/4 \text{ tone}^+$
 $\uparrow f^{\sharp} - g^{\sharp} : 3/4 \text{ tone}^-$

INTERVAL

<u>TOTAL</u>	
$3/4 \text{ tone}^+$: 2
$3/4 \text{ tone}^-$: <u>2</u>
	4
	=

SONG NO. 82Example No. (k)Corpus 82, bar 4d-aeolianNon-tempered Pitch :Location :

Bars 4; 9; 10; 19; 20.

Description :Microtonally raised $f\sharp^4$, (\uparrow) $\frac{1}{4}$ tone.

-----oOo-----

Resultant non-tempered Intervals :Bar 4 : $g\sharp^4 - \uparrow f\sharp^4$: $3/4$ tone $\uparrow f\sharp^4 - d$: Neutral 3rd.Bar 9 :Same intervals : $3/4$ tone

Neutral 3rd.

Bar 10 :Same intervals : $3/4$ tone

Neutral 3rd.

Bar 19 :Same intervals : $3/4$ tone

Neutral 3rd.

PITCH

TOTAL

Raising by	:	5
$\frac{1}{4}$ tone	:	

Song No. 82 - contd.

Bar 20 :

Same intervals : $3/4$ tone

Neutral 3rd.

INTERVAL

TOTAL

$3/4$ tones : 5

Neutral 3rds: 5

—
10

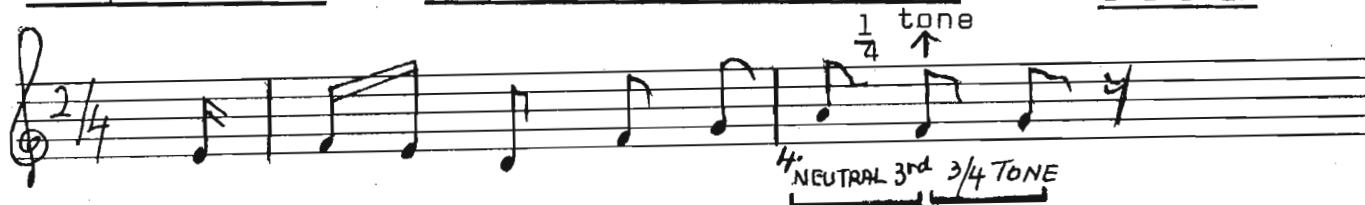
==

SONG NO. 93

Example No. (1)

Corpus 93, Stanza II, bar 4

d-dorian

Non-tempered Pitch :Location :

Stanza II, bar 4; Stanza III, bar 4

Description :Microtonally raised $f\sharp^1$, (\uparrow) $1/4$ tone.

-----oOo-----

Resultant non-tempered Intervals :Stanza II, bar 4 :
 $a^1 - \overset{\uparrow}{f\sharp^1} : \text{Neutral 3rd}$
 $\overset{\uparrow}{f\sharp^1} - g^1 : 3/4 \text{ tone.}$
Stanza III, bar 4 :
 $a^1 - \overset{\uparrow}{f\sharp^1} : \text{Neutral 3rd}$
 $\overset{\uparrow}{f\sharp^1} - g^1 : 3/4 \text{ tone.}$

INTERVAL

<u>TOTAL</u>	
Neutral 3rds	: 2
3/4 tones	: 2
	—
	4
	==

PITCH

TOTAL

Raising by
 $\frac{1}{4}$ tone : 2

SONG NO. 99

Essentially pentatonic
or d-dorian,
gapped 6th degree.

Example No. (m) Corpus 99, bar 1.



Non-tempered Pitch :

Location : Bars 1; 6; 8; 10.

Description :

A microtonally raised f^{\sharp} , (\uparrow) $1/4$ tone.

-----oOo-----

Resultant non-tempered Intervals:

Bar 1 :

a' - $\uparrow f^{\sharp}$: Neutral 3rd

$\uparrow f^{\sharp}$ - g' : $3/4$ tone

Bar 6 :

a' - $\uparrow f^{\sharp}$: Neutral 3rd

$\uparrow f^{\sharp}$ - g' : $3/4$ tone

Bar 8 :

a' - $\uparrow f^{\sharp}$: Neutral 3rd

$\uparrow f^{\sharp}$ - g' : $3/4$ tone

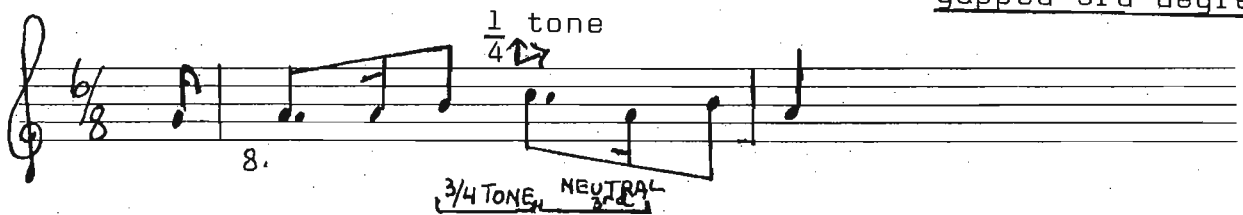
Bar 10 :

a' - $\uparrow f^{\sharp}$: Neutral 3rd

$\uparrow f^{\sharp}$ - g' : $3/4$ tone.

INTERVAL

TOTAL	
Neutral 3rds :	4
$3/4$ tones :	4
	8
	==

Example No. (n)Corpus 131, bar 8d-mixolydian
gapped 3rd degree.Non-tempered Pitch (degree)Location :

Bar 8

PITCH

TOTAL

Sliding about

 $\frac{1}{4}$ tone : 1Description :Microtonally ascending slide on c^{\sharp} , (\nearrow) about $\frac{1}{4}$ tone.

-----oOo-----

Resultant non-tempered Intervals : b^{\flat} - c^{\sharp} : $\frac{3}{4}$ tone via $\frac{1}{4}$ slide c^{\sharp} - a^{\flat} : Neutral $\frac{3}{4}$.

INTERVAL

TOTAL

Neutral 3rd : 1

 $\frac{3}{4}$ tone via
slide : 1

-

2

=

SONG NO. 149Example No. (o)Corpus 149, bar 25G-MajorNon-tempered PitchLocation :

Bar 25

PITCH

TOTAL

Raising by

 $\frac{1}{4}$ tone : 1Description :Microtonally raised e' (\uparrow) $\frac{1}{4}$ tone.

-----o0o-----

Resultant non-tempered Intervals :Bar 25 :g' - \uparrow e' : Microtonally reduced Minor 3rd \uparrow e' - f# : $\frac{3}{4}$ tone.

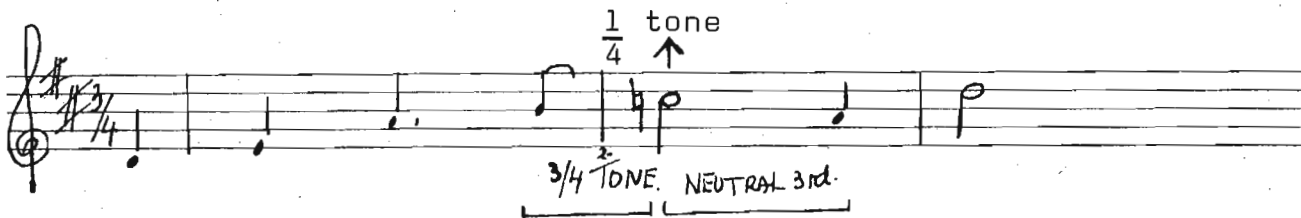
INTERVAL

TOTALMicrotonally
reduced
Minor 3rd : 1 $\frac{3}{4}$ tone : 1

—

2

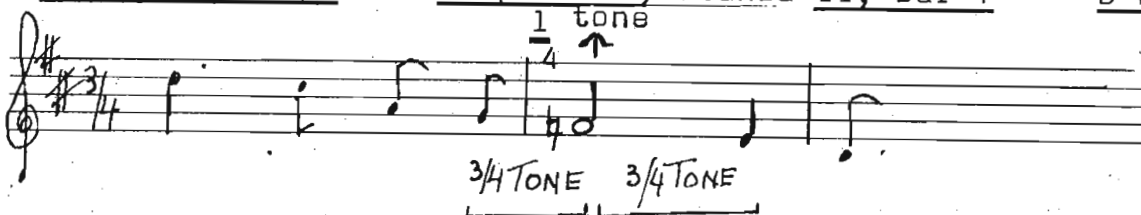
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SONG NO. 158A. Example No. (p)Corpus 158, Stanza II, bar 2D-MajorNon-tempered Pitch (degree)Location :

Stanza II, bar 2

(TOTAL : 1)Description :Microtonally raised c^{\sharp} (↑) 1/4 tone.

-----oDo-----

Resultant non-tempered Intervals :(TOTAL : 2) $b^{\flat} - c^{\sharp}$: 3/4 tone. $c^{\sharp} - a^{\flat}$: Neutral 3rd.B. Example No. (q)Corpus 158, Stanza II, bar 7D-MajorNon-tempered Pitch (degree)Location :Stanza II, bar 7; Stanza III, bar 13;
Stanza V, bar 7.(TOTAL : 3)Description :Microtonally raised f^{\sharp} (↑) 1/4 tone.

-----oDo-----

Resultant non-tempered Intervals :

(TOTAL : 6)

Stanza II, bar 7

g' - [↑]f#q' : 3/4 tone

[↑]f#q' - e' : 3/4 tone.

Stanza III, bar 13

d' - [↑]f#q' : Neutral 3rd.

[↑]f#q' - e' : 3/4 tone.

Stanza V, bar 7

g' - [↑]f#q' : 3/4 tone

[↑]f#q' - e' : 3/4 tone.

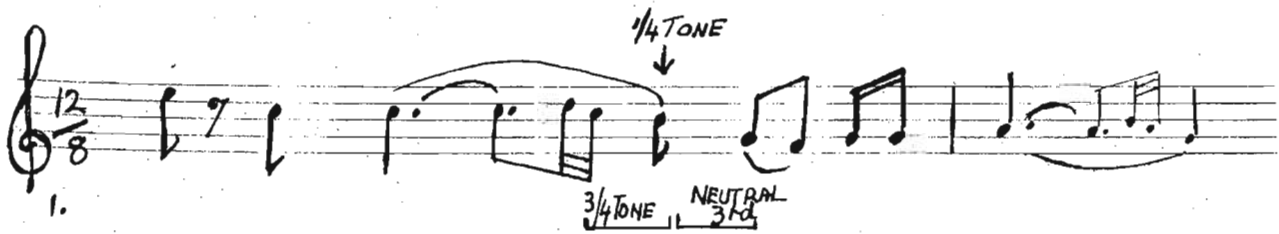
GRAND TOTALS

PITCH

<u>TOTAL</u>	
Raising by	
$\frac{1}{4}$ tone	: 4

INTERVAL

<u>TOTAL</u>	
Neutral 3rd	: 2
3/4 tone	: 6
	<u>8</u>

SONG NO. 159Example No. (r)Corpus 159, bar 1F-LydianNon-tempered Pitch (degree)Location :

Bars ; amd 5

Description :

A microtonally lowered b^{\flat} ,
 $\frac{1}{4}$ tone (\downarrow)

PITCH

TOTAL

Lowering

 $\frac{1}{4}$ tone : 2

---o0o---

Resultant non-tempered Intervals :Bar 1 :
 $c'' - b^{\flat}$: a $\frac{3}{4}$ tone

 $b^{\flat} - g'$: neutral 3rd.
Bar 5 :
 $c^{\flat}'' - b^{\flat}$: $\frac{3}{4}$ tone

 $b^{\flat} - g'$: neutral 3rd.

INTERVAL

TOTAL
 $\frac{3}{4}$ tones : 2

Neutral 3rds : 2

4

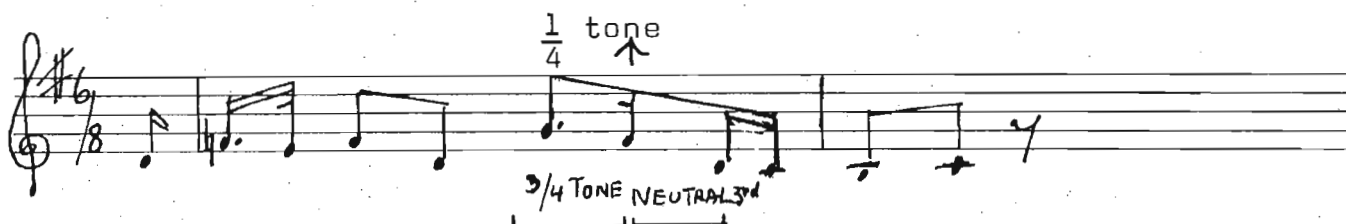
=

SONG NO. 166

Example No. (s)

Corpus 166, bar 5

d-mixolydian



Non-tempered Pitch (degree)

Location :

Bars 5 and 13

Description :

Microtonally raised f#4 (↑) about 1/4 tone.

-----oOo-----

Resultant non-tempered Intervals :

Bar 5

g#4 - f#4 : 3/4 tone

↑ f#4 - d5 : Neutral 3rd.

Bar 13

g#4 - f#4 : 3/4 tone

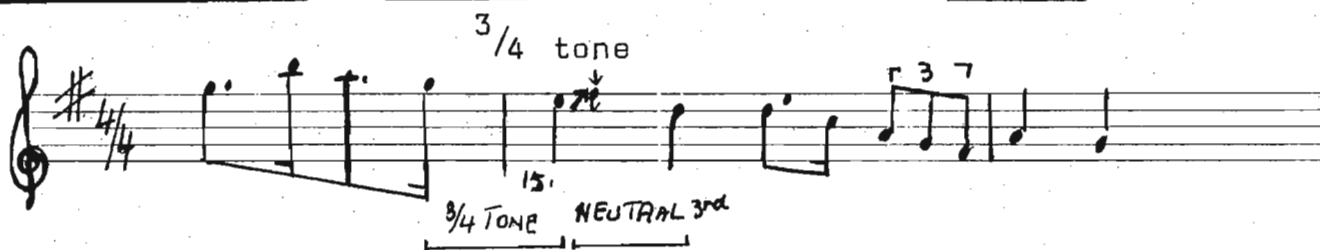
↑ f#4 - d5 : Neutral 3rd.

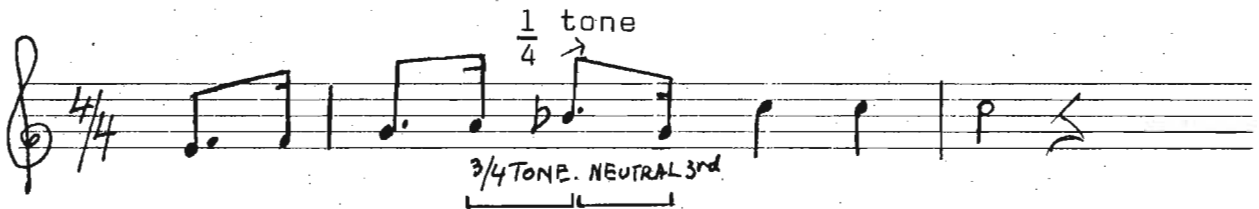
INTERVAL

<u>TOTAL</u>	
Neutral 3rds	: 2
3/4 tones	: 2
	<hr/>
	4
	<hr/>

<u>PITCH</u>	
<u>TOTAL</u>	
Raising by	
1/4 tone	: 2

SONG NO. 169

Example No. (t)Corpus 169, bar 15G-Major

SONG NO. 175Example No. (u)Corpus 175, bar 7C-MajorNon-tempered PitchLocation :

Bar 7

Description :Upward microtonal slide from b^b (↗), 1/4 tone.

-----oOo-----

Resultant non-tempered Intervals : $a' - b^b$: 3/4 tone, via slide. $b^b - g'$: Neutral 3rd.INTERVAL

<u>TOTAL</u>		
Neutral 3rd	:	1
3/4 tone	:	1
Via slide		<u>1</u>
		2
		<u><u>2</u></u>

PITCHTOTAL

Sliding

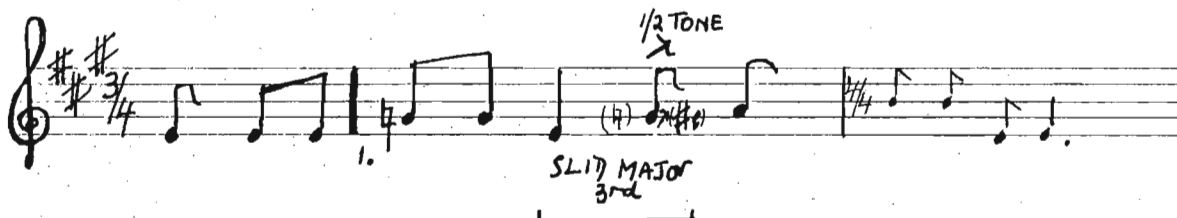
 $\frac{1}{4}$ tone : 1

SONG NO. 183

Example No. (v)

Corpus 183, bar 1

D-Lydian



Non-tempered Pitch (degree)

Location :

Bar 1

Description :

Semitonal slide from g^{\flat} \rightarrow g^{\sharp} .
-----oOo-----

Resultant interval :

$e' - g^{\flat} \rightarrow g^{\sharp}$: A slid major 3rd.

PITCH

TOTAL

Sliding	
$\frac{1}{2}$ tone	: 1

INTERVAL

TOTAL

Major 3rd via
$\frac{1}{2}$ tone slide: 1

NOTE:

Pitch : 1
Interval : 1

SONG NO. 189^(a)Example No. (w)Corpus 189^(a), bar 2D-MajorNon-tempered Pitch (degree)Location :

Bars 2; 6; 14.

Description :Upward microtonal slide, 1/4 tone, from c⁴" (↗).

-----oOo-----

Resultant non-tempered Intervals :Bar 2 :b¹ - c⁴" : 3/4 tone, via slide.↑ c⁴" - a¹ : Neutral 3rd.Bar 6 :b¹ - c⁴" : 3/4 tone, via slide.↑ c⁴" - a¹ : Neutral 3rd.Bar 14 :b¹ - c⁴" : 3/4 tone, via slide.↑ c⁴" - a¹ : Neutral 3rd.

INTERVAL

<u>TOTAL</u>	
Neutral 3rds	: 3
3/4 tones	: 3
via slide	: 6
	==

SONG NO. 191

Example No. (x)

Corpus 191, bar 2

C-Major

Handwritten musical notation on a five-line staff. The time signature is 9/8. The melody consists of several notes. A bracket under the notes is labeled '1/4 TONE SLIDE'. Another bracket further right is labeled '3/4 TONE SLIDE'. Above the staff, there is a handwritten note '1/4 tone' with an arrow pointing to a specific note.

Non-tempered Pitch (degree)

Location :

Bars 2; 6.

Description :

Upward microtonal slide, 1/4 tone, from b^b (↗).
-----oOo-----

PITCH	
TOTAL	
Sliding	
1/4 tone	: 2

Resultant non-tempered Intervals :

Bar 2 :

a^{\sharp} - $b^{\flat\sharp}$: 3/4 tone, via slide.

$b^{\flat\sharp}$ - c^{\flat} : 3/4 tone.

Bar 6 :

a^{\sharp} - $b^{\flat\sharp}$: 3/4 tone, via slide.

$b^{\flat\sharp}$ - c^{\flat} : 3/4 tone.

INTERVAL	
TOTAL	
3/4 tones	:
via slide	: 2
3/4 tones	: 2
	-
	4
	=

SONG NO.219

Example No. (y)Corpus 219, bar 6d-mixolydianNon-tempered Pitch (degree)Location :

Bars 6; 14.

Description :

A slide begins on $f\sharp$ (or slightly lower) and reaches $f\sharp$; approximately a semitonal slide.

-----oOo-----

Resultant non-tempered Intervals :Bar 6 :

d' - $f\sharp$ \rightarrow $f\sharp$: Major 3rd via a semitonal slide approximately.

Bar 14 :

d' - $f\sharp$ \rightarrow $f\sharp$: Major 3rd via a semitonal slide approximately.

INTERVAL

<u>TOTAL</u>	
Major 3rd via a semitonal slide	: 2

Note:

Pitches : 2
Intervals : 2

SONG NO. 220

d-mixolydian,
gapped at the
6th degree

Example No. (z)

Corpus 220, bar 4



Non-tempered Pitch (degree)

Location :

Bars 4; 8.

Description :

A microtonally lowered c#¹ (↓), 1/4 tone.

-----oOo-----

Resultant non-tempered Intervals :

Bar 4 :

d¹ - ↓c#¹ : 3/4 tone

↓c#¹ - d¹ : 3/4 tone.

Bar 8 :

d¹ - ↓c#¹ : 3/4 tone

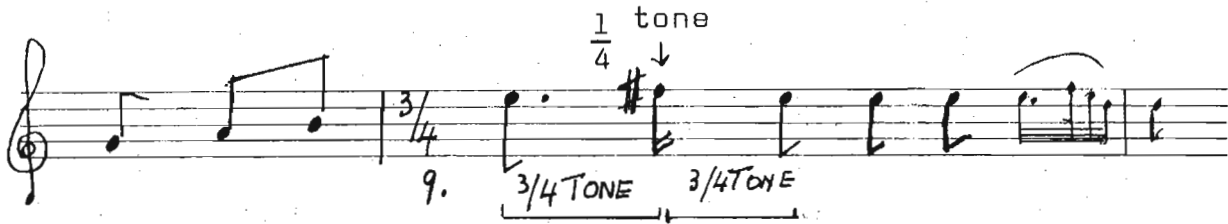
↓c#¹ - d¹ : 3/4 tone.

PITCH	
TOTAL	
Lowering by	
$\frac{1}{4}$ tone	: 2

INTERVAL

TOTAL	
3/4 tones	: 4
	=

SONG NO. 225

Example No. (aa)Corpus 225, bar 9d-dorian,
gapped at
6th degreeNon-tempered Pitch (degree)Location :

Bar 9.

Description :A microtonally lowered $f\sharp''$ (\downarrow), 1/4 tone.Resultant non-tempered Intervals:Bar 9 : $e'' - \downarrow f\sharp'' : 3/4 \text{ tone.}$ $\downarrow f\sharp'' - e'' : 3/4 \text{ tone.}$

PITCH

TOTAL

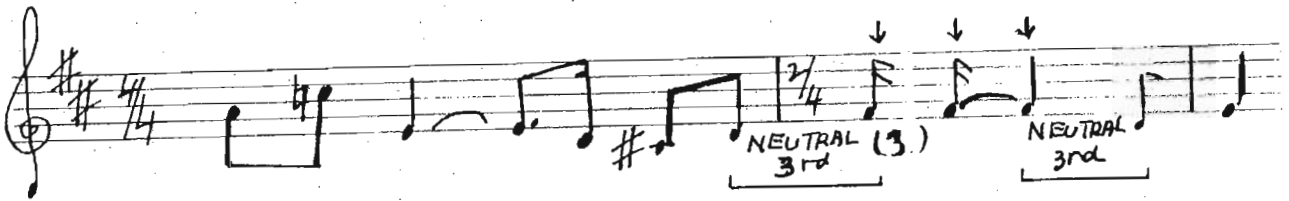
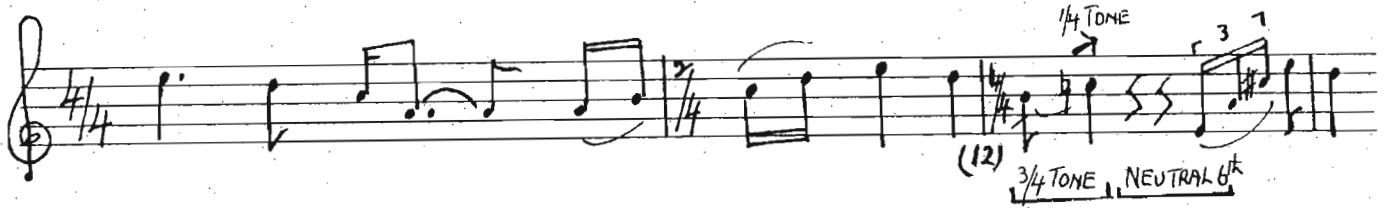
Lowering by

 $\frac{1}{4} \text{ tone} : 1$

INTERVAL

TOTAL $3/4 \text{ tones} : 2$

SONG NO. 268

Example No. (bb)Corpus 268, bar 3D-MajorExample No.Corpus 268, bar 12D-MajorNon-tempered Pitch (degree)Location :

Bars 3; 12.

Description :Bar 3 :A microtonally lowered f#¹ (↓), 1/4 tone.Bar 12 :An upward microtonal slide on c⁴" (↗) about 1/4 tone. **

-----oOo-----

Resultant non-tempered Intervals :Bar 3 :d¹ - f#¹ : Neutral 3rdf#¹ - d¹ : Neutral 3rd.Bar 12 :b¹ - c⁴" : 3/4 tone (via 1/4 tone slide).c⁴" - e¹ : Neutral 6th.

**Collector's Note is absent. The slide symbol is interpreted as standing for an upward slide of about a $\frac{1}{4}$ tone.

Song No. 268 (contd)

PITCH	
<u>TOTAL</u>	
Lowering	
$\frac{1}{4}$ tone	: 1
Slid $\frac{1}{4}$ tone	: 1
	<u>2</u>
	=

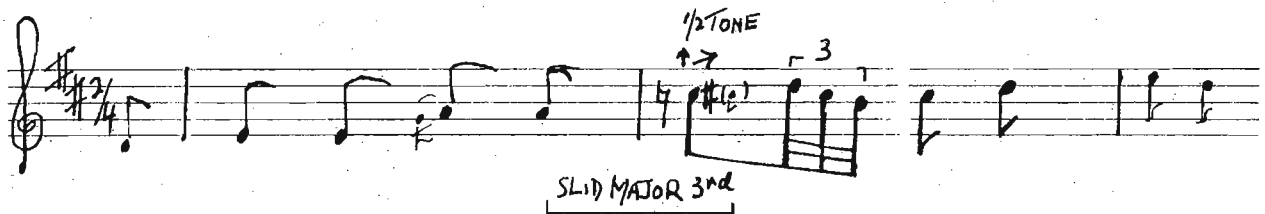
INTERVAL	
<u>TOTAL</u>	
Neutral 6th	: 1
Neutral 3rds	: 3
	<u>4</u>
	<u><u>4</u></u>

SONG NO. 274

Example No. (cc)

Corpus 274, bar 12

D-Major



Non-tempered Pitch (degree)

Location :

Bar 12

Description :

Upward semitonal slide, from c4" - c#4" (↗).

-----oOo-----

Resultant non-tempered Intervals :

a4 - c4" ↗ c#4" : A Slid major 3rd.

PITCH

TOTAL

Sliding

$\frac{1}{2}$ tone : 1

INTERVAL

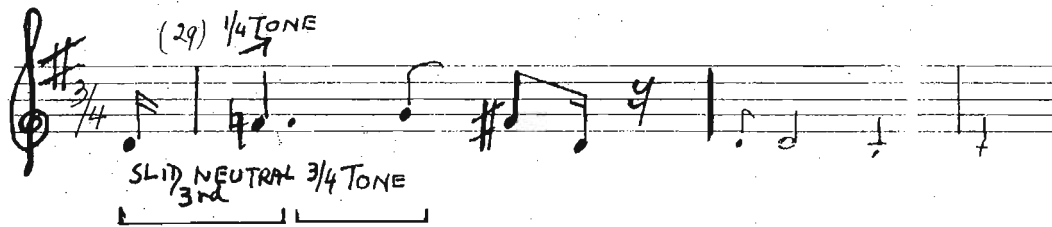
TOTAL

Major 3rd via
semitonal slide : 1

=

NOTE:

Pitch : 1
Interval : 1

Example No. (dd)Corpus 281, bar 29d-mixolydianNon-tempered Pitch (degree)Location :

Bars 29; 75.

Description :An upward microtonal slide from $f^{\sharp 4}$ (\nearrow), 1/4 tone.

-----oOo-----

Resultant non-tempered Intervals :Bar 29 :

$d^{\flat 4}$ - $f^{\sharp 4}$: Neutral 3rd, via slide.

\uparrow
 $f^{\sharp 4}$ - $g^{\flat 4}$: 3/4 tone.

Bar 75 :

$d^{\flat 4}$ - $f^{\sharp 4}$: Neutral 3rd, via slide.

\uparrow
 $f^{\sharp 4}$ - $a^{\flat 4}$: Neutral 3rd.

INTERVAL

<u>TOTAL</u>	
Neutral 3rds via slide	: 2
Neutral 3rd	: 1
3/4 tone	: $\frac{1}{4}$
	4

NON-TEMPERED PITCH

TABLE NO. 19

NON-TEMPERED PITCH

A SUMMARY OF TABLE NO. 18 - A COMPREHENSIVE
ANALYTICAL TABLE, ILLUSTRATING NON-TEMPERED
PITCHES AND INTERVALS IN THE DE NORAIKH COL-
LECTION

A SUMMARY OF AN ANALYTICAL TABLE NO. 18, ILLUSTRATING NON-TEMPERED PITCHES AND INTERVALS IN THE DE NORAIDH COLLECTION

Symbols used :

- ↑ Raised microtonally.
↓ Lowered microtonally.
↗ Slid, ranging from 1/4 to 3/4 tones.

NON-TEMPERED PITCHES			RESULTANT NON-TEMPERED INTERVALS						
SONG NO.	KIND	TOTAL	3/4 TONE	3/4 TONE VIA SLIDE	NEUTRAL 3RDS	NEUTRAL 6THS	MICROTONALLY REDUCED MINOR 3RD	MAJOR 3RD VIA SLIDE	TOTAL
3	↓ 1/4 TONE	2	2		2				4
12	↑ 1/4 TONE	3	5		1				6
37	↗ 1/4 TONE	1	1	1					2
39	↓ 1/4 TONE-	2	2		2				4
48	↗ 1/4 TONE	1	1	1					2
49	↗ 1/4 TONE	1		1	1				2
53	↑ 1/4 TONE	2	2		2				4
55	↓ 1/4 TONE	9	12		5	1			18
69	↑ 1/4 TONE	4	5		3				8
71	↗ 1/4 TONE	2	2	2					4
80	↗ 1/4 TONE ⁺	2	2 ⁺ 2 ⁻						4
82	↑ 1/4 TONE	5	5		5				10
93	↑ 1/4 TONE	2	2		2				4
99	↑ 1/4 TONE	4	4		4				8
131	↗ 1/4 TONE	1		1	1				2
149	↑ 1/4 TONE	1	1				1		2
158	↑ 1/4 TONE-	4	6		2				8
159	↓ 1/4 TONE	2	2		2				4
166	↑ 1/4 TONE	2	2		2				4

/...

Table No. 19 - contd

A Summary of an Analytical Table, No.18, illustrating Non-tempered Pitches and Intervals in the De Noraïdh Collection - contd.

NON-TEMPERED PITCHES			RESULTANT NON-TEMPERED INTERVALS						
SONG NO.	KIND	TOTAL	3/4 TONE	3/4 TONE VIA SLIDE	NEUTRAL 3RDS	NEUTRAL 6THS	MICROTONALLY REDUCED MINOR 3RD	MAJOR 3RD VIA SLIDE	TOTAL
169	↗ 3/4 TONE	1		1	1				2
175	↗ 1/4 TONE	1		1	1				2
183	↗ 1/2 TONE	1						1	1
189 ^a	↗ 1/4 TONE	3		3	3				6
191	↗ 1/4 TONE	2	2	2					4
219	↗ 1/2 TONE	2						2	2
220	↓ 1/4 TONE	2	4						4
225	↓ 1/4 TONE	1	2						2
268	1. ↓ 1/4 TONE 2. ↗ 1/4 TONE	1) 1) 2		1	2	1			4
274	↗ 1/2 TONE	1						1	1
281	↗ 1/4 TONE	2	1		3				4
THIRTY SONGS	TOTALS :	68	67	14	44	2	1	4	132

TABLE NO. 20

ILLUSTRATING NON-TEMPERED PITCHES AS
THEY OCCUR WITHIN THE FRAMEWORK OF
MODALITY IN THE DE NORAIDH COLLECTION

TABLE NO. 20 ILLUSTRATING NON-TEMPERED PITCHES WITHIN
THE FRAMEWORK OF MODALITY IN THE DE NORAIDH COLLECTION

DORIAN

SONG NO.	MODE	DEGREE(S) ALTERED	NON-TEMPERED PITCH(ES)	BAR REFERENCE(S)
37	d	3rd ↗	Slid $\frac{1}{4}$ Tone : 1	8
39	d	3rd ↑	Lowered $\frac{1}{4}$ Tone : 2	17; 44.
80	d	3rd ↗	Slid $\frac{1}{4}$ Tone : 2	Stanza 1, bar 1 Stanza 2, bar 1.
93	d	3rd ↑	Raised $\frac{1}{4}$ Tone : 2	Stanza II, bar 4 Stanza III, bar 4.
99	d	3rd ↑	Raised $\frac{1}{4}$ Tone : 4	1; 6; 8; 10.
225	d	3rd ↘	Lowered $\frac{1}{4}$ Tone : 1	9
No. of songs : 6			Total : 12	

LYDIAN

SONG NO.	MODE	ALTERED DEGREE(S)	NON-TEMPERED PITCH(ES)	BAR REFERENCE
159	F	4th ↓	Lowered $\frac{1}{4}$ Tone : 2	1; 5
183	D	4th ↗	Slid $\frac{1}{2}$ Tone : 1	1
No. of songs : 2			Total : 3	

Symbols for Non-tempered Pitch:

Microtonally raised : ↑
 Microtonally lowered : ↓ / ...
 Slid : ↗

Table No. 20 - contd

MIXOLYDIAN

SONG NO.	MODE	ALTERED DEGREE(S)	NON-TEMPERED PITCH(ES)	BAR REFERENCE(S)
131	d	7th ↗	Slid $\frac{1}{4}$ Tone : 1	8
166	d	3rd b ↑	Lowered $\frac{1}{4}$ Tone : 2	5; 13
219	d	3rd b ↗	Slid $\frac{1}{2}$ Tone : 2	4; 14
220	d	7th # ↓	Slid $\frac{1}{4}$ Tone : 2	4; 8
281	d	3rd b ↗	Slid $\frac{1}{4}$ Tone : 2	29; 75.
No. of songs : 5			Total : 9	

AEOLIAN

SONG NO.	MODE	ALTERED DEGREE(S)	NON-TEMPERED PITCH(ES)	BAR REFERENCE(S)
12	b	6th ↑	Raised $\frac{1}{4}$ Tone : 3	6; 8; 10
69	d	3rd ↑ (3) 6th ↑ (1)	Raised $\frac{1}{4}$ Tone : 4	Bars 1 - 4
82	d	3rd ↑	Raised $\frac{1}{4}$ Tone : 5	4; 9; 10; 19; 20.
No. of songs : 3			Total : 12	

/...

IONIAN

SONG NO.	MODE	DEGREE(S) ALTERED	NON-TEMPERED PITCH(ES)	BAR REFERENCE(S)
3	D	7th ↓	Lowered Tone : $\frac{1}{4}$ 2	1; 5
48	D	7th ↗	Slid Tone : $\frac{1}{4}$ 1	2
49	G	7th ↗	Slid Tone : $\frac{1}{4}$ 1	7
53	D	4th ↑	Raised Tone : $\frac{1}{4}$ 2	7; 15
* 55	C	3rd ↓	Lowered Tone : $\frac{1}{4}$ 9	Upbeat - 1; 2; 3; 4 - 5; 8; 8 - 9; 12; 14; 14 - 15
71	D	4th ↗	Slid Tone : $\frac{1}{4}$ 2	11; 15
149	G	6th ↑	Raised Tone : $\frac{1}{4}$ 1	25
158	D	7th ^b ↑ (1) 3rd ^b ↑ (3)	Raised Tone : $\frac{1}{4}$ 4	Stanza II, bar 2 Stanza II, bar 7 Stanza III, bar 13 Stanza V, bar 7
169	G	6th ↗ 7th ↓	Slid Tone : $\frac{3}{4}$ 1	15
175	C	7th ^b ↗	Slid Tone : $\frac{1}{4}$ 1	7
189 ^a	D	7th ^b ↗	Slid Tone : $\frac{1}{4}$ 3	2; 6; 14.
191	C	7th ^b ↗	Slid Tone : $\frac{1}{4}$ 2	2; 6.
268	D	3rd ↓ (1) 7th ^b ↗ (1)	Lowered Tone : $\frac{1}{4}$ 1 Slid Tone : $\frac{1}{4}$ 1	3; 12.
274	D	7th ^b ↗	Slid Tone : $\frac{1}{4}$ 1	12
No. of Songs : 14			Total : 32	

VOLUME II

CHAPTER V

NON-TEMPERED PITCH

END OF TABLES 17 - 20 RELATING TO
NON-TEMPERED PITCHES (DEGREES) AND
RESULTANT INTERVALS IN THE DE
NORAIKH COLLECTION

VOLUME II

CHAPTER VI

Pages 345 - 433
(including Tables 21 - 25)
(and General Survey of
Volume II, page 433(a))

CHAPTER VI

ORNAMENTATION

VOLUME II
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(Note: General Survey of Volume II
incorporated at end of this
Chapter VI, page 433(a).)

ORNAMENTATION

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CHAPTER VI1. ORNAMENTATION: AN ORIENTAL TRAIT1.1 Introduction

In music, the term ornamentation stands for the embellishment of melody either by adding notes or by modifying rhythms¹. West and East view ornamentation from different standpoints. In the West, harmonic considerations rank highly. In the East, linear aspects are of prime importance. Eastern music is mostly homophonic. Since the skill of Oriental musicians and composers is concentrated on line, melodic nuances and rhythmic patterns are considerably richer than Western counterparts². It is the view of Brigitte Schiffer that fioriture are the 'life and soul' of Oriental music in general, and of Oriental singing in particular³. Decoration is so fundamental to Eastern style that embellishments become essential to the melodic structure. Whether nuclear melodies are extended or new melodies created, decorations are never accidental or non-essential. To strip an Eastern melody of ornamental trappings would, in fact, rob the linear structure of an essential constituent, and reduce the tune to an unrecognisable skeleton. Decorative patterns are never merely auxiliary, but proceed from a forming and creative principle.

Generally speaking, from West to East across the map, melodic and rhythmic complexity appears in evolving density. Oriental music has had mainchannels to the West: Through the Jews

-
1. Encyclopaedia Britannica, Micropaedia VII, 'Ornamentation', p. 590.
 2. Egon Wellesz : 'Introduction : Ancient and Oriental Music', Vol. I of The History of Music in Sound, p. 12.
 3. B. Schiffer : 'Music : East and West', in The World of Music, Vol. V, No. 4 (1963), p. 85.

Since 1937, Professor Schiffer had been a staff-member of the National Conservatorium of Music, in Cairo, Egypt. She retired in 1963.

Already, in Greece, Southeast Europe, tonal and rhythmic complexities together with melismata begin to appear. Example 117, below, a Greek cradle-song, illustrates these aspects :

Example 117 : Nani, Nani, Nani : Greek cradle-song⁸

ANDANTE

Ai - - - - - de, aide ki-

mi - - sou, ko - ri mon k'e - - - - - gho - K'egho, na sou

kha - ri - - - so tin Alex au - - dra za - kha - -

ri Ke - - to - ke to Misi ri - ri - -

zi Ke tin Kon stan - - ti - noupo - - li Tris khronous

na tin ri zis.

From Iran, ancient Persia, there is a Locrian modal melody, given in Example 118 overleaf, so complex in its free rhythm, firmata, melodic embellishments and melisms, that possibly, to Western ears, it does not fit the category of typical cradle-song with a regular metre :

8. D.B. Cummins: Lullabies of the World, pp. 138 - 139.

Example 118 : Your mother loves you as her soul⁹.

ANDANTE AD LIBITUM

Mad-ar - i tu - - ra

dust da - - rad mist- - - i djan - i

khu dash Tu - ra ruy - i chishm - i khudash mi

gu - zarad Tura qur - ban mi - sh - a - - vad

The example just quoted belongs to part of a broad and wide Islamic tradition. By the end of the eighth century, Islamic civilization stretched from Transoxiana to the slopes of the Pyrenees, and conditioned a quarter of the then known world¹⁰. Today, pan-Islamic tradition covers vast areas - over North Africa, Eastern Europe, the Middle East, into Central and Southern Asia¹¹. Among chief characteristics of Islamic music, and second in importance to modal homophony, are fioriture and melodic decoration¹².

9. D.B. Cummins: Lullabies of the World, pp. 208 - 209.

10. H.G. Farmer: 'The Music of Islam', The New Oxford History of Music, Vol. I, p. 421.

11. W.P. Malm : Music Cultures of the Pacific, the Near East, and Asia, 'Moslem Africa and the Near East', p. 39.

12. H.G. Farmer : Op. cit., p. 450.

In the music of India, ornamentation has a special function in emphasising melodic structure. This special ornamentation is termed murchanas in the North, and gamakas in the South¹³. The gamak may consist of a slow shake or an exaggerated vibrato¹⁴. Melodic embellishment, glissando and vocal melism are common¹⁵. In Indonesia, Islamic influence was present from the thirteenth century. Other assimilated influences stemmed from China, India, Middle East and South-east Asian mainland. The degree of melodic embellishment is high¹⁶. In Japanese folk-songs, ornamentation is highly cultivated, refined and judiciously applied. In China, melodic embellishment is a major characteristic of vocal style¹⁷.

1.2. Manifestations of Eastern Ornamentation

It is not possible to capture the subtlety of Eastern embellishments under topic headings. At best one can only suggest broad classifications which deal with aspects of the subjects. The following aspects of Oriental ornamentations appear to be basic :

1.2.1 Melismata : the decoration of vocal syllables

The embellishment of a vocal syllable is termed a melisma¹⁸. A single syllable may flower into several

13. W.P. Malm: Music Cultures of the Pacific, the Near East, and Asia, 'Central and Southern Asia', p. 71.

14. N.A. Jairazbhoy : The Rāgs of North Indian Music, 'Basic Elements of Theory', p. 35.

15. W. Schmid: Introduction to Tribal, Oriental, and Folk Music : A Rationale and Syllabus, p. 61.

16. W. Schmid: Op. cit., p. 55.

17. W. Schmid: Op. cit., p. 49 and p. 45.

18. The term melisma (plural, melismata) is derived from the Greek word, melos ('sweetness, melody'). In this study, a melisma implies at least four notes per syllable. (The term neumatic stands for two or three notes to a syllable. The term syllabic is self-explanatory: a single note per syllable.)

notes or even into a long passage. Example 119, here-under, is illustrative of a melismatic Samavedic chant from the Hindu temple¹⁹.

Example 119 : An Illustration of Samavedic Chant in the Music of India²⁰.



The roots of melismatic singing are deeply embedded in ancient civilisations and had to do with the growth of melodic formulae and systems of modality²¹. A flourishing melismatic style is characteristic of the entire music of the Orient²². The traditional music of the Synagogue is replete with this vocal style. Even distant groups seem to share the cantor's melis-

19. The use of Samavedic chant is restricted to large offerings and sacrificial occasions. This variety of singing is melodically complex and departs from standard norms of Rigveda recitative.

20. A Blake: 'Samavedic Chant in the Music of India'. The New Oxford History of Music, Vol. I, Ancient and Oriental Music, pp. 202 - 203.

21. Eric Werner: The Sacred Bridge, 'The "Wandering Melisma"', p. 501.

22. Eric Werner: Op. cit., 'The Ornaments of Melismatic Chant', p. 543.

matic, free-rhythm cantillations²³.

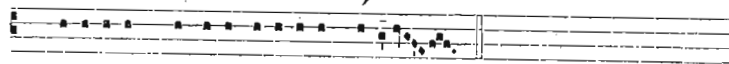
In particular, singers of the Middle East were inexhaustible when it came to inventing new forms of embellishments and ornaments, just as listeners were insatiable in their demand for vocal arabesques. Of all embellishments, the final melisma was the most functional in providing a rounded melodic conclusion. Final melismata feature in Byzantine, Syrian and Jewish musical cultures. Gregorian Chant has also preserved a good many final melismata in their original settings²⁴.

From Eastern religious music, the early Christian Church derived not only recitative and psalmody, but, also, the art of melism in the form of melodic ornamentation of a final syllable²⁵.

Examples 120 and 121, below, illustrate this embellishment of a final syllable in both Gregorian and in staff notations, respectively :

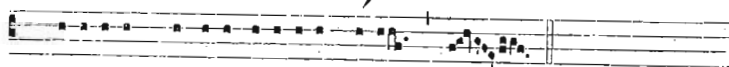
Example 120: Illustrating in Gregorian notation the Embellishment of Final Syllable in Tones for Versicles on Sundays and Feasts²⁶

1. On Sundays and Feasts, after the Nocturns, after the Hymns of Lauds and Vespers, and after the Short Responsory of the Little Hours :



V. Dirigatur Dómine orá-ti-o mé-a.
R. Sicut incensum in conspéctu tú-o.

Or according to a more recent custom :



V. Dirigatur Dómine orá-ti-o mé-a.
R. Sicut incensum in conspéctu tú-o.

-
23. W.P. Malm: Music Cultures of the Pacific, the Near East, and Asia, 'Moslem Africa and the Near East', p. 60.
24. Eric Werner: The Sacred Bridge, 'The "Wandering Melisma"', p. 543.
25. Jos. Smits van Waesberghe: Gregorian Chant, p. 28.
26. The Liber Usualis, Solesmes (1956), p. 118.

A Versicle (versiculum) is a very short sentence with an answer; in this case:

May my prayer be guided, Lord
Like incense before your presence.

Example 121 : Illustrating in Staff notation the Embellishment of a Final Syllable in Tones for Versicles on Sundays and Feasts²⁷



Under further Eastern influence, early Gregorian psalmody came to be embellished at the beginning and middle as well as at the end of a psalm verse. The most important Gregorian melismatic chants became the Gradual, Alleluia and Tract²⁸. Developed melismatic chants retain something of primitive chants and origins through fragments of recitative²⁹. Melismata of great length occur in Ambrosian Chant, including up to 300 notes to a syllable!³⁰

Pronounced melismatic features abound in the folk-songs of Eastern Europe and the Middle East. In Rumania, Melismatic groups do not have fixed design, but are used to fill intervallic gaps, especially of the fifth. The following example (No. 122) illustrates this melismatic function:

27. Notation: Jos. Smits van Waesberghe: Gregorian Chant, p. 29.

28. The Gradual was a response, sung between Epistle and Gospel in the service of the Mass. The Alleluia (jubulus) followed the Gradual as a joyful exclamation. A Tract replaced the Alleluia during penitential seasons.

29. Jos. Smits van Waesberghe: Op. cit., pp. 29 - 30.

30. W. Apel: Gregorian Chant, 'The Free Compositions: General Aspects', p. 267.

The Ambrosian Chant, at Milan, and the Mozarabic Chant at Toledo, may be classed as Western Oriental.

Example 126: An Iranian Folk-Song, Kouh Beh Kouh (On the Road)³⁴, illustrating the combination of Embellishment and Parlando within the same vocal unit

A Quasi Adagio

1. Kouh beh kouh mi-gar-di-dam, dom-ba-lé khar-gousch,
1. On the road the moun-tain side, Chas-ing rab-bit in fast stride,
yd-ré khod-ra man di-dam gousch-va-ré dar gousch,
There my sweet-heart did ap-pear Wear-ing gold ring in her ear,
gousch-va-ré dar gousch Hoil! hoil! hoil!
Wear-ing gold ring in her ear. Hoil! hoil! hoil!
Ha-djar gra-schang é, mast-o ma-lang é!
Ha-djar so love-ly, Joy-ful and hap-pyl

Other Eastern folk-songs also juxtapose simple and ornate versions.

The following lullaby, in Example 127, was sung by the Berber (Mzouda tribe) of North Africa³⁵. Within the general framework of a repetitive tune, relieved by ornamentation, there are two sections :

A² (bars 8 - 14) repeats A¹ (bars 1 - 7) in a more embellished version, with rounded melismatic cadence :

34. C. Haywood: Folk Songs of the World, p. 201.

35. The Berbers of North Africa were assimilated in the Arab conquests of the 7th century. Among the Tuareg Berbers, the ornamental characteristics of Moslem music are found chiefly in the singing of menfolk. Their love songs are highly embellished.

Example 127 : Illustrating, in a Berber Lullaby
entitled 'Harara Yourara! Oh, my
Darling Daughter!', an aspect of
Oriental Ornamentation expressed by
the combination of Repetitive Pat-
tern and Improvised Embellishment³⁶

A¹.

1. Ad rwig tagw el - la, 2. Nbelg ak gi — s i - zan, 3. Fkeg ak at tse-beet! -

MODERATO

4. Hra-ra yu-ra-ra! 5. A - y - il - li henna! 6. Hra-ra yu-ra-ra! 7. A - yiwi hen na!

A².

8. Hra-ra Yu-ra - ra! 9. A - y - il - li henna! 10. Hra-ra Yu-ra - ra!

11. A - yi-wi hen-na! 12. Hra-ra Yu-ra-ra! 13. 14.

An interesting Oriental ordering is, first to present the embellished version and then to follow with a simplified form. Normally one expects the skeleton melody to precede its ornamented counterpart. A characteristic procedure of Czech folk-songs is to present a melody in melismatic form, and, then, to follow with a version which is clearly marked in rhythmic structures. Both ornate and simple versions of a Czech folk-song are contained in Example 128 overleaf :

36. D.B. Cummins : Lullabies of the World, pp. 148 - 149.

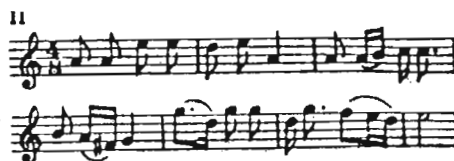
This lullaby is sung by a mother who is at her wit's end in the effort of persuading her child to take some 'gruel'.

Example 128 : Illustrating in a Czech folk-song the presentation first of an Ornate Version and then a Simplified Variant³⁷

Ornate prototype



Simplified variant



1.2.3 Ornamentation in Improvisatory Style

Ornamentation frequently seems to stem from the performance of the folk interpreter. With an acquired skill and technique of improvisation, a performer can enliven and embellish a traditional melody. Inspired by Oriental custom and influence, early Gregorian singers decorated traditional chants³⁸. It appears likely that much of

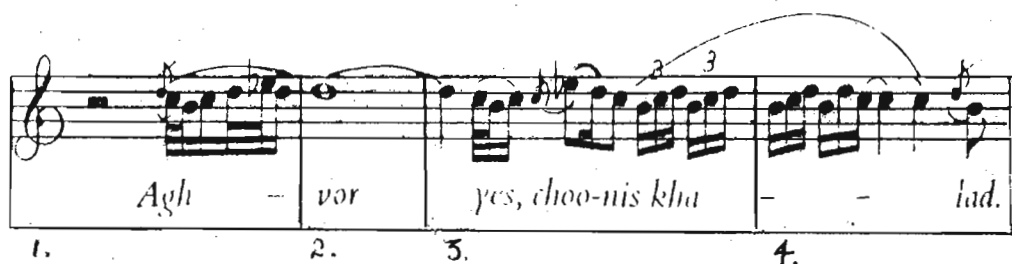
37. Grove's Dictionary of Music and Musicians (edition 1954), 'Folk Music-Czech', p. 220.

38. W. Apel: Harvard Dictionary of Music, 'Ornamentation', p. 629.

The fruit of impromptu ornamentation was eventually incorporated in the Tunstede manuscripts, (about 1370).

plain-song, as we have it today, is an embroidery of much simpler and original material³⁹. An ornamental folk-style begets ornamental versions. Embellishments are so essentially part of the living performance that the skeleton is not heard any longer. It was a view of Bartók that the reduction to skeleton of Rumanian tunes produced dull and monotonous melodic patterns, while melodies in their full shape (as they are always sung), had, because of their amazing embellishments, an entirely different effect⁴⁰. Improvisatory singers are honoured with a special social status in Armenia, where one may hear improvised embellishments, in the style of the following line of a lullaby, notated in 1905 (Example 129):

Example 129: Illustrating Improvised Embellishments
 in an Armenian Folk Song : 'Agh-vor Yes'
 (How lovely you are!), bars 1 - 3.41



Today, in the region of the Central Volga, improvisation is extensively practised. This area has been a meeting-place for various peoples over more than a thousand years. There, among Finno-Ugrians from the North, Turkish-speaking people from the East and Slavs from the West, improvisatory embellishment became a shared commodity. In spite of the fact that the traits of variation and improvisation are employed extensively, the immense weight of tradition preserves the basic sounds of tra-

39. P.A. Scholes: The Oxford Companion to Music,
 'Ornaments or "Graces"', p. 752.

40. Béla Bartók: Rumanian Folk Music (B. Suchoff, ed.)
 'Introduction to Volume II', p. 14.

41. D.B. Cummins: Lullabies of the World, p. 197.

ditional song⁴². The following melody, Example 130, noted from an old Tartar flute-player, in 1968, is full of improvised embellishments:

Example 130 : A Tartar flute melody, from Arsk, 1968, illustrating Improvised Ornamentation as found in the region of the Central Volga⁴³



In short: ornamentation is an essential aspect of Eastern melody and manifests three basic styles - melismatic, simple-ornate or ornate-simple, and improvisatory.

42. László Vikár: 'Improvisation dans la Musique des Peuple de la Moyenne Volga', in Year Book of the International Folk Music Council, Vol. 7, p. 112.

'La variation et l'improvisation sont freinées par la force incroyable des coutumes. La tradition garde solidement les notes les plus importantes, les piliers d'une mélodie, et la transformation ne peut être réalisée que dans certains cadres.'

43. László Vikár: Op. cit., p. 113.

2. MELODIC ORNAMENTATION IN THE DE NORAIKH COLLECTION

2.1 Introduction

2.1.1 De Noraidh's Notation of Ornamentation

De Noraidh, through a careful notation of all embellishments, and by personal comment and elucidation, has underlined the importance of ornamentation which he found in his collecting. It is unfortunate that three of Ireland's early collectors of the country's folk music - Bunting, Petrie and Joyce⁴⁴ - failed to record adequately the important trait of melodic ornamentation. Much later, De Noraidh aimed at remedying these previous deficiencies by a complete notation of all embellishments. Symbols for ornaments were avoided. The result of this procedure can be seen in his manuscripts, which contain fully written-out fioriture, turns, mordents. In this way the reader is saved some speculation about the metric value and context of decorative notes which surround main ones⁴⁵.

44. Edward Bunting, 1773-1843. George Petrie, 1789-1866. Patrick Weston Joyce, 1827-1914 : A great deal of the music collected by these musicians was gleaned from instrumental sources, and was viewed by them in terms of subsequent instrumental settings. What was achieved and its limitations can be seen in Bunting's The Ancient Music of Ireland, and the Petrie Collection of Ancient Music of Ireland, Volumes I and II.

45. Samuel Baud-Bovy comments on notational difficulties relating to complicated embellishments :

'Comme il s'agit dans tous ces cas d'ornéments très bref, on n'a pas précisé dans quelle mesure les notes ornantes sont attirées par la note ornée.' (S. Baud-Bovy: Chansons Populaires de Crète Occidentale, 'Explication des signes', p.10.)

Example 131, which follows immediately, illustrates De Noraïdh's careful notation of ornaments :

Example 131 : Corpus 263 (My Fairhaired Sweetheart), illustrating De Noraïdh's careful notation of Ornaments

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.
 Ní héar a' genoc is aoir - de a bhi-ann mo bhuidean - sa, Ach i ngleann - tán
 3 aoi - bhinn i bhfad ó 4. léimh, mar a mbi-ann an ----
 fheoi - lean a-gus a' breac ar linn ann, An chruith-neacht bhui ann is a' aoir-as
 bán. Bí-ann ba bí-ann leigh ann a-gus bris na ... slaoi-dh, Is an eal-a is
 11. aoi - bhinn ar a' leah a' gnáth ----, 12. Ba bae-cha ---- arion - na bna créite' á
 léon' ann, a-gus mil á taobh-cadh ag am' mhúir-nín thán.

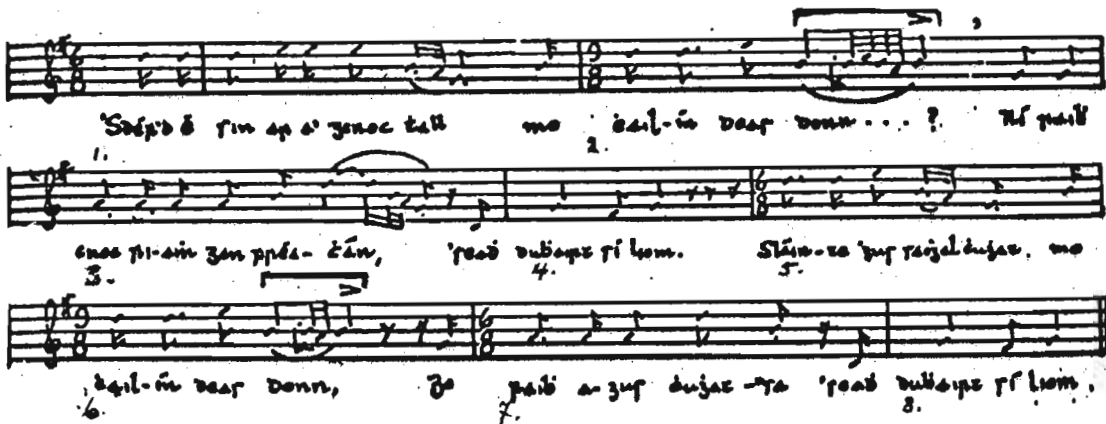
Of special interest in the foregoing example (No. 131) are the written-out fioriture in bars 4 and 12.

2.1.2 De Noraïdh's Comments on Ornamentation in the Collection

Two of De Noraïdh's more prominent comments on the style of ornamental singing which he experienced during his collecting seem worth citing: One appears as a long footnote to Corpus 23 and another was made during conversations with the present writer. Corpus 23 was performed by a Patrick Lyons of Lismore, County Waterford, on 3 July 1940. Patrick, a farmer, was accepted by his community as an accomplished singer. He had learned his

repertoire from his mother. His song is in five stanzas, and contains thirteen melismata. The example which now follows (Example 132) is taken from Stanza Two. De Noraídh's comments relate to the melismatic treatment of the word donn, meaning 'brown haired'.

Example 132 : Corpus 23, Stanza Two, illustrating, at bars 2 and 6, a Melismatic Treatment of the word 'donn', about which De Noraídh comments in a Footnote* to this Song



- * The footnote first explains why five stanzas have been included - in order to illustrate how artfully the singer introduced variations to fit the altering rhythm of the text. When the word donn was sung, the note b' sounded as though a bell were struck, while other notes in the ornament trailed off in a kind of echoing reverberation. The general effect was remarkable and very beautiful, and indicated something of the considerable technique which Lyons was said to have achieved as a young man.

The Collector's second comment describes the ornamental singing of an old woman from Ballyvourney, County Cork⁴⁶:

46. Mrs O'Riordan was about eighty years old. Other remarkable accomplishments of this singer are referred to in the Collector's Preface to Ceol ón Mumhain, p. 10. (Refer Appendices to Volume I, p. 151.)

'When she struck a high note, it seemed as though an object had been shattered into a thousand fragments.'

De Noraídh pictured the ornament as a musical star, around which clustered a myriad of little notes. Each note of the ornament, as it adorned a principal note, was distinct and clearly audible. Such embellishment was so unbelievably complex that it could not be recorded without mechanical device⁴⁷.

2.2 Manifestations of Ornamentation in the De Noraídh Collection

In section 1.2, three main aspects of Eastern Ornamentation were discussed :

1. Melismata
2. Combination of Simple and Ornate Styles
3. Ornamentation in Improvisatory Style.

The enquiry into these three aspects of Oriental Embellishment will now be continued in order to determine how these traits are realized in an Irish way within the Corpus :

2.2.1 Melismata

This melismata investigation relates to statistics, and to single-melism songs, in which solitary melisms are variably positioned in an otherwise non-melismatic context. Metric and rhythmic peculiarities of melismatic expression are then illustrated, and melis-

47. From recorded conversations between the Collector and the present writer, at Fermoy, County Cork, during November 1969.

matic ornaments - trills, turns, inverted mordents - are listed and exemplified. The relationship between melism and breath-retention - a performance trait which De Noraídh encountered in Munster - is explained, and examples from the Corpus are provided.

2.2.1.1 Melismatic Frequency in the De Noraídh Collection : Statistics

In this study, a minimum of four tones per syllable is required to constitute a melismatic group. Eighty-three songs are melismatic - twenty-seven percent of the song-total. Over this melodic area, 223 melisms were noted. In the Collection, the number of tones per melism varies between four and seven. Song 23 (over five stanzas) totals thirteen examples. Song 65 contains eleven melismata. The total of 223 melisms spans the De Noraídh Collection virtually from beginning to end: the first example is contained in Song 8 and the final four instances appear in Song 295. Two tables⁴⁸, one containing details of melismatic frequency and another summarising data available, have been placed in Appendices, at the end of this topic section. The table of detail presents information in song sequence, enumerating melisms per song, together with stanza and bar-references. The table of summary gathers information under headings which specify melisms per song - from one to thirteen. Song-number references are included under each of the ten melismatic groups (one to eight, plus eleven and thirteen, as above), which cover the melismatic frequency, found in this Collection.

Chart 37, which follows immediately, lists summary melismatic information in two columns. Column one contains melismatic frequency per song in a graded order from one to thirteen; a second column lists song-totals which correspond with graded frequencies :

48. Appendices : Tables 21 and 22. (Pages 402 - 407 of this Chapter VI)

CHART 37 :

A Graded Listing of Melism-Frequencies per Song in the order of One to Thirteen, with corresponding Song-Totals for each Frequency, as those occur in the De Noraídh Collection

| <u>Frequency of Melisms
per Song</u> | <u>Corresponding
Song-Totals</u> |
|--|--------------------------------------|
| One | 34 |
| Two | 17 |
| Three | 10 |
| Four | 7 |
| Five | 3 |
| Six | 5 |
| Seven | 2 |
| Eight | 3 |
| Eleven | 1 |
| Thirteen | 1 |
| <hr/> | <hr/> |
| 223 | 83 |
| <hr/> | <hr/> |

2.2.1.2 Single Melism Songs

In thirty-four songs, single melisms affirm, in melodic contexts which are syllabic or syllabic-neumatic, an embellishment trait which is clearly present in the Corpus. The simple flowering of a melismatic ornament in these songs suddenly testifies to the latent presence of a strong decorative quality in the singing of West and South-West coastal people in Ireland.

We have already noted an early Eastern borrowing into Gregorian Chant in the shape of psalmody, embellished at the end, middle and beginning of psalm verses. Some songs of the Collection which contain a single melism are clearly affected in a similar manner. Single melisms embellish :

- (a) Final Cadences
- (b) Middle Cadence-Points
- (c) The Beginning of Songs.

(a) A melism at final cadences :

Song No. 197, essentially syllabic in style, with a parlando percentage of 29,474, contains a solitary melism in its penultimate bar. The decoration is strengthened by an agogic lengthening, symbolised by a vertical arrow, placed on the first note of the ornament. Example 133, hereunder, contains Song No. 197 :

Example 133: Corpus 197, Gleann na Séad (The Glen of Treasures) illustrates at bar 15, a Single Melism Decoration of a Final Cadence, in an essentially Syllabic Context

Other examples of final cadence melisms are found in Songs Nos. 24, 33, 69. The decoration is usually associated with or immediately precedes the finalis of the final cadence.

(b) Melism at a middle cadence-point

Example 134 below well illustrates an effective melism which 'flowers' at a middle cadence-point.

Apart from this melism and a two-note neum, the melodic style is entirely syllabic :

Example 134: Corpus 231, D'árduigheadar leo mé
(They carried me off to a deserted
place), illustrating at bar 4, a
Single Melismatic Ornament, placed
at a Middle Cadence-point of a
Song which is essentially syllabic
in style

$\text{♩} = 52$

(Ar) D'árduigheadar leo mé so room (ar) p'áin ar. a - soil Ó 3. 4. 500

1. 2. 3. 4. 5. 6. 7. 8.

Further examples of melisms which appear at imperfect cadence-points can be seen in Song 13, bar 12, and in Song 20, bar 10.

(c) Melism at the beginning of songs

A melism, which occurs on the up-beat to bar 1, Corpus 215, illustrates a melismatic decoration, as a song-opening. Although the melodic context is neu-matic and decorative, it is of interest that a melismatic presence which is registered in the opening notes does not appear again among the neums of a twelve-bar song. Example 135 which follows contains this song :

Example 135 : Corpus 215, 'Sa Mhainistir La (In Mainister, one day), illustrating, at the up-beat to bar one, a melism at the beginning of a song

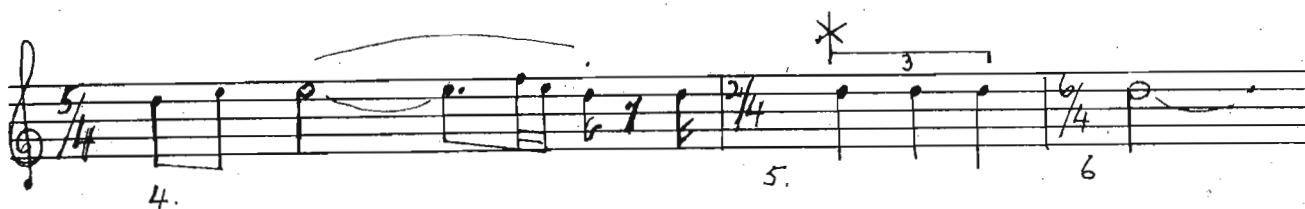
Sa Mhain-is-tir lá 'digh a' tábhair - ne 'gus mí-se'm'
 shuí, Do bhí bea - thuis - c'ar lár ar an gelár a-gus é gan
 teimheal, Do dhear-cas an bháb bháin - chris bhéa - sach
 thinn, 'Na sea - samh sa tsráid, 'Sí mo ghraí péin Éi-rinn í.

Other instances of initial melismata appear in Song 41, bar 1, and in Song 266, bars 1 and 9.

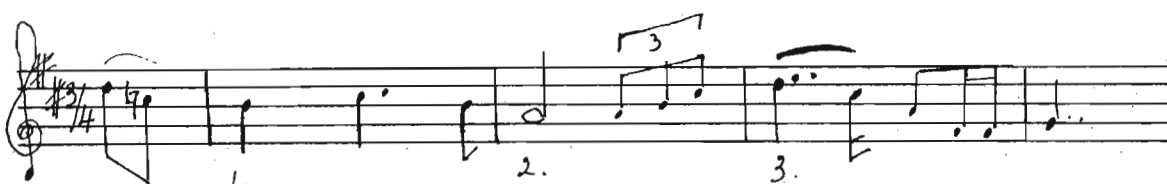
2.2.1.3 Melismata which embody anti-metric or anti-rhythmic patterns

As a preliminary to introducing from the Corpus melisms which relate to the context of rhythmic irregularities, it seems useful to clarify the terms 'anti-metric' and 'anti-rhythmic'. In this study, 'anti-metric' signifies a rhythmic irregularity which embraces an entire bar. In contradistinction, an anti-rhythmic element acts only against a division or against a degree of sub-division in a metric unit. In this second instance, then, the departure from normal and regular pulsations is less radical, since only a subdivision of and not the entire bar is affected by irregularity. Examples 136 and 137 overleaf illustrate metric and rhythmic departures from the normal :

Example 136: Corpus 243, bars 4 - 5, illustrating at bar 5 an Anti-metric Bar of Three Crotchets in a Two-four Metre

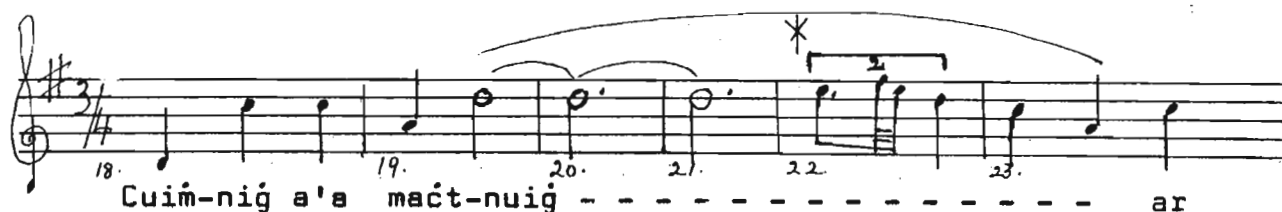


Example 137: Corpus 84, bars 1 - 3, illustrating at bar 2, an Anti-rhythmic Pattern of a Quaver-triplet which has the value of a Crotchet in a Three-four Metre



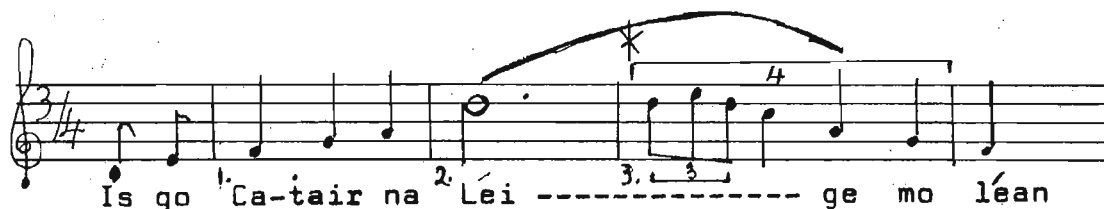
Melismatic examples which now follow, illustrate aspects of a relationship between the melism and irregularities of metre and rhythm which are evident in the Corpus. Examples 138 and 139 relate to melism and anti-metric patterns. Example 138 contains a long melism which embodies a bar of duplet patterns which runs against a triple metre, as can be seen hereunder :

Example 138 : Corpus 246, bars 18 - 23, illustrating over bar 22 the Anti-metric Pattern of a Duplet in the context of Triple Measures



Example 139 below is also anti-metric in character: part of a quadruplet bar becomes a melismatic pattern:

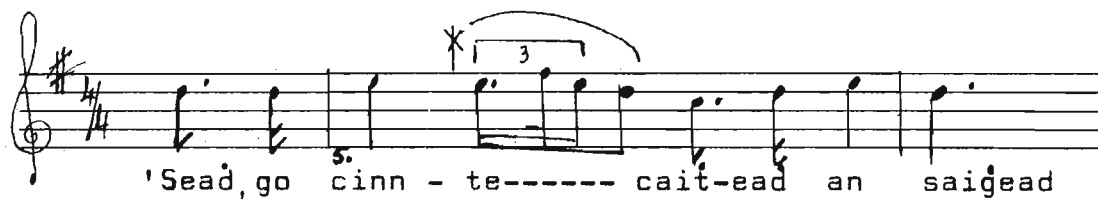
Example 139 : Corpus 39, bars 1 - 3, illustrating an Anti-metric bar of a Quadruplet which completes a melism begun in Triple Measure



The above example has the special interest of combining both triplet and quadruplet features.

A set of four examples, hereunder, now instances the irregular patterns of triplet, quadruplet, quintuplet and sextuplet as anti-rhythmic factors in melismatic expression of the Collection :

Example 140 : Corpus 193, bar 5, illustrating the use of a Triplet as an Anti-rhythmic Factor in a Melism



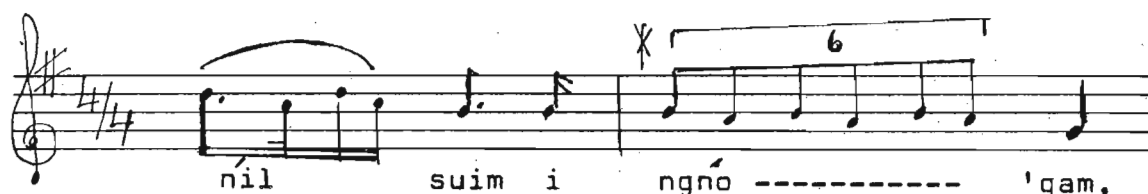
Example 141 : Corpus 178, bar 22, Instancing a Melism which is contained within the Anti-rhythmic Pattern of a Quadruplet



Example 142 : Corpus 233, bars 10 - 11, which has the Anti-rhythmic Pattern of a Quintuplet as part of a Melism in short time-values, contained within a Three-four Measure



Example 143 : Corpus 34, bar 5, which shows a Melism formed exclusively by an Anti-rhythmic Sextuplet which occurs in a Four-four Metre



Briefly, then, an aspect of melismatic expression in the Corpus is found in the use of both anti-metric and anti-rhythmic patterns. Anti-metric factors are duplet and quadruplet; anti-rhythmic elements relate to triplet, quadruplet, quintuplet and sextuplet.

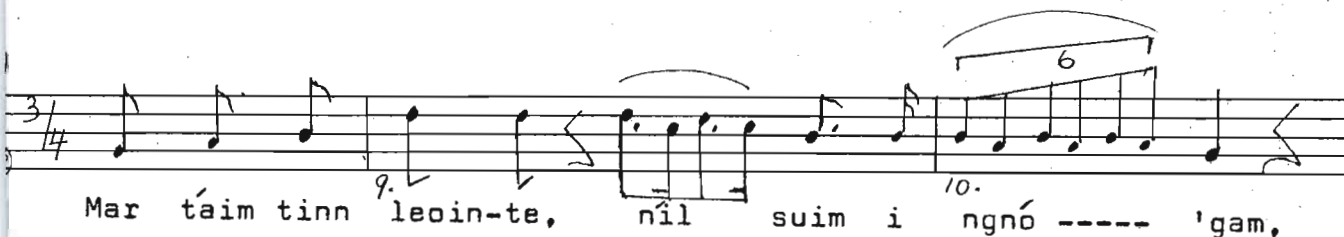
2.2.1.4 Melismatic variety in Ornamental Function

Melismata express a variety of ornamental functions through the medium of the trill, the turn, the inverted mordent. The introduction of a retention of breath into the performance of melisms promotes tension, melodic and rhythmic interest and illuminates the text.

A) The Trill⁴⁹

The vocal trill is not found frequently in the De Noraídh Collection. However, there is one clear example in Song 34. This example is supported by other instances of lesser moment. Example 144 illustrates a melism in the form of a vocal trill:

Example 144 : Corpus 34, bars 9 - 10, illustrating, at bar 10, a Melism of the De Noraídh Collection, expressed in the form of a Vocal Trill



Shorter trills are present in Song 92, Stanza II, bar 3; in Song 188, bar 9; in Song 227, bar 9; in Song 230, bar 7; and in Song 295, Stanza III, bar 3.

B) The Turn⁵⁰

The vocal turn is a common ornament in the Corpus and it well accommodates the melismatic pattern, which has a minimum requirement of four distinct tones per

49. Trill: A musical ornament consisting of the rapid alternation between a given note with its diatonic second.

50. Turn : A musical ornament consisting of four or five notes which revolve around a principal note.

syllable. An example which follows now (No. 145), Song 39, is composed of two stanzas and contains five instances of melism which takes the shape of the turn embellishment :

Example 145 : Corpus 39, illustrating in Stanza I, at bars 9, 15 and 23; and in Stanza II, at bars 15 and 24, the Melismatic Turn

J. = 56

1. Is go Ca-thair na Léi ————— ge mo léan ba mhin-ic mé si-ar, a'

tri-all ar mo chéad-shearc a thréig mé 's a bhain diom mo chi-all, Mar-a

ndéan-tar mé phó — sádh lom' stór ar an In-id seo chugh-ninn (15)

Tuit-fidh mé 'mbrón — is ní dó — cha go mair-fidh mé bli-aín. (23)

2. Ná ta-gadh an cumha — ná an brón san tim-peall do chroí, Mar

dhéan-faínn tú phá-sadh ar a' gcó-ínn ó Ea-gal-an Chríost, (15)

B'fheorr liom tú 'óig — fhir gan fear-ling a- gat ins an saol ná (15)

fear eil' is puirt — chuir-fheadh cóis — tí a' riath fúm sa talí. (24)

Chart 38, which follows now, is a listing of songs in the Collection which feature melismatic turns in a prominent manner. The chart is in three columns: Song Number, Stanza Reference and Bar Reference :

CHART 38 :

A Listing of Songs from the De Noraídh Collection which contain the Melism in the Ornamental Form of a 'Turn', together with corresponding Stanza and Bar References

| <u>Song No.</u> | <u>Stanza</u>
<u>(if any)</u> | <u>Bar reference</u> |
|-----------------|----------------------------------|-----------------------------|
| 11 | | 11 |
| 13 | | 12 |
| 21 | | 6 |
| 23 | I | 2, 6 |
| | II | 2, 6 |
| | III | 2, 6 |
| | IV | 2, 6 |
| | V | 2, 6 |
| 39 | I | 9, 15, 23 |
| | II | 15, 24 |
| 41 | | 1 |
| 92 | II | 5 |
| | III | 5 |
| 182 | | 5 |
| 193 | | 6 |
| 215 | | Upbeat to bar 1. |
| 218 | | 1 |
| 219 | | 1, 2, 9. |
| 232 | | 5 |
| 233 | | 1, 2, 10, 16, 17, 18, 20. |
| 240 | | 1, 2, 3, 5, 6, 7, 13. |
| 242 | | 2, 4, 7, 8, 14, 16, 19, 21. |
| 274 | | 12. |

C) Inverted Mordent⁵¹

In the De Noraídh Collection, the inverted mordent, not the mordent proper, is a vehicle for melismatic expression. From the amalgamation of the inverted mordent and other notes, melisms evolve. A set of examples, Nos 146 - 149, below, shows the melism in a variety of mordent contexts which are inverted :

Example 146 : Corpus 57, bar 19, illustrating the Melism in the Ornamental Context of an Inverted Mordent

Inverted
Mordent

A's am' c'roide 'stí níl leigeas

51. (a) Mordent: An alternation of a note with the note immediately below it.
- (b) Inverted Mordent: An inverted alternation, in which the main note is involved with a note immediately above.

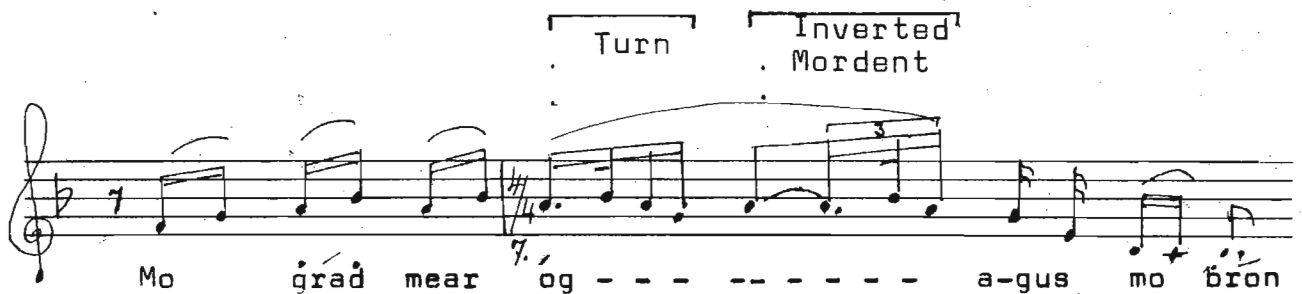
Mordent:

Inverted Mordent :

Example 147 : Corpus 27, illustrating at bar 11,
the Melism of an Inverted Mordent,
introduced by a Double Acciaccatura



Example 148 : Corpus 33, bar 17, which contains an
instance of a Turn and an Inverted
Mordent combining to form a Single
Melism



Example 149 : Corpus 37, bar 7, which expresses a
Melism in the context of an Inverted
Mordent with Anticipatory Notes



The following list of references, Chart 39, relates to inverted mordents in the Corpus which are part of melismatic patterns :

CHART 39 :

A Listing, according to Song Number and Bar References, of Inverted Mordents which are part of Melismatic Patterns in the De Noraídh Collection

| <u>Song No.</u> | <u>Bar reference(s)</u> |
|-----------------|----------------------------|
| 11 | 10, 11, 12 |
| 26 | 6 |
| 33 | 7 |
| 37 | 7 |
| 56 | 22 |
| 84 | 9, 22 |
| 96 | 15 |
| 98 | 6, 18 |
| 101 | 12, 28 |
| 112 | Line one on ' <u>uan</u> ' |
| 120 | 7 |
| 123 | 10 |
| 127 | 7 |
| 159 | 1, 2, 5 |
| 190 | 1, 5, 13 |
| 192 | 7 |
| 193 | 3, 5, 15 |
| 216 | 1, 5, 10 |
| 219 | 3, 6, 14 |
| 245 | 5, 8 |
| 246 | 22 |
| 259 | 5. |

D) Breath-Retention and Melism1. Breath-Retention⁵²

In De Noraídh's analysis of main characteristics of Irish 'old-style' singing, he describes a singular performance-trait of traditional folk singers - the practice of stopping the breath at unexpected moments in a song⁵³. The Collector emphasises that this sudden cessation of exhalation was not made for the purpose of taking a breath. This break in movement constituted a 'breath-less' moment, the more obvious effects of which were text-emphasis and a rhythmic/melodic embellishment. Three manifestations of the 'breath-less' moment are present in the Corpus:

- i. The halting of breath on a short and unimportant word, usually at the beginning of a line. This technique served to create a rhythmic tension and interest, and to 'underline' the text which followed.
- ii. The holding of breath, and, then, with renewed exhalation, the stressing of the next note with a slight accent. No movement of breath occurred between first and second notes. The initial note was handled abruptly, in a staccato manner.
- iii. The retention of breath between note-repetition, during the performance of a melism.

52. Breath-retention, or regulation (Irish: cosc anála) is a literal translation of the Sanskrit, prāṇāyāma. In meditation, the yogi regulates acts of 'aspiration and expiration, so as to prolong the period of quiescence between the two.

53. L. de Noraídh: Ceol ón Mumhain, 'Réamhrá (Preface) 11. Cosc Anála', p. 12.

For English Translation, see Volume I, Appendices, No. II, pp. 154 - 155.

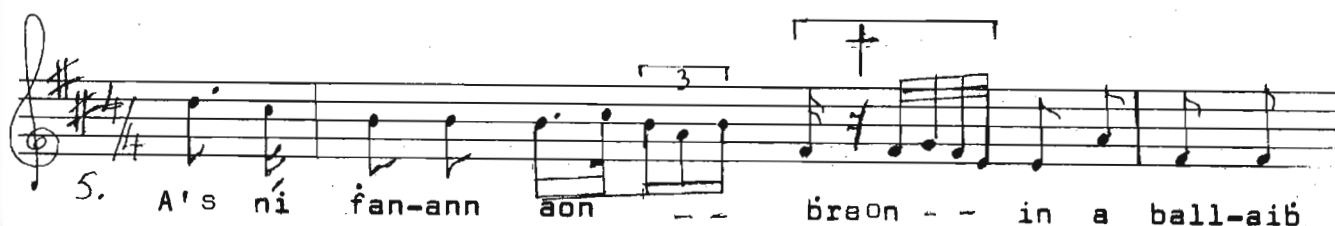
2. Melism and Breath-Retention

In the Collection, breath-retention may occur in a melismatic context, when a series of rapid notes takes place on a single syllable, and the first note of the series is sung twice. The sound between first and second notes is divided by a stopping-of-breath which creates a clean gap between the sounds and is marked by a rest. It is also possible that a note other than the first is broken in a similar manner. Musical examples from the Corpus, which now follow, are illustrative of melisms which contain 'breathless' moments. In these examples (Nos. 150 - 152) a brace indicates the melism in question, and a cross shows the point at which the breathing process is halted :

Example 150: Corpus 251, bar 10, illustrating Breath-Retention which occurs at the beginning of a Melism on the first syllable of the text-word, 'íosa'



Example 151 : Corpus 232, bar 5, which contains an instance of Breath-holding within the second Melism of the bar, on the text-word, 'braon'



Example 152 : Corpus 237, bar 5, which instances a Cessation of Breathing between note-repetition towards the end of a Melism on the text-word, 'glais'



In short, then, the performance-trait of breath-retention (which De Noraídh observed among folk singers who belonged to an old tradition) created a rhythmic/melodic interest and, through special emphasis or positioning, high-lighted text. In instances of melismatic context, words of importance were 'enlarged' and 'illuminated' by virtue of this breathless moment⁵⁴.

2.2.2 Simple and Ornate Melody in the Collection

In section 1.2.2, the combination of simple and ornate seems to belong to Eastern tradition, and is illustrated through the juxtaposition of parlando and of ornamental styles. In a Czech song tradition, the ornate version

-
54. In Hindu meditation practices, inhalation, breath-retention and exhalation are regulated in accordance with set rhythmic schemes. The regulation of the 'breathless period' is thought to lead to quiescence, illumination and mind-unfoldment. In Zen meditation, the breathless moment between inhalation and exhalation is not regulated but observed.

Becoming aware that there is no breath has been for centuries in Tibet, China, Burma, Thailand, Ceylon, the whole of Asia a first technique in the quest for enlightenment. 'The gap between the two is of very short duration; but keen, sincere observation and attention will make you feel the gap. Nothing else is needed.'

Bhagwan Shree Rajneesh: The Book of Secrets, 'Breath - a Bridge to the Universe', p. 59.
Nirvana (an old Sanskrit word) means 'extinction', 'the breathless state'. It is the Buddhist's Ultimate.

may be the prototype and a simplified variant become the second version. In the De Noraídh Corpus, there are songs which present first the simple version and, second, the embellished variant. Other song-examples, following the Czech method, prefer to begin with the complex and, then, complement the melodic whole by a plain section⁵⁵. Example 153 hereunder, taken from the Collection, illustrates a simple-ornate song which adds a few more embellishments to its second section :

Example 153 : Corpus 226, illustrating a Song in Simple-Ornate style, in which an Embellished Version, bars 9 - 16, follows a Simple Prototype, bars 1 - 8

A¹

$\text{♩} = 100$

Dear-(a)-gó'd féin mo ghú-na bán, Siú-b' mé an domhan ian-(a)-lón Go
bhfaighe mé mar-(a)bh é n'ú slán, Sgo dti-ge tú a mhúir-nín slán.
Siúil siúil siúil a ghra, Siúil go so-cair a-gus siúil go(n) tláth, Ó
fhág tú mi-se is docht mo chás, Sgo dti-ge mo mhúir-nín slán.

Example 154, overleaf, is an instance of a reverse order: an embellished prototype is completed by a simpler variant :

55. Otherside the field of folk music, there is a unique example of 'variation in the reverse' in Vincent d'Indy's (1851-1931) Istar, seven orchestral variations. The set begins with the most complex variation, and ends with the theme in octaves. A 'disrobing' process is implied in the title, Istar - a Babylonian goddess of passion. Isthar, opus 42, was composed in 1896.

(W. Apel: Harvard Dictionary of Music (Edition 1973), 'Istar Variations', p. 428.)

Example 154: Corpus 219, which illustrates a melody in which an Ornate Version, bars 1 - 8, precedes a Simpler Variant, bars 9 - 16

The musical score is written on five staves. The first staff is marked 'A¹' and '♩ = 64'. It contains the first eight bars of the 'Ornate Version'. The second staff contains bars 9-16 of the 'Simplified Version'. The third staff contains bars 17-24 of the 'Ornate Version'. The fourth staff contains bars 25-32 of the 'Simplified Version'. The fifth staff contains bars 33-40 of the 'Ornate Version'. The lyrics are in Irish Gaelic and are written below the staves.

*D'éi - ríos féin ar mai-din go moch, I bhfad am-ach sa
bhfómhar, Cé chí-finn chugham ach stór ma chroí, Is d'fhé-
ach sí súid go fón-ta. Do dhí sí súid deas
dear-íog is donn, Is a lea-ca mar bhláth ná ró-saí, D'fháis-ceas í go
duíth leim' chroí, 'Sé dúirt sí 'Cá mbí-onn tú id' chó-naí?'*

In Example 154, just quoted, it is useful to compare and contrast the following bars which correspond in the first and second sections of the song - A¹ and A² :

| <u>A¹</u> | <u>A²</u> |
|-----------------------|---------------------------|
| <u>Ornate Version</u> | <u>Simplified Version</u> |
| <u>Bar Reference</u> | <u>Bar Reference</u> |
| 1 | 9 |
| 2 | 10 |
| 3 | 11 |
| 7 | 15 |

Aspects of embellishment and simplification in Example 154 (above) embrace both rhythmic and melodic factors.

There are, however, songs in the Collection so complex that they defy simplification. As in the case of some Rumanian melodies, skeleton reductions would result in dull and monotonous patterns⁵⁶. Only in their full shape

56. Béla Bartók : Rumanian Folk Music, Volume II (Editor: B. Suchoff), 'Introduction', pp. 14 - 15.

do Irish ornamental songs retain their true essence. The following are a few songs which seem to be characteristically and specifically Oriental in their complexity⁵⁷:

Song Numbers

| | |
|-----|------|
| 119 | 236 |
| 227 | 242 |
| 232 | 281. |

2.2.3 Ornamentation and Improvisatory Style in the De Noraídh Collection

2.2.3.1 Improvisatory Style : Introduction

Improvisatory style, so widely practised in the East, has to do with a more or less spontaneous performance of music. In a restricted sense, this style includes the introduction of improvised details into fixed forms⁵⁸. During the act of improvising, a performer is guided by stylistic norms with which he is already familiar⁵⁹. Such norms in folk music would certainly include matters of melody, rhythm and form. Section 1.2.3 has referred to the importance of ornamentation in the improvisatory traditions of the East. Since the performer is, in a measure, also a composer, most cases of individual variations become improvisations. Rarely will the same piece be performed twice by the same musician in exactly the same manner.

57. A source of easy reference for both simple and complex melodies can be found in a Table of Oriental Traits in Song Number Sequence. This Table introduces and is a guide to De Noraídh's Complete Collection of Munster Folk Songs - Volume III of this thesis, pp. 1 - 106.

58. W. Apel: Harvard Dictionary of Music (1973), 'Improvisation, extemporization', p. 404.

59. Encyclopaedia Britannica, Micropaedia, V, (1977), 'Improvisation', p. 319.

In De Noraídh's Introduction to the main characteristics of Irish folk music, the Collector seems to say the same thing :

Even in the same parish, I have never heard a song performed in exactly the same way by any two singers. There were always points of difference, great or small. What one hears is not the song itself but a version of the song⁶⁰.

One version, therefore, is not more correct than another - although this is not to say that all versions are of equal excellence! Nevertheless, the improvisatory quality of each version cannot be doubted. In De Noraídh's experience, 'musical turns flowed from a good singer as easily as did turns-of-phrase from old poets, when they answered one another in impromptu sallies.' In illustrating the view that every traditional singer is, up to a point, an unconscious composer, the Collector quoted a performance of a Mrs O'Riordan, aged about eighty years, who once opened a book of poems by Owen Rua O'Sullivan (1748 - 1784). Instead of reciting, she sang the verse. Instinctively, this old singer chose an appropriate melody which fitted each metre⁶¹.

The remarkable ability of modern Irish folk-instrumentalists in the field of improvisation is commented upon by A.L. Lloyd in Folk Song in England. Lloyd relates this ability to the context of Eastern Europe and to the Orient generally, when he speaks of 'the astonishing extemporizations of Irish fiddlers, Balkan bagpipers or, for that

60. L. de Noraídh: Ceol ón Mumhain, 'Reamhrá (Preface), pp. 9 - 10.

(English Translation, Volume I, Appendix II.)

61. L. de Noraídh: Op. cit., p. 10.

matter, the art-music instrumentalists of the Oriental World...! ⁶² Lloyd's view appears to amount to an important English comment on the Irish folk-music situation under discussion.

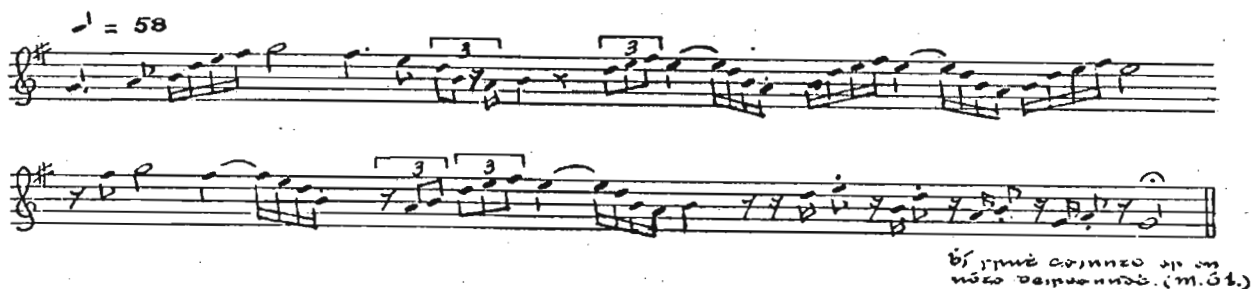
2.2.3.2 Ornamental and Improvisatory Style in the Corpus

The De Noraídh Collection contains melodies which feature embellished improvisation in both non-recitative and recitative contexts. In a more restricted way, ornaments of an improvisatory kind adorn songs to a greater or lesser degree. The Irish melodic form of prototype melody, followed by an improvised variation, termed fonn (tune) and casadh (turning or variation), provides ample scope for extemporizational creativity.

A. Ornamental Improvisation in a Non-Recitative Context

Example 155, hereunder, contains a melody, fully improvisatory in style but without a single instance of a repeating note. The song was collected from a Michael Lucey, Ballyvourney, in 1941. The song, a lament, is without words. The Collector notes that on the final sound there was a stream of speech:

Example 155 : Corpus 184, illustrating an Embellished and Improvisatory Style in a Non-Recitative Context



62. A.L. Lloyd: Folk Song in England, 'The Foundation of Folk Song', pp. 66 - 67.

In Example 155, above, the melody, barless and metreless, sounds like a long melism, until the movement is suddenly halted by abrupt and percussive speech-rhythms, after rests, towards the end of the second line.

B. Ornamental Improvisation in a Recitative Context

Example 156, which follows, illustrates a florid parlando melody, with a recitative percentage of 24,39% :

Example 156: Corpus 119 (a Simple Binary melody in d-mixolydian) containing Embellished Improvisatory Style in a Florid Parlando Context

Handwritten musical score for Example 156, Corpus 119. The score is written on three staves. The first staff has a tempo marking of quarter note = 54 and a key signature of one sharp (F#). The melody is in d-mixolydian mode. The second and third staves contain Vietnamese lyrics. The score includes various musical notations such as notes, rests, and bar lines. There are also some handwritten annotations and a large 'A' above the first staff.

In the example just quoted, improvisatory style in changing metres contributes to a degree of ambiguity in both form and modality⁶³. A motivic economy, expressed by the chordal pattern d' g' b' d'', bar 5, and the repeating interval of a fourth, d' - g' and g' - d', bar 3, promotes cohesion in the melody.

63. The modality of this song could be viewed as G-Ionian, ending on a half-close.

C. Introduction of Improvisatory Embellishments
which adorn the Basic Melodic Line

West and South-West coastal singers in Ireland appear to have imbibed from their respective traditions a repertoire of ornaments which they use freely in performances⁶⁴.

In Example 157, hereunder, freely-spaced ornaments enliven the syllabic aspect of the melody :

Example 157: Corpus 294 (a Simple Binary Melody
in e-dorian), illustrating freely-
spaced Embellishments which adorn
the Syllabic Aspect of the Line

♩ = 54 A

(1) 'SÓ mháire ní Lao' - re ó Bhéal a' Chéi - me, mar a mbíonn an os

(2) mael dá dhú - seacht, an amh-laith éa - gais, ná hair - in

(3) aon - - - phios De ghuth do bháil dá mháire-cit? Tui a' bhíse-cais

B

(4) éin - ne' gatháil mach ná déan - nach sa ghleann so tapbh le

(5) Diú - chaill. Do neó-sadh scéal duit ar ghníomhar - tha'n

(6) tseoghail seo, Go raibh Clán - na Gaedheal i gaumhang - (gracht.

In Example 157, above, these improvised embellishments occur in bars 2, 3, 6, 7, 10, 11, 14 and 15.

These adornments seem to have been applied to line

64. Máire Ní Eighin, a Connamara singer of importance, supported this view, during conversations with the present writer, in 1969. She claimed that ornamentation of a more or less set variety, commonly practised, was used in an instinctive and free manner by the individual performer.

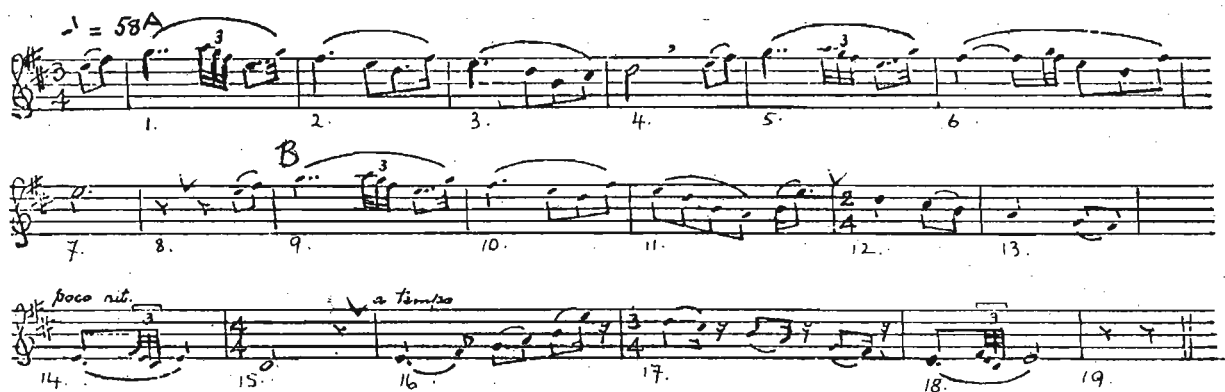
and text purely by a folk consciousness. In De Noraídh's notation, they appear at strong metrical moments.

D. A Tune and its Elaboration : Fonn agus Casadh

The Gaelic term, fonn, refers to a first melody, and the term casadh, a turning or twisting about, describes a more or less inspirational viewing of the prototype under a new light⁶⁵. The implied metaphor is agricultural, and relates to the process of turning or twisting a hay-rope until the plaiting is long enough to secure hay-cocks or stacks.

Example 158, given below, is an instance of a prototype melody, which, within a single performance, is accompanied by a second and improvised version, in lower transposition as illustrated in Example 159 overleaf :

Example 158 : Corpus 250A, illustrating a Prototype Melody (Fonn), in form Simple Binary, and in mode, e-dorian



65. A folk anecdote illustrates the distinction between fonn and casadh, 'tune' and its 'turning'. This story relates the action of a rather puritanical priest who first dispersed a crowd of crossroad dancers and then addressed the blind musician with heavy sarcasm: "Can you play the 'Our Father' ?", asked the priest. The blind musician replied: "If you can whistle the tune, I'll 'turn' it for you."

The improvisatory character, already influencing this first melody, tends to obscure its form. For ready reference, the following analysis is suggested:

Form: Simple Binary, A B

A : Forephrase, bars 1 - 4
Afterphrase, bars 5 - 8.

B : Forephrase begins at bar 9 and ends at bar 15. Bars 12 - 15: an interpolation which extends the forephrase of B.

Afterphrase, bars 16 - 19.

The casadh or improvised comment of the fonn, or first melody, is contained in Example 159 hereunder:

Example 159: Corpus 2508 illustrating an Improvised Version of a First Melody (contained in Example 158), Transposed to the Lower Fifth, and appearing as an a-dorian tune, in Compound Unitary Form



In the above elaboration of a prototype, this second version contains, apart from an alteration of form and modal pitch, an increase of embellishments, short sequence and varied repetition. Since

the musical form has changed, a short analysis of its general outline is now provided :

Corpus 250B :

Form: Compound Unitary: A' A²

A' : Forephrase, bars 1 - 4.
Afterphrase (shortened), bars 5 - 7.

A² : Forephrase (extended), bars 8 - 13.
Afterphrase, bars 14 - 17.

Over bars 10 and 11, there is a fragment of sequence. Bars 14 - 16 contain a varied repetition of bars 11 - 13.

In this single fiddle-performance, Corpus 250A and B, by Theresa Bradley, County Kerry, 1942, an improvisatory style is well-demonstrated, with a special illustration of improvisation on a prototype melody.

In brief review of sections 2.2.2 and 2.2.3: It is clear that the Collection contains examples which illustrate the sequences of simple-ornate and ornate-simple in melodic form and construction. Improvisatory style in the Corpus seems to be rooted in a performance trait which makes each presentation of a melody unique, and no two versions of a song are alike in all aspects. Embellishments in improvisatory style govern both non-recitative and recitative-like songs, and seem to be part of a technique which traditional musicians have imbibed from a folk-consciousness, and apply freely in a more or less standard manner. The Irish melodic structure, fonn agus casadh, (a basic tune and its elaboration), may be viewed as an improvisatory form.

2.3 Other Aspects of Ornamentation in the De Noraídh Collection

Three major manifestations of both Oriental ornamentation and its Irish realization in the Corpus have been considered. There are three other aspects which deserve attention :

1. The Single Acciaccature as an embellishing factor.
2. The Triplet as a Decorating agent.
3. The Evolving Complexity of Ornamental Patterns in the Collection.

2.3.1 Single Acciaccature⁶⁶

Acciaccature, or grace-notes, are a characteristic form of Oriental embellishment⁶⁷. Such decorative and 'fugitive' sounds are especially common in Indian singing, where they are viewed, not as dispensable entities, but as essential elements of principal notes which they decorate⁶⁸. Here, there is never a feeling or suggestion that an inessential and unnecessary addition is being made to a main melodic note. Although the purpose of an acciaccatura is to emphasize the importance of a principal sound, a note with its fleeting embellishment should be thought of as a single 'utterance'⁶⁹. In India, the whole system of gamak⁷⁰ becomes an elaborate vehicle of light and shade.

66. Acciaccature embellishments (sometimes referred to as grace-notes) are of very short duration and, when taken swiftly, seem to be 'crushed' against main notes.

67. In 'Üsküdar', a folk song from Turkey, the acciaccatura-embellishment forms part of a sequence, bars 7 - 10. (C. Haywood: Folk Songs of the World, p. 209.)

68. A.H. Fox Strangways: The Music of Hindostan, 'Grace', p. 182.

69. A.H. Fox Strangways: Op. cit., p. 182.

70. The term gamak refers to a system of musical ornamentation in Southern India.

Example 160 hereunder, presents a Chinese Flower Drum Song, in which the acciaccatura decoration is prominent :

Example 160: A Chinese Folk Song, Hua Ku Ko (The Flower Drum) illustrating, at bars 2, 3, 5, 6, 7, an Oriental use of the Single Acciaccatura 71

Moderato

1. Tso — shou — lo, 2. Yu — shou — ku,
Feng — yang — drum, Feng — yang — gong

3. Shou na cho lo — ku — lai — ch'ang — ko.
With drum, and gong — we'll — sing — a — song.

5. Pich ti — ko erh — 6. wó ych pu hui ch'ang,
What shall we sing? For we know — on — ly one;

7. Tan hui — ch'ang — ko — 8. Feng — yang — ko.
We on — ly know — the — Feng — yang — song.

9. Feng la Feng-yang ko — lai. — Ai — ya — ai — hu — ya.
Feng la Feng-yang flow'r — drum. —

Chorus

11. Drrr — lang-dang-p'iao-yi — p'iao, 12. Drrr — lang-dang-p'iao-yi — p'iao,

71. Flower Drum Songs are related to a popular entertainment which began in Feng-Yang, northern Anhwei. The songs and dialogue of impoverished rice farmers, turned vagabonds, lightened their poverty and hunger. (C. Haywood: Folk Songs of the World, p. 232.)

2.3.1.1 Single Acciaccature in the De Noraiddh Collection : Initial Survey

In the Collection, there are 144 examples of single acciaccature. These are found over the span of sixty-four songs, beginning at Song 2, and ending at Song 300. Ascending acciaccature are common: there are 101 rising examples, as against forty-three falling ones. In an approach of ascent or descent to main tones, grace-notes create intervals. Intervals which acciaccature induce as they approach modal degrees both by ascent and descent are :

Minor and Major seconds
Minor and Major thirds
Perfect fourths and fifths.

Minor sixths are found in ascending form only.

Modal degrees, decorated by acciaccature, are :

I, II, III, IV, V, VI and VII.

The seventh degree is decorated in its variable forms: raised, lowered and slid. Any one of these seven modal degrees may be embellished exclusively in songs, or share in a decorating process with other degrees. In Song 219, four modal degrees are graced by acciaccature VII, I, IV and VI. Table No. 23, in the Appendices to this Chapter, contains a listing, in song-sequence, of data dealing with intervallic relationships between acciaccature and main tones, together with the modal degree or degrees embellished in each song. (Refer p. 408.)

2.3.1.2 Acciaccature Intervals

In the intervallic approach of grace-note to main note, distances vary from a minor second in ascent and descent to a minor sixth in ascent only. Interval-frequencies fluctuate between fifty-one and one.

There are fifty-one instances of the ascending major second; intervals of a major third descending, of a perfect fourth and a perfect fifth descending, are found once only. The minor second interval ascending occurs seventeen times, and the major second, in descent, totals eighteen examples. Chart No. 40, which follows, presents an overall picture of acciaccature intervals.

CHART 40 :

A Schematic Listing of the Frequency of Acciaccature in both Ascending and Descending Forms as they occur within the De Noraiddh Collection

| <u>Interval</u> | <u>Ascending</u> | <u>Descending</u> | <u>Total</u> |
|-----------------|------------------|-------------------|--------------|
| Minor 2nd | 17 | 12 | 29 |
| Major 2nd | 51 | 18 | 69 |
| Minor 3rd | 12 | 10 | 22 |
| Major 3rd | 2 | 1 | 3 |
| Perfect 4th | 12 | 1 | 13 |
| Perfect 5th | 2 | 1 | 3 |
| Minor 6th | 5 | | 5 |
| | <u>101</u> | <u>43</u> | <u>144</u> |

2.3.1.3 Acciaccature and Modal Degrees

Degrees decorated by acciaccature fall into two subsections : Those degrees which are exclusively embellished in songs, and other degrees which form combinations within melodies and broaden the scope of ornamentation. Forty-one songs in the Corpus contain the embellishment of a single degree. The remaining twenty-three have two degrees affected by grace-notes. The combinations are of interest.

Corpus 20 combines the degrees I and III; Corpus 27, the degrees VI and VII; Corpus 57, degrees I and II; Corpus 120, degrees I and VI; Corpus 121, degrees III and VI; Corpus 152, degrees I and IV; Corpus 209, degrees III and V; Corpus 215, degrees II and V. In Corpus 219, four modal degrees are adorned by acciaccature: I, IV, VI and VII. Corpus 48 has the embellishment of a variable seventh; one seventh degree, lowered, is slid; the second is in raised form. Chart 41, beneath, lists the decoration of modal degrees by acciaccature :

CHART 41 :

A Listing of the Decoration of Modal Degrees I to VII by single Acciaccature in the De Noraïdh Collection

(It will be noted that a certain amount of overlapping in song numbers occurs where combinations of degrees exist.)

| <u>Modal Degree</u> | <u>Exclusively Main Degree</u> | | <u>Main Degree in Combination with:</u> | |
|---------------------|---|---|---|---|
| | <u>Song Numbers</u> | <u>Total No. of Songs (in brackets)</u> | (1) <u>Other Degrees;</u> and
(2) <u>Song Nos :</u> | <u>Total No. of Songs (in brackets)</u> |
| I | 124; 136; 158;
166; 167; 223;
229; 251; 291 | (9 songs) | (1) II; III; IV;
V: VI; III.
(2) 2; 20; 57; 120;
125; 152; 168;
210; 219; 261;
295 | (11 songs) |
| II | 220; 249; 253 | (3 songs) | (1) I; III; V.
(2) 57; 125; 215;
218; 261; 295 | (6 songs) |
| III | 23; 55; 82; 133;
169; 244 | (6 songs) | (1) I; V; VI; VII;
VII-lowered.
(2) 20; 121; 148;
168; 209; 216;
218; 248; 274 | (9 songs) |

Continued...

Chart 41 - continued :

| <u>Modal Degree</u> | <u>Exclusively Main Degree</u> | | <u>Main Degree in Combination with:</u> | |
|---------------------|---|---|--|---|
| | <u>Song Numbers</u> | <u>Total No. of Songs (in brackets)</u> | (1) <u>Other Degrees; and</u>
(2) <u>Song Nos :</u> | <u>Total No. of Songs (in brackets)</u> |
| IV | 37; 194; 236;
245; 265; 266 | (6 songs) | (1) I; V; VI; VII.
(2) 152; 219; 257 | (3 songs) |
| V | 123; 160; 186;
207; 263 | (5 songs) | (1) I; II; III; IV.
(2) 2; 209; 215;
257; 274 | (5 songs) |
| VI | 138; 226 | (2 songs) | (1) I; III; IV; VII.
(2) 27; 120; 121;
148; 205; 216;
219 | (7 songs) |
| VII | 21; 103; 112; 118;
156; 197; 211;
268; 269; 300 | (10 songs) | (1) I; III; IV; VI;
VII-Slid;
VII-Lowered).
(2) 27; 48; 205;
210; 219; 248 | (6 songs). |

In short: for an overall view-point, modal degrees I, VII and II receive prominent emphasis from acciaccatura embellishment. In the exclusive decoration of single degrees, the seventh degree has been ornamented in the highest number of songs - ten.

Example 161 below, illustrates an aspect of acciaccature-usage in the Corpus:

Example 161: Corpus 2, illustrating, at bars 2, 3, 6, 11 and 14, an aspect of Acciaccature-usage in the De Noraídh Collection

The musical score consists of six staves of music. The first staff is marked with a tempo of $\text{♩} = 56$. The lyrics are in Irish. The score includes bar numbers 2, 3, 6, 11, and 14. The music features various ornaments, including acciaccatures, which are indicated by asterisks (*) above certain notes. The lyrics are:
 Stave 1: Nísh ró-bhreá'n dú-thaigh a mbéar-fainn liom tú, Go cois Abha
 Stave 2: Mí - re na ndéi-se, Mar a mbí-om an sméi-lín 'sa lon go
 Stave 3: Céol - mhar a-gus na mbeann dá thráo-chaint. Con-naí(í)
 Stave 4: cumh - r'ar chrainn a lu - bodh, a-gus bláth na n-úll... ar
 Stave 5: ghéa-ga; An chu-ach gan amh - ras i dtú - is an
 Stave 6: tsamh - ra, a-gus a' traó - na' loth-airt sa bhfar glas.

In the above example, the acciaccature and their adorned notes are in the order a'-d"; d'-a'; a'-d"; d'-a' ⁷².

In recapitulation, single acciaccature are found in 64 songs of the Corpus (20,9%), and total 144 examples. Relationships between decorating and decorated tones create intervals extending from a minor second to a minor sixth, most of which are found in both ascending and descending forms. Modal degrees embellished extend from the first to the seventh. The seventh degree is adorned in its variable aspects: raised, lowered and non-tempered.

72. The acciaccature follow the order of entries in a fugal exposition - tonal.

2.3.2 The Triplet as a Decorating Agent

Table No. 24, in this Chapter's Appendices, page 416, lists triplet patterns of the Corpus under the headings of Song Number, Total, and Dotted Patterns. The triplet is found in almost one-half of the entire Collection - in 150 songs. Triplet frequency totals 662 examples, 198 patterns of which are in dotted form. This ornament occurs in a range of songs which spans the complete Collection, reaching from Corpus 1 to Corpus 299. It is present in the contexts of both song and dance. Example 162, hereunder, demonstrates a variety of triplet expressions in an elegaic lament, Corpus 245 :

Example 162: Corpus 245, illustrating a variety of both Rhythmic and Melodic Decorative purposes of the Triplet in the De Noraídh Collection

$\text{♩} = \frac{7}{6}$



1. M'or-na yaid mair-poco! an Co-éirí gan réimín 3. A-éirí, Coir-cois ána fear-ge Ceann

5. Mair-a 'Sur Cill 6. Aip-na báis (e) 7. Bó-ma 'ndí-éirí re-geirí a Ceill-and m Ull

9. Rí-éirí, 'Sé an 'D Co-éirí Zóig beann-uib-ea 11. Cneor-ge de'n clann 12. Coir-éirí, Ceis!

In the above example, the triplet pattern occurs sixteen times. Two patterns are of the dotted kind, at bars 7 and 8.

Example 163, below, shows a triplet decoration of a mainly syllabic melody. Acciaccature reinforce the triplet action :

Example 163: Corpus 27, illustrating at bars 4, 6, 9 and 11, the decorating function of Triplet Patterns in the context of a mainly Syllabic Melody

$\text{♩} = 66$

Mo éireoin go bráe tú a pái-rín óis, Mar zaoimn tú ru-aít-te
 buair-éa vpeoil, má éi-yeana tú liom-ra zaoi-aip fíó-tain ar cóir a-zur
 Seo tú du-aip náir maó-ab leat fíor, a-zur seo lea 'éoil a-zur ná
 10 éoil go fóill, Seo lea 'éoil a-zur ná 12 éoil ná doir.

A third example shows the diversity of triplet patterns over twenty-seven instances. This third illustration follows overleaf :

Example 164: Corpus 125, illustrating a diversity of Triplet Patterns over a total of twenty-seven instances

[illegible]

II

Am-er a fi-leo mo mui-n-er (ô) zo m-bim en me lea-barê, Ap do êu-mê re-ô do

tim-re ô êup-leo zo mui-n-er, 'Cup-rôr me êma-rant (ô) d'r d'cma-golê la

mop-ô, I noi-a mo êal-in êpin reu-mê do la-ô lion 'na lea-ôb.

[illegible]

To summarise : the triplet ornament occurs 622 times over almost one-half of the De Noraídh Collection - 150 songs. This ornament is a versatile one and contributes a great deal of both melodic and rhythmic embellishment and variety to melodies.

2.3.3 The Evolving Complexity of Ornamental Patterns in the Corpus

The evolving complexity of ornamental patterns in the Corpus can best be seen and examined through Table No. 25. In this graphic presentation of embellishing as it occurs in song-sequence, patterns of a complex kind are charted. A tabular diagram lists ornamental shapes and forms which have been extracted from the context of undulating melody, and are seen through the medium of a straight line, or monotone. This has been done in order to focus attention more effectively on the actual complexity of these shapes and forms which act as decorative moulds for the melodic line as it moves in the environment of varying pitch.

Table No. 25 contains multiple excerpts from eighty-two songs, ranging from Corpus 1 to 294, inclusive. Chart 42, which follows overleaf, contains a cross-section of examples for immediate reference. Table No. 25 is the fifth and final table and is contained in the Appendices to this Chapter VI, pages 419 to 433.

In general survey of Chapter VI, it can be said that ornamentation and decorative pattern are part of the life and essential structure of Eastern melody. These appear in growing density from West to East across the map, climaxing in Asia and declining somewhat in the Far East. Oriental embellishment reveals itself in three basic guises : melismatic decoration, combinations of simple and ornate styles, improvisatory forms and figures. All of these Eastern categories of adornment are evident in the De Noraïdh Corpus. Other obvious classifications of embellishment in the Collection have to do with single acciaccature, triplet decoration and an evolving complexity of ornamental mould and shape.

A Graphic Presentation of Evolving Ornamental
Moulds and shapes, as these appear in seven
songs (as a cross-section) of the Corpus:
Numbers 2, 20, 23, 72, 159, 241 and 293

| Song
No. | | Bars |
|-------------|--|-------------------|
| 2 | | 14 - 16 |
| 20 | | 13 - 14 |
| 23 | | Stanza 4
1 - 2 |
| 72 | | 11 - 12 |
| 159 | | 1 - 2 |
| 241 | | 5 - 6 |
| 293 | | 7 - 8 |

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TABLE NO 21

A TABLE ILLUSTRATING MELISMATIC FREQUENCY IN
SONG NUMBER SEQUENCE IN THE DE NORAIKH COLLEC-
TION

TABLE NO 21 ILLUSTRATING MELISMATIC FREQUENCY IN THE
DE NORAIDH COLLECTION

| <u>Song No.</u> | <u>No. of
Melisms</u> | <u>Stanza
Reference</u> | <u>Bar No.
Reference</u> |
|-----------------|---------------------------|-----------------------------|-------------------------------------|
| 8 | 1 | | Bar 24 |
| 11 | 4 | | Bars 10, 11, 12, 13. |
| 13 | 1 | | Bar 13 |
| 20 | 1 | | Bar 10 |
| 21 | 2 | | Bars 6, 14. |
| 23 | 13 | Stanza I | Bars 2, 6. |
| | | Stanza II | Bars 2, 3, 6. |
| | | Stanza III | Bars 2, 5, 6. |
| | | Stanza IV | Bars 2, 6. |
| | | Stanza V | Bars 2, 3, 6. |
| 24 | 1 | | Bar 19. |
| 27 | 3 | | Bars 6, 9, 11. |
| 33 | 1 | | Bar 7. |
| 34 | 2 | | Bars 9, 10. |
| 37 | 1 | | Bar 7. |
| 38 | 1 | | Bar 5. |
| 39 | 7 | Stanza I | Bars 2 - 3, 9, 15,
19, 23. |
| | | Stanza II | Bars 15, 24. |
| 40 | 2 | | Bars 12, 14. |
| 41 | 1 | | Bar 1. |
| 48 | 6 | | Bars 2, 6, 8, 10,
12, 14. |
| 55 | 2 | | Bars 5, 9. |
| 56 | 1 | | Bar 22. |
| 57 | 5 | | Bars 5, 7, 19(2),
21. |
| 65 | 11 | Stanza I | Bars 2, 11, 21 - 23,
24, 28, 29. |
| | | Stanza II | Bars 11, 21 - 23,
24, 28, 29. |
| 69 | 1 | | Bar 15. |
| 82 | 1 | | Bar 20. |
| 83 | 6 | | Bars 3, 5, 9, 13,
15, 19. |
| 84 | 3 | | Bars 9, 20, 22. |
| 90 | 1 | Stanza III | Bar 12. |

Table No. 21 illustrating Melismatic Frequency (continued)

| <u>Song No.</u> | <u>No. of
Melisms</u> | <u>Stanza
Reference</u> | <u>Bar No.
Reference</u> |
|-----------------|---------------------------|-------------------------------------|---|
| 92 | 4 | Stanza II
Stanza III | Bars 3, 5.
Bars 5, 7. |
| 96 | 1 | | Bar 15. |
| 97 | 1 | | Bar 10. |
| 98 | 2 | | Bars 6, 18. |
| 101 | 2 | | Bars 12, 28. |
| 112 | 2 | | <u>Barless</u>
Line 1: syllable ' <u>uan</u> '
Line 2: syllable
' <u>h-eadh</u> '. |
| 113 | 1 | | Bar 12. |
| 119 | 3 | | Bars 8, 9, 10. |
| 120 | 2 | | Bars 7, 9. |
| 123 | 1 | | Bar 10. |
| 124 | 3 | Stanza I
Stanza II
Stanza III | Bar 3.
Bar 4.
Bar 3. |
| 127 | 3 | Stanza I
(béarsa 2
line 1) | Bars 6, 10.
Bar 3. |
| 129 | 1 | | Bar 8. |
| 136 | 1 | | Bar 9. |
| 152 | 1 | | Bar 12. |
| 159 | 4 | | Bars 1, 2, 5, 6. |
| 160 | 2 | | Bars 6, 11. |
| 163 | 3 | | Bars 2, 7, 8. |
| 178 | 1 | | Bar 22. |
| 182 | 2 | | Bars 6, 15. |
| 186 | 2 | | Bar 1 (2). |
| 187 | 1 | | Bar 3 |
| 188 | 2 | | Bars 9, 13. |
| 190 | 3 | | Bars 1, 5, 13. |
| 192 | 1 | | Bar 7. |
| 193 | 4 | | Bars 3, 5, 7, 15. |
| 197 | 1 | | Bar 15. |
| 198 | 5 | | Bars 7, 17, 33, 34,
35. |

Continued...

Table No. 21 illustrating Melismatic Frequency (continued)

| <u>Song No.</u> | <u>No. of
Melisms</u> | <u>Stanza
Reference</u> | <u>Bar No.
Reference</u> |
|-----------------|---------------------------|-----------------------------|--|
| 215 | 1 | | Up-beat to bar 1. |
| 216 | 3 | | Bars 1, 5(2). |
| 218 | 2 | | Bars 1, 7. |
| 219 | 6 | | Bars 1, 2, 3, 6,
9, 14. |
| 225 | 3 | | Bars 2, 9, 13. |
| 227 | 4 | | Bars 1, 6 - 8, 9,
13 - 15. |
| 230 | 1 | | Bar 7. |
| 231 | 1 | | Bar 4. |
| 232 | 5 | | Bars 4, 5(2), 10,
13. |
| 233 | 8 | | Bars 1, 2(2), 10(2),
16, 18, 20. |
| 234 | 1 | | Bar 10. |
| 235 | 1 | | Bar 5. |
| 236 | 6 | | Bars 2, 4, 6, 9,
12, 15. |
| 237 | 2 | | Bars 5, 6. |
| 240 | 7 | | Bars 1, 2, 3, 5,
6, 7, 13. |
| 241 | 6 | Stanza I | Bars 5, 10 (2). |
| | | Stanza II | Bars 5, 7 (2). |
| 242 | 8 | | Bars 2, 4, 7, 8,
14, 16, 18,
20. |
| 243 | 1 | | Bar 4. |
| 244 | 1 | | Bar 6. |
| 245 | 2 | | Bars 5, 8. |
| 246 | 1 | | Bars 19 - 23. |
| 251 | 2 | Stanza II
(vérsa) 3 | Bar 10
Bar 6. |
| 261 | 3 | | Bars 7, 11, 13. |
| 266 | 1 | | Bar 9. |
| 272 | 1 | | Bar 6. |
| 273 | 1 | | Bar 2. |
| 274 | 2 | | Bars 4, 12. |
| 293 | 4 | Stanza I
Stanza II | Bars 1 (2), 4.
Bar 4. |

continued...

Table No. 21 illustrating Melismatic Frequency (continued)

| <u>Song
No.</u> | <u>No. of
Melisms</u> | <u>Stanza
Reference</u> | <u>Bar No.
Reference</u> |
|---------------------|---------------------------|-------------------------------------|-------------------------------------|
| 294 | 8 | | Bars 2, 3, 6, 7, 10,
11, 14, 15. |
| 295 | 4 | Stanza I
Stanza II
Stanza III | Bars 5, 7
Bar 7
Bar 3. |

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TABLE NO 22

ILLUSTRATING SONG AND MELISM GROUPINGS
IN THE DE NORAIKH COLLECTION

TABLE NO. 22 ILLUSTRATING SONG AND MELISM GROUPINGS
IN THE DE NORAIDH COLLECTION

| | | | | | | | |
|-------------------------------|------|------|------|------|-----|----------|------------|
| <u>One Melism per Song</u> | | | | | | 34 songs | 34 melisms |
| in Song Number - | | | | | | | |
| 8 | 13 | 20 | 24 | 33 | 37 | | |
| 38 | 41 | 56 | 69 | 82 | 90 | | |
| 96 | 97 | 113 | 123 | 129 | 136 | | |
| 152 | 178 | 187 | 192 | 197 | 215 | | |
| 230 | 231 | 234 | 235 | 243 | 244 | | |
| 246 | 266 | 272 | 273. | | | | |
| <u>Two Melisms per Song</u> | | | | | | 17 songs | 34 melisms |
| in Song Number - | | | | | | | |
| 21 | 34 | 40 | 55 | 98 | 101 | | |
| 112 | 120 | 160 | 182 | 186 | 188 | | |
| 218 | 237 | 245 | 251 | 274. | | | |
| <u>Three Melisms per Song</u> | | | | | | 10 songs | 30 melisms |
| in Song Number - | | | | | | | |
| 27 | 84 | 119 | 124 | 127 | 163 | | |
| 190 | 216 | 225 | 261. | | | | |
| <u>Four Melisms per Song</u> | | | | | | 7 songs | 28 melisms |
| in Song Number - | | | | | | | |
| 11 | 92 | 159 | 193 | 227 | 293 | | |
| 295. | | | | | | | |
| <u>Five Melisms per Song</u> | | | | | | 3 songs | 15 melisms |
| in Song Number - | | | | | | | |
| 57 | 198 | 232. | | | | | |
| <u>Six Melisms per Song</u> | | | | | | 5 songs | 30 melisms |
| in Song Number - | | | | | | | |
| 48 | 83 | 219 | 236 | 241. | | | |
| <u>Seven Melisms per Song</u> | | | | | | 2 songs | 14 melisms |
| in Song Number - | | | | | | | |
| 39 | 240. | | | | | | |

Continued...

Table No 22 illustrating Song and Melism groupings - contd

| | | |
|-------------------------------|---------|------------|
| <u>Eight Melisms per Song</u> | 3 songs | 24 melisms |
| in Song Number - | | |
| 233 242 294. | | |

| | | |
|--------------------------------|--------|------------|
| <u>Eleven Melisms per Song</u> | 1 song | 11 melisms |
| in Song Number - | | |
| 65. | | |

| | | |
|----------------------------------|--------|------------|
| <u>Thirteen Melisms per Song</u> | 1 song | 13 melisms |
| in Song Number - | | |
| 23 | | |

SONG AND MELISM TOTALS
IN THE DE NORAIDH
COLLECTION

83 Songs contain 233 Melisms.

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TABLE NO 23

ILLUSTRATING INTERVALLIC DISTANCES BETWEEN
SINGLE ACCIACCATURE AND MAIN MODAL DEGREES
IN THE DE NORAIDH COLLECTION

A TABLE ILLUSTRATING SINGLE "ACCIACCATURE" INTERVALS IN THE DE NORAIDH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime | Octave | | Degrees |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|--------|------|-------------------------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | | Asc | Desc | Decor |
| 2 | 5 | | | | | | | | | 3 | | 2 | | | | | | | | | | | | | V, I |
| 20 | 2 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | I, III |
| 21 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | VII |
| 23 | 11 | | 11 | | | | | | | | | | | | | | | | | | | | | | III |
| 27 | 2 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | VI, VII |
| 37 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | IV |
| 48 | 2 | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | VII ¹⁷ , VII |
| 55 | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | | III |
| 57 | 2 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | II, I |

A TABLE ILLUSTRATING SINGLE "ACCIACCATURE" INTERVALS IN THE DE NORAIKH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime Octave | | Degrees |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|--------------|------|---------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | |
| 82 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | III |
| 103 | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | VII |
| 112 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | VII |
| 118 | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | VII |
| 120 | 3 | | | 2 | | | | | | 1 | | | | | | | | | | | | | | I, VI |
| 121 | 5 | | | 4 | | | 1 | | | | | | | | | | | | | | | | | VI, III |
| 123 | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | V |
| 124 | 4 | | | | | | | | | | | | | 4 | | | | | | | | | | I |
| 125 | 5 | | | | | | | | | 5 | | | | | | | | | | | | | | II, I |

A TABLE ILLUSTRATING SINGLE "ACCIACCATURE" INTERVALS IN THE DE NORAIDH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime | Octave | | Degrees |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|--------|------|------------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | | Asc | Desc | Decor |
| 133 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | III |
| 136 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | I |
| 138 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | VI |
| 148 | 3 | | | | 2 | | 1 | | | | | | | | | | | | | | | | | | VI,
III |
| 152 | 2 | | | | | | | | | 2 | | | | | | | | | | | | | | | IV, I |
| 156 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | VII |
| 158 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | I |
| 160 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | V |
| 66 | 2 | | | | | 2 | | | | | | | | | | | | | | | | | | | I |

A TABLE ILLUSTRATING SINGLE "ACCIACCATURE" INTERVALS IN THE DE NORAIDH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime | Octave | | Degrees Decor |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|--------|------|---------------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | | Asc | Desc | |
| 167 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | I |
| 168 | 9 | | | | 4 | | 5 | | | | | | | | | | | | | | | | | | III,
I |
| 169 | 3 | | | | | | 3 | | | | | | | | | | | | | | | | | | III |
| 186 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | V |
| 94 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | IV |
| 97 | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | | VII |
| 05 | 5 | | | 3 | 2 | | | | | | | | | | | | | | | | | | | | VI,
VII |
| 07 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | V |
| 09 | 2 | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | V, III |

A TABLE ILLUSTRATING SINGLE "ACCIACCATURE" INTERVALS IN THE DE NORAIDH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prima | Octave | | Degrees |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|--------|------|------------------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | | Asc | Desc | |
| 210 | 3 | 1 | | 2 | | | | | | | | | | | | | | | | | | | | | I, VII |
| 211 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | VII |
| 215 | 3 | | | 2 | | 1 | | | | | | | | | | | | | | | | | | | V, II |
| 216 | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | | III, VI |
| 218 | 4 | 1 | | 3 | | | | | | | | | | | | | | | | | | | | | II, III |
| 219 | 4 | 2 | | 2 | | | | | | | | | | | | | | | | | | | | | VII, I
IV, VI |
| 220 | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | II |
| 223 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | I |
| 226 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | VI |

A TABLE ILLUSTRATING "ACCIACCATURE" INTERVALS IN THE DE NORAIKH COLLECTION : ' GRACE NOTES '

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime | | Octave | | Degrees |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|------|--------|------|---|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Decor |
| 229 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | I |
| 236 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | IV |
| 244 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | III |
| 245 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | IV |
| 248 | 4 | 1 | | 3 | | | | | | | | | | | | | | | | | | | | | | VII [#]
VII ^b
III |
| 249 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | II |
| 251 | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | | I |
| 253 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | II |
| 257 | 5 | | | 2 | | 3 | | | | | | | | | | | | | | | | | | | | IV
V |

A TABLE ILLUSTRATING SINGLE "ACCIACCATURE" INTERVALS IN THE DE NORAIDH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime | | Octave | | Degrees Decor |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|------|--------|------|---------------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | |
| 261 | 2 | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | I, II |
| 263 | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | | | V |
| 265 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | IV |
| 266 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | IV |
| 268 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | VII |
| 269 | 3 | | | 2 | | | | 1 | | | | | | | | | | | | | | | | | | VII |
| 274 | 2 | | | 2 | | | | | | | | | | | | | | | | | | | | | | III, V |
| 291 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | I |
| 295 | 3 | | | 2 | | | | | | | | | | 1 | | | | | | | | | | | | II, I |

A TABLE ILLUSTRATING SINGLE"ACCIACCATURE" INTERVALS IN THE DE NORAIKH COLLECTION : 'GRACE NOTES'

| Song No. | Total | Minor 2nd | | Major 2nd | | Minor 3rd | | Major 3rd | | Perfect 4th | | Perfect 5th | | Minor 6th | | Major 6th | | Minor 7th | | Major 7th | | Prime | Octave | | Degrees |
|----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|-------------|------|-------------|------|-----------|------|-----------|------|-----------|------|-----------|------|-------|--------|------|---------|
| | | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | Asc | Desc | | Asc | Desc | Decor |
| 300 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | VII |

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CHAPTER VI

ORNAMENTATION

CHAPTER VI

TABLE NO 24

ILLUSTRATING IN SONG SEQUENCE TRIPLET PATTERNS
IN THE DE NORAIKH COLLECTION

TABLE NO 24

A TABLE OF TRIPLET PATTERNS

| SONG
NO. | TOTAL | DOTTED
PATTERNS | SONG
NO. | TOTAL | DOTTED
PATTERNS |
|-------------|-------|--------------------|-------------|-------|--------------------|
| 1 | 3 | - | 40 | 5 | 3 |
| 2 | 5 | 1 | 41 | 4 | - |
| 4 | 3 | - | 46 | 2 | - |
| 7 | 9 | - | 47 | 1 | - |
| 9 | 19 | 2 | 48 | 5 | 2 |
| 10 | 2 | 1 | 55 | 3 | 1 |
| 11 | 7 | 1 | 56 | 1 | - |
| 13 | 3 | 1 | 57 | 8 | 2 |
| 14 | 2 | - | 61 | 10 | 7 |
| 17 | 8 | 5 | 62 | 1 | 1 |
| 20 | 8 | - | 63 | 2 | - |
| 21 | 3 | 2 | 65 | 15 | 9 |
| 22 | 1 | - | 70 | 16 | 7 |
| 23 | 4 | - | 71 | 1 | 1 |
| 24 | 4 | - | 72 | 4 | 4 |
| 25 | 6 | - | 73 | 1 | - |
| 26 | 1 | - | 74 | 1 | - |
| 27 | 5 | 4 | 80 | 4 | - |
| 31 | 3 | - | 82 | 5 | 1 |
| 33 | 4 | 4 | 84 | 5 | 1 |
| 34 | 1 | 1 | 87 | 2 | - |
| 36 | 2 | 1 | 88 | 5 | 1 |
| 37 | 2 | - | 89 | 7 | 5 |
| 38 | 6 | - | 90 | 1 | - |
| 39 | 5 | - | 91 | 1 | - |
| | | | 92 | 6 | 3 |

| SONG
NO | TOTAL | DOTTED
PATTERNS | SONG
NO | TOTAL | DOTTED
PATTERNS |
|------------|-------|--------------------|------------|-------|--------------------|
| 96 | 3 | 2 | 162 | 1 | - |
| 97 | 1 | 1 | 163 | 2 | 2 |
| 98 | 3 | 3 | 168 | 5 | - |
| 99 | 3 | - | 169 | 11 | - |
| 100 | 1 | - | 172 | 2 | - |
| 101 | 6 | - | 173 | 2 | - |
| 102 | 5 | 2 | 174 | 2 | - |
| 105 | 2 | - | 177 | 2 | 1 |
| 108 | 1 | - | 182 | 3 | 1 |
| 112 | 4 | - | 183 | 11 | - |
| 113 | 1 | - | 184 | 4 | - |
| 119 | 8 | - | 185 | 1 | - |
| 120 | 4 | 1 | 187 | 5 | 3 |
| 123 | 2 | 1 | 188 | 3 | 1 |
| 124 | 8 | 7 | 190 | 6 | 6 |
| 125 | 27 | 6 | 192 | 6 | 2 |
| 126 | 1 | - | 193 | 9 | 6 |
| 127 | 2 | - | 194 | 1 | - |
| 129 | 1 | - | 195 | 2 | - |
| 130 | 1 | - | 198 | 1 | - |
| 133 | 1 | - | 204 | 1 | 1 |
| 136 | 4 | 2 | 207 | 1 | - |
| 138 | 2 | 1 | 209 | 3 | 1 |
| 142 | 2 | 2 | 215 | 9 | 1 |
| 144 | 1 | - | 216 | 5 | 2 |
| 149 | 2 | 2 | 218 | 1 | 1 |
| 150 | 1 | - | 219 | 8 | 3 |
| 152 | 7 | 4 | 221 | 8 | 2 |
| 154 | 1 | - | 224 | 5 | 2 |
| 156 | 3 | - | 225 | 3 | 3 |
| 157 | 3 | 2 | 226 | 2 | 1 |
| 160 | 7 | 7 | 227 | 4 | - |

| SONG
NO | TOTAL | DOTTED
PATTERNS | SONG
NO | TOTAL | DOTTED
PATTERNS |
|------------|---------|--------------------|------------|-------|--------------------|
| 228 | 1 | - | 296 | 1 | 1 |
| 230 | 1 | - | 299 | 2 | 2 |
| 232 | 6 | 3 | | | |
| 233 | 1 | - | | | |
| 235 | 2 | 1 | | | |
| 236 | 10 | 4 | | | |
| 239 | 3 | 1 | | | |
| 240 | 4 | 1 | | | |
| 241 | 7 | 1 | | | |
| 243 | 2 | - | | | |
| 245 | 16 | 2 | | | |
| 246 | 3 | - | | | |
| 249 | 1 | - | | | |
| 250A | 5 | - | | | |
| 250B | 9 | - | | | |
| 251 | 2 | 2 | | | |
| 253 | 1 | 1 | | | |
| 259 | 2 | - | | | |
| 263 | 2 | - | | | |
| 265 | 1 | - | | | |
| 266 | 2 | 2 | | | |
| 268 | 2 | 1 | | | |
| 273 | 1 | - | | | |
| 274 | 2 | - | | | |
| 276 | 1 | - | | | |
| 281 | 14 | - | | | |
| 289 | 4 | - | | | |
| 290 | 3 | 1 | | | |
| 291 | 3 | 3 | | | |
| 292 | 12 | 3 | | | |
| 293 | 10 | 7 | | | |
| 294 | 7 | 2 | | | |
| 295 | i. 10) | 3) | | | |
| | ii. 17) | 3) | | | |
| | iii. 8) | 1) | | | |
| | iv. 5) | -) | | | |

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ORNAMENTATION

CHAPTER VI

TABLE NO 25

BEING A GRAPHIC PRESENTATION OF COMPLEXITY
IN EVOLVING ORNAMENTAL MOULDS AND SHAPES AS
THEY APPEAR IN THE ORDER OF SONG-SEQUENCE
WITHIN THE DE NORAIKH COLLECTION

ORNAMENTATION

TABLE 25

BEING A GRAPHIC PRESENTATION OF COMPLEXITY IN EVOLVING ORNAMENTAL MOULDS AND SHAPES AS THEY APPEAR IN THE ORDER OF SONG SEQUENCE WITHIN THE DE NORAIDH COLLECTION

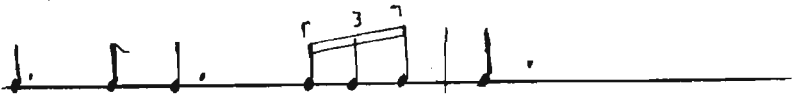
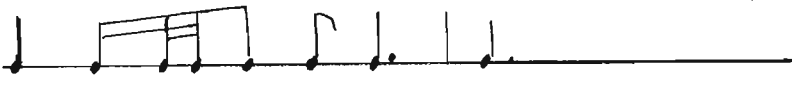
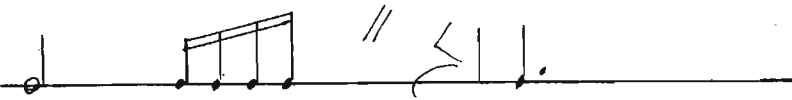

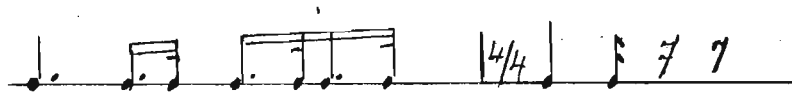
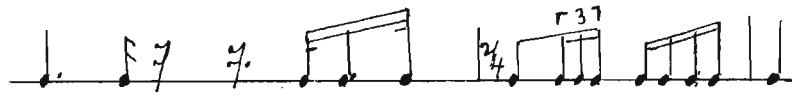

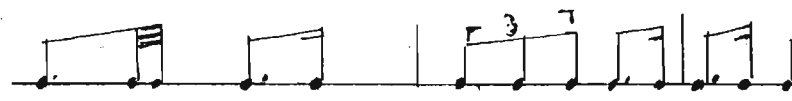
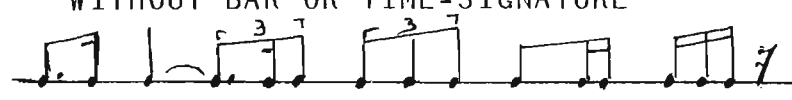

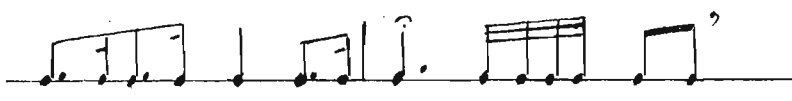
| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|---|---------------------------|
| 1 | 4/4 |  | 6 |
| | 4/4 |  | 7 |
| 2 | 4/4 |  | 6 |
| | 4/4 |  | 7 |
| | 3/4 |  | 9-10 |
| | 3/4 |  | 14-16 |
| 3 | 12/8 |  | 4 |
| 4 | 2/4 |  | 18-19 |
| 9 | / | WITHOUT BAR OR TIME-SIGNATURE
 | Lines 1-2 |
| 10 | 2/4 |  | 16-19 |
| 11 | 4/4 |  | 9-10 |

TABLE 25 (continued)

| SONG
NO: | RELE-
VANT
TIME-
SIGNA-
TURES | E X C E R P T S | BAR/
LINE/
STANZA/
REFER-
ENCE |
|-------------|---|--|--|
| 11 | 4/4 |  | 11-12 |
| | 4/4 |  | 14-15 |
| 13 | 6/8 |  | 14-15 |
| 14 | 4/4 |  | 1-4 |
| | |  | |
| 17 | 3/4 |  | 7-8 |
| | 3/4 |  | 14-15 |
| 20 | 5/4 |  | 10-11 |
| | 3/4 |  | 13-14 |
| | 3/4 |  | 15-16 |

TABLE 25 (continued)

| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|----------|---------------------------|
| 21 | 4/4 | | 3-4 |
| | 4/4 | | 6-7 |
| | 4/4 | | 14-15 |
| 23 | 9/8 | | Stanza 2
3-4 |
| | 6/8 | | Stanza 4
1-2 |
| | 9/8 | | Stanza 5
3-4 |
| 24 | 6/8 | | 3 |
| | 6/8 | | 19 |
| 25 | 3/4 | | 2 - 3 |

TABLE 25 (continued)



| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 27 | 4/4 |  | 1-2 |
| | 4/4 |  | 11-12 |
| 31 | 3/4 |  | 4-5 |
| | 3/4 |  | 11-12 |
| | 4/4 |  | 14-16 |
| 33 | 3/4 |  | 1 |
| | 4/4 |  | 7 |
| 34 | 2/4 |  | 2-3 |
| | 4/4 |  | 9-10 |

TABLE 25 (continued)


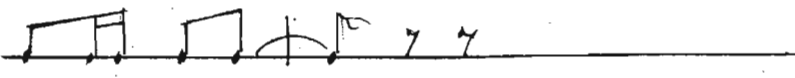
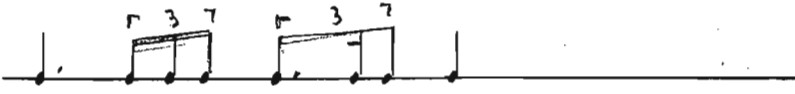


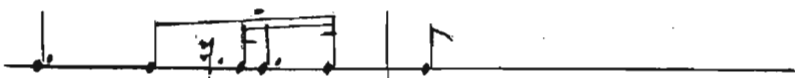

| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 37 | $2/4$ |  | 7 |
| | $2/4$ |  | 13-14 |
| | $2/4$ |  | 16-17 |
| 39 | $3/4$ |  | 2-3 |
| 40 | $4/4$ |  | 6 |
| | $4/4$ |  | 12 |
| 41 | $3/4$ |  | 1-2 |
| 47 | $6/8$ |  | 10 |
| | $6/8$ |  | 12 |

TABLE 25 (continued)



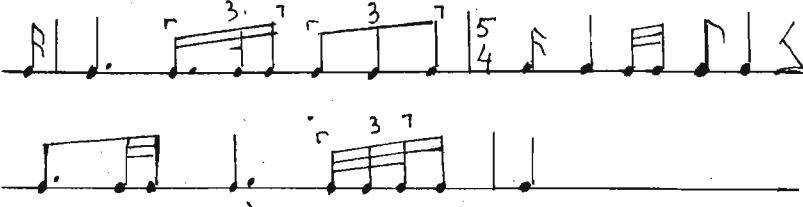
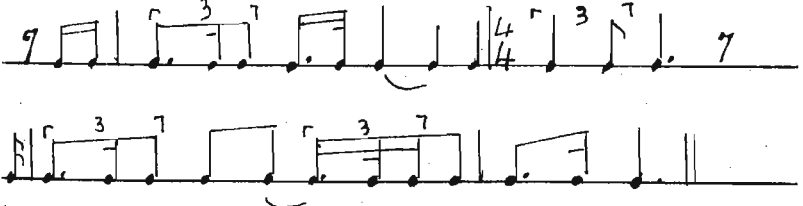
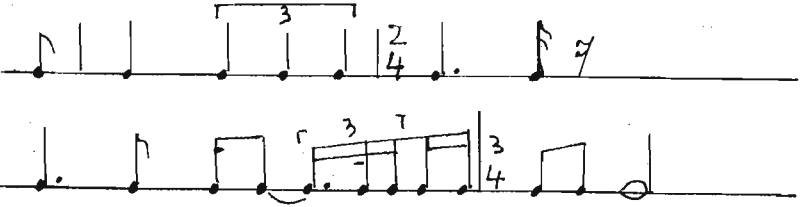
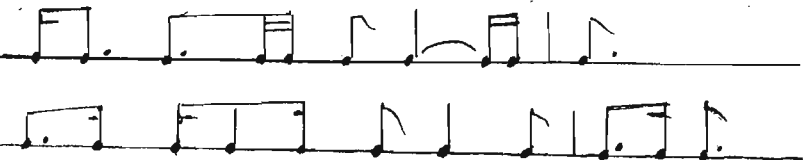
| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 50 | 4/4 |  | 1-3 |
| 55 | 4/4 |  | |
| 57 | 3/4
3/4 |  | 17-18
21 |
| 61 | 3/4
3/4 |  | 3-4
15-16 |
| 65 | 3/4
4/4 |  | 58-59
24-25 |
| 68 | 4/4
4/4 |  | 1
3-4 |

TABLE 25 (continued)

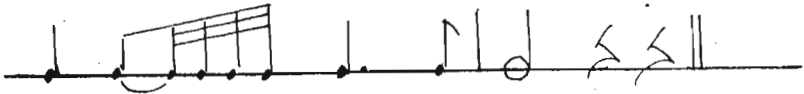

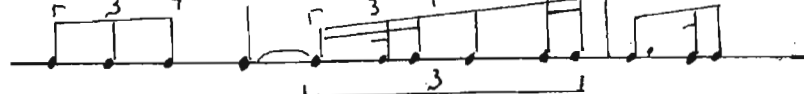
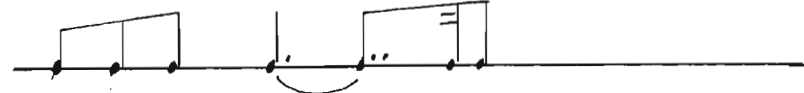
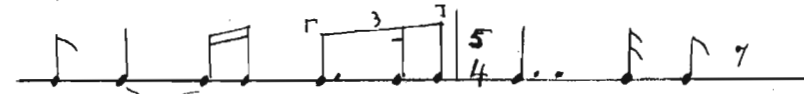

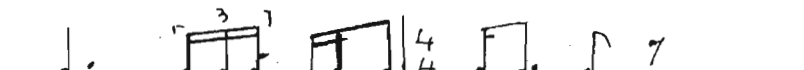

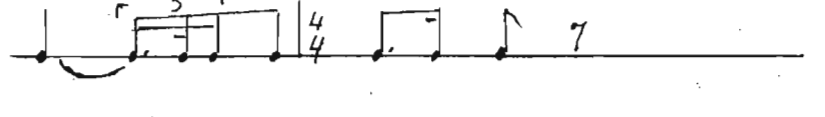




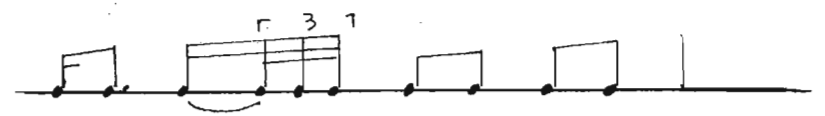
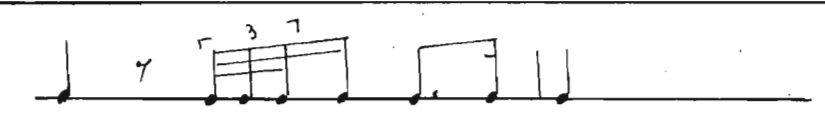
| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 69 | $4/4$ |  | 15-16 |
| 70 | $3/4$ |  | 5-6 |
| | $3/4$ |  | 9 |
| 71 | $9/8$ |  | 10 |
| 72 | $3/4$ |  | 11-12 |
| 79 | $6/8$ |  | 4-5 |
| 80 | $3/4$ |  | Stanza II
5 - 6 |
| | | | |

TABLE 25 (continued)

| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/ LINE/ STANZA/ REFER- ENCE |
|----------|--------------------------|--|--------------------------------|
| 82 | 6/4 |  | 19-21 |
| | 2/4 |  | 13-14 |
| 84 | 3/4 |  | 22 |
| | 5/4 |  | 20 |
| 86 | 4/4 |  | Stanza II
9-10 |
| 87 | 4/4 |  | 13-14 |
| 88 | 4/4 |  | 14 |
| 90 | 3/4 |  | Stanza III
12-13 |

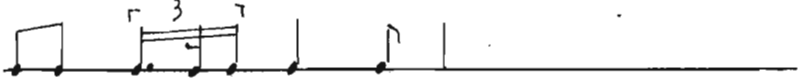
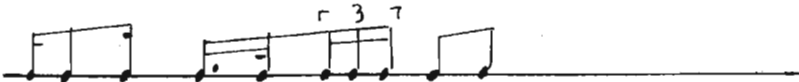

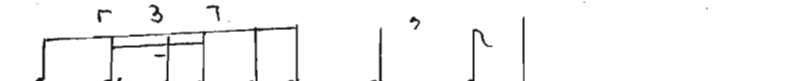
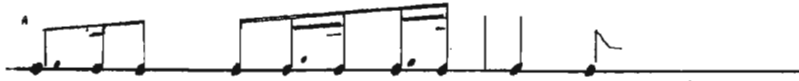
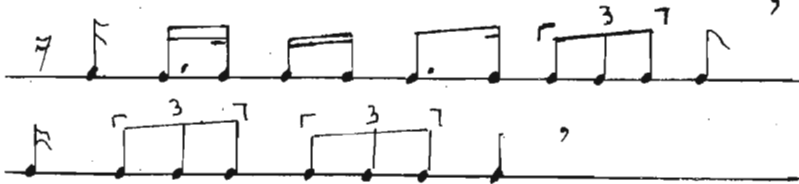
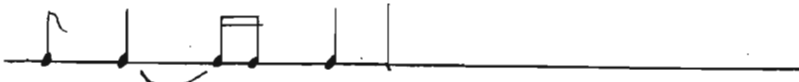
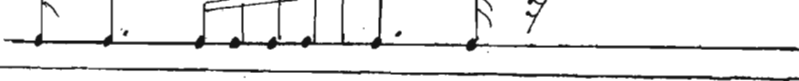
| SONG NO: | RELEVANT TIME-SIGNATURES | E X C E R P T S | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|---|---------------------------|
| 92 | 3/4 |  | Stanza I, 3 |
| | 3/4 |  | Stanza II, 3 |
| | 3/4 |  | Stanza III, 7-8 |
| 97 | 6/8 |  | 10 |
| | 6/8 |  | 13-14 |
| 99 | Recit. | BARRED WITHOUT TIME-SIGNATURE
 | 4
7 |
| 101 | 3/4 |  | 15 |
| | 3/4 |  | 29-30 |

TABLE 25 (continued)

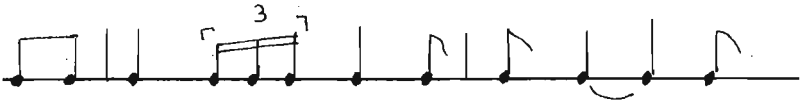
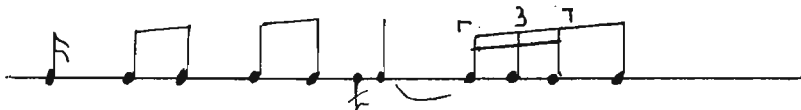
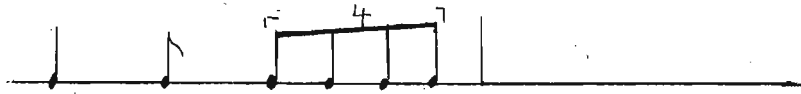
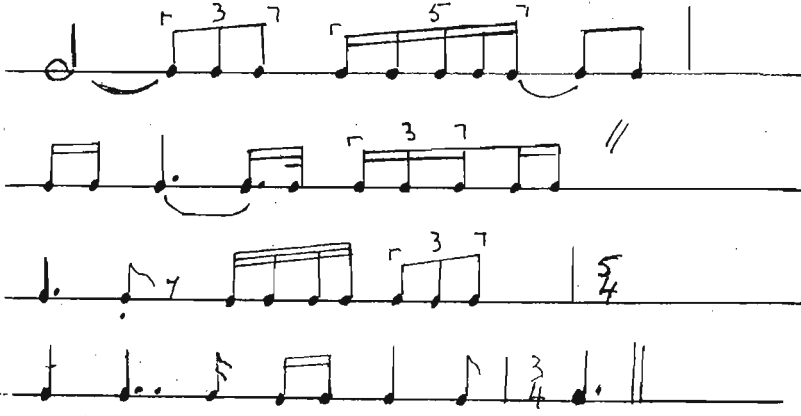
| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 105 | 6/8 |  | 1-2 |
| 112 | Recit | <p data-bbox="432 844 997 879">WITHOUT BAR OR TIME-SIGNATURE</p>  | Line 1 |
| 115 | 6/8 |  | 3 |
| 119 | 5/4
5/4
4/4 |  | 8
9
10-12 |

TABLE 25 (continued)


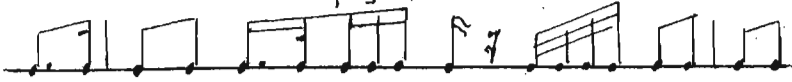
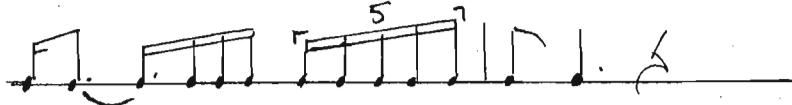
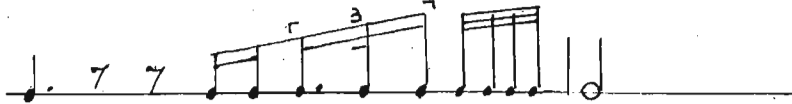
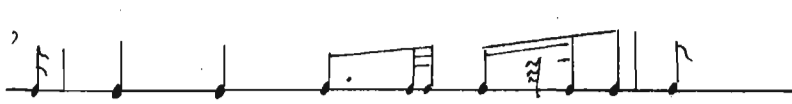
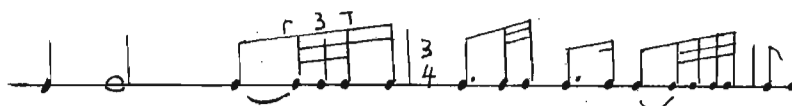
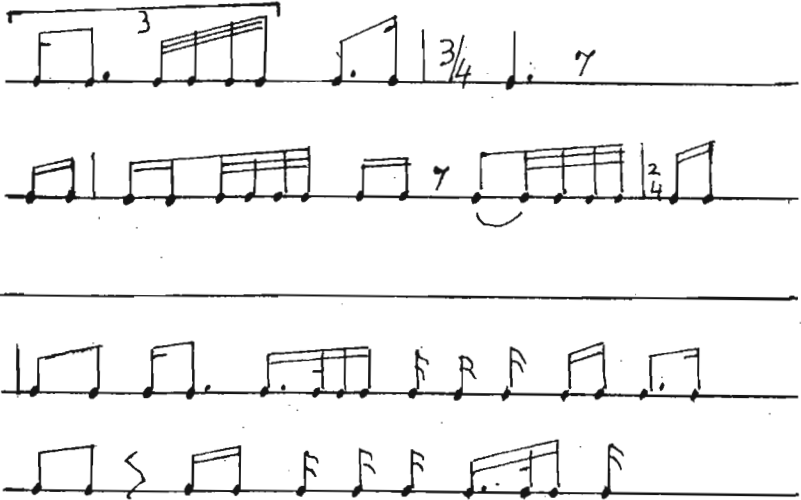
| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 227 | 2/4 |  | 9-10 |
| 232 | 4/4 |  | 5-6 |
| 233 | 3/4 |  | 10-11 |
| 236 | 4/4 |  | 4-5 |
| 237 | 4/4 |  | 5 |
| 240 | 4/4 |  | 2-4 |
| | | | |

TABLE 25 (continued)

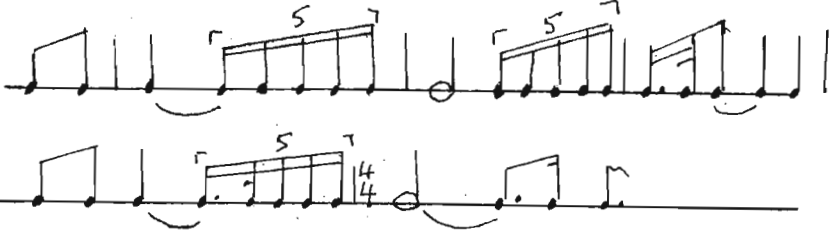
| SONG
NO: | RELE-
VANT
TIME-
SIGNA-
TURES | E X C E R P T S | BAR/
LINE/
STANZA/
REFER-
ENCE |
|-------------|--|--|--|
| 241 | $\frac{2}{4}$

$\frac{3}{4}$

Recit. |  | 5-6

10

Line 5 |
| 242 | $\frac{3}{4}$

$\frac{3}{4}$ |  | 7-9


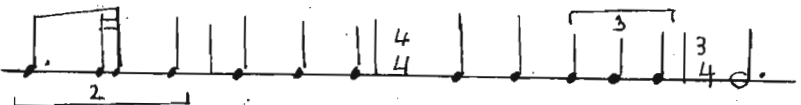
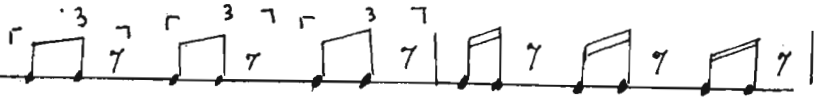
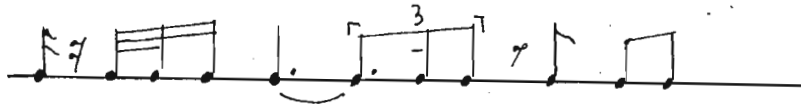
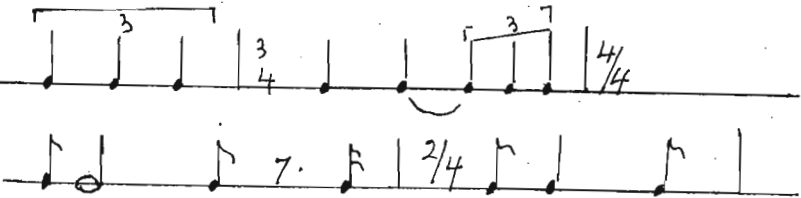

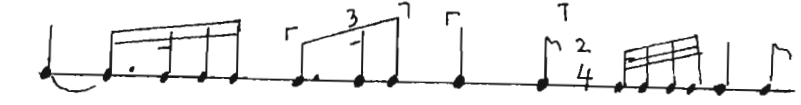
19-20 |
| 243 | $\frac{2}{4}$ |  | 5-6 |
| 246 | $\frac{3}{4}$ |  | 22-24 |
| 250 | $\frac{3}{4}$ |  | 15-16 |

TABLE 25 (continued)

| SONG NO: | RELEVANT TIME-SIGNATURES | EXCERPTS | BAR/LINE/STANZA/REFERENCE |
|----------|--------------------------|--|---------------------------|
| 251 | $5/4$ |  | 10 |
| 261 | $6/8$
$6/8$ |  | 7-8
13-14 |
| 281 | $2/4$ |  | 18-21 |
| 292 | $3/4$ |  | 9-10 |
| 293 | $5/4$ |  | 7-8 |
| 294 | $4/4$ |  | 10-11 |

END OF TABLE 25.

VOLUME II

CHAPTER VI

ORNAMENTATION

END OF

APPENDICES TO

CHAPTER VI

VOLUME II

TABLES NOS 21 - 25

GENERAL SURVEY OF VOLUME II

Volume II deals with the particular instance of Orientalisms which are found in six basic perspectives within the De Noraïdh Collection. Of the six, Chant and Recitative, Lament, Modality, Tritone, Non-tempered Pitch and Ornamentation, the first perspective is closest to the realm of speech. As a religious phenomenon, Chant belongs to the oldest stratum of Hindu worship, and as a common bond, links the otherwise varying musics of Asia. In Ireland, a tradition of chant seems to have stemmed from Druidic sources, and has managed to remain in the cultural continuum right down to Irish rural story-telling of the twentieth century. Almost one-quarter of the De Noraïdh Collection reflects this trait: twenty-three percent of the total Corpus is in this style. Parlando influences eighty-five percent of all final cadences.

Lament is deeply part of the Oriental tradition, and mourning songs are found in countries ranging from the Far East to Eastern Europe. Twenty-six songs of the Corpus illustrate three basic styles : lament-proper (personal grief), mock-lament (parody) and elegy (detached and laudatory). More than half of Corpus examples belong to the first category. Interesting parallels between Irish and Greek lament customs relate to vigil, funeral procession, and burial. For the Orient and for Ireland, generally speaking, lament seems to open a window for earth-people on the realms of the dead.

Modality of the Orient is expressed through various melody-types and formulae. In the Collection modality is expressed through Pentatonicism, Medieval church modes and a few other tonal structures. Both Pentatonic and Church modes are Oriental at root, and are well represented in the Collection. From an overall view-point, Pentatonicism is reflected in twenty-eight percent of song material. Medieval church modes are represented by Dorian, Phrygian, Lydian and Mixolydian, to which are added Aeolian and Ionian or Major. Other tonal species have to do with tetratonic, pentachordal and hexachordal types, with a few modal combinations.

Tritone intervals are 'at home' in the difficult intonations of the East. This interval appears frequently in Irish folk melodies and is found in ninety songs of the Corpus. A conservative reckoning has accepted 343 tritone examples.

Non-tempered pitch, as an Oriental trait, is found across the globe from Eastern Europe to the Far East. In De Noraídh's view, non-tempering of pitch belonged to the essence of Irish modal expression. In the Collection sixty-eight examples of non-tempered pitches are found over thirty songs. These non-tempered pitches create 132 non-tempered intervals : three-quarter tones, various thirds and a couple of neutral sixths. Arabic symbols for raising and lowering of pitch by a quarter and a three-quarter tone could be made to fit the notational situation of the Corpus.

Ornamentation, in the Oriental proto-types of melismata, combination of simple and ornate styles and improvisatory embellishments are found in the Corpus. Acciaccature and triplets act as embellishing agents. The complexity of ornamental shapes and moulds can be viewed in graphic form through Table 25 in the appendices to this Chapter VI, pages 419 - 433.

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CONCLUSION

The hypothesis of this thesis is in two parts and relates to Orientalism of 'general cultural condition' together with an Orientalism of 'a particular instance'. The present writer has debated the aspect of general cultural condition in Volume I. Volume II contains the various musical evidences which substantiate a claim for a particular instance of Orientalism, found in De Noraidh's Irish Collection of folk melodies.

Evidences of a non-musical kind, which point to an Irish Orientalism in general cultural condition are of two sorts: Pre-Christian and Early Christian, and are discussed in Volume I. Previous researches have established facts of language, literature, social structure, law, institution and religion which show a measure of agreement between India and Ireland¹. These agreements are not a matter of accident, but point to real survivals of a shared Indo-European culture in peripheral areas, East and West. A law of peripheral survival explains why correspondences are likely to be found, not in the once-common basin of a culture, but, rather, on its rim. This general argument is strengthened by the fact that early Irish Christian society managed not only to carry forward and absorb Orientalism from pre-Christian and Celtic past, but, in addition, to create its own variety. Eastern leanings were manifest in early Irish monastic and ascetical life, and were reflected in liturgical celebration², tonsure, and in a dating of Easter - all of which followed Oriental proto-types.

1. M. Dillon: Celt and Hindu, Dublin, 1973, and Celts and Aryans, Simla, 1975.

2. J. Hennig : 'Old Ireland and her Liturgy'; R.McNally, ed., Old Ireland, Dublin, 1965.

Data based on literary reference to music abound in the traditions of India and Ireland. In both cultures, music is viewed as divine in origin and cosmic in power. The magical properties of music are thought to permeate the principal hierarchies of life.

Volume II of this thesis contains the body of evidence which establishes traits as Oriental in a Corpus of Irish folk melodies. Six important melodic perspectives are found to be specifically and characteristically Oriental: Chant; Lament; Modality; Tritone; Non-tempered Pitch, and Ornamentation. Each of these perspectives has matching Irish realisations, significantly present in the De Noraídh Collection.

Chanting style is found in 23% of Corpus material, and dominates 85% of final cadences. Lament form, Oriental and Indo-European, characterises twenty-six songs of the Collection, taking the shapes of lament-proper, mock-lament and elegy. There are three striking parallels between Irish and Greek lamenting customs, which relate to vigil, funeral procession and burial-and-after ritual. Modality, represented in the East by varying melody-types and structures, is realised in the Collection through Pentatonicism and Medieval church modes - aspects of modality which are, at root, Oriental. From an overall view-point, Pentatonicism influences 28% of all song-material. Modality of the Collection is expressed through the modes of Dorian, Phrygian, Lydian and Mixolydian, to which are added Aeolian, Ionian and a few other tonal species. Tritone, a typical Eastern interval, is present in ninety songs of the Collection and is found in 343 examples. Non-tempered Pitch, appearing across the globe from Eastern Europe to the Far East, is also an important Irish tonal feature. Over the span of thirty Collection-songs, sixty-eight non-temperings of pitch create non-tempered intervals.

A non-tempering of pitch influences the modal structures of Dorian, Lydian, Mixolydian, Aeolian and Ionian. Arabic symbols for both quarter tone and three-quarter tone raisings and lowerings would seem to fit the Irish situation. Irish Ornamentation follows Oriental prototypes of melismatic decoration, combinations of simple-complex styles, and improvisatory figurations. The complexity of Irish ornamental shapes and moulds can be viewed in graphic representation through Table 25, Volume II, pages 419 - 433, the final table of the thesis.

The present writer now rests the case for an Irish Orientalism, the general cultural character of which has a particular realisation in a twentieth-century collection of folk melodies - quod erat demonstrandum!

To the present writer, it seems likely that Inter-Celtic comparisons might prove to be worth-while research-aims for future projects and that the testing of an Irish Oriental situation against folk traditions of other Northern and Western European countries could be the extension and elaboration which this pioneering thesis requires.
