THE DODECACHORDON AND ITS RELATION TO FIFTEENTH CENTURY MODALITY

> Thesis for the Degree of M. M. MICHIGAN STATE UNIVERSITY Janice Maryel Winkler 1960



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AN ABSTRACT

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The problem is: specifically what is the contribution of Glarcanus' <u>Dedecachordon</u> to our present browledge of fiftcenth contury modality?

The present author approached the problem through an analysis of the <u>Dodecacherdon</u> and of the examples contained therein, with special attention to the various editions and translations extant. Some attention was also devoted to the development of rodal theory up to the fifteenth century and to the blography of Glareanus himself. Further examples are given in order to more easily determine the accuracy of his ideas, and therefore their significence in matical history.

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CHAPTNE I

General Development of Modal Theory up to Heinricus Glassonus

The Greater Perfect System of the Greeks seems to have provided the tenal material for the establishment of the ecclesiastical moder, as we recognize them today. The basis for the Greater Perfect System is the tetrechord formed by a tone, tone, comitone, such as the notes, a-g-f-e. Greek scales were formed in descending order. By joining the above mentioned tetrachors, first conjunctly, with e' as the last note of the first tetrachord and the first note of the second, next disjunctly for the third tetrachord, and conjunctly again for the fourth and last tetrachord, a scale of two octoves, called the Greater Perfect System, was formed. It is as follows:

Nete hyperbolaion	8.	
Faranete hyperbolaion	ξ ' Γ.	Tetrachord
Trite hyperbolaion	f'(-	Hyperbolaion
Note discugnenon	e'd	· ·
Paranete diezeugmenon	a's II.	Tetrachord
Trite diczeugmenon	°'(Diezeugnenon
Paramese	ъ	
Nese	a -	
Lichanos meson	<i>B</i> / TTT .	Tetrachord
Parhypate meson	f }	Keson
Hypate meson	e↓	
Lichanos hypaton	a (
Parhypate hypaton	c (IV.	Totrachord
Hypate hypaton	ВЛ	Hypaton
Proslambanomenos	A	

Aristoxenus, (lived c. 350 B.C.) was the first to discuss music as a science of both the intellect and the ear. He discussed intervals and their relationships when arranged in various orders and different sounds which arise from variaties in the construction of musical instruments when they play together. He maintained that the ear must be the final judge of what the theorists write.¹.

Ptolemy lived in the first half of the second century, A.D. The names for the eight ecclesiastical modes are derived from Ptolemy, though later they were not applied to the same modes as in his theory. He kept the tetrachord within the octave and devised the number of octave species from the number of notes in one diapason - seven. Because it suited the scale and could fit as far as voice range and range of one string of the kithara, he arranged the scales on E of the Greater Perfect System. By using E as the center, going up and/or down from there, and rearranging the semitones with the implication of accidentals, he arrived at seven scales. The ancient

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^{1.} Strunk, Oliver, Source Readings in Music History, New York: Norton and Co., 1950, pp. 25-33.

names, Dorian, Hypodorian, Lydian, Hypolydian, Phrygian, Hypophrygian and Mixolydian were retained. An eighth mode was mentioned but was not approved. This syster began the thinking in octave series, which has prevailed throughout the discussion of modes.

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Ptolemy's system is as follows:
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Mixolydian --- on B Lydian ---- on C Phrygian ---- on D Dorian ---- on E Hypolydian --- on F Hypophrygian - on G Hypodorian --- on A.

The tonal material of the Greater Perfect System was eventually grouped into a series of seven, then eight, octave scales which were the early church modes. It is likely that the modes were not actually systemized until the eighth century as an attempt to codify the large repertory of chants which had accumulated. It is thought that many of these chants were modified to conform more closely with the theoretical system.

During the development of modal theory, lack of uniformity and agreement of nomenclature was evident. The terms tonus, modus and tropus, all referring to the modal system, were used differently by different theorists, which accounts for much of the ambiguity which developed from such interchange of terms without clear definition.

Aurelianus Reomensis, or Aurelian de Reome, was a minth century French theorist. He wrote a treatise on music which contains the earliest information about the melodic peculiarities of the eight church modes and influence of the rhythmic structure of the text upon construction of the melody.².

At this time attempts were made to enlarge the eight-mode system to accomodate antiphons which did not fit into the system. Charlemagne suggested four more modes to Aurelian for use with Psalm Tones, but the latter shows through transposition that they could be accomodated by the eight which were already recognized. ³. These attempts for new classifications concerned only the antiphons; other music of the time could fit into the eight modes.

Odo of Cluny (? - 942) complains about the use of transposition by unskilled musicians. At

- 2. Aurelian de Réomé, <u>Musica Disciplina</u>, Gerbert Scriptores, I, p. 27.
- 3. IBID.

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this time the F-sharp and C-sharp, as well as the E-flat, were implied in compositions. They were avoided in notation through the use of transposition, so as to use the B-flat and B-natural instead. The following chart illustrates how the B-flat and Bnatural may be substituted for the E-flat and Fsharp through transposition: ⁴.

D-E-E-F-G-a-b-c-d-transposed up a 5th E-F-F-G-a-b-c-d-e-transposed up a 4th F-G-a-b-c-d-e-e-f-f-transposed up a 5th G-a-b-c-d-e-f-f-g-transposed up a 5th G-a-b-c-d-e-f-f-g-transposed up a 4th Though the B-flat and B-natural occurred in the same composition, they were not found in immediate succession; thus chromaticism does not refer to chromatic progressions such as B-flat-B-natural, but to alterations of the natural gamut. Odo also traces the relations between the B-flat and other tones by showing that the ideal tetrachord, d-e-f-g, is like that of g-a-b-flat-c, and the perfect 4th and 5th relationship that exists between f-b-flat-f.

These alterations through transposition were in some cases, used as substitutes for the

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^{4.} Reese, Gustave, <u>Music in the Middle Ages</u>, New York: Norton and Co., 1940, p. 158.

. . .

addition of an accidental to avoid the tritone.

Odo also seems to have been the first to apply the letters from A to G, to the double octave series (using 2 for the uppermost A) and to extend the series downward by adding the low called Gamma-ut. Odo presents this chart:^{5.}

٢	A I	B II	C III	D IV	E V	F VI	G VII		
	a VIII	b IX	IX .	c X	đ XI	e XII	f XIII	xīv	a XV

Guido d'Arezzo (c. 995 - 1050) states that if one does not wish to use the flat he may transpose the sections in question: e.g., <u>F-G-A-B-flat</u> to <u>G-A-B-natural-C;</u> <u>D-E-F</u> to <u>A-B-natural-C;</u> <u>D-E-F-G-A-B-flat</u> to <u>A-B-natural-C-D-E-F;</u> and <u>D-C-B-flat</u> to <u>A-G-F.⁶</u>.

He also gave an additional set of names to pitches through his application of the syllables <u>ut,re,mi,fa,sol</u>, and <u>la</u>, to the following hexachords:



hatin Names: Duram (Hard) and Molle (Sost).

5. IBID., p. 149.

^{6.}Guido d'Arezzo, <u>Micrologus</u>, Gerbert Scriptores, I, p. 8.

Guido obtained these syllables from the Hymn of Saint John the Baptist which begins on the tonic of the chant with the syllable ut. Each of the six phrases which follow begin a step above the previous phrase and by extracting the syllable found at the beginning of each successive phrase, Guido arrived at the six syllables. Mutation could be applied for a melody which went beyond the range of six notes, by passing from one hexachord to another. Particular notice should be given to the fact that in order to pass from the first to the second, or from the second to the third hexachord, without pausing, the semitone mi-fa should be used as the pivot point. The singer changed the names of the syllables to conform to the new hexachord in which he was singing. In a letter to a fellow monk he states that by associating these syllables with each of the six successive degrees, his choirboys could learn "in a few days what formerly required many weeks to master." The practical application of these syllables remained in use with the addition of ai for the seventh degree about the year 1600.

^{7.} Reese, Gustave, <u>Music in the Middle Ages</u>, New York: Norton and Co., 1940, p. 150.

This system was quite sufficient, since many early chants did not exceed this range. The tetrachord still played an important role in theoretical conceptions, as can be seen by the fact that each successive hexachord begins a perfect fourth higher than the last.

Medieval modal classification fell into a system of four Maneriae; <u>Protus</u>, which comprises modes I and II; <u>Deuterus</u>, III and IV; <u>Tritus</u>, V and VI; and <u>Tetrardus</u>, VII and VIII. The modes with the same finals fell in pairs:

Protus ----authentic and plagal - finals on D Deuterus --authentic and plagal - finals on E Tritus ----authentic and plagal - finals on F Tetrardus -authentic and plagal - finals on G

The reciting tone, or dominant, descending

to the tonic formed the upper pentachord in all cases, except the Phrygian. The rest of the scale comprised a tetrachord which occurred above or below the pentachord, depending on whether the scale was authentic or plagal. In case the range extended beyond the notes available in the scale formed by combining the pentachord and tetrachord, the term tonus mixtus or mixed mode was applied. The final and dominant may imply Dorian, but the range may go beyond that of the Dorian, implying Hypodorian. This was called a mixed mode and was classified in one of the four Maneriae. (In the above case, the Maneriae would be protus.)

The system, which was just presented, was applied to the analysis of previously existing melodic formulas in plainsong for the first time in a tenth century treatise, <u>Alia Musica</u> - long ascribed to Huobald.⁸. This work is most probably a composite work of four or possibly five authors. By confusing the tonoi (transposed scales) for modes, a turning point in medieval modal theory was reached.

Because of the limited range of singers, or possibly that of the kithara, the octave species were used in transposition into the e' - e octave of the Greater Perfect System. The author assigned the old Greek names of these scales to his own scales. Mixolydian was the highest and Hypodorian the lowest. The Greeks formed their note series in a descending

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^{8.} Hucbald's authorship was disproved by Wilhelm Mühlmann, <u>Die Alia Musica</u>, (Gerbert Scriptores, I) Quellenfrage, Umfang, Inhalt und Stammbaum, 1914.

manner rather than ascending, the confusion of which accounts for the difference in the application of the names between ancient Greek and Medieval theory. Thus, the octave species were formed from reversing the Greek forms on the disdiapason:

fron	a'-a, B'-S, f'-f, e'-e, d'-d, c'-c, b'-b,	Hypodorian Hypophrygian Hypolydian Dorian Phrygian Lydian Mixolydian
to	a_a', b-b', c-c', d-d', e-e', f-f', E-5',	Hypodorian Hypophrygian Hypolydian Dorian Thrygian Lydian Mixolydian

In the eleventh century, Hermannus Contractus applied the name Hypomixolydian to mode VIII, which substituted for the name Hypermixolydian, which had been used inaccurately before this time.

In the twelfth century the range of each mode was restricted to ten notes through a misunderstanding of a passage in Pealm CXIII (CXLIV); "upon a pealtery of ten strings will I sing praises unto Thee." This was part of the Cistercian Reform which was organized by the Cistercian Order, a strict branch of the Benedictine Order that was established in 1098 at Citeaux, France. Previous to this restriction, the limits of range were not agreed upon by the theorists. The Cistercian Reform brought about innumerable transpositions to avoid chromatic alterations and phrase-closes on degrees other than the final of the prevailing mode (which in many cases was a matter of conjecture), or to bring within the permitted range those passages which extended beyond the new limit of ten notes.

Two assertations have been made concerning old chant melodies. One is that they are basicly pentatonic.⁹. The other assertation concerns the addition or filling in of the remaining minor third and states that this occurred through the use of the quilisma. Two ways are possible, e.g., from A to C could be performed either A-B-natural-C, or, A-B-flat-C. This practice may have been the factor which caused the change of the dominant in the Phrygian mode from E to C, a change which occurred between the tenth and eleventh centuries.

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^{9.} Reese, dustave, <u>Music in the Middle Ages</u>, New York: Norton and Co., 1940, pp. 160-161.

The E-flat may have been an equal of the E-natural since it appears in many cases to the exclusion of the E-natural. This importance carries over easily to the question of the Lydian mode without, but more important here, with the E-flat, and the major mode (Ionian) and their co-existence under the same name, Lydian; and the Dorian mode in its two forms, Dorian and minor (Aeclian) without or with the E-flat, under the same name, Dorian. "Though these modec, Aeolian and Ionian were not recognized by theorists, and so are anachromisms, they were in use long before the theorists accepted them." 10.

The writings of Earchetto da Padua pertain to the musical knowledge in Italy at the beginning of the fourteenth century. Regarding classification of modes according to their range, he gives these names:

<u>Perfectus</u> -----authentic modes which fill the octave, including one tone below.

Imperfectus -----authentic or plagal which de not fill the range

<u>Flusquamperfectus</u> -a mode which exceeds the perfect limits by a tone

^{10.} Seay, Virginia, A Contribution to the Problem of Rode in Rediaeval Rusic, Ramline Studies in Rucicology, Rinneapolis, Finn., Burgess Publishing Co., 1945, p. 58 footnote.

Torus Mixtus -----when authentic extends below to its plagal more than one tone -----when plagal ascends above a sixth from its final into the notes of its authentic Conmixtus -----irregular which cannot be judged because of its for the reason of a) brevity (of range) b) those which are authentic only at the beginning

He also states that accidentals do not change the mode because with transposition the mode can fit into one of the existing formulas.^{11.}

Jean de Euris (b. before 1300 - c. 1351) was an acquaintance of Philippe de Vitry. He mentioned the appearance of the F-sharp and G-sharp in instrumental music, but did not recognize them in yosal music because transposition could make them unnecessary. He does suggest the possibility of a hexachord of D - ut, with an F-sharp as mi and G as fa. 12.

In regard to <u>musica ficta</u>, Philippe de Vitry stated that, "musica ficta occurrs whenever we change a tone to a semitone, or vice versa. For every tone

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11. Gerbert Scriptores, III, pp. 101, 139.
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12. <u>IRID</u>., pp. 305-307.

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is divisible into two semitones and consequently the sign for the semitone may be applied to all tones. Whenever there is a flat we must say <u>fa</u>, whenever there is a sharp we must say <u>mi</u>."¹³.

At this time reference was made to there being not only two but three possible alterations for each tone, e.g., D-flat, D-natural and D-sharp.¹⁴.

Adam von Fulda stated that at least one voice should appear in one of the eight church modes but also that a composer should be well acquainted with all twelve of the possible tones in the scale.^{15.}

The Medieval and Renaissance theorists presented elaborate rules for the uses of accidentals, transposition and contrapuntal procedure; however, they seemed unable to cope with the mode in polyphonic music. The individual voices were discussed and classified modally, but no over-all mode, regarding the voices as they sounded simultaneously,

^{13.} Rigsby, Lee, <u>Studies in Music History and</u> <u>Theory</u>, Tallahassee, Florida: Florida State University Press, 1955, p. 61.

^{14.} Andrews, Frederick Sturges, <u>Mediaeval Modal</u> <u>Theory</u>, Cornell University, <u>Doctoral Disser-</u> tation, 1935, p. 88.

^{15.} Adam von Fulda, <u>Musica</u>, Gerbert Scriptores, III, p. 124.

was discussed. The mode of the composition was generally determined by that of the cantus firmus, found most often in the tenor.

Tinctoris (c. 1446 - 1511) felt that the general mode was found in the tenor (cantus firmus), the particular mode in each separate voice.¹⁶.

Glareanus (1483 - 1563) agreed that the cantus firmus determined the mode but he did recognize irregularities and allowed freedoms on the basis of the composer's individuality.¹⁷.

Because Glareanus lived at the end of the era of thinking in terms of eight modes, and wrote his <u>Dodacachordon</u> as an addition to the theory that preceded him regarding modal usage, an examination of his life and the above-mentioned work, the <u>Dodecachordon</u>, will follow. Special note shall be given to the light it casts on modal theory and its significance.

^{16.} Tinctoris, Johannes, <u>Tractatus de musica</u>, Coussemaker, Scriptorem de Musica, Paris, 1364. Chapter 24.

^{17.} Glareanus, Heinricus, <u>Dodecachordon</u>, English translation by Clement A. Miller, Doctoral Dissertation, Ann Arbor, Michigan, University of Michigan, 1950, p. 455.

CHAPTER II

Diography of Heinrieus Glareanus

Heinrich Loriti, botter known as Glareanus, was born in June, 1488 in the village of Mollis in the Canton of Glarus, in Switzerland. Glarus, which is picturesque with forests and meadows, joined the Swiss Confederation in 1352. The inhabitants are primarily German speaking, at present are of the Protostant faith and number 34,771. The capitol of the Conton is Glarus, with a current population of 5,266.

In 1511, Loriti assumed the name Glareanus after his birthplace, as was a common produce at the time, and called himself by this name throughout his life.

Glareanus kept house and tended hord in the Alps until he was twelve years old. He was eager to begin school and did so at a newly formed private school in Bern, Switzerland under Michael Rubellus. His first subjects wore Latin and the elements of music. Glarcanus edwired Rubellus a great deal and when Rubellus moved to Rottweil in 1501, Glarcanus followed him there and remained working under him for five more years, until June of 1506.

His next residence was at the University of Cologne, where he probably studied music with Johannes Dobnek, who is better known by his pseudonym of Johannes Cochlaeus. (He also used the pseudonym Wendelstein.) Cochlaeus became a <u>magieter artium</u> at Cologne around 1507. Some time after this he received a degree in theology at Ferrara and became rector of the school of St. Lorenz. He is the author of two musical treatises. Glareanus speaks of Johannes Cochlaeus in the <u>Dodecachordon</u> as "olim in Musicis Praeceptor noster."

Glareanus received his Baccalaureate in 1508, his licentiate two years later and by 1514 completed his Doctor of Liberal Arts.

During a visit to Basel in 1510, Glareamus met Ulrich Zwingli, who was a parish priest in Glarus from 1506 until 1516. They became friends particularly through their mutual interest in music until their disagreements regarding the Reformation drew them apart. Glareanus was extremely picus, conservative and very much opposed to the Reformation and those who were involved with it. In a letter at the library of the University of Munich, he speaks out against Zwingli on the particular subject of church song.¹.

^{1.} Geering, Arnold, <u>Die Vokalmusik in der Schweiz</u>, Aarau, 1933, p. 50.

When Kaiser Maximillian came to Cologne in 1512, Glareanus composed a poem of praise in the Dorian mode which he sang at a special parlimentary meeting of German princes. The Emperor was so pleased that he presented Glareanus with a diamond ring and crowned him poet laureate.

At the completion of his Doctor of Liberal Arts degree at Cologne in 1514, Glareanus accepted the regency of a hall at Basel. He was not on the public payroll there, but rather gave private instruction in mathematics and music as well as Latin classics and the elements of Greek. He established a scholarship for students who lived together under his supervision. Instruction from him was much sought after, and the second year his students numbered thirty. At this time, he became well acquainted with Erasmus of Rotterdam whom he admired a great deal. Erasmus was a great admirer of Glareanus! also and in a letter dated March 7, 1516 to Urbanus Regius of the University of Ingolstadt, he had this to say. "Glareanus possesses extreme skill in all mathematics. His Aristotelian philosophy matches the highest. He has mastered much of theology. In geography and history

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he is perfect. He has acquired a fair amount of Greek and could complete it with some industry. He is cheerful, lively, an excellent teacher, truly a man for all hours."².

In a comment on the Renaissance by Erasmus written in 1517, he mentions Henry of Glaris, (French for Glarus) as being an exceptional man of letters and mathematics; one worthy of imitation.³.

The importance of the city of Basel and the University warrents some attention here. The city founded by the Romans and was governed by bishops. Between the seventh and eleventh centuries it passed to the Alemanni, Franks, and Burgundians. In the eleventh century it was a free imperial city ruled by a prince. The initial impulse for the founding of a university probably came from intellectual currents fostered by the Council of Basel, 1431-1448. At the petition of the Town Council to Fius II (Aeneas Eilvius Ficcolomini, who had lived in Basel during the Council), a foundation bull (decree from the Fope) was granted in 1459 with privileges similar to

^{2.} Bohn, Peter, <u>Introduction</u> to his German translation of the <u>Dodecachordon</u>, Gesellshaft für Musikforschung, Leipzig, Breitkopf and Hartel, 1888.

^{3.} EcLaughlin, Mary and James Bruce Ross, editors, <u>The Portable Renaissance Reader</u>, New York: Viking Fress, 1950, p. 81.

those of the University of Bologna; the new University was officially opened the following year. The first set of statutes, drawn up in 1465, were based largely upon those of the University of Erfurt and established a curriculum usually found at this time which consisted primarily of the reading and discussion of Aristotle. In the new statutes of 1492, music is mentioned among the required "Lectiones Pro Magisteric." At first music was required as a branch of mathematics. It assumed the place of a practical art after the Reformation. The University maintained as its organist a musician whose duty included training students to sing. Through such men as Glareanus, music was combined with Greek literature and had a place in humanistic studies.

During the Reformation Basel became a Protestant town. Consequent reorganization of the University followed. Music held a regular place in the Arts Faculty, though Zwingli had prohibited music in church services and ordered the removal of church organs. Liturgical music was restored in the service at Basel after the Reformation.

There was a strong emphasis upon choral music as a part of the academic activities from the early days of the University. In the fifteenth century and during the last years of the sixteenth, several treatises witness the teaching of choral music in the University. Instrumental music was used at coremonies such as the processional for candidates for the doctoral examination. After the Reformation the coremony of promotion was accompanied in part with music. During the sixteenth contury many plays were presented which used musical instruments and choral music and sometimes included the presentation of discourses on music.

Basel was one of the key centers of printing, which facilitated the incorporation of music into the lectures, ceremonies, school dramas and private lives of the professors and students at the University. Lany collections of musical works, both instrumental and choral, as well as theoretical works on music, were published in Basel.

Glareanus traveled in Italy during the early part of 1517. Beginning in May of that year, he taught in Faris on a stipend of one hundred and fifty france yearly from Franz I. In 1518 he was offered the chair of rhetoric at the University of Paris, which he declined in favor of maintaining his stipend. He conducted an educational institute in Faris similar to the one at Basel. Jean Monton, the composer, and Faber Stapulensis (also known as Joeques LeFevre d'Estaples), who was the teacher of many men who became distinguished for their humanistic learning, were among those who knew Glareamis during the time he was in Paris.

Upon his return to Basel in March of 1522, he was a private tutor in humanities. He married a girl from Basel, who died in 1539 after a childless marriage. As a council member of the arts faculty in 1524, he initiated open lectures and recitels for students which were extraordinarily well attended. Bacel was becoming an active center of the Reformation, and when the University of Freiburg in Breisgau offered Clarcanus the chair of rhetoric, he accepted it tentatively in 1529 and definitely in 1530. He broke his friendships with almost everyone in Easel who was connected with the new movement, - the great majority of his acquaintances. His move to Freiburg was to sever his connections with this movement and these involved. The great amount of publishing at Basel provided inspiration throughout the Continent. Glareanus

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worked under this inspiration and even after he had left Basel, was able to have his books published there. His works include books and treatises on mathematics, poetry, geography, as well as editions of works by Tac: tus, Horace, Boethius and others.

In Freiburg he read openly and privately for his students from works by Livy, Homer, Ovid, and Virgil. His public readings drew such enthusiastic crowds that the great hall had to be put in order repeatedly. Little seems to be recorded about his life from the time he came to Freiburg, other than the fact that he remained teaching there. His eyesight began to fail and by the time of his death on the night of March 27th, 1563 in Freiburg, he was completely blind. He was buried in the monastery according to his wishes. He had already sold his copicus library to the Bishopry of Johannes Angolph von Knörinsen in Ausburg, which presented it to the University of Ingolstadt and from there it went to Munich. CHAPTER III

Discussion of Modal Theory in the DODUCACHORDON

Glareanus' sicentific investigations, including his music recorch, ovidently sprong from his years at Basel, where many of his works including those on music, were printed. The first of these, the Isagoge in Hugicen, was printed in 1516. His next published musical work was a revision of Boethius' treatises De Arithmetica and De Musica, which form a part of the complete edition of Boethius' works published at Easel in 1546. The Dodecachordon, printed in 1547, with which we will be concorned here. is Glarcanus' most important musical work and is regarded as one of the most important theoretical works of aig time. In folio format (six pager on a sheet), this work contains a title page, two epictle pages, seven pages of table of contents, four hundred and seventy pages of discussion and musical examples in three books of five sections each. Because the Ingroze in Musicon makes up the first book of the Dedecachordon and because Glaresnus is the editor of two of Boethius' works, it would, in my opinion, be most accurate to say he wrote only one mucical treatiee, the Dodecachordon.

At one time, copies of this work were owned by many European libraries, including the University Library in Freiburg, the German Museum in Närnberg, the secondary school library in Heilbronn, the city library in Lüneberg, the Ratschul library in Zeickau, the royal library in Berlin and the city library in Elbing. An exact description in print is in the Monatschefte für Misikgeschichte, I, 67. In 1557 J. L. Wonegger made an abridgement of the Dedecachordon. entitled Musicee epiteme ex Glareani Dodekachordo, which was published by Petri. In 1559 a second edition of this work was published by Manfredus Barbaricus of Coreggio. In 1868 a German translation of the entire Dodecachordon was done by Peter Bohn, which can be found in many libraries throughout the world. For his Doctoral Dissertation at the University of Michigan in 1950, Clement A. Miller, present Dean of the Cleveland Institute of Music, translated the Dodececherdon from the original Latin text into English and transcribed the polyphonic musical examples into modern notation. The edition from which Dr. Miller made his translation is one of the original printings from Basel and is owned by the University of Michigan.

The first of the three books of the Dodecachordon

is taken directly from the Isagore in Musicen, with only the title omitted. The chapter headings and sub-titles are the same. It discusses the origins of music, its genera, musical intervals, division of tones, division of scales, the monochord in relation to the diatonic species, solmisation and the eight musical modes - in preparation for the following books. The first book is based principally on the works of Boethius and Gafurius. The latter was a distinguished theorist and composer of the late fifteenth and early sixteenth centuries (1451 - 1522). Glareanus states that he is "Ashamed of certain men writing professedly on music who could not identify the sounds they write of." 1. "No writers of (music) theory except Franchinus (Gafurius) can be quoted here by music." 2. Thus the justification for the numerous times he refers to Gafurius. This book (consistent in this way with the other two) includes many disgrams accompanied by greatly detailed discussions,

^{1.} Glareanus, Heinricus, <u>Dodscachordon</u>, English translation by Clement A. Eller, Doctoral Dissertation, Ann Arbor, Michigan: University of Michigan, 1950, p. 46.

^{2.} IHID., p. 373.

with interruptions for careful qualifications, which go into even greater detail, and insertions of quotations from literary sources, chiefly from the Greek classicists, by men such as Flato, Aristotle, Ptoleny and Aristoxemus. All of these are interesting, especially when one keeps in mind the period in which Glareanus lived. However, the complex manner of delivery makes the points of the discussion rather difficult to find at times - a comparatively tedious task for the average twentieth century efficiency-conscious mind.

The second book contains the following:

- a) a general discussion of the modes;
- b) musical theories of ancients;
- c) analysis and discussion, with plainsong examples for each mode;
- d) connections of the various modes;
- e) examples of modes which do not fill the octave;
- f) comparison of monophonic and polyphonic compositions; and
- g) monophonic settings of the Horatian Odes. (This last represents the prevailing desire to revive Greek theory.)

This book includes a discussion, "What our times seem to have changed in these modes (the eight) and to what extent this is lawful. " "It is evident," he says. "that every age has <u>correctly</u> used these modes in <u>some</u> way, even if it is not immediately epparent." ³. He goes on to say that many theorists maintain that altering semitones does not change the mode - Glareanus opposes this by asserting that the mode itself is changed. ⁴.

The third book contains the following:

- a) notation, mensuration, tactus, proportions, with examples based primarily on the works of Gafurius;
- b) polyphonic examples of the modes;
- c) connections of nodes;
- d) examples of modes that do not fill the octave, and
- e) (some) biographical material on the composers whose works are used as well as comment of their style and skill.

polyphonic compositions written by many distinguished composers, among them the Netherland composers such as Josquin, Brumel, Ockeghem, Cbrecht, Mouton, Isaac and others, and by some Swiss and German composers -Senfl, Sixt Dietrich, and Gregorius Never. Some of the

Ninety quotations are made from actual

- 3. <u>IRID</u>., Chapter V, p. 180.
- 4. <u>IBID.</u>, p. 185.

compositions were personally requested by Glareanus for the express purpose of illustrating a point. Though many of these examples are fragments of larger works, the preservation of these compositions by their inclusion in the <u>Dodecachordon</u> is enough in itself to establish the importance of this book. The many citations from Greek and Latin poets reflects the author's humanistic and philological interests.

Glareanus classifies these examples according to periods:

- I. those written seventy years before his time which he calls old and simple;
- II. those from forty years before which he calls adolescent, and
- III. those no more than twenty-five years eld which constitute perfect art according to him. 5.

Glareanus does question those of the last category in general by saying he is ashamed of the distortion of correct modal usage and that such a lack of restraint has caused learned men to weary of the style. He adds

^{5.} It might be of interest here to note the author's speculation that the <u>Dodecachordon</u> was written much earlier than its publishing date would indicate. The composers whose works he has used were, for the most part, deceased by 1520. The first book was already cited as having been written in 1516. Glareanus mentions no theoretical works or musical works beyond the early part of the sixteenth century.
that polyphony for more than four voices is "not so much for aural pleasure as for the ostentation of the talented. For it could scarcely be possible that the human intellect distracted by so many and so varied sounds could follow carefully all voices simultaneously. In my opinion a distinguished composer can show his vigor of talent in two or three voices." ⁶. Many of his examples are for two or three voices.

Specific Approach and Modal Discussion

Glareanus' general approach to modes is by their range in the octave species. He discusses the same octave species rather than the authentic and plagal grouping, i.e., Hypodorian and Aeolian together, since they are both in the octave of A, rather than the usual grouping together of Dorian and Hypodorian.

Because there are only seven octave species, he maintains that there are only seven modes. He recognizes two divisions within them, the harmonic, (authentic) by 5th and 4th, and arithmetic (plagal) by 4th and 5th. By putting these together in all possible combinations he arrives at twenty-four

6. IEID., p. 413-419.

different species, but discards twelve of those as non-diatonic. The six modes retained in the harmonic division are Dorian, Phrygian, Lydian, Eixolydian, Aeolian and Ionian, which, together with the six arithmetic or plagal modes - Hypodorian, Hypophrygian, Hypolydian, Hypomixolydian, Hypoaeolian and Hypoionion, make up the twelve modes that he defends. Under the authentic group he names the Hyperaeolian (Locrian) as spurious, along with the plagal Hyperphrygian (Hypolocrian), because they may not be divided harmonically or arithmetically, not having the necessary perfect 4th or 5th for this division.

Glareanus' main concern is for the four new modes which result from the addition of the B-flat to the Dorian and Lydian. Earlier the Dorian with the B-flat was classified in the <u>Protus Maneria</u> and the Lydian with the B-flat in the <u>Tritus Maneria</u>. He maintains that consistent use of a B-flat in the Dorian Mode is equal to a different octave arrangement that of the Aeolian from A to a, and likewise consistent use of a B-flat in the Lydian Mode is equal to a different octave arrangement - that of the Ionian from C to c. Therefore the Dorian Mode with a B-flat should be referred to as transposed Aeolian and the Lydian Mode with a B-flat should be referred to as transposed Ionian. He stresses that this is not a radical innovation, but rather a logical continuation and expansion of previous practices.

Another of his goals is to establish consistent nomenclature. Rather than using the terms tonus, modus and tropus interchangeably as Gafurius does,⁷. among others, he makes it quite clear at the beginning that modus will refer to the church modes, while tonus will refer to the interval of a whole tone. This desire for consistent nomenclature also pertains to the modes themselves. Strong advocation for proper use of the modes and consistent nomenclature probably reflects part of the influence of the Greek revival which prevailed at the time of Glareanus.

The first octave species and its two modes extend from A to a. The Hypodorian is divided arithmetically on D, the Aeolian is divided harmonically on A. In both, a minor third may be added above and in the Dorian Mode a whole tone may be added below.

^{7.} Gafurius, Franchinus, <u>Practica Musicas</u>, Milan, 1476, Chapter 7.

The second octave species and its two modes extend from B to b. The hypophrygian is divided arithmetically on E and usually uses the range from B-natural to c. Though the range is similar to the Ionian, the sound is characteristic of Hypophrygian because of the style and the pitch of the final and the approach to the final. The Hyperaeolian or Locrian has no perfect fourth or perfect fifth, cannot be divided arithmetically or harmonically and therefore is not usable, except by adding a semitone to the top and a whole tone to the bottom, thereby perfecting it and making its use possible.

The Hypolydian is divided arithmetically on F, with a range from C to c. The lower semitone B is often added, making it similar to the Mixolydian. The Ionian is divided harmonically on C and has much in common with the Lydian. It could be called old Node VI. Occasionally a B-flat is added, making it also similar to the Mixolydian. The semitone below is rarely used. It is the most common of all the modes, though it is rarely found in older church music.

The Hypomixolydian is divided arithmetically on G, with a range from D to d. The Dorian is divided harmonically on D. Eoth of these modes have been used to a great extent throughout their existence. A whole tone is often added below and a third above the Dorian, as is the case with the Acolian.

The Hyposeolian is divided arithmetically on a, the Phrygian harmonically E. These modes have a range from E to e. The first of these is infrequently used, probably through inability of singers to use it accurately. They usually change it to Hypodorian as do choral directors. A whole tone below and a semitone above may be added. The Phrygian has a very characteristic sound and cannot be easily confused with any other of the modes. When it is used it is for this sound, which has made it very distinctive and consequently famous.

The sixth octave series has a range from F to f. (Note the confusion of names here regarding what we know as the Hypolocrian.) The Hyperphrygian, plagal of the Hyperaeolian or Hypophrygian should be called the Hypohyperaeolian. It is sometimes wrongly called the Hyperlydian. It is rarely used in its complete system and then only from the fonal center, B, down to F. The Lydian divided harmonically on F is rarely found in its pure form without the addition of B-flat, even in the early church. A polyphonic example of this mode for the <u>Dodeoachordon</u> had to be especially commissioned since Glareanus could find none that was without the addition of a 3-flat. This is also true, but less surprisingly so, with the Locrian and its placel.

The seventh and last of the outage series is from G to g. The Hypoionian is divided arithmetically on C and is rarely used. With the addition of a B-flat it was known as Node VI and has been used as such for over five hundred years, especially in songs of the Celtic and Germanic languages. The Mixolydian, which is divided harmonically on d, is mixed with the Lydian mode, but has been largely replaced by the Ionian mode. The gamma of each of these outage series is described in terms of the Greater Perfect System of the Greeks; an illustration of each scale is given on a staff as well as verbally. The arrangement of tones and semitones is also included is carefully explained.

Glareanus does define characteristics for each mode such as joyous, lamenting, war-like, sweet, and barbaric, but eliminates their importance on the basis that a propitious talent can alter them completely, thereby turning a somber mode to a gay one and likewise a gay one to a somber one, e.g., "A mode

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which is light in character can be used for serious subjects, contrarivise, a serious mode can be used for light subjects." 8.

He also speaks of <u>Phrasis</u> or melodic formulae, tones of secondary emphasis and characteristic skips or intervals which point to certain modes.

Monephonic and polyphonic examples of each mode are given. Glareanus discusses the mixture of modes in polyphonic compositions and concludes that the relationship is usually between an authentic and its own plagal. He generally does not designate the mode in all voices of a polyphonic composition. However, in those where he does describe the combination it is usually an authentic and its plagal. There are approximately a dozen polymodal ocmbinations involving different modal names, which are, for the most part, mixtures of Acolian and Phrygian, Lydian and Ionian (Hypolydian) and Mixolydian and Dorian. (One of the latter is transposed down a major second to F and C, with B-flat added in the key signature and E-flat written in the parts when it occurrs,)

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^{8.} Glareanus, Heinricus, <u>Dodecachordon</u>, English translation by Clement A. Ailler, Bostoral Dissertation, Ann Arbor, Michigan: University of Eichigan, 1950, p. 277.

Most usually here, the <u>cantus</u> provides the thematic thread; the <u>bassus</u> forms the harmonic base, the <u>altus</u> lies an octave above the <u>bassus</u> and the <u>discantus</u> an octave above the <u>cantus</u>. Glareanus found that generally if the authentic mode is in the <u>bassus</u>, the plagal is in the <u>bassus</u>, the plagal of the same mode will be in the <u>cantus</u> and contrarivise, if the plagal is in the <u>bassus</u>, the authentic of the same mode will be in the <u>cantus</u>, or tenor.

There are seven examples of the Hypodorian mode. With a Hypodorian tenor, the <u>bassus</u> is often in Dorian with a minor third added above the usual range. When the tenor is Phrygian the <u>bassus</u> and <u>discantus</u> are often Asolian. The Hypophrygian may resemble Asolian, since if it does descend to the B it will most usually extend down one note further to A. However, it most often stays within the range G to e though another variety can be found occasionally with a range from D to d which can easily be confused with Phrygian. With either a Dorian or Phrygian tenor, the bassus will often be Asolian.

There are two examples of the Hyperaeolian, or Logrian mode, both in four voices. It is hinted that one of these by Pierre de la Rue was sent to Glareanus by requent because he could find no complete example. The other is by Sixtus Dietrich. The full range from B to b is used with the addition of a whole tone below the final. It is treated as an authentic mode.

There are three examples of the Hypolydian. This mode is usually changed into the Hypoionian by adding a B-flat and is used with its authentic, Lydian, which is also usually provided with a B-flat and then becomes transposed Ionian.

Glareanus cites the <u>Stabat Mater Dolorosa</u> by Josquin as a perfect example of the Ionian mode, but emits it. However, two of the four examples shown for this mode are by Josquin.

The Dorian mode is cited as being used very often because of its majesty and venerable dignity; there are five illustrations of it here.

As in the case of the Ionian mode, Glareanus cites a well-known composition as an example of the Hypomixolydian. This time, it is the <u>Salvator Mundi</u> by Jean Mouton, a work not included in the <u>Dodecachordon</u>. The similarity of this mode to the very popular Dorian may account for its neglect - only one example is given. Hardly any two modes are as distinctive from the rest and as consistently connected as the Phrygian and the Hypophrygian. Their connection, as well as their relationship to the Acolian and Hyposcolian and Dorian, has been mentioned earlier. There are two examples of the Phrygian and three of the Hypophrygian.

The Hypomeolian in its pure form diminished in use because it was often modified to Hypodorian or Phrygian, as mentioned previously. However, four examples are given.

The Lydian is the most corrupted of the modes, owing primarily to lack of education and/or carelessness by choir directors and their singers. It has been almost entirely replaced by the Ionian. Four examples are shown without the B-flat in the "old" form; the last and fifth uses the B-flat.

The Hyperphrygian is sometimes approximated by the Lydian, but in the theoretical sense it is rejected because it cannot be divided arithmetically or harmonically, having no perfect fourth or fifth above or below the final - however, two examples are given.

The Mixolydian mode has, for the most part, been replaced by the Ionian, though it is often

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imitated in the Ionian by the addition of a B-flat three examples are given.

The four examples of the Hypoionian are among the many compositions of the time which could serve as examples. Though this and the Ionian mode were benished among early church musicians they were very popular in secular music. (By the use of the secular <u>cantus firmus</u> in the sacred composition, which became popular in the fifteenth century, the Ionian mode was brought into equal popularity in sacred music.)

Further discussion follows regarding authentic and plagal modes as they appear in pairs, with examples.

Following the analysis of music in the last book of the <u>Dodecachordon</u>, one finds biographical data on many of the composers whose examples were used, as well as criticisms of their styles and the styles which existed then in general. Eany statements which were made previously (sometimes more often than once) are repeated and defended again. This makes tedious reading of what is interesting material. These repetitions could have been emitted, for the most part, without jeopardizing the clarity of what Glareanus was trying to defend. He does have a sound, logical, pedagogical way of writing and makes profuse use of examples, e.g., in his discussion of octaves, he defines each interval step by step to the octave, gives their relation to current practice, and illustrates them on a staff. He uses the same method of discussion throughout - including those parts which cover the modes.

His numerous references to classical writers, and the detailed discussion of the use of modes previous to his time, the discussions evaluating the musical practices of musicians and theoreticians up to and including his time, and the eloquent style of writing he uses certainly justifies the praise of Glareanus and the <u>Dodecachordon</u>. The fact that the terminology he applied is still used today further justifies his significance as well as the preservation of the excellent polyphonic music he used as examples.

However, I feel that some very glaring omissions were made, owing somewhat to the era in which he lived and somewhat to his lack of ability to examine that era from the standpoint of thoroughness. The latter is quite surprising when one considers the phenomenal personalities he knew well, and the amount of intellectualism that surrounded him during his lifetime as a professor (a most successful one) as well as, of course, his own ability.

The writer cannot help but feel that Glareanus missed the cardinal point in his discussion of the modes - treatment regarding the complexities that had developed in modal usuage and the possibility of a prevailing mode or over-all mode which would include consideration of all the voice parts as they were sung simultaneously. For as long as one voice part could be classified as Dorian and the piece began or ended in Dorian, Glareanus was content to call it Dorian. It seemed unimportant to him to analyze what went on within the boundaries of the opening and close and the frequent modal complexity of the voices individually and as they sounded together. He could have formed some perception of an over-all mode - or at least made some reference to the need for new terminology to identify the innovations resulting from polyphonic procedure.

From the modal standpoint, much of the music Glareanus used is very complex. He ignores this in the analyses and even fails to mention it. The author would like to show some illustrations of this complexity in the following section by discussing the Kyrie movements of five polyphonic Easses composed around the time of Glareanus. CHIPPEN IV

<u>Kodal Analysis - Kyries of Five</u> Fifteenth Century Polyphonic Masses

In the following section, I will examine five polyphonic Masses of the fifteenth century - all of which use the same molody as the <u>cantus firmus</u> - the famous <u>L'Homme armó</u>. Before the analyses introductory meterial will set the stage for the analyses themeelves.

The primary feature of the <u>contus firmun Mass</u>, as its none suggests, is its organization based on a single pre-existent moledy. This moledy appears in every movement of the Mass, most generally in the tener part, and in longer time values. (A similarity can be seen between the <u>contus firmus</u> Mass and the <u>passacaglia</u> or <u>chaconno</u>.) Various sources were drawn upon for the <u>cantus firmus</u> itself: plainsong, chansens, "popular" tunes. The moledy, as used in the Mass, was based very strictly upon the model in many cases, but was also frequently greatly altered from the original.

In Aron's Treatise, <u>Il Teccenello in Musica</u>, (1583), Imsueis was referred to as the composer of the <u>L'Homme armé</u> melody. ¹. The melody appears

^{1.} Aron, Peitro, <u>Il Toscanello in Musica</u>, 1503, Book I, Chapter 30.

in the <u>Mellon Chansonnier</u>². divided between the tenor and contratenor, in the Mixolydian Mode, as shown. The composer is anonymous, but the style of the setting places it in the period with Dufay (c. 1400 - 1474) and Pinchois (c. 1400 - 1460). It is unlikely that this is the original. Uncertainty concerning its source prevails at this time.



- 2. Hellon Chansonnier, Yale University, New Haven, Connecticut. See Example I above.
- 3. Reese, Gustave, <u>Music in the Renaissance</u>, New York: Norton and Co., 1954, p. 73.

Through the period which begins here with Dufay and ends with Josquin, epochal developments were being made. Through Dufay's association with Dunstable (their relationship with each other has been compared to that of Haydn and Mozart). an avalgazation of English and French styles took place. The cyclic tenor Mass, developed by the English on the Continent, was for three voices with the centus in the lowest part. Dufay adopted this form of composition and added a fourth voice beneath the part bearing the cantus firmus, thereby giving the composer greater harmonic freedom. Designation for the four voices produced the terms alto and bass which we use today. The contratenor altus and contratenor bassus became the alto and bass. Another addition by Dufay is a feature which is frequently encountered after him in cantus firmus Masses, and often connected to them musically, i.e., the use of a motto, which is called the head motive here. It usually appears in the upper two parts and begins each movement; this may involve anticipatory imitation of the cantue firmue.

There was a tendency to expand the ranges of the parts, first downward, then upward also. This

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expansion in the use of voice ranges was directly relative to the increased use of imitation; the more range available, the more elaborate the imitation could be. Each helped the other to grow.

The greater use of fauxbourdon technique (which is most often found in the tenor-less sections of the <u>cantus firmus</u> Mass) in itself gave rise to new harmonic concepts, especially regarding the importance of the dissonant intervals, or better less consonant, thirds and sixths.

The Landini, or "under-third" cadence was a popular manner of closing at the time of Dufay and, to a lesser extent after him. Mensuration changes which occurred, as we shall see, create balance of the movements. (This naturally added further variation to the <u>centus firmus</u> melody.)

The following textures are predominant in this period: First is the canon at the varying tim-interval. Secondly there is the use of imitation, which was gradually breaking away from being just a part of another form, and developing a form of its own. Third is the treble-dominated style, which was adopted from the Italian <u>ballata</u>

style for three voices: melody in the top vart supported by the two lover voices (which were usually initative in style). Fourth is the duct style. Again the number of voices is three. The top two voices were usually initative of each other. The bottom voice was in free initation, with longer note values and functioned as a support for the other two (after the Italian cacala style). The fifth and last texture is the "point-against-point" writing called the conductua style which anticipated the Italian folso bordone writing - three upper voices in a second inversion triad, the lower voice sounding the root of the chord. This was used primarily for the harmonized setting of Psalm Tones and is a very important step in the approach to chordal writing. 4.

The present writer wishes to show deviations in modal usage which occurred through development of the potential of the triad by triadic outlining by arpeggiation, movement in leaps of thirds, fourths and fifths, parallel thirds, and sixths, and other factors which were part of the tendency away from

4. <u>IEID.</u>, pp. 91, 166 and Example number 114, p. 492.

model conception toward functional harmony. The increasing mixtures of modes which arose partly as a component of the polyphonic style of composition that dominated this period, vill be noted. The composers whose works are used proceed chronologically and stylistically from Pufay (c. 1400 - 1474) to Josquin (c. 1440 - 1521).

Kyrie - L'Homme arme Mass - Guillaume Dufay

Dufay, (c. 1400 - 1474) had several periods where his style varied. His early works reflect the earlier style of Machaut. A transition period, which is not distinctive in itself, leads to another sylte, more characteristic of the later fifteenth century. (This is similar to Beetheven's span of the Classic and Romantic eras,) Among these characteristics of his later works are the more discreet use of duets, the greater importance given to the tenor and bass as part of the polyphonic structure, and the elaboration of the cantus firmus itself; in general, a harmonicus equilibrium of all four voices and consequent fullness of sound.

Dufay's <u>L'Homme armé Mass</u> was probably written in the later years, between 1450 and 1460. It is in four parts and has the partial signature of one flat in each of the lower three parts. There is no signature in the uppermost part. Cross relations occurr often as a result of the superious using a B-natural when ascending

^{1.} Dufay, Guillaume, Missa L'Homme arms. Opera Omnia. Heinricus Besseler, Scilori Komer American Institute of Susicology, 1951, Tomus III, pp. 33-65. See Spendry, See Syste Movement.



The <u>first Kyrie</u> in ternary rhythm begins in three voices with the head motive in the <u>bass</u> and <u>superius</u>, the <u>altus</u> in free writing. In every other movement the head motive begins in the two upper voices. The lowest part of the head motive rhythmically anticipates the <u>cantus firmus</u>. The upper part may be said to recall the ascending leap of a fourth found at the beginning of the <u>cantus firmus</u>.

The <u>superius</u> begins on second line G. It is Hypomixolydian (without the B-flat) at the beginning. By the tenth measure it has extended downward to D and arrives at a mediant cadence in Dorian on D. (Measure fifteen). It reaches upward again, centers around G, has many B-flats added, and finally ends on G in transposed Dorian.

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and a B-flat when descending. The head motive

The <u>altue</u>, in transposed Dorian on G (with B-flat), begins in the upper tetrachord with emphasis on the interval of the fourth. The part ends by outlining a G minor triad - B-flat, G and D.

The bass outlines the G minor triad three times and circles around the D minor and G minor triads throughout. This part is in transposed Hypodorian on G. It becomes more elaborate as it proceeds and plays an important role imitatively as well as providing a harmonic bass. At the end the bass outlines a G minor triad.

The <u>cantus firmus</u> in the tenor is in transposed Dorian on G and stays within the pentachord of G to D. Only the first nine measures of the model are used for the first <u>Kyrie</u>, but broken by rests, after which there are a few measures of elaboration to the cadence.

The <u>Christe</u> is in binary rhythm and begins with canonic treatment between the upper two voices. The melody is very similar to the upper part of the head motive. Though the voices sound together, the lower part waits two measures before beginning the actual imitation of the upper voice. Farallel sixths occur almost exclusively in the tenor-less sections, such as this beginning part. Both voices are in Hypodorian on G.

After fifteen measures rest, the <u>tenor</u> begins with measure ten of the <u>cantus firmus</u> model and continues as far as the <u>da capo</u>.

The bass part begins just after the <u>cantus</u> <u>firmus</u>. Scale movement and leeps of thirds and fourths prevail. The part ends divisi. in first inversion. (<u>Divisi</u> may indicate doubling of instruments and voice parts.)

The mode consists of a mixture of the authentic and plagal Dorian, transposed, on G, though the final cadence is V (with F-sharp) 1 on G with a 4-3 suspension in the <u>superius</u>.

The upper voice of the head motive as it appears in the <u>Christe</u> opens the second <u>Kyrie</u> at the time interval of a half note with the order -<u>superiue</u>, <u>altus</u>, and <u>bass</u>. The rhythm is ternary, as in the first <u>Kyrie</u>. After two measures the <u>bass</u> states the head motive as it was in the first <u>Kyrie</u>. The B-flat is added consistently in the <u>superius</u>. **The bass** outlines G minor and D minor triads throughout. The final cadence is V (with F-sharp) i in G minor.

Again after fifteen measures rest the <u>tenor</u> resumes the <u>cantus firmus</u> at the <u>da</u> <u>cape</u> just as it appeared in the first <u>Kyrie</u> but without interruptions. This is repeated in diminution.

Dufay gives his voice parts freedom from strict modal adherence by outlining triads and both augmenting and diminishing the ranges of the different parts. However, he is at an early point in the development of this period, and variations within his work, modally in particular, are not as apparent as later composers discussed here whose works are most often oited by Glareanus.

Kyrie - Missa L'Homme armé - Johannes Ockeghem 2.

Johannes Ockeghem (c. 1420 - 1495) was the most varied of the Mass composers of his time. By his works alone, five types of Mass composition can be illustrated: cantus firmus (Missa L'Homme armé); paraphrase (Requiem and Gloria of Missa Sine Nomine); beginning of parody (Missa Fors Seulement); canon (Missa Prolationum); and free writing (Missa Mi-Mi). Ockeghem is also credited with having written a thirty-six voice canon. Deo Gratias. (No more than eighteen voices are said to sound at once.) His popularity among fellow musicians is evident by the fact that his name was mentioned frequently in compositions by such composers as Busneis, Compere and Josquin. A lament on his death was written by Erasmus.

2. Ockeghem, Johannes, <u>Missa L'Houme armé, Monumenta</u> <u>Polyphoniae Liturgicae Sanctae Ecclesiae Romanae</u>. <u>Rome: Societas Universalis Sanctae Ceciliae, 1948</u>, <u>Series I, Tomus I, Fasciculus VI. Also, Van</u> <u>Ockeghem tot Sweelinck</u>, Dr. A. Smijers, <u>editor</u>, <u>Amsterdam: Alsbach and Co. 1952, pp. 1-3. (<u>Kyrie</u> only).</u>

3. Riemann, Hugo, Handbuch der Musikgeschichte, Vol. II.

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Because of the type of notation in the original manuscript, the <u>Missa L'Hommé arme</u> by Ockeghem may have been written before that of Dufay; however, an exact date for this work is unknown.

The first movement is in ternary rhythm and is for four parts. All four voices begin and end each section simultaneously.

In the first <u>Kyric</u> the <u>maxius</u> and <u>bass</u> are in the Hyperixolydian mode on G. The <u>sltur</u> remains in the upper tetrachord of the Mixolydian on G and resembles the lower tetrachord of the Hyperixolydian. The <u>contus firmus</u> proceeds up to measure nine of the model with only slight interruptions (otherwise unembellished) in the Mixolydian mode on G.

The <u>Christe</u> begins on G, Mixelydian mode. The first statement of <u>Christe</u> ends in C major; the second goes to F major, with a B-flat added; the third ends with a Mixelydian cadence on G - F major in first inversion to G major in root position. The entire <u>Christe</u> is chordal, concise and without elaboration. Though the section is only fifteen measures long, the changes in tonal structure are clearly audible and very significant. The <u>superiors</u> in the second <u>Kyris</u> begins on Derion with a E-flat, changes to Hypoderian without the E-flat, both on D, and ends in Hypomixolydian on G. The <u>altus</u> remains in the upper tetrachord of Mixolydian on G ε s it has previously. It gives a short emphasis of Phrygian on A (when the <u>superius</u> is in Derian with the E-flat) and a second emphasis of Aeolian on A. It ends in the Mixolydian mode as it was before. The <u>bass</u> mixes Hypomixolydian on G and Derian on D, depending on its relationship with the dominant.

With even less interruption than in the first <u>Kyrie</u>, the <u>tenor</u> completes the <u>cantus firmus</u> model in the Mixolydian mode on G four measures before the final cadence and continues to the end in free writing.

The <u>cantus firmus</u> is presented in a straightforward, rigid manner without embellishment. When the other three voices continue past the presentation of the <u>cantus firmus</u>, the <u>tenor</u> presents the <u>cantus</u> <u>firmus</u> and then is freely written to the final cadence. This occurs at the end of every movement.

The <u>centus firmus</u> is in the Mixolydian mode except in the Credo where it is in Ionian, and the Agnus, where it is transposed Dorian. It is in the tenor part throughout but lies below the range of the bass in the Credo and Agnus. Imitation of the cantus firmus melody does not appear in other voices. except in one part of the Credo; generally Ockeghem uses less imitation than Busnois, whose L'Homme arme Mass follows. There is a limited amount of meledic importance given to the tenor and bass lines; however, the outer voices do appear occasionally in contrary motion. One of the most interesting aspects of his work is at the cadences where he reaches a climax with the use of stretto effects and by using a dotted rhythm and/or shorter time values, thereby increasing the drive and motion toward the cadence. He also adds to this climactic effect by changing the texture through alternating the scoring near the final cadence. In the Agnus III, all voices appear in various combinations of two, then all four join for the cadence. The "under-third" cadence is found far less than in Dufay or Busnois and most usually within, rather than at the end of a composition. Generally the authentic V-I appears in the

bass with 8 - #7 - 8 in the <u>muperius</u>. Extension of the range downward is apparent at this time. Emphasis is on the sound of triads on strong beats, in root position and first inversion. There is much chordal writing throughout.

Kyrie-Missae L'Homme arme - Antoine Busnois Jacob Obrecht

In approximately the year 1475. Busneis (? - 1492) composed a Mass based on the L'Honne arme melody. 4. Obrecht (c. 1450 -1505) paredied Busneis' setting around 1490, when the two composers were together at Bruges. Busnels at the church of Saint Saviour. Obrecht at the church of Saint Donatian. The Obrecht L'Homme arme Mass 5. bears an easily recognized relation to the Busnels Mass and appears to be directly inspired by it, perhaps giving further basis for the authority of Busneis as originator of the melody mentioned earlier. The formal structure of Obrecht's Mass is dependent on Busnois's, Obrecht replaces the original samons with new ones, gives a new harmonic scheme, and uses initation more extensively than Busnois.

^{4.} Busnois, Antoine, <u>Missa L'Homme armé</u>, <u>Homumenta</u> <u>Polyphoniae Liturgicae Sanctae Ecclesiae Romanae</u>, Rome: Societas Universalis Sanctae Ceciliae, 1948, Series I, Tomus I, Fasciculus II.

^{5.} Obrecht, Jacob, <u>Missa L'Hommé arme, Werken.</u> <u>Vitzegeven door Johannes Wolf</u>, J. Miller, editer, Amsterdam: 1908, 1920, Vol. 26.

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The cadences in the Busnois are for the most part of the "under-third" type. In Obrecht they are more strongly suggestive of a later period, with a strong tonal feeling resulting from the use of a raised leading tone in the superius and dominant-totonic movement in the bass. The ascending portion of the cadence changed from the lower voice to the upper voice, often the voice immediately above, and was replaced by V - I in the bass. Movement in the uppermost voice changed from 7 - 6 - 8 (prevalent in Busnois) to 7 - 8, which appears to some extent in Busnois and consistently in Obrecht. In the cadences of Busnois the bass often remains silent. The harmony is completed by other parts and, while these hold the final note, the bass begins new imitation. Obrecht, like Josquin, makes use of pedal tones at cadences. He often breaks up the themes into segments and thins out the texture, then sombines the segments and thickens the texture toward a climactic end. He uses higher voice ranges for tension. In mich of the Busnois Mass, canonic treatment consists of long fugal passages in two upper voices, repeated in a formula two or three times. Inversion of the subject material is present as well as the beginning of stretto. In Obrecht's there seems to be more forethought regarding this. Imitation is often in all voices rather than just in two, and is enswered not only at the unison and octave but also at the <u>fifth</u>. The musical subject is often a shorter, more striking sentence and can appear in more than one relation to its answer. Obrecht shows a more definite feeling for chord construction and harmonic function. The little fugal passages and cadences of both men show the trend toward structural unity that took place with the approach to Josquin.

Like Busneis, Obrecht uses a head motive. However, Busneis begins the five major movements of the <u>Mass</u> with his head motive, whereas the first <u>Kyrie</u> is the only major movement that Obrecht begins with his head motive. From there on it is used within the movements; at the <u>Qui tollis</u>, <u>Pleni</u>, <u>Osenna I</u>, and <u>Agmus II</u> and <u>III</u>. Busneis shares Dufay's Predilection for opening with the head motive in an upper voice due. Obrecht presents it in both duple and triple meter and it is found in all due possibilities of the <u>superius</u>, <u>altus</u>, and <u>bass</u>. The <u>L'Honme armé</u> meledy is imitated in other parts more extensively by Obrecht than by Busnois.





The prevailing mode of Busnois is Dorian beginning on G, except for the <u>Credo</u> which is Hypodorian beginning on D, both modes being transposed. Obrecht treats the melody in Hyposeolian beginning en E, except for the <u>Credo</u> which is Acolian on A. Here a Phrygian character is given to the <u>centus firms</u> by the cocasional insertion of a B-flat. An interesting feature is the appearance of the <u>tenor</u> an octave lower in the <u>Crucifixus</u>.

<u>Evric I</u> of each work begins with the respective head motives. The interruption of the <u>cantus firmus</u> is at the end of the first statement of the high-lying motif at measure fifteen of the model.

The <u>Christe</u> sections are in canon with suspension of the <u>cantus firmus</u>. Both begin with two subjects and end with free writing. At one point, Obrecht divides the second subject and presents half in the <u>superius</u> and half in the <u>bass</u>. He establishes a strong tonal feeling, exchanges fragments of imitated material in all voices and uses rhythmic and melodic sequence to a greater extent than Busnois, both here and throughout the <u>Mass</u>.

The second <u>Kyries</u> of both works begin with all four parts simultaneously and present the complete L'House arme melody except for the falling fifths at the end.

In Obrecht, more so than in Busnois, the linear counterpoint shows the gradual change to clearer texture with a well-defined harmonic bass. At the same time, this manipulation of the voice lines carries the voices further away from any strict model concept, such as Glareamus outlines.
Kyris-Masa L'Homas armé - Josquin Depres

Josquin Depres (c. 1440 - 1521), a very famous musician during his lifetime, was received with honor by many princes and was a court musician to Louis XII. The <u>Dodecachordon</u> contains a far greater number of examples from Josquin than any other single composer and he is the only composer to when the famous Italian printer, Petrucci, devoted three volumes.

Two <u>centus firmus Masses</u> based on the <u>L'Homme</u> <u>ermé</u> melody were composed by hin: the <u>Misse L'Homme</u> <u>ermé sexti toni</u> and the <u>Misse L'Homme armé super voses</u> <u>musicales</u>.⁶ I have chosen to tuse the Kyrie section of the latter, since it is considered the more brilliant of the two and more representative of Josquin's genius. First printed in 1502, it received the name <u>Voses musicales</u> from the fact that in each of the six sections of the <u>Mass</u> the melody opens on a different degree of the natural hexachord, beginning on C and

^{6.} Depres, Josquin, <u>Missa L'Homme armé super voces</u> misicales, <u>Gesellschaft für Misikforschung</u>, Rzymund Schlecht and Hobert Limer, editors, Leipzig: Breitkopf and Härtel, 1877, pp. 1-5. Sie Ppendix for Kyele Movement.

proceeding in order to A. (Each ends on the note on which it begins except in the Agnus I.) Since the L'Homme arms melody changes its mode with each rise in pitch, no accidentals are involved. As the pitch rises in the cantus firmus (tenor) it crosses the voices above until finally in the Agnus III, the cantus firmus appears in the superius greatly augmented. The modal areas of each successive presentation are Ionian, Dorian, Phrygian, Lydian, Mixolydian and Acolian. The Mass according to Glareanus' reasoning however, would be considered in Dorian throughout by several means; The cantus firmus ends several measures before the final cadence, which provides time for the remaining three voices, in free writing, to modulate to the Dorian mode for the cadence. Where the cantus firmus is in Dorian (Gloria), the last notes of the tenor cease four measures before the final close to preserve the structural balance. (In all his works, structure is of primary importance.) The cantus firmus continues through the last measure in the last Agnus. The following example is the head motive which appears at the beginning of the Kyrie, Gloris and

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All voices are important in the works of Josquin. This is made obvious by the fact that the <u>cantus firmus</u> is imitated freely in all voices. He combines the music and the text with great care. The canonic writing is very important and usually appears in paired imitation rather than the earlier duo style. One can see use of mensuration canons, stretto, retrograde, and riddle canons. In the latter, only one part is notated. The other parts, two or three, derive their part from the one which is notated, by putting each part in a different time value. Four examples of this form are given by Glareanus in the Dodecachordon. One is from the <u>Agnus Dei</u> of the <u>Missa L'Homme armé super voces</u> <u>misicales</u> by Josquin, two are by Pierre de la Rue and the fourth is by Ludwig Senfl. 7.

7. Miller, op. cit., Vol. II, pp. 348 - 353.

Though the texture is chauged through varying the number of voices which are used, this <u>Mass</u> is basically for four voices. A form of sociocalization occurs by varying the scoring. Chains of carefully matched and balanced segments are characteristic of Josquin's work. <u>Pass</u> movements alternate between imitative writing and hermonic support in leaps of fourths, fifths and thirds: also between contrary (usually by scale-like movement) and perallel motion (thirds, sixths and tenths) with the upper voices. Repeated notes and pedal tones may occur in all voices. The semitonal rise and fall (which is associated with anguish) and the use of dissonances, such as major sevenths and mainer seconds, are technical means he is said to have used for expression.

The first <u>Kyrie</u> is in ternery rhythm. The superius begins in the Dorian mode on D, with anticipatory imitation of the <u>contus firmus</u> in notes half the value of those in the <u>tenor</u>. Long melodic lines are repeated in the same voice as well as in other voices. The <u>altus</u> begins in the Dorian mode on D with the upper part of the head motive. (The lower part is in the <u>bass</u>.) This part remains in the tetrachord from the fifth-line A, F Clef, to the D above. In all but the last two measures the notes are repeated in various rhythms and order.

The lower line of the head motive which imitates the <u>cantus firmus</u> appears here in the bass voice, primarily in the Hypodorian mode on D. The <u>tenor</u> begins the <u>cantus firmus</u> in the seventh measure and completes the model up to measure nine with slight elaboration at the cadence. The mode is Ionian on C.

The <u>bass</u> part is often in contrary motion or parallel motion in thirds, sixths and tenths with the upper voices. Leaps are most often in fifths, fourths and octaves respectively. One measure before the last, the <u>bass</u> has a pedal tone on A during which there is chordal writing in the upper parts.

The <u>Christe</u> is in binary rhythm. The <u>superius</u> proceeds in Phrygian. It begins on E, centers around E, and ends on E. There are a few sections in Mixolydian on G. (The melody in the first "<u>eleison</u>" of this part is extremely similar to the beginning of the Dufay <u>Christe</u> of the <u>L'Homme armé Mass</u>.)

The altus, which also begins on E, has a

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Hypophrygian range, primarily the lower tetrachord.

The base begins on A (there is a feeling of Aeolian at the beginning,) then proceeds down to E, where it stays, occasionally descending to the A below. Before the <u>cantus firmus</u> enters in Ionian on G, the voices are very characteristically Phrygian. The final cadence is a plagal cadence on E: iv = i. (Taken out of a polyphonic texture, the Phrygian bears a dominate relationship to the Hyposeclian and is often found in Aeolian and/or Hyposeclian writing.)

The <u>cantus firmus</u> is identified as transposed Ionian on G since only the pentachord above the final is used, which is the same as the corresponding pentachord of Ionian on G which appears in the <u>first</u> and <u>second Kyries</u>. (It is interesting that the modes of both the cantus firmus and the section itself move up a fifth respectively in the <u>Christe</u>, and down a fifth again for the <u>second Kyrie</u>.) The <u>cantus</u> <u>firmus</u> melody is varied somewhat rhythmically and proceeds as far as the <u>da capo</u> of the model. There is frequent chordal writing in this section, as one voice moves independently while the other voices move The second <u>Kyrie</u> is in ternary rhythm, as was the first. The <u>superius</u> begins in Aeolian on A, proceeds to Ionian on C, then Dorian on D, occasionally extending to the Hypodorian range, and ending on D with a raised leading tone: $8 - \frac{47}{7} - 8$. Parallel thirds, sixths and tenths, usually with the <u>bass</u> voice, occur often here.

The <u>altas</u> begins with canonic imitation of the <u>superius</u> and proceeds with alternation between sequential imitation of many rhythmic and melodic phrases and scale passages. The mode in this voice is not clear since centers of concentration very. The range is within the octave of D.

The bass begins with the cantus firmus in the Asolian mode on A, and continues up to measure nine of the model. It then changes to Mixolydian on G with many octave leaps and scales on G. The part ends in Hypoderian with B-flat in a V - I cadence.

The <u>tenor cantus firmus</u> completes the model in Ionian on C (down a fifth from that in the <u>Christe</u>) with the note values greatly extended. It ends three measures before the end of the section to enable the remaining three voices to cadence on the Dorian mode on D. The harmonic schemes of the movements are very interesting and contrast greatly with those of the earlier works discussed here. Only because of the cadences can it be said that Dorian is the over-all mode. The <u>temor</u> is in the Jonian mode and triads are harmonically very important. The first <u>Kyrie</u> begins on Dorian, D. The first cadence is Aeclian - V (E major with a G-sharp) - 1 (A minor). With the addition of a B-flat the movement proceeds in Lydian on E-flat. Triads that are used include E-flat major, F major and C major. Then there is a descent from B-flat major through the triad of A minor to G major; then up ty scale to C major and D minor where there is a half cadence in D minor which anticipates the opening of the <u>Christe</u>.

The <u>Christe</u>, (as hinted in the final cadence of the <u>Evric</u>) begins in Aeolian on A, changes briefly to Furygian on E, with a cadence on A: $8 - \frac{3}{7} - 8$, V - 1. After alternating between the triads C major, D minor and F major, it goes to E minor which acts as the dominant to A minor, which in turn acts as the subdominant to E minor. The final cadence is plagal in E: iv - 1. Consequently we have a mixture of Abolizm on A, and Phrygian on E with an Ionian tenor on G.

The second <u>Xyrie</u> begins in Aeolian on A. There are sections which are in F major, B-flat major and G major; B-flat major with F major, D minor with G major, and A major with D minor. The last measure is chordal, as all the final cadence points are.

Voice parts, especially the <u>tenor</u> and <u>altus</u>, orcess quite frequently. However, each voice is easily distinguishable by its general range. Quite often short phrases in rhythmic and/or melodic succession are passed among the parts in a fachion rescubling stretto. There is a careful unity and balance maintained between these shorter and more rhythmic sections and those with broad melodic lines. These melodic lines alternate among the voice parts in the same as well as different sections of the work. The harmonic element plays a most important part in movement and unity. There are tensions arising from harmonic progressions which build toward resolution. Authentic cadences are the most frequent; $2 - \frac{2}{7} - 3$ or $2 - \sqrt[4]{7} - 3$, with none of the corlier 3 - 7 - 6 - 3 appearing.

The structural balance and formal unity emphasized by the use of functional harmony show the stylistic advance made by Josquin and provide justification for the place many have given him at the peak of the Renaissance, as J. S. Bach is placed at the peak of the Baroque. At the same time the extend of model distortion within this polyphony raises some question regarding the insight used in the preparation of the <u>Doisonchordon</u> by Glareanus. With regard to some "during" practices of Josquin in his motet, <u>De Frofundis</u>, which in particular refers to modulations between the Dorian and Enrygian modes, Glareanus does say.

> "Nor is he alone indeed in the immederate love of novelty and the excessive zeal to snatch a little glory by being unusual, a failing with which the more talented professors of disciplines are almost always afflicted. However much this is characteristic of composers, they still have it in common with many others." 8.

This does not explain however, the <u>importance</u> of this "novelty" as a trend toward the general breakdown of the modes by the end of the sixteenth century.

8. Miller, op. 01t., p. 455.

Modul purity in liturgical music, which had nover existed entirely in practice, but which was constantly being stressed in theory, became even less possible with the high development of polyphonic writing. which existed at the time of Glareanus. The departures from modality, which lod eventually to major and minor tonalities, were becoming quite noticeable at this tine - a far more so, I belleve, than Glareanus dared to adult in his Dodeoachordon. The addition of four now modos, which Glareanus proposed in the aforementioned work, (Aeolian, Ionian and their respective plagals) was only a partial answer to the new procoedure. By these examples we have been able to ese the changes in model usage through using the voices initatively as woll as relating them harmonically. In the example by Dufay nearly all the stres was within the Dorian and/or Hypodorian modes. By the time of Josquin, we saw stress upon Ionian. (major). Lordan, Acolian, (minor), Lydian and Phrygian within the same movement of a piece and occasionally mixtures of these sounded simplifaneously. These changes warranted recognition, as well as speculation concerding a new tonal system, rather than simply a detailed explanation and illustration of the twelve modes and their scale structure.

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Conclusion

Attention to the beginning of the <u>Dodocacherden</u> may help to explain Glareenus' concervative approach. After a lengthy dedication, he begins with an account of a Greek decree where a certain Timotheus was expelled from his city because he dered to add another string to his magedis. After this Glareenus says,

"What am I to think is going to happen to me, who would add four modes to the eight modes of musical song which for so many centuries now have been celebrated among all?"

Because of the Refermation and consequent unrest and upheaval in the Church, revolutionary ideas, including these regarding the music of the Church, were considered dangerous and immoral. This would be especially true to such a concervative and pious man as Glareanus. On page four of the section on Glareanus' life there is a quotation from a letter written by Erasmus about him. Erasmus goes onto say that Glareanus'.

"character is born for integrity; he shrinks from those tipsy revels, and is so adverse from cambling, foul language and impurity, that the very mention of such things is disagreeable to him." 1.

^{1.} Bohn, op. cit., also found in <u>Epistles of Erasmus</u>, translation and commentary by Francis Norgan Michols, London: 1904, Vol. II, p. 245.

Ho may have thought that going beyond the addition of four new modes by discussing over-all modes would be over-stepping his boundaries. This seems particularly evident when one considers the extreme care, length, (four hundred and seventy pages) and emphasis on logic found in the relatively simple task of presenting these new modes.

It assue to the present writer, as if a new dimension in the use of modes had arrived with polyphony. Even if each voice part is in a distinguishable mode, varying techniques in the uses of consensate and disonance may change the over-all model flavor to something quite different from that of any of the parts considered individually. Within various sections of one composition elements of different modes may be mixed so that the model flavor is not constant. There may not be a model framework though one usually does prevail.

The main problem seems to be a lack of terminology for an over-all or prevailing mode. How does one identify an over-all mode? <u>Con mixes perfectus</u> and <u>son sixtus imperfectus</u> montioned earlier in the first chapter of this work, are an attempt, but

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unfortunately, too many combinations are possible within those terms. In order to be specific, each voice must be classified individually as well as by the effect greated when combined with the other veloes. Even then, the over-all effect may very considerably. This is presidely the area which Glapsacus open not cover in his discussions of modal theory. In the analysis of his micical examples, he ignores the piece as a whole and centers his avguenent on one voice, or the voices which agree with his thesis. As a result, the midd as it sounds is not analyzed and his argument seens for too lengthy and cuite unconvincing. It would have seened a more accurate, scholarly and thereby convincing argument if he had persisted in using monophenic illustrations. The entire model flavor of the compositions is overlooked. It is as if ho was allowed examination of the ora which drew to a close around his time only through a very shall microscope so that only part of the history that was made could be seen by him. The Kyrie of the L'House same Mode by Josquin which we examined hore earlier is a perticularly excellent example of what Glarsamis would mest probably have classified as Dorian because of the open and close of the movements.

The Ionian tenor of the Kyrie, the modulations, the strong harmonic function of the many triads, might briefly be mentioned in passing. However, any speculation toward a new concept. (not only the application of terminology to an old practice), new terminology or simple recognition of some new practice is not found. Glareanus and his colleagues who have carried on studies and analyses of fifteenth century modality, have missed the heart of the subject, development of new, accurate terminology. Such a development and consequent reclassification of polyphonic music whose framework is based on the eight or since Glareamis, we may at least say twelve, modes would enable one the formulation of a montal picture of the sound that was occurring. How can a person picture a sound which has four voices fluctuating within and without of sometimes as many as four different modal sounds and in some cases bordering on one or another tonality? Out of the many articles the present writer has read on polyphonic modal usage, only one mentions the need for new terminology and gives additional weight to the idea of an over-all mode. It is written by

Virginia Seay, edited by Ernst Krenek and may be found in the Hamline Studies in Musicology, Volume I, pp. 46 - 63. This is a challenge for those in the future who desire the responsibility of forming new terminology thereby making clear the problem of MODE in polyphonic music of the fifteenth century.

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