TONALITY AND TONAL FACTORS IN THE PIANO SONATAS OF BEETHOVEN

by

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Abstract of

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Investigation of the limited works dealing specifically with the stylistic features of Beethoven's music has shown that a consideration of tonality and constituent tonal factors has been largely neglected. The present study was undertaken with a view toward providing a comprehensive analysis of Beethoven's tonal techniques and practices and toward showing the extent to which the expression of key, as an element in musical composition, becomes concerned with style determinants and characteristics. For this purpose thirty of the piano sonatas were selected for analysis as being highly representative of Beethoven's creative prowess.

The problems concerned with Beethoven's selection, disposition and use of tonal materials have been considered from four main points of view: (1) the tonal organization of the complete sonata as regards the fundamental keys of movements, (2) the general tonal components of individual movements, (3) the functional aspects of key expression and (4) the technical features which pertain to the various tonal functions.

The organization of the complete sonata gives evidence of certain fundamental practices which, in principle, are paralleled within the movements themselves. Such factors as cyclic tonal form, the preeminence of Tonic, the preference for certain key-relationships according to the mode of the tonality, and a profound liking for bi-modal expressions point toward a basic concept of tonal usage which extends with little or no change throughout the entire sonata chronology. Beethoven's selection of non-Tonic key relationships not only results in a hierarchy of preferred tonal contrasts, but shows that various specific key-relationships are used respectively in characteristic ways according to the design of the movement, their position within the movement and, to some extent, according to the creative period within which the movement falls. The preferences shown for relationships to the Tonic key are largely the same as those which may be determined from successive key progressions.

The ways in which Beethoven brings the elements of key and key-change into actual composition have been designated as tonal functions. These have been determined by considering what in the way of musical content is projected at the point where the key is established or where the key-change

takes place. Six tonal functions may be noted: thematic statement, thematic repetition (modulatory sequential progressions and phrase transposition), cadencing levels, preparatory levels and deflective passages. It is especially in connection with these tonal functions that the significance of tonal expressions as stylistic determinants may be noted. Not only do certain key-relationships become associated with specific tonal functions, but the appearances of these various functions with respect to the over-all design of movements, the place within movements, or with reference to the creative period become particularly recognizable as stylistic attributes. It is also in connection with these tonal functions that the most distinctive and individualistic features of tonal expression may be observed.

Beethoven's practice of bi-modality is particularly significant as a means of achieving changes in tonal quality between movements, sections of movements and between smaller structural units. These practices together with those pertaining to tonal contrasts and functions support in large measure the commonly accepted classifications of Beethoven's works into three stylistic periods.

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INTRODUCTION

Ever since the publication of the Opus 2 Sonatas in 1796[1] there has appeared an almost continuous succession of literary comment devoted entirely or in part to some aspect of critical investigation regarding Beethoven's piano sonatas.[2] A considerable proportion of this literature has dealt variously with analysis of the music itself, with the result that in certain respects there is little that can be added to the already existent abundance of information. However, there is one notable deficiency among these writings that has only in recent years been partially rectified by the efforts of a few theorists. This deficiency concerns the problem of stylistic analysis--the type of investigation that is directed toward a study of style factors and style determinants observable in the music of Beethoven.

The case for style analysis together with a critical review of early ventures in this field has been given an admirable summary by Dr. Hans Gál in his essay on Beethoven's

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[1]Published by Artaria, Vienna, March 6, 1796.

[2]The first known publication of commentary on the piano sonatas appeared in the Jahrbuch für Wien und Prag, (Vienna, 1796).

youthful style.[3] Some of the earlier Beethoven scholars, such as Lenz and Schindler, did significant work in stylistic analysis, but they were mainly concerned with the division of Beethoven's works into stylistic periods.[4] The results of their investigations were quite general and rather incomplete, and were restricted, for the most part, to a consideration of formal (structural) and aesthetic problems. In all there is little evidence to indicate that there had been a detailed study of Beethoven's compositional techniques.

The subsequent contributions of Nottebohm,[5] especially the studies of the sketchbooks, involve numerous considerations of style determinants and have been inestimably important in providing a basis for serious investigation. Much of the material found in these studies is still short of being actually worked out, especially where the final versions of Beethoven's works are concerned. One can find in the writings of Nottebohm a regard for the details of style factors that has prepared a way for the type of research exemplified in the Beethoven studies by such men as Jalowetz, Broel, Gál,

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[3]Hans Gál, "Die Stileigentümlichkeiten des jungen Beethoven", Studien zur Musikwissenschaft, (1916), 58-115.

[4]Gál does not mention Fetis' Biographie Universelle, (Paris:1833-1844) as being the first known publication to present a period classification of Beethoven's music.

[5]Gustav Nottebohm, Beethoveniana, (Leipzig: J. Rieter-Biedermann, 1872).

_____, Ein Skizzenbuch von Beethoven aus dem Jahre 1803, (Leipzig: Breitkopf und Härtel, 1880).

_____, Zweite Beethoveniana, (Leipzig: J. Rieter-Biedermann, 1887).

Mies and Naumann.[6] Although none of these writers deal with identical problems, they express a common objective which is the critical observation and interpretation of musical factors that relate to the basic, characteristic and distinctive elements of Beethoven's style.

Many other writers have provided valuable information in this connection, but in their works there is noticeable a lack of synthesis regarding their observations that would nullify such essays as critical and concentrated stylistic studies. Both Riemann[7] and Nagel[8] come under this classification in their extensive analyses of the piano sonatas. Riemann subtitled his work "Aesthetische und formal-technische Analyse mit historischen Noten" and remained within those boundaries with few exceptions. Nagel, for the most part, follows the same procedure. Where the analysis is concerned, much of what Riemann and Nagel have to say is merely a listing of the successive musical events in each movement, with little or no attempt to correlate these occurrences with similar instances in other movements as evidence of stylistic procedure. The seemingly endless pages of harmonic analysis in Riemann give

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[6]See works listed under these names in the Bibliography.

[7]Hugo Riemann, L. van Beethovens sämtliche Klavier-Solosonaten, 3 vols. (Berlin: Max Hesses Verlag, 1915-1919).

[8]Wilibald Nagel, Beethoven und seine Klaviersonaten, 2 vols. 2nd ed., (Langensalza: Hermann Beyer und Söhne, 1923-1924).

a step-by-step identification of harmonic structures and progressions in terms of symbols. Even if it were possible to agree unconditionally with Riemann's analysis, the fact of its existence would be of little value except as an available aid to identification. The same thing is true in much of Nagel's analysis, especially with regard to the portions dealing with harmonic and key progressions. Both works appear at a time when one would expect a more thorough concentration upon the essential and integrative factors of style.

In contrast to the type of research instigated by Nottebohm, the analyses of Riemann and Nagel represent a form of retrogression that has been only partially counterbalanced through the efforts of the group of Beethoven scholars previously mentioned. Even here the results have not been extensive. The manifold problems involved in a stylistic analysis of Beethoven's music preclude the possibility of anything resembling an adequate coverage of the material in such a limited number of works. The analytical objectives and methodology themselves have determined in large measure the scope of the studies, and have consequently restricted the investigations to rather narrow areas. Gál and Jalowetz have concentrated upon factors relating primarily to melodic style but with certain additional limitations. Both are concerned only with Beethoven's youthful style, and their researches are differentiated, respectively, by a concentration upon the individual characteristics as such, and a comparison with Haydn, Mozart and C. Ph. E. Bach.

Mies restricts his study to material from the sketchbooks. Naumann, who supplements his dissertation by tracing derivatives and comparing style differences, is the only one of the group to deal specifically with harmonic material of one category--the cadence. Broel is concerned only with the development sections of movements in sonata design, and discusses the style characteristics of the various factors relating to that particular portion of the design.

These analytical works, brief as they are and few in number, are without doubt the most significant contributions of their kind to Beethoven literature. They are mentioned here in connection with these introductory remarks as examples of a certain type of progress in this field, and as an indication of the relatively narrow coverage of the potential problems within the field. Quite significant is the realization that effective and valid results have been obtained through the systematic pursuit of a single line of investigation within the confines of delimited areas.

This dissertation parallels the underlying objectives of the above group of works in that (1) it is a stylistic analysis, (2) the research has been focused upon a single line of investigation, and (3) certain limitations have been imposed regarding material for analysis. The problem here concerns a study of the techniques and practices which pertain to Beethoven's use of key in the composition of his sonatas for piano.

To this end, the factor of key has been considered as a separate musical element irrespective of its internal organization, except where an observation of key-content enters into the defining of key-functions. This has resulted in a concentrated investigation of the selection, disposition and functional properties of keys and key-relationships, and has, in turn, provided a basis for determining the stylistic features concerning their use.

The conclusions presented in the text have not been intended as the means by which the various structural forms may be identified, for it is quite possible that totally different structures might have identical, or nearly identical, key progressions. Rather, the conclusions are offered as evidences of stylistic usages of key from the standpoint of function, placement and resultant relationships. Key preferences and frequencies have also been considered in reference to the mode (major or minor) of the movement or sonata in which they appear. In short, the various features of key activity have been examined objectively and in detail with a view toward achieving a comprehensive coverage of this particular aspect of Beethoven's compositional techniques.

Throughout this essay, certain common musical terms have been used with specific meanings in mind. Where it was felt that such terms, and others as well, needed clarification, they have been defined either in the body of the text where first used, or in appropriately placed footnotes. As a further aid to the reader, these definitions also appear in

the Glossary. It seems appropriate at this point to define three of the terms which appear frequently throughout the text. Tonal has been used as an adjectival form of the word key; e.g., tonal level (key level), tonal design (design in terms of key areas), etc. Key has been used to denote an immediate tonal level; tonality, on the other hand, has been used to denote the fundamental tonal level of a complete composition. This distinction between key and tonality, similar to that existing between the German terms Tonart and Tonalität, provides a precise terminology for reference to a portion of a composition or to the whole. Tonality is also referred to herein as the fundamental key or the Tonic key. A non-Tonic key would, of course, mean some constituent key other than the fundamental.

Thirty of the numbered sonatas were selected for the analysis as being the largest group of related works that most nearly covers the major portion of Beethoven's creative life. The two Opus 49 sonatas were excluded from the study principally for the reason that since their publication was not authorized by Beethoven [9] they do not rightfully belong in the chronology. Furthermore, the doubt expressed as to

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[9]Eric Blom, Beethoven's Pianoforte Sonatas Discussed, (London: J.M. Dent and Sons, Ltd., 1938), 141. The two sonatas were published as "Deux Sonates facile pour le Pianoforte Op. 49" in Vienna, 1805, the manuscripts having been sold to the Wiener Kunst-und Industriekontor by Beethoven's brother, Karl.

the date of their composition[10] precludes the possibility of arranging the numbered sonatas in a precise chronological order.

No special attempt has been made to trace derivatives, to show the influence of or correspondence with traditional or contemporary practices, or to make comparisons with the music of other composers. Occasional references to other works have been made in order to emphasize or supplement certain information, but aside from such incidental references, the study has been kept within the limits as stated. The control afforded by the various limitations and restrictions has made it possible to give a more exhaustive treatment to the subject and a more careful consideration of compositional practices than could otherwise have been accomplished. It is hoped that the information and conclusions contained herein will constitute a basis for further investigations, not only with respect to other works of Beethoven, but also with regard to the music of other composers whose works fall within the domain of the major-minor key system.

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[10] Hugo Riemann, op. cit., II, 480, 481.

CHAPTER I

THE TONALITY OF THE COMPLETE SONATA

A composite work, such as a sonata, whose opening and closing movements state the same fundamental key, may be described appropriately as expressing a cyclic form of tonal unity. Although this practice of key duplication was not restricted solely to exterior movements in the various developmental stages of composite forms, it points to a basic concept of tonal organization that existed with little divergence throughout the course of the major-minor key system. Long before the time of Beethoven, this particular factor of tonal design had become so firmly entrenched in the practice of composition that its application to composite forms at a later date has often been regarded as nothing more than a matter of course. It is this very point that has apparently resulted in the omission of any reference to cyclic tonal form in many of the discussions on tonality. True, this practice may be considered as one of the normal expressions in what Piston calls the period of "common practice";[1] its use undoubtedly is frequently looked upon as being commonplace and inevitable. However, where the individual composer is concerned, such a practice, regardless of its widespread use by

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[1]Walter Piston, Harmony, (New York: W.W. Norton and Co., Inc., 1941), 2.

other composers, must be accepted as revealing a basic element in the artist's own conception of tonal form.

One of the most fundamental conditions of tonality in Beethoven's music is exemplified in the invariable expression of cyclic unity with regard to the formation of the sonatas by movements. The opening and closing movements of each sonata affirm and reaffirm, respectively, the same basic tonality. It is this agreement of tonal level that gives a rounded, or cyclic, form to the complete work and which clearly defines the tonality for the sonata. The tonality of the opening movement, then, establishes a point of reference that is always substantiated by the final movement. There may be differences of mode between these outer movements, as in the case of Op. 90 and Op. 111, both of which are two-movement sonatas, but the fundamental Tonic remains the same. Thus a discernible degree of unity is achieved by means of the tonal agreement existing between the exterior movements. Its constant and invariable appearance throughout the entire group of sonatas marks it as one of the absolute factors in Beethoven's tonal organization.

An examination of Fig. 1 will show that Tonic movements of either mode predominate in every sonata with the exception of one-- Op. 27.1., which contains two Tonic and two non-Tonic movements. In many cases where non-Tonic levels could have been expressed, Beethoven has preferred to maintain or re-establish the fundamental Tonic. It should

be realized that thirteen of the sonatas retain the Tonic level for all movements. Of the remaining sonatas, sixteen are predominantly Tonic. The expression of the Tonic as a preferred tonal element and the pervading insistence of its fundamental quality can be clearly recognized as essential characteristics in these composite forms.

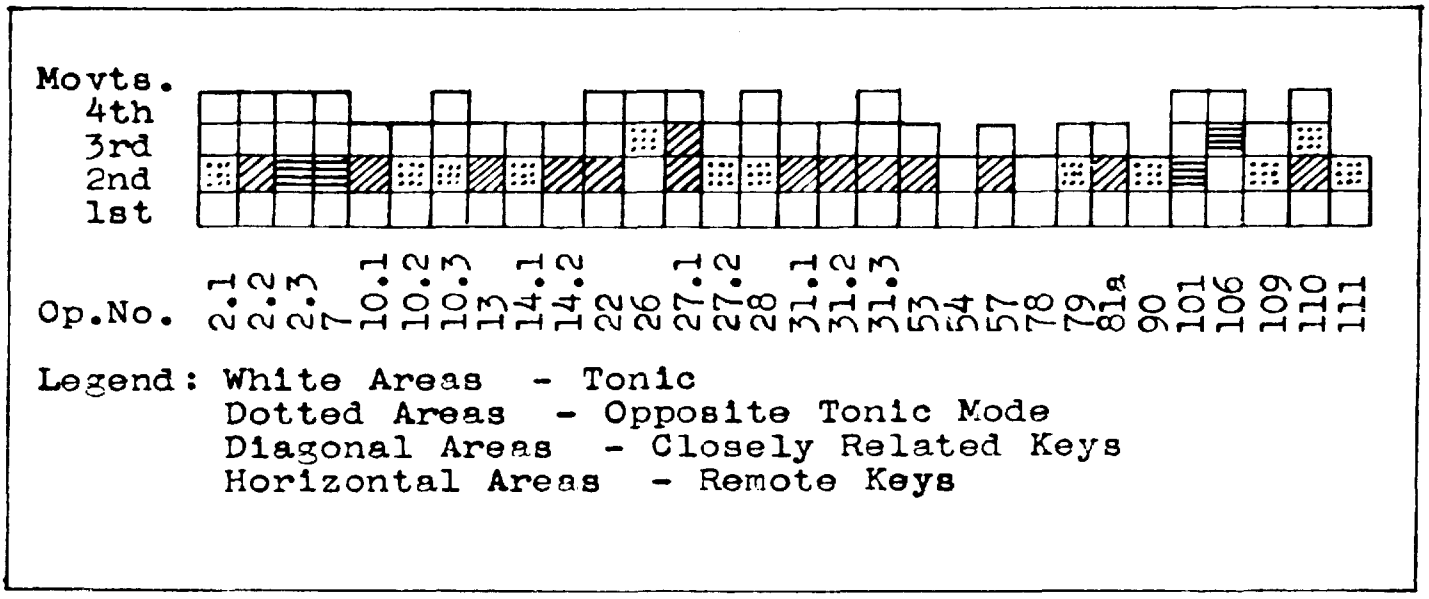


Fig. 1. Distribution of Tonic and Non-Tonic Movements

The interchange of Tonic-major and Tonic-minor modes between movements of a sonata has been mentioned previously. Because of its frequent appearance in sonata structure (see Fig. 1), this device -- bi-modality[2] -- becomes notable as a

[2]The term bi-modality is used throughout the text to denote the successive interchange of major and minor modes within a given key level, and, where the Tonic level of a complete sonata or separate movement is concerned, the intermittent as well as the successive interchange of modes.

characteristic element of design in Beethoven's works. In the twenty-eight sonatas that show some form of variety through the use of non-Tonic keys or bi-modality, the latter feature appears exclusively in eleven works and is used more than any non-Tonic relationship. The prominence of this feature of tonality indicates that Beethoven's preference for a predominance of Tonic was due at least to a decided liking for bi-modal changes -- changes which would consequently define or re-establish the Tonic level.

The predominance of Tonic movements in the sonatas considerably limits the possibilities for non-Tonic contrast. In the seventeen sonatas that include non-Tonic movements, Beethoven shows a decided preference for closely-related keys.[3] These relationships are confined to two choices--the Subdominant, which appears exclusively in major-mode sonatas, and the Submediant, which is used in both major- and minor-mode sonatas (Table I). Even the remote relationships, which appear in only four sonatas, reveal certain limitations within their own category. These relationships lie at the interval of a third in reference to the Tonic: a major third above

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[3]The affinity existing between contrasting keys is known as a key-relationship. A key-relationship is designated as close, or closely-related, when there is not more than one pitch difference between the diatonic or uninflected tones of the keys in question. Since in minor mode the sixth and seventh scale-steps are variable by a half-step according to their melodic and harmonic functions, these scale-steps in their inflected states do not influence the degree of affinity existing between two keys. Relationships having two or more pitch differences will be designated as remote.

the tonic (C major to E major), or a major or minor third below it (A major to F major ; B-flat major to G-flat minor; E-flat major to C major). Such relationships are furthermore restricted to major-mode sonatas. The fact that the sonatas using remote keys for individual movements occur in early as well as late periods shows that Beethoven's ventures into these more remote tonal regions were not an exclusive feature of his late style.

TABLE 1

THE FUNDAMENTAL KEYS OF INDIVIDUAL MOVEMENTS

Opus No.	Movt. & Key*	Opus No.	Movt. & Key
2.1	f F f f	31.1	G C G
2.2	A D A A	31.2	d B d
2.3	C E C C	31.3	E A E E
7	E C E E	53	C F C
10.1	c A c	54	F F
10.2	F f F	57	f D f
10.3	D d D D	78	F F
13	c A c	79	G g G
14.1	E e E	81a	E c E
14.2	G C G	90	e E
22	B E B B	101	A F a A
26	A A a A	106	B B f B
27.1	E c A E	109	E e E
27.2	c D c	110	A f a A
28	D d D D	111	c C

*Capital letters = Major keys
Small letters = Minor keys

Movements in keys other than that of the principal tonality, then, give evidence of an extremely narrow range of selection, conditioned by preferences for certain key-relationships and by their placement within the work.

A summary of these observations shows that:

1. Non-Tonic movements are in the minority.
2. Closely-related keys take precedence over remote keys.
3. Closely-related keys are of two orders only.
4. Minor-mode sonatas involve only the Submediant for non-Tonic movements.
5. Remote keys are used infrequently and belong to a general intervalic class with regard to the Tonic.
6. Remote keys appear in early as well as late sonatas.

There seems to be no substantial evidence that Beethoven's choice of keys for interior movements was determined by any subjective quality in the keys themselves. The well-known quotations that Beethoven considered B minor a "black key"[4] and A-flat major "barbaresco"[5] point to a theory of key-character that is not convincingly confirmed in practice. While there is no B minor sonata or movement, the A-flat compositions are predominantly anything but "barbaresco", and the variety of moods expressed by other keys precludes any support of such a theory. The remarks of Mies on the subject seem to lead to some fairly tenable but purely circumstantial conclusions in favor of the theory.[6] Mies' observations are

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[4]Gustav Nottebohm, Zweite Beethoveniana, 326.

[5]A. W. Thayer, The Life of Ludwig van Beethoven, edited and trans. by H. E. Krehbiel (New York: The Beethoven Association, 1934), III, 373.

[6]Paul Mies, Beethoven's Sketches, (London: Oxford University Press, 1929), 174 ff.

based upon examples from the sketchbooks. These observations, however, sometimes fail to consider the fact that many of the key changes Beethoven made in the final versions of his works were done so to provide certain desired key-relationships within such works. As a case in point, the original second movement of Op. 53 was first sketched in E major and was later changed to F major, even before being replaced by the present second movement (Introduzione).[7] This change of tonality did not affect the character of the movement per se, except as it is heard in relationship to its two companion movements. It is the relationship itself which lends a palpable atmosphere to the movement as it is heard in its context, not the intrinsic qualities of the specific key.

The four factors of design discussed here--cyclic unity, Tonic predominance, limitation of non-Tonic keys and bi-modality--give considerable support to the thought that Beethoven's conception of tonality in its larger aspect was based upon marked preferences which show comparatively little change throughout the major portion of his creative life. It is an interesting speculation as to whether Beethoven consciously avoided the extremely wide range of selection available to him in the choice of non-Tonic keys and why only these limited expressions exist in these works. With regard to the tonality

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[7]Gustav Nottebohm, Ein Skizzenbuch von Beethoven aus dem Jahre 1803, (Leipzig: Breitkopf und Härtel, 1880), 61.

of the movement in sonata design, Beethoven did not notably expand the area of possibilities of key-relationships. Rather, a restrictive tendency, undoubtedly arising from Beethoven's individual conception of musical values, is a feature well worth noting.

CHAPTER II

GENERAL TONAL FACTORS OF MOVEMENT DESIGN

In each of the individual sonata movements, Beethoven expresses a fundamental Tonic key which, with few exceptions, appears at least at the beginning and end of a movement. While the condition of a cyclic tonal form for the individual movements is not an invariable one, as in the case of the complete sonata, the exceptions to it are of little consequence from the standpoint of showing an appreciable departure from this fundamental concept of tonality.

Aside from several introductory passages which lead to the beginning of a movement proper,[1] a non-Tonic beginning never exceeds the limits of the opening phrase; it is stated at the Dominant level of the tonality, and is followed immediately by the Tonic key. There are only three movements in the sonatas that are treated in this fashion: Op.26.II., Op. 27.2.II., and Op.81.a.II. In each of these cases the second phrase is a literal, or nearly literal,[2] transposition of the first phrase at the Tonic level. Thus, not only is

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[1] Op. 106.IV and 110.IV begin with an introduction of an improvisatory nature which starts in a non-Tonic key. The beginning of the movement proper in each case, however, is Tonic. (Roman numerals indicate movement number).

[2] In Op.81a.II, the second phrase is slightly modified, but not to such an extent that the effect of repetition is destroyed.

the Dominant key the sole non-Tonic key used at the beginning of a movement, but where it does occur, it stands as the level for the first of two repeated phrases.

Ex. 1 (Op.27.2.II., meas. 1-8)



Strictly speaking, there is no movement that actually ends in a non-Tonic key. There are several movements, however, in which Beethoven avoids a formal full-close by dissolving the closing stages into a preparatory passage which modulates to the key of the succeeding movement. (See Opp.27. I.III, and 81a.II).

Most of the movements expressing the usual cyclic tonal form show that a greater proportion of Tonic level appears at the end of a movement than at the beginning. This may result from a number of varying circumstances which could possibly differ with each individual movement. Regardless of what conditions might influence the need or desire for a more extensive use of Tonic at the end of a composition, the individual movements in the sonatas possess in

common this characteristic tonal shape with reference to opening and closing key areas. There are, however, two particular tonal conditions which may be noted as always involving a preponderance of Tonic at the end of a movement: (1) a rapid interchange of contrasting keys at the beginning of a work, and (2) a greatly extended and varied use of non-Tonic keys within an interior section of a movement. In the first case the brevity of the opening Tonic level, in addition to the conflict produced by contrasting tonal changes early in a movement, produces a feeling of tonal instability which is compensated for by the subsequent expanse of Tonic. In the second case the comparatively excessive degree of non-Tonic activity becomes securely resolved in the prolonged re-establishment of the Tonic key.

In general, Beethoven's tonality consists of a predominance of Tonic, both major and minor, complemented for the most part by closely-related keys and to a lesser degree by remote keys. Excesses beyond this general norm in any of these categories are noticeably exceptional. The all-Tonic or nearly all-Tonic movement is a rarity, the second movement of Op.57 being the only movement in the sonatas which is completely Tonic. In fact, there are relatively few movements in which more than two-thirds of the movement is devoted to the Tonic. On the other hand, non-Tonic keys do not often occupy more than half of a movement's tonal activity.

An examination of Figure 2 will show that there is

no appreciable variance of these general proportional relationships with reference to their chronological positions throughout the sonatas. The Tonic key, on the whole, predominates over non-Tonic, and within the latter category related keys predominate over remote keys. Both modes of the Tonic appear in sixty of the movements, the larger proportion of which is usually devoted to the original Tonic mode.

There is an apparent decline in the use of Tonic bi-modality toward the end of the sonata period. Whether this indicates a general rejection of bi-modality in the later years cannot be determined without an examination of works other than the sonatas from the same period. The device itself seems to be so characteristic of Beethoven's tonal language that a virtual abandonment of the technique seems highly improbable.

Regarding remote key-relationships, there are about a fourth of the movements in which little if any use is made of distant keys. These movements appear at rather regular intervals throughout the sonatas, being favored in no particular creative period. In no instance do remote keys occur as the only type of non-Tonic activity. Not only are they always used in conjunction with related keys, but in most cases they occupy the smallest proportion of a movement. The more extensive use of remote keys, rarely exceed-

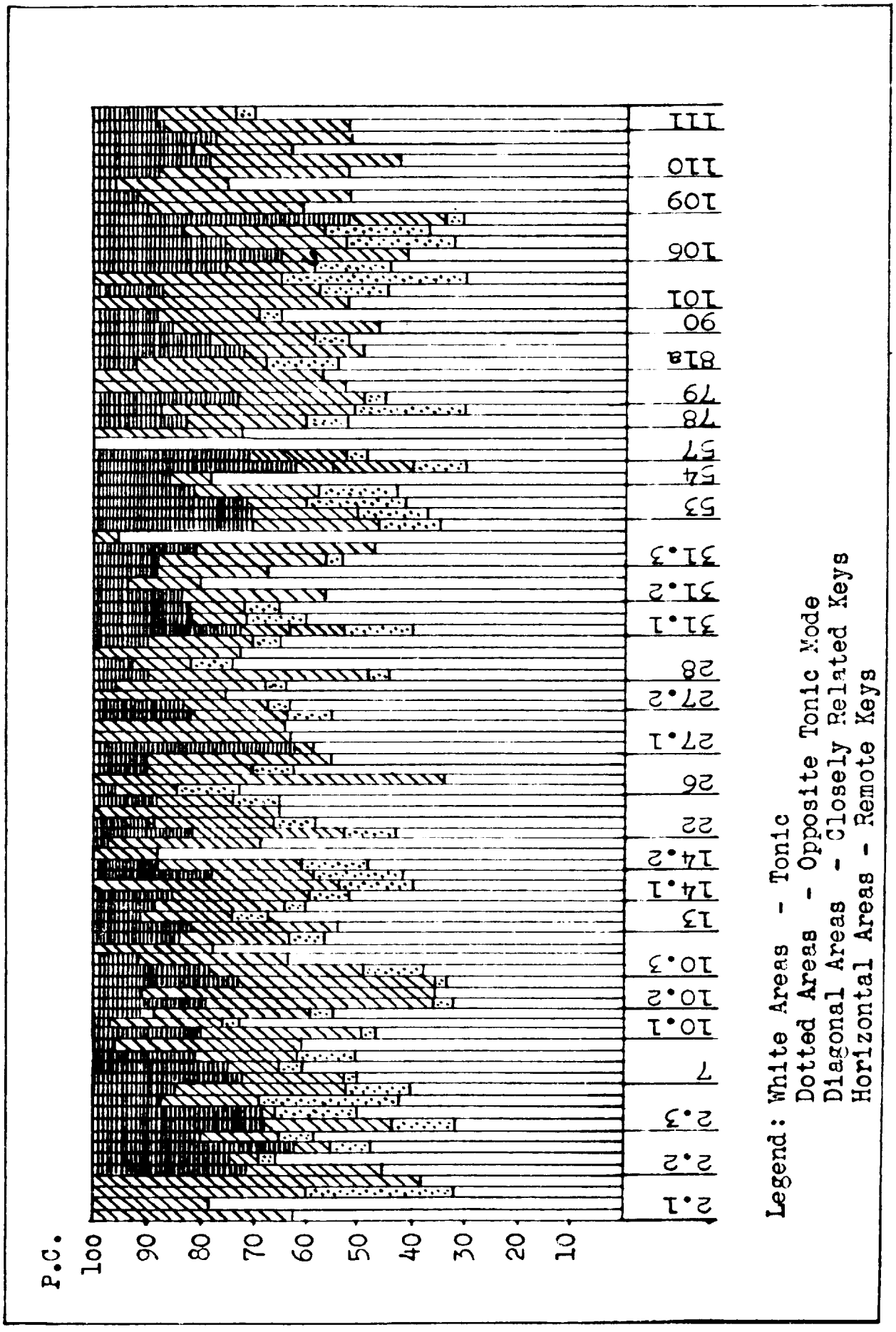


Fig.2. Proportions of Tonic (Both Modes), Closely-Related and Remote Keys.

ing more than a third of a movement's total tonal activity, appears in sonatas of all three periods. The observation made by Eric Blom, that the late sonatas are characterized by more extreme keys and "far more frequent and violent modulations",[3] undoubtedly refers to the degree of relationships involved and the rapidity of their change. It should not be understood as meaning that their usage from the standpoint of proportions is more extensive than in the preceding sonata periods.

The amount of tonal activity occurring in the individual movements with respect to the number of key changes involved ranges from the use of one key, the Tonic, and no key changes, to the use of twenty different deys and eighty-three key changes.[4] Between these two extremes there exists no particular procedure that can be considered as representative. Even though certain similarities exist between a small number of movements, each movement is unique as to the disposition and function of its tonal members if not always with regard to the key-relationships involved. There are, however, some generalizations that can be made concerning the amount of tonal activity based on the number of successive key changes. These generalizations relate to the basic structural

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[3] Eric Blom, op. cit., 171.

[4] Op.57.II and 106.IV, respectively.

designs of the movements, their length, tempo and date of composition. For this purpose the total number of movements (99) was divided into four nearly equal groups (Groups I to III consisting of twenty-five movements each, and Group IV consisting of twenty-four movements). Each movement has been placed in accordance with the number of key changes it contains. The movement having the lowest numerical rank contains the least amount of tonal activity; movement No. 99 in this grouping contains the greatest amount of tonal activity. The other movements have been placed between these outside limits in the order of their respective degrees of tonal activity. Group I ranges from no key-change to ten; Group II, ten to fourteen; Group III, fifteen to twenty-one; Group IV, twenty-four to eighty-three.

The following summaries show the relationship of each group of movements to the type of overall structural design, the length, tempo, and date of composition of movements.

Structural Design

1. Movements exclusively in Group I: Sonatina, Two- and Three-Part Song Form, Phrase Group.

2. Movements predominantly in Groups I and II: First and Second Rondos, Theme and Variations, Song and Trio.

3. Movements predominantly in Groups III and IV: Sonata-Allegro, Third Rondo.

4. Movements exclusively in Group IV: Fugues.

Length

The short movements, on the whole, exhibit the least amount of tonal activity (Table 2). While it does not hold that the specific amount of activity is in direct proportion to the length of the movement, it would be true, generally, that the greater the length of a movement the more numerous will be its tonal changes. Beethoven characteristically states a tonal level in such a way as to leave little doubt as to its identity. The time element involved in establishing the necessary harmonic relationships to this end obviates the possibility of diversifying the tonal activity to any great extent in the shorter movements.

TABLE 2

TONAL ACTIVITY IN RELATIONSHIP TO THE LENGTH OF MOVEMENTS

Length in Measures	No. of movts. according to Groups				Total
	I	II	III	IV	
12 - 130	21	8	6	1	36
131 - 260	4	13	14	11	42
261 - 420	0	4	5	10	19
420 - 550	0	0	0	2	2

TABLE 3

TONAL ACTIVITY IN RELATIONSHIP TO TEMPO

Tempo	No. of Movts. in Groups				Total
	I	II	III	IV	
Slow (Adagio, Largo)	12	5	1	3	21
Moderately Slow (Andante)	3	1	1	0	5
Moderately Fast (Allegretto)	3	5	4	3	15
Fast (Allegro, Presto)	5	13	16	17	51
Mixed Tempo	2	1	3	1	7

Tempo

There is a definite correlation between the tempo of a movement and the amount of tonal activity contained in it. Most of the slow and moderately slow movements fall in Group I; those of a moderately fast tempo are, for the most part, in Groups II and III; the fast movements increase in number respectively in Groups II, III and IV, with the greatest number occurring in Group IV (Table 3). The movements with mixed tempo, movements beginning with a slow introduction or interspersed with slow passages, show a slight majority in Groups III and IV combined. Since these latter movements are preponderantly in fast tempo, they would normally fall in the upper Groups. The three slow movements that fall in Group IV belong to the late period; the five fast movements in Group I belong to the early period.

Date of Composition

Most movements of the early period sonatas fall in Groups I and II with a noticeable decline in Groups III and IV. The middle-period sonatas favor Group III, and the late sonatas Group IV. Here is a definite indication that Beethoven's tonal practices, at least from the standpoint of the amount of tonal activity, justify a classification of the sonatas into three creative periods. Even though there are many differences of opinion as to where the divisional lines should be drawn in designating these periods, it can

be seen in Table 4 that the division given here is not without a basis in fact; where Groups I and II begin to taper off, Group III increases, and where the latter shows a decline, Group IV increases.

TABLE 4

TONAL ACTIVITY IN RELATIONSHIP TO DATES OF COMPOSITION

Creative Period	Date	No. of Movts. According to Group				Total
		I	II	III	IV	
First (Early) Period	1795	3	3	3	3	12
	1796	0	3	0	1	4
	1797	4	5	3	0	12
	1798	3	1	2	1	7
	1800	1	3	1	0	5
	1801	5	4	1	4	14
Second (Middle) Period	1802	1	0	3	1	5
	1803	1	0	4	0	5
	1804	3	1	1	3	8
	1809	1	2	3	0	6
	1810	0	1	1	0	2
	1814	0	0	0	2	2
Third (Late) Period	1816	2	0	0	2	4
	1819	0	0	1	3	4
	1820	0	0	2	1	3
	1821	1	2	0	1	4
	1822	0	0	0	2	2

The frequency of appearance of specific non-Tonic relationships in all movements shows in general that Beethoven not only preferred certain relationships over others, but that these relationships vary in frequency according to the mode of the movement in which they occur. These particulars

are shown in Table 5. The statistics appearing therein have been based upon the number of times each relationship and the modal Tonic occurs in the total number of major- and minor-mode movements respectively. They are not intended to indicate the proportional usages in each individual movement, neither do they relate in any way to the functional roles of the tonal contrasts involved. The first key-relationship[5] listed under major-mode movements, for instance, signifies only that Beethoven tended to use that relationship more frequently than any other in the formation of major-mode tonalities. The factor of the modal Tonic has been included as a means of showing the relative significance of changes to the opposite Tonic mode as a distinct form of contrast in comparison with contrasts effected by specific non-Tonic relationships.

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[5]The symbols, 5M, 6m, etc., appearing in Table 5 and elsewhere, indicate the various key-relationships according to their intervalic distance above the compared key, and according to the mode (M=Major, m=minor) of the key-relationship. Intervals one-half step lower than a major or perfect interval are indicated by a flat. These symbols represent all key-relationships according to their actual sound differences but not in all cases their notational spelling. Thus the symbol 2♭m in the tonality of C major stands for the relationship between C major and D♭ or C♯ minor.

TABLE 5

PREFERENTIAL USE OF KEY-RELATIONSHIPS AND BI-MODAL TONIC ACCORDING TO THE FREQUENCY OF APPEARANCE IN THE TOTAL NUMBER OF SONATA MOVEMENTS

Major Mode Movements			Minor Mode Movements		
Numerical Rank	Relation-ship	Percent-age	Numerical Rank	Relation-ship	Percent-age
1	5M	18.07	1	3♭M	15.5
2	Tm*	12.0	2	4m	14.5
3	6m	11.5	3	5m	14.2
4	4M	7.4	4	6♭M	13.9
5	2m	7.09	5	TM#	7.6
6	4m	6.8	6	2♭M	6.2
7	5m	5.7	7	3♭m	5.3
8	3m	4.7	8	7♭m	4.9
9	6♭M	4.6	9	5M	4.6
10	3♭M	3.7	10	7♭M	3.9
11	2M	3.4	11	5♭M	1.9
	6M				
12	7♭M	3.09	12	3m	1.6
				4M	1.6
13	2♭M	1.6	13	2m	1.3
14	7m	1.4	14	7M	.99
15	3M	1.4	15	7m	.66
				6♭m	.66
16	7♭m	1.1	16	3M	.33
				5♭m	.33
				6M	.33
17	2♭m	.75	17	2♭m	0.00
				2M	0.00
				6m	0.00
18	3♭m	.59			
	5♭m	.59			
19	6♭m	.49			
	7M	.49			
20	5♭M	.34			

*Tonic Minor

#Tonic Major

The following is a summary of the statistics given in Table 5.

1. All possible key-relationships appear in connection with major-mode tonality; three key-relationships are never used in minor-mode tonality.

2. In general, the closely-related keys are given precedence in both categories of movements. In each category, however, certain remote keys take precedence over one of the closely related keys. In major-mode tonality 4m and 5m appear more frequently than 3m; in minor-mode tonality 2♭m, 3♭m, 7♭m and 5M take precedence over 7♭M.

3. Tonic bi-modality occupies a high-ranking place in both categories but is more favored in major-mode movements.

4. A general distinction between major- and minor-mode tonalities can be observed not only in the principal mode of the Tonic itself, but in the key-relationships which most frequently appear as tonal associates of one tonality or the other.

5. No particular key-relationship is used within major- and minor-mode tonalities with the same degree of frequency.

There is a noticeable degree of correspondence between the order of frequencies appearing in Table 5 and the number of movements which utilize the listed key-relationships and bi-modal contrasts in the order given there. Not only does the 5M relationship, for instance, appear more frequently than any other form of contrast in major-mode movements, but it also appears in more movements of major-mode tonality.

A similar correspondence, in general, holds for other key-relationships and Tonic bi-modality in both major and minor tonalities (Tables 6 and 7). There are four relationships in major-mode and only one in minor-mode tonalities that do not appear in the same order as given in Table 5.

The least-favored relationships of both the major- and minor-mode tonalities are used more frequently in sonatas of the middle and late periods (Tables 6 and 7). This trend toward an expansion of tonal resources in itself cannot be taken as a singular style attribute of the late sonatas alone as has so often been claimed. The more extreme tonal practices of the late period are not without parallel in earlier works, especially in major-mode movements. But in general, it can be noted that Beethoven's tonality from the Op.31 sonatas on was characterized more consistently by these remote tonal associates than had been the case before the appearance of those works.

TABLE 6

KEY-RELATIONSHIPS AND BI-MODAL TONIC APPEARING IN MAJOR MODE MOVEMENTS

Numerical Rank	Tonal Level	Opus Number and Movement																																				
		2.1., II	2.2., I	2.2., II	2.2., III	2.2., IV	2.3., I	2.3., II	2.3., III	2.3., IV	7., I	7., II	7., III	7., IV	10.1., II	10.2., I	10.2., III	10.3., I	10.3., III	10.3., IV	13., II	14.1., I	14.1., III	14.2., I	14.2., II	14.2., III	22., I	22., II	22., III	22., IV	26., I	26., II						
1	5M	•	•		•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	•	•						
2	Tm		•	•	•	•	•	•	•	•	•	•	•		•	•	•	•		•	•	•	•	•		•	•	•		•							
3	6m	•	•	•	•		•		•	•	•			•		•	•	•	•	•	•					•	•	•	•			•					
4	4M		•	•			•			•	•					•	•	•	•	•			•	•		•			•	•			•					
5	2m			•			•	•	•	•						•	•	•								•	•	•	•	•							
5	5m		•	•	•	•	•	•	•	•	•		•		•	•	•	•					•				•	•		•	•							
6	4m		•		•		•	•	•	•	•	•	•	•		•	•	•		•		•	•							•							
7	6♭M		•	•		•		•	•	•		•	•					•		•	•	•		•						•							
8	3♭M		•		•	•	•	•		•			•			•	•	•		•			•	•				•		•							
9	3m			•					•	•	•					•		•								•			•								
10	2M		•				•			•	•					•	•							•			•										
11	6M									•	•					•	•																				
11	7♭M		•									•						•						•		•											
12	2♭M		•			•						•		•				•		•			•														
13	7m				•						•																										
14	7♭m																							•			•			•							
15	3M																																				
16	3♭m																			•																	
16	5♭m						•				•																										
17	6♭m	•																																			
17	7M	•																																			
18	5♭M	•																																			
19	2♭m																																				
Total		2	13	6	6	5	9	5	7	11	10	5	5	4	2	10	9	11	3	8	3	3	6	7	1	5	6	5	4	8	2	3					

TABLE 6--Continued

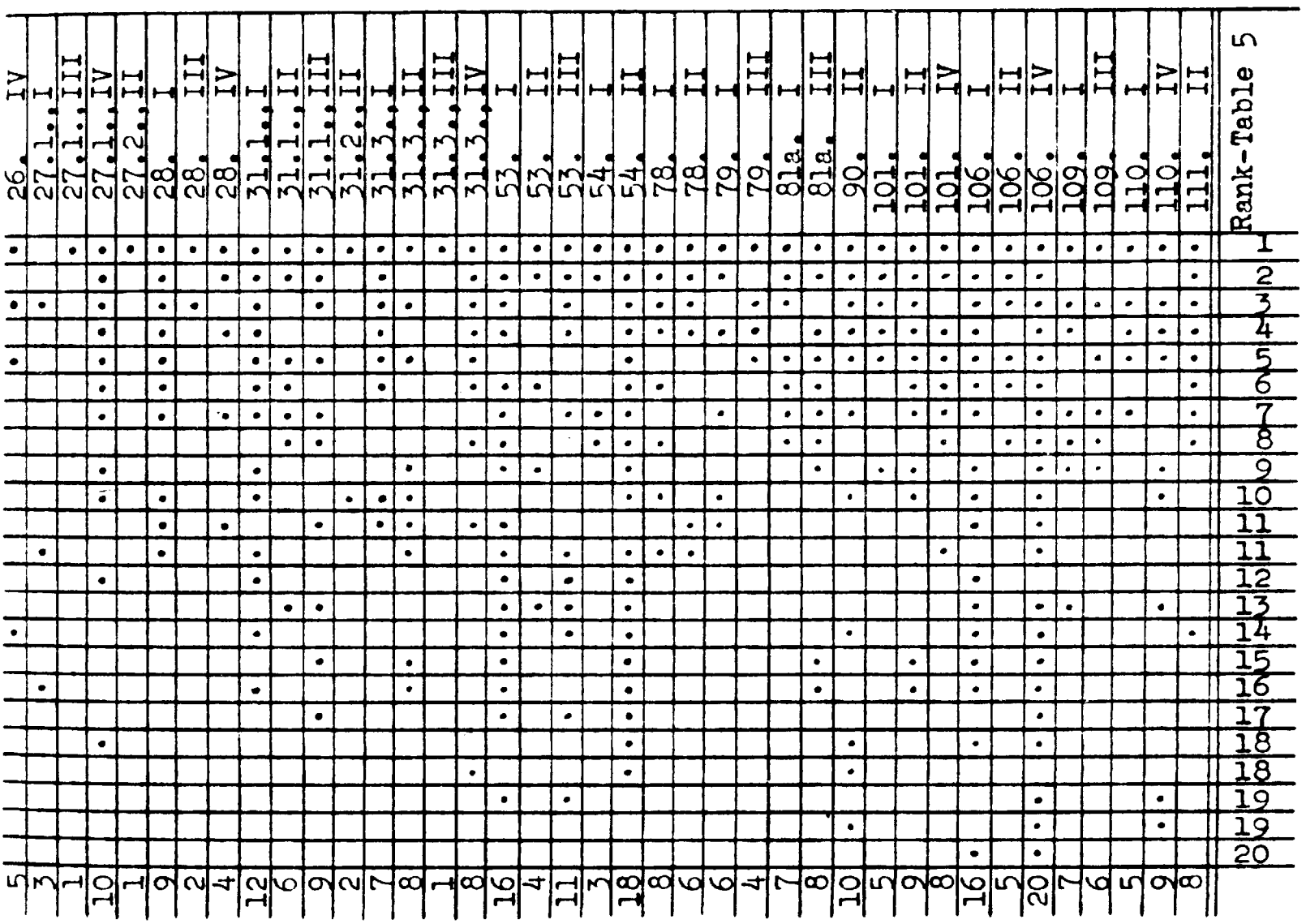


TABLE 7

KEY-RELATIONSHIPS AND BI-MODAL TONIC APPEARING IN MINOR MODE MOVEMENTS

Numerical Rank	Tonal Level	Opus Number and Movement																												No. of Movts.	Numerical Rank in Table 5
		2.1., I	2.1., III	2.1., IV	10.1., I	10.1., III	10.2., II	10.3., II	13. I	13. III	14.1., II	26. III	27.1., II	27.2., I	27.2., III	28. II	31.2., I	31.2., III	57. I	57. III	79. II	81a. II	90. I	101. III	106. III	109. II	110. II	110. III	111. I		
1	3 ♭M	·	·	·	·	·	·	·	·	·	·	·	·	·		·	·		·	·	·	·	·	·	·		·	·	·	25	1
2	4m	·	·		·	·			·	·	·		·	·	·		·	·	·	·		·	·	·	·			·	·	20	2
3	5m	·		·			·	·	·	·			·			·	·	·	·	·		·	·	·	·	·		·	·	19	3
4	6 ♭M			·	·			·	·	·	·		·						·	·	·	·	·		·	·	·	·	·	17	4
5	TM			·		·	·				·	·	·		·	·	·			·				·	·					12	5
5	3 ♭m	·			·				·	·		·		·			·	·	·				·			·			·	12	7
6	2 ♭M					·			·										·			·	·		·	·	·		·	9	6
6	7 ♭m				·		·		·					·				·				·				·	·		·	9	8
6	5M		·							·		·			·			·				·			·		·			9	9
6	7 ♭M			·				·	·					·		·	·	·										·	·	9	10
7	5 ♭M				·							·			·	·		·					·							6	11
7	4M				·				·							·						·			·	·				6	12
8	2m															·									·	·		·		4	13
9	7M													·					·				·							3	14
10	7m																		·				·							2	15
10	6 ♭m																	·					·							2	15
10	3M								·								·													2	16
11	3m																·													1	12
11	5 ♭m																		·											1	16
11	6M																								·					1	16
12	2 ♭m																													0	17
12	2M																													0	17
12	6m																													0	17
Total		4	3	4	7	3	3	4	10	6	3	4	4	6	3	6	7	8	10	4	2	8	10	3	9	7	5	6	8		

The discussion so far has dealt only with general considerations of the Tonic, its opposite mode, and its key-relationships from the standpoint of proportions and frequencies. The successive key progressions and their consecutive relationships as juxtaposed keys, together with the factor of bi-modality, also offer evidence of certain consistent practices in connection with the mode of the movements. The following table (8), which was prepared in the same manner as the one dealing with the frequency of Tonic relationships (Table 5), shows the order of preferences for key-progressions in both the major- and minor-mode movements. The figures in the right-hand column have been transferred from Table 5 in order to show the degree of correspondence between relationships to the Tonic and those that exist between juxtaposed keys.

TABLE 8

PREFERENTIAL USE OF SUCCESSIVE KEY-RELATIONSHIPS AND BI-MODAL CHANGES BASED ON FREQUENCY OF APPEARANCE IN THE TOTAL NUMBER OF MOVEMENTS

Major-Mode Movements				Minor-Mode Movements			
Numerical Rank	Relationship	Percentage	Numerical Rank in Table 5	Numerical Rank	Relationship	Percentage	Numerical Rank in Table 5
1	4M	15.6	4	1	3♭M	15.8	1
2	5M	12.1	1	2	4m	13.5	2
3	6m	8.5	3	3	6m	8.7	0
4	Bi-modal change to major	7.9	--	4	5m	8.5	3
				5	6♭M	7.6	4
5	4m	7.8	6	6	2m	6.0	13
6	7♭M	7.5	12	7	Bi-modal change to major	5.1	--
7	5m	6.6	7				
8	2m	6.0	5				
9	Bi-modal change to minor	5.8	--		Bi-modal change to minor	5.1	--
10	3♭M	5.7	10	8	3m	4.9	12
11	6♭M	5.5	9	9	7♭M	4.1	10
12	3m	2.4	8	10	7♭m	3.6	8
13	7♭m	1.6	16		7m	3.6	15
	7M	1.6	19	11	4M	2.9	12
14	3M	1.2	15	12	5M	2.6	9
15	2M	.9	11	13	2♭M	2.2	6
	7m	.9	14	14	2M	1.1	0
16	2♭M	.8	13	15	5♭M	.7	11
17	6M	.6	11		6M	.7	16
18	2♭m	.4	17		7M	.7	14
19	3♭m	.2	18		2♭m	.7	0
	6♭m	.2	19		3♭m	.7	7
20	5♭M	.1	20	16	6♭m	.6	15
	5♭m	.1	18	17	3M	.0	16

Following is a summary of Table 8.

1. All key-relationships are used in major tonality. All but one (3M) appear in minor-mode tonality.

2. With the exception of the 6m progression, there is very little agreement between the progressions in the two tonalities except for those that are used infrequently.

3. There is some agreement between the frequencies of Tonic relationships (right-hand column) and those of key progressions, especially in minor-mode tonality. In general, the least-used relationships are the same.

4. Bi-modal changes are more frequent in major-mode tonality than in minor-mode.

5. In major-mode movements there are more bi-modal changes from minor to major than the reverse. In minor-mode movements they are equal.

A characteristic procedure which is not shown in Table 8 is that most progressions are to closely-related keys. There are only four movements in all of the sonatas in which the number of progressions to remote keys exceeds those to closely-related keys. Very frequently a progression to what would otherwise be a remote key is made through the medium of a bi-modal change. For example, the change from A major to C major (Tonic) in the recapitulation of Op.53.I is made through A minor (see Ex. 45). Without the occurrence of a bi-modal change, as in this case, the progression would be to an unrelated key. This particular use of bi-modality,

which is a distinctive compositional technique, can be regarded as a deliberate means of maintaining a definite preference for successive progressions to closely related keys.

Other general tonal practices can be noted as influencing the precedence of certain progressions over others. Beethoven is particularly fond of key progressions a fourth apart, and to a lesser degree, those of a fifth. Frequently there will be a series of such progressions involving either relationship, or in fewer instances, involving an alternation of fourth to fifth, or the reverse. In major-mode movements, such progressions are usually restricted to major-mode keys, which accounts, in part, for the predominance of 4M and 5M progressions. A corresponding modal relationship also occurs in minor-mode movements, the progressions consisting of minor-mode keys (4m and 5m).

Most of the progressions from a major-key to a minor-key involve the relationship 6m. This is true of movements of either mode. The remaining favored progressions seem, for the most part, to relate to the mode of the movement. In major-mode movements, progression from a minor key to a major key involves a predominating relationship of 7bM, e.g., the progression A minor to G major in the tonality of C major. Chain progressions of 4M or 5M are often varied, especially at the end of a series, by a change of mode (4m or 5m).

In minor-mode movements, progression from a minor key to a major key involves most often the relationship 3bM, and

to successively lesser degrees, 6bM and 7bM. A comparison of these particular relationships with the same relationships of major-mode movements (Table 8) will show several of the distinctive differences between Beethoven's major- and minor-mode tonalities.

All of the preceding information applies only to the general aspects of Beethoven's tonal practices. Even though some specific conditions have been pointed out, they have been regarded here only in the light of their relationship to a broad view of tonal design. The more specific applications of tonal elements and an examination of their functional properties and stylistic attributes will be discussed in the ensuing chapters.

CHAPTER III

ANALYTICAL PROCEDURE AND THE CLASSIFICATION OF TONAL FUNCTIONS

In the two preceding chapters certain tonal factors were discussed which pertain to Beethoven's organization of the complete sonata by movements, and to general as well as several specific tonal conditions taking place within individual movements. These observations have shown that there prevails a number of fundamental practices, some constant, some variable, that exemplify certain preferences in the choice of tonal materials and, in some instances, the placement of those materials within the composition. While such considerations have been felt to be of importance in providing a broad view of tonal associates in the respective formations of major- and minor-mode tonalities, they have given no insight into the various usages of tonal materials as they enter into actual composition.

In considering the factor of key from the standpoint of its usage in composition, the problems connected with the description of tonal techniques and practices have been dealt with herein by the adoption of an analytical procedure which accounts for tonal expressions in terms of their content. The validity of such an approach is based upon the fact that key is perceived not as an independent element but as a tonal frame for the musical ideas expressed in it. Wherever an expression of key exists, there also is present an indissoluble

union of key-identity with its inherent melodic-harmonic relationships. Whereas the presence of key is made manifest by relationships arising from melodic-harmonic formations, the latter have meaning only in relationship to that immediate tonal center. The two -- key and content-- are immediately and inseparably interactive and interdependent.

Thus a consideration of tonal conditions in a composition automatically necessitates a consideration of what is being expressed by the constituent tonal progressions. The significant observation is not that at a particular point in the composition a certain key-change has taken place, but rather that at such a point some musical idea has been conditioned by the act of key-change. The recognition of what it is that occurs with each change of key has led to a classification of what are designated here as tonal functions -- the uses of key in terms of what the key projects. These functions, in brief, are as follows:

1. The establishment of a tonal level for a thematic statement.

2. The establishment of a tonal level for the repetition of a thematic statement in whole or in part.

3. The establishment of a contrasting tonal level for a full cadence.

4. The preparation for a thematic statement.

5. The establishment of a contrasting tonal level for a parenthetical statement within a phrase or section of a composition.

This classification, which will be discussed at length in the following chapters, represents a summary of all tonal usages in the sonatas. Despite the great amount of tonal discursiveness appearing in many of the movements, no other type of tonal function will be found among these works of Beethoven. The device of bi-modality, which has been referred to in the two preceding chapters and which is discussed in greater detail in Chapter X, does not properly belong in this classification since it involves changes of modal qualities within the key rather than change of key itself. But inasmuch as bi-modality has to do with the expression of contrasts and qualitative values within tonality, a discussion of the techniques exhibited in bi-modal passages has been included in this study.

In considering these five tonal functions and the device of bi-modality, it has been possible to arrive at definite conclusions regarding Beethoven's techniques in the expression of tonal materials. Each tonal level and bi-modal change has been examined first according to what particular phase of musical material is involved, i.e., whether the key or bi-modal change is used to present a thematic statement, repeat a theme or portion of a theme, prepare for a theme, etc. This, in turn, has been related to the place it occupies in the movement and also to the overall structural design of the movement in which it occurs. Where key-changes are involved, the relationships expressed have been related to all of these compositional factors --the phase of musical material, the

place in the design and the type of structural design. In addition to these procedures, practices which are peculiar to some particular group of sonatas or which show some significant differences in treatment with regard to the several creative periods of Beethoven have also been considered in the interpretation of analytical data. Thus the information given in the following chapters is not in the nature of a step-by-step description of successive events in each separate movement, but rather a correlation of tonal practices that give evidence of certain principles, preferences and characteristics in the expression of tonal materials and processes throughout the entire group of sonatas.

There are no two movements in the sonatas that are exactly alike where all factors relating to tonal design are concerned. It is true that several of the major-mode movements consist only of Tonic and Dominant key-areas,[1] and in this respect it may be said that there does exist in the music of Beethoven a specialized type of tonal organization with regard to the key-relationships involved. Indeed, this statement may be expanded to include the observation that if in major-mode movements only one contrasting key is used, that key will always be the Dominant. But that is as far as any total similarity goes between these particular movements. If there is

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[1]Movements consisting only of Tonic and Dominant key-areas: Op.14.2.II, 27.1.III., 27.2.II., 31.3.III.

no difference in the way the Dominant is used, then at least there will be a difference as to where that key-contrast takes place within the movements. For example, both Op.14.2.II and Op.31.3.III contain the Doninant as the only contrasting key, and in each case the Dominant is used to establish a cadencing level for certain portions of the movements. However, this cadence formation appears at the end of the first period in Op.14.2.II and does not appear in Op.31.3.III until the end of Part I in the Trio.

The similarities in this instance, which have to do with the key-relationship and the role it performs in the music, are undoubtedly more apparent than is the one signal difference mentioned above. But despite the existence of such similarities in some few movements, the fact that some difference does obtain, if only that of placement, precludes the possibility of considering the existence of a representative tonal design or what might more generally be referred to as the tonality of Beethoven. Strictly speaking, there is no such thing in the sonatas. In actuality there are as many different tonal designs as there are movements --ninety-nine in all, and the only tonal rapport that can be established among them is that certain general conditions exist in nearly every case and that certain types of tonal expressions are in evidence at one time or another which exemplify the existence of specific and categorically definable tonal techniques.

Beethoven's music, with but few exceptions, is completely tonal in the sense that nearly every harmonic and melodic formation at any one time is related to an immediate key-center. Despite the fact that many tonal levels are of short duration and serve as temporary and transient passages between levels of greater permanency, the formations within such levels relate at the time to the key in question and derive their functional meanings from the key itself. There is no evidence at all of the negation of key and very little that points to an intentional expression of tonal ambiguity. Only occasionally does there occur a passage in which the sense of key has been vitiated to a more or less perceptible degree or in which the identity of the key has been temporarily held in abeyance. One of the few passages of this type, and one which is representative of such situations, occurs in the short development section of Op.81a.I which is quoted in Ex. 2.

Ex. 2. (Op.81a.I., meas. 68-90)



Ex. 2 ------- continued



From the standpoint of tonal analysis it would appear that only the beginning and ending of the passage can be definitely defined in terms of key. The feeling of Eb major gives way to a few measures of C minor which can still be heard in meas. 75. Following that the keys of Bb minor and G major are implied through the resolution of the seventh-chords.

By the same token, there is an expectation of E minor in meas. 85. The resolution to the pitch Bb is confirmed immediately as the dominant of Eb minor from which point on the key progressions are clearly defined. The seventh-chord appearing in meas. 83-84, which is spelled as an augmented-sixth chord, but which by point of reference sounds as a dominant-seventh type chord on B, actually resolves as an augmented-sixth ($IV^{\#}_{5}$) in Eb. Thus there exists between the C minor and Eb levels a progression which hints at two other levels but does no more than that. The resultant effect is one of indefiniteness, uncertainty and vagueness which, through sheer contrast in the treatment of materials, becomes one of the high points in the movement.

Actually there is a very direct and unifying line between the two tonal planes of C minor and Eb minor which, in a sensitive interpretation, can be projected to the listener. Beginning in meas. 75 there is a direct step-wise progression from the upper Eb down to the Bb in meas. 86. Certain of the long note values belonging to this line, the C and Cb, are harmonized by seventh-type chords which, in themselves, are continued chromatic alterations of the chord appearing in meas. 75. Thus the whole passage may be felt as effecting a series of chromatic harmonies that join one tonal point to another. This treatment may be observed in other sonata movements, but the practice is an exceptional one and tends to emphasize in its singleness of purpose and infrequency of use

the more fundamental stylistic expression of clearly-defined tonal areas.

In other instances, which are also only occasional and represent a singular type of treatment, Beethoven extends a diminished-seventh chord through arpeggiated figurations over a period of time during which the harmony seemingly loses its relationship to the key from which it arose and assumes a new function, suggesting resolution to a new key, or becomes for a time noncommittal as to its eventual resolution. This practice may be observed in the development section of Op.57.I, and also at the end of the second movement of the same sonata where the deceptive cadence formed by the diminished-seventh chord is extended to form a transitional passage between the second and third movements.

Aside from the exceptional practices mentioned above, Beethoven adheres to the basic principle of key expression in the statement, restatement, repetition and exploitation of all musical ideas. This fact has made possible a comprehensive coverage of every phase of every movement in the sonatas. There is no passage in any work which has not been brought under careful scrutiny and examined according to the various aspects of its tonal make-up. Likewise there is no tonal event which has not been given a similar examination as to its functional status and other conditions pertaining to it. Consequently, it is felt that the information appearing in the following chapters is a complete representation of all tonal factors in the sonatas and of the techniques and processes connected with them.

CHAPTER IV

THEMATIC KEYS

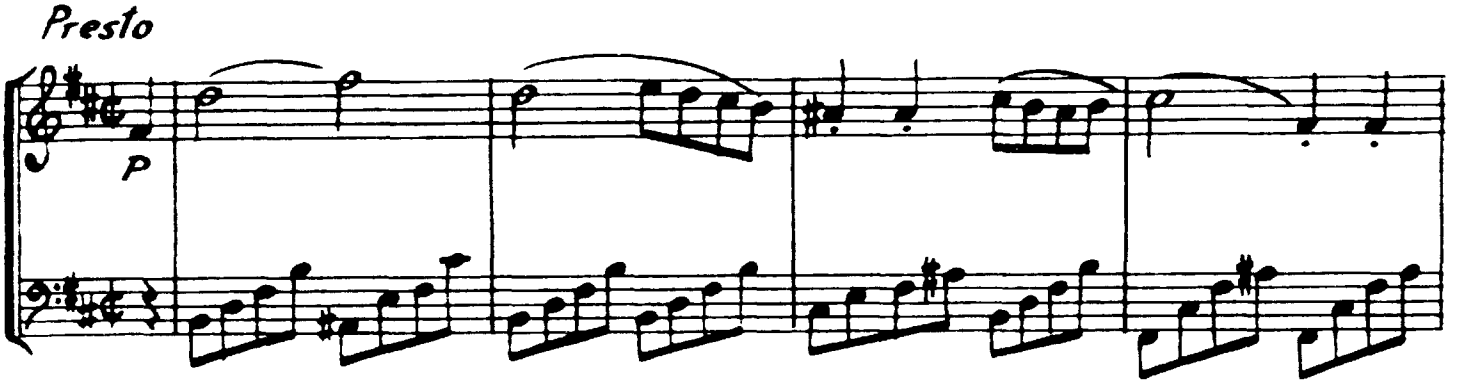
A Thematic Key is defined for use in this study as the tonal level appearing at the beginning of an initial statement of a theme and for subsequent statements of that theme after intervening passages which involve contrasting thematic statements. Thus at the beginning of Op.10.3.I, the opening theme is first heard in the key of D major, and that key at that point is designated as a Thematic Key (Ex. 3).

Ex. 3. (Op.10.3.I., meas. 1-4)



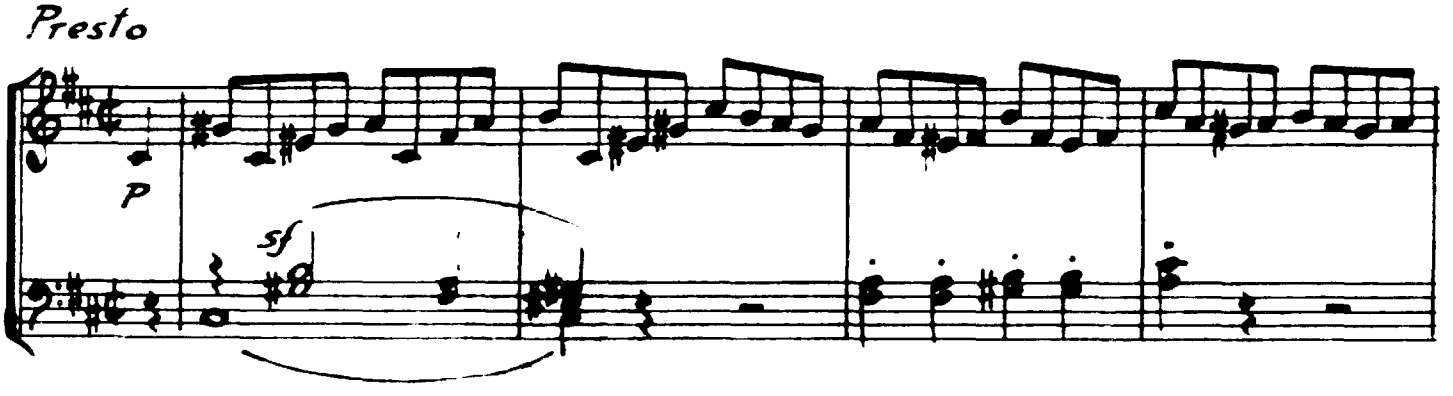
Later, in measure twenty-three of the same movement, a contrasting theme is introduced in the key of B minor which expresses the relationship 6m to the Tonic. This key, designated in terms of the relationship, is also a Thematic Key (Ex. 4).

Ex. 4. (Op. 10.3.I., Meas. 23-26)



This particular theme, however, consists of more than the one idea presented in the measures illustrated in Ex. 4. There is a second part to it which begins in measure 31 in the key of F♯ minor (Ex. 5).

Ex. 5. (Op.10.3.I., meas. 31-34)



This divisional unit is an integral part of the theme itself and is heard in that connection. Hence, its tonal level functions also as a Thematic Key. But since this particular level differs from the initial level of the theme and is used as the tonal setting for a division of the theme, it and similar tonal constructions will be known herein as divisional entries. Such entries have been indicated by asterisks where necessary in the tables appearing in this chapter. Because certain key-relationships are used in rather specialized ways with respect to specific structural designs, it has seemed advisable to discuss the subject of Thematic Keys throughout in connection with the particular designs of the sonata movements.

Sonata-Allegro Movements in Major-Mode

Table 9 shows a summary of the number and level of Thematic Keys used in major-mode Sonata-Allegro movements. The key-relationships, as indicated, stand in relationship to the basic tonality of each movement. Table 10, which shows the distribution of these keys for each individual movement, facilitates an examination of thematic entries within each movement and permits a comparison of tonal practices as exhibited at various stages of the sonata chronology.

In these movements twenty out of twenty-two possible keys are used as Thematic Keys. Beethoven does not use the

TABLE 9

THEMATIC KEYS APPEARING IN
MAJOR-MODE SONATA-ALLEGRO MOVEMENTS

Keys	Introduction	Exposition						Development								Recapitulation						Coda		Total
		1st Theme	Intermediary Theme	2nd Theme	3rd Theme	Closing Theme	Codetta	Entry 1	Entry 2	Entry 3	Entry 4	Entry 5	Entry 6	Entry 7	Entry 8	1st Theme	Intermediary Theme	2nd Theme	3rd Theme	Closing Theme	Codetta	Entry 1	Entry 2	
TM	2	25	1					2		2						23	1	15	2	14	8	9	2	106
		1*														2*		3*						6*
Tm		1*						4			1		1					3				1		10-1*
5M				17	2	9	8	4																40
6m		1*		1				6	1							1	1	1*						10-2*
3m			1	1*		1			2															4-1*
6M			1	2		1		2	2	1						1		2						12
5m				3					1						1									5
3M				2		1	1		1															5
2M					1				1															2
3♭M								3	3			1		1				1		1				10
4m									1	1	1													3
4M								2	1		1					1*	1		1			2		8-1*
5♭M									1															1
6♭M								1		2						1*		1				2		6-1*
7M									1															1
7♭M																		1						1
2m								1				1						1				1		4
2♭M													1									1		2
2♭m																1*								1*
5♭m									1															1
	1	4	3	6	2	4	2	9	12	4	3	2	2	1	1	7	3	9	2	2	1	6	1	
Total number of different keys																								

*Divisional Entry

TABLE 10

PLACEMENT OF THEMATIC KEYS IN INDIVIDUAL MAJOR-MODE SONATA-ALLEGRO MOVEMENTS

Opus Number and Movement	Introduction	Exposition						Development					Recapitulation						Coda	
		1st Theme	Int. Theme	2nd Theme	3rd Theme	Closing Theme	Codetta	Entry 1 & 6	Entry 2 & 7	Entry 3 & 8	Entry 4	Entry 5	1st Theme	Int. Theme	2nd Theme	3rd Theme	Closing Theme	Codetta	Entry 1	Entry 2
2.2.I		T		5m		5M		3♭M	7M	6♭M	4m		T		Tm					
2.3.I		T		5m	5M		5M	5M	2M				T		Tm	T		T	6♭M	
7. I		T		5M		5M	5M	6m	5♭m				T		T		T	T	T	
10.2.I		T		5M		5M	5M	6m					6M		T		T	T		
													T*							
10.2.III		T		5M				3 M	6M				T		T					
10.3.I		T		6m		5M	5M	6 M					T		2m		T	T	4M	
				3m*											6m*					
14.1.I		T		5M				T					T		T		T	T		
14.2.I		T		5M				Tm	3♭M	6♭M			T		T		T	T	T	
22. I		T		5M		5M	5M	5M	6m				T		T		T	T		
22. II		T		5M				6m					T		T					
28. I		T	3m	5M		5M		4M	4m	6M			T	6m	T		T		T	
31.1.I		T		3M		3m		T					T		6M		T	T	T	
															T*					
31.3.I		T		5M			5M	6m					T		T		T	T	4M	
		Tm*																		
31.3.II		T		6M			5M	6M	3M				T		7 M		T			
		6m											6m							

* Divisional entry

TABLE 10--Continued

31.3.	IV		T		5M			5M	3♭M	6M				T		3♭M		3♭M		Tm	
53.	I		T		3M		3M	3M	4M	5m	T			T		6M		T	T	2♭M	
																T*				T*	
78.	I	T	T		5M				Tm					T		T					
79.	I		T		5M				6M					T		T				T	
81a.	I	T	T		5M				6m	3♭M				6m		T				2m	T
														T*							
81a.	III		T		5m	5M			Tm	5♭M				T		Tm	T			T	
101.	I		T		5M				5M	3m				T		T				T	
101.	IV		T	T	5M		5M		Tm	3♭M	4m	Tm	3♭M	T	4M	T		T		6♭M	
									Tm	3♭M	5m#										
106.	I		T	6M	6M	2M	6M		2m	4M	T	4M	2m	T	T	T	4M	T		T	
									2♭M#					6♭M*							
														2♭m*							
109.	I		T		5M				5M	3m				T		T				T	
110.	I		T		5M		5M		6m					T		6♭M		T		T	
														4M*		T*					

* Divisional entry
\# 2nd-line items are successive entries beginning with No.6

3♭m, 6♭m, 7♭m and 7m relationships in this capacity. These four are all remote keys, the first three being extremely so. Relationships occurring least frequently (Table 1) are mostly remote keys and are rarely used in a position of structural importance. The remote keys most used for important thematic entries are those that lie a major or minor third above or below the Tonic (3M, 3♭M, 6M, 6♭M).

With reference to thematic entries in expositions and recapitulations, it is clear that a more or less consistent application of remote keys in those divisions occurs with the appearance of Op.31.1.I and extends through Op.111.I. Beethoven's exploitation of such tonal resources, however, is not restricted entirely to the middle and late periods, as can be witnessed in Op.2.2.,I; 2.3.,I and 10.2.,I. Since remote keys are capable of producing sharp contrasts of considerable intensity, their frequent and consistent use within developments sections is to be expected. Not all Thematic Keys in development sections, however, are remote, but even so, the distant tonal levels used for developmental purposes are profuse and varied. Remote keys, or even other non-Tonic keys, are not often used in codas. Where non-Tonic statements do occur in these divisions, Beethoven always moves to the flat side of the tonality for such tonal contrasts. Additional observations of a general nature are given below:

1. Thematic Keys, aside from those appearing in development sections, are predominantly in major mode.

2. Except for divisional entries, there are two and occasionally three, but never more, Thematic Keys expressed in any exposition.

3. In recapitulations, there are usually two, but rarely more than two Thematic Keys expressed.

4. The number of different Thematic Keys expressed in the various divisions results in the following order of sectional precedence:

a. Development

b. Recapitulation

c. Exposition

d. Coda

e. Introduction

5. The number of recapitulation sections that exhibits an absolute adherence to the major-Tonic level for thematic entries is definitely in the majority. However, a greater number of different tonal relationships is used for second themes in recapitulations than for those appearing in expositions.[1]

6. Not only is there a rejection of certain levels for use as Thematic Keys, but a restricted application of certain key-relationships to specific divisions of the movement.

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[1]This is in contradistinction to the idea presented in many text-books and dictionaries that in Sonata-Allegro design it is "obligatory--that--the second theme appear in the recapitulation in the tonic--so that the whole movement comes to a close in the tonic." W. Apel, Harvard Dictionary, (Cambridge: Harvard University Press, 1944), 697.

7. The mode of thematic entries in expositions is retained for corresponding entries in the recapitulation (one exception).

8. In the exposition the level of a major-mode Second Theme is retained for the subsequent thematic entries of that division (two exceptions). Second Themes in minor-mode are followed by a change to the opposite mode at the same level (one exception).

Following is a summary of usages for each of the principal tonal levels noted in Tables 9 and 10.

Tonic (Major)

1. The Tonic (major) is the only level used for thematic entries in introductions and for codettas of recapitulations.

2. It is the only level used for the initial thematic entries of First Themes in expositions. Non-Tonic divisional entries of First Themes are extremely rare.

3. It is never used as a Second Theme or a subsequent thematic entry in expositions.

4. This level predominates for initial entries of First Themes in recapitulations. Non-Tonic initial or divisional entries are rarely used.

5. The Tonic-major is the predominating level for initial and divisional entries of Second Themes in Recapitulations. Non-Tonic divisional entries are extremely rare. Non-Tonic initial entries are infrequent and usually correspond with the use of a non-Tonic key other than 5M in the exposition.

6. It is the predominating level for Closing Themes in recapitulations. Non-Tonic Closing Themes are rarely used, and either correspond with a non-Tonic key other than 5M that appeared in the exposition or continue the level of the preceding theme of the recapitulation.

7. It is the predominating level for thematic entries in codas.

8. It is used less in development sections than in any other principal division. However, the Tonic level (major and minor) appears in development sections more than any other level,with the exception of 6m and 6M,which are favored levels for thematic entries in that section of Sonata-Allegro design.

Five-Major

1. This relationship is the predominating level used for Second Themes in exposition.

2. It is the predominating level used for Third, Closing and Codetta Themes in expositions.

3. If the Second Theme is stated at 5M (or 5m), the subsequent themes are always stated at 5M. There is only one instance where a 5M Closing Theme is preceded by an initial Second Theme entry at a level other than 5M or 5m (Op.31.3.II).

4. The 5M is never used in development as a Thematic Key except at the very beginning as a continuation of the exposition's closing level.

5. The 5M never appears in recapitulation or coda as a Thematic Key.

Six Major, Six Minor, 6♭ Major, Three Major, Three Minor, and 3♭ Major

These key-relationships belong to a general class of tonal levels preferred by Beethoven for non-Tonic thematic statements (exclusive of 5M) in all divisions except coda and introduction. Although they are indicated here according to their specific intervalic orders, they are all key relationships that lie a major or minor third on either side of the Tonic.

1. Excluding the 5M and 5m levels, no other relationship outside of this group of keys is used for thematic statements in expositions with the exception of 2M, which appears but once (Op.106.I). The 6♭M and 3♭M never occur in this division.

2. The 6m is the preferred level for initial entries in development sections.

3. The 3♭M has a higher frequency in development than any other single level of one mode. It appears in one sonata as the level for Second and Closing Themes in recapitulation (Op.31.3.IV).

4. The 6M is used with about equal frequency in expositions and recapitulations.

5. 3M and 3m are used only in expositions and development sections.

6. The 6♭M never occurs in exposition and is the only one of this group to appear in codas.

Five Minor

1. This key-relationship is used principally as the setting for the Second Theme in certain expositions. However, it appears but infrequently (three movements of early and late-middle periods) and always moves subsequently to the 5M level (see Chap. X).

2. It rarely appears in development and never in a subsequent division.

Tonic (Minor)

1. The Tonic-minor is used as the initial level for development more than any other single level with the exception of 6m. (See: Tonic-major, above.)

2. Aside from one occurrence as the initial level in a coda and a divisional entry of a First Theme in an exposition, the only other role of the Tonic-minor is in recapitulations as the key of the Second Theme, but only when this theme appeared originally in the exposition at 5m.

None of the remaining keys are used with any significant degree of frequency. Reference to Tables 9 and 10 will show their frequency and distribution. None of them, with the exception of 2M, ever appears in expositions, while several appear only in development sections and recapitulations. It should be pointed out that the 4M as a recapitulation key occurs only in the late sonatas (Op.101.IV.,106.I and 110.I).

In general, Beethoven's treatment of Thematic Keys in

major-mode Sonata-Allegro movements shows certain preferences and characteristics that may be regarded as belonging to certain classes of keys. The use of Tonic agrees with the principles of cyclic tonality and proportional distribution. The non-Tonic Thematic Keys in expositions are predominantly on the sharp side of the tonality. Recapitulation non-Tonic keys are predominantly on the flat side of the tonality. Mixed levels are used in development sections but they indicate preferences for certain relationships especially where the initial entries are concerned.

Minor-Mode Sonata-Allegro Movements

The range of key-relationships used for thematic entries in minor-mode Sonata-Allegro movements is noticeably less extensive than that relating to major-mode movements of the same design (Tables 11 and 12). This condition agrees with the scale of key-relationships for minor-mode tonalities in general (see Table 5). Remote relationships, with the exception of 3♭m, are used sparingly and appear, for the most part, in connection with development sections. There is only one example each of a remote key appearing in an exposition, recapitulation or coda, with the exception again of 3♭m which appears only in expositions. The case for the latter key is readily explained by its appearance as the opposite mode of 3♭M, a somewhat favored relationship for the second principal key area in the exposition.

TABLE 11

THEMATIC KEYS APPEARING IN
MINOR-MODE SONATA-ALLEGRO MOVEMENTS

Keys	Introduction	Exposition					Dev.		Recapitulation					Coda			Total
		1st Theme	Intermediary Theme	2nd Theme	Closing Theme	Codetta	Entry 1	Entry 2	1st Theme	Intermediary Theme	2nd Theme	Closing Theme	Codetta	Entry 1	Entry 2	Entry 3	
Tm	2	15	4					1	15	1	8	8	7	6	0	1	68
5m				8	5	5	3				1*						22
3♭M				4	1	4	4		1*								14
3♭m			1	1	1												3
6♭M				2	2		1	1		4	1			1	1		13
4m							3	2	1*		1			1			8
3m							1	1									22
2m				1*													1
6♭m								1									1
7M							1										1
4M											1						1
2♭M															2		22
TM							2		1*		3	1					7
	1	1	2	5	4	2	7	5	4	2	6	2	1	3	2	1	

No. of different keys in each division

*Divisional Entry

Most, and in some instances all, of the thematic entries in any one movement occur in minor-mode, Op.106.III excepted. There are relatively few movements, however, that do not contain at least one thematic entry in the major-mode. Usually there are no more than two Thematic Keys expressed in an exposition or recapitulation. Where more than two occur, the additional key is always used for a divisional entry rather than a principal entry.

TABLE 12

PLACEMENT OF THEMATIC KEYS IN INDIVIDUAL MINOR-MODE SONATA-ALLEGRO MOVEMENTS

Opus Number and Movement	Introduction	Exposition					Dev.		Recapitulation					Coda		
		1st Theme	Int. Theme	2nd Theme	Closing Theme	Codetta	Entry 1	Entry 2	1st Theme	Int. Theme	2nd Theme	Closing Theme	Codetta	Entry 1	Entry 2	Entry 3
2.1.I		T		♭3 M		♭3 M	♭3 M	4m	T		T		T			
2.1.IV		T		5m	5m	5m	♭3 M		T		T	T	T			
10.1.I		T		♭3 M		♭3 M	TM	4m	T		4M		T			
10.1.III		T		♭3 M		♭3 M	♭3 M		T		TM		T	♭2 M		
10.3.II		T	T	5m		5m	♭3 M		T	♭6 M	T		T	T		
13. I	T	T		♭3 m	♭3 M	♭3 M	5m	3m	T		4m	T	T	T		
27.2.III		T		5m	5m	5m	TM	4m	T		T	T	T	T		
31.2.I		T		5m			3m		T		T					
31.2.III		T		5m	5m	5m	4m	♭6 m	T		T	T	T	4m		
57. I		T	♭3 m	♭3 M	♭3 m		7M	♭6 M	T	T	TM	T		T	♭6 M	
57. III		T		5m	5m		4m	T	T		♭6 M	T		T		
90. I		T	T	5m		5m	4m		T	♭6 M	T			T		
									♭3 M*							
106. III		T	T	♭6 M	♭6 M		♭6 M		T	♭6 M	TM	TM		♭6 M	♭2 M	T
109. II		T	T	5m	5m		5m		T	♭6 M	T	T				
				2m*							5m					
111. I	T	T		♭6 M	♭6 M		5m		T		TM	T		T		
									4m*							

* Divisional entry

The greatest number of different keys appears in development sections. Next in order are the recapitulation, exposition, coda and introduction. This is the same order of comparative tonal diversity for each of the structural divisions as for Sonata-Allegro movements in major-mode.

The greatest variety in the tonal treatment of recapitulation sections begins with Op.57.I and extends through Op.111.I. Previously, the recapitulation was either all or predominantly Tonic. Coda sections, as in major-mode movements, utilize the flat side of the tonality for all non-Tonic thematic entries.

Tonic (Minor)

1. Introductory thematic statements are always Tonic.

2. First Themes of expositions, initial entries of First Themes and all Codetta Themes in recapitulation are Tonic.

3. The Tonic-minor predominates as the level for Intermediate Themes in expositions, for Second and Closing Themes in recapitulations, and for most thematic statements in codas.

4. The Tonic-minor occurs only once as a development Thematic Key.

Five Minor

1. The 5m is the predominating relationship used for Second, Closing and Codetta Themes in expositions, except in several of the early and late sonatas. If the Second Theme is stated at this level, the subsequent themes always appear at 5m.

2. The 5m occurs only once in recapitulation (in Op.109.II as a divisional entry) and never in codas.

6b Major

1. This relationship appears for the first time in Op.57.I and is to be found in each of the subsequent minor-mode Sonata-Allegro movements in a position of structural importance.

2. If in the late sonatas an Intermediate Theme is stated at the Tonic, it always recurrs in the recapitulation at 6bM.

3. In two of the late sonatas this relationship stands as the second principal key area in the exposition, otherwise it is used only in the subsequent structural divisions.

3b Major

1. This is a favored relationship for Second and Closing Themes in the exposition of several early sonatas; it is never used in this capacity after Op.57.I.

2. It is used as a development level in two of the movements, but never occurs in a subsequent structural division except for a divisional entry.

Four Minor

1. This is the preferred thematic level for development sections.

2. It is never used in exposition and only rarely in recapitulation.

Tonic (Major)

1. The Tonic-major is used primarily in recapitulation sections as a corresponding mode for themes which appeared originally in major mode in the exposition.

2. It is used in two movements as the initial key of development.

3♭ Minor

This relationship is used as a modal contrast for 3♭M in the expositions of Op.13.I and Op.57.I.

Of the remaining relationships, the 3m is the only one to appear more than once in minor-mode movements in Sonata-Allegro design. It is restricted solely to development. The 4M and 2♭M appear only in recapitulation and coda, respectively. These relationships are also used in the same capacity in major-mode movements in this design. The other keys, with the exception of 2m, which is a divisional key, appear only in development sections.

Song and Trio Movements

The Song and Trio design, consisting of three self-contained divisions --the Principal Song, the Trio, and the Principal Song restated, which in turn are made up of well-defined small part-designs, offers little opportunity for tonal variety beyond the usual expression of contrast between parts and divisions. Thematic statements occur only

at the beginnings of these structural units and, for the most part, the tonal activity of the Song and Trio design consists of the limited contrasting levels used for such thematic statements (Table 13). Other tonal activity is achieved mainly through the use of Cadence Keys and modulatory sequences.[2]

TABLE 13

THEMATIC KEYS IN SONG AND TRIO MOVEMENTS

Opus Number and Movement	Principal Song			Trio			Principal Song (D.C)			Coda
	Part I	Part II	Part III	Part I	Part II	Part III	Part I	Part II	Part III	
Major-Mode Movements										
2.2.III	T	T	T	Tm	3♭m	Tm	T	T	T	
2.3.III	T	Tm	T	6m	T	6m	T	Tm	T	
7. III	T	T	T	Tm	5♭m	Tm	T	T	T	
10.3.III	T	6m	T	4M	---	--	T	6m	T	
22. III	T	6m	T	6m	2m	6m	T	6m	T	
26. II	5M	T	6m	4M	T	--	5M	T	6m	
27.2.II	5M	5M	5M	4M	4M	--	5M	5M	5M	
28. III	T	4M	T	6m	T	--	T	4M	T	
31.3.III	T	T	--	T	T	T	T	T	--	
101. II	T	3M	T	4M	4M	--	T	3M	T	
Minor-Mode Movements										
2.1.III	T	3♭M	T	TM	TM	TM	T	3♭M	T	
10.2.II	T	3♭M	T	6♭M	7♭m	6♭M	T	3♭M	T	
14.1.II	T	3♭M	T	6♭M	6♭M	6♭M	T	3♭M	T	6♭M
26. III	T	T	T	TM	TM	---	T	T	T	
27.1.II	T	4m	T	6♭M	6♭M	---	T	4m	T	
28. II	T	T	T	TM	TM	TM	T	T	T	T

Dashes (--) indicate no 2nd and/or 3rd Parts

[2]See Chapters V and VI.

Tonal contrast between Principal Song and Trio consists of motion from the Tonic key to a subordinate key (Subdominant or Submediant in major-mode movements, Sub-mediant in minor-mode movements), or to the opposite Tonic mode. In only one instance is the same Tonic mode maintained for all principal divisions (Op.31.3.III). It is interesting to note that Beethoven consistently avoids the relationship of Subdominant (minor) for important structural divisions in minor-mode tonalities, a fact which has been noted previously in connection with tonal contrasts between complete movements of minor-mode sonatas.

The Principal Song nearly always consists of a small three-part design, the one exception being Op.31.3.III which contains a small two-part design. The latter formation appears more frequently as the design for Trio sections. There is one instance where the Trio is a one-part formation (repeated period), which does not constitute a self-contained and strictly independent section. It is in the second parts of these interior divisions of Principal Song and Trio that Beethoven exhibits his widest choice of tonal materials. Despite the greater range of tonal variety occurring in connection with these divisions, Beethoven's rather frequent use of Tonic of either mode for such places in the design amounts to a virtual preference that, in all but one category (Principal Song, Part II, Minor-mode movements), out-ranks the use of any particular non-Tonic key. A summary of key usages for these movements is given in Table 14.

TABLE 14

SUMMARY OF THEMATIC KEYS
IN SONG AND TRIO MOVEMENTS

Key Relationships	Princ. Song			Trio			Princ. Song			Coda	Total
	Part I	Part II	Part III	Part I	Part II	Part III	Part I	Part II	Part III		
Major-Mode Movements											
T	8	4	7	1	4	1	8	4	7		44
6m		½	1	3		½		½	1		11
5M	½	1	1				½	1	1		8
4M		1		4	½			1			8
3M		1						1			2
Tm		1		½		½		1			6
3♭m					1						1
5♭m					1						1
No. of Keys	2	6	3	4	5	3	2	5	3		
Minor-Mode Movements											
T	6	2	6				6	2	6	1	29
6♭M				3	2	2				1	8
TM				3	3	2					8
3♭M		3						3			6
4♭m		1						1			2
7♭m					1						1
No. of Keys	1	3	1	2	3	2	1	3	1	2	

Major-mode Movements

1. The Tonic (major) is used principally as the level for Parts I and III of the Principal Song. It occurs more frequently than any one non-Tonic key as Part II of Principal Song and of Trio.

2. The 6m relationship is a second choice for Part II in Principal Song and for the key of Trios.

3. The 5M is used as the initial level in Parts I and III of two Principal Songs. (See non-Tonic initial keys, p.17). It occurs in only one movement as a thematic level for Part II of a Principal Song.

4. The 4M is Beethoven's first choice as the key for Trios.

5. The Tonic (minor) is used principally to effect a bi-modal change between Principal Song and Trio.

6. The remote keys, 3M, 3bm, 5bm, and the closely-related key, 2m, occur once each as thematic levels for the beginning of second Parts.

Minor-mode Movements

1. The Tonic (minor) is used as the only level for Parts I and III of Principal Songs. Its only other application is at the beginning of Part II in two Principal Songs. The Tonic (minor) never appears in Trios.

2. The Tonic (major) is used only in Trios in two capacities: to effect a bi-modal change between Principal Song

and Trio, and to stand as the opening thematic level in Part II of three Trios.

3. The 6♭M is a preferred choice, equaled by the Tonic-major, for the tonal level of Trios. It is also used in Part II of Trios, and as the initial level of the only coda in Song and Trio movements.

4. The 3♭M is the preferred choice for Part II of Principal Songs. It is used only in this capacity.

5. The 4m and 7♭m, the only remote Thematic Key, are used once each at the beginning of a Second Part.

First-Rondo Movements

The seven First Rondo movements, five of which are in major-mode and two in minor, are not so few in number that they do not yield some pertinent facts regarding characteristic tonal procedures applying in particular to this structural design. The design itself consists of a Principal Theme in a two- or three-part formation, a Subordinate Theme of a less substantial formation (extended phrase, repeated phrase or phrase-group), followed by a transition which leads to a restatement of the Principal Theme. Beethoven always concluded his First Rondo movements with a coda.

The Subordinate Theme is characterized by a predominant use of the Submediant as the level for the initial thematic statement, 6♭M in minor-mode movements and 6♭M and 6m for major-mode movements. The only other contrast used at this point in the design is that of the opposite Tonic mode which occurs only in major-mode movements (Table 15).

TABLE 15

THEMATIC KEYS IN FIRST RONDO MOVEMENTS

Opus Number and Movement	Principal Theme			Subordinate Theme					Principal Theme			Coda	
	Part I	Part II	Part III	Entry 1	Entry 2	Entry 3	Entry 4	Entry 5	Part I	Part II	Part III	Entry 1	Entry 2
Major-Mode Movements													
2.1. II	T	T	T	6m					T	T	T	T	
2.2. II	T	5M	T	6m	3m				T	5M	T	Tm	T
7. II	T	5M	T	6♭M	4m	2♭M	7♭M		T	5M	T	T	
31.1. II	T	5m	T	Tm	6♭M				T	5m	T	T	
106. II	T	T-2m	-	Tm	3♭M	Tm	4m	Tm	T	T-2m	-	T	
Minor-Mode Movements													
79. II	T	3♭M		6♭M					T	3♭M		T	
110. II	T	5M		6♭M					T	5m		T	

The Dominant relationship comes into prominence as the thematic level for Part II, a condition which is conspicuously absent in the Principal Song divisions of Song and Trio movements.

Minor-mode movements exhibit less tonal activity than those in major-mode. In the latter movements, the greatest amount of tonal activity takes place within the Subordinate Theme. Among the various tonal levels used therein, there is no preferential use of key-relationships other than those used for the initial thematic statements. The return of the Principal Theme involves, in all cases, the same tonal conditions that appeared in the original statement, and the codas all begin on the Tonic level.

Second Rondo Movements

The species of rondo design known as Second Rondo is distinguished by the alternating thematic digressions from the Principal Theme. The principal divisions may be represented by the letters A B A B A, in which the Subordinate Theme (B) is restated at a different tonal level, usually the Tonic, or by A B A C A, in which the second digression consists of a new theme stated at a non-Tonic level or in the opposite Tonic mode. All but one of Beethoven's Second Rondo Movements are concluded with a coda section, and none of the movements are in minor mode (Table 16).

TABLE 16

THEMATIC KEYS IN SECOND RONDO MOVEMENTS

Opus Number and Movement	Major-Mode Movements																	
	Principal Theme			Subordinate Theme 1		Principal Theme			Subordinate Theme 2			Principal Theme			Coda		
	Entry 1	Entry 2	Entry 3	Entry 1	Entry 2	Entry 1	Entry 2	Entry 3	Entry 1	Entry 2	Entry 3	Entry 1	Entry 2	Entry 3	Entry 1	Entry 2	Entry 3
2.3.II	T			Tm		T			6♭M*			T			T		
10.1.II	T			5M		T			T*			T			T		
13. II	T			6m		T			Tm			T			T		
14.2.III	T	T	T	6m		T	T	T	4M	4M	4M	T	T	T	T		
27.1.I	T	T		T	2m	T	T		6M	6M		T	T		T		
31.2.II	T			5M		T			T*			T			T		
53. III	T			6m		T			Tm	6♭M	3♭m	T			T	6♭M	T
54. I	T	T		T	6♭M	T	T		T*			T	T		T		
78. II	T	T		6M		T			T*			T					
79. III	T	5M		6m		T	5M		4M			T	5M		T		

* Indicates a return of Subordinate Theme 1. Symbols not marked by an asterisk represent the appearance of a new theme.

The Principal Theme, in Tonic, usually includes no non-Tonic thematic statements, the 5M of Op.79.III. being an exception. Restatements of the Principal Theme do not involve additional or differing tonal changes.

The first Subordinate Theme is stated most frequently at the submediant (6m or 6M); a second choice being 5M. In three of the movements, Beethoven continues with the Tonic level at the beginning of this division, but moves subsequently to a contrasting level which, in two of the movements (Op. 54.I and Op.2.3.II), becomes established as the principal key of the theme. Restatements of Subordinate Theme #1, constituting the second digression, occur at the Tonic level. Again, Op.2.3.II is an exception to this characteristic practice.

A new theme occurring as the second digression will involve some form of contrast--the opposite Tonic mode or a non-Tonic key. In general, Beethoven seems to prefer contrast for second digressions that belongs on the flat side of the tonality--4M, the minor-Tonic, and, more rarely, a bright key such as that occurring in Op.27.1.I (6M).

Codas always begin at the Tonic level and do not, as a rule, involve more than the initial thematic entry. Beethoven's choice for a second thematic level that may appear in a coda section is, again, the 6♭M.

Third Rondo Movements

The Third Rondo design (A B A C A B A) consists of a recurring Principal Theme alternating with three subordinate sections, the first and last of which present the same thematic material at differing tonal levels. The second subordinate section (C) presents either a new theme or develops material which has been previously stated. Third Rondo with development in place of a second individual theme, is generally known as Sonata-Rondo. Beethoven uses the development principle less frequently than the statement of a new theme (Table 17).

All but one of the Third Rondo movements in the sonatas is in major mode. Usually the design is concluded with a coda, and occasionally the final statement of the Principal Theme is combined with the coda section (see Op.26.IV). In no movement does Beethoven dispense with a third return of the Principal Theme, however fragmentary or brief such a return may be. As a matter of fact, the final recurrence usually does involve some modification of the theme as originally presented--abbreviation, expansion, or combination with the coda. But in any event, there is always a direct reference to the initial thematic material. All restatements of the Principal Theme occur at the Tonic level with the exception of the final return in Op.28.IV where Beethoven moves unexpectedly to the Subdominant (4M) instead of to the Tonic.

TABLE 17

THEMATIC KEYS IN THIRD RONDO MOVEMENTS

Opus Number and Movement	Pr.Th. Entry 1	Pr.Th. Entry 2	Pr.Th. Entry 3	Sub.Th.1 Entry 1	Sub.Th.1 Entry 2	Pr.Th. Entry 1	Pr.Th. Entry 2	Pr.Th. Entry 3	Sub.Th.2 (and/or Dev.) Entry 1	Sub.Th.2 (and/or Dev.) Entry 2	Sub.Th.2 (and/or Dev.) Entry 3	Pr.Th. Entry 1	Pr.Th. Entry 2	Pr.Th. Entry 3	Sub.Th.1 (Return) Entry 1	Pr.Th. Entry 1	Pr.Th. Entry 2	Coda Entry 1
Major-Mode Movements																		
2.2.IV	T	5M	T	5M		T	5M	T	Tm	3♭M	Tm	T	5M	T	T	T		T
2.3.IV	T	T	T	5M		T			4M	4M	4M	T	T	T	T	T		
7. IV	T	T	T	5M		T	T		6m	2m	6m	T	T	T	T	T	T	T
10.3.III	T			5M		T			6♭M	3♭M		T			6m*	T		T
14.1.III	T			5M		T			3♭M	5m	Tm	T			4M	T		
22. IV	T			5M		T			Tm*			T	T		T	T		T
26. IV	T	6m		5M		T	6m		3m	7m		T	6m		T	T#	-	- - -
27.1.IV	T	T		5M		T	T		3♭M*	Tm		T	T		T	T		T
28. IV	T			5M		T			4M	4m		T			T	4M		T
31.1.III	T	T		5M		T			Tm*	6♭M		T			T	T		T
90. II	T			5M		T			6♭M*			T			T	T		T
Minor-Mode Movement																		
13. III	T			3♭M	3♭M	T			6♭M	6♭M	6♭M	T			TM	T		T

* Development group

\# Last statement of Pr.Th. combined with Coda

Abbreviations: Pr.Th. - Principal Theme
Sub.Th.- Subordinate Theme
Dev. - Development

The first Subordinate Theme is always stated at the Dominant in major-mode movements; the 3♭M is used in the one minor-mode movement. The restatement of Subordinant Theme #1, occurring as the third digression, is nearly always at the Tonic (Tonic-major in the minor-mode movement, Op.13.IV). In one movement, Op.14.1.,III, Beethoven restates this theme at the Subdominant.

The middle-section, whether involving a new theme or a development group, characteristically begins on the flat side of the tonality, 4M, 6m, 3♭M, 6♭M and Tonic-minor for major-mode movements, and the 6♭M for the minor-mode movement. Most of the middle-sections include more than one thematic entry which utilizes either the initial level of the section or a contrasting key which, again, is characteristically on the flat side of the tonality. The coda sections always begin on Tonic and involve no other Thematic Keys.

The Fugues

The two fugue movements, Op.106.IV and Op.110.IV, coming as they do late in the sonata chronology, offer only a limited opportunity to observe practices that might apply in a specialized way to a particular type of movement. While the two movements have certain tonal features in common, they differ to such an extent as to provide no substantial evidence of the emergence of a distinctive type of tonal form. In both of the movements, Beethoven observes the traditional practice in a three-voice fugue of stating the beginning subject entries respectively in the Tonic, the Dominant (5M) and the

Tonic. Beyond this condition and the fact that the concluding entries are in the Tonic key, these movements are completely individual expressions of fugal treatment and present no further evidence that Beethoven was adhering to or revealing a pre-conceived ideal of fugal form.

Neither movement is mono-thematic. Op.106.IV has three distinct thematic ideas, not counting counter-subjects. One of these, the D-major theme (measures 240-269), is presented as a middle-section which stands as an interlude between areas devoted largely to the exploitation of the initial and principal subject. Subsequently, this theme is combined as a counter-subject with the principal subject. Op. 110.IV also contains a middle-section which is devoted entirely to the restatement of the third movement, again as an interlude within the fugue itself. This theme, however, unlike the treatment in Op.106, is not used in connection with the working out of the fugue proper.

The accompanying charts (Fig. 3 and 4), show the tonal levels of the successive thematic entries for each of the two movements. In Op.106.IV, after the initial statement of the subject in each of the three voices, Beethoven departs from traditional tonal practices by moving successively to remote keys, with but three exceptions (Tm, T and 4M), for all entries up to the beginning of the final section. Among these remote keys, the 3M seems to be the only favored relationship,

being particularly significant as the tonal setting for the middle-section interlude. The final section of this movement, including the Coda, is notable in its extensive use of Tonic and Dominant entries, the only digression from this alternation being the single entrance in a stretto passage at 2m. This treatment concurs with Beethoven's predilection for stabilizing the tonality of a movement after an extensive period of non-Tonic activity which stresses the use of remote keys.

	I*									II	I									
Upper Voice			T			T	4M	T		7m		5♭M		3m					T	T
Middle Voice		5M			T						7M					2m		5M		
Lower Voice	T			T					T				7M		3m		T			

*Roman Numerals represent thematic sections:
I - Fugue Theme (first stated meas.1-4)
II - Interlude Theme (beginning meas.90)

Fig.3. Tonal Levels of Thematic Entries in Op.110.IV.

Section	Entry	Theme	Upper Voice	Middle Voice	Lower Voice
1	1	I		T	
	2		5M		
	3				T
	4				3 M
	5		7 M		
2	6	II	6 M		
	7	I		4m	
	8		Tm		
3	9	II			7 M
	10		T		
4	11	I		2 m	
	12		3M		
	13				2 m
	14				3M
	15		6M		
	16			3M	
	17				4M
5	18	III	3M		
6	19	I	T		
		III		T	
	20	III		5M	
		I			5M
	21	I	T		
		III			T
	22	I			5M
	23			5M	
	24		T		
	25				T
	26			5M	
	27				T
	28			T	
	29		2m		
	30				T
	31		T		
Coda	32	I	T		

Solid line = Simultaneous entries
Dashed line = Stretto entries

Fig.4. Tonal Levels of Thematic Entries in Op.106.IV.

Op.110.IV is comparatively more conservative in its tonal design where thematic entries are concerned. The first section utilizes only the 5M as the customary Dominant second entry, and the 4M as contrasting thematic levels. Otherwise, it is completely Tonic. The interlude and beginning of the last section have been assigned to remote keys, arriving at the greatest distance of 5♭M, a relationship which is the least favored in major-mode tonalities. This is one of the few instances in all of the sonatas where Beethoven uses the 5♭M as the tonal level for a thematic statement. The four final entries (T, 5M, T, T), reflect to a lesser degree a similar practice in the closing section of Op.106.IV. It is interesting to note that Beethoven achieves a degree of tonal stability before arriving back at the Tonic level by moving from remote keys to closely-related ones for three successive thematic entries.

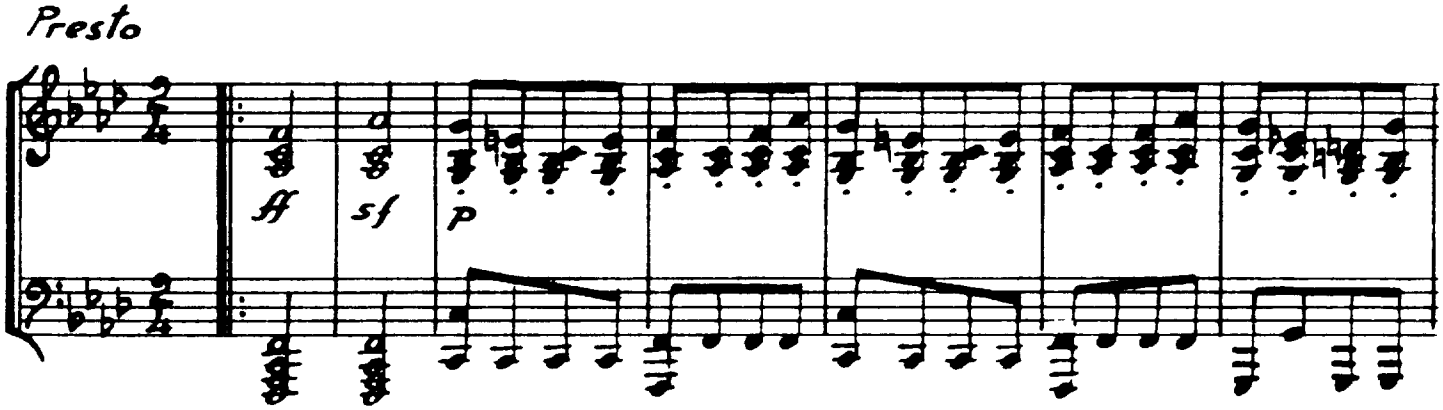
CHAPTER V

CADENCE KEYS

The term Cadence Key has been selected to denote a specialized use of tonal change which, although it will readily be recognized as a familiar practice in much of the music of the major-minor key system, is significant in revealing a composer's feeling for certain tonal values in the establishment of specific formal conditions in his music. It will generally be acknowledged that many of Beethoven's compositional practices, while they may be genuinely characteristic of his style or, at least, of certain phases of his creative development, cannot always be regarded as being particularly distinctive and exclusively individual style attributes. It would be a difficult if not impossible task, in some instances, to distinguish between the music of Beethoven and that of other composers of his own time, or even of other times for that matter, on the basis of certain technical practices alone. The Cadence Key, as will be seen, undoubtedly falls in this category. The purpose here is not to point out the distinguishing characteristics of this device as differentiated from usages by other composers, but rather to discuss it as a specific technical feature that appears repeatedly in Beethoven's music as a particular expression of tonal contrast and activity.

A Cadence Key may be described as the establishment of a tonal level which contrasts with the principal key of an immediate structural division and which appears during the course of a phrase as the tonal level for the expression of a full cadence.[1] In simpler terms, a Cadence Key occurs pointedly and specifically as a contrasting tonal setting for a full cadence. However, the other qualifying conditions should also be noted: the existence of a "parent" key in the structural unit and the progression to the contrasting key within the phrase that contains the full cadence. All of these conditions may be observed in Ex. 6.

Ex. 6. (Op.57.III., meas.308-325)



[1]The formation referred to here as a full cadence consists of the expression of a Tonic chord in such a way that it completely checks the harmonic-melodic continuity of a phrase. This Tonic chord always has the root as its lowest tone and most always as its highest tone. Nearly all of Beethoven's full cadences are authentic, the plagal-type cadence being extremely rare.

Ex. 6. ---------- continued.



According to the definition given above, the key of C minor occurring in measures 313-314 constitutes a Cadence Key. It contrasts with the principal key (F minor) of the structural division in which it appears; its primary function is to serve as a cadencing level for the phrase in which it originates with the phrase itself ending in a full cadence. The following phrase (m.315-325) also consists of two contrasting keys (A-flat major and F minor), and also terminates in a full cadence. But here the tonal level of the cadence is that of the principal key, F minor, and does not stand as a contrasting key within the structural division.

A full cadence, by virtue of its inherent harmonic-melodic formation, stands as a definitive close to the passage

in which it occurs. When it is expressed at a level which contrasts with the initial level of the phrase, however, it becomes comparatively active due to the tonal motion generated by the change of key itself. Thus, in such formations, two opposing factors are co-existent: the factor of termination (the full cadence), and the factor of continuity (the tonal motion). Because of these conditions, the Cadence Key is particularly suited to compositions whose formal structures are essentially sectional --compositions that can accommodate for their own expressive needs the combined effects of termination and continuity at certain points of structural importance.

The types of sonata movements included in this general category are Theme and Variations, Song and Trio, and the First, Second and Third Rondos. Such movements usually contain one or more sections consisting of small two- or three-part designs,[2] and it is in connection with the opening part of these small designs that the Cadence Key is most frequently used. Beethoven usually constructs the first part of such a design in period form, and less frequently as a repeated phrase or double-period. Consequently, the Cadence Key appears most often as the terminal cadence of a period formation. It also appears with the repeated phrase where the latter is used as Part I (Ex.6), but never with the double-

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[2]Known variously as Two- or Three-part Song Forms, and Small Binary or Ternary Forms.

period.[3]

Only occasionally does Beethoven use the Cadence Key in connection with movements other than those mentioned above. Since the Cadence Key formation produces a decisive sectionalization of the formal structure, it seldom appears in movements in which the condition of continuous motion is an essential feature. In Sonata-Allegro movements, for instance, the expression of a full cadence is usually restricted to the closing stages of the exposition and recapitulation, and it appears within a key-level which was previously established as a principal level for the statement or restatement of thematic material. The other cadential formations enroute to such points and within the development section are preponderantly open cadences (i.e., partial or half-cadences). The appearance of a Cadence Key in such movements is extremely rare and even more so in the fugue movements where an even greater degree of uninterrupted motion is maintained.

Regarding the key-relationships expressed as Cadence Keys, certain relationships appear consistently with respect to the mode of the initial key of the phrase. If the phrase begins in a major-mode key, the Cadence Key will be stated nearly always at the major Dominant (5M) level (Ex. 7).

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[3]Other examples of a repeated phrase as Part I in small part-designs may be found in Op. 27.1.III, and Op.10.2.II. It will be noted that in each of these cases Beethoven uses a phrase of eight or more measures, the effect of which is not unlike that of a period design.

Ex. 7. (Op.14.2.II., meas.1-9)



The SM progression in such instances creates a compelling tendency for immediate motion back to the initial level of the phrase as in the above example from G major to C major. Beethoven almost invariably complies with this tendency for resolution and begins the succeeding phrase in the original key of the division (Ex. 7). The only exceptions

in the sonatas to this practice occur in the first movement of Op. 109 and Op.31.1 (first movement). In Op.109, the Cadence Key of B major (5M) in measure nine does not proceed immediately to the inceptive key (E major) but rather progresses to C-sharp minor, expressing a successive relationship of 2m instead of the customary 4M. The example from Op.31.1. is quoted below.

Ex. 8. (Op.31.1.I., meas. 1-14)



In four of the late Sonatas, Opp.101, 106, 109, 110, progressions from a major-mode level to a Cadence Key occasionally involve relationships other than 5M. The progressions to 6m, 2m, 3m and 6bm which appear in these works

indicate a trend away from the idiomatic treatment previously expressed in such passages. These exceptional relationships also provide additional variety where the succeeding tonal motion is concerned, in that the progression back to the initial level of the passages in question is neither implied nor carried out.

Cadence Keys arising from minor-mode inceptive keys express two predominating relationships--the 5m (illustrated in Ex. 6) and 3bM (Ex. 9).

Ex. 9. (Op.10.2.II., meas. 1-8)



Neither of these relationships impels motion to any particular subsequent level. Where a repetition of the passage is indicated, the initial key returns without benefit of a modulatory process from the Cadence Key. Where the 5m relationship is used, Beethoven customarily omits the third and fifth of the Tonic chord, thus not committing the cadence to a terminative minor triad. The tonic root, usually doubled in an octave or double octave, can stand as a dominant pivot back to the original key (Ex. 6). Regardless of which relationship is stated, the level of the ensuing part is never that which preceded the Cadence Key.

Exceptions to these relationships, as in the case of those arising from major-mode inceptive keys, take place in the late sonatas and confirm Beethoven's tendency to abandon the former characteristic procedures in favor of more varied and less stylized tonal expressions. Relationships of 5M, 6♭M, 4m and 7♭M appear in the late works. One of these relationships, the 6♭M, occurred in an early work, the second movement of Op.13 (Ex.10), but aside from this single occurrence, Beethoven used the 5m and 3♭M relationships exclusively in sonatas up through Op.90.

Ex. 10 (Op.13.II., meas. 41-44)



In view of the fact that Beethoven used the Cadence Key device less frequently after Op.81a, these exceptional relationships, from both major- and minor-mode sources, predominate over the relatively few expressions of the formerly preferred relationships. None of the various relationships which appear in sonatas from Op.101 to 111, however, are used often enough to indicate the establishment of new tonal preferences in Cadence Key formations.

CHAPTER VI

TONALLY CONTRASTED REPETITIONS

The term "repetition" is used here and throughout this study to designate the immediate recurrence of any portion of a musical composition in contradistinction to alternate or intermittent recurrence for which the term "restatement" has been applied. Thus in a structure represented by the letters A A B A, the second A would be considered as repetition and the third A as restatement.[1] In addition to the exact duplication of a musical formation, repetition should be understood as including all reiterative devices such as sequence, ostinato, imitation, variation or other modified treatments in which the principle of repetition is evident. The discussion here is concerned only with those repetitive formations in which the element of key-change is involved. In this respect the following two divisions have been made which will be dealt with separately in this and the following chapter: (1) modulatory sequential passages, and (2) phrase repetition at a contrasting tonal level.

Before proceeding with the discussion of Beethoven's treatment of modulatory sequential progressions, it seems

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[1]This distinction has been applied with some reservations and inconsistency by W. Apel, Harvard Dictionary, 636, 638, 696.

advisable at this point to explain the distinction which has been made between items 1 and 2 above. Strictly speaking, both formations are sequential in that they involve repetition of thematic material at a different key level, or levels. However, such repetition differs in its musical effect and structural significance according to whether it occurs within a phrase or as a result of phrase duplication. In the first case, repetition is part of the progressive motion towards cadence and the formation of a single structural unit; in the other, repetition is a resumption of motion and a re-framing of a structural unit which has already had its beginning, continuity and end. Since these differences exist, these two forms of repetition have been considered here as separate compositional practices. The type that occurs within the phrase has been designated as modulatory sequential progression; the other, which results in phrase duplication, has been called phrase transposition.

Modulatory Sequential Progressions[2]

Beethoven's use of the sequence was almost completely confined to the type of progression which involves one or more changes of key. Diatonic sequences appear so infrequently in the sonatas that they do not merit any particular consideration as a characteristic compositional practice. In dealing with the modulatory sequence, then, this study not

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[2]For a definition of sequence and modulatory sequence, see the Glossary.

only covers a specific category of tonal progression, but also covers the predominant features of a single device--the sequence itself.

Modulatory sequences appear in every sonata with the exception of Op.14.1. The omission here tends to emphasize the fact that Beethoven's liking for sequential passages is not as evident in the early sonatas as in the middle and late works. This does not mean that the device was not used consistently as a fundamental technique in the early sonatas, but rather that Beethoven utilized its resources to a much greater extent after Op.28. In view of a prevailing observation relating to Beethoven's early works that his youthful style is imitative and derivative,[3] it would seem reasonable to assume that such a time-worn and facile device as sequential repetition,which figured so prominently in the development of musical styles, forms and techniques prior to the time of Beethoven,would appear extensively in his early compositions. Actually there is very little evidence in the pre-Vienna works to indicate that Beethoven's imitative tendencies had been noticeably influenced by this particular device. Where the piano sonatas are concerned, the works which precede Op.2 are almost completely devoid of sequential treatment,although other patent features of traditional and contemporary usage are consistently employed.[4] This fact, plus

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[3]Eric Blom, Op. cit., 168ff.

[4]Three Sonatas in Fm, Eb and D, published without opus numbers in 1783. Another Sonata in C (two movements only, the second completed by F. Ries, published posthumously

the observation made above concerning Beethoven's increased use of sequence after Op.28, leads to an acceptable conclusion that, as a style characteristic, sequential treatment flourished in relationship to Beethoven's development as a composer.

The increased use of modulatory sequential progressions in the last fifteen sonatas may be noted in the greater number of movements which involve sequence and also the greater number of progressions. The comparative figures for the two groups of sonatas are given in the following table:

TABLE 18

NUMERICAL DISTRIBUTION OF MODULATORY SEQUENCES IN SONATAS OP.2.1 TO OP.28 AND OP.31.1 TO OP.111

	Op.2.1 to Op. 28	Op.31.1 to Op. 111
Total no. of sonatas	15	15
No. of sonatas using sequence	14	15
Total no. of movements	54	45
No. of movts. using sequence	28	32
Total no. of progressions	59	115

Although there is a wide range of ingenuity and resourcefulness shown in the sequential passages, certain general features of construction and application can be noted

in 1830) also belongs to this period. These sonatas appear as Nos. 33-36, respectively in Beethoven's Werke (Ann Arbor: Im verlag von J.W. Edwards, 1949), Serie 16, 149-182.

in connection with a large number of these progressions. One of the predominant characteristics in this respect is the repetition of all the parts of the initial pattern. For the most part, such repetition is not strict in the sense that the exact intervalic relationships in the pattern are duplicated at the succeeding level, or levels. Beethoven usually prefers to repeat the pattern with some qualitative change in melodic and harmonic intervals. This practice, of course, affects the degree of relationship between the successive keys. Whereas a progression up a major second from C major would involve the key of D major--a remote key--the modification of certain intervals could establish a close relationship, e.g., the key of D minor. The progression shown in Ex. 11 illustrates this particular treatment whereby a succession of closely related keys and a break in the harmonic sequence is accomplished by means of such qualitative changes.

Ex.11 (Op.106.IV., meas.304-306)



Strict repetitions which maintain exact intervalic duplication do not figure prominently in the sonatas (Ex.12). This type of repetition is more typical of the repeated phrase (see Chapter VII).

Ex. 12. (Op.2.1.I., meas. 68-73)



In connection with these strict sequential repetitions, it is significant to note that Beethoven almost completely avoids successive levels that rise at the interval of a second. Repetitions of this sort have been denoted by the disparaging term "rosalia" (Schusterfleck), in reference to a somewhat crude and inartistic application of sequential

procedure found in the works of "second-class composers of the period 1750-1850".[5] In all of the Beethoven piano sonatas there is only one sequential passage which employs exact repetition at the higher second (Op.31.3.I., meas. 35-45). Since other intervals of rise and fall are used elsewhere quite freely, it can be assumed that Beethoven consciously avoided using the so-called "rosalia" progressions for obvious artistic reasons.

Progression in which one or more parts of the pattern are changed slightly upon repetition are not uncommon in the sonatas.

Ex. 13. (Op.109.II., meas.43-49)



[5]Willi Apel, op. cit., 652.

Melodic and rhythmical changes of this type provide an appreciable degree of variety within the progression but do not tend to disrupt the total sequential effect. A still different treatment may be noted in Ex. 14 in which the direction of one line is reversed at a point within the progression. The change, in this case, was obviously made to effect a desirable spacing of parts.

Ex. 14. (Op.2.3.III., meas. 48-55)



Imperfect sequences--progressions involving one or more parts which do not proceed in sequential order--are not particularly noteworthy as characteristic compositional features. Despite their rather infrequent use, however, they may be regarded with considerable interest as evidencing Beethoven's resourcefulness in adapting a time-worn device to his individual needs.

Occasionally there may be found a passage in which the parts in the initial pattern are transferred to opposite positions in the repetition. Technically speaking, such a

process constitutes imitation and not sequence. However, the effect at times is more that of sequential continuation than of cross-imitation, as may be observed in Ex. 15.

Ex. 15. (Op.26.IV., Meas. 12-20)



Usually where an inverted arrangement of this type occurs, the progression through that point is stated again sequentially with the result that the original pattern plus its inverted repetition together becomes a large-scale or compound pattern.

This technique appears for the most part in contrapuntal movements or sections of movements. Even where the

texture is essentially homophonic, the effect produced by the transference of parts is not without some contrapuntal significance. It is especially in the later works that this particular treatment of sequence reaches a high stage of technical development. One of the most complex in this respect occurs in the fourth movement of Op.106 (Ex.16). Here Beethoven combines the devices of imitation, double counterpoint, stretto imitation, and segmentation[6] with changing sequential formations leading to one of the climactic points of the movement.

Ex. 16. (Op.106.IV., meas.308-325)



[6]Segmentation refers to the gradual or abrupt reduction of a musical pattern in continuous repetition.

Ex. 16 ---------- continued.



Long sequential passages consisting of multiple repetitions are a rarity in the sonatas. The maximum number of repetitions is six, which occurs but once in all of the works (Op.54, II., 89ff). Beethoven usually confines his sequences to one repetition of the pattern with very few of them exceeding two repetitions. Occasionally a progression will

contain one complete repetition followed by a partial recurrence of the pattern, but such passages, on the whole, are rather infrequent. The pattern itself is usually short, consisting in most cases of one or two measures. Seldom is the pattern less than a measure in length or greater than two measures, with the exception of four-measure patterns which make up about ten percent of the initial statements. Metrically, the four-measure patterns often create the effect of a regular phrase and could be considered as such except for their lack of a cadential formation. Other patterns extending to as much as eight measures are extremely rare.

The sequence normally functions as a means of extending a phrase, appearing most consistently within the body of the phrase or as an approach to the cadence. However, about one-third of all modulatory sequences can be found at the beginning of phrases, the statement of the pattern being the initial member of the phrase itself.

Beethoven applies sequential procedure to every type of movement, from the simplest structure to the most complex. The progressions appear most prominently, however, in Sonata-Allegro, Third Rondo, Song and Trio, and the Fugues. Regarding Theme and Variations, only the late movements in this form contain modulatory sequential passages. First Rondo movements are almost completely devoid of such progressions but do show some slight use of diatonic sequences.

As to the place and function of the sequence within the movement, some differences may be noted with respect to the basic structure of the movement. Most frequently the sequence appears in development sections of Sonata-Allegro, Third Rondo movements and in the episodic passages of Fugues. It also figures prominently in transitional passages in nearly all types of movements. Rarely does an initial thematic statement of a principal division contain a sequential progression. Such a treatment, however, may occur at the beginning of a secondary division, e.g., Part II of a small two- or three-part division. This particular procedure is typical of nearly all such divisions, especially in Song and Trio movements, and may be considered as a characteristic practice in connection with movements of that design.

The direction of the sequence, that is, the ascending or descending line resulting from the repetition of the pattern (not, in all cases, the direction of key-progressions) favors slightly an ascending motion. Over one-half of the total number of progressions rise. This majority is not important in itself as a frequency, but it does have considerable bearing upon the quality of Beethoven's music. These rising progressions, often moving contrary to the inherent directional tendencies of the pattern itself, are instrumental in providing moments of ascendant force and energy that permeate many of these works. The relationship of direction to the place of the sequence within the design shows that:

1. In development sections and transitional passages, upward progressions occur as frequently as downward ones.

2. The beginning of the second part of small part-designs is characteristically upward.

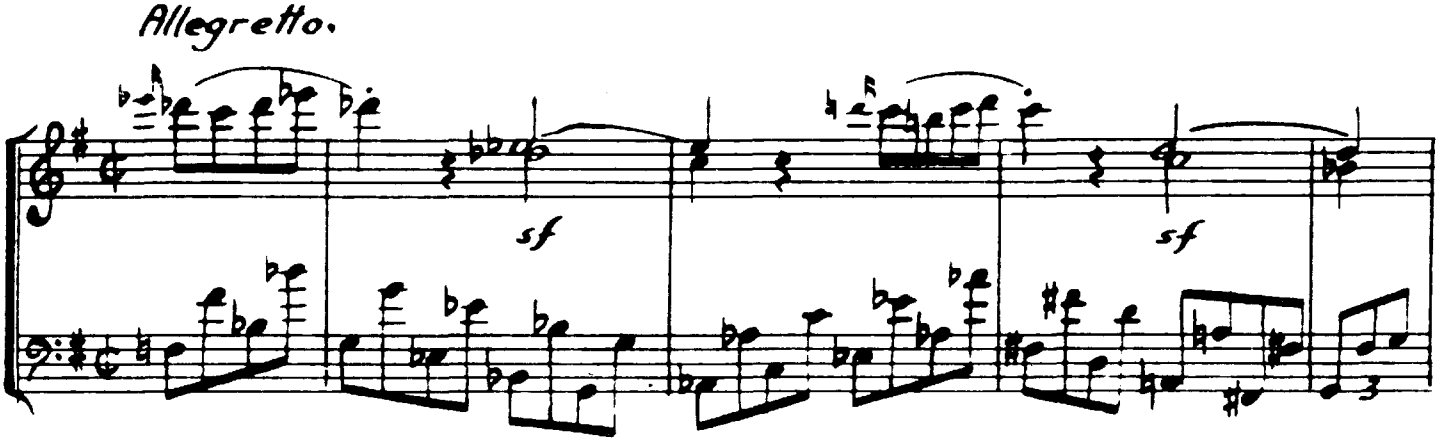
3. Sequential passages in codas nearly always ascend.

4. Where sequential progressions occur in the statement of thematic material, the direction is usually upward.

The intervalic order of rise or fall is predominantly that of a second (64%). Next in order are those of a third (15%) and a fourth (13%). The other intervals of a fifth, sixth and seventh are used infrequently. The distribution of these intervalic orders as to direction is nearly equal in all cases except those of a fourth which are predominantly upward.

The number of key-changes occurring in a modulatory sequence usually corresponds with the number of repetitions --one repetition, one key change, etc. Occasionally there are fewer key-changes than the number of repetitions, but more changes are exceptional unless the pattern itself involves more than one key.

Ex. 17. (Op. 31.1.III., meas. 117-121)



The intervalic relationships of the key progressions correspond with the sequence interval in slightly more than half of the progressions. In such instances the degree of rise or fall in the sequence is duplicated by a similar motion in the change of key level. Most of the sequences that show this correspondence of key and interval contain remote keys (in reference to the Tonic) at least at one point within the progression. Although the modulatory sequences are not preponderantly made up of remote keys, they are notably effective and notably characteristic in bringing remote keys into the tonal activity. Some of the most distant non-Tonic keys seldom appear in any other phase of tonal design.

Other factors relating to the tonal aspects of sequences are:

1. Key progressions that do not correspond with the intervalic order of the sequence are frequently a fourth or fifth apart.

2. Most sequences involve a change of mode.

3. A large majority of progressions involve the Tonic level, either as a departure from it or as a progression toward it.

4. Where the Tonic appears it is frequently stated in the opposite mode of the initial mode of the movement.

5. Successive bi-modal changes within the pattern rarely occur.

CHAPTER VII

TONALLY CONTRASTED REPETITIONS--Continued

Phrase Transposition

Among the various means by which tonal contrast enters into a composition as a singularly distinctive form of expression, the practice of repeating a complete musical phrase in a different key becomes in the music of Beethoven an outstanding stylistic tonal procedure for the first time in the development of homophonic music. The historical antecedents of this practice can be observed in the imitative forms of polyphonic music which antedate the emergence of the major-minor key system. Early usages of Phrase Transposition within the latter period are perhaps best exemplified by certain imitative entries of subject material in fugal compositions of the period. Here, however, the transposition applies only to the melodic line itself and not to all of the constituent parts of the phrase in question. Literal transpositions were quite exceptional and not characteristic of the style of the period. In the music of J. S. Bach, there may be found examples of complete phrase repetitions at contrasting pitch levels within non-imitative passages, such as the one quoted below (Ex. 18). Such expressions were exceedingly rare and seldom involved an actual transposition to a contrasting key.

Ex. 18. (Bach: Italian Concerto, I., meas. 1-8)



Even in the music of Mozart and Haydn where tonal procedures reached a high stage of development in freedom and variety of expression, the practice of Phrase Transposition seldom occupied a conspicuous place in musical composition outside of the working-out of thematic materials in development sections.

Beethoven, on the other hand, adopted the idea of Phrase Transposition early in his creative life and made it a distinctive compositional feature both in the manipulation of tonal materials and in the organization of certain structural forms. Although it perhaps would be misleading to define

Beethoven's use of the device as an innovation in tonal expression, it would be quite accurate to say that Beethoven realized its full expressive potentialities in a more pronounced, consistent and individualistic way than had been achieved by composers before his time.

Phrase Transposition occurs in all of the sonatas with the exception of Op.78,79,101 and 109. These four works, coming where they do in the sonata chronology, indicate that Beethoven tended away from such tonal expressions in his later years. This trend is also noticeable with respect to a decrease from Op.81a to Op.111 in the number of movements that include Phrase Transposition,and also in the fewer statements of the device within those movements as compared with earlier practices. Here is an almost exact reversal of what took place in connection with Beethoven's use of modulatory sequential passages. Whereas the latter expressions found their most extensive use in the middle and late works, these larger forms of repetition were favored in the early sonatas and in those of the middle period up through Op.57.

Beethoven shows a particular liking for Phrase Transposition at the beginning of certain movements, and it is in such instances that this treatment gains its greatest significance as a stylistic practice. The procedure is virtually idiomatic in Song and Trio movements of the early sonatas. The striking similarity of the opening portions of Op.26.II and Op.27.2.II (Exs. 19 and 20), attests to the idea that Beethoven conceived

movements of this type in terms of stylized tonal patterns -- an observation which is substantiated by similar formations in other movements. The earliest application of this treatment is Op.2.2.III, and other instances may be found in Op.2.3.III and Op.10.3.III (both modified repetitions), also in Op.26.III and Op.28.III.

Ex. 19. (Op.26.II., meas. 1-8)



Ex. 20. (Op.27.2.II., meas. 1-8)



After Op.28, Beethoven discontinued the use of Song and Trio movements in quick triple-meter in the sonatas with the one exception of Op.106.II. Stylistically, however, this late movement is only superficially related to earlier compositions of the same design. Where the piano sonatas are concerned, the Song and Trio movement and the tonal style connected with it are characteristic features only of the early works. In the ten middle-period sonatas, none of which contain Song and Trio movements, Beethoven expresses his predilection for Phrase Transposition as an opening formation in the first movement of five sonatas.[1] All of these movements are in Sonata-Allegro design. Just as the practice of repeating an opening phrase at a contrasting level became associated with one type of movement in the early sonatas--Song and Trio --now, in these works of the second period, it becomes characteristically related to another specific structural design --the Sonata-Allegro.

The opening passages in two of these movements, Op.53.I (Waldstein) and Op.57.I (Appassionata), have elicited considerable comment from a number of writers dealing with the analysis of Beethoven's music. In general their remarks have to do only with the impressive effect achieved in the transposition of the opening statement of each movement to a remote key. None of the works reviewed in connection with this study has

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[1] Op.31.1.I., 31.2.I (modified), 53.I., 57.I., and 90.I.

made any mention of Phrase Transposition in the light of its constituting a fundamental compositional practice. A.F. Milne, in speaking of the beginning of Op.57.I, states that "This particular device of repeating the initial idea a step higher or lower may be found also in the Waldstein Sonata (1st movement), in the first movement of Op.31,No.1, and elsewhere",[2] but gives no further information concerning the technique of phrase repetition itself as a characteristic procedure. Actually there are no other instances of the particular degrees of transposition of which he speaks in the piano sonatas.

It should be understood that all of these passages in the five sonatas mentioned in footnote #1, page 112, exemplify a fundamental constructional idea quite independent of the differences of expression that appear in each separate instance. The device itself has its antecedents in the very earliest works, and although it does not always appear with equal force or impressiveness, it represents a distinct liking for the combined effects of thematic duplication and abrupt tonal change.

From the standpoint of their fundamental construction, the opening statements of Op.2.1.I and Op.31.2.I are essentially the same:

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[2] A.F. Milne, Beethoven: The Pianoforte Sonatas, (London: Oxford University Press, 1949), I, 44.

Ex. 21. (Op.2.1.I., meas.1-9)



Ex. 22. (Op.31.2.I., meas.1-9)



Ex. 22 --------- continued



The first phrase of each ends with a dominant cadence. The second phrase of each begins without benefit of modulation at a contrasting key level, and each begins with a repetition of the initial idea of the preceding phrase. In neither of these passages is the repetition complete. But the essential elements of the formation itself are present. Those elements are felt to be the establishment of a tonal change simultaneously with the immediate recall of a thematic idea after the statement of a cadence. It is true that Beethoven usually repeats the thematic idea in its entirety, but even in the few instances where the repetition is incomplete or modified, the resultant effect, as far as achieving the tonal change is concerned, is the same.

The three sonatas mentioned by Milne are the only ones to use remote key-relationships in these opening formations. The treatment exhibited in these opening passages is in a sense the culminating point in the progress of a compositional idea. After these dramatic expressions there was very little Beethoven could do but repeat the inspired effects in these movements. The very rapid decline in the use of Phrase

Transposition after Op.57 could very conceivably have resulted from the fact that as a musical device it offered no further possibilities for fresh and effective expression.

The tonal conflict arising from transposed phrases appearing at the beginning of a movement has a greater effect upon the identity of the tonality when the contrast consists of close, rather than remote, key-relationships. In the third movement of Op.2.1., for instance, there is no assurance at the end of the first period (meas.1-12) that F minor is the Tonic. It could very conceivably be Ab, the balance between the two keys being very delicately poised. That the tonality is F minor is not confirmed until the closing stages of the Principal Song. A similar condition exists in Op.26.II and Op.27.2.II where the relationship lies between Dominant and Tonic (Exs. 19 and 20). In these cases, the non-Tonic key (5M) is stated first, and again the Tonic is not definitely established until near the end of the first principal division of the movement.

Where two remote keys are juxtaposed at the beginning of a movement, there can be little doubt from the standpoint of the existing relationships that the initial key is the Tonic and that progression is made to a remote key. This is in keeping with a fundamental practice in Beethoven's establishment of tonal relationships that progressions to the Tonic are usually made from closely-related keys, not from remote keys.

In the large majority of cases the key-relationships arising from Phrase Transpositions are close. The most notable examples of remote keys are those that have already been cited in connection with the first movements of Op.31.1., 57 and 53. The distance between the keys is most frequently that of a perfect fifth or fourth. Larger distances are unusual although keys a sixth apart are fairly prominent. A particularly striking progression of keys a sixth apart occurs in the development section of Op. 57.I.

Outside of the treatment already discussed in connection with Song and Trio and Sonata-Allegro movements, the only other consistent application of Phrase Transposition appears in development sections of Sonata-Allegro and Third Rondo movements. As a repetitive formation, this device does not compare as to frequency of use with the shorter statements found in modulatory sequential passages. It would appear from Beethoven's greater use of pattern sequences, as compared with the use of Phrase Transposition in development sections (Op. 57.I is an outstanding exception), that the latter device is noticeably less satisfactory in providing the desirable discursive effect that is so characteristic a feature of development sections.

CHAPTER VIII

PREPARATORY KEYS

The portions of a composition which have been designated by various theorists as transitions, re-transitions, bridge-passages, modulatory connections, connecting links, etc., perform a certain function which, despite the connotations of the foregoing terms, is fundamentally the same in all cases. This function may be described appropriately as being one of preparation--the preparation for a thematic statement through the use of explicit musical formations which have been expressly designed for that purpose. These formations not only arouse an expectancy for an oncoming thematic event, but lead in a direct fashion to the point where such an event occurs and anticipate its tonal level.

This idea has been brought out clearly in many of the discussions of the above-mentioned terms, but in some instances these terms have been given specialized meanings which do not apply to all preparatory phases of a composition. In this study, the terms "preparation" and the adjectival form "preparatory" have been adopted in reference to all such passages regardless of their length, place in the design or their relative structural importance. They are not intended to supplant other commonly-used terms, but rather to describe the essential function and nature of any passage which has been so designated.

The purpose here is to discuss the pertinent aspects of Beethoven's preparatory passages, especially with regard to the techniques used in the formation of their anticipatory qualities and the tonal relationships that exist between the preparatory passage and the subsequent thematic statement. The tonal level of such a passage has been designated as a Preparatory Key, in that its function at the time of its statement and throughout the passage is explicitly one of preparation.

Beethoven expresses the anticipatory qualities of a Preparatory Key in one of two ways:

1. By emphasizing dominant harmony, or by insisting upon certain elements of dominant harmony.

2. By establishing a tonal level which will assume the function of Dominant Key to the key of the approaching theme.

The first of these two processes is used far more frequently than the other. Of the 422 preparatory passages occurring in the sonatas, there are only six that do not come under this classification. The typical Beethoven preparatory passage is characterized by harmony of dominant function. Thus, in a large majority of cases, the key of preparation and that of the subsequent theme is the same, and the expected resolution of the preparatory dominant harmony is fulfilled. The qualifying conditions achieved through dominant emphasis and dominant insistence are illustrated in the following examples.

Dominant Emphasis

A preparatory phase in a movement may be extremely short, the preparation in some instances consisting of no more than the establishment of the Preparatory Key through the single utterance of the dominant or dominant seventh chord.

Ex. 23. (Op.10.1.II., meas.43-46)



This procedure has been considered as constituting a Preparatory Key inasmuch as a key change has been effected which at that point stands as the preparation for the succeeding thematic level. It will be noted that the dominant seventh in this example has been emphasized by means of a sudden change in dynamics, a change in texture, the arpeggiation of the chord, and by being isolated by preceding and succeeding rests. A comparison with the example below will show that virtually the same technique is used in the late period.

Ex. 24. (Op.111.I., meas. 69-73)



Emphasis is also achieved by approaching the dominant note or chord in certain ways. Particularly notable in this respect is Beethoven's use of augmented sixth harmony preceding the dominant. This is especially true of the early sonatas.

Ex. 25. (Op.2.1.I., meas. 52-57)



Beethoven almost completely abandons progressions of this type in the middle-period and late works. It is quite surprising, consequently, to find such an obvious expression occurring in Op.111 (see Ex. 28).

In the first movement of Op.10.3., the dominant note is approached as the final note of the passage through an ascending scale-line. The broadening of the rhythmical motion, the concerting of right- and left-hand octaves, and the increased dynamic level assist in emphasizing the dominant. The contrast between the detached octaves and the sustained dominant also contributes to the forcefulness of the dominant.

Ex. 26. (Op.10.3.I., meas.19-23)



Another characteristic means of emphasizing a preparatory dominant may be noted in the following example where the seventh of the chord is approached from a wide leap (Ex. 27).

Ex. 27. (Op.13.IV., meas. 57-62)



Dominant Insistence

This condition, which applies to a prolongation of dominant function in a preparatory passage, is achieved through the reiteration of the dominant note or chord by one or more of the following means:

1. Repetition of the dominant note or chord.
2. Establishment and maintenance of dominant pedal.

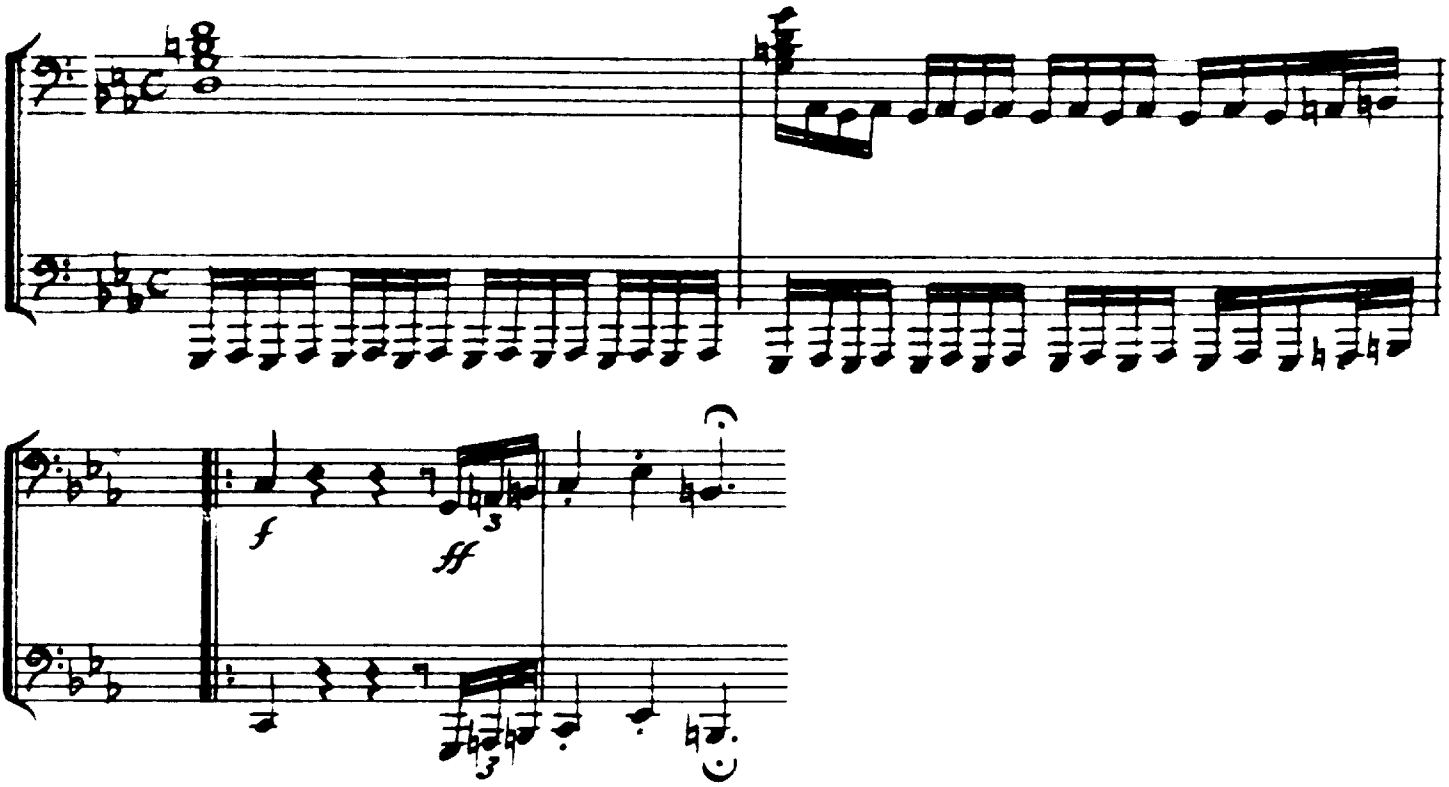
3. Re-introducing the dominant through harmonies which move in a direct fashion to it.

These various procedures may be observed in Ex. 28 which illustrates, in principle, the fundamental features of extended dominant preparation.

Ex. 28. (Op.111.I., meas.10-20)



Ex. 28.---------- continued



In this passage, Beethoven leads into the preparatory key (C minor) and simultaneously emphasizes the first utterance of dominant harmony through the medium of an augmented sixth chord (meas. 10-11). From the standpoint of having thus expressed a preparatory act, Beethoven could have moved from this point (first beat of meas. 11), with intervening rests on beats two and three, to the fourth beat of meas. 19, the upbeat into the Exposition. What takes place between these two points is a prolongation of the preparation with a continued insistence upon the anticipatory qualities of the dominant. Beethoven also enhances and strengthens the whole passage by re-emphasizing the dominant at various points through dynamic changes, non-harmonic embellishments, successive changes in the position of the dominant chord, and by reinforcing the

dominant note and its embellishments through octave doublings (meas. 18). Some form of re-emphasis will nearly always take place in such a passage with the resultant effect that the dominant element is re-energized and kept forcefully active throughout the course of the Preparatory Key.

An interesting and revealing comparison can be made between this excerpt from Op.111 and one from the fourth movement of the first sonata (Ex. 28). While there are notable stylistic differences between the two with respect to the formation of expressive qualities, there nevertheless exists a similarity in the fundamental procedures used in moving to the Preparatory Key, in emphasizing and re-emphasizing the dominant harmony, and in prolonging that harmony throughout the respective passages.

Ex. 29. (Op.2.1.IV., meas. 12-22)



Ex. 29.--------continued



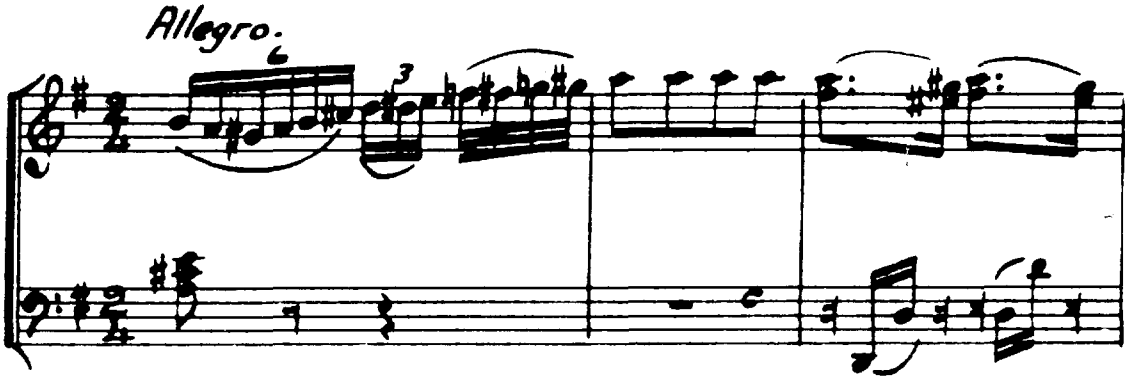
The second type of preparatory passage, mentioned previously, is that whose tonal level stands in the relationship of a Dominant key to the succeeding thematic level. As was also mentioned previously, this means of preparation rarely occurs in the sonatas. A discussion of it is included here, not merely because it is the only other categorical type of preparation, but rather because it illustrates the functioning of a key as an anticipatory factor in place of the more customary dominant harmony. A passage from Op.10.2.I. clearly illustrates this process.

Ex. 30. (Op.10.2.I., meas.27-38)



Here the key of G major is established for a period of some ten measures, the metrical emphasis being upon the Tonic chord. This harmony assumes the function of dominant to the subsequent key of C major which is reached in meas.38. Had this passage been intended to lead on into the key of G major for a thematic statement, Beethoven would have undoubtedly given the metrical emphasis to the dominant seventh chord rather than to the Tonic. It will be noticed that in the two measures of unaccompanied melodic line, the Tonic note, surrounded by its upper-and lower-neighboring tones, is reiterated throughout the two measures. It is a curious phenomenon of tonal relationships that when the root of a chord is thus reiterated at the end of a passage which precedes an expected thematic entry, its immediate tendency is to move to a tone a fifth lower, or to a harmony whose root is a fifth lower, as a progression of dominant to tonic. That Beethoven recognized these tonal implications is demonstrated in the above example. Another instance of the same treatment occurs in Op.14.2.I.

Ex. 31. (Op.14.2.I., meas.24-26)



An interesting example of how Beethoven avoids the expected resolution of a repeated tone (inserting altered tones which lead back to the same harmony) is illustrated in the following passage from Op.53.

Ex. 32. (Op.53.I., meas.257-261)



All preparatory passages express an intention of settling down in a certain key. In a large majority of cases the intended key is realized with the tonal implications of preparation becoming fulfilled in a forthright manner at the beginning of the expected thematic entry. Deceptive preparations do not figure largely in the sonatas, there being some twenty passages in all that do not lead to the

key for which they prepare. Usually such progressions involve a Thematic Key which lies a third above or below the Preparatory Key without any preference being shown as to specific relationships. In Op.10.2.I, for instance, the preparation for A minor is followed by the key of C major (Ex. 33).

Ex. 33. (Op.10.2.I., meas.16-19)



and in Op.106.I., C major is used as preparation for B major (Ex. 34).

Ex. 34. (Op.106.I., meas.198-201)



Deceptive resolutions of preparatory passages rarely occur at the beginning of a recapitulation section. One such instance was noted in the sonatas at the beginning of the recapitulation in Op.109.II.

Ex. 35. (Op.109.II., meas. 101-106)



Even though deceptive resolutions appear infrequently, they represent a distinctive type of treatment which belongs to a larger category of stylistic expressions-- the surprise effects that have become so universally associated with Beethoven's music. As exceptional procedures, however, these deflections from preparations become more significant as to their frequency when it is realized that they are distributed among nearly a score of movements and a total of thirteen sonatas which fall within all three of the creative periods.

One of the particularly noteworthy features in many of Beethoven's preparatory passages is the use of a bi-modal change between the preparation and the theme. In over one-fourth of the cases where a thematic statement is prepared

for at its own tonal level the mode of the theme is preceded by its opposite mode. This practice offers a commendable advantage in allowing the composer to declare the tonal level of the approaching theme without revealing its eventual mode. When in certain compositions it is possible to predict or anticipate the mode of an expected theme in advance of a Preparatory Key, the bi-modal preparation comes about as a complete frustration of expected developments. In addition, the change from one mode to the other provides a refreshing form of contrast that brings the new theme more vividly into focus than could be obtained short of a complete refutation of all anticipatory qualities.

Although bi-modal preparations are not restricted to any particular portions of a movement, they occur most frequently in connection with the approach to the Second Theme in Sonata-Allegro movements, and also to the restatement of the First Theme in Sonata-Allegro and Rondo movements.

It is more customary for Beethoven to precede a major-mode theme rather than a minor-mode theme with a bi-modal preparation. Regardless of the order of the modes, however, Beethoven will usually change to the mode of the theme shortly before the completion of the preparation (Ex. 36).

Ex. 36. (Op.53.I., meas. 28-36)



In some instances this change before the theme is almost imperceptibly brief, being accomplished by a non-harmonic tone which lies in the mode of the Theme (Ex. 37).

Ex. 37. (Op.31.1.I., meas. 63-66)



CHAPTER IX

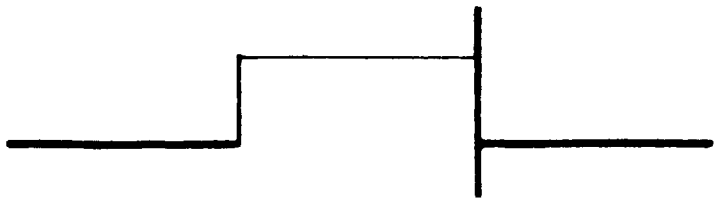
TONAL DEFLECTION

The term Tonal Deflection has been adopted in this study to designate a particular type of tonal progression which involves the interposition of a contrasting key within a single surrounding tonal level. The statement of an interposed key(e.g., the key of F major in the progression D minor-F major-D minor) is not an uncommon procedure in Beethoven's music, but the effect of such a contrasting key may vary considerably at different times according to its place and function in the design. In all, there are four different types of formations in the sonatas which might possibly include a progression similar to the example just given: the Cadence Key, Phrase Transposition, Thematic Key and what has been referred to above as Tonal Deflection. The first three types have been discussed separately in other chapters but not in connection with the use of an interposed key as such.[1] In order to show their essential structural differences where such a contrasting key is concerned, and to provide a comparative reference with Tonal Deflection, a graphic representation of each of these three types is presented in Fig. 5.

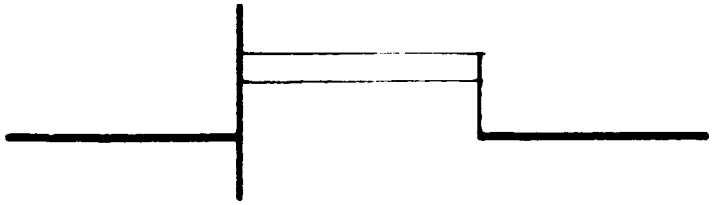
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[1] See Chapters IV, V and VII.

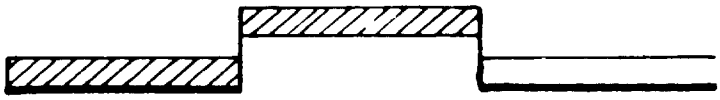
a. Cadence Key



b. Thematic Key



c. Phrase Transposition



Legend: Heavy horizontal lines represent established key.
Elevated horizontal lines represent Interposed key.
Long vertical lines represent full cadence of Part or Section.
Shaded areas indicate the same phrase formation.
White areas indicate divisional thematic entry.

Fig.5. Graphic Representation of Interposed Keys

Tonal Deflection resembles these patterns only in that a single contrasting key is involved in the progression. It does not end a part or section as does a cadence key; neither does it begin a new thematic division or repeat sequentially a passage which has just been stated. A deflective key interrupts suddenly and momentarily the progress of an established tonal field, and parenthetically expresses some additional element within the continuity of the passage in question. These distinguishing characteristics may be observed in Ex. 38.

Ex. 38. (Op.106.III., meas.10-17)



Ex. 38 ---------- continued



Here the key of G major is abruptly interposed within the principal key of F♯ minor as a temporary deflection from that particular tonal level; it is not cadential or repetitive and does not mark the entry of a thematic division. It is a part of the continuity of a single passage and expresses what may be termed a contrasting tonal insert. It appears suddenly as an interruptive expression and momentarily turns the tonal direction away from its established and intended course.

Digressions of this type constitute a most distinctive element among Beethoven's tonal techniques. Indeed, there are relatively few other ways in which a key is brought into play with the resultant effect of almost sheer contrast and tonal color that can compare with this particular device. Two factors, not mentioned above, contribute in a large measure to the effectiveness of Tonal Deflection: (1) the degree of relationship existing between the two keys, and (2) the way in which the deflective key is approached.

Beethoven usually expresses a remote key-relationship in passages containing a Tonal Deflection, especially

when the basic key of the passage is in major mode. Deflections from minor-mode passages are less frequently remote, but even so they often include a certain key-relationship that is characteristic of the device, whether it appears in a major- or minor-mode setting. This relationship is the 6bM. In over a third of all passages in which key-deflection appears, this particular relationship will be found. Other key-relationships used in deflection are 2bM, 7bM (both major and minor), 6M, 2M, 4M (major), 4m, 3bm (minor). The Dominant relationships (5M and 5m) are rarely used in such cases.

A well-integrated modulation which would provide a gradual orientation between the two keys and which would consequently minimize the interruptive effect of the contrasting key is notably avoided. Beethoven enhances the effectiveness of these progressions by usually employing one of three specific techniques; a direct key-change, an enharmonic modulation or a chromatic modulation. Of these three, the direct key-change is undoubtedly the most effective means of achieving the desired interruption of tonal direction. A complete absence of integration between the adjacent keys intensifies the force of the deflecting key and emphasizes the detached and parenthetical nature of the progression (Ex. 39).

Ex. 39. (Op.2.3.IV., meas. 292-300)



Enharmonic modulations are particularly effective in these passages due to the double deflection resulting from its use--the deflection from an implied harmonic progression and the deflection from an established tonal base (Ex. 40).

Ex. 40. (Op.2.2.IV., meas. 157-159)



Chromatic modulations lack the element of surprise contained in direct key-changes and enharmonic modulations,

but their directional impulses nonetheless provide a precipitant and pointed approach to the deflective key without weakening its intended effect (Ex. 41).

Ex. 41. (Op.90.III., meas.53-60)



Tonal deflections rarely appear as part of an expository thematic statement. As a matter of fact, Op.106.III

is the only movement in the sonatas in which Beethoven states a deflective key as an integral part of thematic formation (see Ex. 38). Deflective keys are to be found most frequently within the course of preparatory passages in Sonata-Allegro and Third Rondo movements. These digressions represent one of Beethoven's two chief means of achieving tonal variety within preparatory passages and of temporarily forestalling the expected destination of the preparatory key. The other device--bi-modal change--is discussed in the following chapter. Of these two tonal practices, deflection appears less frequently, but its effect is decidedly more pronounced due to the added element of key-contrast and the increased activity provided by the conflict arising from the contrasting keys.

In Sonata-Allegro movements, a deflective key often appears in the recapitulation section as a contrasting tonal level between first and second themes. The Subdominant key is the preferred relationship in such cases, but the Submediant (6m) and Supertonic (2m) of major-mode movements are also used occasionally as deflective keys in passages of this type. Perhaps the most striking example of tonal deflection to occur in connection with this particular portion of Sonata-Allegro design is the digression to C major (6♭M) in Op.14.1.I., (Ex. 42).

Ex. 42. (Op.14.1.I., meas.100-106)



The statement of a deflective key in other preparatory passages is much more prominent as a characteristic technique than the practice described above. Most often the deflective key occurs in the approach to a recapitulatory

section such as that leading to a restatement of the first theme in Sonata Allegro or Rondo movements. Such a tonal change, however, may be found in various instances in the approach to any thematic statement which follows the initial second theme. Beethoven never uses this type of tonal contrast in a passage which connects the initial statement of a first and second theme.

A deflective key is hardly ever used in development except where it might appear within concluding stages that have not been clearly defined as preparatory passages. In the fourth movement of Op.2.1., for instance, the middle section arrives at the Tonic key of F minor as a part of a short developmental process. At this point, the Tonic key might conceivably be confused with a return to that level for the purpose of recapitulation. Beethoven deflects the tonal level to Db major (6bM) as an interposed level before the true preparation for the recapitulation begins. This is the only way in which Beethoven ever uses a deflective key in connection with a development group.

Often a passage which leads to the beginning of a coda will contain a deflective key. As a matter of fact, Tonal Deflection is quite characteristic of coda sections which include some non-Tonic activity, regardless of whether such activity appears in the approach to the coda, at its beginning, or well within the body of the section. In most

of the codas Beethoven never moves away from the Tonic level at all, but where digressions from the Tonic base do occur, a deflective key will usually be expressed. More often than not there is only one non-Tonic key involved in codas which do not adhere strictly to the Tonic key. In these cases, the single contrasting key always appears as a Tonal Deflection.

Some deflective passages involve other features than those given in the definition at the beginning of this chapter. Occasionally some element relating to sequential repetition, preparation or a thematic entry will appear as part of the formation within the contrasting key (Ex. 43).[2]

Ex. 43. (Op.10.1.3., meas. 101-116)



[2]Other examples appear in Opp.2.3.I., 13.III., 14.1.II., 31.3.I., and 81a.I.

Ex. 43 ---------- continued



In such cases the digression performs other functions in addition to the statement of contrasting key-color. But these functions seem to be incidental to the purposeful activity of the tonal digression which, again, is the interruption of a basic tonal field and an intrusion upon its essentially exclusive domain. Only the one contrasting key is involved, and its total effect, regardless of the inner formation, represents a parenthetical expression which is in variance with the fundamental tonal function of the coda.

CHAPTER X

BI-MODALITY

The use of bi-modality,[1] to which previous reference has been made, may be regarded from several points of view as one of the most significant features among Beethoven's tonal practices. It has already been pointed out that bi-modal contrast was often used between sonata movements in preference to contrast by means of change of tonality, and that in this connection alone the expression of bi-modality constituted a principal tonal factor in sonata design.[2] Also, an examination of tonal resources associated with the tonalities of individual movements showed that Beethoven was extremely partial to bi-modal changes.[3] As an associate of major-mode tonality, this form of contrast was exceeded in frequency only by the Dominant key. In minor-mode tonality, the usage was somewhat less but still prominent enough to qualify as a favoured form of contrast.[4]

In addition to these observations, it should be noted that every sonata and over two-thirds of the movements contain

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[1] See definition in Glossary.

[2] Chap. I., p. 12.

[3] Chap. II., p. 30.

[4] Chap. II., p. 30.

one or more expressions of bi-modality. These expressions, furthermore, occur in connection with every type of structural unit: between movements, between primary divisions and secondary divisions of movements, between phrases and within phrases themselves. Although the amount and variety of contrast achieved through changes of key far exceed that of bi-modal expressions, there is no preferred key-relationship that can be said to fulfill as many different roles as does the device of bi-modality.

Beethoven's liking for large-scale bi-modal effects, as revealed in the interchange of Tonic major and minor between entire sonata movements, is also reflected within certain types of individual movements. In a number of cases, an interior principal division of a movement will be stated substantially in the opposite Tonic mode with direct bi-modal changes preceding and following such a division.[5] This particular treatment occurs only in the three types of movements shown in the following summarization. The bi-modal sections are underlined.

1. Song and Trio. Trio. (Op.2.1.III; 2.2.III; 7.III; 26.III; 28.II).

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[5]The principal divisions of a movement are those divisions that define the basic overall design, e.g., in Song and Trio movements the principal divisions are the Principal Song, the Trio, and the restatement of the Principal Song; in First Rondo movements they are the Principal Theme, the Subordinant Theme and the restatement of the Principal Theme.

2. Rondo Movements.

a. First Rondo. Subordinate Theme. (Op.31.1.II; 106.II).

b. Second Rondo. First Subordinate Theme. (Op.2. 3.II).

Second Subordinate Theme. (Op.13. II; 53.III).

c. Third Rondo. Second Subordinate Theme. (Op.2. 2.IV).

Restatement of First Subordinate Theme. (Op.13.III).

3. Theme and Variations. Third Variation. (Op.26.I).

Since only the Tonic key is involved in the bi-modal change between principal divisions, the Song and Trio and First Rondo movements so affected are substantially all-Tonic movements. Their contrasting key areas are brief and perform relatively subordinate roles. The second movement of Op.31.1 is the only exception to this practice.

D. F. Tovey has observed in his essay on Beethoven that "some twenty-six cases of contrast between Tonic major and minor (can be found) between whole sections in the Beethoven sonatas."[6] Since in this work the term "sections" is not defined, it must be assumed that divisions of movements such as the Subordinate Theme in Sonata-Allegro movements and other

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[6]D.F. Tovey, Beethoven, (New York: Oxford University Press, 1945), 11.

secondary divisions in addition to those listed above were referred to in the statement. If such is the case, Tovey's figure is quite correct. In the analysis here, the distinction between primary and secondary divisions has been made in order to account for structural differences in the expression of these large-scale bi-modal passages. Where a bi-modal change occurs between independent, or virtually independent, structural divisions of a movement, such as between Principal Song and Trio, the effect is much different in relationship to the total design than when such a change takes place between two themes that are themselves contained within a larger division of a work.

The additional cases apparently included in the Tovey survey are principally those which refer to the statement of the Second Theme in the opposite Tonic mode in the recapitulation of certain Sonata-Allegro movements. This treatment is to be found in seven movements.[7] The bi-modal change was obviously made to preserve the mode of the theme as it originally occurred in the exposition, for in each case the two statements agree in mode in at least the first measures of the recapitulation theme. This agreement, however, does not always continue throughout the whole of the restated theme, but in some instances gives way to the original Tonic mode or some non-Tonic key (see Op.10.1.III and Op.111.I).

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[7] p.2.2.I., 2.3.I., 10.1.III., 57.I., 81a.III., 106.III., 111.I.

Occasionally a bi-modal change will take place between the exposition and development, the recapitulation and coda, and the introduction and exposition of Sonata-Allegro movements. These applications, however, appear so infrequently that they cannot be said to constitute a characteristic use of the device.

In some few instances, a preparatory passage leading to the statement of a Second Theme will be sectional in effect, as in the case of Op.57.I, and may appear entirely in the opposite mode of the oncoming theme. More often than not, bi-modal preparations are introduced within the passage itself, and in most cases change to the mode of the subsequent theme before its entry. (See Chapter VIII., p.133).

Bi-modal changes between phrases which occur within divisions of a movement nearly always appear in connection with phrase repetition.[8]

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[8]Bi-modal repetitions of larger structural units, such as period designs and phrase groups, are exceedingly rare. The only example found in the sonatas appears in Op. 79.I., meas. 67-90. An example of period repetition in which a bi-modal change occurs between the two periods, but not as a modal repetition of the opening period, may be observed in Ex. 53.

Ex. 44. (Op.10.2.I., meas.38-45)



In these repetitions, Beethoven's usual procedure, as illustrated in Ex. 44, is to vary the second phrase by transferring the melody to another part and by changing the rhythmical pattern of the accompaniment. Passages of this type are particularly characteristic of the early and middle-period sonatas and almost completely disappear after Op. 79. Many of the repetitions are not complete or literal from the standpoint of corresponding with the harmonic and tonal conditions of the initial phrase. Very frequently the modal change leads to a modulation within the second phrase that was not contained within the companion phrase.

Ex. 45. (Op.2.3.IV., meas. 144-155)



Here the bi-modal change not only provides contrast between the first two phrases, but facilitates the modulation to the ensuing sequential progression. Beethoven also applies the same procedure to arrive at a preparatory level, or to permit a non-sequential expansion of the phrase at a contrasting

key level. By such means it becomes possible to progress without difficulty from one tonal level to a remote key through the medium of a bi-modal change. The tonal motion may be leading away from the basic tonality, as in Ex. 44, or towards it. In the first movement of Op. 53, where in the recapitulation the Second Theme occurs in the key of A major, Beethoven arrives at the Tonic key of C major by changing the modality of the theme from major to minor (Ex. 46).

Ex. 46. (Op.53.I., meas. 196-203)



Beethoven used such bi-modal changes directly and consistently for modulatory purposes, especially where successive remote key-relationships are concerned. Statistical

evidence shows that in over seventy per cent of the cases where there is a progression to or from a remote key within a structural division, Beethoven will move to or from such a key through the medium of a bi-modal change. This practice also occurs within the phrase as well as between phrases (Ex. 47).

Ex. 47. (Op.101.IV., meas.279-292)



Other bi-modal changes occurring within the phrase are expressed in the following ways:

1. In establishing a preparatory level for an approaching thematic statement. (See Preparatory Keys, Chap. VIII, p. 133).

Ex. 48. (Op.31.1.2., meas.61-65)



2. Through the repetition of a phrase member.

Ex. 49. (Op.53.3., meas. 9-16)



3. Between different but successive phrase members.

Ex. 50. (Op.78.II., meas.57-60)



Ex. 50 ----------continued



4. In establishing the desired modality for a Cadence Key.

Ex. 51. (Op.2.3.III., meas. 8-16)



5. In avoiding the expected modality of a cadence.

Ex. 52. (Op.57.I., meas. 40-51)



Ex. 52 ---------- continued



The widest range of tonal contrasts and variety made possible through the use of bi-modality has probably never been fully realized in the works of any single composer. That Beethoven was aware of such possibilities is evidenced by his extensive and varied use of bi-modality, not only in the attainment of contrast, as such, but in extending the bounds of his tonal resources. Tovey has remarked that Beethoven "extended the range of tonality by adding the relations of his Tonic major to those of his Tonic minor and vice versa."[9] The interchangeability of the modes does make possible the use of a wide range of key-relationships within a tonality without progressing beyond the closely-related keys of the major and minor Tonic. This is illustrated graphically in the following figure.

[9] D.F. Tovey, op. cit., 28.

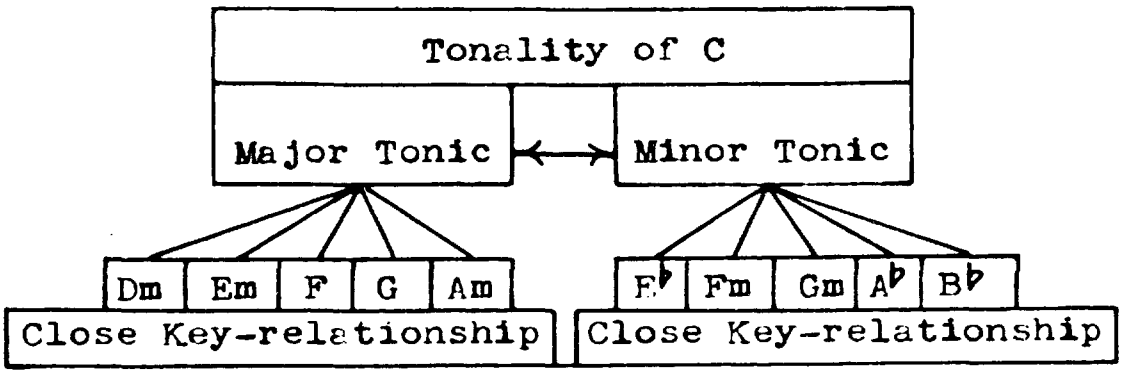


Fig.6. Close Key-relationships Obtainable Through Tonic Bi-modality.

This diagram shows that as many as ten different non-Tonic keys, counting modal opposites, are available within the immediate group of keys related to the two modes of the Tonic. Such tonal extensions obtainable through the use of bi-modality, however, were not brought into practice for the first time by Beethoven. They existed a full century before the time of Beethoven and were common occurrences in the works of Haydn and Mozart. Where Beethoven realized the greatest advantage in expanding his tonal resources through the use of bi-modality was in connection with the non-Tonic keys and their modal opposites. In this respect, Beethoven marks an advance over the achievements of his contemporaries and predecessors. Although the majority of bi-modal changes in the sonatas take place between major and minor Tonic, many of the remote key areas are reached through bi-modal changes within non-Tonic keys. This process may be observed in one of its

most compact forms in the discursive passage opening the third movement of Op.26. (Ex. 53). Here within the course of the first sixteen measures, Beethoven, through the use of closely-related keys and bi-modality, progresses from the Tonic key of Ab minor to the fairly remote key of D major. This particular example is typical of Beethoven's application of bi-modal technique in gaining relatively rapid access to remote key-relationships.

Ex. 53. (Op.26.III., meas.1-16)

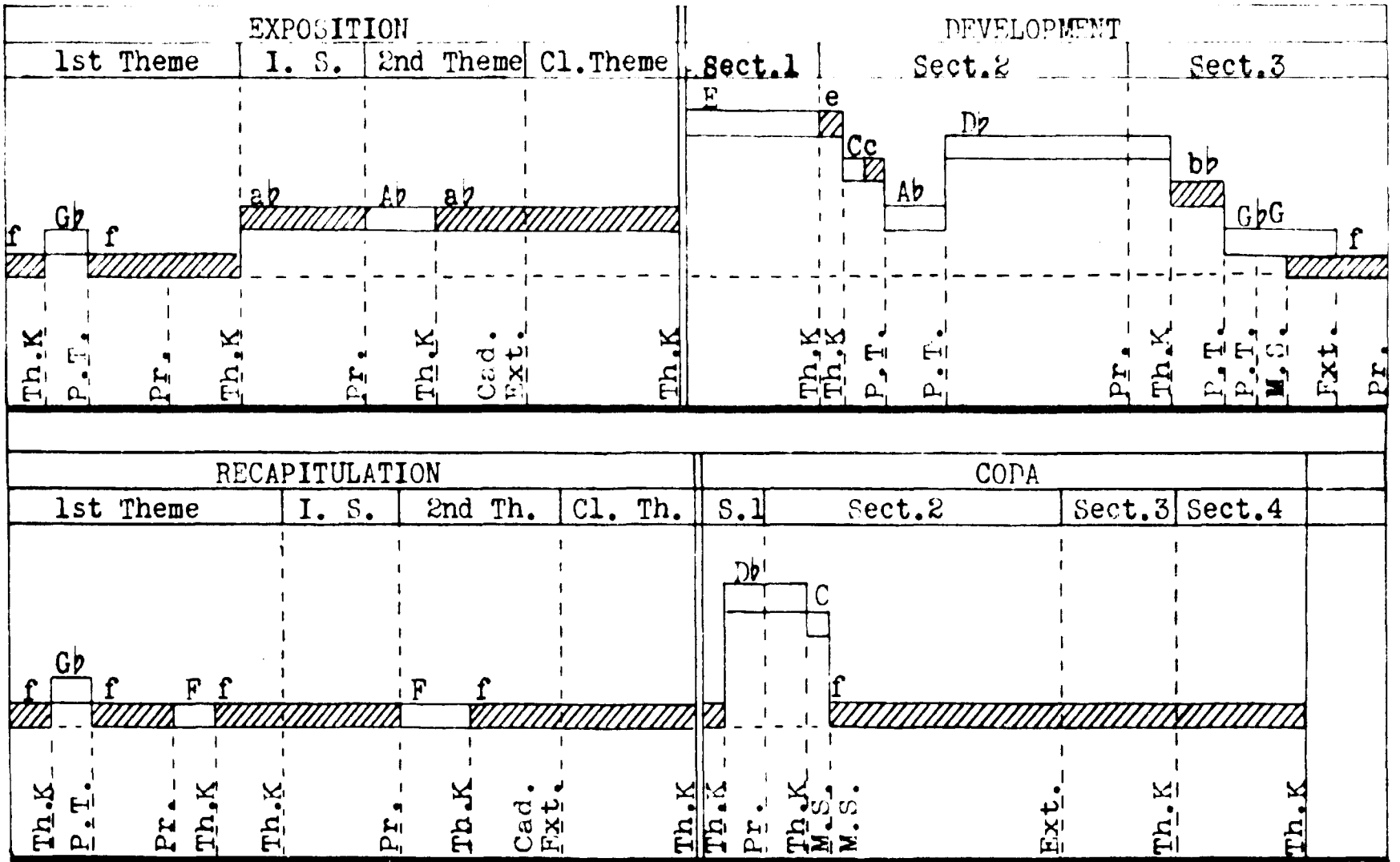


Ex. 53 ---------- continued



Despite the abundancy and diversity of bi-modal expressions occurring in the sonatas, Beethoven uses the device with such restraint and artistic purposefulness as to achieve at all times a singularly effective degree of contrast and variety. The apparent redundancy occurring in the third movement of Op. 53 is exceptional, and in this case is due to the recurrence of the principal theme which includes bi-modal repetition in its initial statement. Aside from such

recurring statements, there are no movements in which the expression of bi-modal changes could be said to overshadow other tonal effects or to vitiate the tonal activity of the composition. Usually a movement will contain only one or two types of bi-modal change, but such expressions might be repeated or restated depending upon the structural design of the movement itself. A greater diversity beyond this normally moderate use is exceedingly rare within a single movement. Perhaps none of the movements provides a better observation of various types of bi-modal expressions than does the first movement of Op. 57. Since this movement is too long to be quoted in full here, the following diagrammatic analysis (Fig. 7) is offered to show the tonal plan of the movement, the functional role of each key-change together with the bi-modal changes that occur throughout.



Legend: Shaded areas = minor-mode keys (lower-case letters)
White areas = major-mode keys (upper-case letters)
Horizontal dashes = Tonic base-line. Intervalic distances between keys are shown graphically in relationship to this line.
Abbreviations: Th.(Theme) Th.K.(Thematic Key) Pr.(Preparation Key)
P.T.(Phrase Transposition) I.S.(Intermediary Section)
Cad.Ext.(Cadence Extension) M.S.(Modulatory Sequence)
Sect.,S.(Section) Cl.Th.(Closing Theme)

Fig.7. Graphic Analysis of Op.57.I

CHAPTER XI

CONCLUSION

In this study of tonal factors in Beethoven's piano sonatas the problems concerned have been considered from four main points of view: (1) the tonal design of the complete sonata as regards the fundamental keys of movements, (2) the general tonal components of individual movements, (3) the functional aspects of key expression and (4) the technical features which pertain to the various tonal functions.

By approaching the study in these four ways it has been possible to provide a comprehensive analysis of the resources and procedures in Beethoven's use of tonal materials and to observe in detail the specific features that constitute style determinants. It has also been possible to incorporate into these discussions the results of a preliminary measure-by-measure analysis of all the sonatas in such a way as to show the relationship of individual tonal expressions to fundamental tonal techniques appearing throughout the sonatas.

These processes of correlation have necessarily involved a large body of detailed information which is essential

to a thorough understanding of the subject. It would be presumptuous to suppose that an adequate summary of this information could be achieved without sacrificing many points of considerable interest and importance. It is felt, however, that a large proportion of these details can be further resolved into a broader perspective of Beethoven's tonality without losing sight of the diversity in treatment and resourcefulness observed in these works. The remarks that follow are offered in the interest of providing such a perspective and of re-assembling the conclusive points that have been made in the preceding discussions.

The sonatas in their entirety comprise an assortment of tonal extremes which poses some difficulty in determining what is representative in Beethoven's treatment of tonal properties. These extremes range from absolute simplicity to great complexity, from ultra-conservatism to marked audacity, from tonal prolongation to precipitant tonal discursiveness, and from tonal subordination (with respect to other musical elements) to predominant emphasis upon tonal effect for its own sake. None of these opposed conditions can be looked upon singly as constituting a tonal norm, yet there is little of Beethoven's music that, in its totality, is not characterized in various degrees and instances by all of these extremes. Moreover, they do not appear only in widely separated places with intervening stages of transition and orientation, but may be noted at times in immediate juxtaposition

or close proximity to each other within the same movement.

Despite the seeming disparity between these extreme tonal conditions, and despite the wide range of tonal resources and techniques found in the sonatas, there exists in all of these works a fundamental and consistent quality that may be thought of as a basic tonal manner. This tonal manner emanates from a number of practices that extend with little or no divergence throughout the whole sonata group. These practices, for the most part, are unobtrusive in nature and do not impinge themselves upon the ear as distinctive features of musical expression. They constitute, rather, what may be looked upon as the normal and constant, or nearly constant factors of tonal organization that form the foundation of Beethoven's style. These may seem at first hand to belong to the commonplace and to be of little consequence in the matter of determining a tonal style. Actually they constitute the very core of Beethoven's tonality to which all other conditions are related and from which they spring. Had these practices not appeared in the sonatas as they did, or had they been minimized by more frequent and consistent exceptions, Beethoven's music, tonally and otherwise, would as a consequence have been considerably different.

First among these practices is the constant expression of key. Beethoven's music is thoroughly tonal and is characterized by a continuous relationship of harmonic and melodic elements to an immediate tonal center. Although

there are a few instances of key ambiguity and of holding the identity of a tonal level temporarily in abeyance, there is no evidence of an absolute negation of key at any place within these works. A movement consists either of a single key (and this is rare), or of a succession of keys in which there occurs no passage which is completely devoid of a tonal feeling. Beethoven's complete acceptance of tonal constancy is not merely an outer mark of musical expression; it is a manifestation of a fundamental concept that permeates and conditions every creative utterance and that contributes in its total results to a secure and stable tonal form.

Second is the practice of expressing key only in connection with the statement, repetition or restatement of thematic units, the provision of a contrasting tonal level for a cadence, the establishment of a preparatory level for an approaching theme, or the insertion of a contrasting key within a passage for a temporary and parenthetical expression. These have been designated previously as tonal functions and serve to illustrate the extreme regard Beethoven had for the relationship of key to content.[1] Beethoven will not change key within a phrase unless it is for the purpose of repeating a phrase member, establishing a preparatory or cadencing level, or for momentarily deflecting the established and intended tonal course of the phrase. He will not change key between

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[1] See page 41; also Chapters IV-IX, inclusive, for a discussion of each tonal function.

phrases except to repeat the previous phrase (or the beginning portion of it), or to present a different thematic idea, or, again, to insert parenthetically a deflective tonal level. Improvisatory key progressions unattached from the conditions mentioned above are not within the province of Beethoven's tonal style.

A third factor pertaining to this basic tonal manner has to do with the preferences shown regarding Tonic and non-Tonic elements in the general organization of tonality. Beethoven's music is predominantly Tonic. Granting that many of the sonata movements exhibit an impressive amount of tonal variety and interest, there is nevertheless present a pervading insistence upon the Tonic element which becomes to the discriminating ear one of the most basic tonal qualities in Beethoven's music. The importance of the Tonic as a predominant tonal element is shown in the following eight points:

1. All sonatas begin and end with Tonic movements.

2. All sonatas but one contain more Tonic movements than non-Tonic.

3. Thirteen sonatas contain no non-Tonic movements.

4. The opposite Tonic mode of a sonata is used more frequently as a form of contrast for interior movements than any single preferred non-Tonic key.

7. The Tonic contributes to the tonal shape of movement design by appearing characteristically in greater proportion at the end of movements than at the beginning.

8. The opposite Tonic mode is a highly favored form of contrast in movement design. It is used more frequently in major-mode than in minor-mode movements. All sonatas, however, contain the opposite Tonic mode in one respect or another.

Non-Tonic elements in the organization of complete sonatas by movements and within movements themselves show certain distinctions of preference among Beethoven's selection of contrasting tonal materials. In general Beethoven prefers closely-related keys as the predominating class of tonal associates. Remote keys are used consistently and conspicuously throughout the sonatas, but they come into greater prominence in places of structural importance in works of the middle and late periods. The summary given below does not refer to exceptional and specialized uses of key-relationships but to the consistent and far more frequent practices.

1. Closely-related keys are nearly always used as the tonality of movements contrasting with the Tonic key of a complete sonata. Minor-mode sonatas use only the Submediant (6♭M); major-mode sonatas use the Submediant (6m) and Subdominant (4M) with the exception of two early and two late works which include remote relationships.

2. There is a distinction between major- and minor-mode tonalities in movement design based upon the frequency of appearance and relationship degree of non-Tonic keys. In both modes of tonality the keys most frequently used are usually

closely related to the Tonic. The order of preference, however, differs in the two forms of tonality (Table 5). In major-mode movements, for instance, the Dominant (5M) key is virtually a requisite tonal associate; in minor-mode movements the Dominant relationship (5m) is superseded by the Mediant (3♭M). Furthermore, all possible key-relationships appear to a greater or lesser degree in major-mode movements, while in minor-mode movements three relationships never appear[2] and others of extreme remoteness are rarely used.

3. The order of preference among keys contrasting with the Tonic shows a high degree of correspondence with the order of preferred key-relationships between successive keys. Thus not only is the Dominant key most frequently used in major-mode movements, but the Dominant relationship (5M) occurs as the most frequently used progression between successive keys. A similar correspondence between vertical and horizontal relationships also pertains to minor-mode movements: the mediant relationship, for example, appears most frequently both with respect to the Tonic and to successive key progressions (Table 8).

4. Beethoven's liking for bi-modal contrasts, while applying predominantly to the Tonic level, also enters into the expression of a basic tonal manner with respect to non-Tonic elements. Not only do bi-modal changes occurring as

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[2] 2♭m, 2M and 6m.

qualitative changes in an established key produce an impressionable tonal flavor through their consistent use, but they also bring certain key-relationships into a favored position as tonal associates, again, according to the mode of the movement. That is why the Dominant minor (5m) and Mediant minor (3♭m), to name two examples, are prominent among the preferred relationships in major and minor movements respectively. Aside from this particular aspect of bi-modal activity, the mere act of bi-modality is in itself one of the outstanding characteristics of tonal design and expression.

All of the foregoing observations point toward an underlying concept of tonal usage that extends in principle throughout the entire group of sonatas. Two such widely separated works as the first movements of Op.2.1 and Op.111 are not dissimilar in the sense that neither contains any tonal condition that is not in agreement with the basic tonal practices set forth above. This is not to say that in these two movements, or in others that might be selected for comparison, that all of the variable factors are present. It is rather that those that do appear exemplify Beethoven's adherence to firmly entrenched tonal principles. Each sonata movement, however, displays some differences in treatment so that, in effect, each is a unique expression of tonal organization. Even so, the individual differences are not due to Beethoven's continuous invention of new devices for separate movements or sonatas, but to the use of his basic tonal procedures in a

wide variety of ways.

Differences due to the amount of tonal activity within movements stand largely in relationship to the structural design, the tempo, length and creative period within which the composition falls. Differences arising from the use of specific key-relationships and tonal functions have to do mainly with the type of structural design involved, the place where they occur within the design and, to some extent, with respect to the creative period. The choices which appear most prominently, and these remain predominantly within the group of highly preferred relationships, are used in connection with the statement of principal thematic divisions. These have been shown in detail together with secondary divisions in Tables 9 to 17 inclusive, and in Figs. 3 and 4. The variety of structural designs and the dispersement of thematic keys preclude any further summary other than what has already been given in those tabulated presentations. Other uses resulting in the establishment of preferred keys may be noted in connection with specialized tonal functions such as cadences, tonal deflections, sequential progressions and the transposition of phrases. In order to show the uses of the most preferred key-relationships in their various capacities, the following tabulations have been devised for the ten most frequently used relationships, including the opposite Tonic modes, representing approximately eighty-five percent of all aggregate tonal changes and contrasts. Also included are references to those

key-relationships which occur most frequently as the tonalities for non-Tonic interior movements.

TABLE 19

THE FUNCTIONS OF THE TEN MOST FREQUENTLY USED KEY-RELATIONSHIPS IN MAJOR-MODE TONALITIES

Key-Relationship	Always Used	Frequently Used	Occasionally Used
1. 5M	2nd Theme of Third Rondos Fugue Expo. and Recap.	2nd Theme, Expo. of Sonata-Allegro Movements Cadence Key 2nd Part, Small Part Design Phrase Transposition Closing Theme and Codettas of Sonata Allegro Movements	1st key, Development of Sonata Allegro Movts. Preparatory Key
2. Tonic Minor		Phrase Repetition Preparatory Key Tonality for 2nd Movement of Major Mode Sonata	1st Key, Development of Sonata Allegro Movts. 2nd Theme, Recap. of Sonata Allegro Movts. Trio, Song & Trio 2nd Theme, First Rondo Sub.Theme #2, Second Rondo Sub.Theme #2, Third Rondo

TABLE 19--Continued

3. 6m		Tonality, 2nd Movt. 1st Key, Development, Sonata Allegro Movts. Trio, Song & Trio 2nd Theme, Second Rondo	2nd Part, Small Part Designs 2nd Theme, First Rondo
4. 4M		Coda, Sonata Allegro Movts. Tonality, 2nd Movt.	Thematic Key in Development, Sonata Allegro Trio, Song & Trio Sub.Theme #2, Second Rondo Sub.Theme #2, Third Rondo Thematic level, Development in Fugues.
5. 2m		Phrase Transposition Sequential Repetition	Part 2, Small Part Design Divisional Theme Thematic Key, Development
6. 4m		Bi-modal change from 4M in Phrase Repetition	Thematic Key, Development
7. 5m		Bi-modal change from 5M in Phrase Repetition	Beginning 2nd Theme, Expo., Sonata Allegro (early) Thematic Key, Development 2nd Part, Small Part Design

TABLE 19--Continued

8. 3m		Sequential Repetition Divisional Themes	Thematic Key, Development
9. 6♭M		Codas Deflective Key	Thematic Key, Development Divisional and 2nd Theme, Recap., Sonata Allegro 2nd Theme, First Rondo Sub.Theme #2, Second and Third Rondos
10. 3♭M		Thematic Key, Development	Thematic Key following Tonic Minor in Rondo Movements Sequential Repetition following Tonic Minor

TABLE 20

THE FUNCTIONS OF THE TEN MOST FREQUENTLY USED KEY-RELATIONSHIPS IN MAJOR-MODE TONALITIES

Key-Relationship	Always Used	Frequently Used	Occasionally Used
1. 3♭M	2nd Theme Third Rondo	2nd Theme, Expo., Sonata Allegro 1st Thematic Key, Development, Sonata Allegro Cadence Key Phrase Transposition Sequential Repetition 2nd Part, Small Part Design	Modal dissolution from 3♭m to Tonic leading to Preparatory level
2. 4m		1st Thematic Key, Development, Sonata Allegro Phrase Transposition Sequential Repetition	Thematic Key, Recap., Sonata Allegro Movts. Codas Deflective Key 2nd Part, Small Part Designs
3. 5m		Cadence Key 2nd Theme, Expo., Sonata Allegro 1st Thematic Key, Development, Sonata Allegro Phrase Transposition Sequential Repetition	2nd Part, Small Part Design Preparatory Key

TABLE 20--Continued

4. 6♭M	Contrasting key for tonality of interior movt. 2nd Theme, First Rondo Sub. Theme #2, Third Rondo	Trio, Song & Trio Coda Deflective Key	2nd Theme, Expo., Sonata Allegro (late)
5. Tonic Major		Tonality for interior movts. Trio, Song & Trio Phrase Repetition	2nd Theme, Recap., Sonata Allegro 1st Thematic Key, Development, Preparatory Level
6. 2♭M		Coda Phrase Transposition Deflective Key	
7. 3♭m		Bi-modal change from 3♭M Themes	2nd Theme., Expo., Sonata Allegro Preparatory Key Sequential Repetitions
8. 7♭m		Sequential Repetition Phrase Transposition	2nd Part, Small Part Design
9. 5M		Bi-modal change from 5m themes	2nd Part, Small Part Design Cadence within major-mode passages
10. 7♭M		Bi-modal change from 7♭m passages	Sequential Repetition Phrase Transposition Deflective Key

In addition to the foregoing summaries showing the use of specific relationships, the following conclusions relating to stylistic features resulting from tonal changes may also be noted.

1. Beethoven's principal means of achieving rapidly changing tonal levels is through the use of modulatory sequential progressions.

2. The predominant upward direction of sequential progressions and transposed phrases contributes significantly to the dynamically ascendent quality of discursive passages.

3. Phrase Transposition, one of the outstanding stylistic features, is applied characteristically at the beginning of Song and Trio movements and becomes a favorite procedure in Sonata Allegro movements of the middle period.

4. The surprise effects in Beethoven's music, long recognized as among the most distinctive individual traits, include these tonal practices: Phrase Transposition at a remote key-level, motion from a dominant cadence into another key, sudden motion to a contrasting key without benefit of a modulatory process, interruption of an established tonal field by a contrasting key (tonal deflection), and motion to a key other than that expected throughout a preparatory passage.

5. There is a prevalent use of bi-modality in preparatory passages, particularly those leading to second themes and recapitulation sections.

6. Bi-modal changes are frequently used in repeating

thematic material, especially second themes in Sonata-Allegro movements.

7. Beethoven shows a distinct liking for bi-modal changes in dissolving a remote relationship to a close one.

8. Preparatory passages become distinguished by a frequent and characteristic use of tonal deflections.

Scattered references have been made in the preceding chapters to the three style periods. It is needless to point out here the validity of the generally accepted stylistic divisions or to comment upon their appropriateness in recognizing certain distinctions that take place in Beethoven's treatment of musical materials and in regard to his changing attitudes toward musical expression. The division given here between the first and second periods agrees only approximately with the Lenz and Fétis divisions for the piano sonatas (Op. 26 and Op. 22 marking, respectively, their beginnings for the second period). These sonatas and Op. 28 seem to have a close tonal affinity with the early works, so for the purpose of this study they have been included in the first period, with Op. 31.1 appearing as the first sonata in the second period and Op. 101 as the first sonata in the third period. The tonal distinctions between these groups are given below.

First Period (Op. 2-Op. 28)

1. These sonatas, on the whole, contain the least amount of tonal activity.

2. The classical key-relationships are generally adhered to for the principal structural divisions of movements.

3. Modulatory sequential progressions do not figure largely in this group. However, there is an increased use of such progressions beginning with Op. 22.

4. Phrase Transposition is characteristic of Song and Trio movements. These movements are rarely used after Op. 28.

5. Tonal resources do not include a wide use of the more remote key-relationships.

6. Augmented-sixth chords are used frequently as the harmony leading into a preparatory passage.

Second Period (Op. 31-Op. 90).

1. There is an increased use of remote key-relationships in this group of sonatas. There is also an increase in the amount of tonal activity within the movement over that exhibited in earlier works.

2. Beethoven shows a marked liking for key-relationships lying a third above or below the Tonic for second themes in Sonata-Allegro movements.

3. Phrase Transposition becomes a characteristic feature in the treatment of the First Theme of Sonata-Allegro movements.

4. There is an increased use of modulatory sequential progressions.

Third Period (Op.101-Op.111).

1. This group exhibits the greatest amount of tonal activity.

2. Beethoven expands his tonal resources by using with greater frequency the more remote key-relationships.

3. There is a continued increase in the use of modulatory sequential progressions.

4. There is a decline in the use of Phrase Transposition and bi-modality.

The observations brought forth in this study have been based upon assembled and evaluated musical evidence and are not the result of assumptions or mere theoretical speculations. By viewing Beethoven's tonality with respect to what appears in actual musical practice, there has been made available a reliable body of information that can be used additionally in evaluating independently the already existent commentaries on Beethoven's tonal practices, or in pursuing original analyses that might involve such information.

In this latter connection it has occurred to the writer that the literature on music of the seventeenth, eighteenth and nineteenth centuries could well be enriched by additional studies of tonal problems; studies of individual composers, or of national schools or historical periods as well as a comprehensive investigation of the principal tonal developments that took place within the whole course of the major-minor key-system. Such studies, it is believed, would be of

inestimable value in minimizing many of the problems that still confront present day theorists. They would also increase greatly an understanding of the differences that distinguish the music of various composers and times. The present work has to some extent contributed to a fulfillment of the need for investigations in this field. If in any way it is responsible for or helpful in other related undertakings, then not the least significant aspect of its endeavor will have been realized.

Tonal. Of or pertaining to key.

Key. An association of harmonic and/or melodic relationships which identify a particular tone as the immediate point toward which they tend to resolve. This tone is known as the tonic note, and its letter-name is applied as the name of the key. The key is qualified by such relationships as being either in the major or minor mode.

Tonality. The expression within a work of a fundamental key around which all other constituent tonal activity revolves. The fundamental key is referred to as the Tonic key, all others as non-Tonic.

Bi-modality. The successive interchange of major and minor modes within a given key level, and, where the Tonic level of a complete sonata or separate movement is concerned, the intermittent as well as the successive interchange of modes.

Key-relationship. The degree of affinity existing between any two successive keys, or between the Tonic and any non-Tonic key. A key-relationship is designated as close, or closely-related, when there is not more than one pitch difference between the diatonic or uninflected tones of the keys in question. Since in minor mode, the sixth and seventh scale-steps are variable by a half-step according to their harmonic and melodic functions, these scale-steps in their inflected

states do not influence the degree of affinity existing between two keys. Relationships having two or more pitch differences are designated as remote.

Sequential Progression. The statement of some portion of a phrase (motif; figure, etc.) followed by one or more repetitions which take place at either a higher or lower level with a constant intervalic order of rise or fall. The intervalic order may change in quality (e.g., major second to minor second) but not with respect to the quantity of the degree itself (e.g., a second of some kind or kinds throughout). When some intervalic degree other than the original is introduced in a series of repetitions, the sequence--the order of that progression--will have been broken. Where more than one key is involved in a sequence, the progression has been designated as a modulatory sequence in contradistinction to a diatonic sequence which remains within a single key.

Segmentation. In the repetition of a musical pattern, the gradual or abrupt reduction of that pattern to a portion of the original material.

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