THE CLARINET IN THE SYMPHONY ORCHESTRA

FROM MOZART TO RIMSKY-KORSAKOV

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THESIS

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By

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INTRODUCTION

The purpose of this thesis is to show through the presentation and analysis of authoritative information, together with opinions drawn from the information and analyses, how the clarinet grew in its function as a member of the symphony orchestra. Very little material has been presented heretofore concerning the development of woodwind instruments in the symphonic field, and it is hoped that the material in this thesis will constitute a contribution to this field.

The period covered in the thesis is from the time of Mozart and Haydn (latter eighteenth century) to the period of Rimsky-Korsakov (latter nineteenth century).

The results of this investigation are presented in six main sections: (1) History of the Clarinet, (2) Period of Mozart and Haydn, (3) Nineteenth century, first quarter, (4) Nineteenth century, second quarter, (5) Wagnerian Period, (6) Period from Brahms to Rimsky-Korsakov.

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CHAPTER I

THE HISTORY OF THE CLARINET

In order that the material in this thesis may be more clearly understood and the problems investigated with more comprehension on the part of the reader, a brief history of the technical aspects of the development of the clarinet is presented.

The clarinet,

> . . . an orchestral wood-wind instrument, consists of an end-blown cylindrical pipe made of wood or ebonite (recently also of metal) with a characteristic mouth-piece (beak), which looks as if it were pinched to form a sharp edge at the top, and which has a single reed (made from a thin piece of cane) fixed to its back.[1]

In discussing the type of reed used on the clarinet we find that there are two basically different types of reeds, namely the "idiophonic" and the "heterophonic" reeds.[2] As the "idiophonic" reed is usually made of metal and is capable of producing only one pitch, it would not be applicable to the clarinet. The "heterophonic" reed, (a reed that "is made of a light and soft substance, usually cane, and is capable of producing a wide range of pitches, but only if it is

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[1] W. Apel, "Clarinet Family, I," Harvard Dictionary of Music, p. 151.

[2] Ibid., "Reed, I," p. 631.

attached to pipe, the length of which determines the pitch of the sound")[3] is the reed that is used on the clarinet. "Heterophonic" reeds are of two varieties, i.e., "single" reeds (clarinet, saxophone) and "double" reeds (oboe, bassoon). In the single reed instruments there is only one reed which vibrates against a slot of the pipe; in the double reed instruments there are two reeds, separated by a slight opening, which vibrate against each other.[4] Another distinction is that between "free" and "beating" reeds. In the case of the "free" reed, such as is used in the harmonium, the reeds move outside and inside of a slot just wide enough to let the reed pass freely; in the case of the "beating" reed, used chiefly in the organ, the opening of the slot is somewhat smaller than the reed so that it "beats" against the frame of the slot.[5] Thus, the reed of the clarinet is classified as a "heterophonic single-beating reed."

Originally the single reed was merely a flexible tongue cut from the side of a hollow reed pipe, one end being attached and the other free to vibrate. It was used as early

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[3] Ibid., p. 632. [4] Ibid., "Reed, II," p. 632.
[5] Ibid.

as the beginning of the third millennium B.C. in Egypt, where it may have originated.[6]

Double pipes, or canes, (two canes a foot long) are still played by low-caste musicians of the Orient. These canes were glued and tied alongside each other and were provided with finger-holes (4, 5, or 6 in each cane). A smaller cane was inserted in the top of each of the larger ones. In the smaller cane the breath hole was made by cutting a three-sided slit into the cane forming a rectangular tongue, the fourth uncut side allowing the reed to vibrate because of the elasticity of the material.[7] Galpin states that,

> it seems certain that one kind, at any rate, of the ancient Greek "Aulos" (a pipe so wrongly called a flute) employed this form of reed; for Theophrastus in the fourth century B.C. describes the making of such reeds in his Historia Plantarum and distinctly asserts that the knob of the natural reed was left at one end.[8]

The mouthpiece of the forerunners of the clarinet (instruments with single reeds) originally was part of the cane used in the making of the reed. The pieces of cane were cut to form the reed and the mouthpiece at the same time, as just described.

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[6] F. W. Galpin, A Textbook of European Musical Instruments, p. 185.

[7] C. Sachs, The History of Musical Instruments, pp. 91-92.

[8] Galpin, op. cit., p. 186.

Double pipes of the same shape have been found in the Egyptian tombs of the first century B.C., and Sachs states that this instrument was the same as the type used in 2700 B.C.; he concludes that this type of instrument has remained unchanged for about five thousand years.[9] These double instruments with single reeds, or variations of them, were also found in India and China. The Indian instrument of two pipes had a neck with the reed enclosed, a cavity being formed when the neck was inserted into the mouth. In China, the double pipe had the ends covered with caps of ox-horn, one on the outer end forming the bell, and the other forming an air chamber so the player had to hold the cap in his mouth while playing. The reed was inclosed in the air-chamber so that the lips did not touch the reed.

> Throughout the Middle Ages the single-beating reed appears to have been chiefly confined to peasant folk. It is still commonly found on the hornpipes and bagpipe "Chanters" of the Greek Islands and shows itself, not only on the "Launeddas" of Sardinia (a triple pipe), the "Alboquea" of the Basques, the "Brielda" and "Galeika" of Russia (the latter a double pipe), the "Duda" of Poland and the "Piva" of Dalamtia, but on the old-world "Pibgorn" of Wales and the "Stock-horn" of Scotland, where the pipe is found in the double form. In Italy it appears in the popular "trumpets" made at Florentine fairs, and in France it was known as the "Chalumeau," a word derived for the Latin "calamellus, a little reed," or from the Greek "calamaulos, a pipe of reed."[10]

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[9]Sachs, op. cit., p. 92. [10]Galpin, op. cit., p. 186.

Schwartz states that the Greeks created the "chalumeau," and that it migrated to Persia and India, then to the British Isles (Cornwall, Wales, and Ireland) in the form of the pibcorn, or pipehorn.[11] However, Forsyth refutes Schwartz in saying that,

> the Pibcorn, Swegelhorn, or Hornpipe cannot be taken into account as the ancestor of the clarinet for, although it had a single beating reed, this was always enclosed in a hollow horn or bone so that the player's lips did not touch the reed itself.[12]

The "chalumeau" is by now generally conceded to be the direct ancestor of the clarinet. This instrument was defined by Walther in 1732, in his Musikalisches Lexicon, as being a (a) shawm (schallmey), a shepherd's pipe (Schäfer-pfeiffe); (b) the pipe of a bagpipes; (c) a small wind instrument with seven holes; (d) a small box-wood wind instrument with seven holes on top, one underneath, and two brass keys.[13] Although (c) and (d) seem applicable, there is no mention of the single-reed, an element that is vital in the establishment of the ancestry of the clarinet. Not until 1767 in the Encyclopedie by Diderot and Alembert is the "chalumeau" depicted as an instrument having "a cylindrical bore and a single reed."[14]

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[11] H. W. Schwartz, The Story of Musical Instruments, p. 111.

[12] C. Forsyth, Orchestration, p. 251 f.

[13] Carse, Musical Wind Instruments, p. 148. [14] Ibid.

Although Sachs states that this instrument existed as a "folk shawm of inferior rank in medieval times"[15] and Carse states that the chalumeau is "not to be confused with the 'schalmei' or shawms to which the bassoons and oboes owe their parentage,"[16] both Carse[17] and Forsyth[18] indicate that the word "shawm," or "schalmei," (schalmey) is a term that was used very loosely in describing any reed instrument, single or double. Forsyth attributes this looseness in terminology to the probability of the similarity of sound in all of these instruments; "if the difference in tone-colour had been very marked, this looseness of nomenclature would probably not have existed."[19]

> A similar instrument, but now with one key on the upper side, is described as the "chalumeau" in Reynvaan's Musijkaal Konst-Woordenboek, published at Amsterdam in 1795, and a chart is supplied which shows the instrument and the fingerings of its scale.[20]

Although Carse[21] offers no explanation concerning the two staves shown in the following example, the chalumeau is here

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[15] Sachs, op. cit., pp. 91-92.

[16] Carse, History of Orchestration, p. 173.

[17] Carse, Musical Wind Instruments, pp. 149-150.

[18] Forsyth, op. cit., p. 251. [19] Ibid.

[20] Carse, Musical Wind Instruments, p. 149.

[21] Ibid., p. 334, #4.

presumably in the key of A, with its notes given on the top staff and the concert pitch given on the bottom staff. The black figures (•) indicate the holes to be closed, and the oval-shaped figures (o) indicate the holes to be left open. The last four examples (enclosed in the double bar) of fingerings of notes indicate the cross-fingerings[22] to be employed in attaining the desired notes. The letter (L) is used for the fingers of the left hand, and the letter (R) is used for the fingers of the right hand.

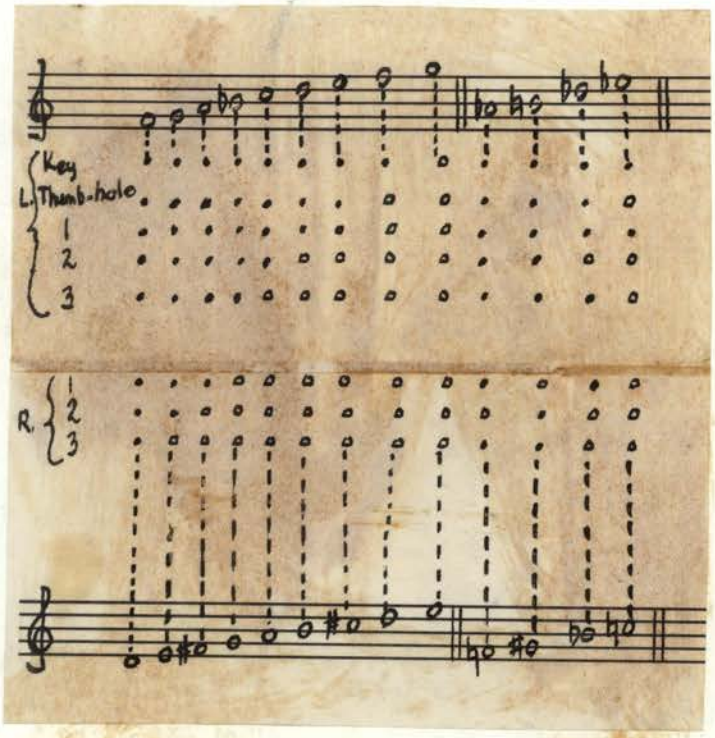

Fig. 1.--Chalumeau fingering

[22]The raising of one finger while lowering another instead of the normal procedure of lowering or raising fingers singularly or together.

This instrument was a cylindrical reed-pipe about a foot long and had six finger-holes on the upper side and a thumb-hole underneath. The top was stopped with a cork, and a slit was cut in the top of the pipe to form a reed. The scale was f' to f'' (see Figure 1, p. 7), with the possibility of adding g'' with the opening of a closed tone-hole. This is the first clear description of the "chalumeau."

The name "clarinet" (earlier, "clarionet") appears to be a diminutive of "clarion" (a now obsolete narrow-bored trumpet used in the seventeenth and eighteenth centuries) which the clarinet gradually displaced (see Fig. 2).

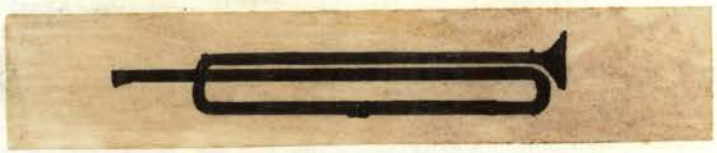

Fig. 2.--Clarion

The timbre of the high tones of these two instruments was very similar.

Although Apel[23] states that Walther (1732) was the first to mention the clarinet, Carse states that according to Dopplemayer's Historische Nachricht von den Nürbergischen Mathematicis und Künstlern (1730), Denner "invented" the clarinet and improved the "chalumeau," "and this information

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[23]Apel, op. cit., p. 153.

has been forwarded by Walther /Musikalisches Lexicon?/ in 1732, by Eisel /Musikus Autodidaktos?/ in 1738, and by Majer /Neu eröffneter Musik-Saal?/ in 1741."[24]

Sir John Hawkins has caused some confusion with his statement (1776) that Johann Christoph Denner (1655-1707), a flute maker in Nürnberg,

> is said to have greatly improved the "chalumeau," an instrument resembling the Hautboy, and described by Mersennus /1636?/ and Kircher /1650?/; and to have been the inventor of another instrument, which neither of them do so much as mention, namely, the clarinet.[25]

Carse explains the fact that Mersenne could not have known about the clarinet when he shows that Mersenne died in 1648, and Denner, "the inventor," was not born until 1655.[26]

Since then the information has been handed down from book to book until finally the information that the clarinet was an improvement of the "chalumeau" was added.

Although the name "chalumeau" continued to be used in opera,[27] these parts were presumably written for the clarinet.

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[24]Carse, Musical Wind Instruments, p. 151.

[25]Sir John Hawkins, General History of the Science and Practice of Music, IV, 249.

[26]Carse, History of Orchestration, p. 174.

[27]Examples of this are: Keiser's "Croesus" (1710), Bononcini's "Turno Aricino (c. 1710), and Hasse's "La Virtu appie'della Croce" (1737).

The estimated date that Denner started working on the "chalumeau" (1690) is supplied by nineteenth century writers, and the main discovery credited to Denner was the making of another hole in the "chalumeau" thereby causing it to "overblow," This was done by the addition of a key mechanism, the raising of which caused the instrument to proceed to the next register. This key also served to bridge the gap that would have existed in the diatonic series (see Fig. 3).[28]

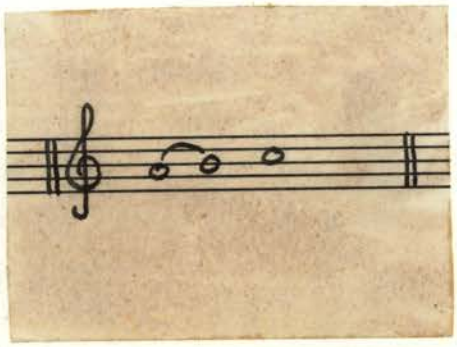

Fig. 3.--"Break" register (1690)

It was not until after the bridging of this "break" in registers that the name "clarinet" could be applied to the "chalumeau," since the similarity to the trumpet ("clarion") could not have been established without proceeding across

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[28]Carse, Musical Wind Instruments, p. 151.

the "break" into the higher register. This additional key mechanism was called a "speaker key."[29]

The fact that, (with the addition of the extra hole and key mechanism), the clarinet would "overblow" largely solved the problem of overcoming the "break" of registers that had arisen in the improvement of the "chalumeau." Other woodwind instruments sound an octave higher when "overblown" (going into the next register), but the fact that the clarinet, or "chalumeau," was classed as a "stopped pipe"[30] accounts for the overblowing of the twelfth instead of the octave. This problem in acoustics, overcoming the "break" in registers, probably caused the delay of the development of the clarinet for quite some time.

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[29]Although some of the present day clarinetists refer to this key as the "octave" key, this term is incorrect. If the clarinet completed the "break" of registers at the octave, as in the case of the oboe and flute, then the term "octave" key would be correct; however, since the clarinet completes the "break" of registers at the twelfth, a term such as "register" key, or even the older term, "speaker" key is preferable.

[30]"Open pipes" are open at their lower end. "If a pipe of the same length is closed at the lower end (stopped pipe), its fundamental is an octave lower than in the open pipe and in addition, the odd-numbered partials only above this fundamental are obtainable . . . . Wind Instruments with a cylindrical bore usually act as stopped pipes, although they are not actually stopped at the lower end. The most important instrument of this class is the clarinet which is said to 'overblow at the fifth' (correctly, at the tenth) [should read 'twelfth'], while the instruments with a conoidal bore (oboes, horns, etc.) overblow at the octave." (Apel, Harvard Dictionary of Music, p. 817).

Johann Christoph Denner's first clarinet (1690-1700) was probably made from boxwood, with ivory ferrules (circular bands used to protect the bell and strengthen the joints) and brass keys. Denner gave the clarinet the shape of the oboe, using wooden tubes cut into several joints with a separate bell. The mouthpiece was probably made from wood or any other hard material. The reed was placed on the top of the mouthpiece, and was either tied or bound with string to keep it in place.[31]

The tube of this instrument was pierced with eight finger-holes; six of these lay in line on the top, and a hole for the left thumb was bored on the under-side. These seven holes produced the diatonic scale of g to g':

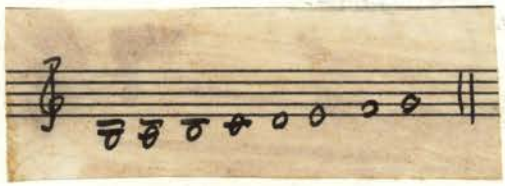

Fig. 4.--Diatonic scale

The eighth hole, consisting of two holes close together, was placed at the lower end (covered with the right little finger). This presumably brought the diatonic scale down to

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[31]Sachs, op. cit., pp. 410-411.

low f when closed (Figure 5a). "No doubt an f# would be forthcoming when only one of the twin-holes was closed"[32] (Figure 5b).

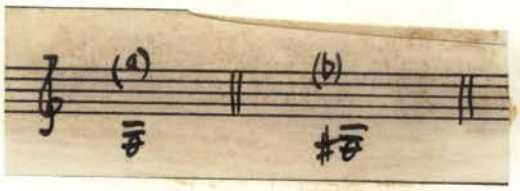

Fig. 5.--Low notes of first clarinet

The first clarinet also had two keys located above the finger holes. One key was on the upper side; and when this key was raised, the fundamental scale was carried up to a'. This key was opened by the use of the first finger of the left hand. The second key was located directly opposite the first key. When this under-key was opened by the use of the left thumb, the fundamental diatonic scale was carried up to b'. This second key also served as the "speaker" key and allowed the instrument to proceed on up the diatonic scale.

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[32]Carse, Musical Wind Instruments, p. 152.

Thus the series of fundamental tones for the first clarinet was f to b':[33]

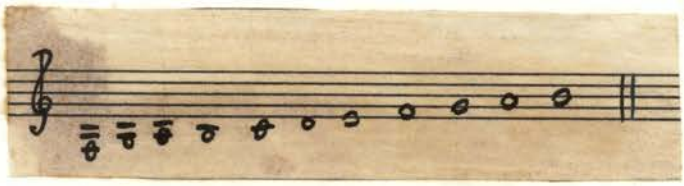

Fig. 6.--Fundamental tones for first clarinet

Then the diatonic scale could progress up to c''' by opening the "speaker" key, compressing the wind stream, and repeating the fingering used from f to f'. The tones f# and the "overblown" c#' are questionable on the fingering of this instrument. The most definite statement found concerning these notes was the one made by Carse, quoted on page 13 (footnote 32).

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[33] Ibid.

Presumably a fingering chart for this instrument would resemble the following illustration:

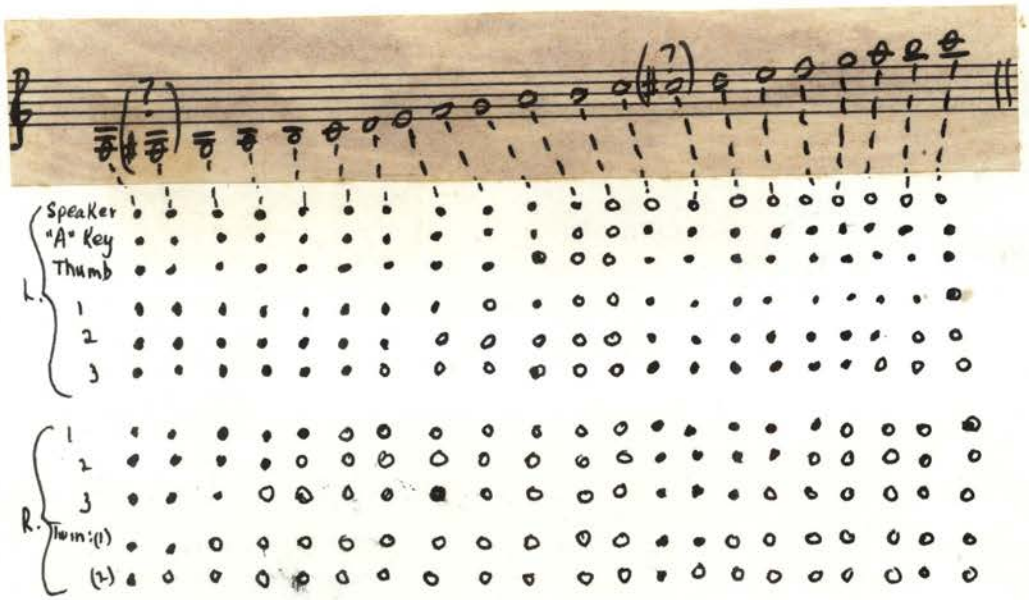

Fig. 7.--Fingering chart-first clarinet

In 1720, Johann Denner, J. C. Denner's son, in order to facilitate the overblowing of the register, moved the b' key ("speaker") key up nearer the mouthpiece and decreased the size of the hole closed by this key. This made the key sound b flat' instead of b'.[34]

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[34]Carse (Musical Wind Instruments, p. 153) states that Johann Denner, at the same time he decreased the size of the b' natural hole to make b flat', lined the b flat' key with a small brass tube which projected up into the bore of the clarinet with the object of preventing moisture from coming through the hole. Sachs (History of Musical Instruments, p. 414) gives credit for this innovation to Simiot, stating that Simiot included the metal tube when he moved the b flat hole to the front of the instrument (1808).

The timbre of this instrument was closer to that of an oboe rather than that of a clarinet. The smooth rear surface of the mouthpiece was shorter and narrower, and the reed was smaller. The small reed made the formant[35] higher, and the tone lighter and more penetrating. The inverted mouthpiece made the tone more shrill.[36]

The fingering chart of this instrument was provided by Eisel in 1738 in his Musikus Autodidaktos (see Figure 8).[37]

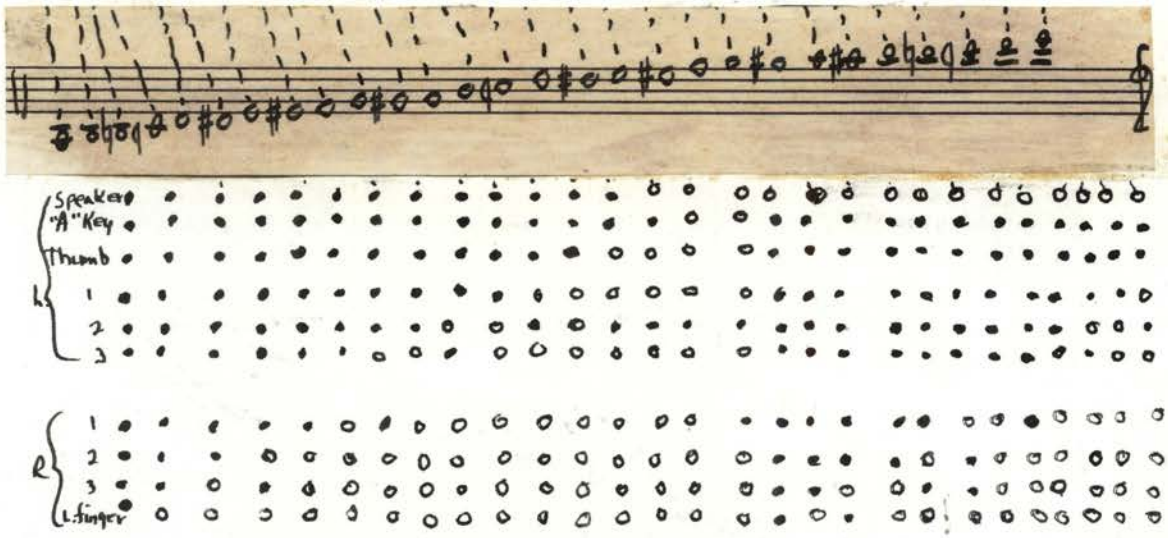

Fig. 8.--Fingering chart, Eisel (1738)

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[35]"characteristic partials [which] lie within an absolutely fixed range of rather narrow limits, regardless of the higher or lower pitch of the fundamental." (Apel, op. cit., "Timbre, 1," p. 748).

[36]Sachs, op. cit., p. 412.

[37]Carse, Musical Wind Instruments, p. 335, #5.

Carse calls attention to the fact that Eisel lists the fingerings for a' and b flat' as being the same. Although the fact that these notes "should be fingered alike seems incorrect, yet in his text Eisel distinctly says that it is so."[38]

Although Sachs states that the b' natural that was replaced by the b flat' was moved to the lower part of the clarinet by Johann Denner in 1720,[39] and Galpin states that the younger Denner "affixed an open bell to the lower end about 1720, and on it placed a long key for b' natural or e natural,"[40] Carse treats this invention as a separate and later invention:

> While it is quite likely that this key made its appearance in the first half of the eighteenth century, there is no evidence to support the suggestion that this innovation dates from as early as 1720, or that it was initiated by one of Denner's sons. As neither Eisel (1738) nor Majer (1741) described any but the two-keyed clarinet, and Diderot and Alembert illustrate only a two-keyed instrument in the Encyclopedie published in 1767, it seems unlikely that the addition of the third key could have been made as early as 1720."[41]

It seems logical to presume that if Johann Denner had added the b' natural key at the same time that he added the b flat' key (1720), Eisel would surely have known about it, for he

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[38] Ibid., p. 153.

[39] Sachs, op. cit., p. 412. [40] Galpin, op. cit., p. 187.

[41] Carse, Musical Wind Instruments, pp. 153-154.

demonstrated his knowledge of the innovation of the b flat' key by including the fingering for this note in his chart (see Figure 8, p. 16).

Some examples of three-keyed clarinets by Kelmer, Lindner, Sherer, Walch, Triften and Kenigsperger are included in the collections at Berlin, Brussels, Salzburg, Munich, and Nürnberg, but there are no fingering-charts provided for the three-keyed clarinet.[42]

Thus, during the first part of the eighteenth century three things were accomplished concerning the development of the clarinet: (1) the "speaker" key was moved closer to the mouthpiece facilitating the accomplishment of the "break" of the instrument; (2) the note b flat' was added; and, (3) the fundamental range of the instrument was extended to low e. As a result of this last accomplishment, the fundamental scale of the clarinet was from low e to b flat', and the clarinet now possessed an overblown scale from b' on up to c''' with some virtuosos playing a "fifth or sixth higher than the given compass."[43]

The fourth key to be put on the clarinet was the g# key. This key was operated by the little finger of the right hand, and was invented by Barthold Fritz of Brunswick somewhere

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[42] Carse, Musical Wind Instruments, p. 154.

[43] Ibid., p. 153. See post Fig. 9, p. 20.

around the middle of the eighteenth century.[44] A fingering chart and an illustration of the four-keyed clarinet was supplied by Diderot in a supplement to his Encyclopedie (1776).[45]

By about 1780 the f# key had made its appearance. This key was a closed key on the left side of the clarinet, and the little finger of the left hand was used in manipulating it.[46] By "overblowing" this note (using the "speaker" key), the note c#' was obtained.

This five-keyed clarinet was the one used by Mozart, Haydn, and Beethoven in their compositions. Its main handicap, the lack of chromatic tones, could not be overcome without an elaborate system of "cross-fingering" (see footnote 22). Because the c sharp key was not invented until the latter part of the century, this key and its overblown counterpart, g#'', were not possible except by cross-fingering.

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[44] Galpin, (A Textbook of European Musical Instruments, p. 188), gives the date as being about 1750, and Carse (Musical Wind Instruments, p. 155), confirms this approximation; Ulric Daubeny (Orchestral Wind Instruments, p. 57), states that the date was 1766, and that the g# and f# keys were added at the same time.

[45] Carse, Musical Wind Instruments, p. 154.

[46] Ibid.

The five keys of this instrument (numbered below) and the holes to be closed were arranged as follows:

(1 and 2) Two long keys (e and f#); played with left little finger.
(3) Short key at the lower end; played with little finger of right hand. Small hole above (3).
Three holes for right fingers.
Three holes for left fingers.
Hole at back to be closed by left thumb.
(4) Above this hole on the upper side was a short key (a); played with first finger of left hand.
(5) Underneath and directly opposite (4) was the b flat' ("speaker" key); played with thumb of left hand.[47]

The fingering chart for this instrument would in all probability look like the following:

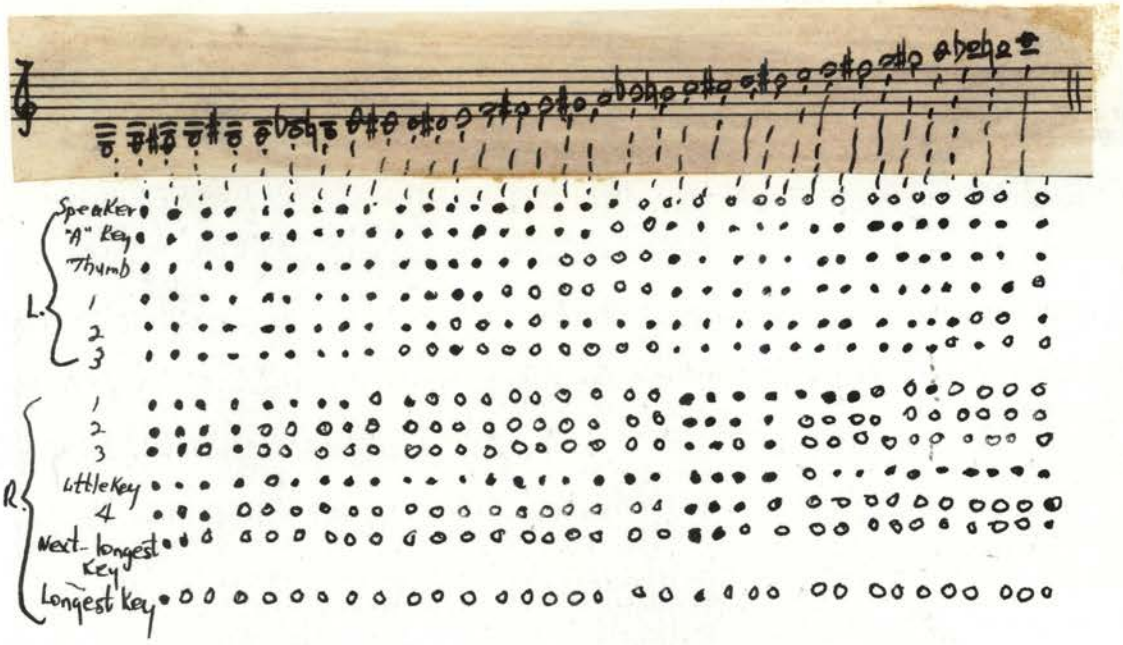

Fig. 9--Fingering chart-Five-keyed clarinet

[47]Carse, History of Orchestration, pp. 176-177.

The timbre of this instrument is basically the same as that which is described earlier (see pp. 15-16).

This five-keyed clarinet was made in the following keys: high F, E (rarely), E flat and D; the normal sizes were in C, B flat, and A, and more rarely in low G and B.[48]

The following tutors were written for this instrument:

c. 1780-1782...Vanderhagen (Paris)
c. 1800....."Compleat Instructions" (London)
1803.....Backhofen (Leipzig)
1811.....Fröhlich (Bonn)
1813.....Antolini (Milan)
c. 1820....."Clarinet Preceptor" (London)[49]

This five-keyed clarinet was usually made in six pieces, namely:

(a) The ebony mouthpiece; rather narrow, with a "table" for a short reed which was tied on, and might be placed either against the upper or the lower lip.
(b) The barrel; varying in length, for tuning purposes.
(c) The upper-middle-piece; with three finger-holes and two keys mounted in wooden rings or blocks.
(d) The lower-middle-piece; with three right-hand finger-holes.
(e) The lower piece; with the right little finger-hole and the three keys mounted in a wooden bulge which went right around the tube.
(f) The expanding bell.[50]

The material used in the construction of the clarinet at this time was still boxwood, with bone or ivory ferrules.

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[48] Carse, Musical Wind Instruments, p. 155.

[49] Ibid., p. 156.

[50] Ibid., p. 155.

The keys were square and made of brass, and leather was used as pads. There were also instruments made of ivory or ebony, fitted with silver keys and ferrules.[51]

Intonation apparently was a matter of minor concern at this time; Burney (in 1772) stated, "I know it is natural to those instruments to be out of tune."[52]

According to Carse,[53] the range of the clarinet had increased to d''', e''', and f''' by the end of the eighteenth century. The lowest note of the instrument was reputedly low c, the notes downward being added by Stadler of Vienna (according to Koch in 1802); however, Carse states that no such instrument with this range has ever been found.[54]

The sixth key c#' made its appearance around 1789 due to the efforts of either Stadler or Lefevre.[55] This key was placed between the third finger-hole of the left hand and the first finger-hole of the right hand and was operated by using the little finger of the left hand.

Nineteenth Century Clarinet

The clarinet underwent its most radical change during the first half of the nineteenth century. In 1808 (see footnote 34), Simiot moved the b flat' hole around to the front

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[51] Ibid., pp. 155-156. [52] Ibid., p. 157.

[53] Ibid., p. 156. [54] Ibid.

[55] Galpin, op. cit., p. 188.

of the instrument, retaining the key for this note in the rear of the clarinet.[56] The reason for this was the same as that for adding the metal tube-it served as an aid in preventing the clogging of the hole by the saliva.

By 1810, Iwan Müller (1786-1854) was making thirteen-keyed clarinets in the city of Paris.[57] This clarinet of Müller's formed the basis for the modern clarinet of today. Müller corrected the flat quality of the b' natural and made possible all chromatic notes by adding the following keys to accomplish this: e, f, f#, g#, b flat, b, c#', e flat', f', f#', g#', a', and b flat'.[58] He replaced the pieces of leather, used in the keys to cover the holes, with stuffed pads.[59]

The thirteen-keyed clarinets of about 1825-1835 were still made of boxwood with ivory ferrules. Some of the changes that began to take place, however, were:

1. The joint between the lower-middle-piece and the lower piece was abolished, and the two pieces became one.

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[56] Sachs, op. cit., p. 414. Galpin, (A Textbook of European Musical Instruments, p. 188), gives credit for this innovation to Wehl (c. 1845).

[57] Forsyth, op. cit., p. 252. [58] Sachs, op. cit., p. 413.

[59] Carse, Musical Wind Instruments, p. 160.

2. The new keys were mounted on blocks; or if there were too many blocks, brass saddles were used.
3. Round-cover keys replaced the square-covered keys, and some of the holes were metal-lined.
4. The mouthpiece increased slightly at the tip, and metal ligatures replaced (somewhat) the tying of the reed to the mouthpiece.
5. A slight increase was made in the width of the cylindrical part of the bore and at the top of the bell-joint.[60]
6. Rollers were put on the longer keys to facilitate movement from key to key (invented by Janssen in 1823).[61]

After 1839, some of the Boehm flute mechanisms were adopted for use on the clarinet. The Boehm system clarinet introduced by Klosé and Buffet in 1842 greatly increased the facility with which the instrument could be played. By duplicating the keys for e, f, and f#, these notes can be played by either the right or the left little finger. As this new system involved re-learning the fingerings for the clarinet, many of the old European clarinetists refused to

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[60] Ibid., p. 159.

[61] Sachs, op. cit., p. 414.

switch from the fundamental Müller system (with extra keys added to improve facility), or the clarinet invented by Albert of Brussels (c. 1860).[62]

Other originators of different systems were: L. A. Buffet Jeune (Paris, 1839); H. E. Klosé (Paris, 1843); Lefebre (Paris, 1846); and R. Mollenhauer (Fulda, 1867).[63]

About 1867, Buffet, in an attempt to eliminate the necessity of using two clarinets (B flat, A), invented a clarinet that supposedly tuned to either pitch. However, this clarinet was not successful.[64]

Although the boxwood clarinet lingered for some time after the mid-century mark, the newer clarinets were being made of a much harder substance, cocuswood, and the clarinet of the nineteenth century gradually took on the look of the clarinet of today.

Clarinets were made of metal (brass) as early as 1818 and later the material was changed to sheet metal.[65]

Ad. Sax presented elaborately fitted clarinets from around 1838 to 1842; however, his instruments were so complicated that few of the leading clarinetists accepted them.[66]

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[62] Carse, Musical Wind Instruments, p. 163.

[63] Sachs, op. cit., p. 414.

[64] Daubeny, Orchestral Wind Instruments, p. 60.

[65] Carse, Musical Wind Instruments, p. 161.

[66] Ibid., p. 162.

Klosé wrote a tutor for his new clarinet, and the English translation (1873) brought about the discarding of the older types of clarinets and the adoption of the new Boehm type of clarinet.[67]

Many different sizes of clarinets were produced during the nineteenth century. Instruments in high A flat were used in German, Austrian, and Spanish military bands, but usually the instruments pitched higher than the high E flat instrument were never prominent to any degree. The C clarinet is now obsolete; however, the clarinets in A, B flat, and even the high E flat, which is still used in military bands and occasionally in concert orchestras (see Figure 10), seem to be well established, and it appears that their future is secure.

Fig. 10.--Strauss, Ein Heldenleben, (1898)

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[67] Ibid., p. 165.

Clarinets are now made of either African blackwood, cocuswood, ebonite, or metal.[68] The mouthpiece, formerly, made of ebony, is now made out of ebonite, glass, or metal. The tip of the mouthpiece is now broader, and the space between the tip of the mouthpiece and the tip of the reed is much greater. Both of these modifications produce a richer tone quality.

Clarinets of other sizes, i.e., the alto-tenor (latter eighteenth century) and the bass (1772), were not attempted until around the time of the invention of the four or five-keyed clarinet (1780). In the alto-tenor group, clarinets have been made in the keys of A flat, G, F, and E flat; two distinct types of this kind of clarinet are the "clarinette d'amour" (latter eighteenth century) and the basset-horn (1770). Of the bass group, there have been instruments whose pitch was an octave below that of the soprano clarinet, the Bathyphon (1839) in low C, a contra-bass clarinet in E flat (1842-1846) that is pitched an octave below the alto in E flat, and a contra-bass in B flat (1890), sounding an octave below the regularly employed bass clarinet in B flat.[69]

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[68] Ibid., p. 166.

[69] Carse, Musical Wind Instruments, p. 166.

CHAPTER II

PERIOD OF HAYDN AND MOZART

Although the first clarinet part, as such, is reputedly found in a mass by Faber in 1720,[1] and clarinet parts had been written in operas for some time (see below), the adoption of the clarinet by the symphony orchestra was very slow until the last quarter of the eighteenth century. Gossec claims to have written clarinet parts in 1757, and to have used them in performances of symphonies by Stamitz at the "Concert Spirituels" in Paris in 1755.[2] Carse believes that these clarinet parts were in all probability either "added" parts or parts doubling the oboe.

The earliest parts written for the clarinet were in opera scores. One of the earliest examples of this usage is found in the opera, Antaxerxes, by Arne (1762); and Gluck, although in the Vienna version of his opera, Orfeo, (1762), he indicated parts for "chalumeau," used the clarinet in C in the Paris version of Orfeo (1774).[3] Johann Christian Bach

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[1] Carse, Musical Wind Instruments, p. 154f.

[2] Carse, History of Orchestration, p. 166.

[3] H. W. Schwartz, The Story of Musical Instruments, p.120.

indicated parts for clarinet (in B flat and D) in his London production of Orione in 1763.[4]

Some of the first symphony orchestras that used the clarinet during this and later periods were: London Symphony Orchestra (1764), the orchestra of La Poupliére in Paris (1762), and the German orchestras of Koblenz, Mayence, Pressburg, Rogensburg, and Ansbach during 1782 and 1783, and Berlin (1787).[5]

Clarinets during this period had the same function as oboes. When the clarinets were used in the scoring, the oboes were usually dropped from the orchestra; an example of this can be found in Mozart's Symphony No. 3 in E flat (K. 18), which will be discussed later. Burney (Present State of Music in Germany, 1772), mentions a clarinet "which serves as a hautboy" in a Brussels orchestra.[6] Diderot and Alembert, in their Encyclopedie (1767), mention the "Clarinette, sorte de hautbois."[7] It can be seen from these examples that the function of the clarinet during the latter eighteenth century was the same as that of the oboe; also,

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[4] Ibid.

[5] Carse, History of Orchestration, p. 179.

[6] Carse, The Orchestra of the XVIIIth Century, p. 35.

[7] Ibid., p. 128.

during this period the principal clarinetists were primarily oboists.[8] Whenever both oboes and clarinets are found in the scores, the part of the oboe is the more prominent.[9] Such was the status of the clarinet during the time of Wolfgang Amadeus Mozart (1756-1791) and Joseph Haydn (1732-1809).

Although Haydn was writing symphonies before the time of Mozart, he did not attempt much use of the clarinet until Mozart's later years and after the latter's death. For this reason the influence and use of the clarinet by Mozart will be treated in advance of that of Haydn.

As has been stated before, this was a period of insecurity for the clarinet, and the lack of players of the instrument influenced more than one composer in scoring for this instrument. It was left to Mozart to be the first to both appreciate the clarinet and make repeated attempts to use it:

> The possibilities of coloring increases as new instruments came into use, and the clarinet was at once appreciated by Mozart, who may be said to have made the first systematic attempts at specific tone coloring.[10]

Apparently the first use of the clarinet in the symphony orchestra by Mozart is his Symphony No. 3 in E flat, (K. 18), written in London, 1764,[11] in which he uses two B flat

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[8] Ibid., p. 128. [9] Carse, Orchestration, p. 180.

[10] W. J. Henderson, The Orchestra and Orchestral Music, p. 121.

[11] Carse, The Orchestra of the XVIIIth Century, p. 129.

clarinets, bassoon, two horns in E flat and strings. This is an instance where the clarinets replace the oboes. The clarinet was available in London because of its use in the operatic productions of Arne and Johann Christian Bach, being given at this time.

This symphony, according to Carse,[12] is not really one of Mozart's symphonies, but rather it is a symphony of Abel's. (Symphony No. 6, Op. VII). Saint-Foix confirms this stating:

> Now I have discovered that this particular symphony in E flat-written moreover on the same paper as the exercise of which I have just spoken /referring to Symphony No. 2 which Saint-Foix claims is an exercise given to Wolfgang by his father/--is none other than a symphony by the German /Gamba/ virtuoso and composer Karl Friedrich Abel (1725-1787), published by the latter some years later in his collections, opus 7.[13]

However, this symphony is listed in the Köchel Verzeichnis[14] as one of Mozart's works, and it will be treated as such in the discussion to follow.

In Symphony No. 3 (K. 18), the clarinet is nearly always used in the upper range of the instrument. At this point an illustration of the three registers of the clarinet may be helpful:

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[12] Ibid.

[13] Georges de Saint-Foix, The Symphonies of Mozart, p. 7.

[14] Chronologisch-thematisches Verzeichnis sämtlicher Tonwerke Wolfgang Amade Mozarts, edited by Alfred Einstein, p. 33.

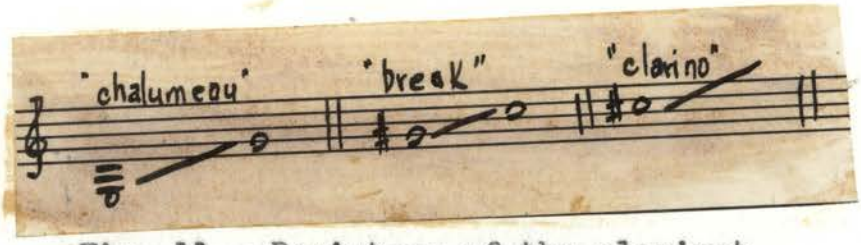

Fig. 11.--Registers of the clarinet

Mozart nearly always avoids the use of the chalumeau register of the clarinet, especially in his first symphonies. An example of the use of the clarinet in the orchestra with this instrumentation (two clarinets, bassoon, corni in E flat, and strings) is shown:

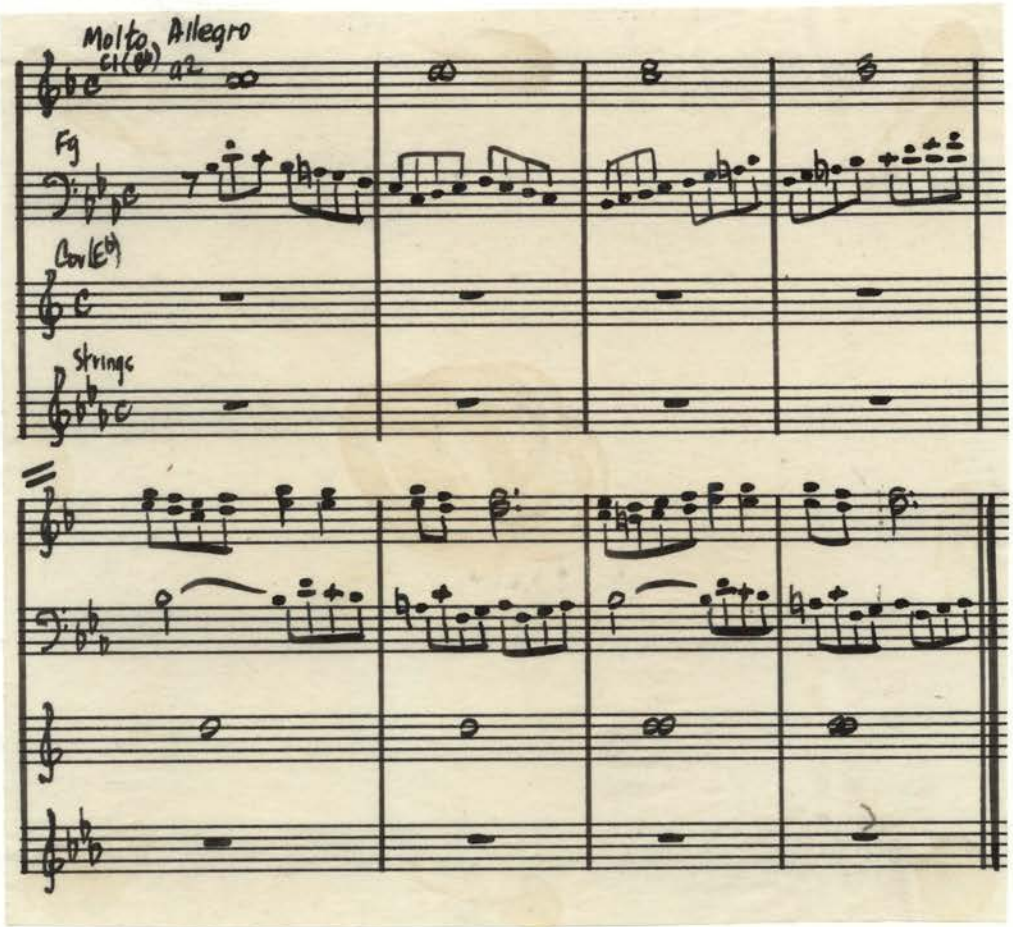

Fig. 12.--Mozart, Symphony No. 3 (K. 18), first movement, measures 19-26.

In the first single four bars of Figure 13, the clarinet begins with the melody against a single contrapuntal part for solo bassoon; no other instruments are used in the passage until we reach the second four bars of the example. Here the melody is continued by the clarinets in thirds with the horns entering to assume sustained tones of the harmony.

This example shows the typical method used by Mozart in writing for the clarinet in his earlier works. The clarinets are usually written in thirds, or sixths as were all the woodwinds of this time,[15] and very rarely had "soli" passages. Figure 13 shows one of the exceptions in this case, as the instrument was usually confined to tutti passages and sustaining or background parts, as found in the "Presto" movement of this same symphony.

The clarinets were usually alloted the third and fifth of the chord in tutti passages, were always used in inner voices, and were kept as close as possible to the root of the chord, in background passages. (See ante Fig. 12, p. 32, Fig. 13, p. 34).

A more mature Mozart wrote for the clarinet in the Symphony No. 31 (Paris) in D, (K. 297). This is really

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[15] For an example of this note the oboe part in Haydn's Farewell Symphony (1772), first movement, measures 75-80.

where the clarinet gets its start in the symphony orchestra. Not much is done in the way of solo passages for the clarinet, but a good deal of doubling is allotted to it, and it is treated as one of the accepted instruments of the orchestra. (See post Figure 15, p. 37).

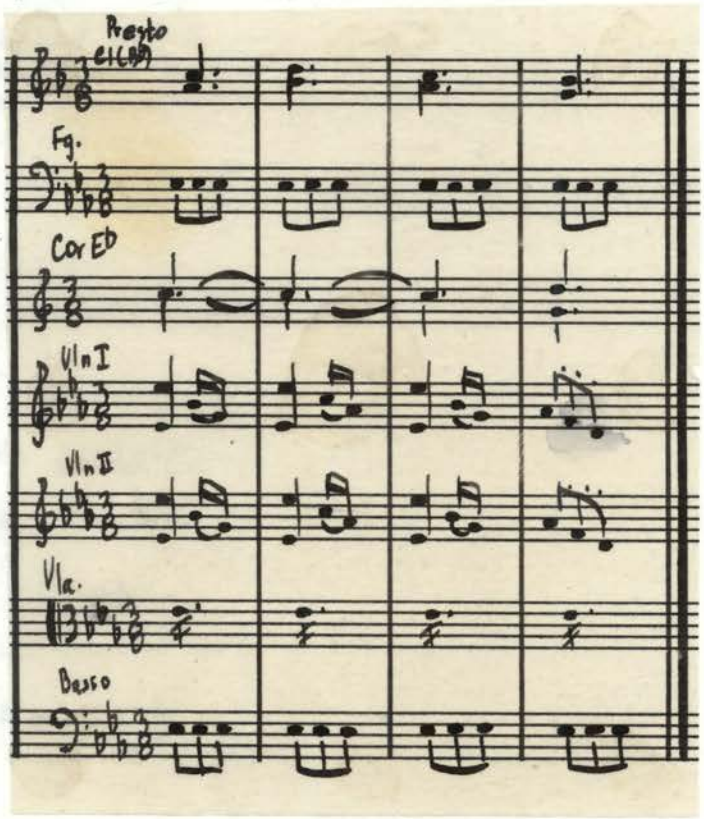

Fig. 13.--Mozart, Symphony No. 3 (K. 18), fourth movement, measures 1-4.

Although it has been said by numerous authors that Mozart became interested in the clarinet as a result of his visit to the orchestra at Mannheim in 1777-78, he had already encountered them in London in 1764 (see ante p. 31). He was so excited by the presence of the clarinet in the Mannheim orchestra that he wrote, in a letter to his father: "Ah, if we

only had clarinets also! You cannot imagine what a wonderful effect a symphony with flutes, oboes, and clarinets makes."[16] Saint-Foix has this to say about the influence of Mannheim on Mozart:

> . . . he remains struck in particular by the admirable instrumental ensemble, by the timbres and their effects; especially we can say that the clarinet was revealed to Mozart during his stay at Mannheim, and that he was then granted a prophetic glimpse of the marvelous resources it was to offer him in the future.[17]

Mozart's use of the winds in this symphony somewhat resembles his use of the winds in the E flat Symphony (K. 18); he still seems unsure just what to do with the clarinet. The parts given to the clarinet in the tutti passages of the Paris Symphony (K. 297) are of practically the same type as those in the earlier work: (1) the clarinets are still arranged in thirds or sixths; (2) they sustain on the inner voices in thirds or sixths; (3) the parts given them are simple; and (4) they are frequently doubled with the bassoons and other inner-voice instruments. An example of such a tutti passage is shown in Figure 14:

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[16] W. J. Turner, Mozart, The Man and His Works, p. 230.

[17] Saint-Foix, op. cit., pp. 63-64.

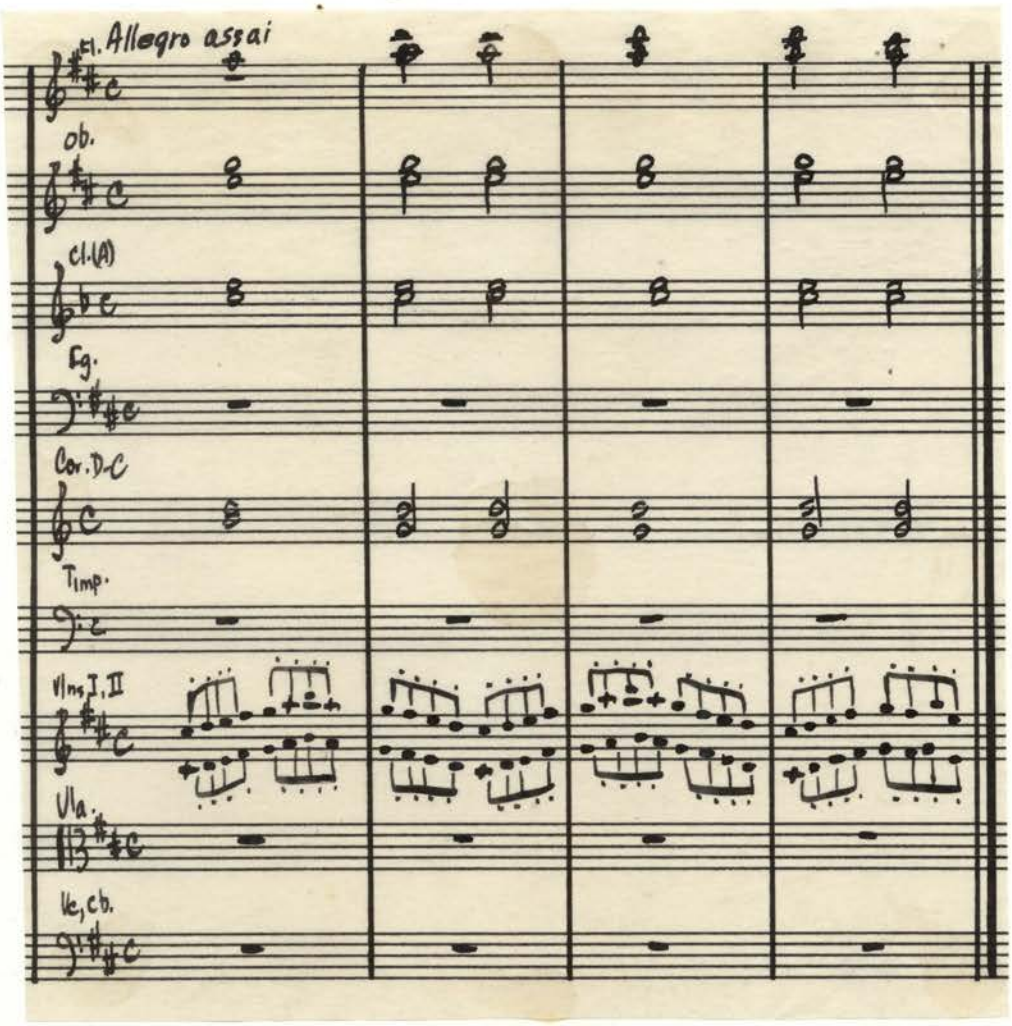

Fig. 14.--Mozart, Paris Symphony (K. 297), first movement, measures 15-18.

An unusual contrapuntal effect is shown in the first movement in which the violins begin a scale passage; after two bars the passage is taken over by the bassoon and the basses. Two bars later the clarinet and viola have the melody. This passage illustrates several phases of the clarinet: (1) an early contrapuntal part for this instrument; (2) an example of doubling with the viola; and (3) an

unusual scale passage for the time (1778):[18]

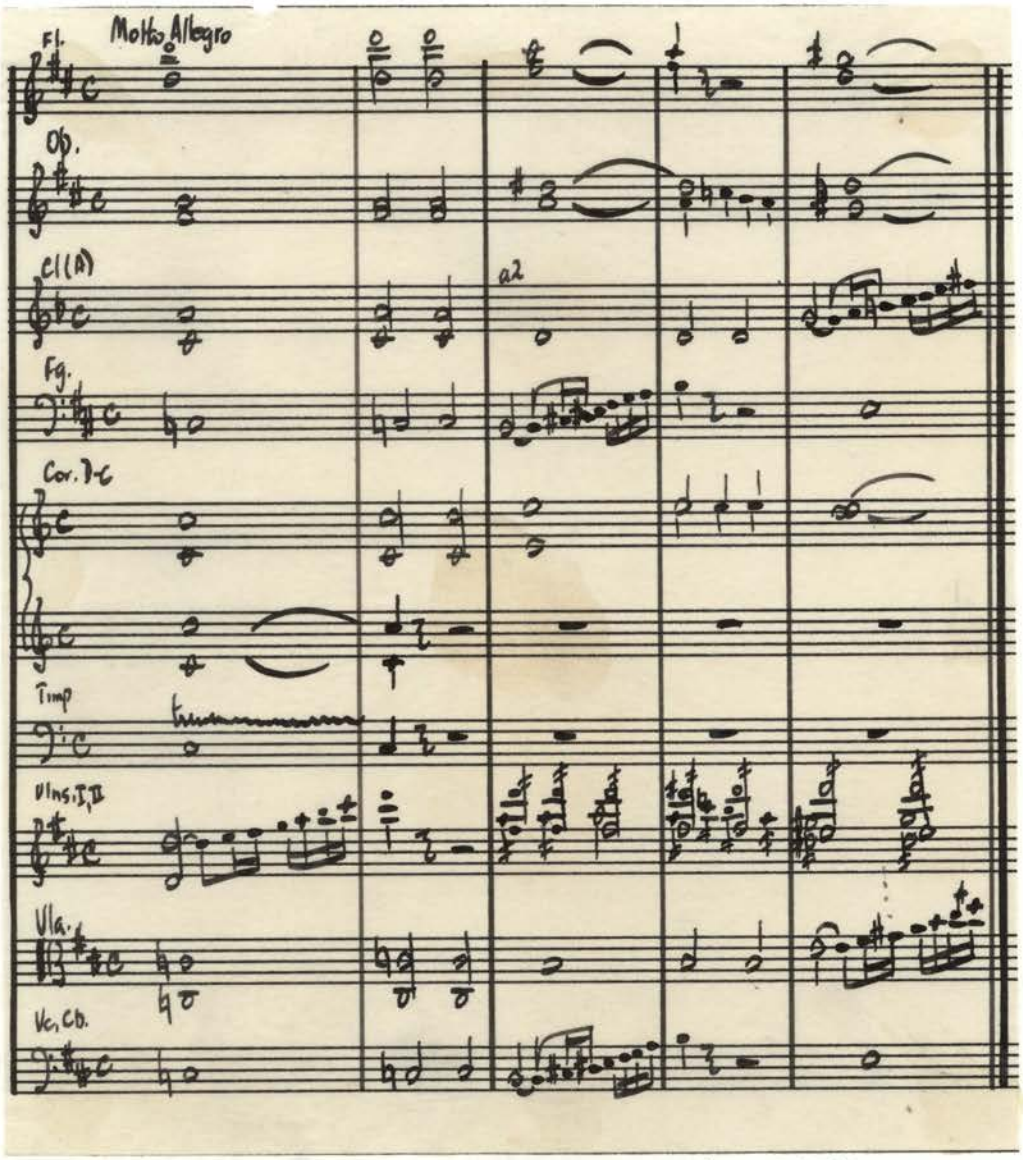

Fig. 15.--Mozart, Symphony, (K. 297), first movement, measures 188-193.

[18]Although the f# key was invented c. 1750, it was not used to any extent until around 1780. This use by Mozart would possibly be one of the first attempts to increase the key scope of the instrument.

In the second movement of this symphony the clarinet is omitted, but in the third movement (the last) it returns and conforms to the examples already given.

The Haffner Symphony (K. 385) affords two illustrations of doublings. In Figure 16 we see the clarinets in octaves while doubling the counter-melody with the rest of the wood-winds:

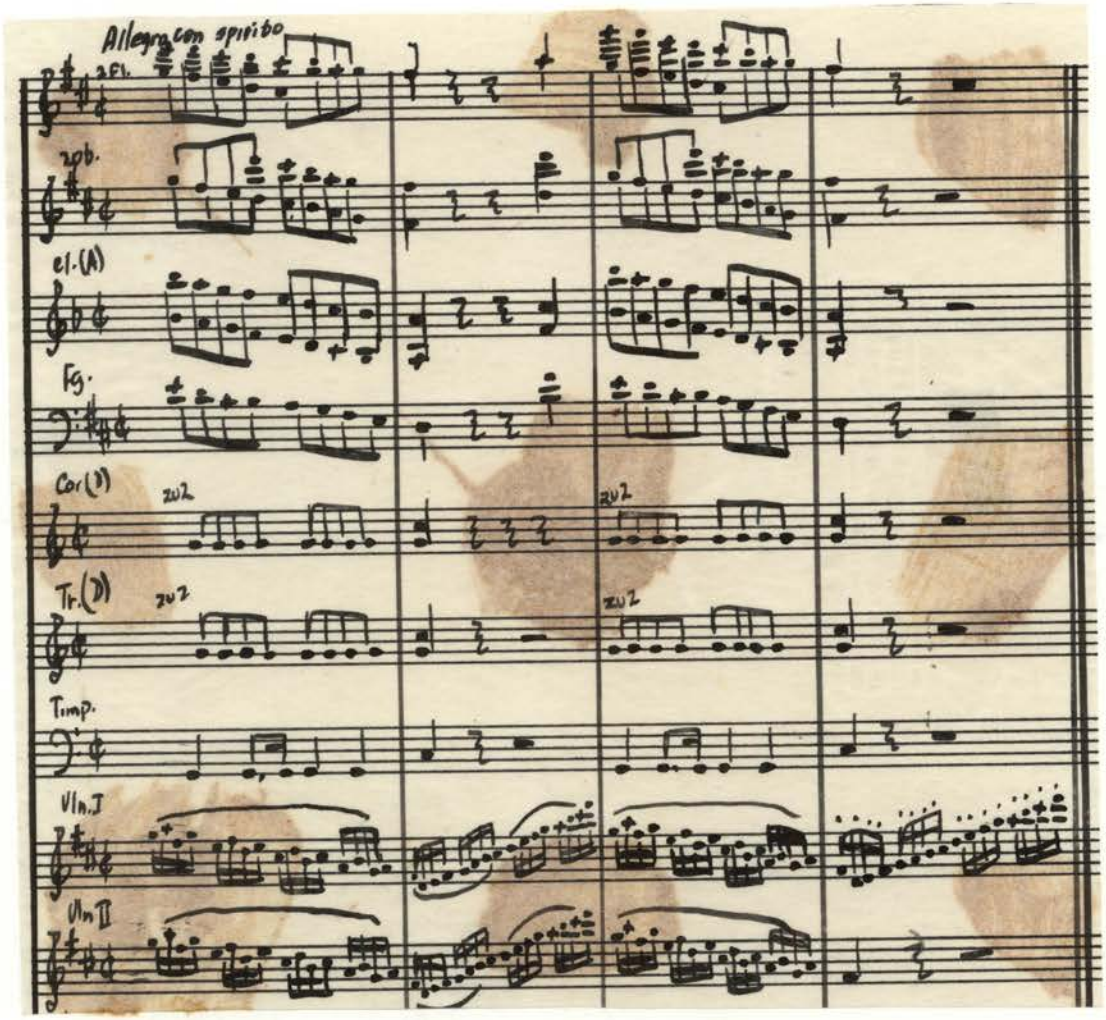

Fig. 16.--Mozart, Symphony, (K. 385), first movement, measures 20-23.

In the second example from this symphony, a tutti section from the fourth movement shows the clarinets doubling the flutes in the wood-wind section as well as re-enforcing the strings. The clarinets are once again doubled in thirds:

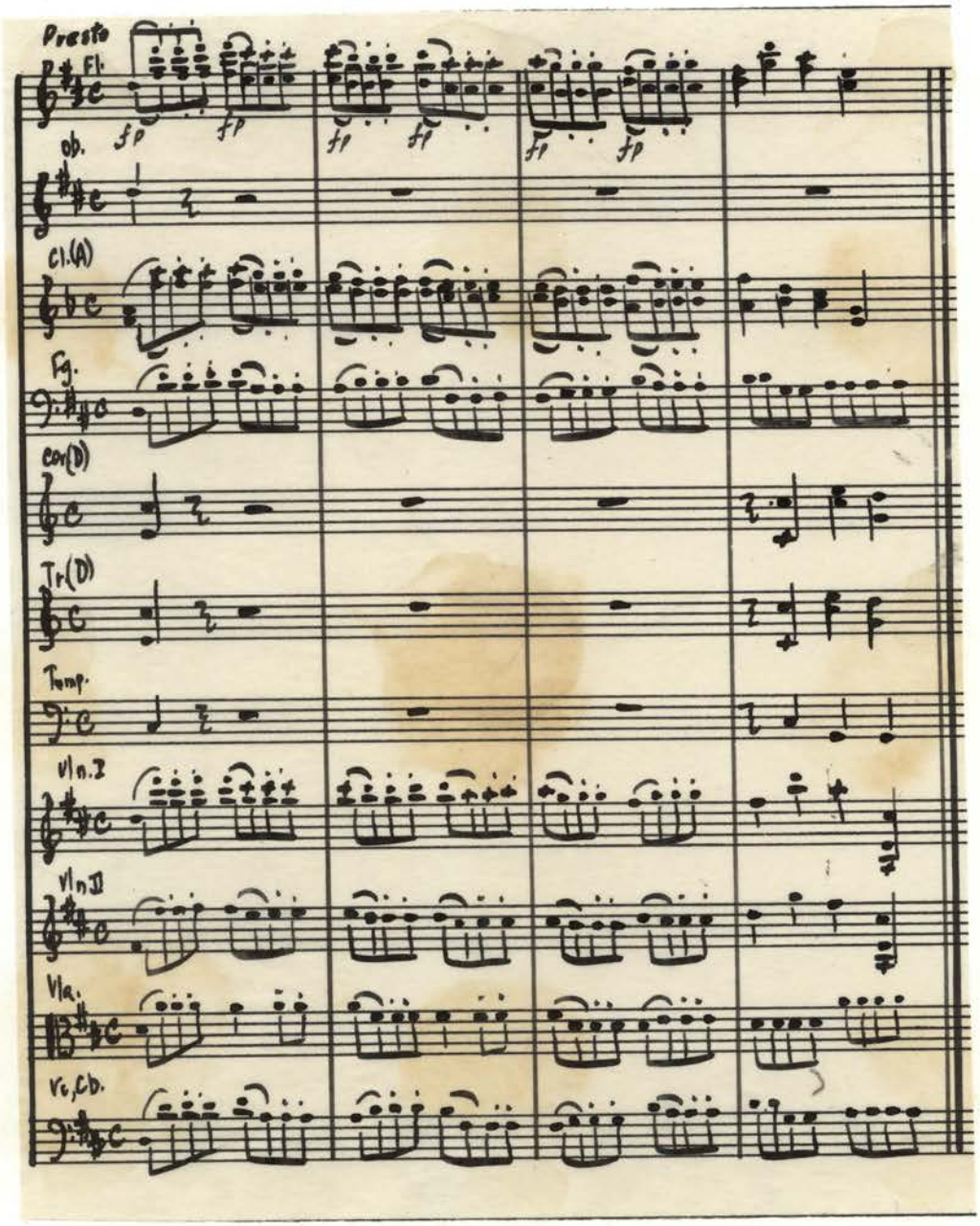

Fig. 17.--Mozart, Symphony, (K. 385), fourth movement, measures 207-210.

In the last two symphonies that Mozart wrote in which he used the clarinets, he makes nearly every use of the instrument that was possible during this time. These two symphonies, No. 39 in E flat (K. 543), and No. 40 in G minor (K. 550), were written in the summer of 1788, along with the Jupiter (K. 551), which did not use clarinets. As these two symphonies were written within a month of each other, they may well be studied simultaneously.

In the first of these two, the E flat Symphony (K. 543), Mozart uses the clarinets and dispenses with the oboes. In the original version of the G minor Mozart did not use the clarinet, but later he revised the oboe parts and added the clarinet parts.

The clarinet emerged as an instrument of melody and solo passages during this period of Mozart's writing. Illustrations of the use of legato tonguing, of "soli" phrases, and of the parts of the chord given to the clarinet are shown in the first movement of this symphony. (See Fig. 18).

Contrapuntal effects are numerous in these two symphonies, especially the one in E flat. In the first movement of the E flat, Mozart employs the clarinet and bassoon in a canon with the flute and violins. (See Fig. 19).

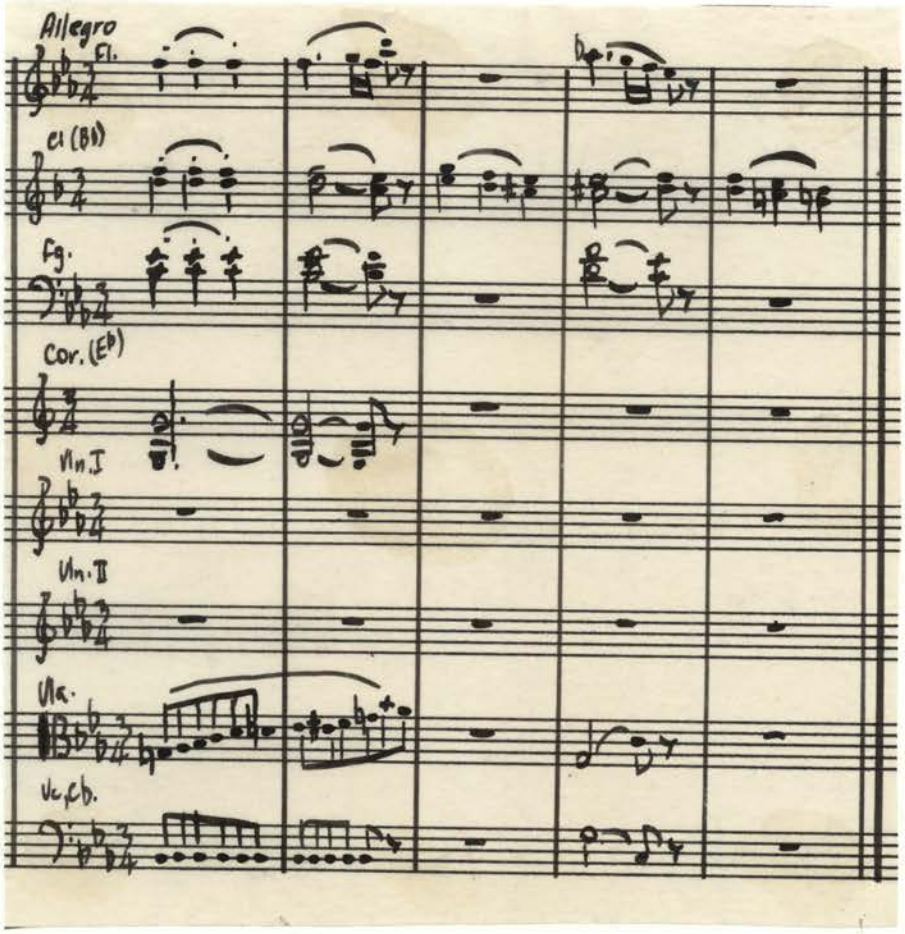

Fig. 18.--Mozart, E flat Symphony (K. 543), first movement, measures 124-128.

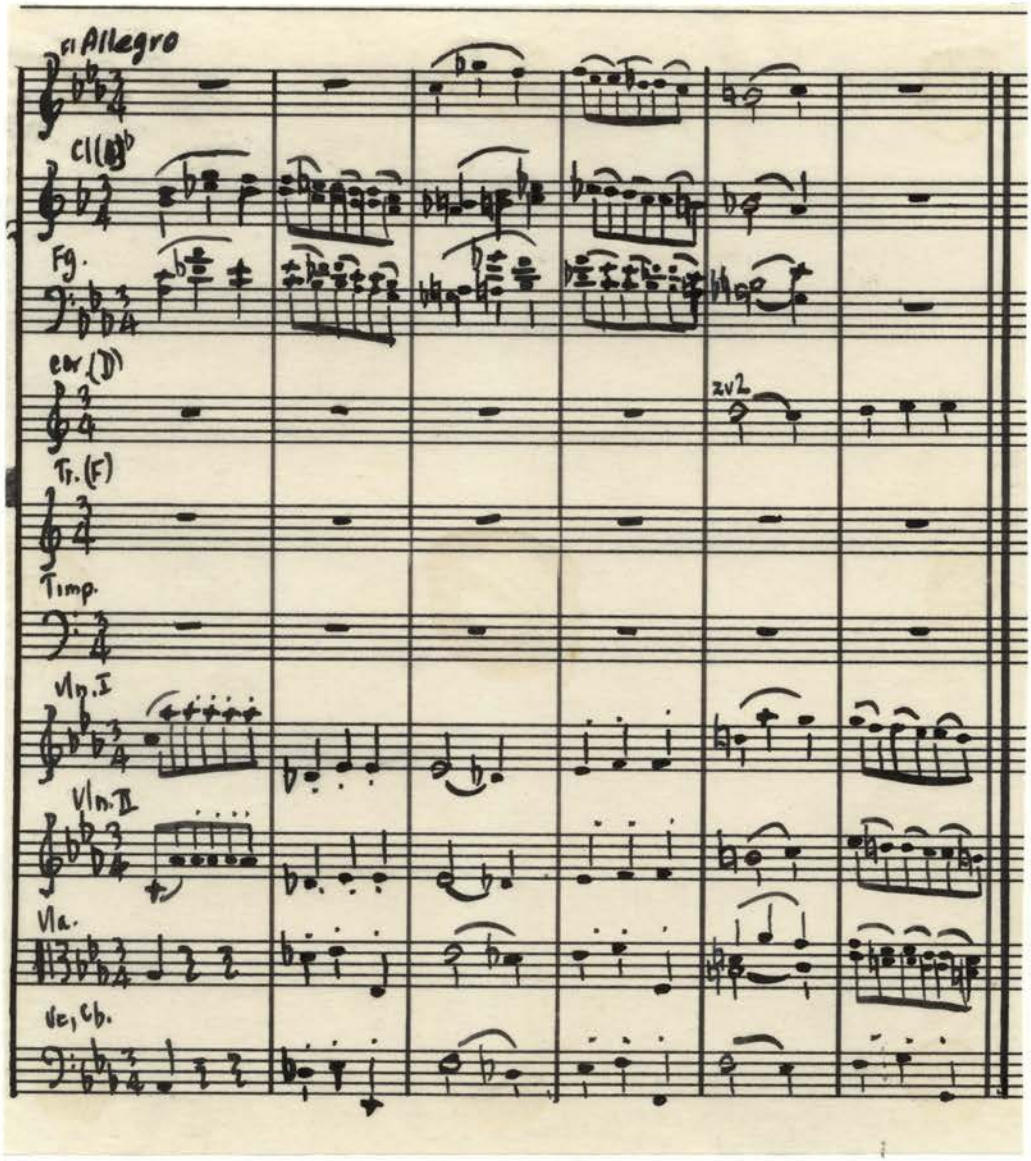

Fig. 19.--Mozart, E flat Symphony (K. 543), first movement, measures 173-178.

An example of the growth of the clarinet in the orchestra of this time can be found in the same symphony where Mozart employs the following skips:

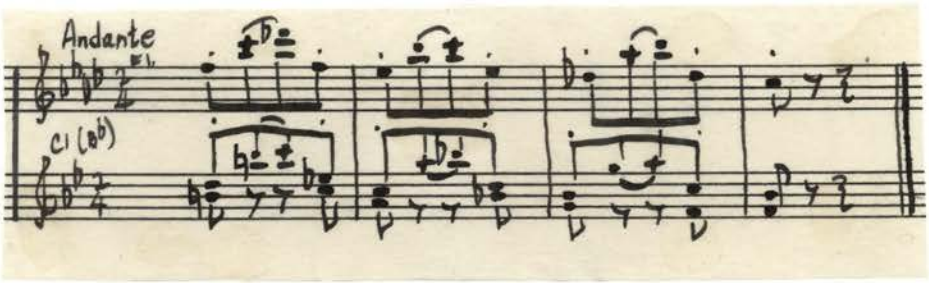

Fig. 20.--Mozart, E flat Symphony (K. 543), second movement, measures 65-68.

Another illustration of Mozart's more advanced orchestral writing for the instrument is seen in the G minor where the clarinet is alloted the solo chromatic phrase introducing a theme in the second subject:

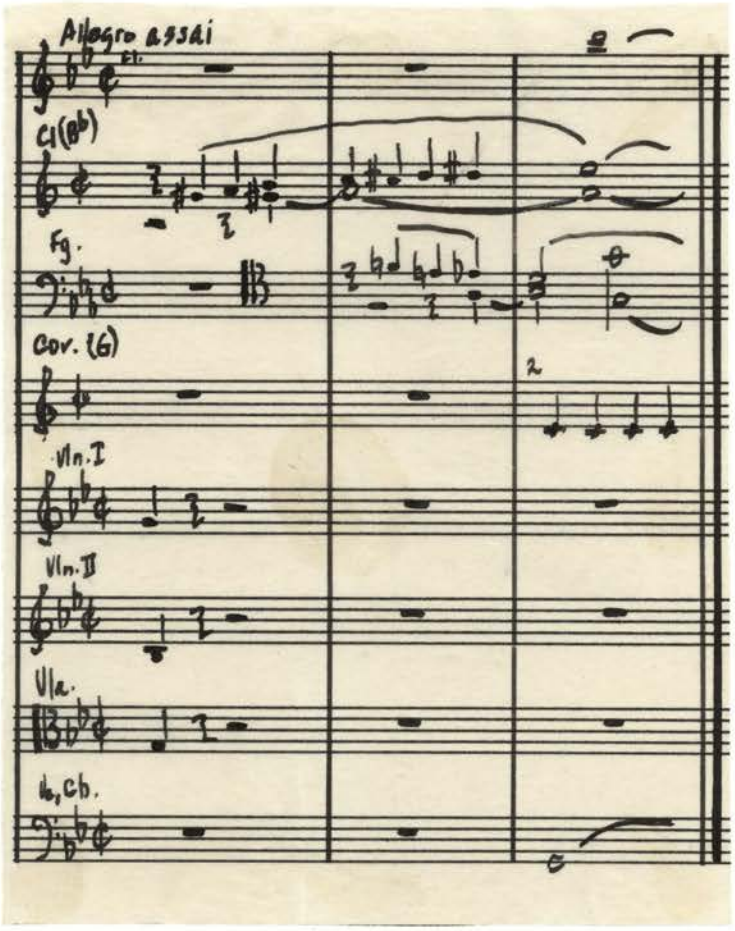

Fig. 21.--Mozart, G minor Symphony (K. 550), fourth movement, measures 261-263.

Mozart's most outstanding passage for clarinets can be found in the trio of the Minuet of the E flat Symphony. This illustration is quite exceptional. Not only is the clarinet used as a solo instrument in this instance, but the entire orchestra serves merely as an accompaniment for the clarinet, an exceptional use of the clarinet in this period.

Moreover, in the arpeggio accompaniment of the second clarinet, extensive use is made of the chalumeau register--rarely employed until a generation later (Weber).

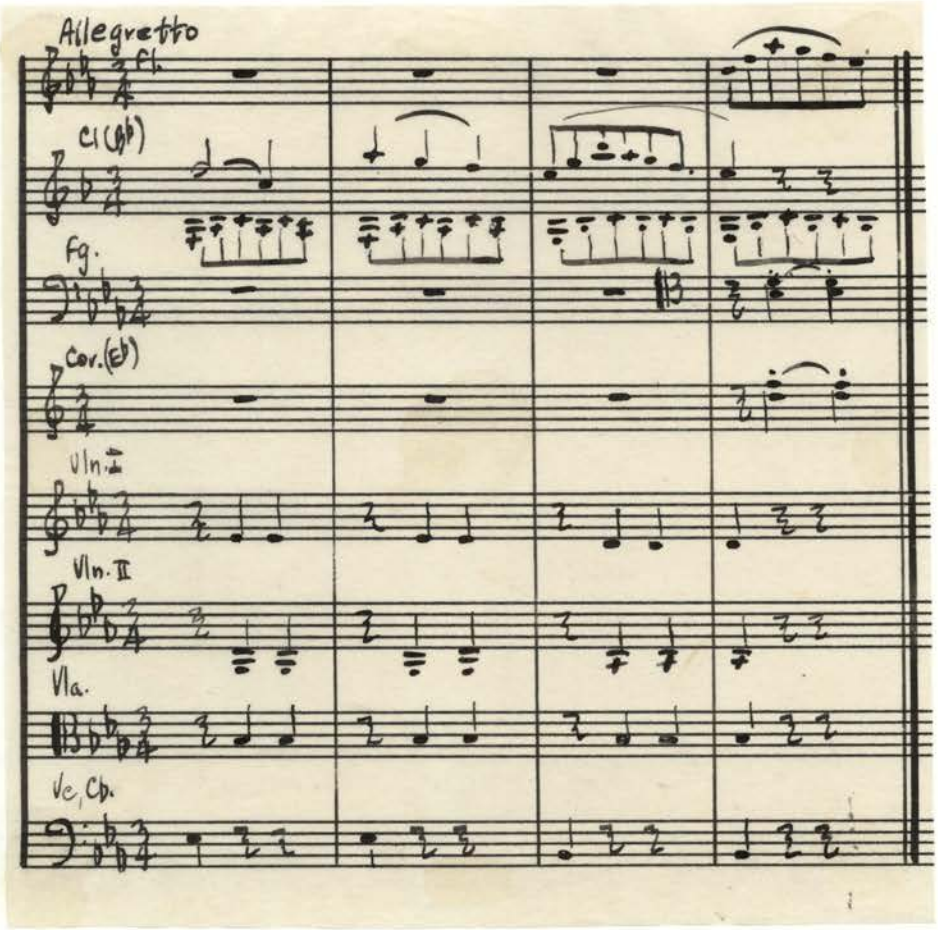

Fig. 22.--Mozart, E flat Symphony (K. 543), third movement, measures 45-48.

Mozart wrote no clarinet parts for his last symphony, No. 41 (Jupiter) in C (K. 551). Grove offers an explanation

of this in saying:

> The ordinary explanation is probably the true one; namely, that being attached to a small court, he seldom had at his disposal a full band of instrumentalists.[19]

Haydn

Joseph Haydn did not do very much in the way of developing the function of the clarinet. Henderson's description of Haydn's use of the orchestra shows exactly the way in which Haydn used the various members of the orchestra:

> Haydn's scoring shows a curious combination of Handelian ideas with later developments. The Handelian plan of strengthening string parts with wind parts in unison seems to have taken some hold of Haydn, for he rarely writes unsupported wood-wind passages in his symphonies . . . . He shows . . . weakness in writing for the wood-wind in its internal relations. His clarinet parts usually double those of the oboes or the flutes. There is a great deal of octave-writing, and he seldom gets more than three real parts in his wood-wind.[20]

A typical example as far as octave-writing is concerned is found in the fourth movement of the Clock Symphony, Fig. 23. It should be noticed in this example that Haydn uses contrary motion in the wood-winds and strings; however, all parts are doubled, so this is no deviation from the description of Henderson (see ante p. 12). This also serves as an

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[19] G. Grove, Dictionary of Music and Musicians, p. 544.

[20] W. J. Henderson, op. cit., pp. 85-86.

example of the way Haydn treated the clarinets in the "tutti" sections of his symphonies.

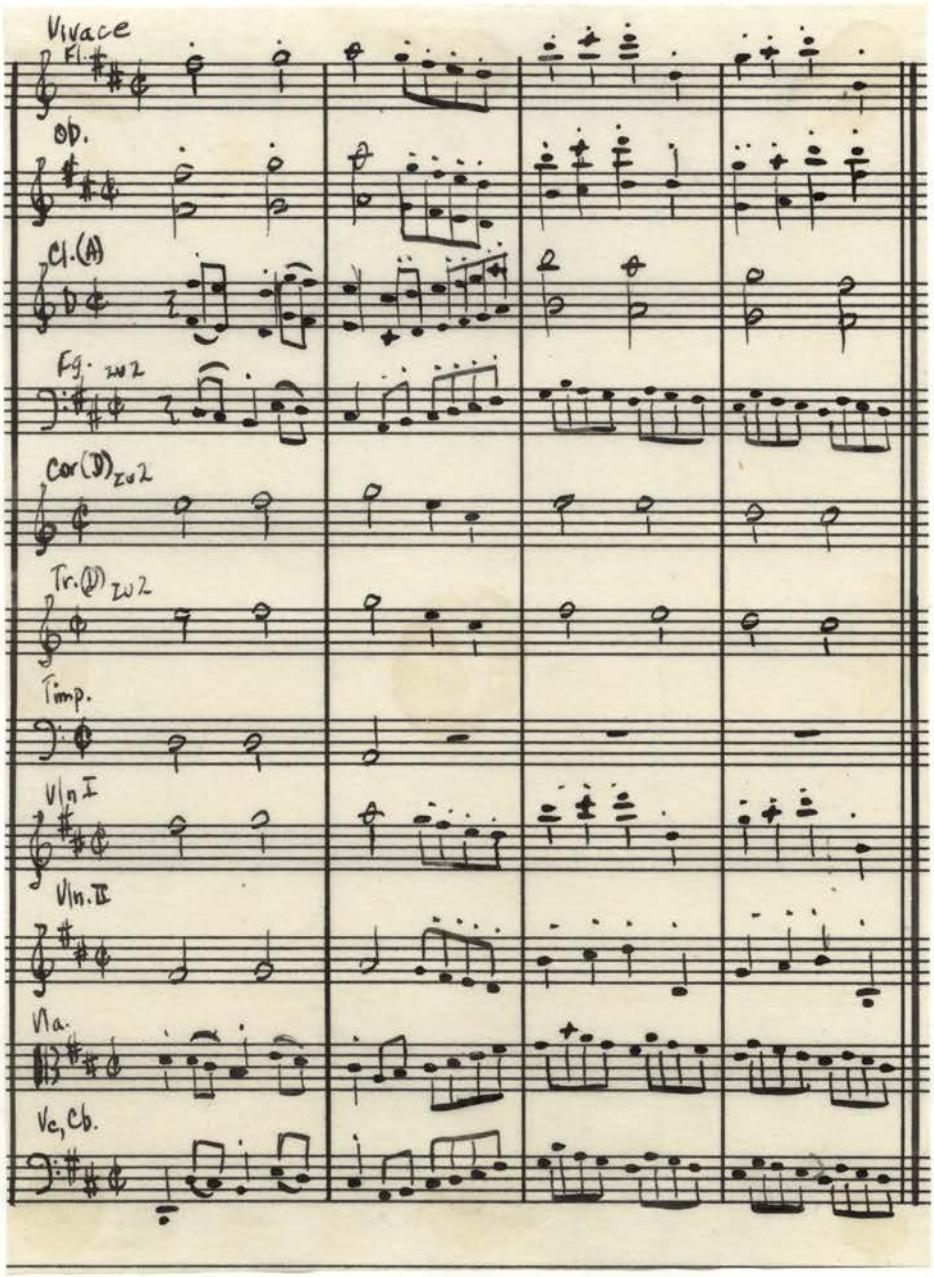

Fig. 23.--Haydn, Symphony No. 101, (Clock), fourth movement, measures 233-236.

Haydn dropped the clarinets when he reached a section that required any facility on the instrument at all. Perhaps one of the best examples of this is found in the London Symphony in D minor.

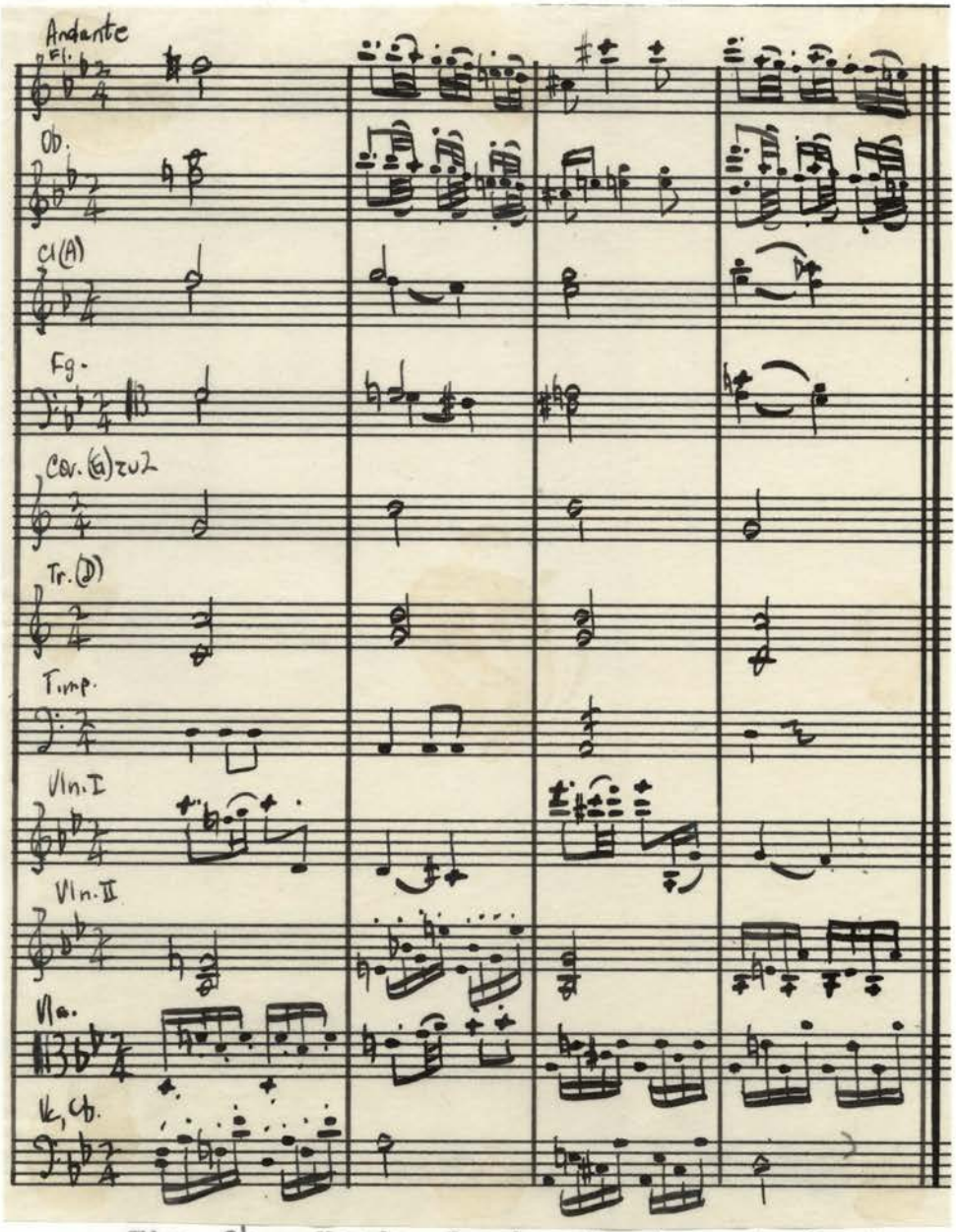

Fig. 24.--Haydn, London Symphony in D minor, second movement, measures 42-45.

In this example Haydn excludes the clarinets in the scale-wise run of thirty-second notes and wrote the clarinet's part with the bassoons, horns, and trumpets.

As far as other developments are concerned, Haydn learned how to write for the clarinet from Mozart. Although he had two clarinets at Eisenstadt, while in the employ of Prince Esterhazy during the years of 1776-1778,[21] he rarely employed them in the symphonies except in tutti passages.[22]

Colles' description of Haydn's handling of the clarinets in Symphony No. 104 fits nearly every situation in which Haydn used the clarinet:

> . . . but it is also noticeable that he writes very little music of real distinction for the clarinets. He still seems to regard them, like the trumpets as something with which to make a big noise. The Adagio gives the emphatic call to attention in its first two bars, but in the tender passages which follow the clarinets are discarded.[23]

This presumably illustrates the extent to which Haydn used the clarinet. Even Haydn was disappointed over his use of the wood-winds, for he illustrated this in his famous statement to Kalkbrenner:

> I have only just learned in my old age how to use the wind instruments, and now that I do understand them, I must leave the world.[24]

Carse quite ably summed up the use of the clarinet by

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[21] Ibid., p. 202. [22] Ibid., p. 13.

[23] H. C. Colles, The Growth of Music, Part II, p. 104.

[24] Carse, The Orchestra of the XVIIIth Century, p.

Haydn when he said:

> Haydn's clarinet parts, although quite indispensable, are nothing like so full or so important as his oboe parts. The new instruments were used to give additional body to the wood-wind "tutti," to supply essential harmony, or to double melodic phrases played by one or the other of the wood-wind, but all the important solo parts go to either the flute, the oboe, or the bassoon.[25]

The use of the clarinet in the Viennese Classical Period may be summarized as follows:

1. In the use of the wood-wind group there was a readiness to let them play in three part harmony, and the tendency was to have the parts move in parallel thirds or sixths. (See ante Fig. 12, p. 32, Fig. 13, p. 34).
2. Doubling with other parts of the section, as well as with other sections of the orchestra. (See ante Fig. 14, p. 36, Fig. 15, p. 37).
3. Absence of solo function--the above illustration from Mozart's Symphony in E flat (K. 543) is an outstanding exception.

Contrasting Mozart with Haydn in his use of the wood-winds in the tutti passages, Carse finds that while Haydn gave a complete version of the harmony to the strings, Mozart gave some of the essential notes of the harmony to

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[25] Carse, History of Orchestration, p. 190.

the wood-winds. Thus Haydn usually gives the first violins the melody and the harmony to the second violins, violas, etc., while Mozart gave the melody to the violins in unison or in octaves, but let the wood-winds and the brass fill the inner voices.[26]

Henderson gives the picture of the parts assigned in the wood-wind section when he states:

> The old-fashioned way was to employ the four pairs of wood-wind instruments always in thirds and sixths. . . The clarinets filled in the middle voices.[27]

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[26] Ibid., p. 194.

[27] Henderson, op. cit., p. 87.

CHAPTER III

NINETEENTH CENTURY: FIRST QUARTER

It was not until the very late eighteenth century (Haydn) that the wood-wind group of the symphony orchestra was finally stabilized. From that time forward most of the symphonic works were scored for two flutes, two oboes, two clarinets, and two bassoons, although additional instruments were later added to this basic pattern of the wood-wind group.

The role of the clarinet in the orchestra is one of major importance during this period. Although it was not used extensively as a solo instrument until later in the nineteenth century, its importance as a permanent member of the symphony was shown by the different uses of this instrument during this period.

The chief discovery concerning the tone of the clarinet during this period was its ability to blend well with the combinations of: (1) one clarinet, one bassoon, and two horns; or (2) two flutes and two clarinets; and (3) in a greater number of parts in various combinations with strings. The use of these combinations of instruments brought about

the replacement of the oboe as the chief and leader of the wood-wind group.[1]

Ludwig van Beethoven

The composer contributing more to the development of the clarinet than anyone else during this period was Ludwig van Beethoven (1770-1827).

Although Beethoven in his first two symphonies usually employed the clarinet in close harmony with the other wood-winds in the inner voices (see Fig. 25), as did Haydn and Mozart (see Chapter II, p. 50), he used it with greater confidence and originality in his more mature works. Colles gives a description of Beethoven's first clarinet parts:

> It is true that some of the limitations of older times seem to cling around him. He is rather fearful of letting the clarinets speak by themselves, and sometimes he makes the wood-wind double each other and the strings clumsily. These things serve to show his starting point.[2]

Carse adds to this in stating:

> The handling of the wood-wind shows clearly that the clarinet was hardly yet reckoned the equal of either the flute, oboe, or the bassoon. Beethoven's clarinets at that time were harmony or tutti instruments only; all the solo work goes to one or other of the remaining wood-wind.[3]

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[1] Carse, History of Orchestration, p. 229.

[2] H. C. Colles, The Growth of Music, Part II, p. 168.

[3] Carse, op. cit., p. 232.

Thus, we see that Beethoven, in his first works, contributed nothing to the function of the clarinet that had not been accomplished during the time of Mozart and Haydn. However, beginning with his Third Symphony (Eroica), Beethoven begins to free the clarinet from the confines of background and tutti work exclusively.

> In the Eroica No. 3 (1804), a solo clarinet is allowed to take a share in the melodic phrases and essential harmonies of some of the principal themes. After that time clarinets get more extended solo parts, and in smoother-toned blends with bassoons and horns to some extent exclude the hitherto ubiquitous oboe.[4]

Since Beethoven used the clarinet in many different ways in his symphonic works, and since his first works utilized this instrument consistently in the style of Haydn and Mozart, the examples selected are taken from his more mature works in keeping with the title of the project undertaken.

Beethoven's use of the clarinet in the tutti passages is illustrated in the passage from Symphony No. 6 (Pastoral), 1808. In this passage the clarinets are doubling the oboe an oboe an octave below, and it should be noted that they still are relegated to the inner voices (third and fifth). The clarinets are arranged in thirds:

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[4] Ibid., pp. 232-33. (See post Figs. 26, 28, 29).

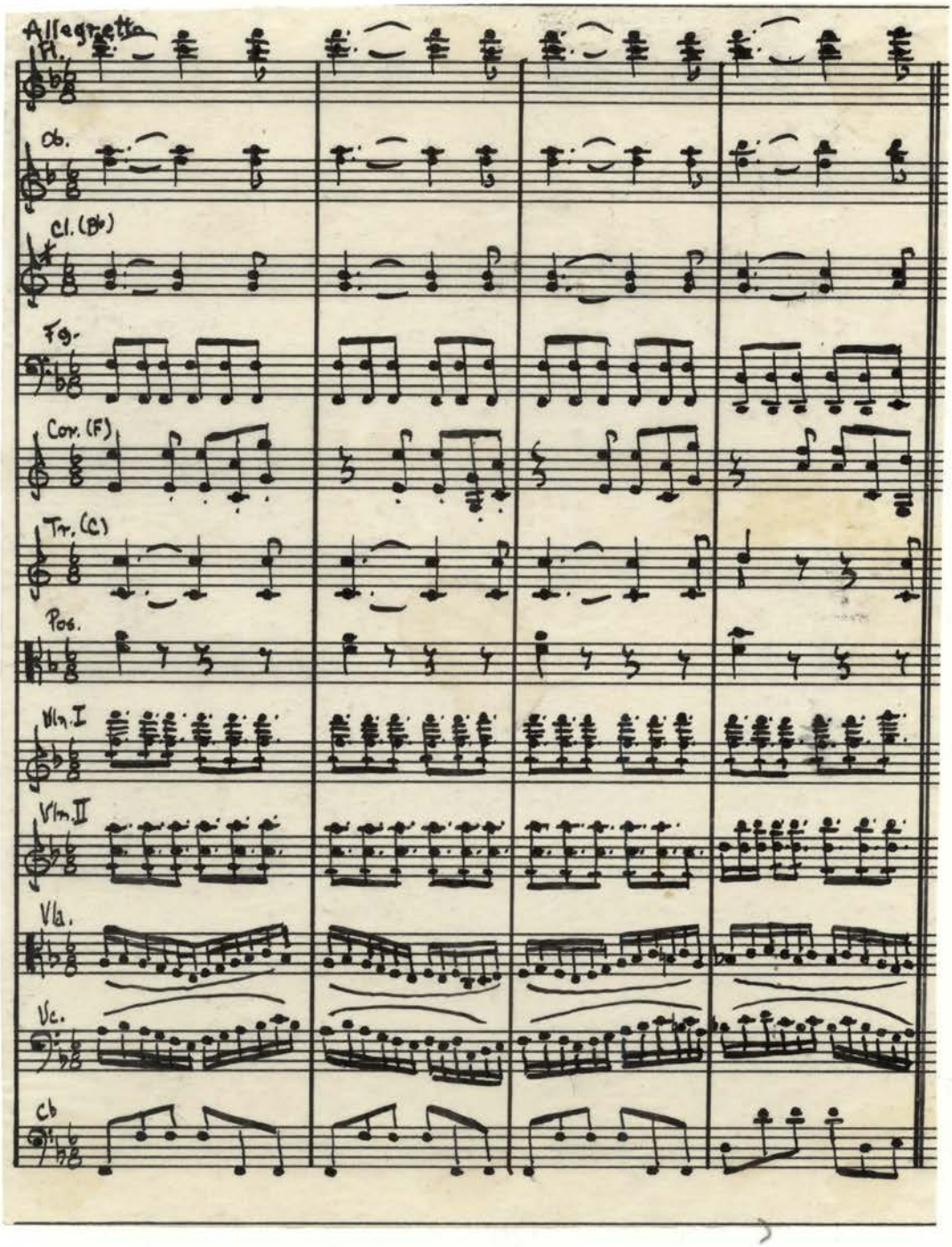

Fig. 25.--Beethoven, Symphony No. 6 (Pastoral), fourth movement, measures 136-139.

An illustration of the wood-wind section with legato tonguing may be found in Beethoven's Eroica No. 3 (1804):

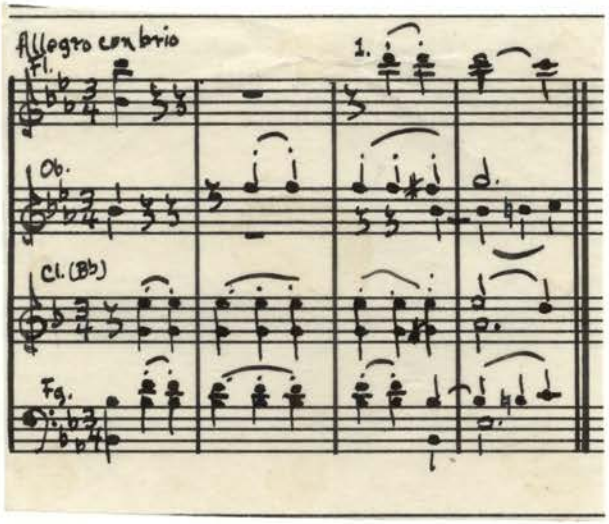

Fig. 26.--Beethoven, Symphony No. 3, Eroica, first movement, measures 83-86.

This illustration shows the wood-winds alone with the clarinets in sixths and bassoons in thirds forming the triad at the beginning. The oboe then joins these two and assumes the principal melody to be succeeded by the flute, whose entry completes the wood-wind section. In this illustration not only is the clarinet used in place of the oboe for the principal theme, but it is one of the first examples in which the clarinet makes use of legato tonguing. Heretofore, presumably the oboe would have started the soli phrase, and the clarinet would have played a minor role in the section.

Another interesting example of the tonguing phrases of the wood-wind section can be found in a staccato passage from Symphony No. 7 (1813):

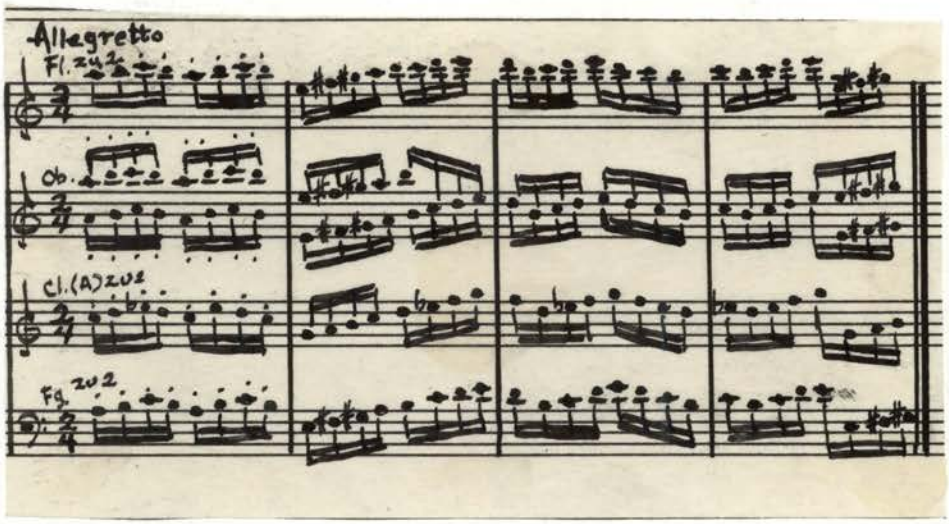

Fig. 27.--Beethoven, Symphony No. 7, third movement, measures 214-17.

This example shows the wood-wind section in unison and octaves; although it is in no way complicated as far as the melodic line is concerned, it must have been fairly difficult for the clarinetists. The reason for this, aside from the problem of staccato tonguing in an allegretto passage, lies in the leap from the clarinet's c' to e' flat. The clarinets of Beethoven's time had no alternate fingerings for the c' to e' flat leap as do the clarinets of modern times; this innovation came later with the improvements of Klosé (1842). As this symphony (No. 7) was written in 1813, the clarinetists presumably used cross fingerings for this leap.

(See fingering chart for five-keyed clarinet, Ch. I, p. 20).

Another interesting effect can be found in the Eroica:

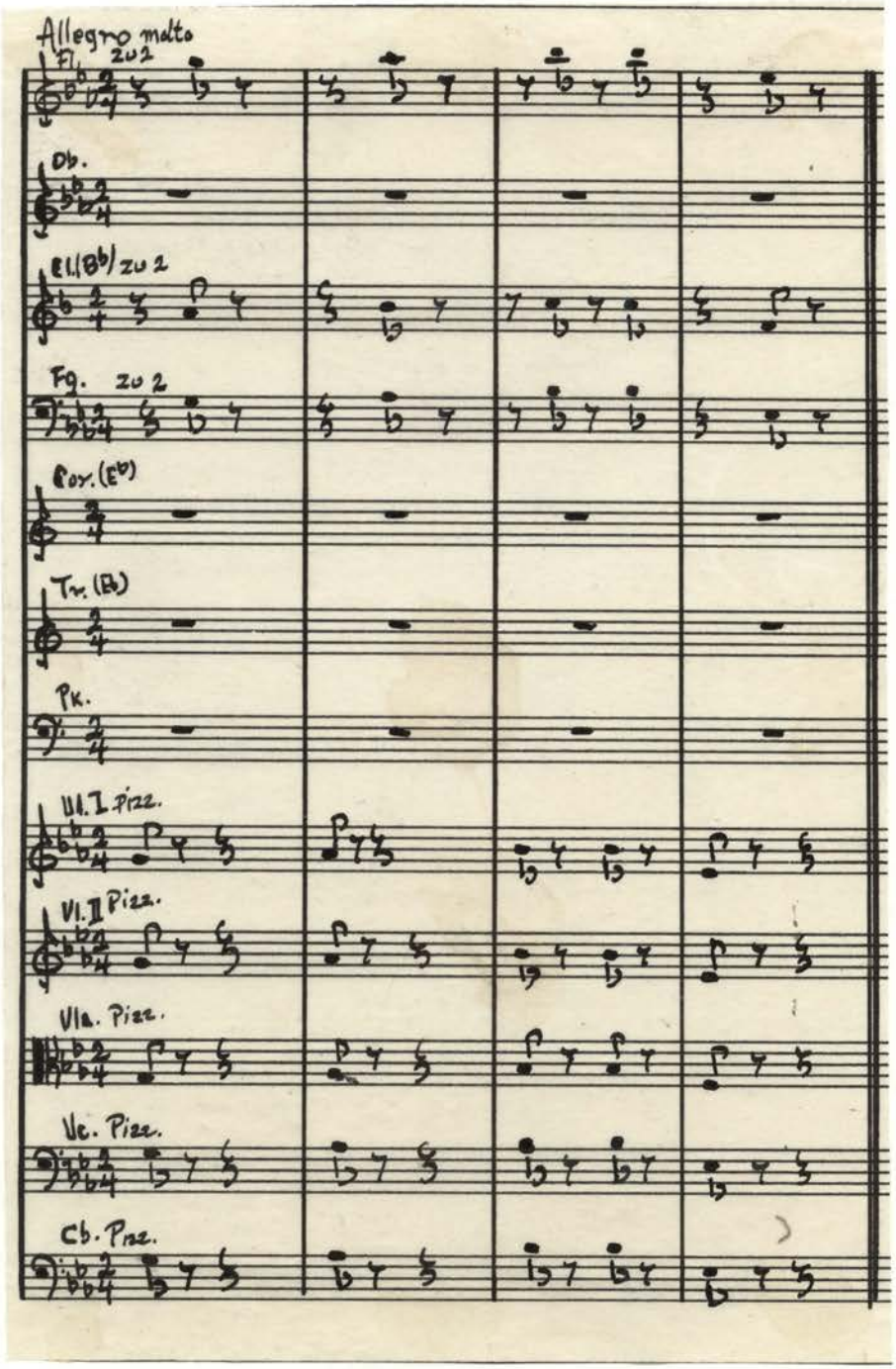

Fig. 28.--Beethoven, Symphony No. 3, Eroica, fourth movement, measures 40-43.

The wood-winds answering the strings is an illustration of contrast. Here again the oboe has lost much of its earlier prestige, and Beethoven favors the other members of the section.

One of the most unusual and interesting uses of the wood-wind section by Beethoven is found in the fourth movement of the same symphony. (See Fig. 29). This passage illustrates (1) doubling of the first clarinet and the oboe; (2) a "chalumeau" arpeggio figuration in the second clarinet with the cello, accompanying the oboe and first clarinet; (3) the rhythmic pattern of triplets and sixteenths between the second clarinet and the bassoon; and (4) the horns alternating with the bassoons in the accompaniment. Another example of the use of the "chalumeau" register of the clarinet can be found in the same movement of this symphony in measures 365-70.

Interesting contrapuntal devices involving wood-winds a are beginning to present themselves in the music of Beethoven beginning with the fourth symphony.(1807). One of the most noteworthy of these devices is illustrated in the use of a canon between the clarinet and the bassoon in the first movement of Symphony No. 4. (See Fig. 30)

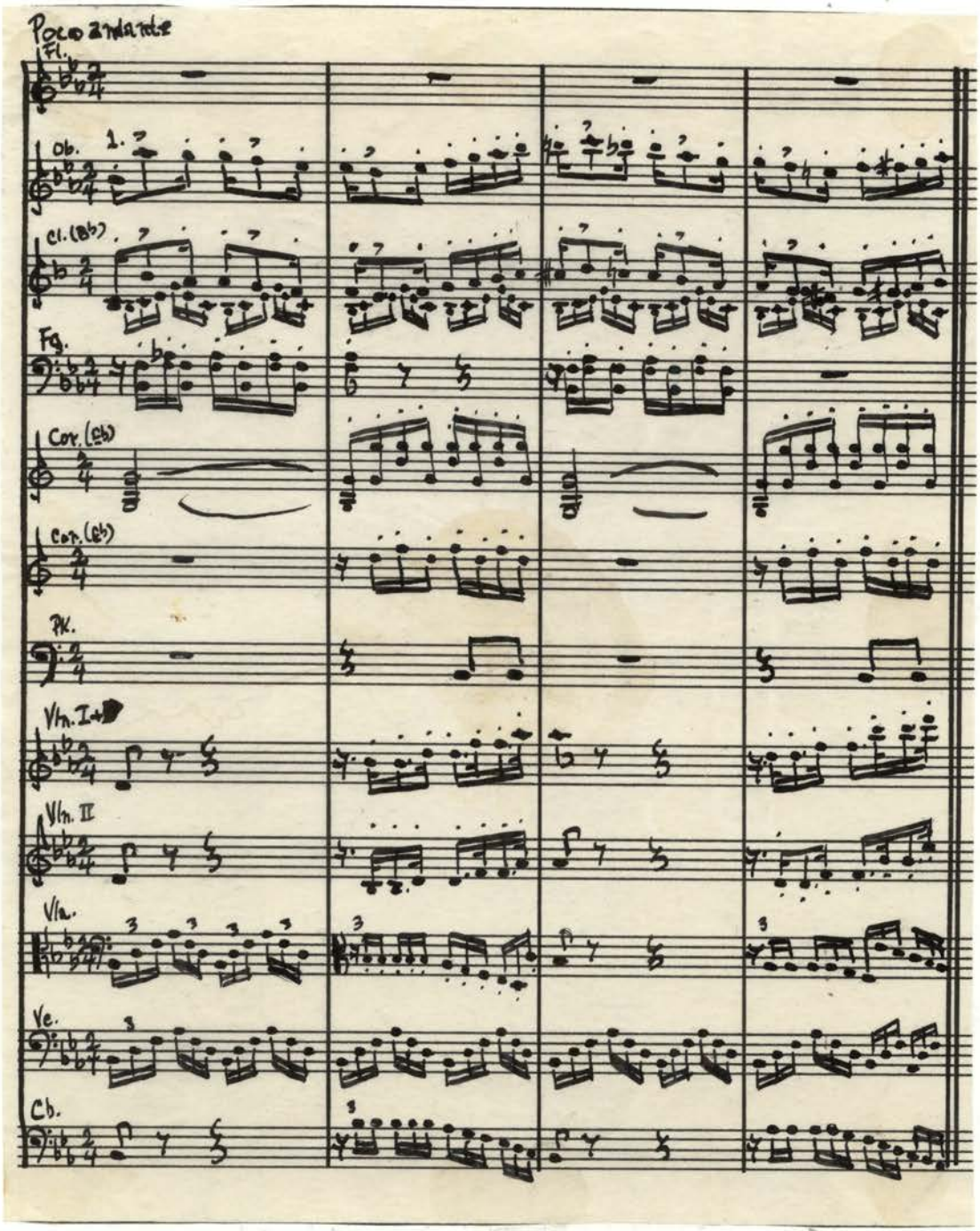

Fig. 29.--Beethoven, Symphony No. 3, Eroica, fourth movement, measures 373-376.

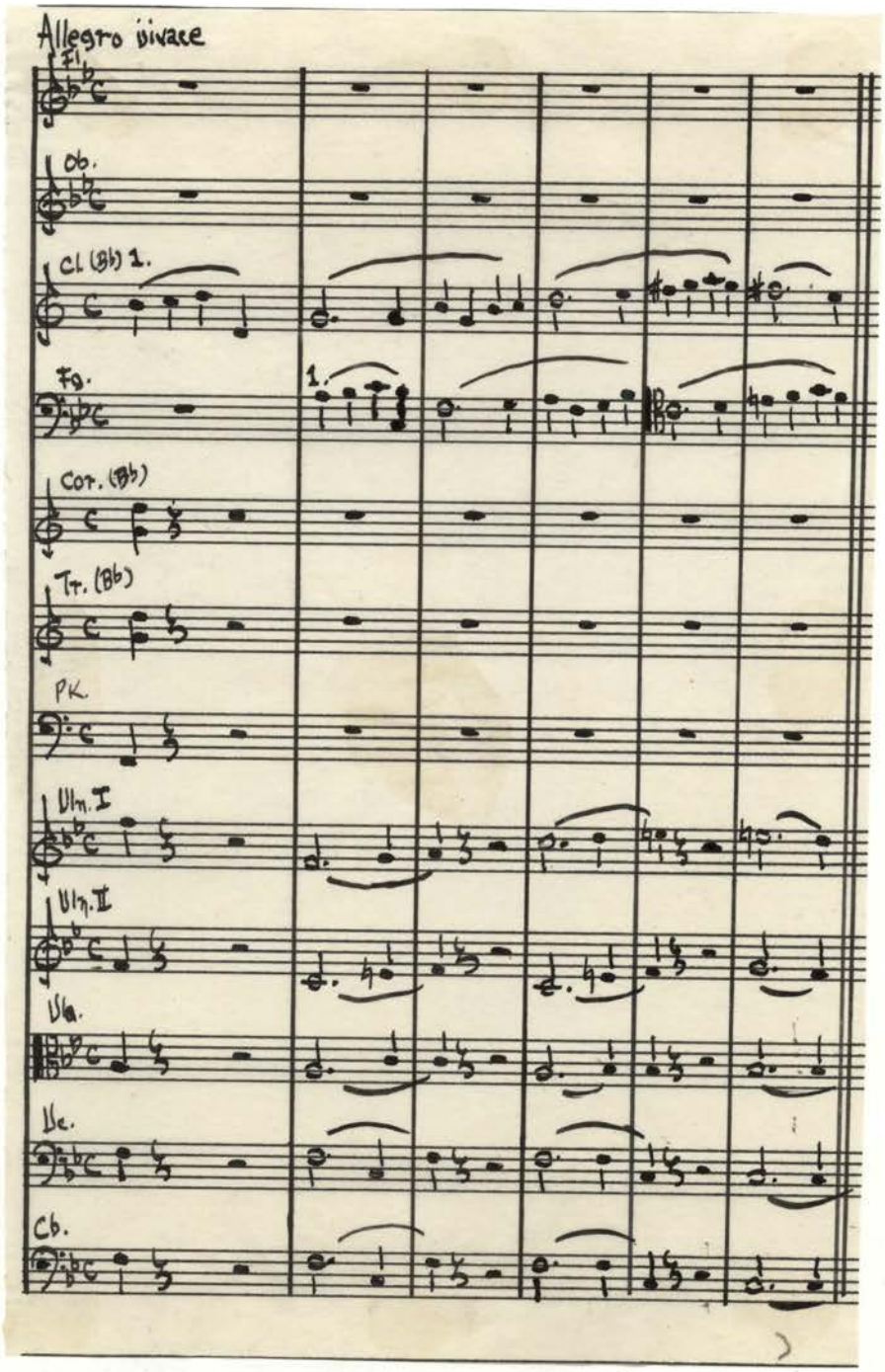

Fig. 30.--Beethoven, Symphony No. 4, first movement, measures 41-46.

This feature is unusual in two ways: (1) it involves only two instruments of the wood-wind section; and the canonic effect is created by the use of the two instruments least used in the solo function during this period. Until this period it had been the common practice to use the body of winds for the most part; and when a solo was called for, it usually went to the oboe or flute.

Perhaps Beethoven's "unique" use of the clarinets can be found in his fourth symphony:

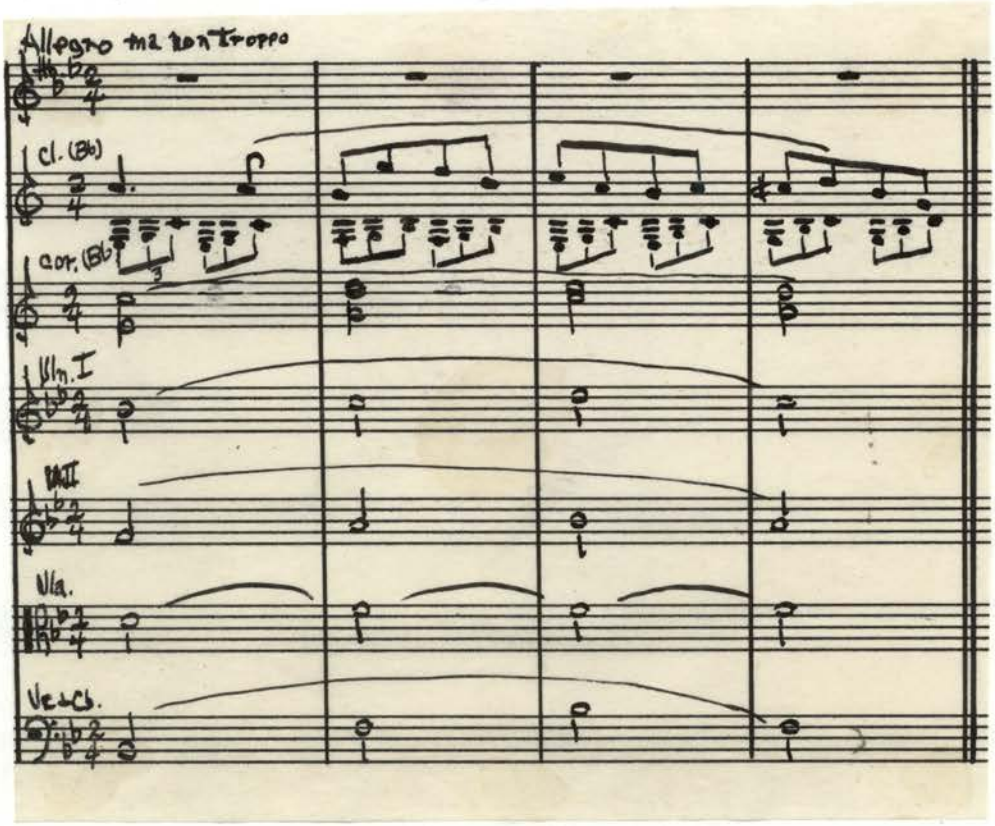

Fig. 31.--Beethoven, Symphony No. 4, fourth movement, measures 314-17.

This illustration is unusual in two ways: (1) it was not customary to use the clarinet as a solo instrument during this period although Beethoven had done this previously (see Fig. 30); and (2) extensive use of the "chalumeau" register (see Fig. 11, p. 32) was not one of the characteristics of Beethoven. The accompaniment furnished by the horns and the strings is one of the features of this period that is in the first stages of development at this time.

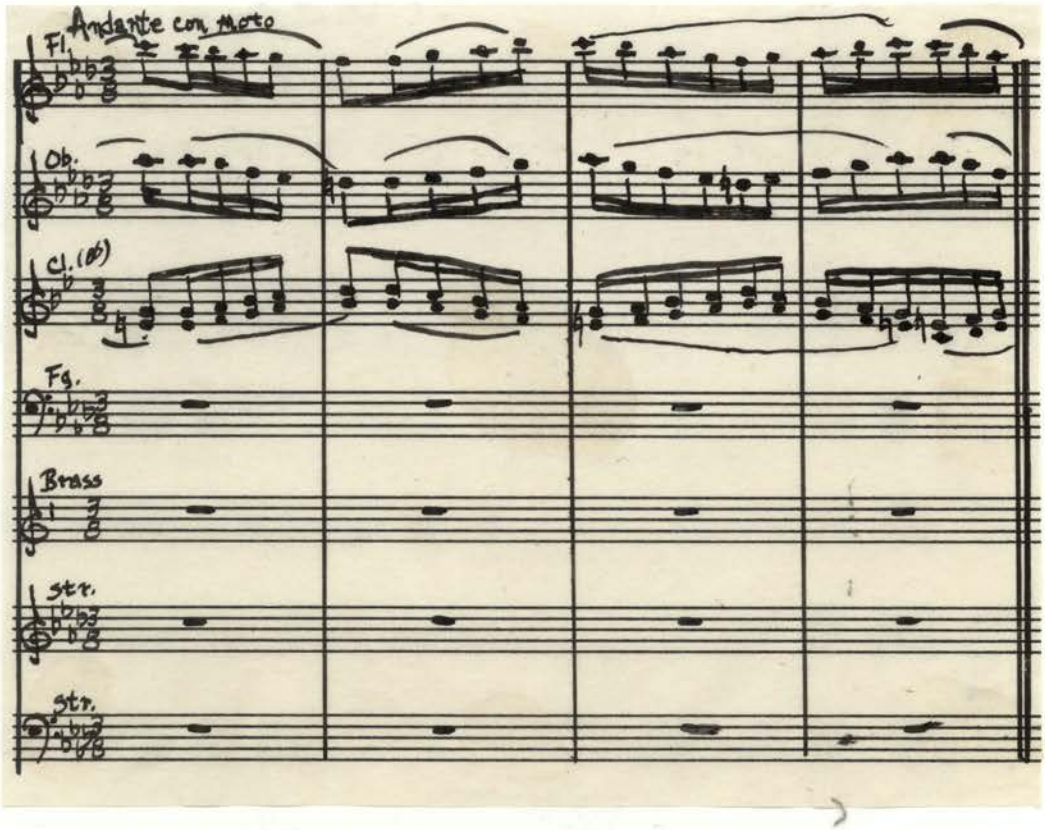

Fig. 32.--Beethoven, Symphony No. 5, second movement, measures 134-37.

Contrary motion within a section is another feature that is not characteristic of this period, yet Beethoven's use of contrary motion within the wood-wind section is illustrated in his fifth symphony (1808). Clarinets in thirds work in contrary motion to the flute and oboe in thirds. Another interesting feature of this illustration is the movement of the clarinets in the "break" register. The "break" and the "chalumeau" registers[5] were to be avoided as much as possible, for the clarinets were not yet perfected to the stage that facility could be accomplished in crossing the "break."

Other devices, employed by Beethoven in using the clarinet, are found in his sixth symphony. Again Beethoven does the unusual in writing the bassoon and clarinet in a duet unaccompanied in the first two bars of the illustration. (See Fig. 33, p.65).

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[5] See ante Figure 11, p. 32 for illustration of "break" and "chalumeau" registers.

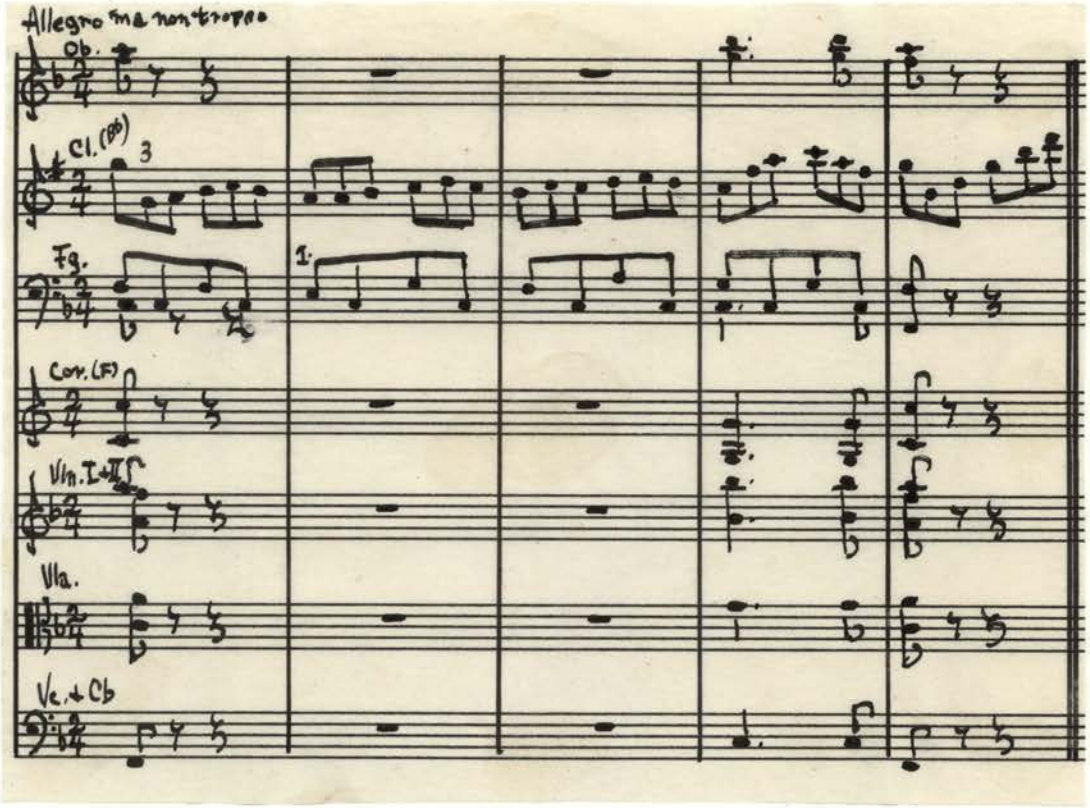

Fig. 33.--Beethoven, Symphony No. 6, Pastoral, first movement, measures 480-485.

Here again we have the use of rhythmic contrast with the bassoon playing four notes to the clarinet's six. Beethoven's use of the upper range ("clarion") of the clarinet should also be noted.

A sextet, composed of clarinets, horns, and bassoons, is illustrated in the trio of the fourth movement of the seventh symphony.

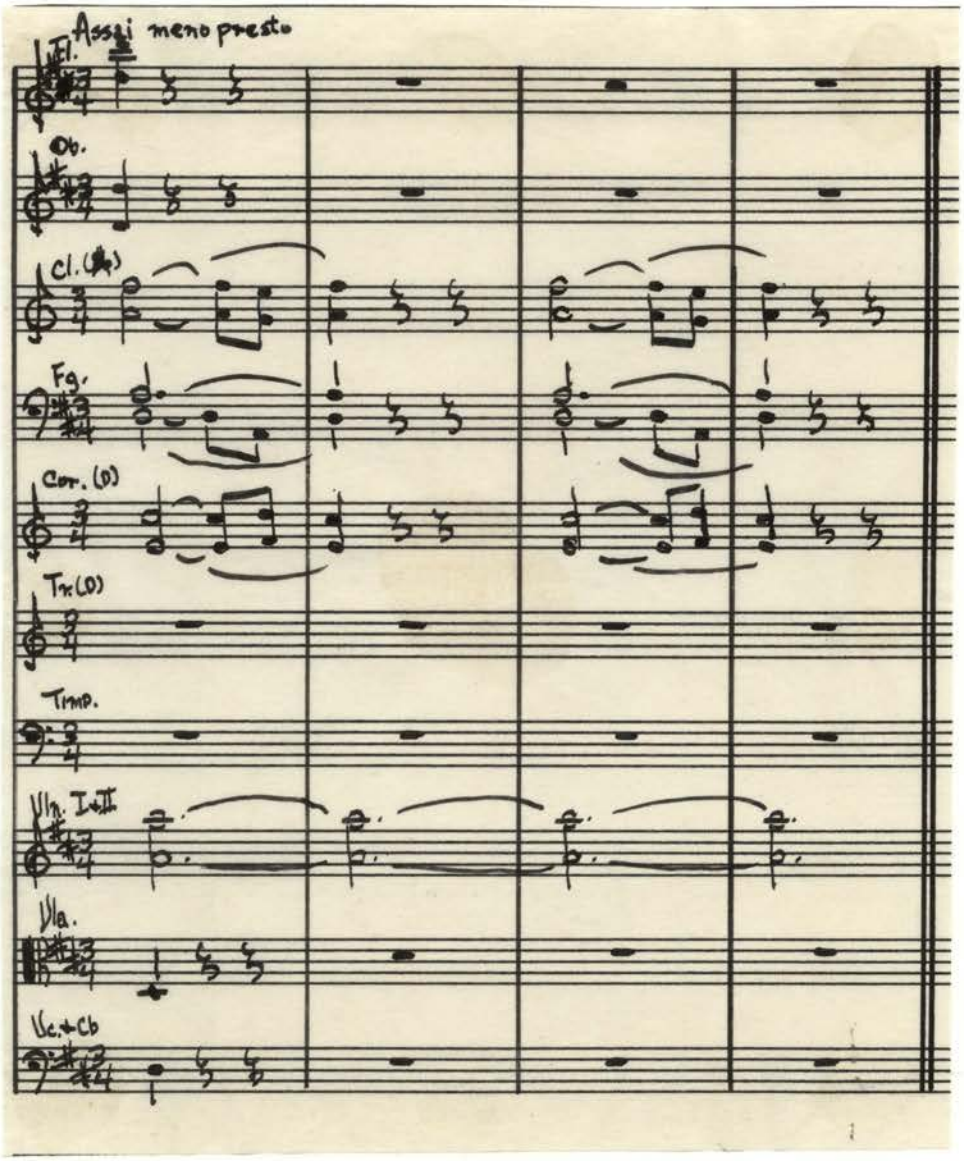

Fig. 34.--Beethoven, Symphony No. 7, fourth movement, measures 409-12.

The clarinets are scored in sixths, while the bassoons and horns complete the inner voices. This is an illustration of the blend of the tones of these instruments; it also serves

as another illustration of the tendency to replace the oboe as the dominating wood-wind instrument of this period.

One example of a special effect created by the clarinet is illustrated in the sixth symphony (Pastoral):

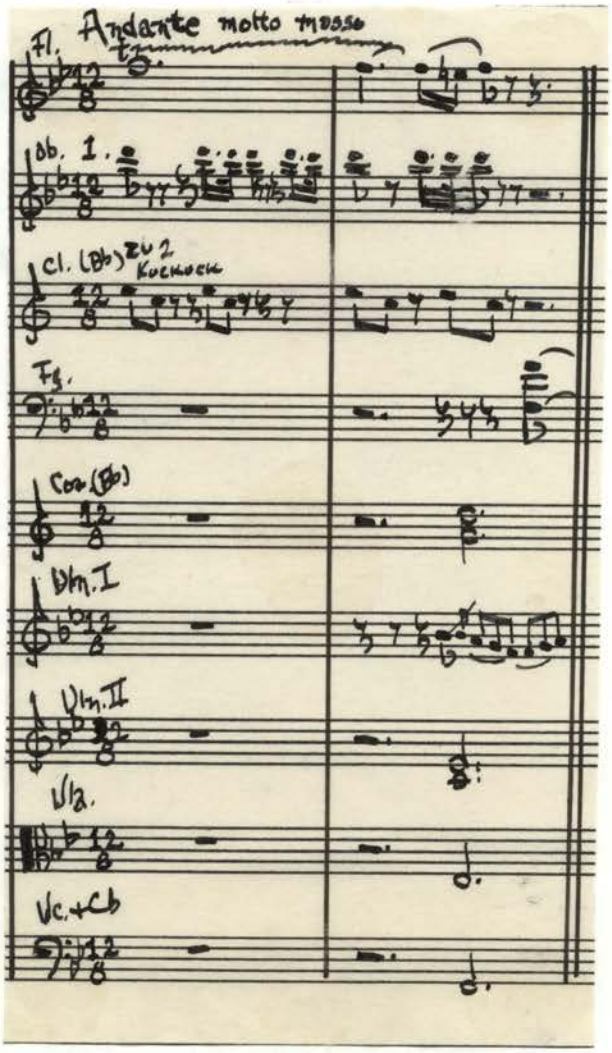

Fig. 35.--Beethoven, Symphony No. 6, second movement, measures 131-32.

In the Pastoral Symphony Beethoven selected the clarinet to portray the call of the cuckoo.

Another example of Beethoven's use of the clarinets in an unusual manner is the passage from the eighth symphony (1814):

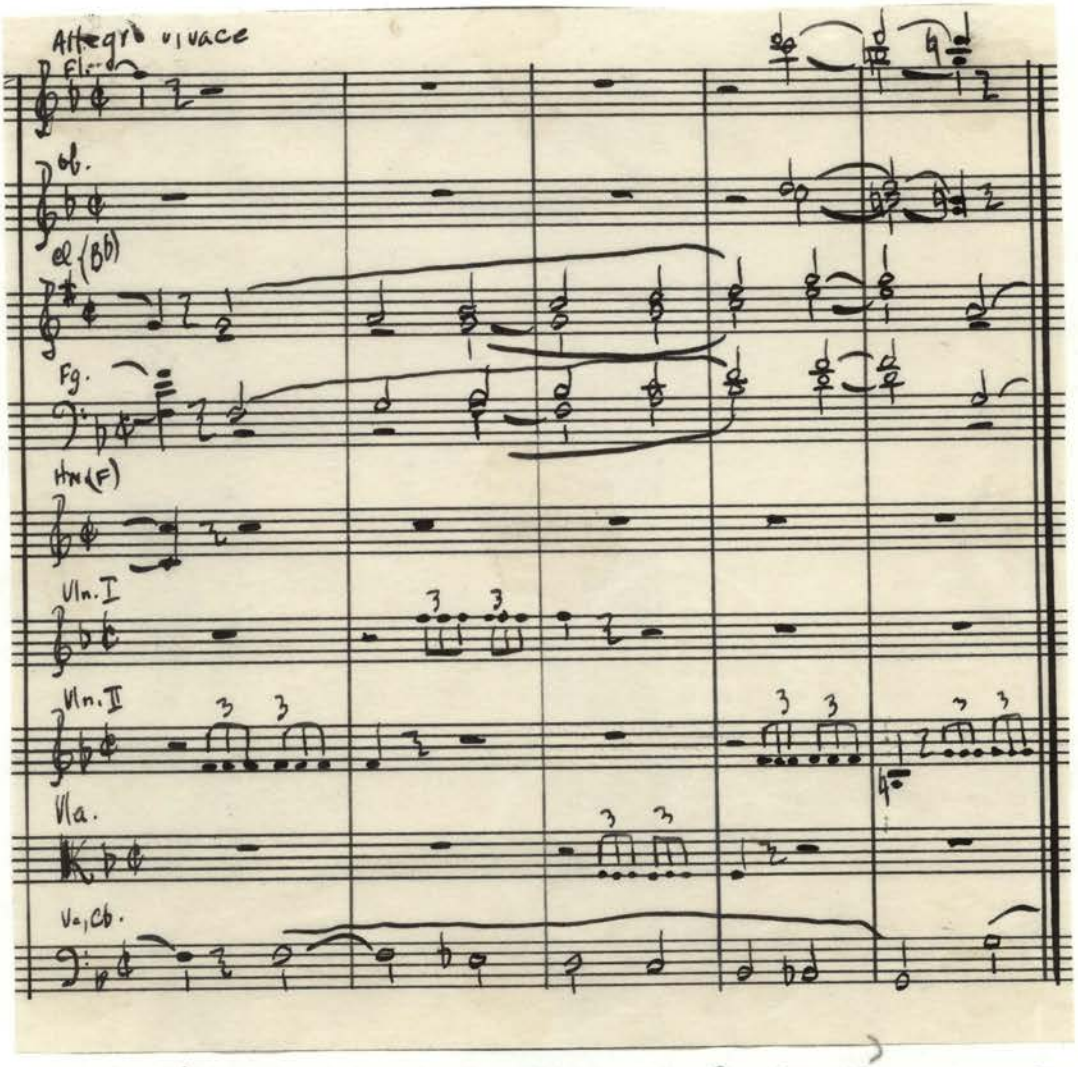

Fig. 36.--Beethoven, Symphony No. 8, fourth movement, measures 298-302.

In this pianissimo passage the first clarinet and the first bassoon are doubled, with the second clarinet and the second bassoon filling the inner parts (in thirds) in unison. The contrary motion between the cellos and basses provides an interesting effect.

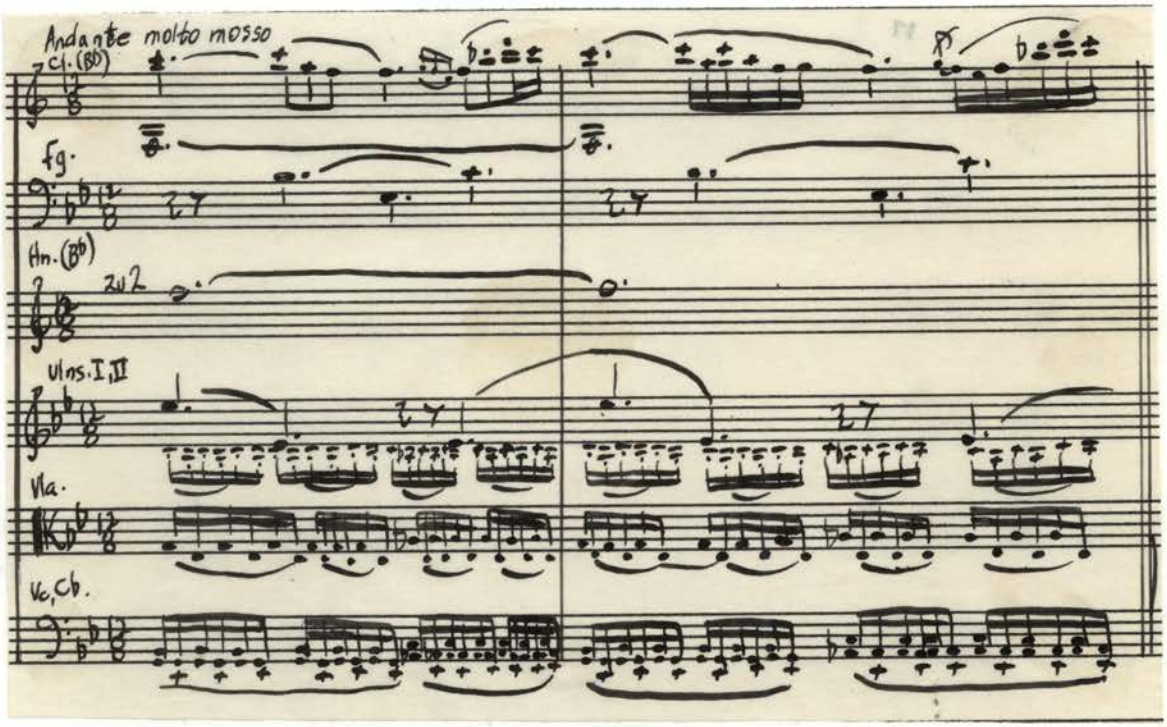

Fig. 37.--Beethoven, Symphony No. 6, second movement, measures 73-77.

This example contains several features involving the clarinet that were not characteristic of this period: (1) the clarinet used as a solo instrument; (2) sustains in the "chalumeau" register (2nd clarinet); (3) grace notes in

clarinet parts; (4) cross-fingering in the "clarino" register; (5) repeated notes (measure 74); (6) staccato tonguing in fast passages; (7) arpeggios in fast passages; (8) crossing the break in fast passages; (9) octave leaps (measure 76) and (10) sustained trills.

In his ninth symphony Beethoven made use of all three types of clarinets employed at this time, the A, the B flat, and the clarinet in C (now obsolete). Presumably this was done in an effort to cope with the lack of facility of the B flat clarinet of that period in the relatively complex key signatures and harmonies in this passage.

Beethoven's use of the clarinet may be summarized as follows: (1) Although Beethoven used the clarinet primarily in tuttis and inner voices during his earlier compositions, his later compositions featured the clarinet in numerous solo passages; (2) the clarinet, in later compositions was commonly scored with bassoons, horns and strings; and (3) this scoring of clarinets with bassoons and horns excluded, somewhat, the use of the oboe as the most important member of the wood-wind section.

Franz Schubert

In the symphonic compositions of Franz Schubert (1797-1828) the clarinet performs three functions; (1) most often it doubled another member of the wood-wind section; (2) less frequently it was used contrapuntally; (3) sometimes it serves as accompanist.

Apparently Schubert's chief interest in his symphonic compositions was the melodic line. An excellent illustration of this is found in the Unfinished Symphony:

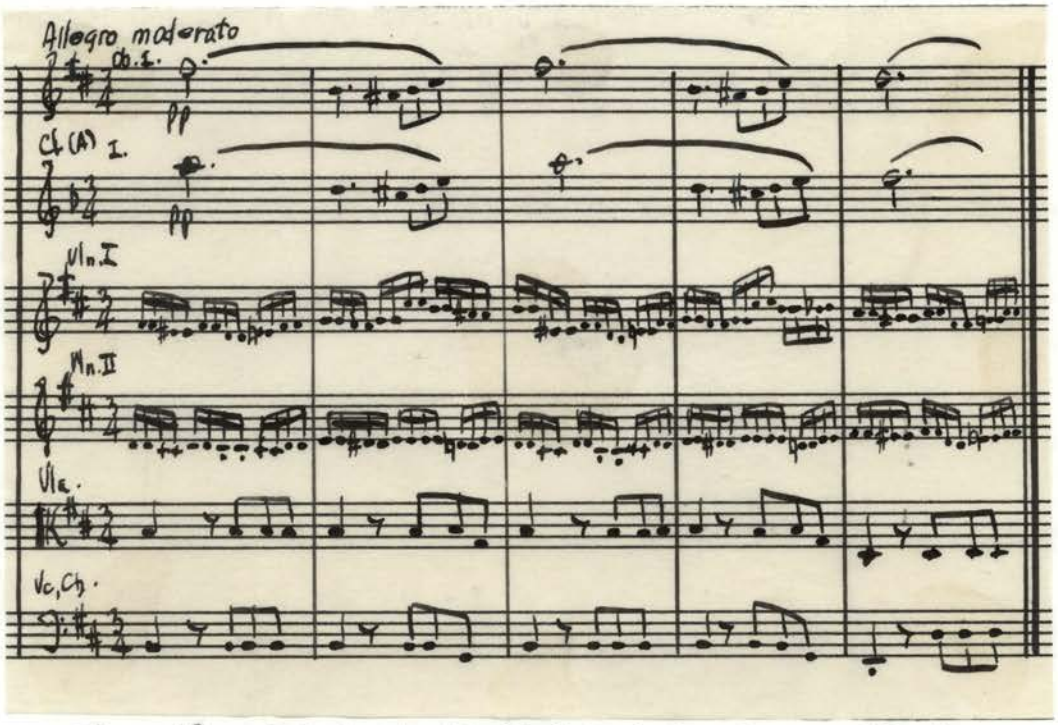

Fig. 38.--Schubert, Unfinished Symphony, first movement, measures 13-19.

This unison passage with the oboe is another example of the use of the break register of the clarinet. Before the innovations of Klosé (1842)[6] this passage presumably was played by a system of cross-fingerings.[7]

An example of the clarinet doubling with the viola is found in the syncopated accompaniment for the cello solo in the first movement of the Unfinished Symphony:

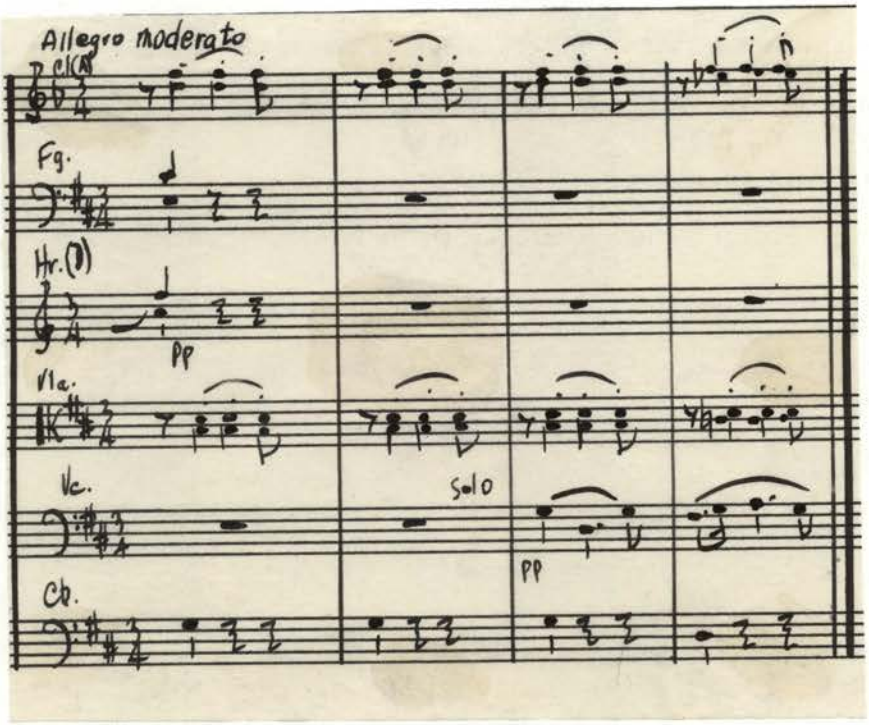

Fig. 39.--Schubert, Unfinished Symphony, first movement, measures 38-41.

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[6] See ante Chapter I, p. 24.

[7] See ante Chapter I, p. 7, (footnote 22).

The clarinets and the violas are scored in thirds, the first clarinet and the first viola having the melody, and the second clarinet and the second viola having the inner voice (third of the chord). In the last bar of this example, the fifth of the chord is eliminated, forcing this combination of instruments to be scored in major sevenths.

An illustration of the clarinet's use as both a solo and a contrapuntal instrument is also found in the Unfinished Symphony:

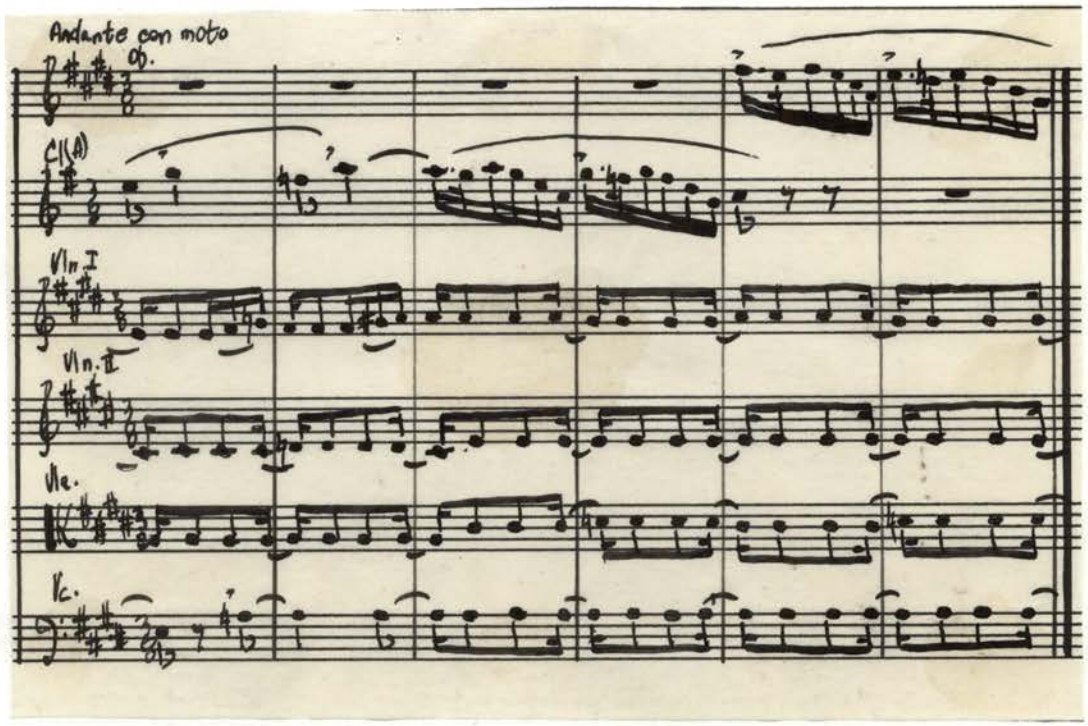

Fig. 40.--Schubert, Unfinished Symphony, second movement, measures 220-227.

In this pianissimo passage, the return of the second subject, the clarinet answers the oboe with the theme illustrated, th then begins the canonic effect with the other two instruments. The dynamic markings are very important in this case because the whole phrase is built on the contrasts created dynamically by the instruments employed.

Carl Maria von Weber

Although Carl Maria von Weber (1786-1826) wrote two symphonies, his main contributions to the development of the function of the clarinet are illustrated in the Overture to the opera Die Freischütz. The inclusion of Weber is justified not only because of his importance to the history of orchestration in general, but also by the fact that the overtures to his operas do form a part of symphonic repertoire.

An illustration of the use of the "chalumeau" register is found in the opening bars of Die Freischütz (1821): The clarinets (pianissimo) sustain major sevenths with tremolo strings forming the inner voices for an F# diminished chord. The dynamic markings aid in giving this scoring a somewhat supernatural effect.

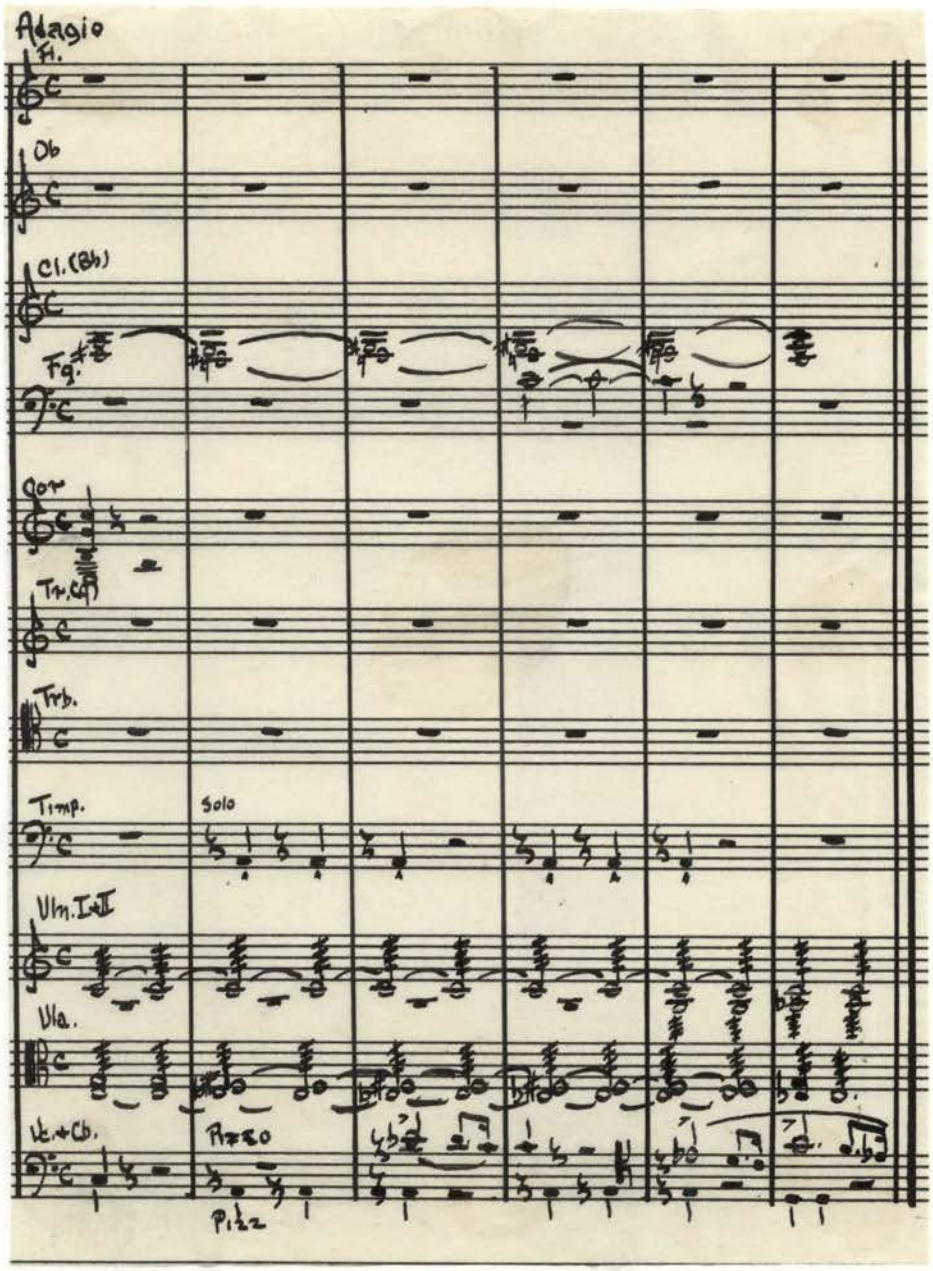

Fig. 41.--Weber, Die Freischütz, Overture, measures 25-30.

The solo for the clarinet is accompanied by horns for one measure, then solely by tremolo strings:

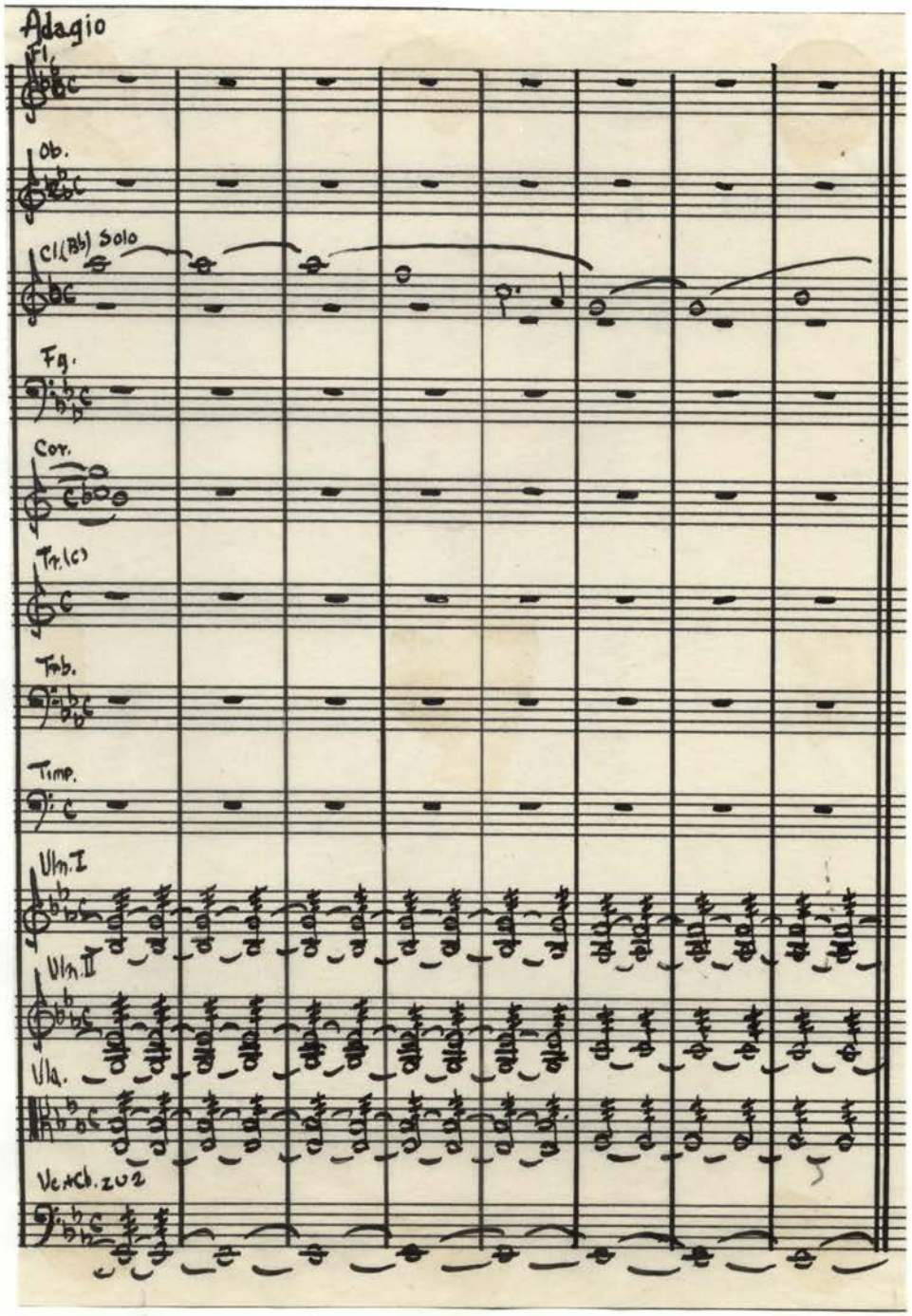

Fig. 42.--Weber, Die Freischütz, Overture, measures 96-103.

This solo has several unusual features: (1) the clarinet is used as a sustained solo voice; (2) it plays fortissimo; (3) it sustains a b' flat--a difficult tone to sustain today, and certainly one that must have been badly out of tune at this period.[8]

From the foregoing illustrations it appears that during the first quarter of the nineteenth century: (1) the clarinet's place in the orchestra was assured; (2) the clarinet was beginning to stand out as a solo instrument at the close of the first quarter of the century; (3) clarinets were discovered to blend well with the tones of bassoons, horns, and strings; (4) combinations of clarinets and bassoons, or clarinets, bassoons, and horns began to replace some of the soli passages heretofore assigned to the oboe; (5) doublings of flutes with clarinets replaced numerous doublings of the oboe with flutes or other instruments; (6) the use of the arpeggio passage in clarinet parts became more prominent; (7) the clarinet was used more in contrapuntal passages during this period than before; (8) the tone color of the "chalumeau" register began to be appreciated.[9]

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[8] See ante Chapter I, p. 22.

[9] Carse, History of Orchestration, pp. 228-29.

CHAPTER IV

NINETEENTH CENTURY: SECOND QUARTER

Hector Berlioz

Orchestration during this period became more complicated, chiefly through the efforts of Hector Berlioz (1803-1869). The period of Berlioz's compositions, from about 1825 to 1862, coincided with the various improvements added to the wood-wind instruments.

One of the major influences on Berlioz, in regard to the wood-wind group, was the improvement of the key mechanisms of the clarinet by Klosé (1842). The new Boehm system, applied to the clarinet, made possible fingerings and scale passages that had been practically impossible until this time. (See ante Chapter I, p. 24). Berlioz availed himself the use of these new keys and fingerings in his compositions as will be illustrated in the following paragraphs.

Berlioz's admiration for the clarinet is shown in a passage from his Treatise:

> This beautiful soprano instrument, so ringing, so rich in penetrating accents, when employed in masses, . . . gains, as a solo, in delicacy, fleeting "nuances," and mysterious tenderness, what it loses in force and powerful brilliancy . . . . It is the one of all the wind

> instruments which can best breathe forth, swell, diminish, and die away its sound.[1]

Berlioz used the clarinet in many ways, always with regard to the chief characteristic of his orchestration, tone color.

One of the characteristics of Berlioz's scoring for the wood-wind section is his doubling of most of the solo passages with another member of the same section. An illustration of this can be found in the Fantastic Symphony (1830). In Fig. 43 the solo passage, involving the clarinet and the oboe, is an illustration of the desire for brilliance; to attain the desired brilliance Berlioz doubles the "clarino" register of the clarinet with the more penetrating register of the oboe.

Another illustration of the doubling of the solo passages is found in the same movement of the Fantastic, Fig. 44. It might be noted that while the clarinet and the flute are doubling at the octave, the oboe is sustaining on the fifth of the chord. This is another of Berlioz's brilliant effects.

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[1] Hector Berlioz, A Treatise on Modern Instrumentation and Orchestration, translated by Mary Cowden Clarke, p. 108.

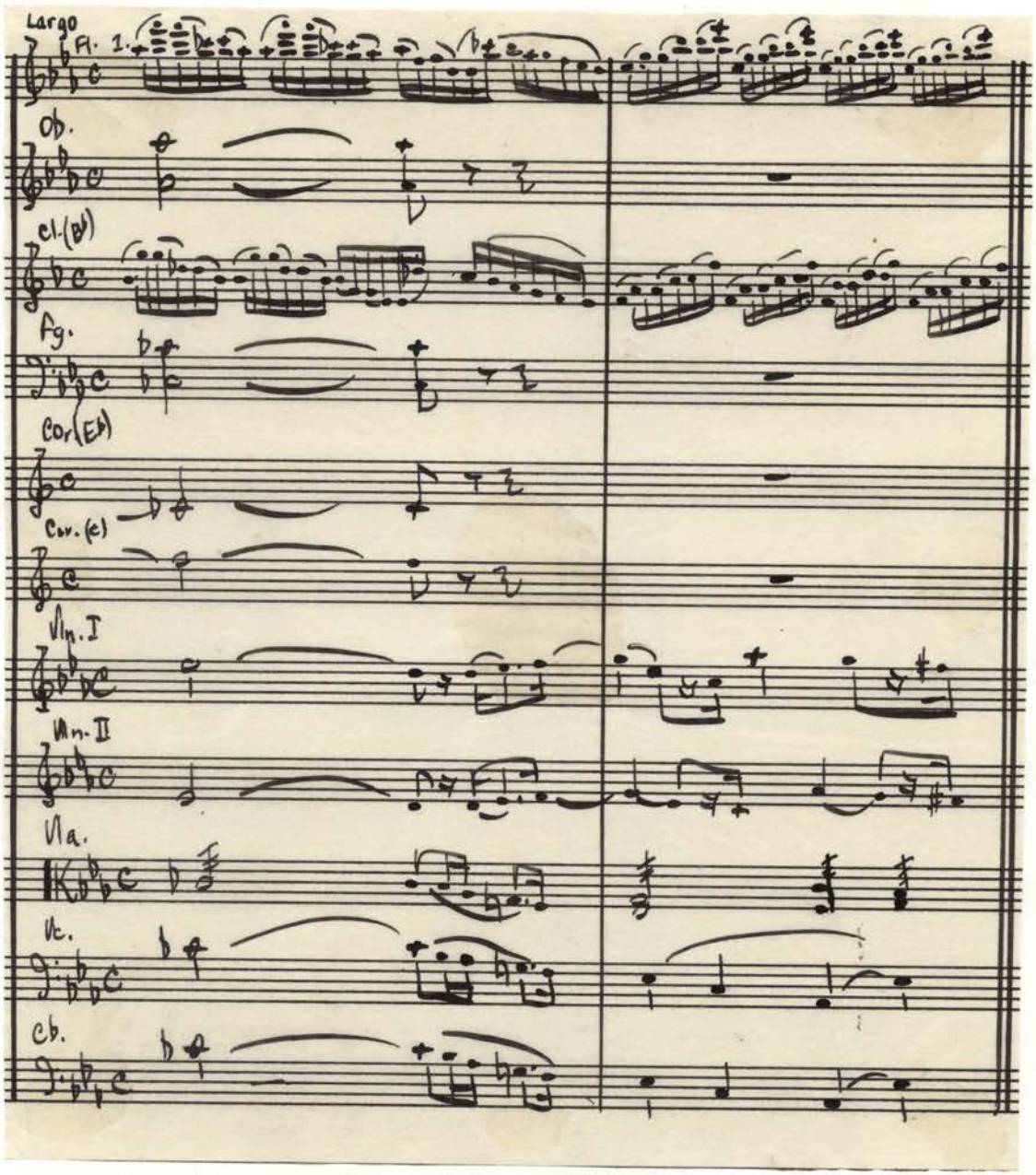

Fig. 43.--Berlioz, Fantastic Symphony, first movement, measures 29-30.

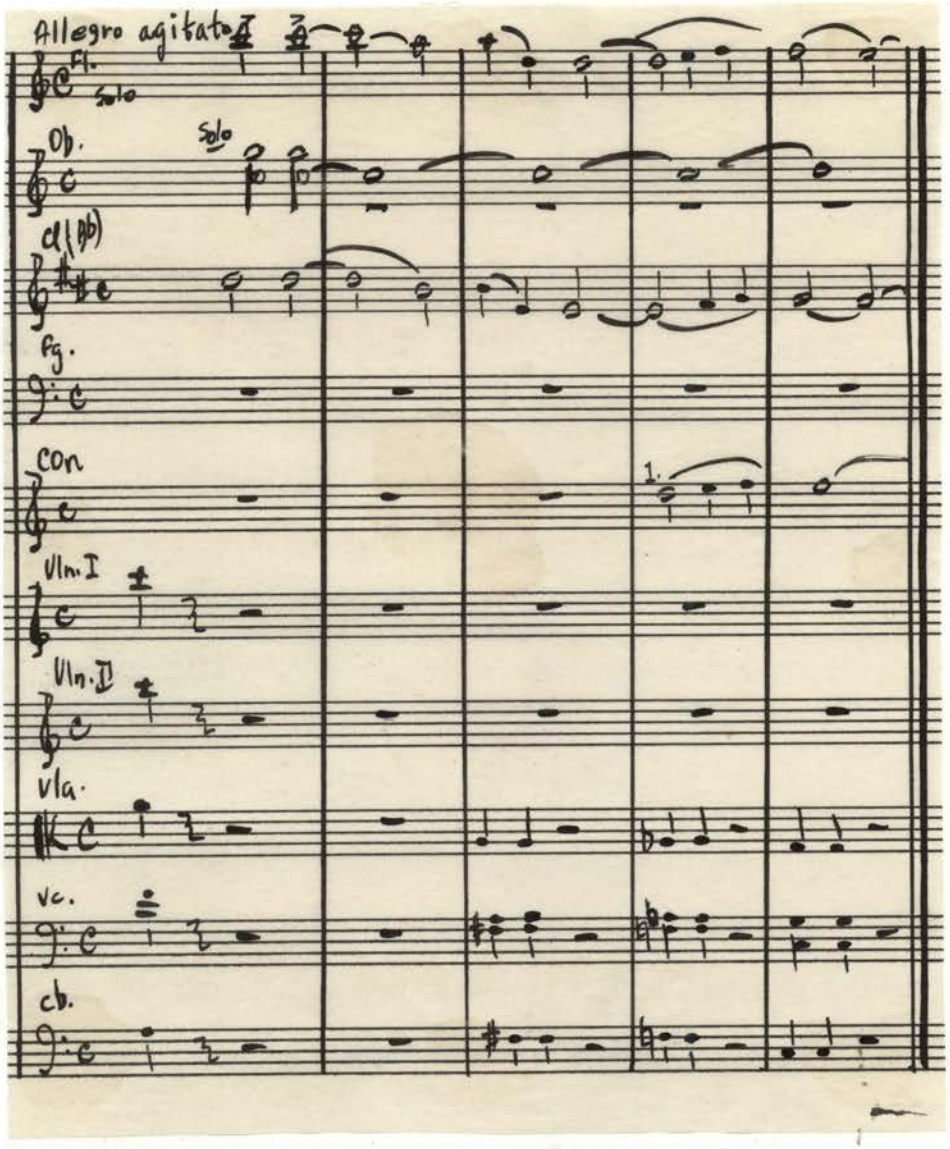

Fig. 44.--Berlioz, Fantastic Symphony, first movement, measures 120-25.

A very unusual function is accorded the second clarinet in the following illustration:

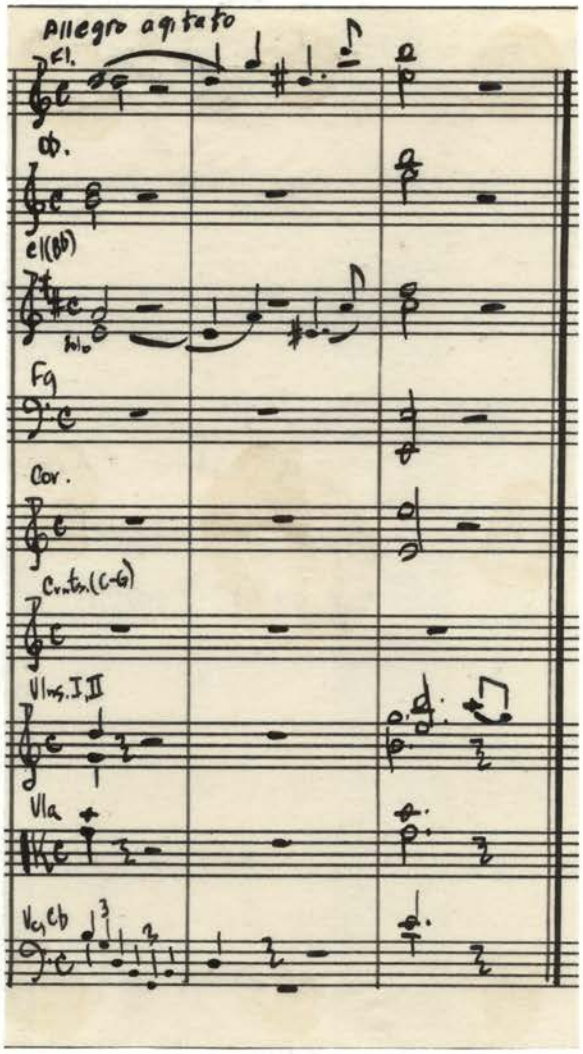

Fig. 45.--Berlioz, Fantastic Symphony, first movement, measures 151-53.

Before the time of Berlioz, it was somewhat rare for even the first clarinet to be given a solo; however, here we find the second clarinet alone taking a subordinate theme, while the flute and the first clarinet furnish the accompaniment.

Another illustration of the use of the wood-wind section in this symphony (Fantastic) is seen by examination of the following example:

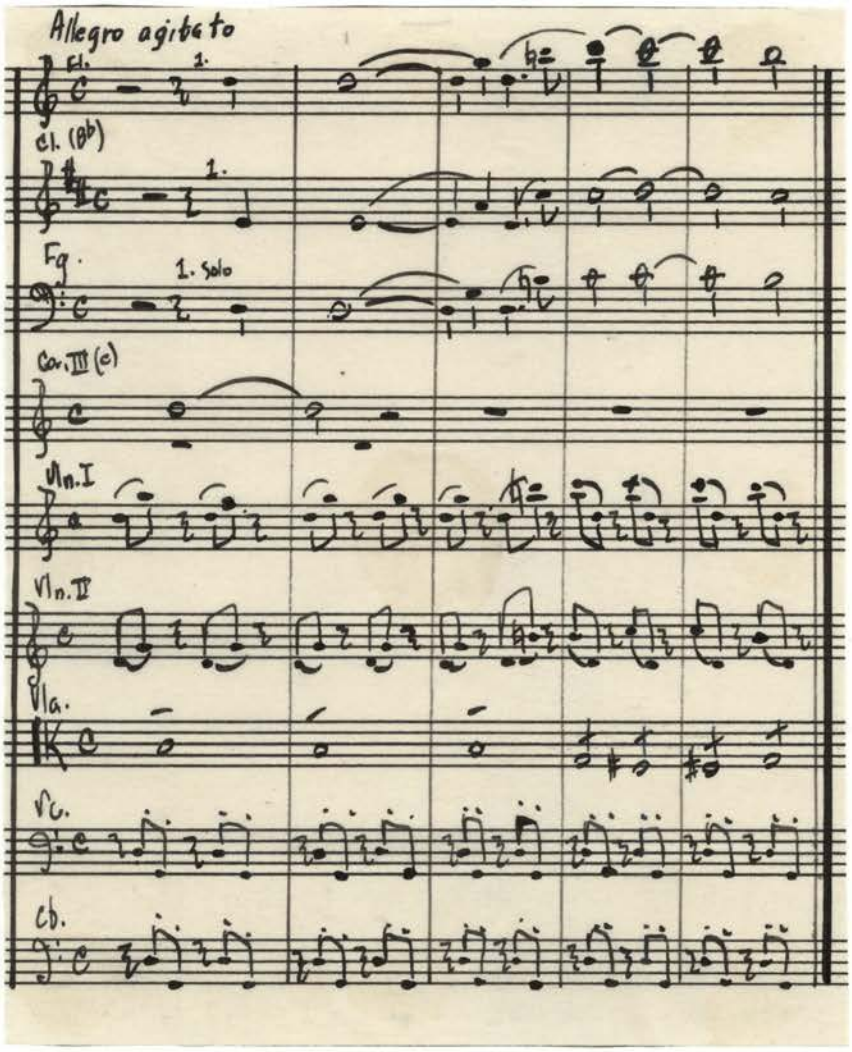

Fig. 46.--Berlioz, Fantastic Symphony, first movement, measures 238-42.

In this illustration the wood-winds are doubled in three octaves, the flute in the first, the clarinet in the second,

and the bassoon in the third octave. In earlier symphonic compositions prior to this period it was a common occurrence when two instruments of the wood-wind family were doubled in octaves; however, this duplication in three octaves is an innovation that finds its beginning during the second quarter of the nineteenth century, particularly in the compositions of Berlioz.

An unusual effect is created by Berlioz in his use of t the clarinet in the third movement of the Fantastic Symphony:

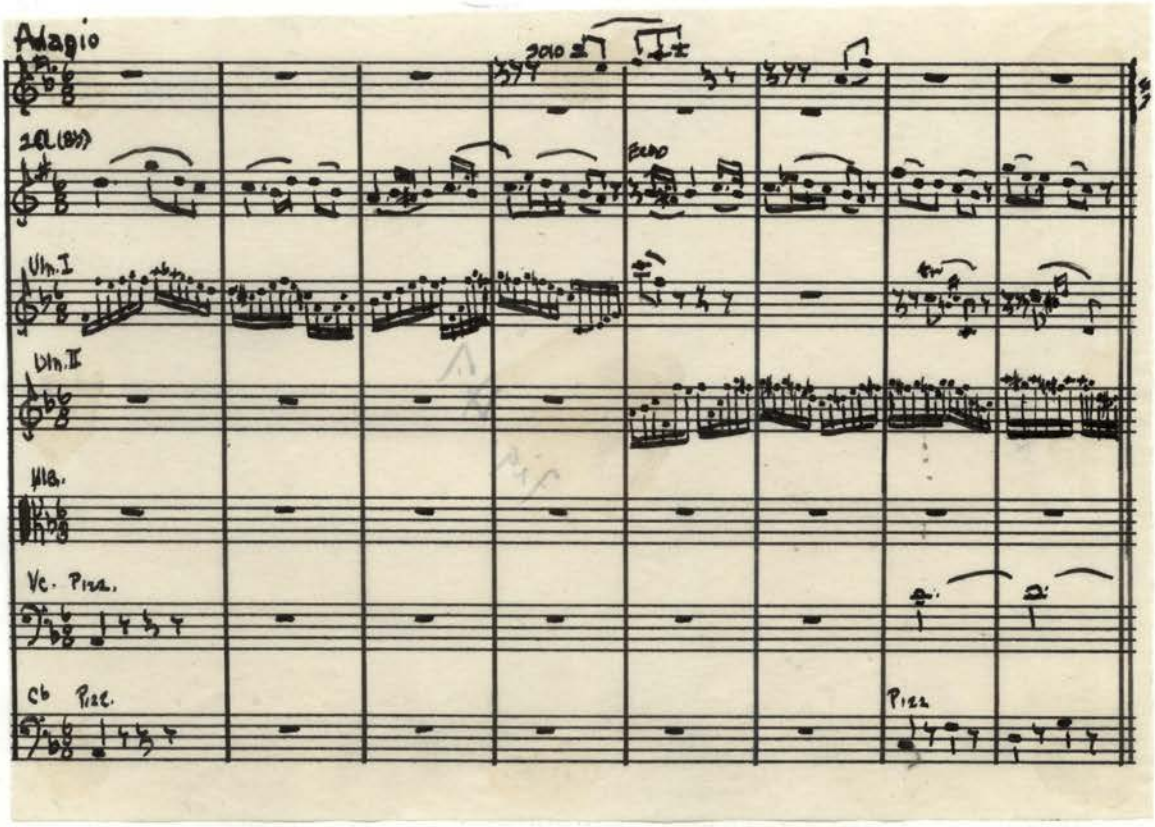

Fig. 47.--Berlioz, Fantastic Symphony, third movement, measures 119-26.

In this passage the clarinet has the solo with a dynamic marking of "mf." The flute then plays a figuration, and the clarinet returns with a repetition of the phrase marked "pppp" and a side-marking of "echo." This melodic effect is another of the innovations that owes its creation to Berlioz. The ensemble for this passage includes only clarinet, flute, and strings until the last two bars of the passage. This is an example of the continuation of the tendency to replace the oboe as head of the wood-wind section, which began in the first quarter of the nineteenth century.

Canonic imitation is illustrated in a passage from the third movement of the Fantastic Symphony (see Fig. 48). This theme from the recapitulation also serves to illustrate the increase of facility in playing the clarinet.

The fourth movement of the Fantastic Symphony provides an illustration that is rarely found even in the clarinet parts of today (see Fig. 49). This passage is a re-statement of the main theme (Leitmotiv) that occurs throughout the symphony. The revolutionary feature of this passage is the fact that the clarinet solo is unaccompanied. Berlioz was generations ahead in his orchestration for solo instruments, especially in the case of the clarinet.

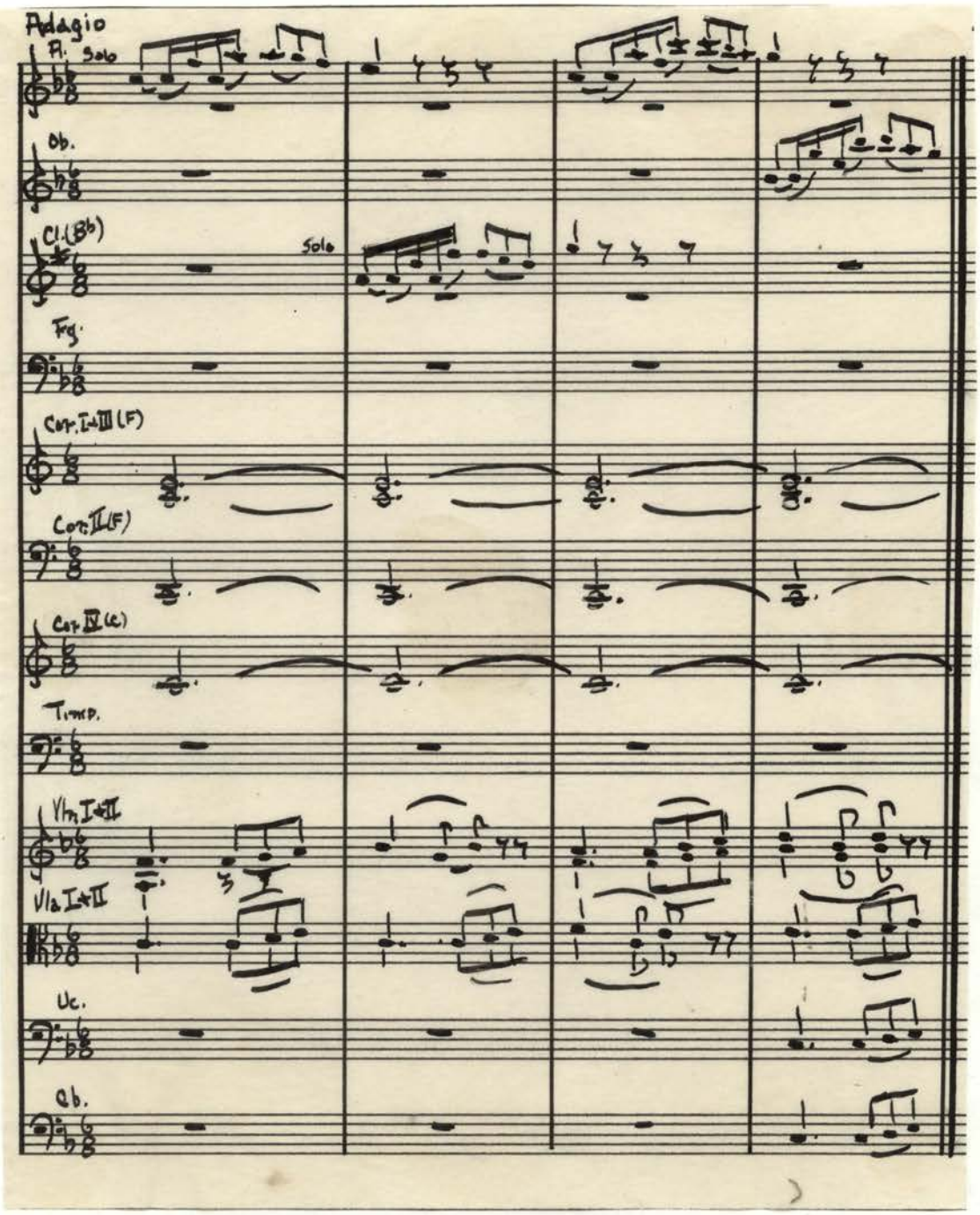

Fig. 48.--Berlioz, Fantastic Symphony, third movement, measures 160-63.

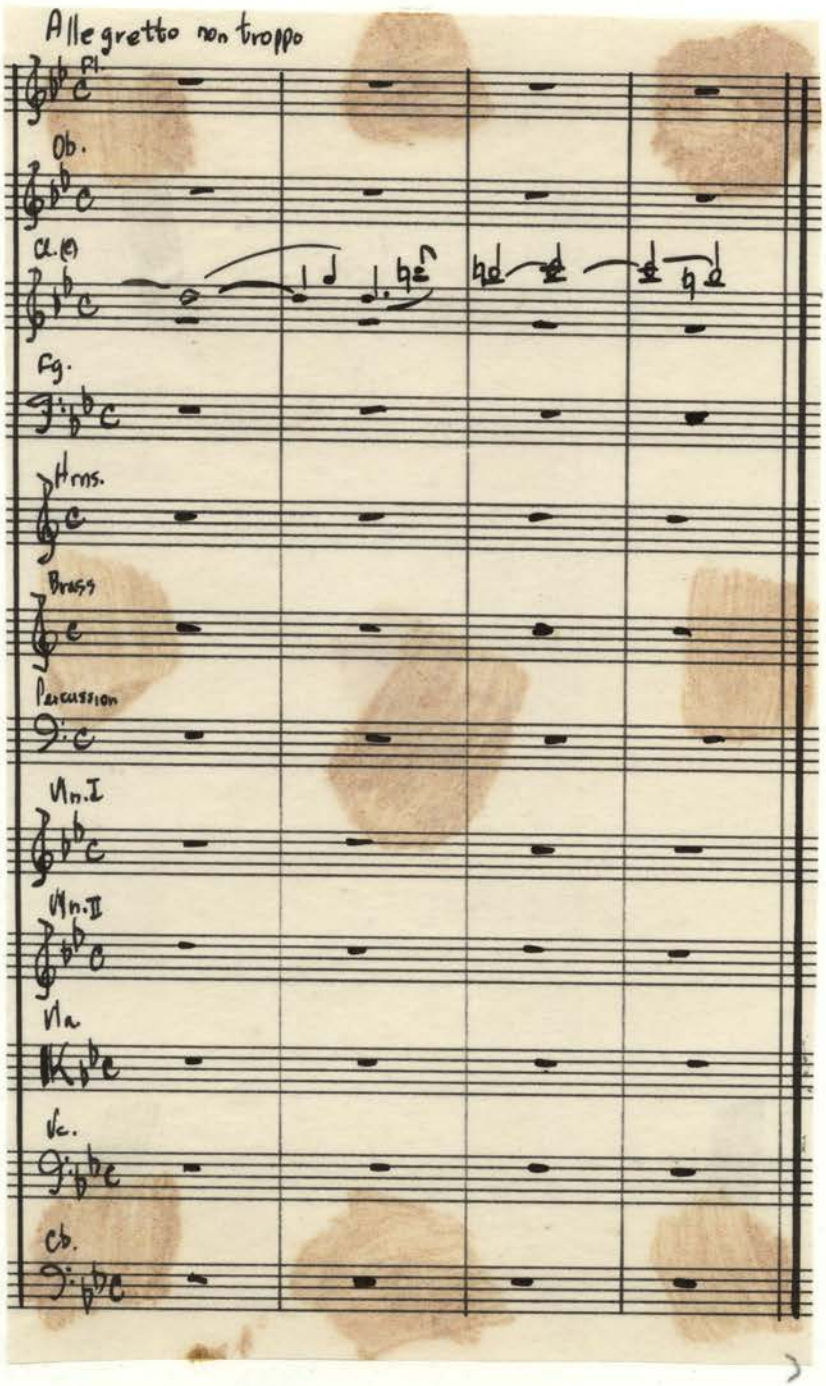

Fig. 49.--Berlioz, Fantastic Symphony, fourth movement, measures 164-68.

One of Berlioz's most striking uses of the clarinet is illustrated in the following passage:

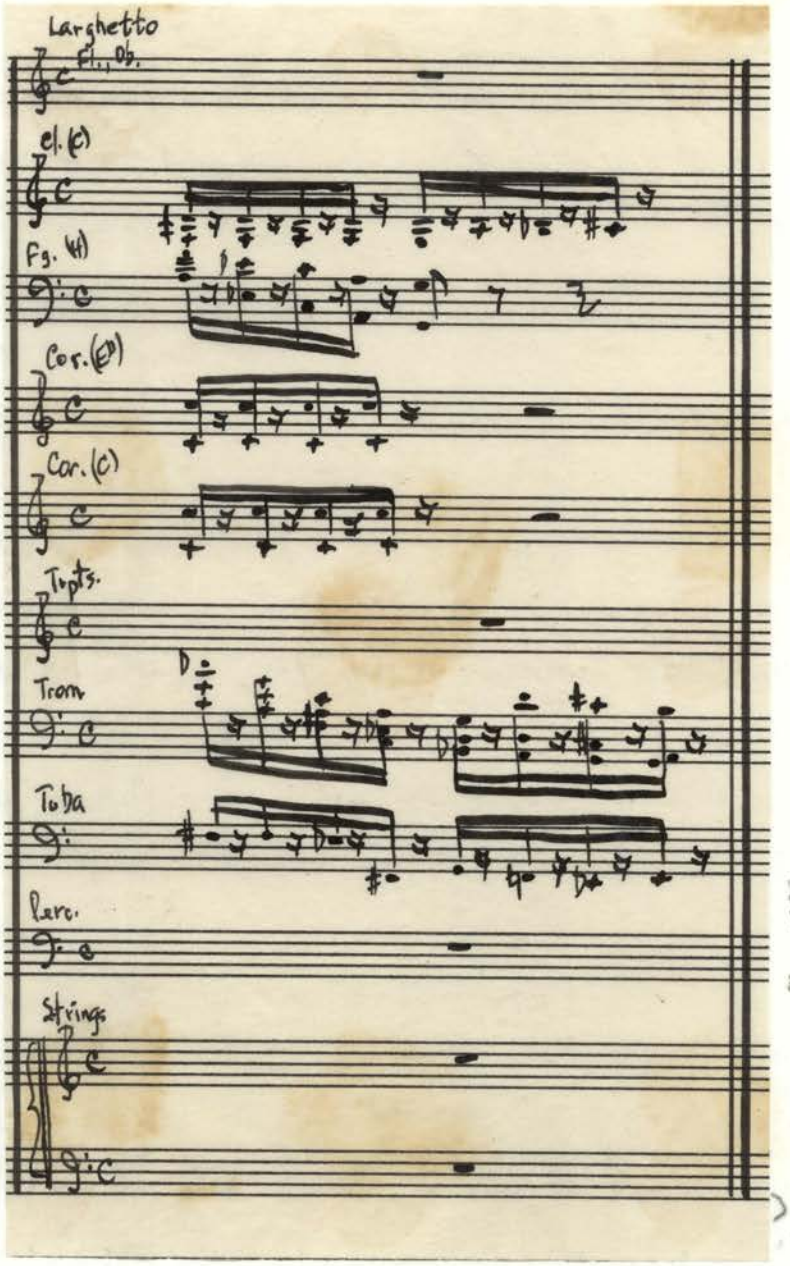

Fig. 50.--Berlioz, Fantastic Symphony, fifth movement, measure 6.

In this phrase the clarinet (in C) is used in contrary motion, by itself, with the following members of the orchestra: four bassoons, four horns, three trombones, and one tuba. Aside from the fact that the clarinet part is written in the "chalumeau" register, the passage is marked pianissimo. This is one of the most deceptive bits of orchestration that Berlioz employs, for from examining the score alone there might be some doubt as to whether the voice of the clarinet would be heard or not.[2]

Another passage from the same movement of the symphony shows the clarinet stating the main theme (solo) to the accompaniment of the tympani and the bass-drum. As the title of this movement is "Dream of a Witches' Sabbath" Berlioz employed a very unusual bit of scoring in his attempt to portray the title of this movement. (See Fig. 51).

The addition of the E flat clarinet to the orchestra comes in the fifth movement of this symphony, and Berlioz immediately makes use of this new instrument in a solo passage.

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[2]The clarinet part in this passage is not heard in the RCA Victor recording of the Symphonie Fantastique by the Paris Conservatory Orchestra, Bruno Walter, conducting (12697-A, M622-11).

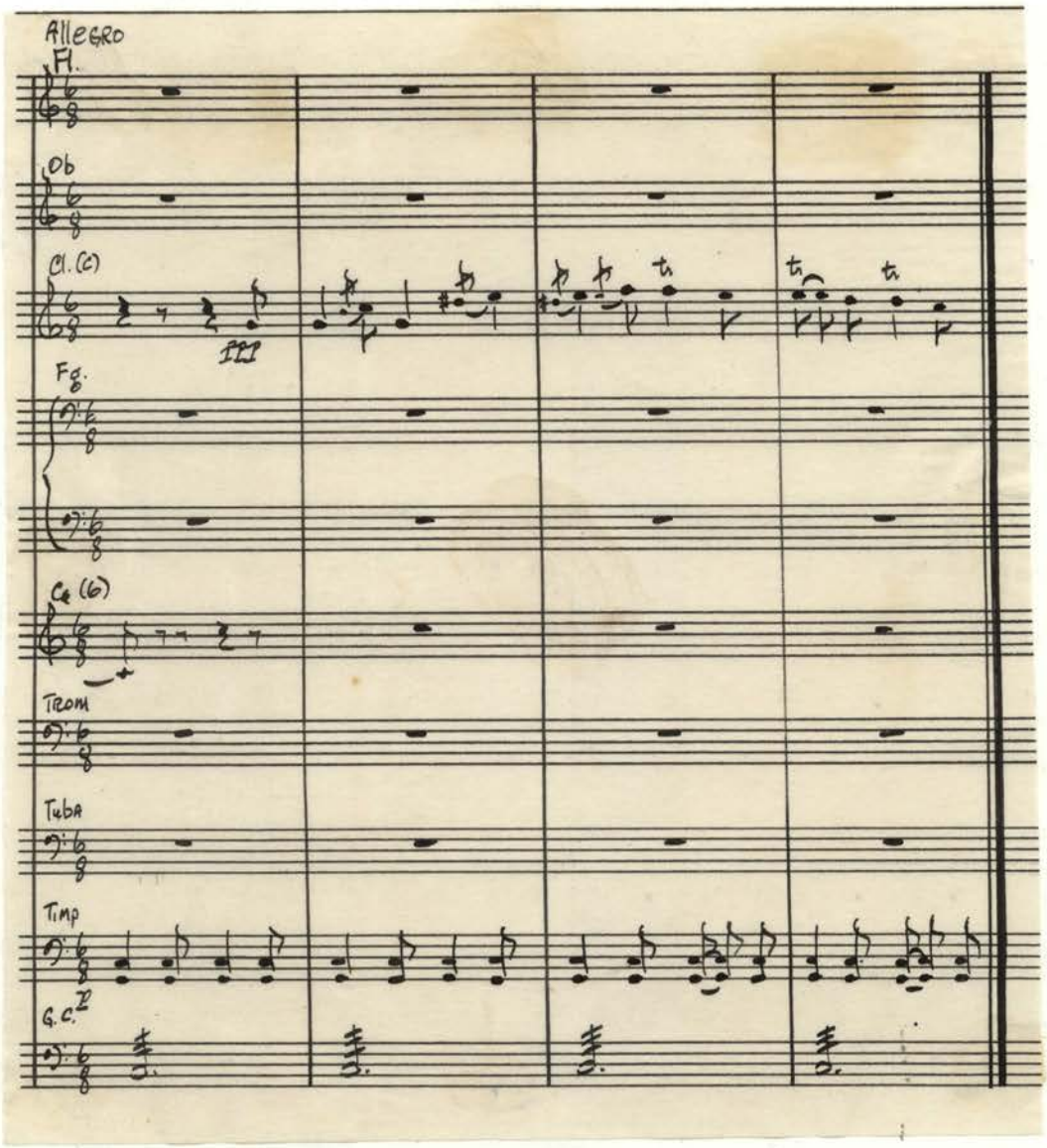

Fig. 51.--Berlioz, Fantastic Symphony, fifth movement, measures 21-24.

One of the first examples of Berlioz's use of grace notes and trills is found in the following illustration (Fig. 52):

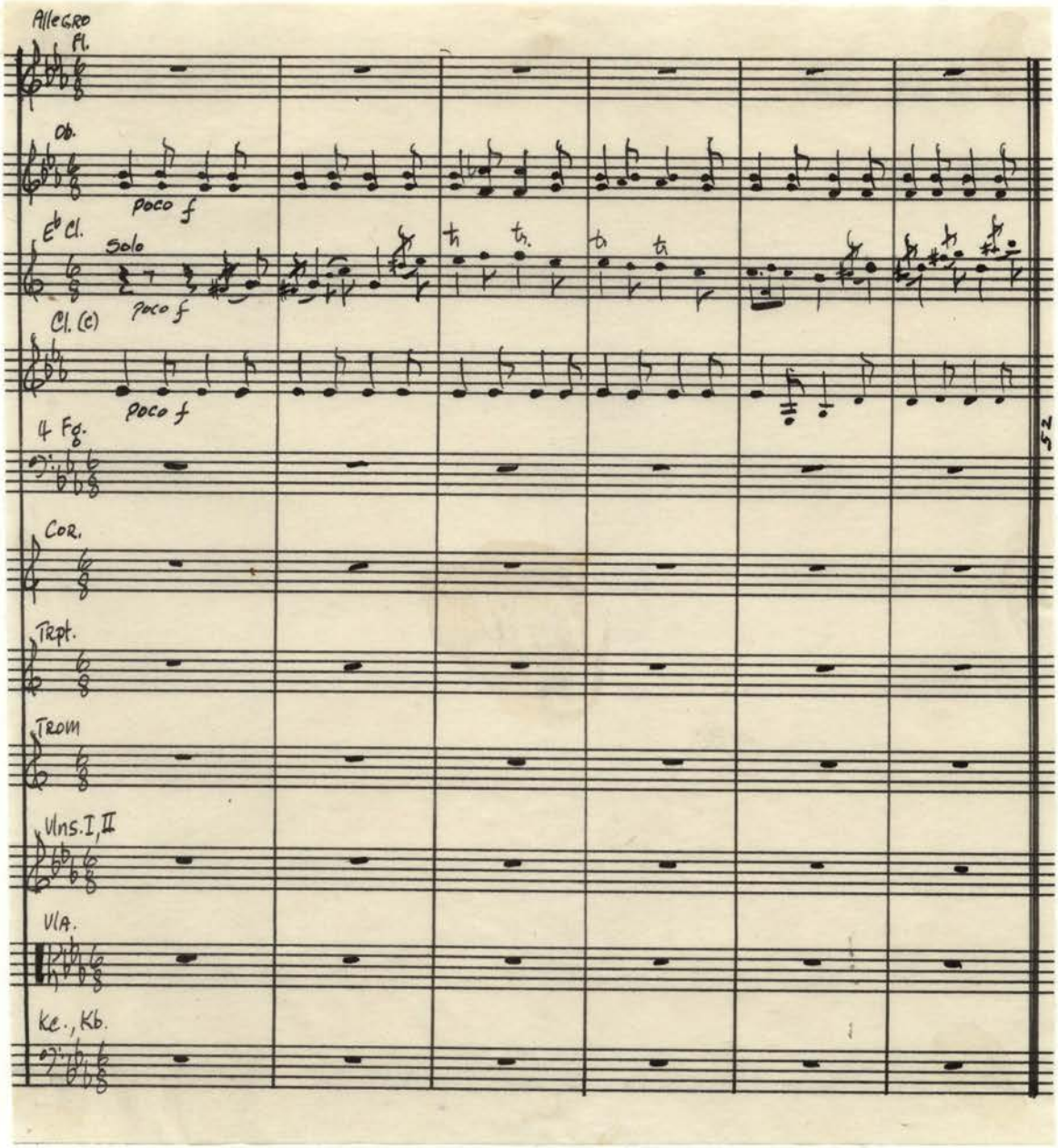

Fig. 52.--Berlioz, Fantastic Symphony, fifth movement, measures 40-45.

Beethoven used them prior to this, see ante Fig. 37, p. 69.

The accompaniment is carried by the C clarinet, on the tonic

of the chord, in the same rhythmic pattern used by the E flat clarinet in the solo. The two oboes fill out the accompaniment, using the same rhythmic pattern, on the third and fifth of the chord.

An unusual passage for the wood-wind section is found at the last of the fifth movement:

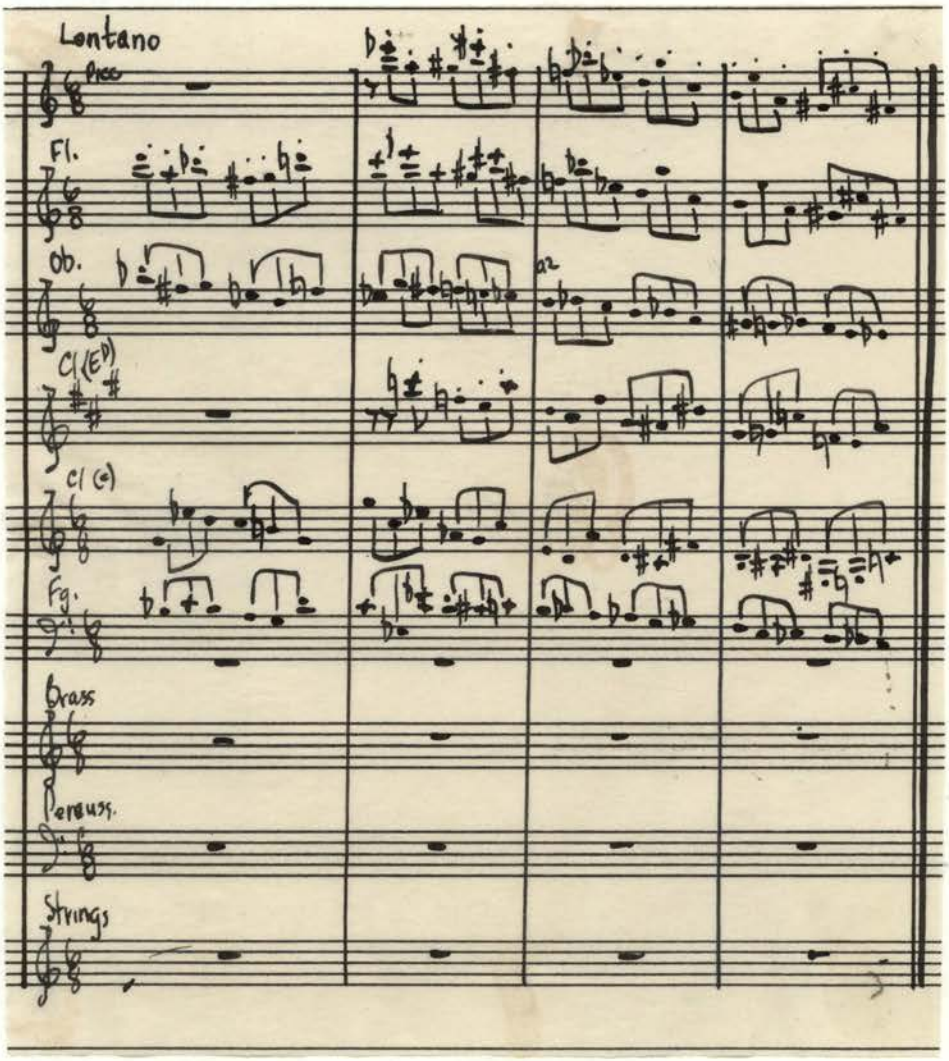

Fig. 53.--Berlioz, Fantastic Symphony, fifth movement, measures 47-50.

It is of interest to note that: (1) the E flat clarinet is one note behind the piccolo in an illustration of canonic imitation; (2) the piccolo is involved in a canon at the sixth with the C clarinet (one note behind); (3) the oboe and the bassoon are moving chromatically in tenths; (4) the flute and the piccolo are scored in octaves.

An exceptional treatment of the clarinet is found in the passage in Fig. 54. This passage is best described in Berlioz's own words:

> In this case, in order to give to the sound of the clarinet an accent as vague and remote as possible, I have caused the instrument to be enveloped in a leather bag, which serves as a "mute." The mournful murmur, and half-stifled sound of the solo, repeating a melody previously heard in another movement, has always forcibly struck the hearers. This shadow of music gives birth to sorrowful dejection, and provokes tears, more than the most dolorous accents. It excites melancholy as much as the trembling harmonics of the Aeolian Harp.[3]

Characteristics of Berlioz's treatment of the clarinet are: (1) doubling of its solos by another member of the wood-wind section or the strings; (2) alternate tonguing of notes in fast passages; (3) the use of all three registers of the clarinet; (4) extensive use of the arpeggio figure; (5) frequent doubling in octaves with other wood-winds; (6) more

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[3] Berlioz, Instrumentation and Orchestration, p. 111.

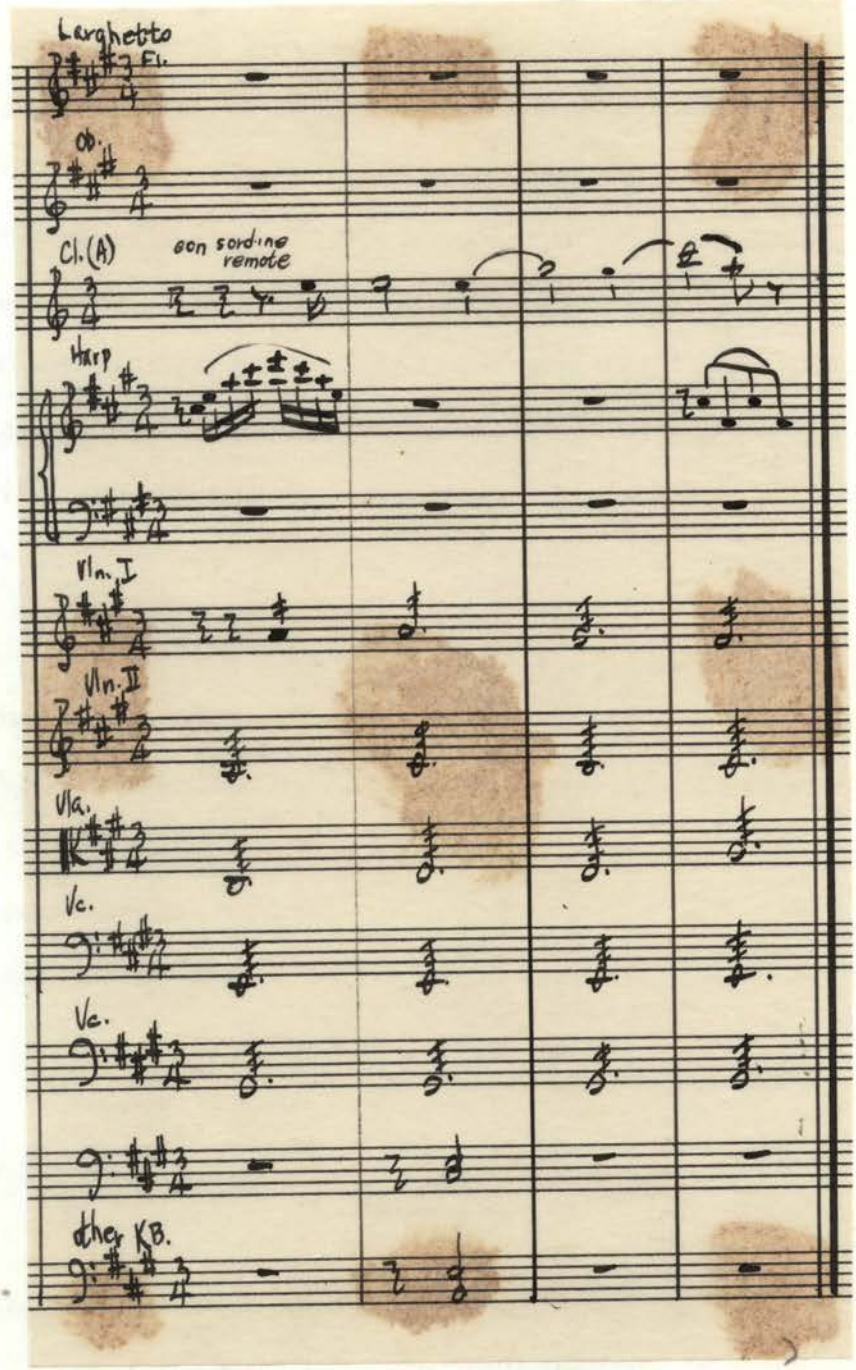

Fig. 54.--Berlioz, Momodrame, "Lelio ou le retour a la vie," Larghetto.

complex harmonies in the wood-wind parts; (7) the use of the E flat clarinet; (8) complexity of contrapuntal parts; (9) unusual treatment of the clarinet (used for supernatural effects, etc.

Innovations for the clarinet that were exploited by Berlioz were: (1) use of the second clarinet as a soloist; (2) extensive use of the trill in solos; (3) extensive use of grace-notes in solo passages; (4) clarinet solo unaccompanied; (5) use of the E flat clarinet; (6) muting the clarinet.

Felix Mendelssohn

The symphonies of Felix Mendelssohn (1809-1847) illustrate the continued development of the clarinet in several ways. In Fig. 55 the clarinet is given the main theme to an accompaniment furnished by the strings. In this instance the clarinet is employed in the "break" register. Mendelssohn continues to cross and re-cross the "break" throughout the statement of the main theme by the clarinet.

Later during this same solo Mendelssohn makes use of another innovation: In Fig. 56 Mendelssohn writes high D for the clarinet against a return of the main theme in the strings. Here Mendelssohn not only makes use of the "clarino" register of the clarinet, but he also has the clarinet

crescendo and hold this note for five and a half bars. It is unusual to find the clarinet playing these higher notes in solo passages during this time.

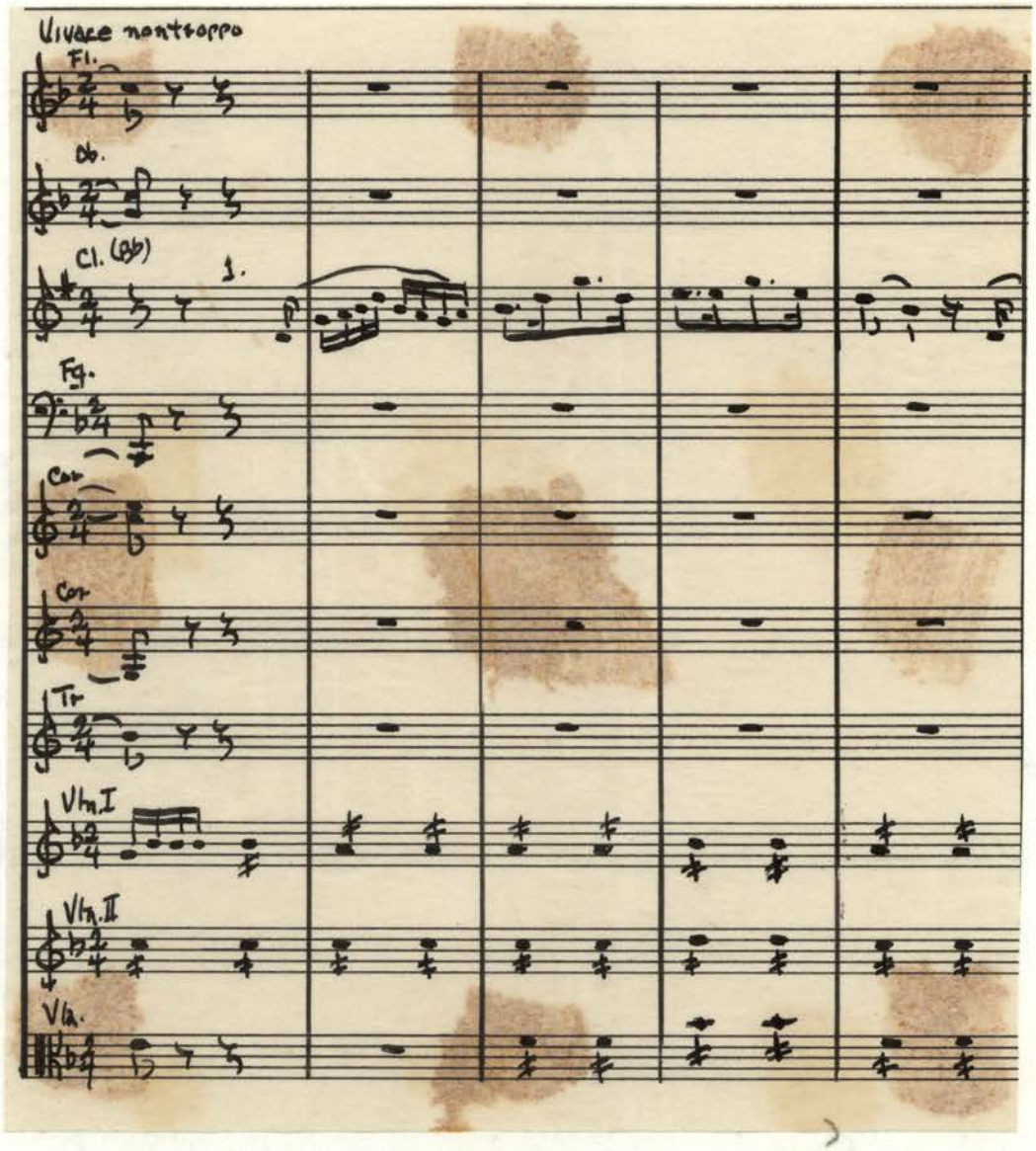

Fig. 55.--Mendelssohn, Symphony No. 3, Scotch (1842), second movement, measures 8-12.

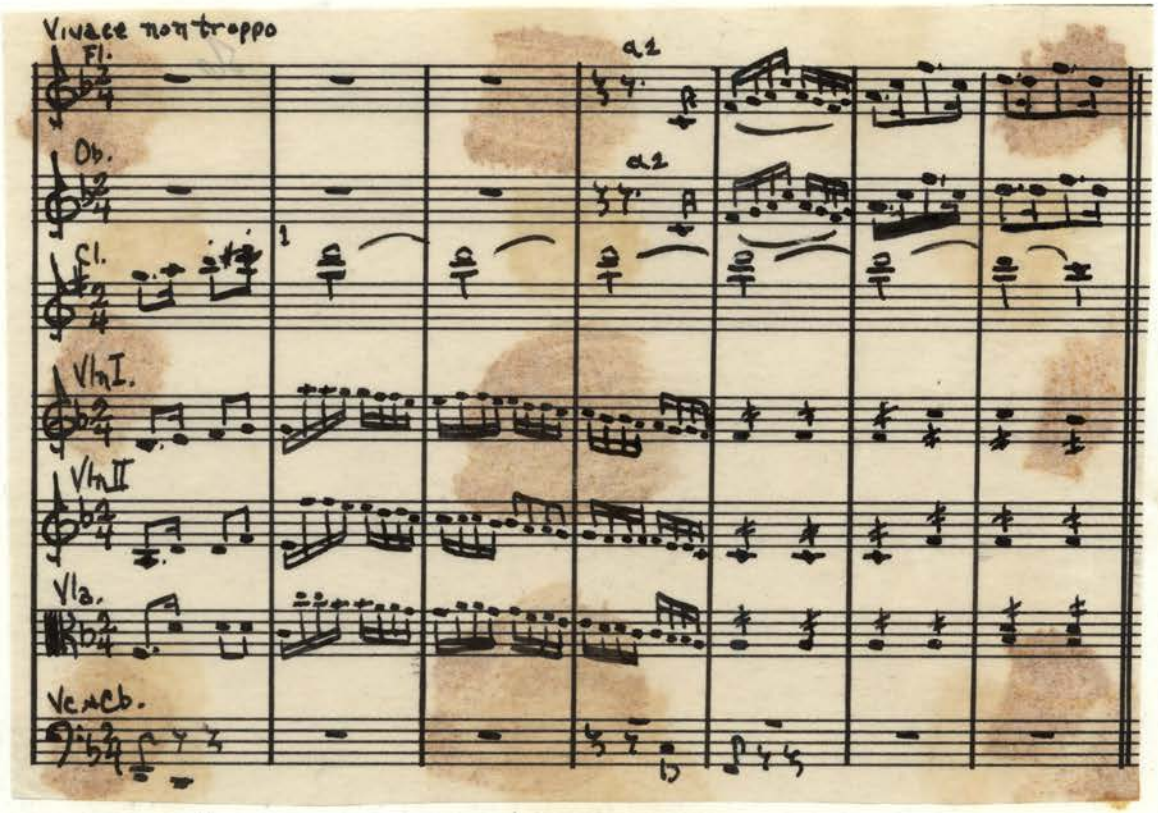

Fig. 56.--Mendelssohn, Symphony No. 3, Scotch, second movement, measures 29-35.

The next illustration is also unusual for the period under discussion (see Fig. 57). In this example Mendelssohn has the clarinets scored in the "chalumeau" register and in major sevenths with each other. Previously it had been a common practice to score the clarinets in thirds or sixths (but see the Schubert example of major sevenths, ante Fig. 39); however, during this period, Mendelssohn and Berlioz added more complex harmonies to their symphonies, forcing the adoption of new methods of scoring the wood-wind.

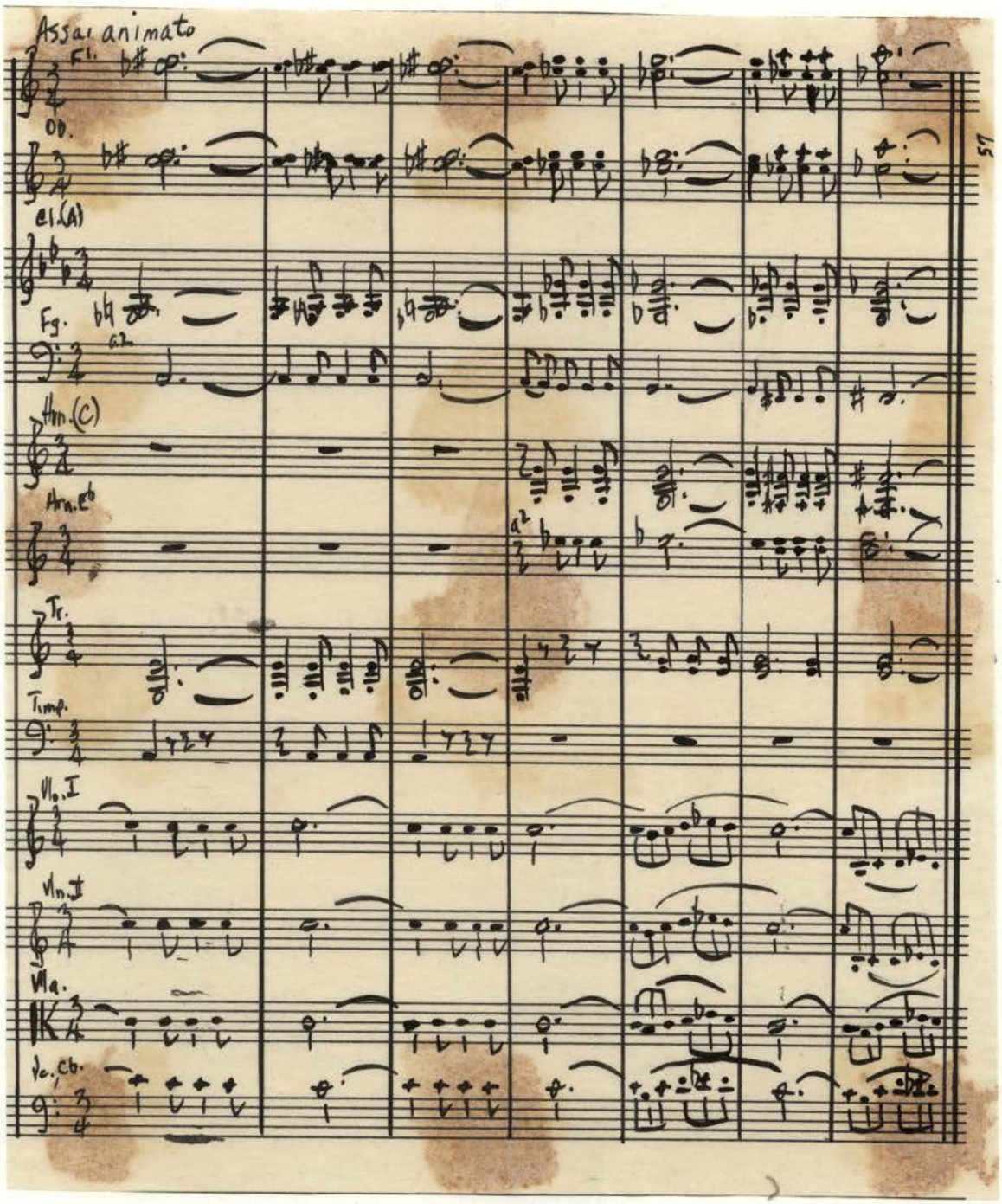

Fig. 57.--Mendelssohn, Symphony No. 3, Scotch, first movement, measures 224-230.

Another use of the clarinet is found in the Italian Symphony of Mendelssohn (1833):

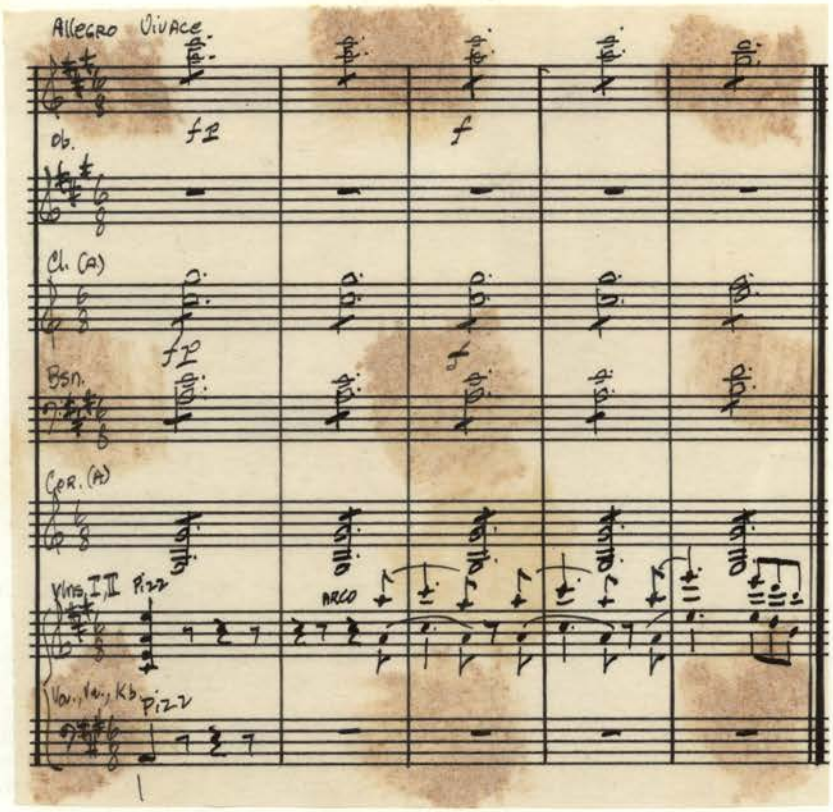

Fig. 58.--Mendelssohn, Symphony No. 4, Italian, first movement, measures 1-5.

In this illustration the clarinets are given the root and the fifth of the chord, rather than thirds or sixths. An example of the clarinet as an accompanying instrument is also shown; a characteristic of clarinet accompaniments in Mendelssohn's symphonies is the use of repeated notes.

Fig. 59.--Mendelssohn, Midsummer Night's Dream, scherzo, measures 131-33.

According to Prout:

> The difficulty here consists, not in the rapidity of the movement, for the clarinet is capable of considerable execution, but in the fact that the passage lies just in the "break" of the instrument, where the upper series begins, and also that nearly every note below the B has to be played with the thumb or first finger of the left hand. If the passage had been written an octave higher it would have been comparatively quite easy.[4]

Grove also refers to the complexity of the notes in this passage "which are all but unplayable."[5]

Mendelssohn's use of the clarinet is summarized as follows: (1) it doubles with strings, flutes, horns, and bassoons; (2) its parts are written in octaves, thirds, fifths, and sixths; (3) it is used contrapuntally; (4) it is used extensively in the "chalumeau" register; (5) it is frequently used as an accompanying instrument; (6) it is used in passages of repeated notes; (7) its fingerings are more complex; (8) it is used as a solo instrument.

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[4]Ebenezer Prout, The Orchestra, I, 151.

[5]G. Grove, Dictionary of Music and Musicians, p. 544.

Robert Schumann

Although Robert Schumann (1810-1856) reputedly did not possess the skill in orchestration that most of the other symphonists had, he nevertheless contributed, in some ways, to the development of the function of the clarinet.

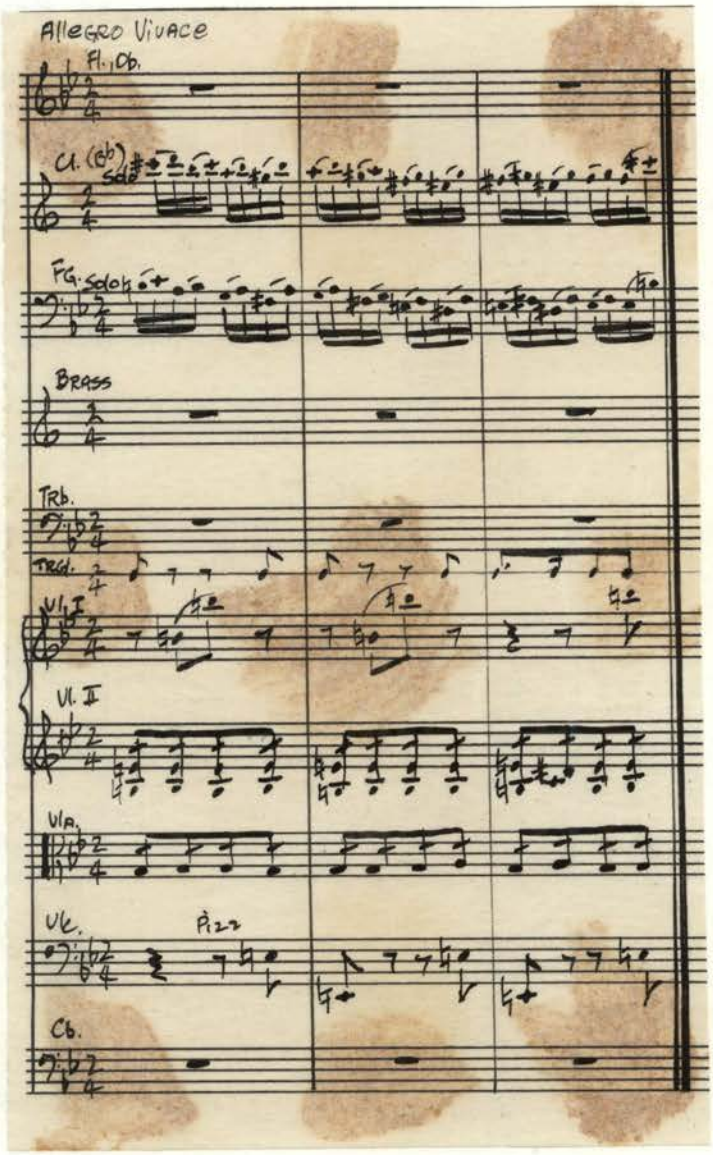

Fig. 60.--Schumann, Symphony No. 1, first movement, measures 190-92.

An example of his use of the clarinet is seen in Schumann's first symphony (1841). In this illustration the clarinet is the soloist with two bassoons in thirds acting as the inner voices. Aside from the fact that the clarinet is playing in the "clarino" register, it should also be noticed that in this Allegro passage the clarinet has two slurred notes and then leaps a third to the next series of notes. At this tempo it is difficult even for the clarinetist of today. The second and third measures of the example require the use of cross-fingerings in order to be performed.

The fourth movement of this same symphony illustrates difficult leaps for the clarinet. In Fig. 61 if this passage was not slurred, it would be somewhat easier for the clarinetist; however, this leap would have been an uncertain accomplishment for the clarinetist during the time of S Schumann.

Another illustration of this type is found in the fourth symphony (revised 1851) Fig. 62. In this passage the clarinets are written in octaves and are also doubled with the violas. Playing this octave leap would be even more difficult than the one in the previous illustration (Fig. 61). Whereas the former illustration involves lifting of only one finger, the latter illustration involves lifting a number of fingers simultaneously. The tempo of the passage would also serve to increase the burden on the clarinetist.

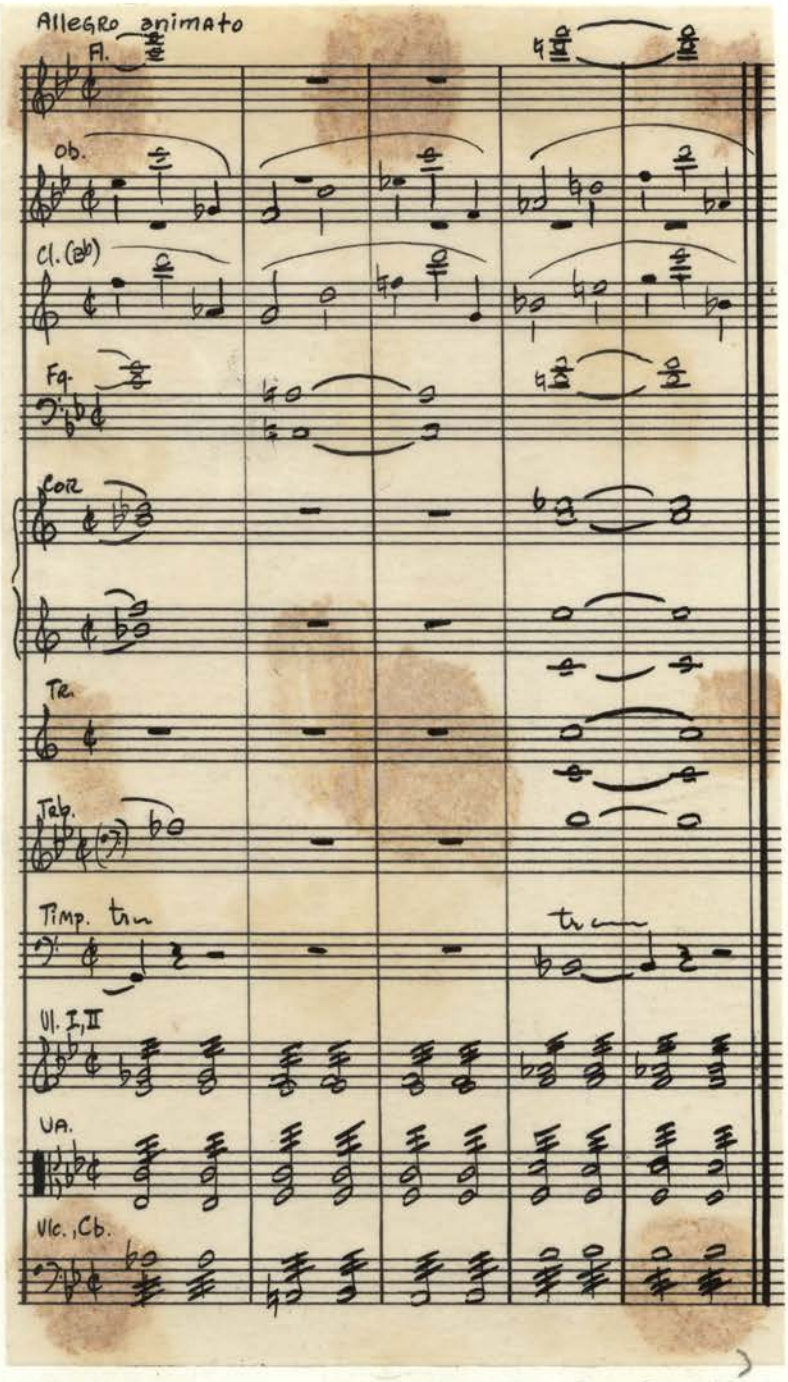

Fig. 61.--Schumann, Symphony No. 1, fourth movement, measures 155-60.

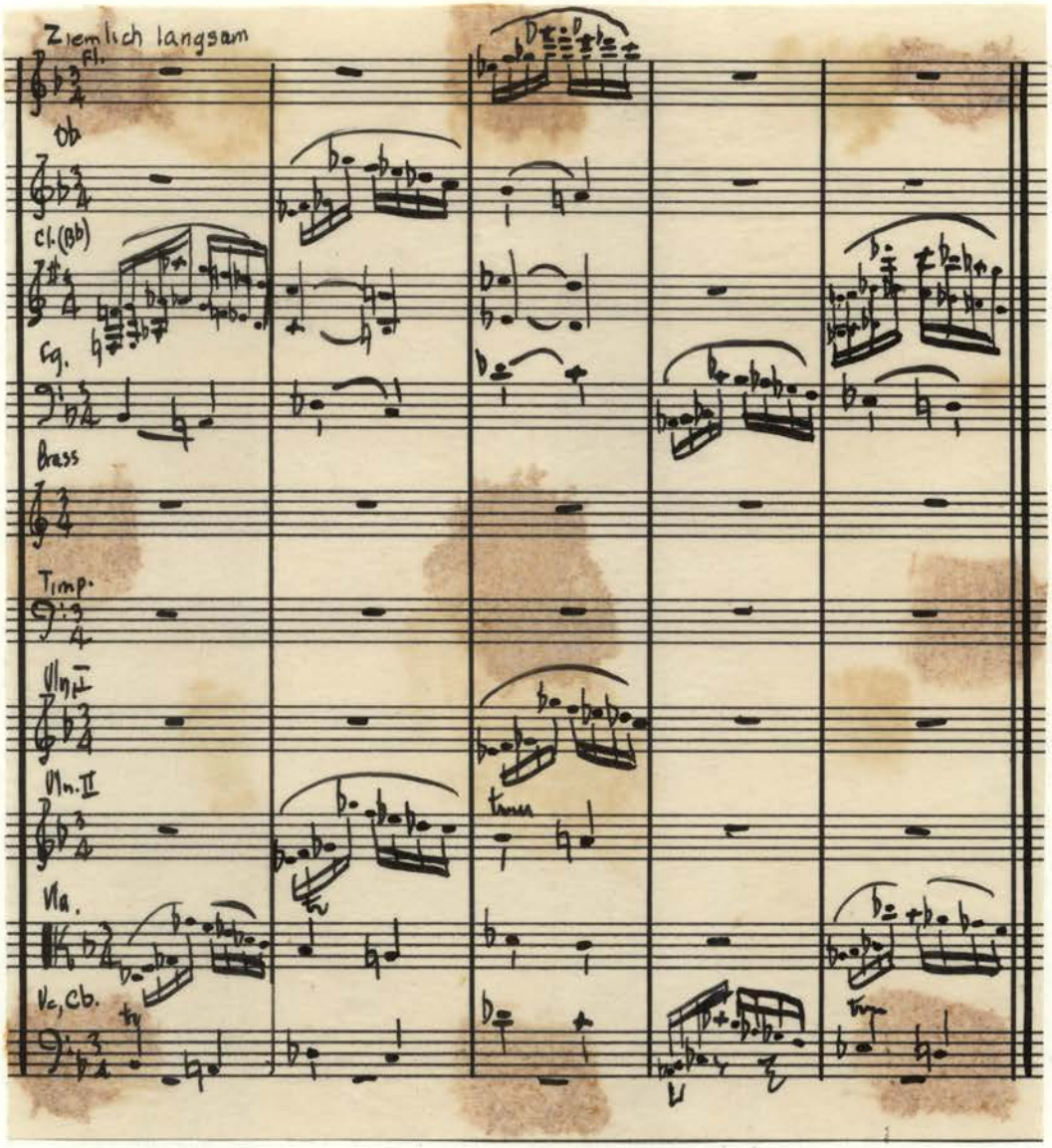

Fig. 62.--Schumann, Symphony No. 4, first movement, measures 95-99.

Another feature of the music of Schumann is his use of the double sharp. This is unusual because of the avoidance, on the part of the composers of the preceding period, of any

complicated fingerings or accidentals. This illustration is an example of the result of the development of the new key mechanisms for the clarinet.

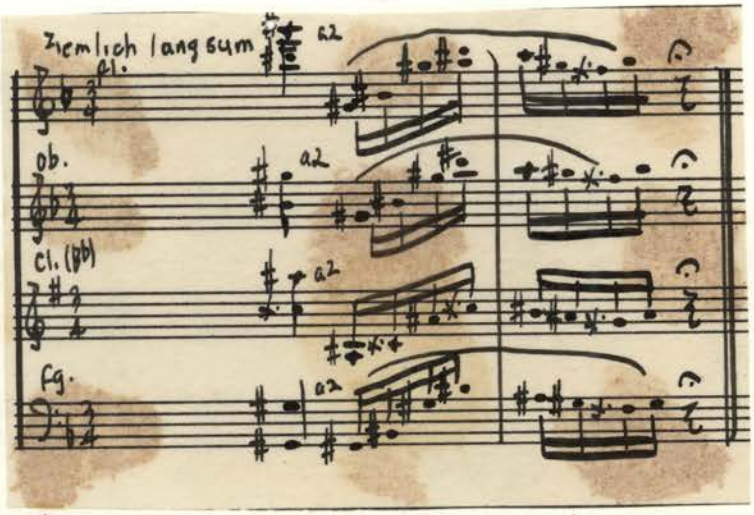

Fig. 63.--Schumann, Symphony No. 4, first movement, measures 207-208.

Schumann's clarinet parts may be summarized as follows: (1) they doubled flutes, bassoons, and horns; (2) they were written in unison, octaves, thirds, and sixths with other wood-winds; (3) their solos were frequently doubled by strings or other wood-winds; (4) they included leaps of octaves or more; and (5) they were more complex due to additional key mechanisms.

General characteristics of the clarinet parts of this period are: (1) solos are frequently doubled with strings or other wood-winds; (2) parts are more complex due to additional key mechanisms; (3) parts are written in unison,

octaves, thirds, fifths, and sixths with other wood-winds; (4) contrapuntal parts are more complex; (5) new instruments are introduced (E flat clarinet); (6) all three registers of the clarinet are used; (7) harmonies in the wood-wind parts are more complex; (8) passages of accompaniment are frequent; (9) supernatural effects are created; and (10) arpeggio figures are common.

CHAPTER V

WAGNERIAN PERIOD

The influence of Richard Wagner (1813-1883) was felt, not only in the field of opera, but also in nearly every field of composition:

> Even in discussing the symphony it is with difficulty that we avoid the simple classification of composers as pre-Wagnerian and post-Wagnerian, because after the magic of Wagner's orchestration had worked itself out, . . . composers for the orchestra in whatever form had at their disposal, if they chose to use it, a new instrument . . . . Wagner became . . . a force to be obeyed or resisted, but impossible to ignore, and it may even be argued that his influence was as powerful on those who refused to succumb to him as on those who hastened to signify their allegiance.[1]

Carse reflects Wagner's influence in stating:

> . . . it cannot be disputed that, when he died in 1883, Wagner left to all succeeding composers a legacy in the form of an orchestral language made much more rich by his own expansion of its vocabulary, than by that which he owed to either his own immediate predecessors or his contemporaries . . . . It is impossible to suppose that without the example of his work, orchestration could have reached the stage of development at which composers found it towards the close of the nineteenth century.[2]

Because of Wagner's far-reaching influence it would

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[1] H. C. Colles, Oxford History of Music, VII, 281.

[2] Carse, History of Orchestration, p. 281.

seem impractical to omit a study of his compositions in dealing with any phase of orchestration.

Wagner was one of the first composers to employ the new instruments coming into the orchestra, among them the bass clarinet:[3]

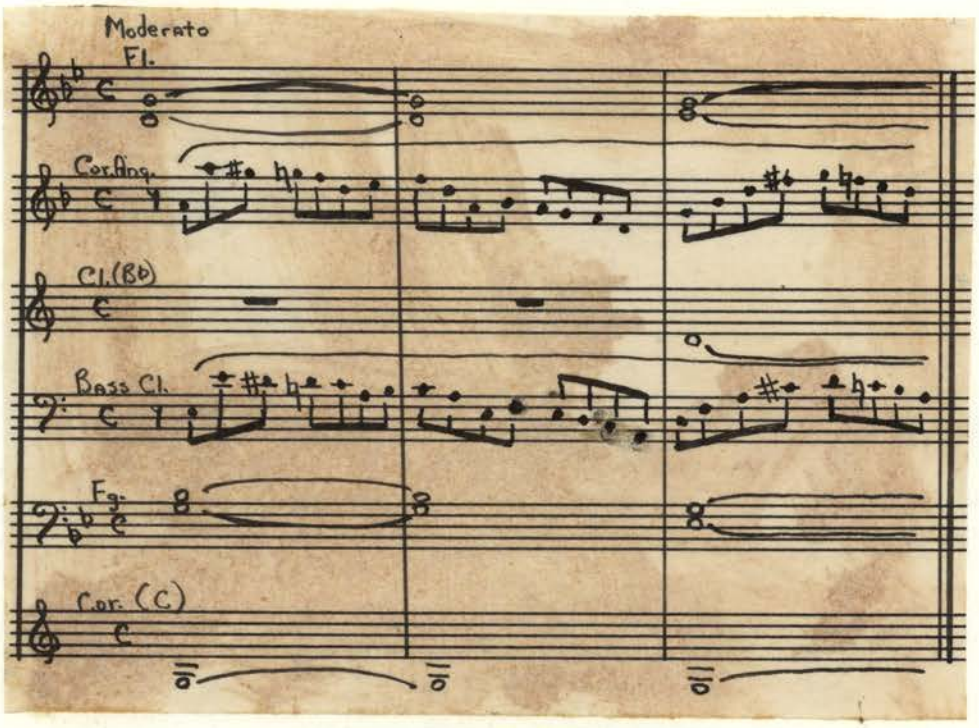

Fig. 64.--Wagner, Lohengrin (1850), Act II, Scene 2, Moderato (17), measures 1-4.

In the above illustration, by employing the bass clarinet (in B flat) and the English horn, Wagner has: (1) secured a new variety of tone color by giving the melody to the

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[3]Lack of space prevents the reproduction of the full score.

English horn and the bass clarinet in octaves and sustaining the remaining wood-winds pianissimo; and (2) written the bass clarinet part in the bass clef to avoid the use of ledger lines.

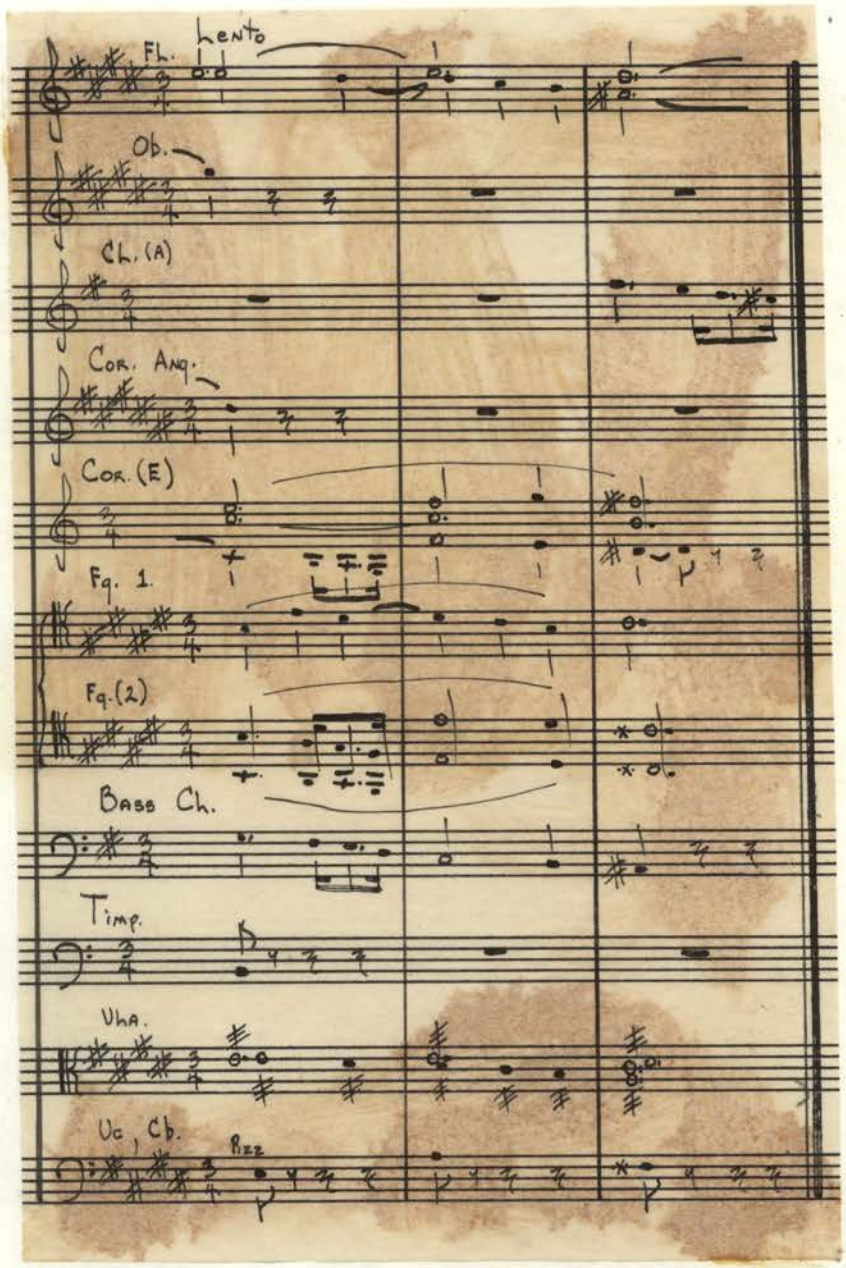

Fig. 65.--Wagner, Die Walküre (1870), Act II, Lento

Wagner also re-arranged the order in which the instruments appeared in the score. In order to place the lower and higher parts closer together on the score, Wagner moves the English horn from the side of the oboe, its usual position, and places it below the clarinet; for a similar reason, he places the bassoons and the bass clarinet below the horns. In the above passage the melody is given to the clarinet and horn in octaves and is imitated by the oboe and the English horn, also in octaves. These, in turn, are imitated by the bass clarinet, bassoons, and the second horn, while the other wind instruments sustain the harmonies. The following is an illustration of Wagner's use of contrast:

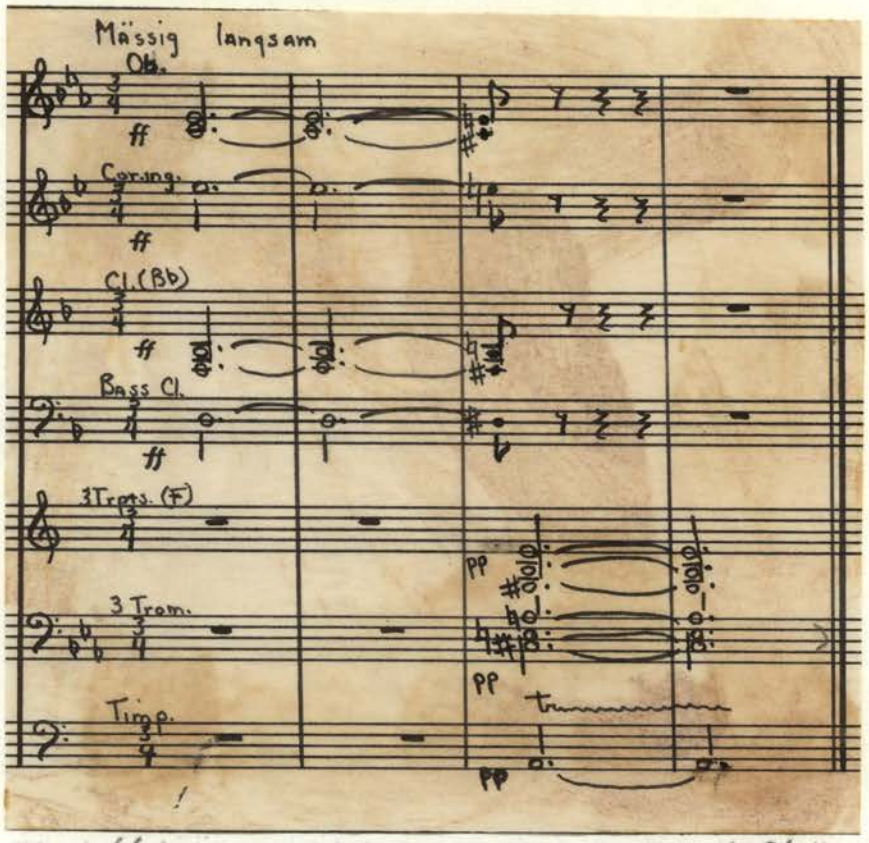

Fig. 66.--Wagner, Tristan and Isolde (1865), Act I, Scene 2, measures 31-34.

Here the contrast is between the "pianissimo" of the brass and the "fortissimo" of the reeds. The B flat clarinets sustain on the root and fifth of the chord (in the "chalumeau" register with the bass clarinet on the third and the other woodwinds sustaining on the remaining voices of the triad, resolving upon the entrance of the "pianissimo" brass.

Wagner obtains many novel effects of tone coloring by using unusual combinations of instruments:

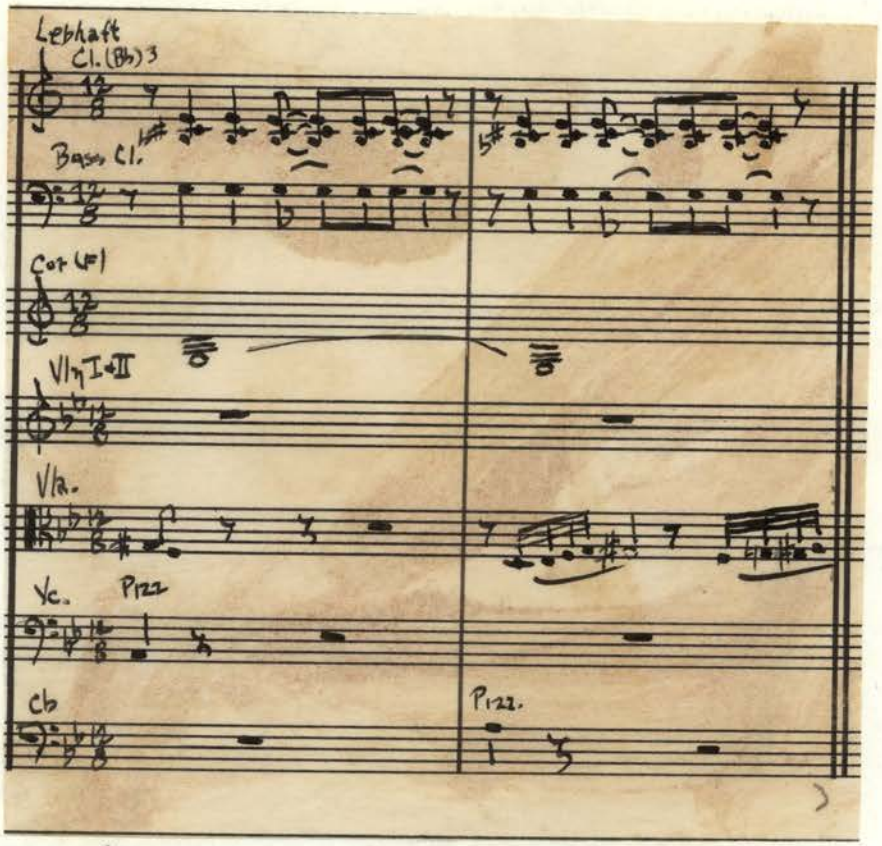

Fig. 67.--Wagner, Götterdämmerung (1876), Act II, Scene I

Weber (see ante Fig. 41, p. 75) was the first to use the "chalumeau" register extensively, but in this passage Wagner eclipses Weber in writing three clarinets and the bass clarinet in full four-part harmony. As an added feature Wagner marks the passage "decrescendo" together with the sustained horn part and figurations in the strings.

One of Wagner's most beautiful effects is shown in the following example:

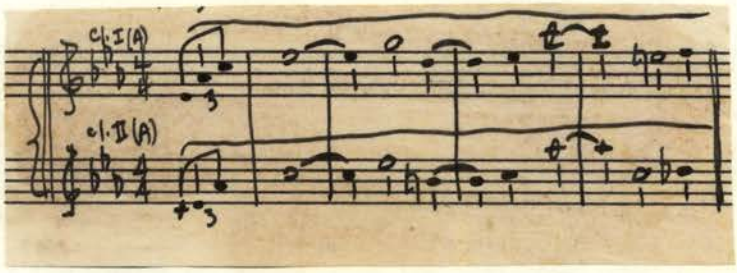

Fig. 68.--Wagner, Siegfried (1876), Act III, Scene 3, measures 103-106.

The clarinets in thirds, entirely unaccompanied, portray Siegfried as he awakens Brünnhilde.[4]

An example of Wagner's writing for a smaller combination is found in Fig. 69.

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[4]A similar illustration is found in Götterdämmerung, Act I, Scene 3.

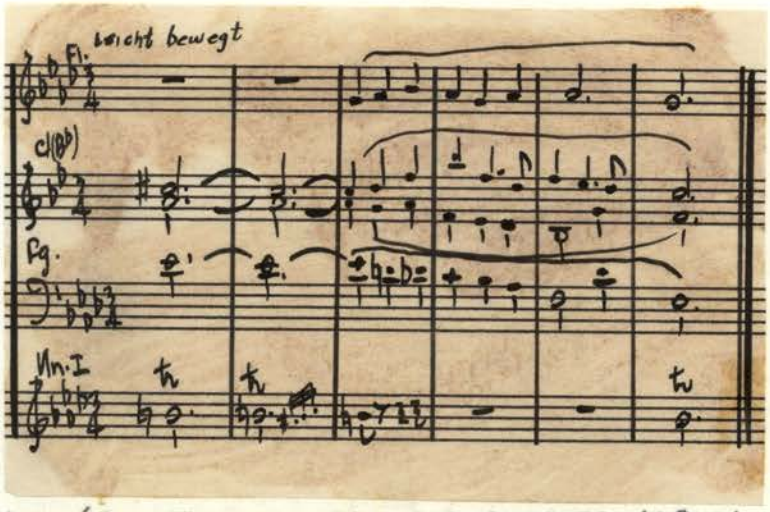

Fig. 69.--Wagner, Siegfried Idyll (1870), measures 148-153.

Here we find the wood-wind in four-part harmony with the clarinet playing the melody. Presumably, if the full body of wood-winds had been employed, this passage would have been written for either two clarinets and two flutes or two clarinets and two bassoons instead of the way it is written (two clarinets, one flute, one bassoon). No doubt the superior expressive power of the clarinet over that of the flute influenced Wagner's selection of the melodic instrument. Other examples of similar scoring for the wood-winds can be found in the same, as well as the first, movement of this work.

An illustration of the use of the "chalumeau" register is found in the Overture to Tannhäuser (1845):

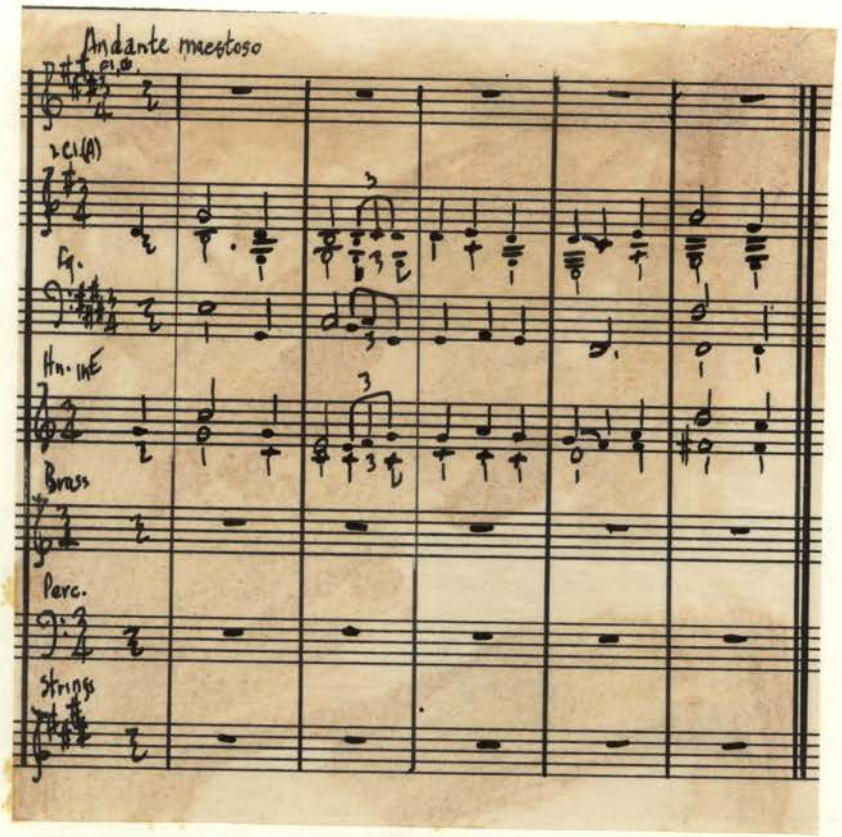

Fig. 70.--Wagner, Tannhäuser, Overture, measures 1-5

In this "tenuto" passage the first clarinet and the first horn double the melody, with the bassoons providing the bass part, and the second clarinet and second horn providing the inner voices. In order to obtain the low c# (concert) in the second clarinet part the A clarinet was substituted for the clarinet in B flat; since the B flat clarinet's range does not go this low, it would have been necessary to transpose the low c# (concert) up an octave, which would have spoiled the effect. Wagner makes ample use of the "chalumeau" register of the clarinet in scoring special effects.

Wagner makes use not only of the "chalumeau" register of the clarinet but of the other two registers as well:

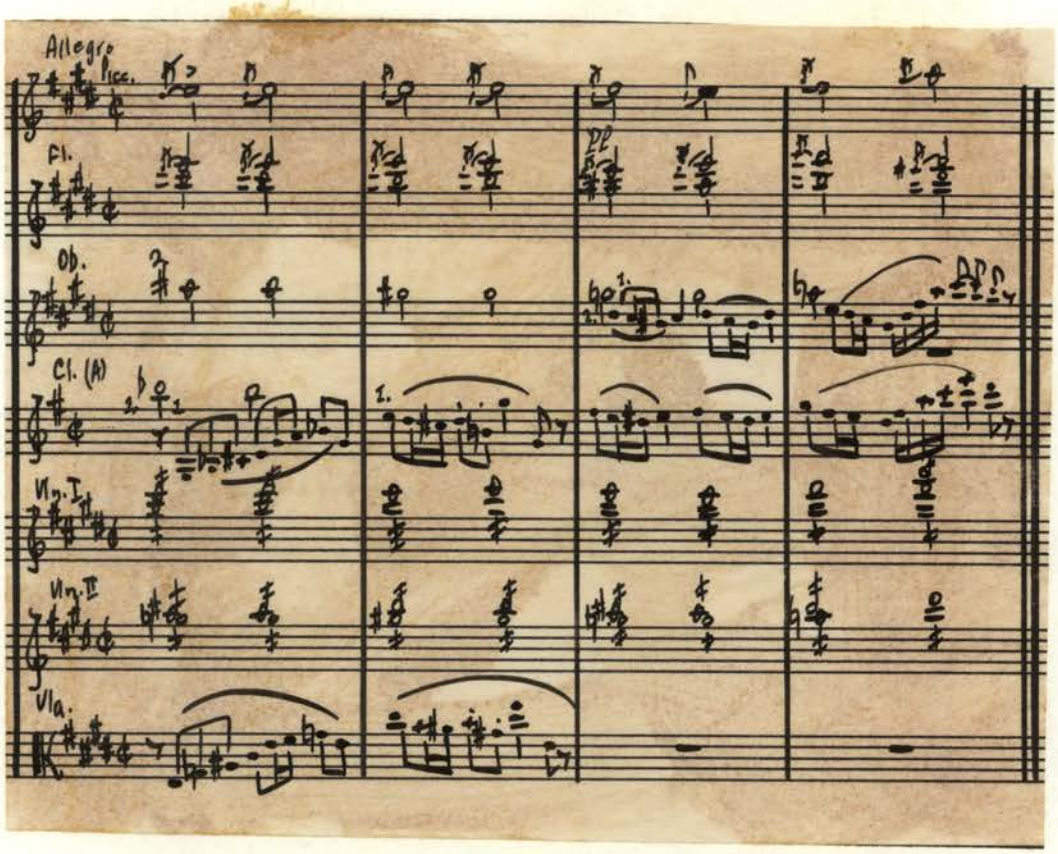

Fig. 71.--Wagner, Tännhauser, Overture, measures 112-5.

This example illustrates: (1) Wagner's tendency to double solo passages (in this case, clarinet and viola, clarinet and oboe); (2) his use of the arpeggio; (3) his use of leaps in the solo passage; (4) his attention to dynamics in attaining the desired effect; and (5) the most important, his use of all registers of the clarinet.

An example of one of the most deceptive of Wagner's effects is found in the last act of Götterdämmerung:

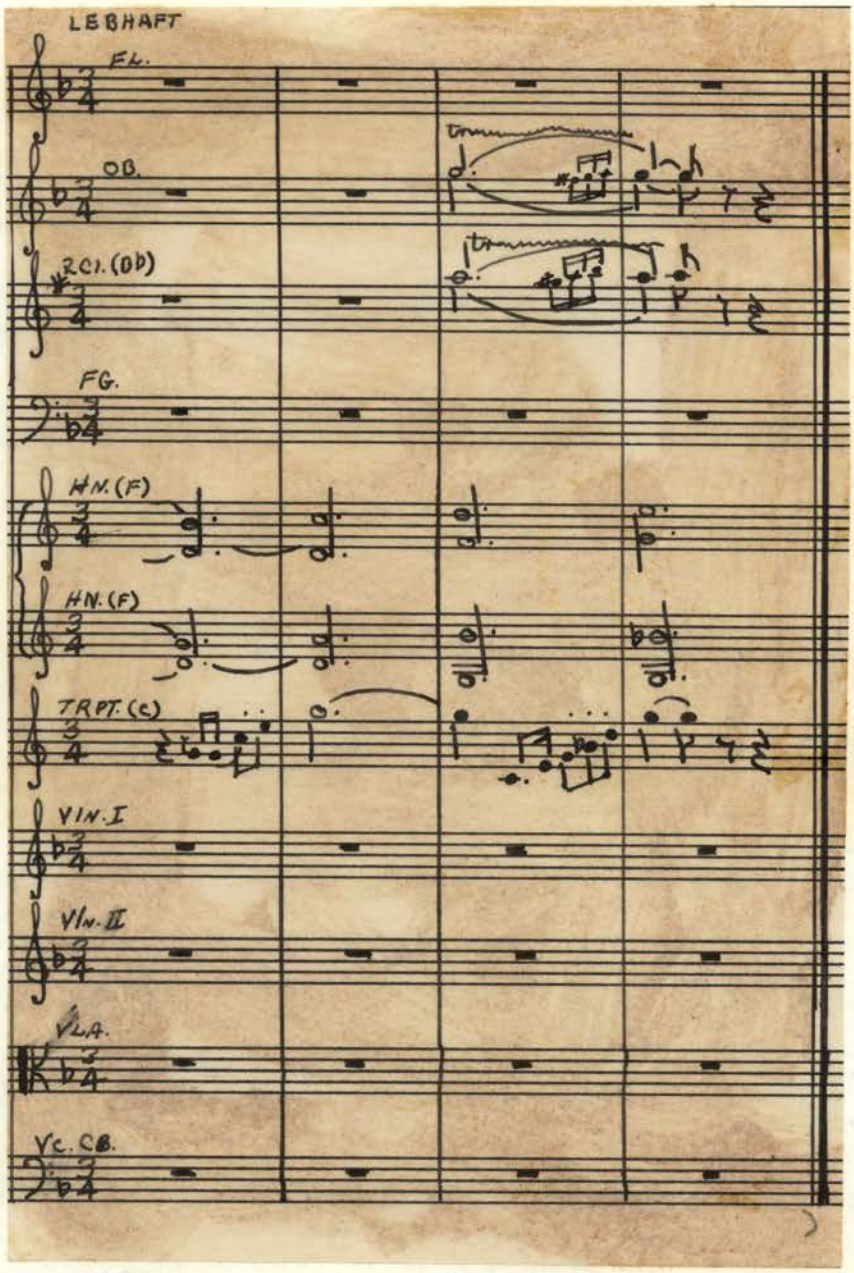

Fig. 72.--Wagner, Götterdämmerung, Act III, Scene 3

This passage is scored in such a unique way that the ear expects the trumpet to trill his G (second measure); however, Wagner superimposes a unison trill by the clarinet and oboe which replaces the trumpet tone and leaves the trumpet effect to the two wood-wind instruments.

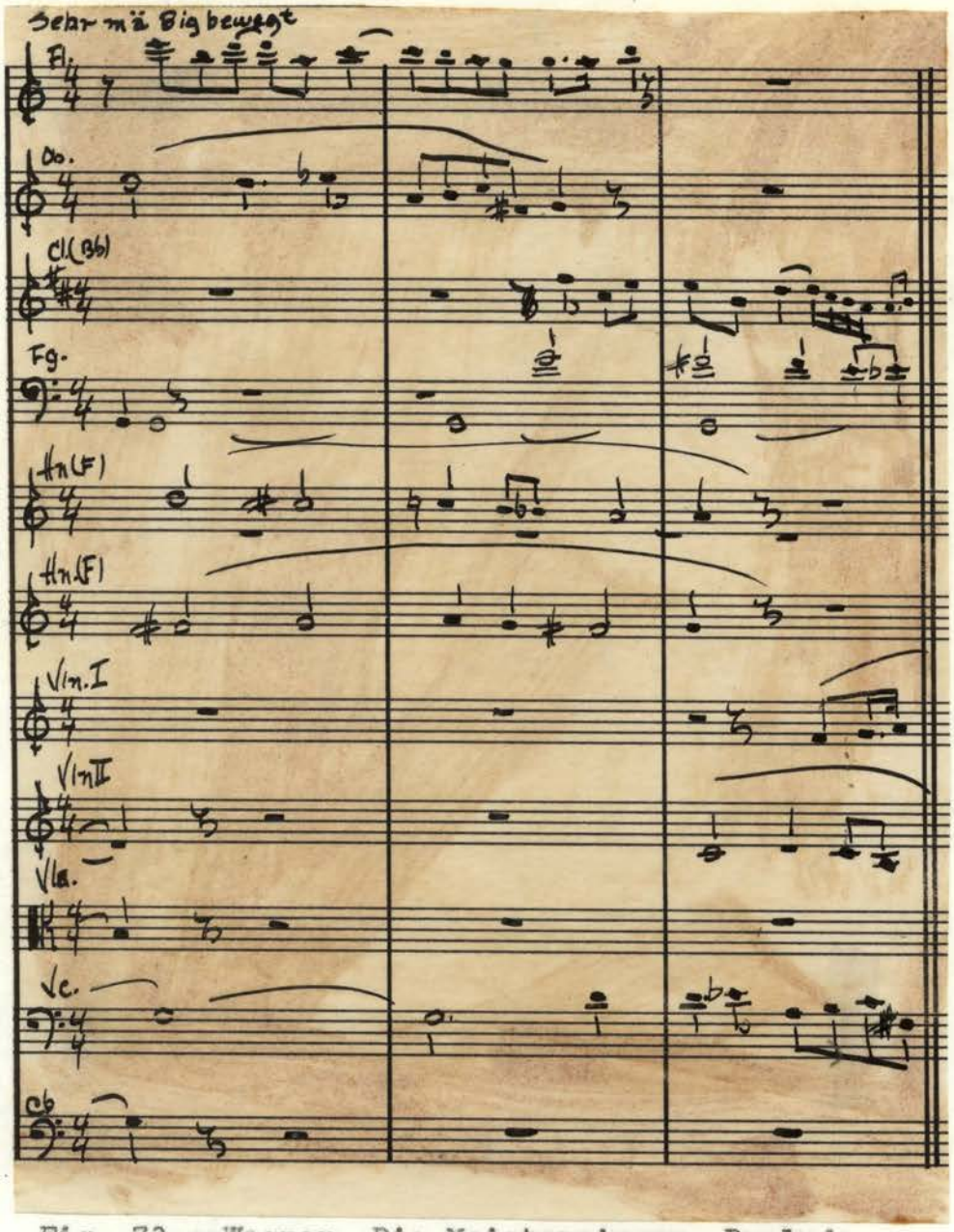

Fig. 73.--Wagner, Die Meistersinger, Prelude, measures 29-33.

A contrapuntal illustration is found in Die Meistersinger (1868): (See Fig. 73). This passage not only illustrates a canon between the oboe, flute, and clarinet, but it is also an indication that the clarinet was capable of playing on a par with the other members of the wood-wind section.

For an example of a Wagnerian tutti we again turn to the Prelude to Die Meistersinger (Fig. 74). In this passage the piccolo and the first flute, in unison, are doubled an octave below by the second clarinet and the oboe, the other wood-winds sustain, doubling the horns. It should be noted that the clarinet part is written in such a manner that it continually crosses the "break" register. Owing to the improvement of the key mechanisms of the clarinet, Wagner was able to utilize the complete resources of the clarinet.

An illustration of Wagner's use of practically every available resource of the clarinet is found in Act II of Die Meistersinger. (See Fig. 75). Wagner used the clarinet in quite a number of ways in this passage: (1) in syncopated figures; (2) in all registers; (3) in complex rhythmic patterns; (4) in trilling; (5) in grace note figures; (6) at various dynamic levels; (7) in diminished arpeggios; (8) in cross-fingerings; and (9) in leaps of a major seventh.

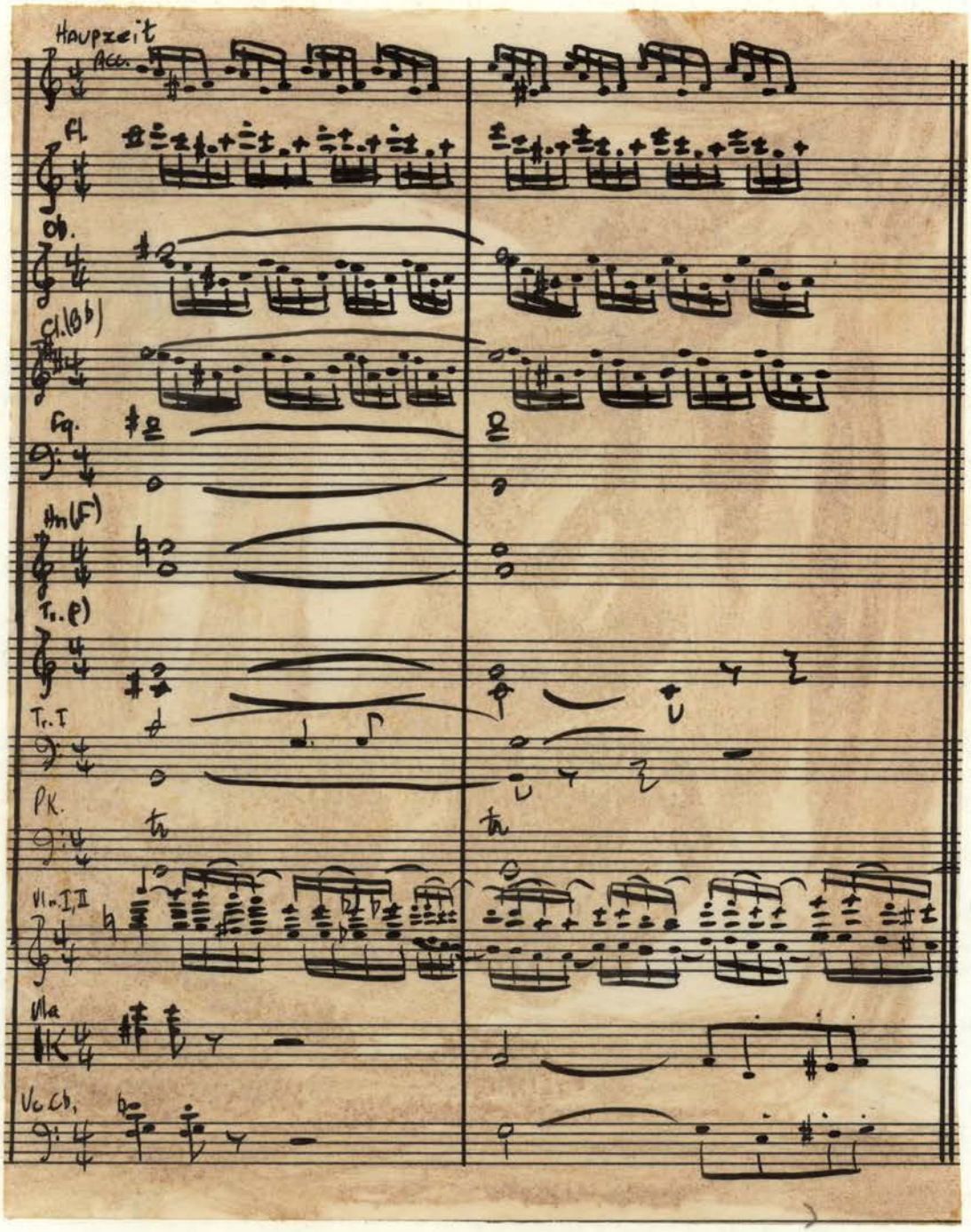

Fig. 74.--Wagner, Prelude, Die Meistersinger, measures 151-52.

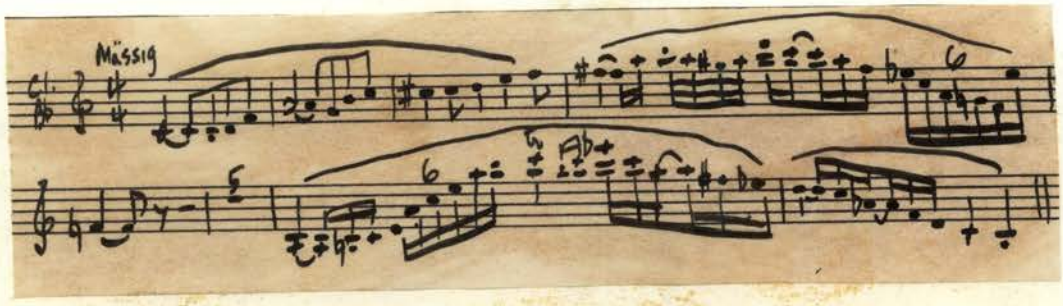

Fig. 75.--Wagner, Die Meistersinger, Act II, Scene 1, Mässig, measures 23-24.

Characteristic of Wagner's clarinet parts are the following features: (1) he used the clarinet group alone in different combinations on harmonic parts (Fig. 67); (2) in long sustained passages they usually double the horns, bassoons, or one of the clarinets (Fig. 71); (3) their solos were not long, but they were frequent (Figs. 71, 75); (4) their solos were usually doubled by one of the other wood-winds or the strings (Fig. 71); (5) many different types of combinations were used (Fig. 67, 69); (6) the bass clarinet parts were written in the bass clef (Fig. 64); (7) they are used in all registers (Figs. 70, 71); (8) they were used in leaps of thirds or more (Fig. 71); (9) they were used contrapuntally (Fig. 73); (10) they were used in contrasts with the brass (Fig. 66); (11) they were used for special effects (Fig. 72); (12) their place on the score varied (Fig. 65); (13) they usually doubled other wood-winds in tutti passages (Fig. 74); (14) they were used in unaccompanied duets (Fig. 68).

Franz Liszt

Franz Liszt (1811-1886) was one of the first composers to be influenced by Wagner:

> Liszt's principles in orchestration followed those of Wagner in that they were progressive, richly coloured and sonorous; to these he added a showy brilliance of his own, and a somewhat perilous dependence on purely superficial orchestral effect.[5]

A clarinet solo from Orpheus (1854), one of Liszt's symphonic poems, illustrates his desire for brilliance. There are several features to consider in this example (Fig. 76): (1) the two clarinets play the unison solo passage in the "clarino" register; (2) the violin accompaniment is written in broken octaves; (3) one harp plays sixteenth-note arpeggios, while the other harp plays glissandos; (4) the bassoons, violas, cellos, and basses move with the harmonic progression; (5) rhythmic contrast is illustrated in measure 136, where the clarinet plays the melodic phrase one beat later than the accompaniment.

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[5]Carse, History of Orchestration, p. 282.

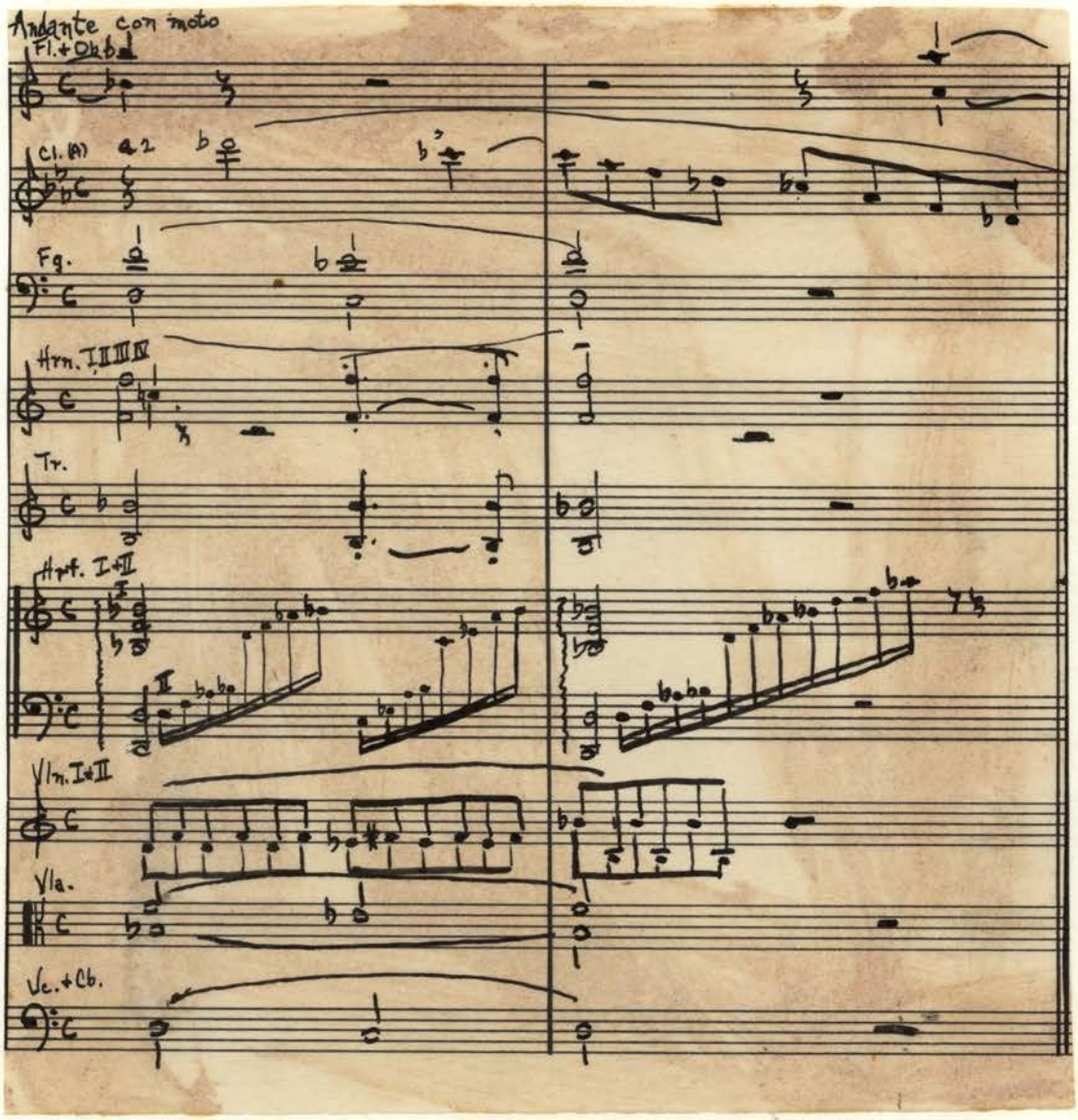

Fig. 76.--Liszt, Orpheus, measures 136-137

Another example of rhythmic contrast is found in Ce qu'on entend sur la montagne (1848):

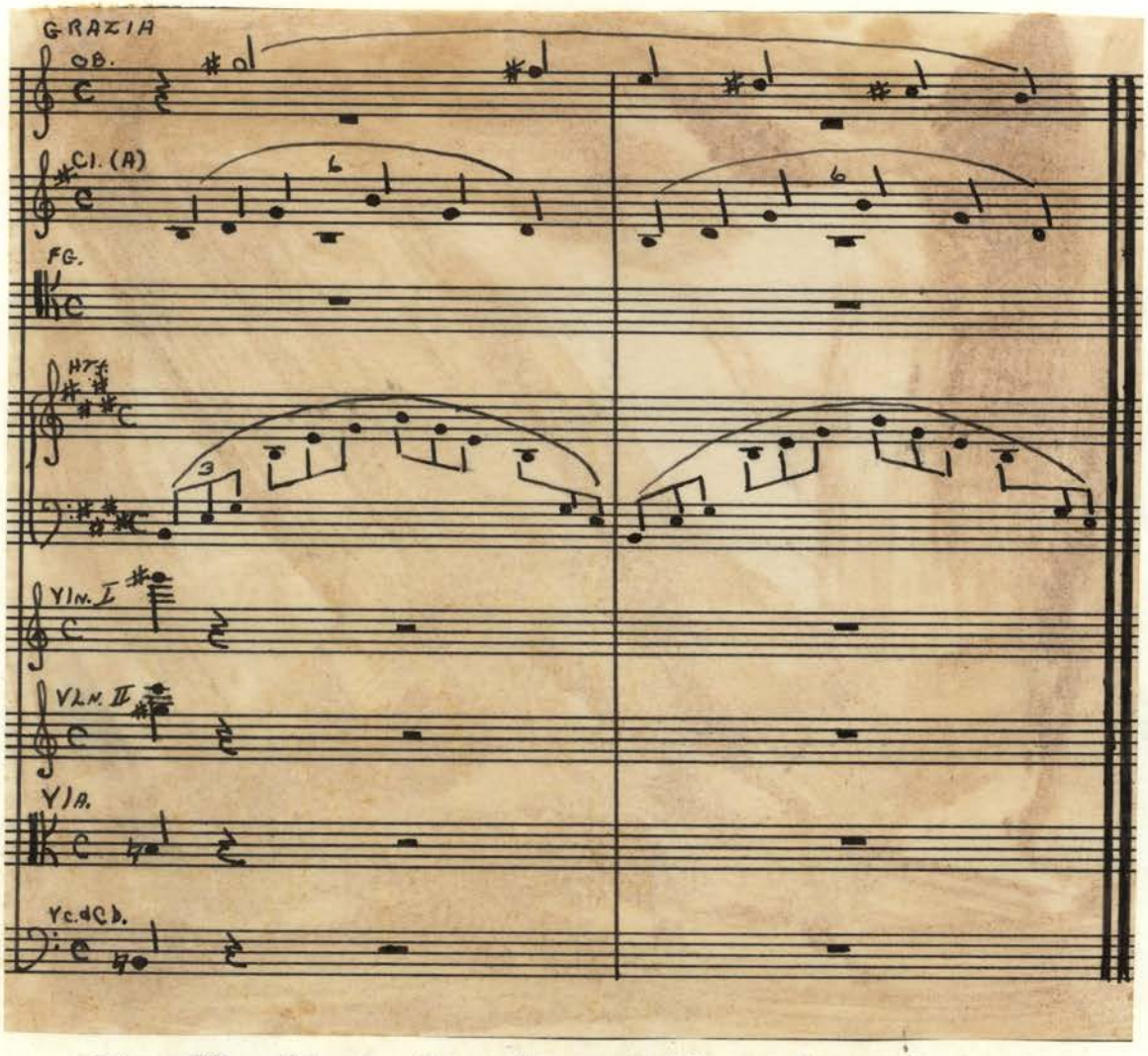

Fig. 77.--Liszt, Ce qu'on entend sur la montagne, measures 676-677.

The arpeggio accompaniment in this passage (Fig. 77) is supplied by the clarinet and the harp. The eighth-note triplets, played by the harp, and the quarter-note triplets, supplied by the clarinet, together with the solo of the oboe, illustrate Liszt's desire for effect in his orchestrations, as well as the unusual doublings he employed.

An interesting use of the "chalumeau" register is also found in this same symphonic poem:

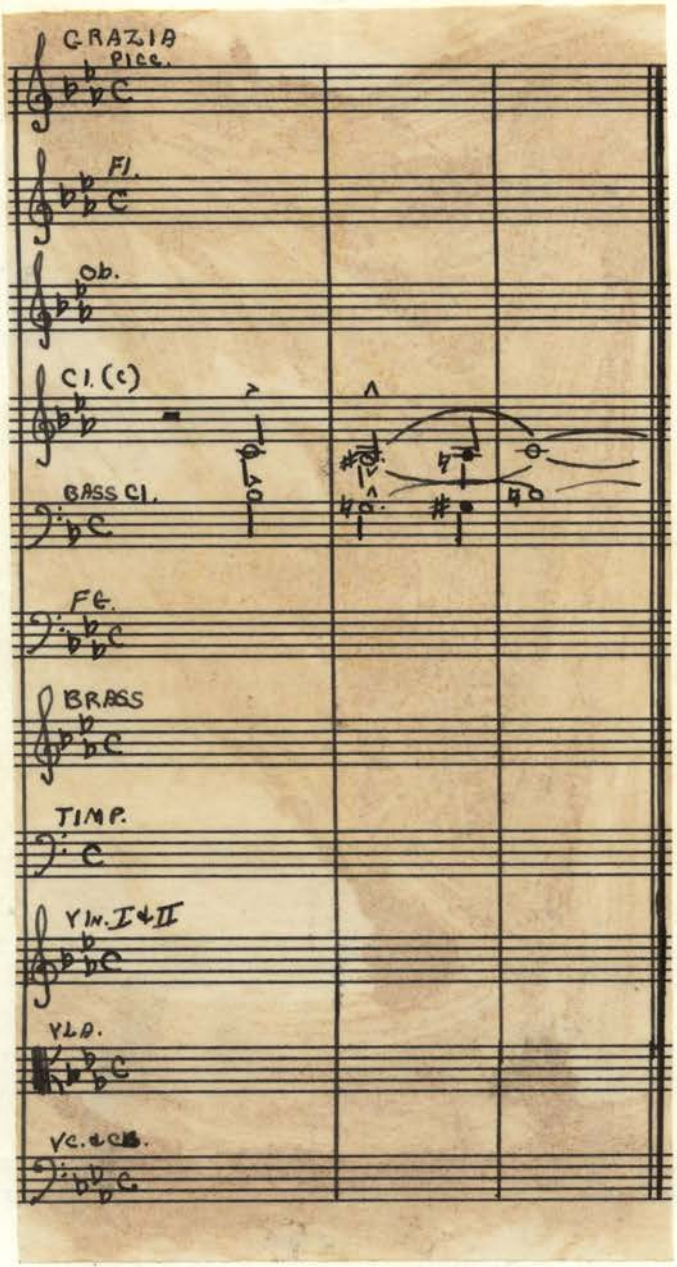

Fig. 78.--Liszt, Ce qu'on entend sur la montagne, measures 746-748.

It should be noted that: (1) the clarinet and the bass clarinet are doubled in octaves; (2) the notes of each instrument are to be heavily accented; and (3) the passage is unaccompanied. Unaccompanied clarinet passages were characteristic of Wagner's music (see ante Fig. 68, p. 111), and their employment here is no doubt the result of Wagner's influence.

Another example illustrating the use of unaccompanied wood-winds is found in Les Preludes (1850):

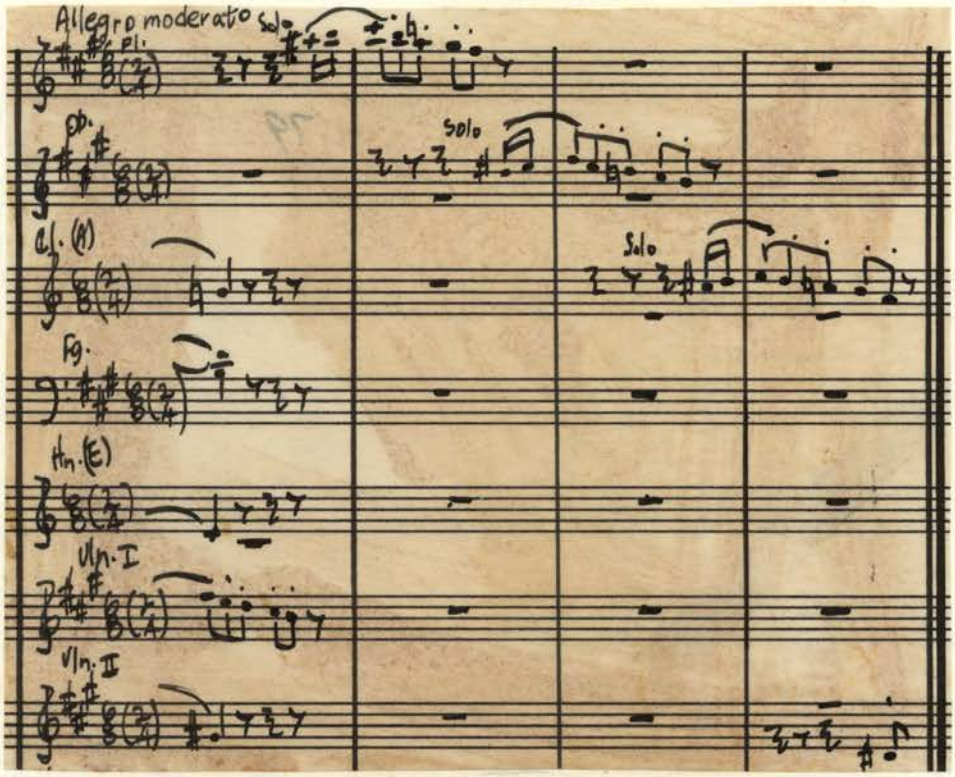

Fig. 79.--Liszt, Les Preludes, measures 251-254

This also shows the flute, the oboe, and the clarinet in canonic imitation, the flute passage written an octave above the solos of the oboe and the clarinet.

An interesting illustration of doublings is taken from Orpheus:

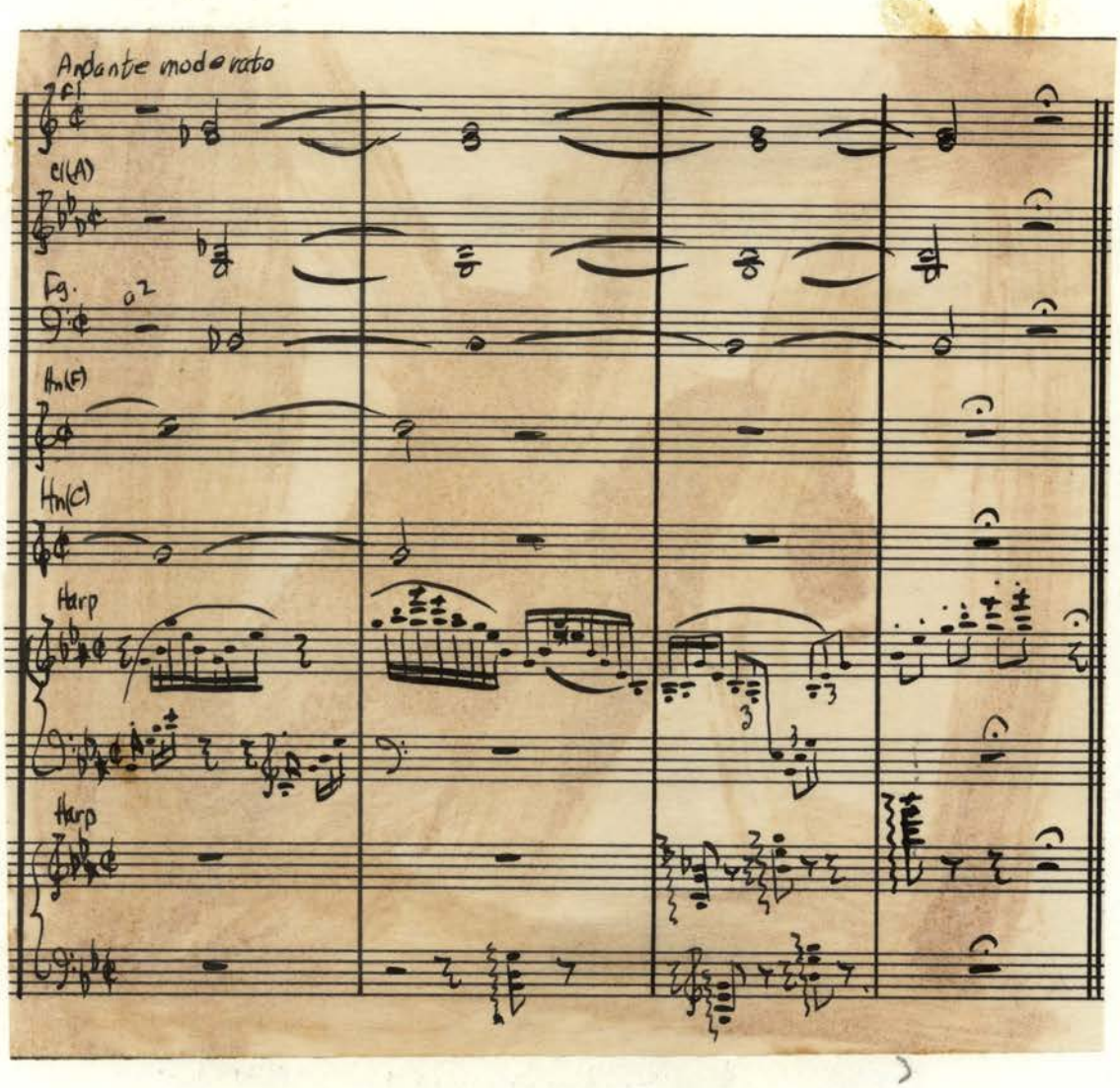

Fig. 80.--Liszt, Orpheus, measures 4-7

In this passage the first clarinet sustains an octave above the bassoons, while the second clarinet doubles the first flute and the horns at the octave; all these parts serve as accompaniment for the harp solo.

The clarinet parts of Liszt have the following characteristics: (1) they include all three registers of the clarinet (Fig. 76); (2) they double in octaves, unison, thirds, fifths and sixths with various combinations of the wood-wind and string sections (Fig. 76, 77, 78, 80); (3) they are used contrapuntally (Fig. 79); (4) they sustain (Fig. 80); (5) they employ rhythmic and melodic contrast (Figs. 76, 78); (6) they solo unaccompanied (Fig. 78); (7) they are written in arpeggio accompaniment (Fig. 77); and (8) they were written in colorful phrases (Figs. 76, 78).

Clarinet parts of this period: (1) became more complex as the key mechanisms were improved; (2) exploited all three ranges of the instrument; (3) expanded to include the addition of the bass clarinet; (4) were doubled with those of the other wood-winds, the strings, and the horns; (5) included more solo passages than the previous period; (6) were written in a wider key-range; (7) required a variety of tone colors; and (8) contributed, as a result of the improved key mechanisms, to the general sound and blend of the wood-wind section in both harmonic and melodic passages.

CHAPTER VI

THE PERIOD FROM BRAHMS TO RIMSKY-KORSAKOV

The influende of Richard Wagner's orchestration was reflected in a majority of the symphonic compositions of the latter part of the nineteenth century. Wagner had scored his compositions in a manner that required more technical skill on the part of the individual musicians and thus raised the standard of execution among the orchestral players of this period.[1]

The Boehm-system clarinet appeared in some of the better orchestras, and the revised key mechanism aided in general facility and in playing high notes with greater ease, as well as rendering trills and shakes that heretofore had been either difficult or impossible.[2]

Johannes Brahms

Johannes Brahms (1833-1897), in his treatment of the clarinet, reverted to some of the methods employed by Beethoven (see ante Chapter III, p. 70).

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[1] Carse, History of Orchestration, p. 294.

[2] Ibid., p. 292.

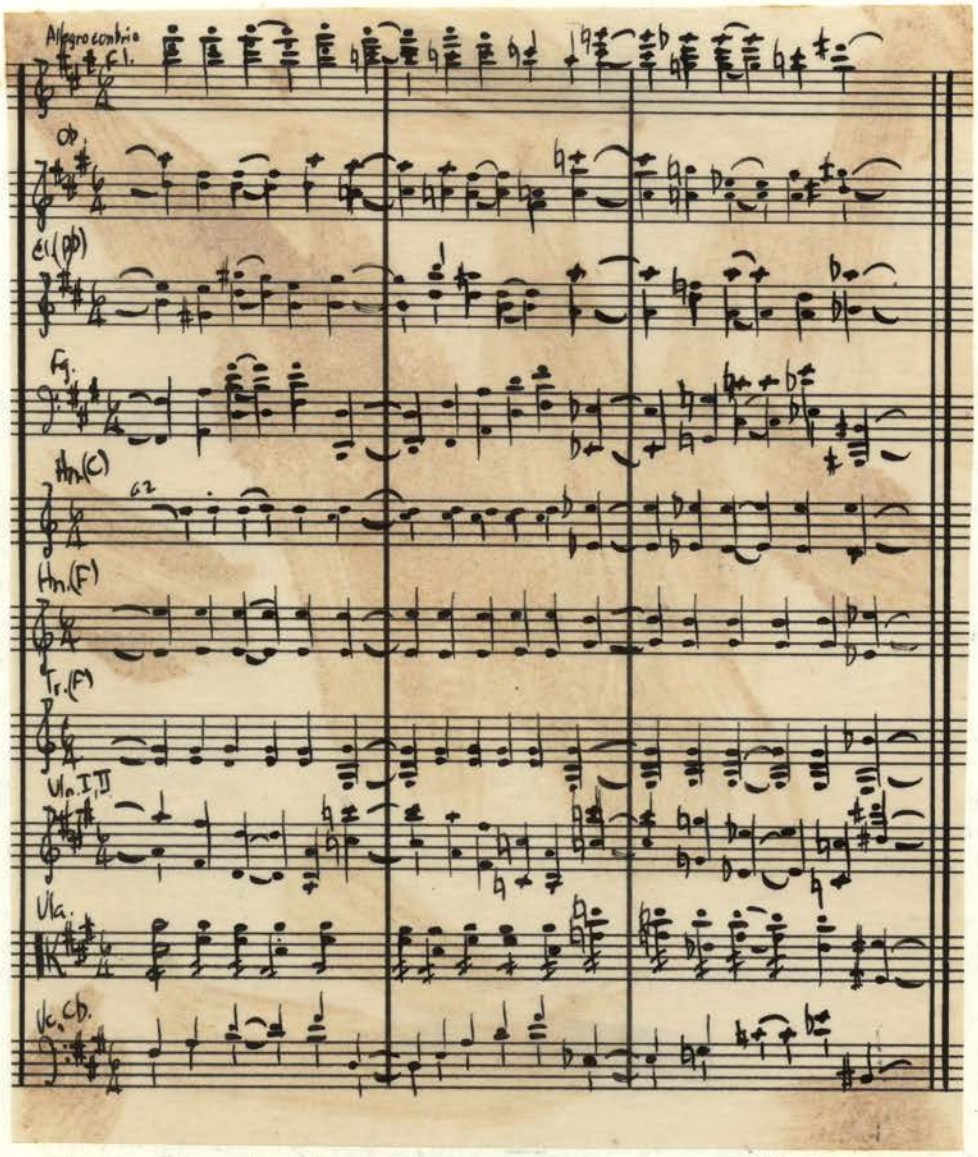

Fig. 81.--Brahms, Symphony No. 3, (1883), first movement, measures 73-76.

In this tutti passage the clarinets sustain in the inner voices of the chord. The first clarinet doubles the flute an octave below, and the second clarinet doubles the oboe.

At the same time both of the notes of the clarinets are doubled by the horns.

An example of Brahms' scoring for the clarinet that is not characteristic of Beethoven is also from the third symphony (Fig. 82):

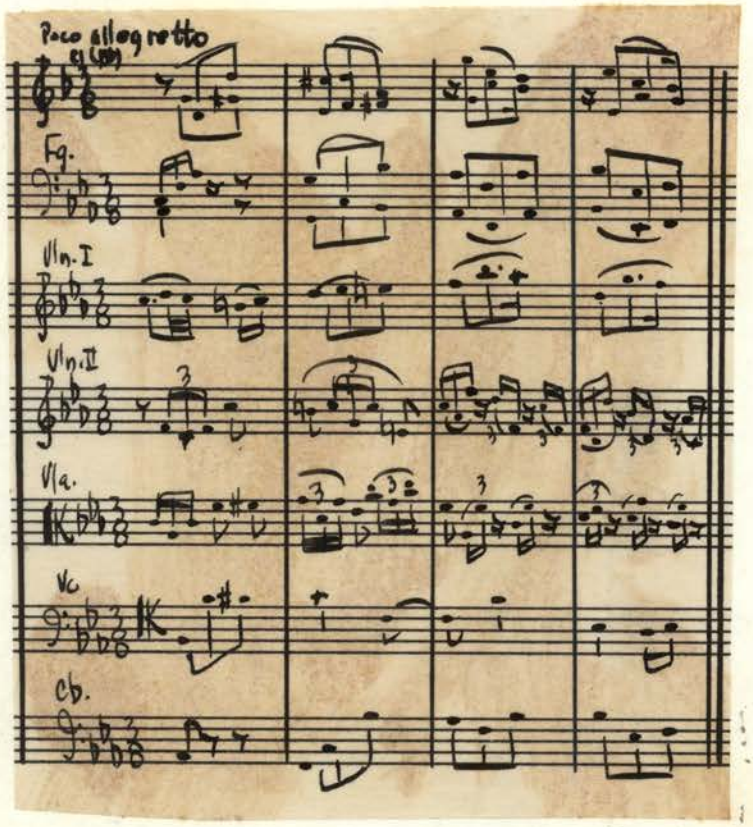

Fig. 82.--Brahms, Symphony No. 3, third movement, measures 19-23.

This figure illustrates: (1) arpeggio accompaniment in all three registers; and (2) the use of the clarinet as a solo instrument. Neither of these points of illustration is

characteristic of Beethoven's scoring for the clarinet (see ante Fig. 32, p. 63).

In his second symphony (1877) Brahms shows an example of contrast (Fig. 83):

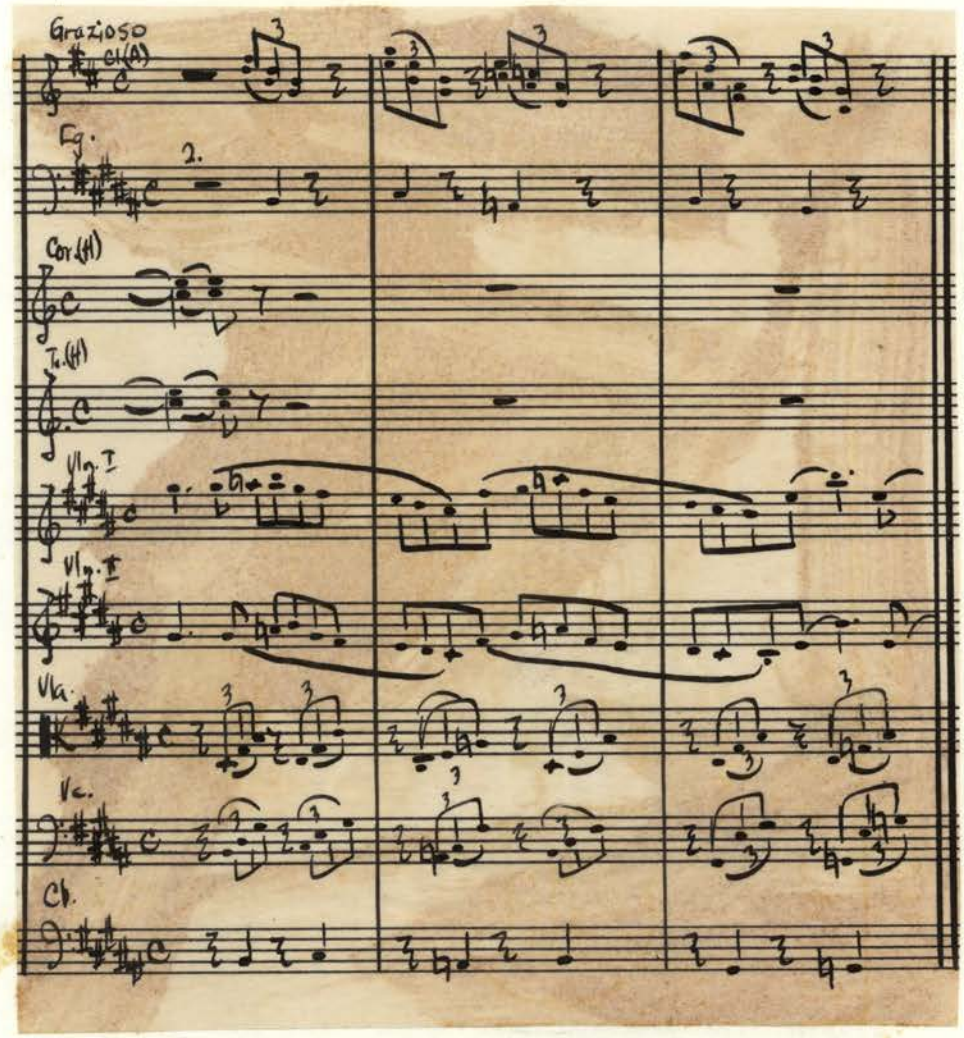

Fig. 83.--Brahms, Symphony No. 2, second movement, measures 73-75.

In this illustration Brahms alternates the viola and cello (in octaves) with the clarinets (in thirds) in the arpeggio accompaniment.

Two-part sectional harmony is employed in the second symphony:

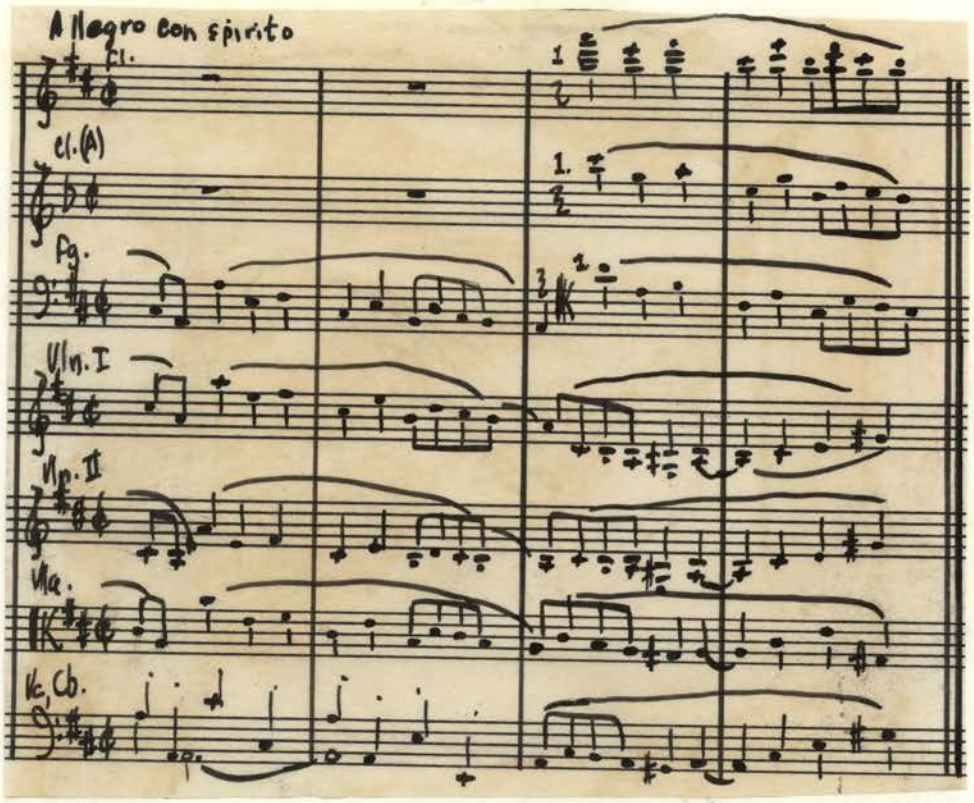

Fig. 84.--Brahms, Symphony No. 2, fourth movement, measures 11-14.

Here the flute, clarinet, and bassoon are scored in three different octaves (measures 13, 14) while working contrapuntally with the strings, which are also in octaves.

Sustaining clarinets are illustrated in the first symphony (Fig. 85):

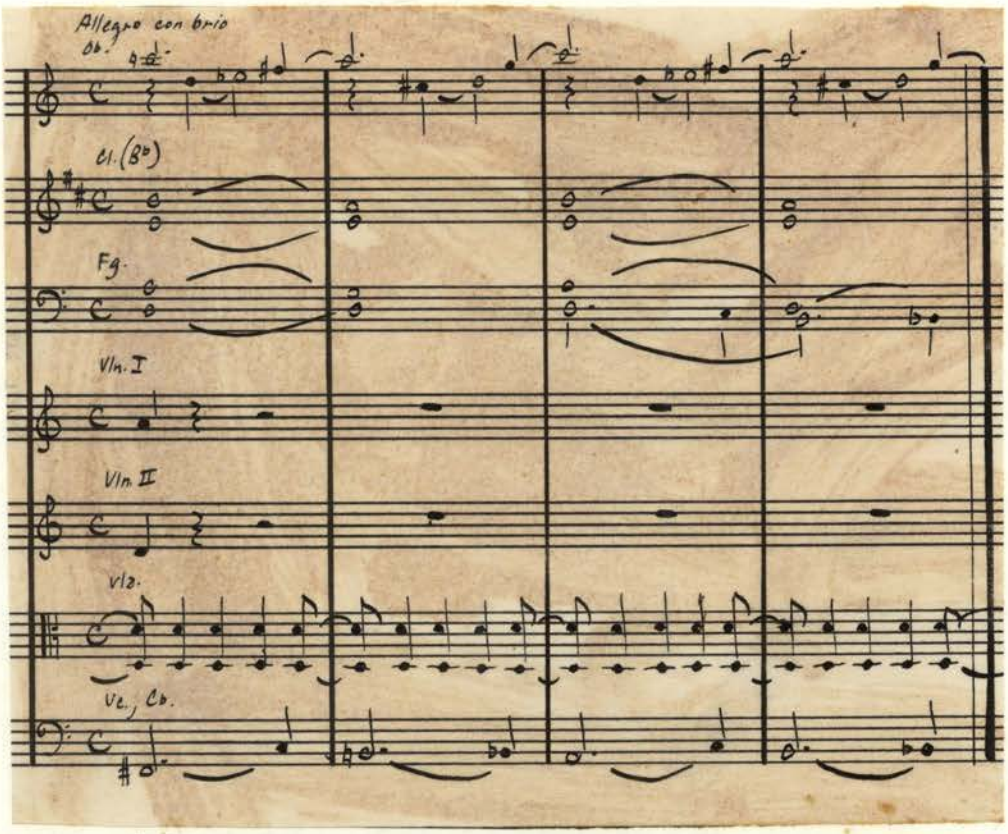

Fig. 85.--Brahms, Symphony No. 1, (1875), fourth movement, measures 136-139.

In this passage the clarinets double the bassoons (at the octave) while the oboe has the melodic line. This type of grouping (clarinet with bassoon) is characteristic of Beethoven's scoring (see ante Fig. 37, p. 69). Although the clarinets would have been written in thirds or sixths (see ante Fig. 34, p. 66) instead of fifths as they are here.

Fig. 86 shows another method of contrast characteristic of Brahms:

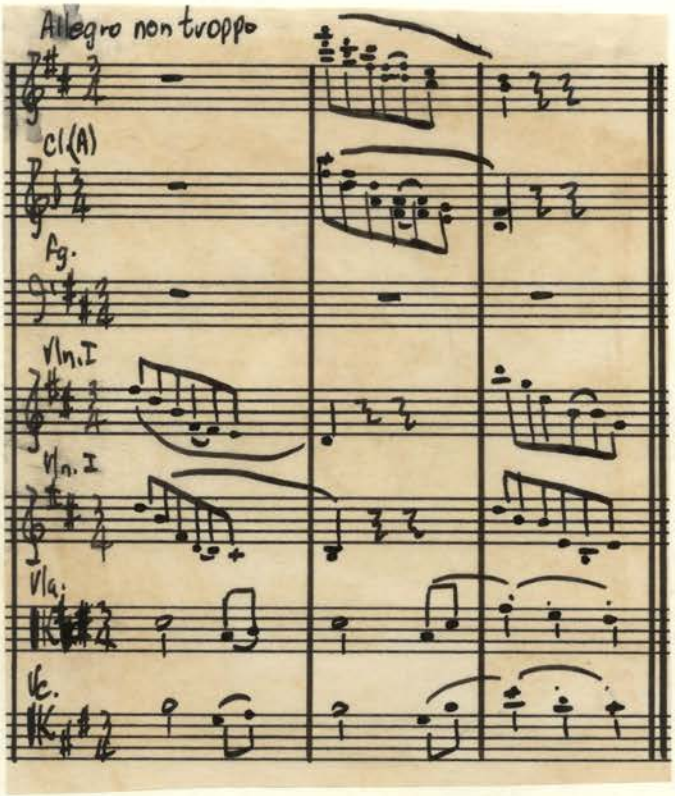

Fig. 86.--Brahms, Symphony No. 2, first movement, measures 350-352.

The flutes (in thirds) double the clarinets (in thirds) at the octave, the group used contrapuntally with the violins. Here the tied note serves to syncopate the passage, a characteristic of Brahms, but not Beethoven.

Another illustration of syncopation is:

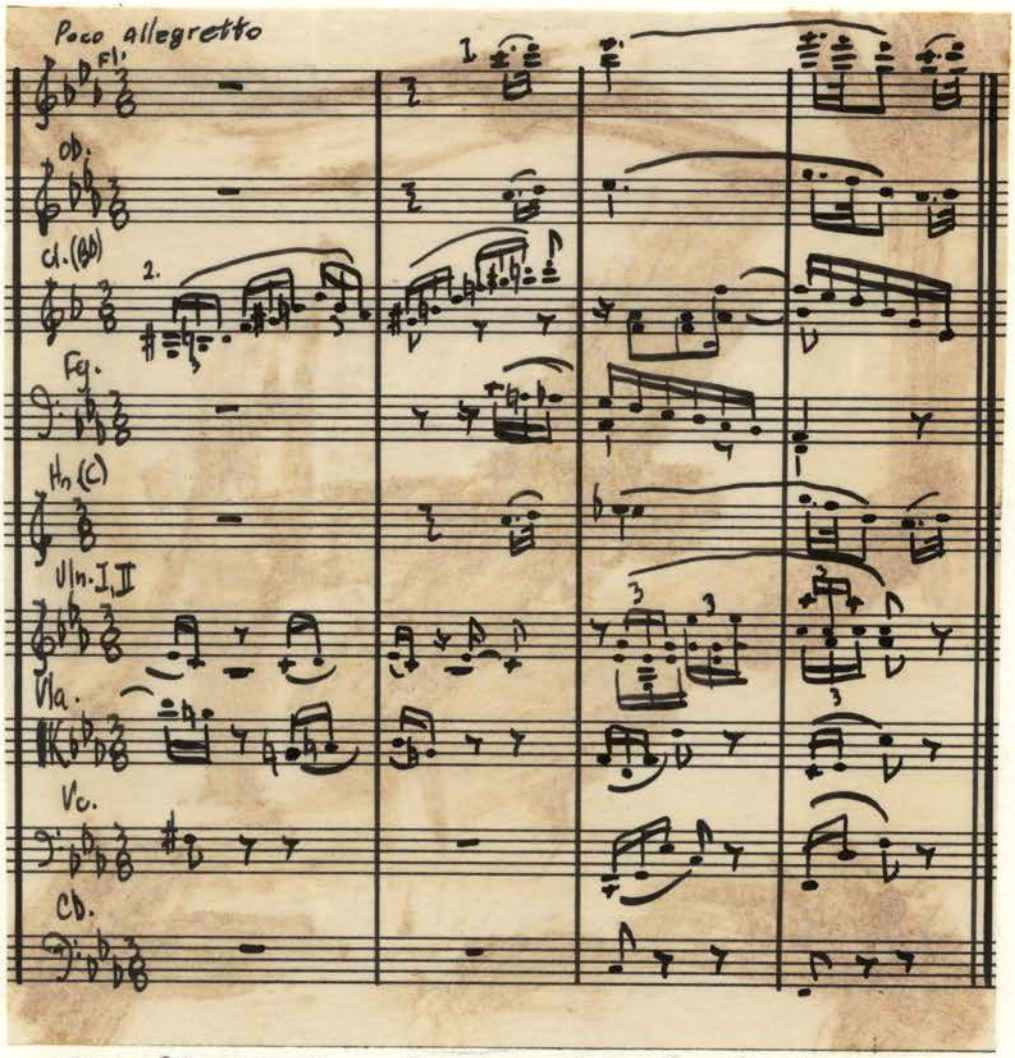

Fig. 87.--Brahms, Symphony No. 3, third movement, measures 39-42.

Aside from the use of syncopation (measure 41), the clarinet parts also illustrate: (1) the use of all three registers of the clarinet; (2) the arpeggio accompaniment; (3) the

complexity of fingerings; (4) the use of varying rhythmic patterns; and (5) clarinets scored in thirds and sixths.

Brahms gives the clarinet the solo in the following passage (Fig. 88):

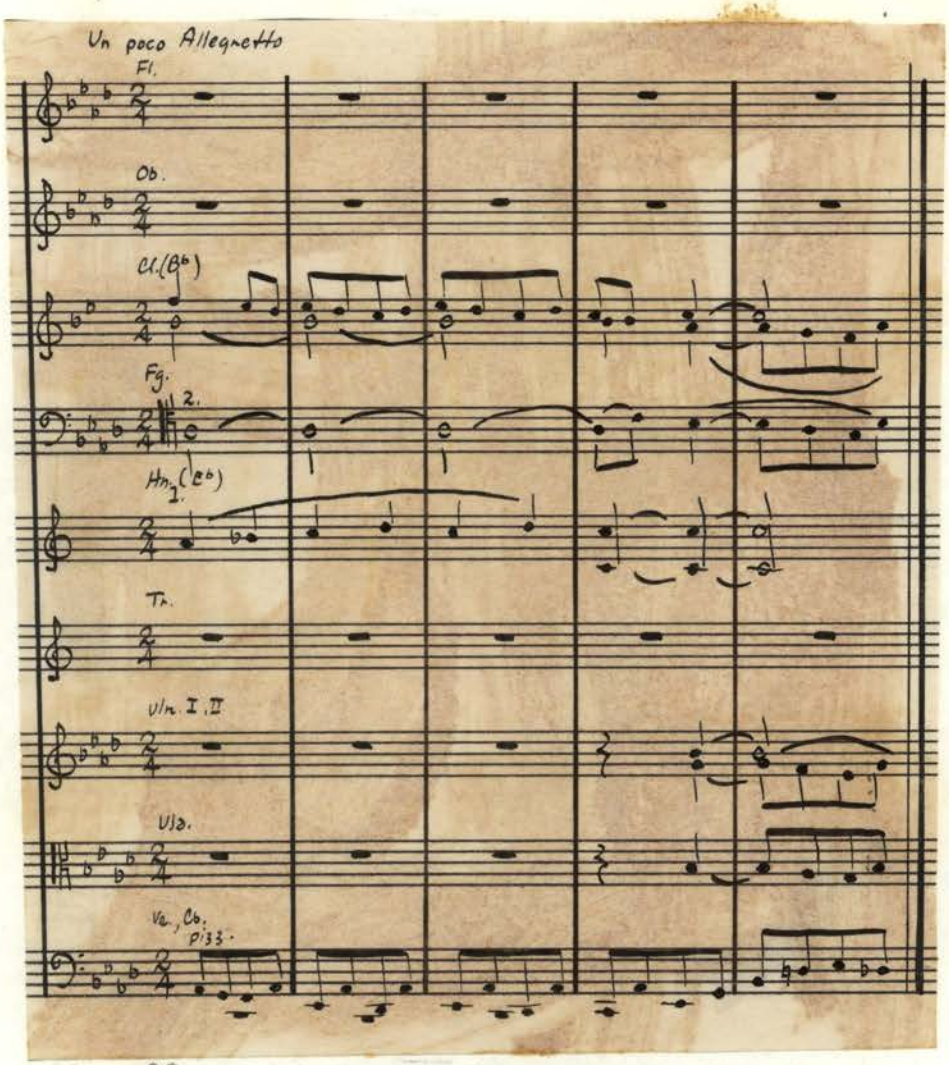

Fig. 88.--Brahms, Symphony No. 1, third movement, measures 1-5.

In this illustration the second clarinet and the second bassoon sustain in octaves. Together with the pizzicato of the cellos and the ascending passage of the first horn, they form the accompaniment for the clarinet solo.

Characteristics of the clarinet parts of Brahms are as follows: (1) they are written in the inner voices in octaves, thirds, fifths, and sixths with other wood-winds and other sections (Figs. 81, 84, 85, 86, 87); (2) they are used in arpeggio accompaniment of soloists of other sections as well as the wood-winds (Figs. 82, 83, 87); (3) they make use of all three registers (Figs. 82, 83, 87); (4) they are used contrapuntally (Figs. 84, 86); (5) they are used in various rhythmic patterns (Figs. 86, 87); (6) they are used with the wood-winds and members of other sections in illustrating passages of contrast (Figs. 83, 86); (7) they sustain (Figs. 85); (8) they are used in solo passages (Fig. 88); and (9) the parts require complex fingerings (Fig. 87).

Anton Bruckner

The influence of Wagner is illustrated in the symphonies of Anton Bruckner (1824-1896) by his use of: (1) the larger orchestra, in his later symphonies (Nos. 8, 9); (2) treatment of the separate sections; and (3) contrasts of tone-color.[3]

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[3] Ibid., p. 298.

One illustration of Bruckner's treatment of the woodwinds is found in his fourth symphony (Fig. 89):

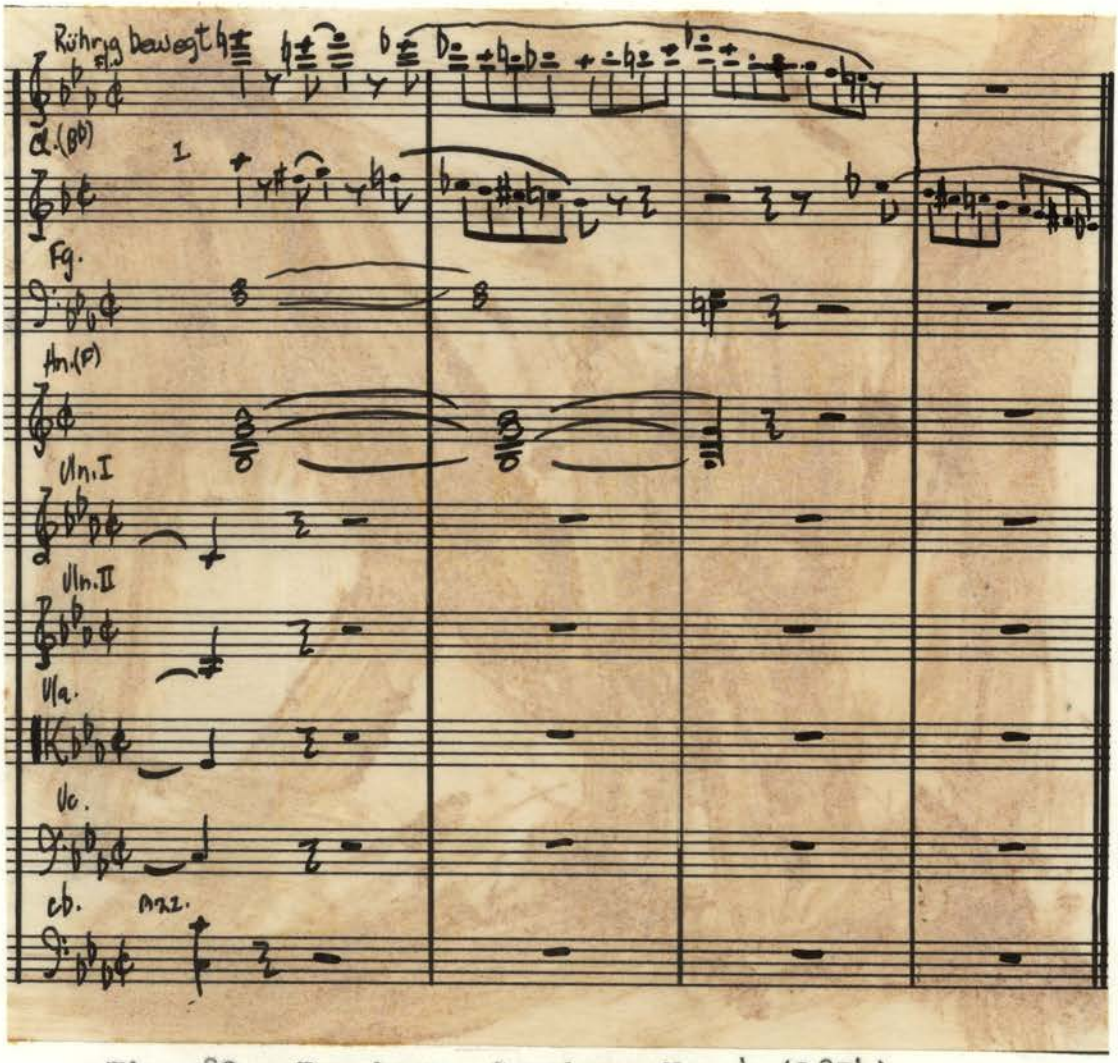

Fig. 89.--Bruckner, Symphony No. 4 (1874), first movement, measures 213-216.

The clarinet and flute, in octaves, have the melodic passage, accompanied by horns and bassoons. The unaccompanied

pianissimo solo passage of the clarinet (measure 216) contrasts with the flute solo (measures 214-215).

Another example of treating sections separately is shown in Fig. 90:

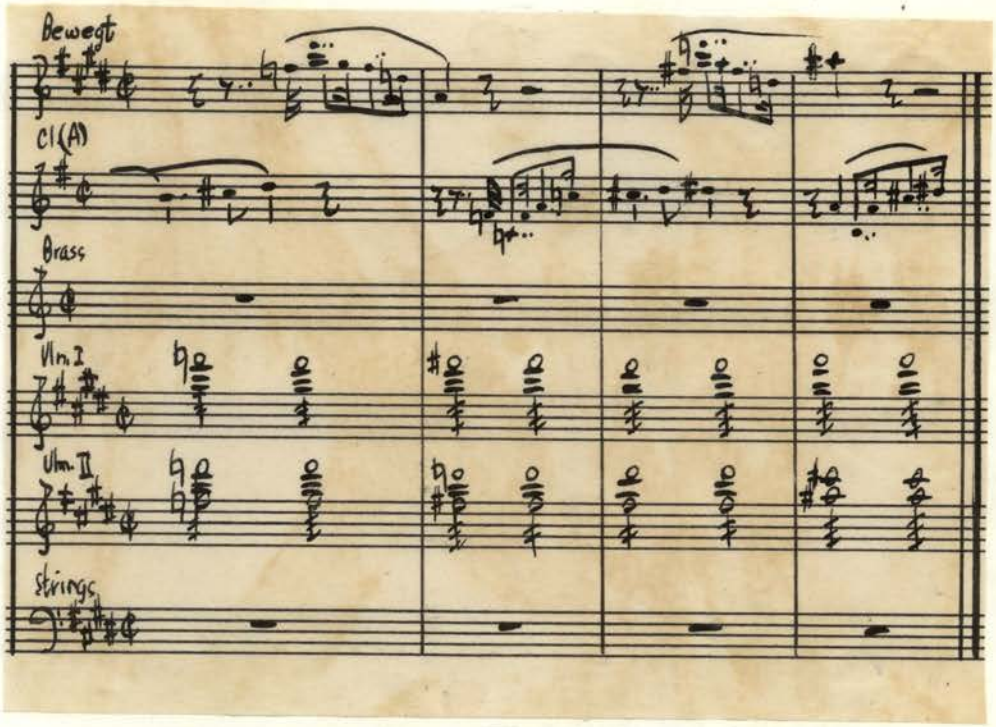

Fig. 90.--Bruckner, Symphony No. 7 (1883), fourth movement, measures 20-23.

Here we have the clarinet and the flute answering each other in solo phrases, while the tremolo strings form the accompaniment. The dynamic markings, as well as the difference of tone-qualities of the two instruments, provide contrast in this passage.

Symphony No. 8 (1885) has an illustration of the clarinet used as accompaniment to the oboe solo:

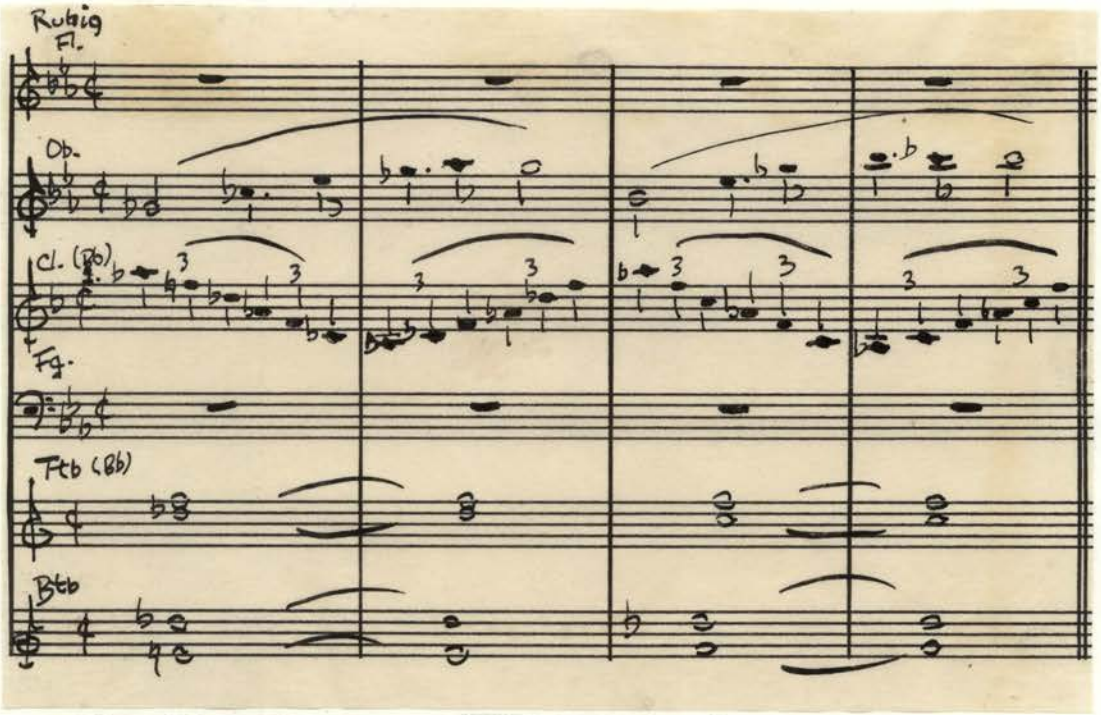

Fig. 91.--Bruckner, Symphony No. 8, first movement, measures 89-92.

The clarinet part in this passage illustrates: (1) separate treatment of sections; (2) the use of the clarinet as an accompanying instrument; (3) the use of all three registers of the clarinet; (4) a difficult arpeggio passage; (5) a contrast in dynamics; and (6) a contrast in rhythm.

Figure 92 illustrates the wood-wind section, with the exception of the bassoon, used alone:

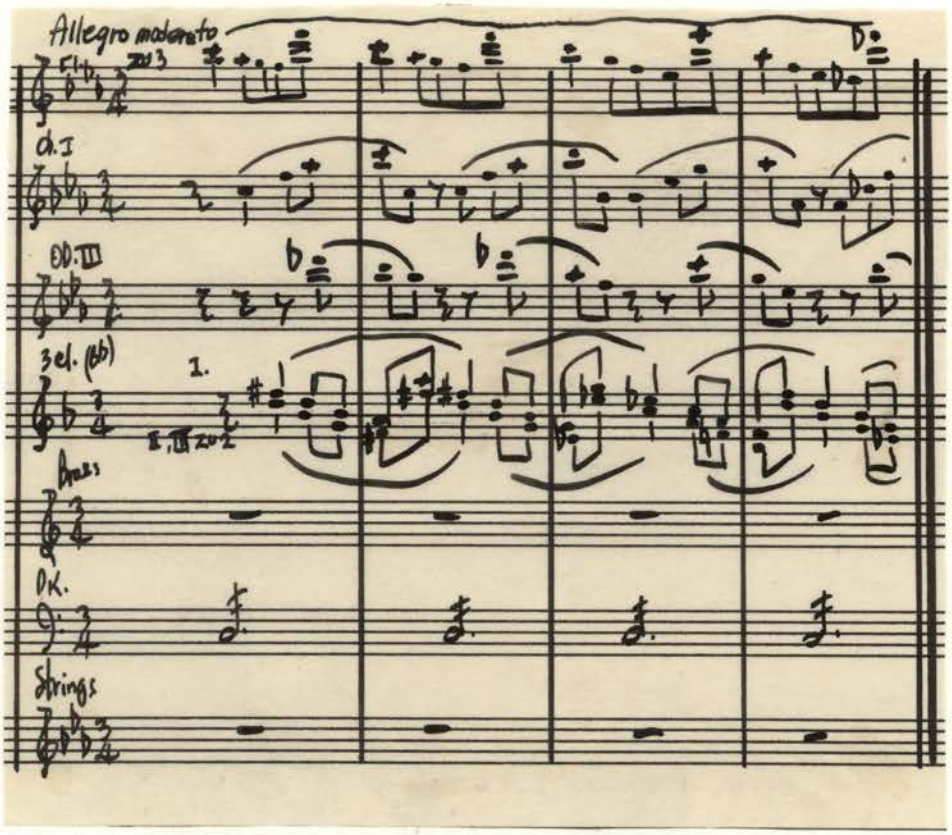

Fig. 92.--Bruckner, Symphony No. 8, second movement, measures 115-118.

Here the clarinets, written in thirds, are in counterpoint to the flute. In this symphony (as in the ninth) Bruckner scores for three clarinets, but in this particular passage the first clarinet is silent. The clarinet parts are written pianissimo to prevent them from masking the flute solo.

Another illustration of Bruckner's treatment of the wood-wind section is:

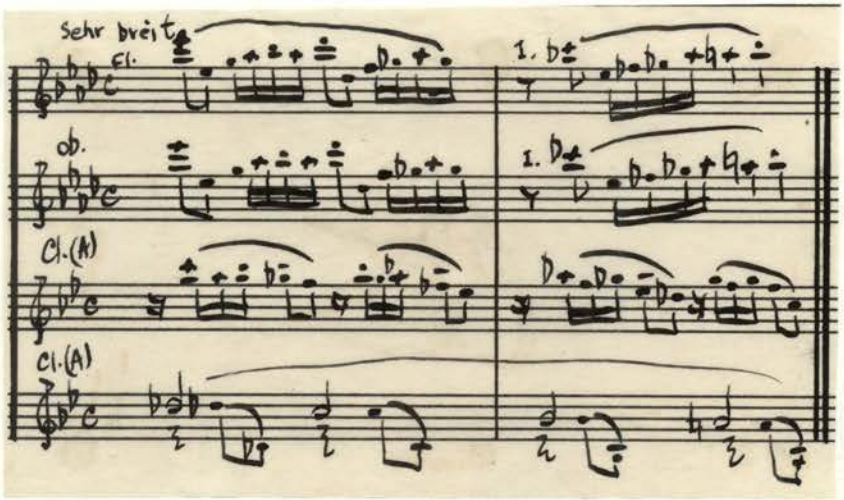

Fig. 93.--Bruckner, Symphony No. 9 (1894), third movement, measures 49-50.

This also serves to illustrate the use of three B flat clarinets. The counter-melody of the first clarinet is accompanied by a sustained counter-melody for the second clarinet, which in turn is echoed by a counter-melody, with octave leaps played by the third clarinet. All these melodies serve as counterpoint to the doubled melody of the flute and oboe.

Bruckner used the clarinet in the following manner: (1) in counterpoint with other clarinets, other wood-winds, and other sections (Figs. 90, 92, 93); (2) in unaccompanied

solo passages (Fig. 89); (3) in all three registers (Figs. 89, 90, 91, 92); (4) in accompaniments (Figs. 91, 92, 93); (5) in octaves, thirds, and sixths with other wood-winds and other sections (Figs. 89, 92); (6) in phrases employing contrast (Figs. 89, 90, 91, 92, 93); and (7) in passages using the augmented clarinet section (Fig. 93).

César Franck

Evidence of different schools of orchestration begin making their appearance at this time:

> In César Frank's orchestration, a German richness and full volume of tone is combined with the French clear colouring and distinctive grouping of instrumental voices. By concentrating melodic lines each on a different type of tone-colour, and by providing sufficient tone-quality by means of doubling in unison or octaves, Franck preserved an excellent balance and an intensity of tone . . . .[4]

In Franck's Symphony in D minor (1888) he provides illustrations characteristic of his treatment of the clarinet. In the first two measures the clarinet doubles the horn in a solo passage accompanied by strings. This illustrates his concern lest the solo instrument be overshadowed by blending too much with other members of the section or by other sections. In order to be sure that this does not happen, Franck eliminates the other voices with the exception

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[4]Carse, History of Orchestration, p. 301.

of the horn. The next two measures illustrate the unaccompanied wood-wind section, with the first clarinet on the melodic line, the second clarinet in thirds below the first,

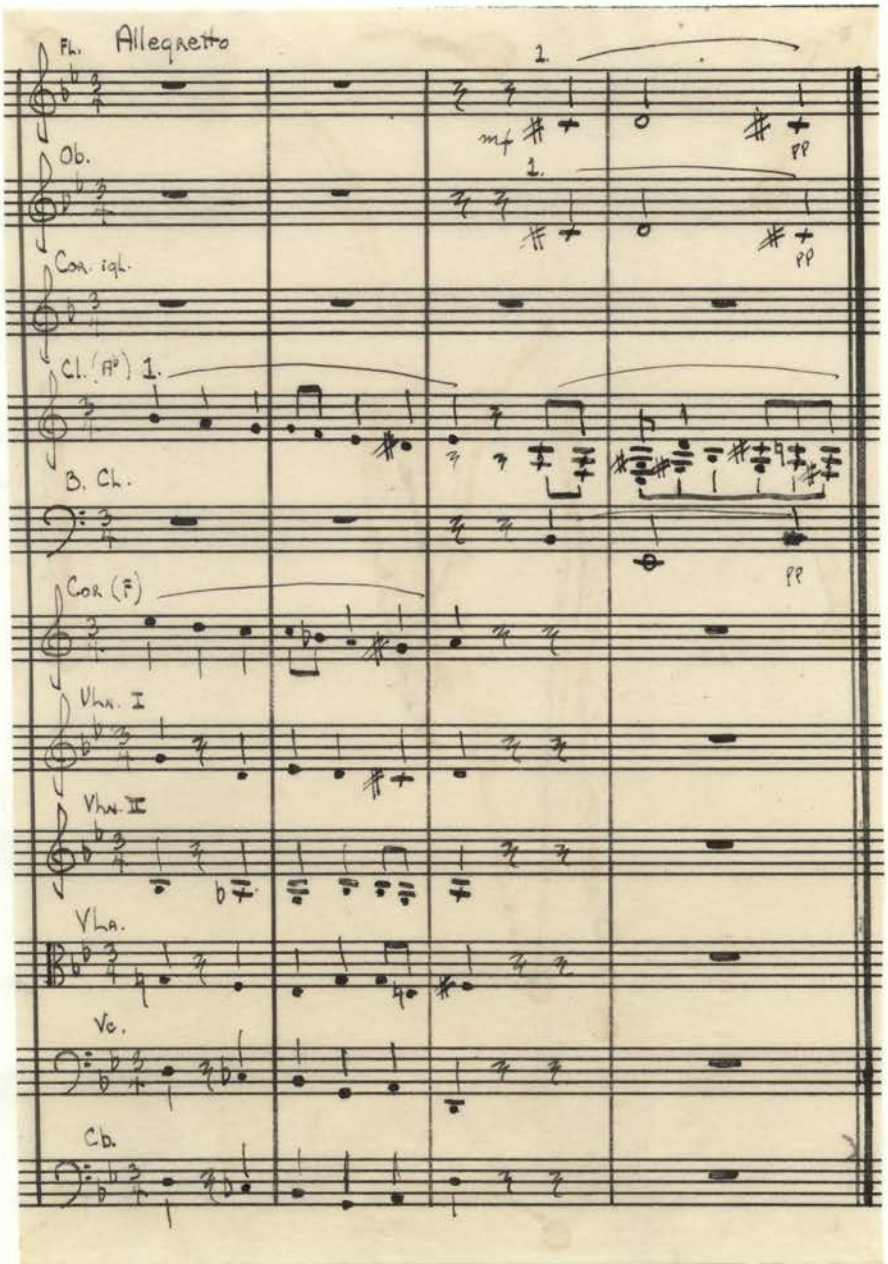

Fig. 94.--Franck, Symphony in D minor, second movement, measures 92-95.

This figure also illustrates the separate treatment of the various sections.

In Fig. 95 another example of doubling is shown:

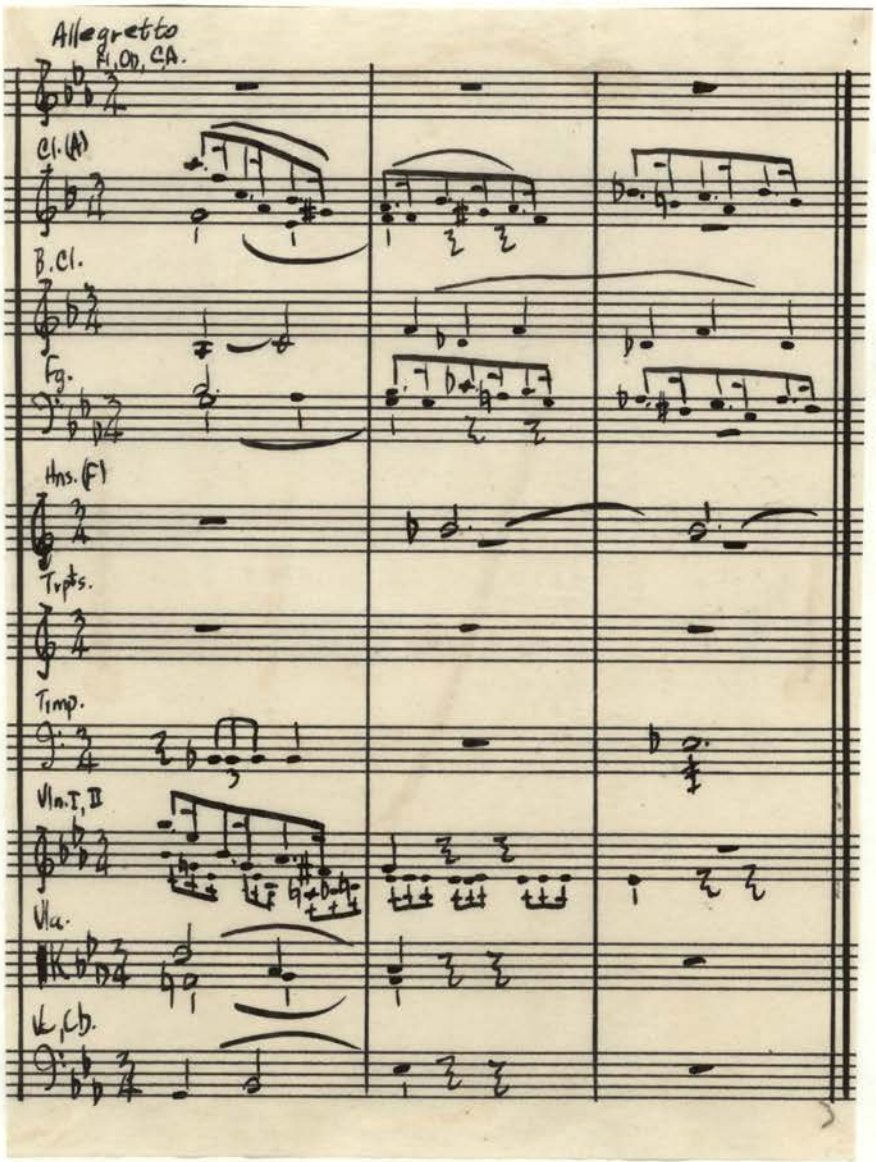

Fig. 95.--Franck, Symphony in D minor, second movement, measures 171-173.

This phrase shows the clarinet in the solo voice doubled by the strings in the first measure, while the second and third measures illustrate the clarinet written in sixths with the bassoons.

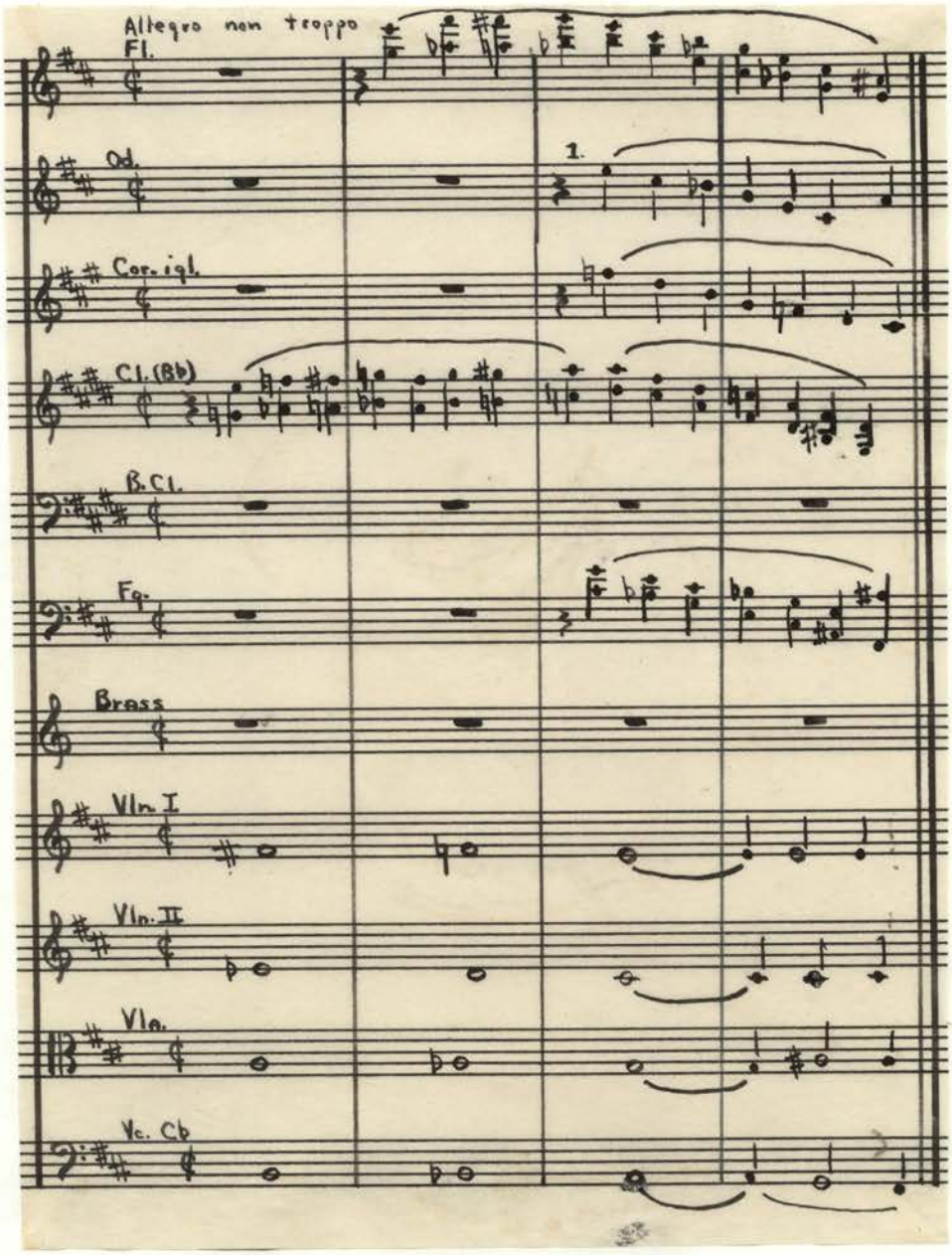

Fig. 96.--Franck, Symphony in D minor, third movement, measures 68-71.

Fig. 96 shows the wood-wind section written with the strings sustaining, as accompaniment. Clarinets in sixths, with the melodic line, move to octave doubling by the flutes (second measure) and bassoons (third measure). In the third and fourth measures these instruments are joined by the oboe and the English horn, who fill the inner voices.

An illustration of sustaining tones by the clarinets is also found in the third movement. (See Fig. 97).

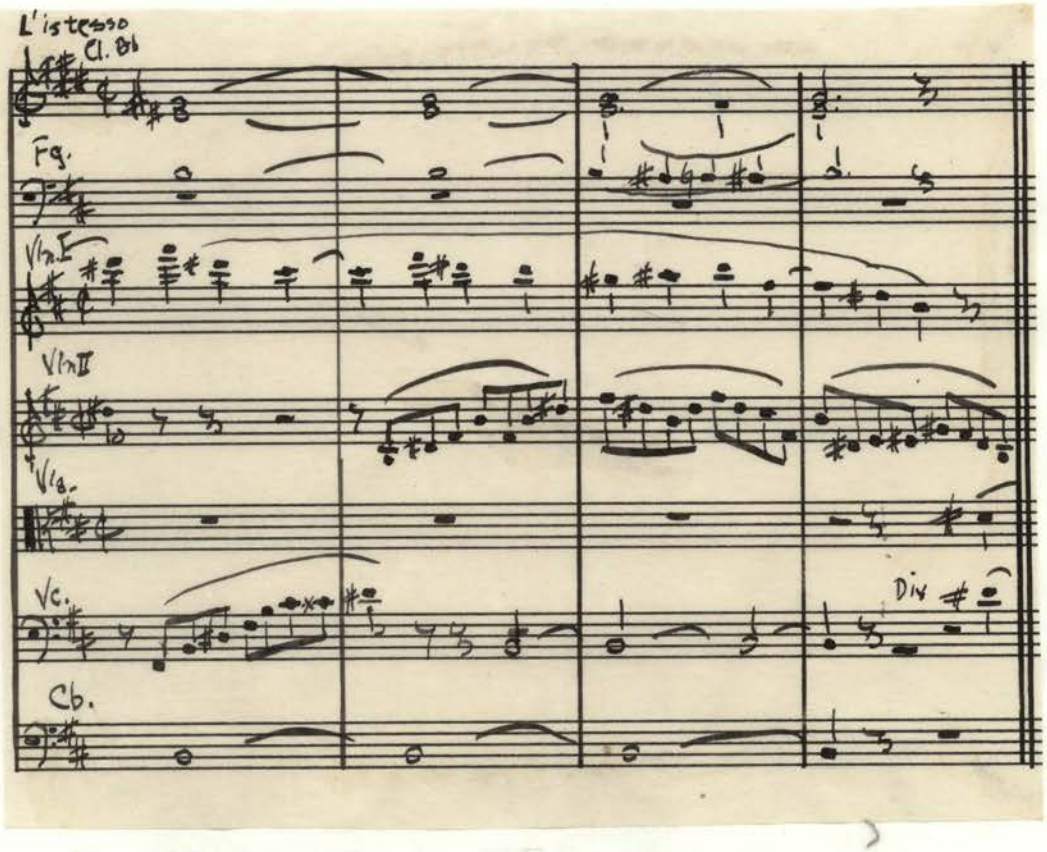

Fig. 97.--Franck, Symphony in D minor, third movement, measures 141-144.

Clarinets in thirds, with the bassoon and double bass, sustain the harmonic counter-part to the melodic passage of the violins. The bassoon and double bass double the root of the chord, while the clarinets take the inner voices (third and fifth). The clarinet has the melodic line in Fig. 98:

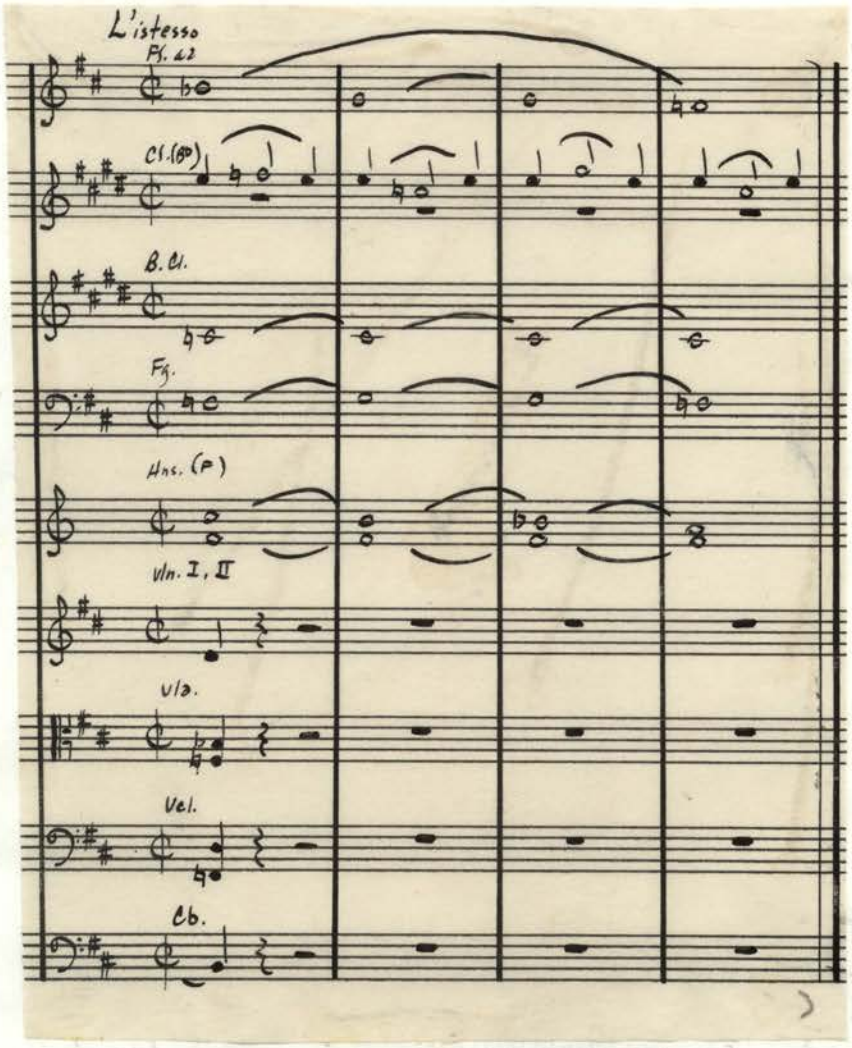

Fig. 98.--Franck, Symphony in D minor, third movement, measures 338-341.

While the wood-winds and horns sustain, the clarinets have the pianissimo passage that illustrates both the use of the clarinet in presenting thematic material and the use (characteristic of the period) of the various sections separately.

Figure 99 is an illustration of the clarinet used in counterpoint:[5]

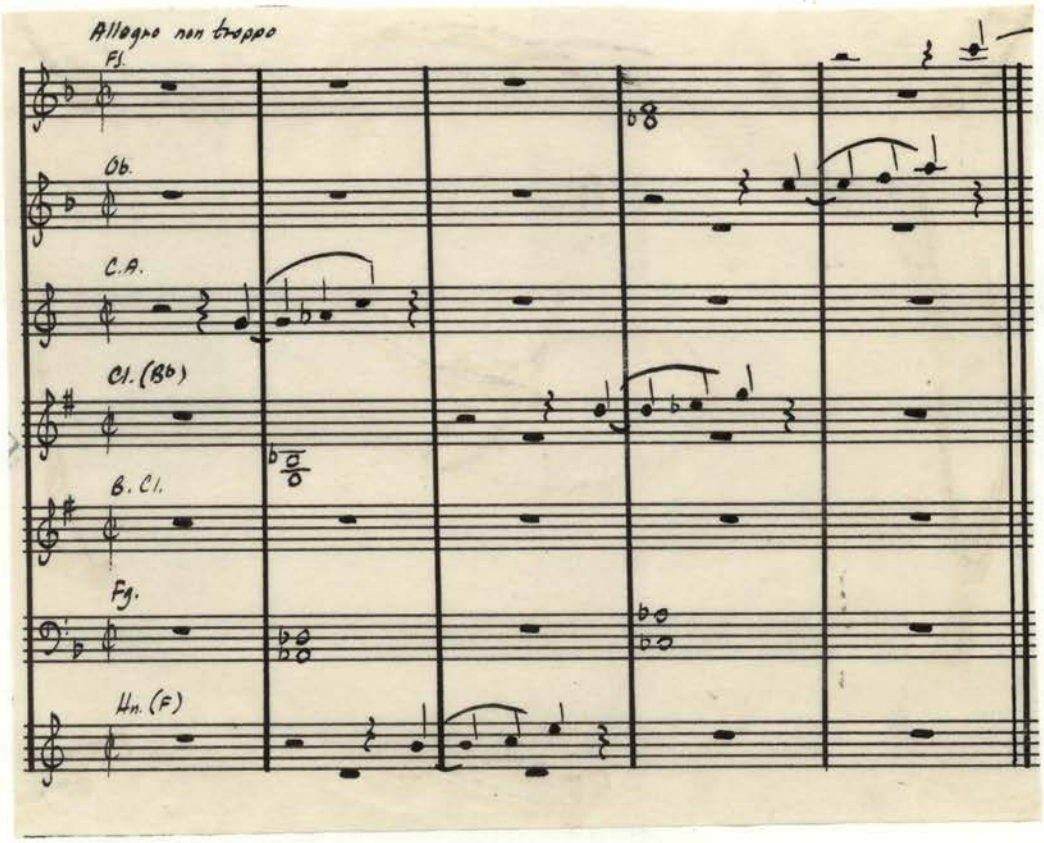

Fig. 99.--Franck, Symphony in D minor, first movement, measures 164-168.

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[5]Lack of space prohibits the inclusion of the brass (silent) and the string (sustaining) parts.

In this passage the clarinet answers the short melodic passage, presented by the English horn and the horn, while the flutes and bassoons are used to sustain.

Characteristics of Franck's clarinet parts are as follows: (1) they double with other wood-winds, horns, and strings in octaves, thirds, and sixths both melodically and in the inner voices (Figs. 94, 95, 96, 97); (2) they are used in solo passages (Figs. 94, 95, 98, 99); (3) they are used contrapuntally (Fig. 99); (4) they sustain (Fig. 97); and (5) their parts are usually simple (all illustrations).

Anton Dvorák (1841-1904)

> Pursuing a course of happy moderation between the neutral-tinted thickness of Brahms' and the more voluptuous intensity of Tschaikovsky's work, Dvorák's orchestration might well stand as representative of what would have been the normal development of the art towards the close of the nineteenth century, had no such composers as Berlioz, Wagner, and Liszt appeared on the scene . . . . In distributing his musical matter . . . Dvorák followed what was more a French, or a Russian, than a German proclivity, as is manifested by his choice of unrelated tone-colours for the various functions, melodic lines and harmonic matter.[6]

The clarinet used as a contrapuntal instrument is illustrated in the fifth symphony (New World):[7]

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[6] Ibid., p. 309.

[7] Lack of space prevents the illustration of the brass parts and other wood-wind parts (silent).

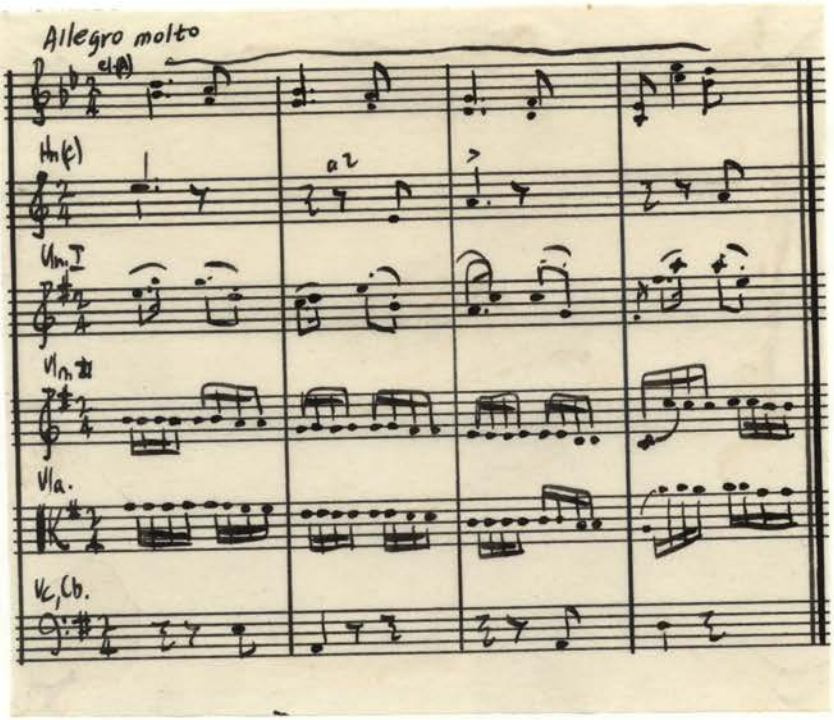

Fig. 100.--Dvorák, Symphony No. 5, (1893), first movement, measures 43-46.

In this passage the clarinets, in thirds, play a counter-melody with the violins. Note the syncopation in the last measure of the illustration.

An unusual treatment of the clarinet is shown in the next illustration. (Fig. 101). Here we have the clarinets and flutes (in octaves) performing a trill on the dotted eighth-notes of the passage.

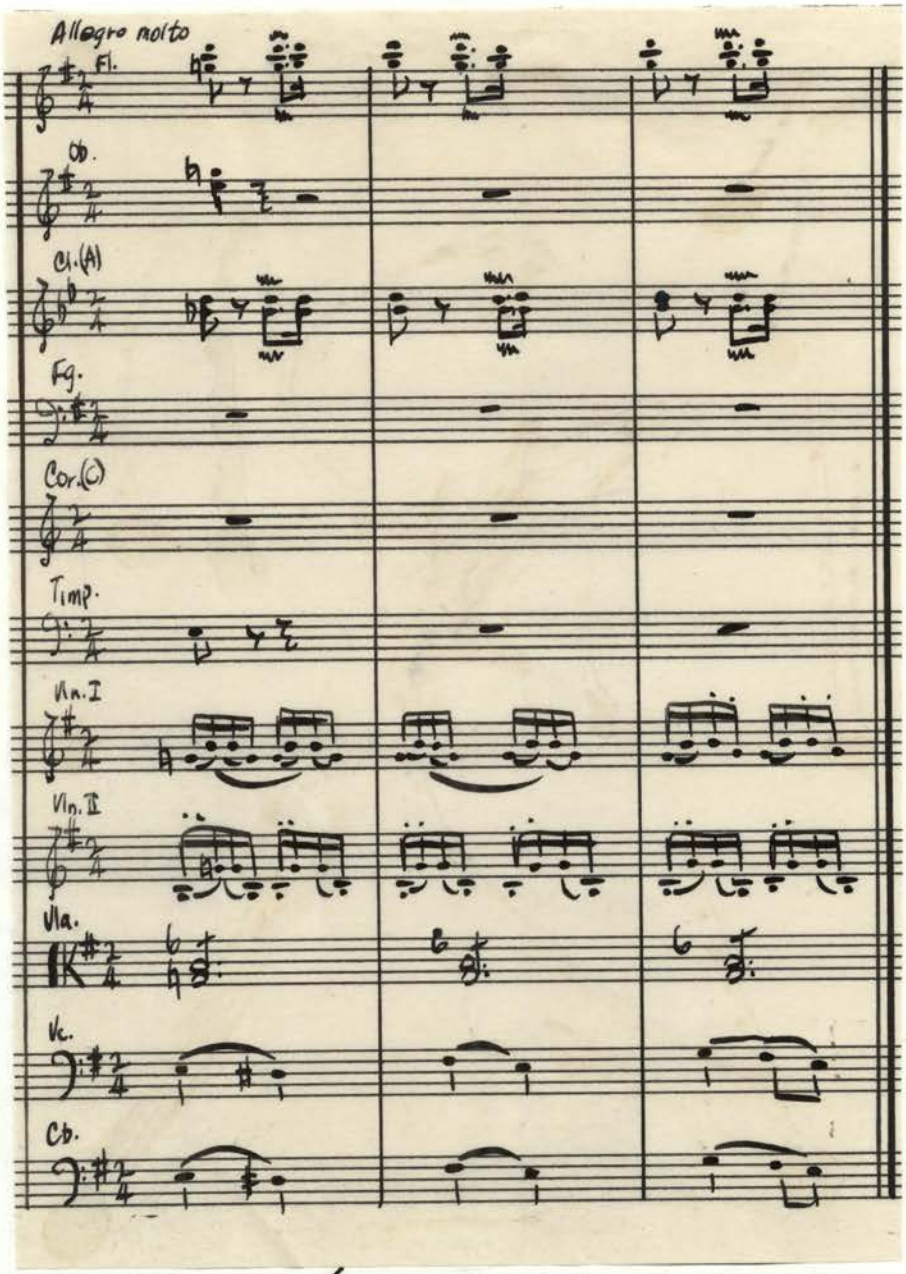

Fig. 101.--Dvorák, Symphony No. 5, first movement, measures 100-102.

Clarinets used melodically in octaves are illustrated in Fig. 102:

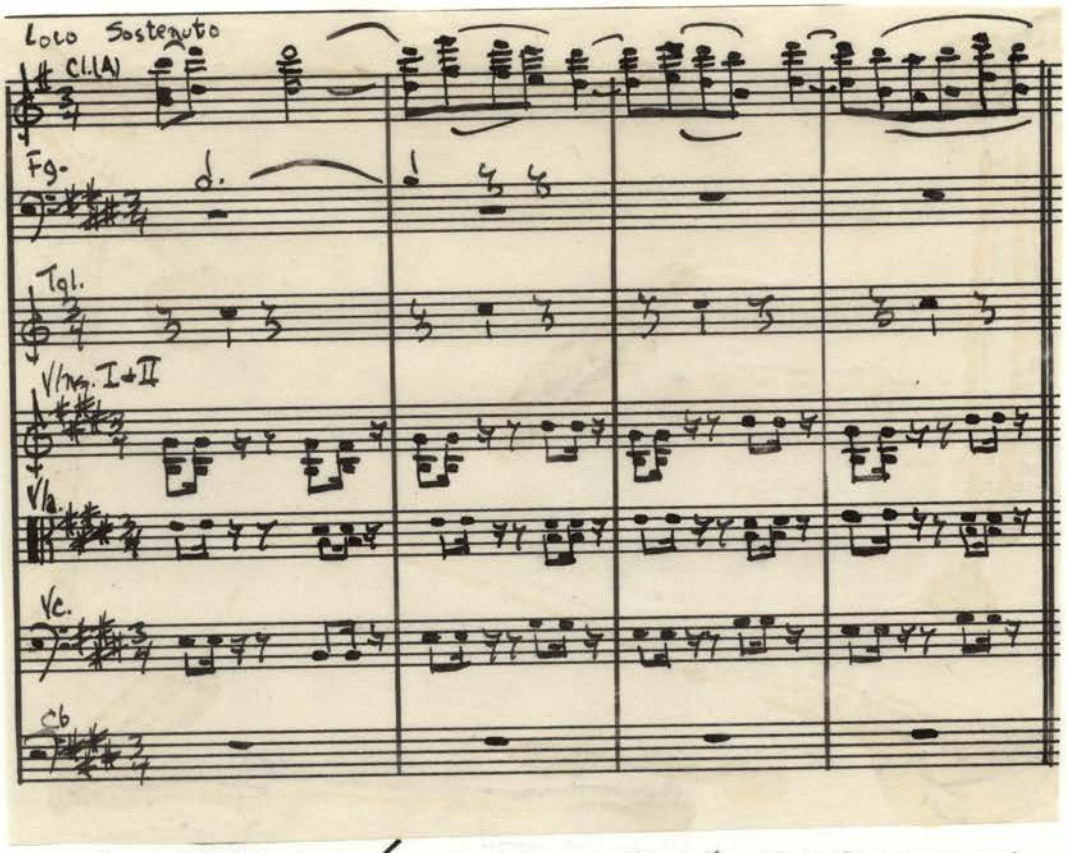

Fig. 102.--Dvořák, Symphony No. 5, third movement, measures 12-15.

This is also an illustration of the clarinets used in the "clarino" register, unusual because of the continuous use of this register in this passage. Fig. 103 illustrates the clarinet as an accompanying instrument.[8] In this passage the clarinets (in thirds) are scored in the inner voices with the flutes and bassoons. In addition it should be noted that these instruments are employed in rhythmic, as well as melodic, contrast with the string section.

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[8] The brass, cello, and bass parts are eliminated (silent here).

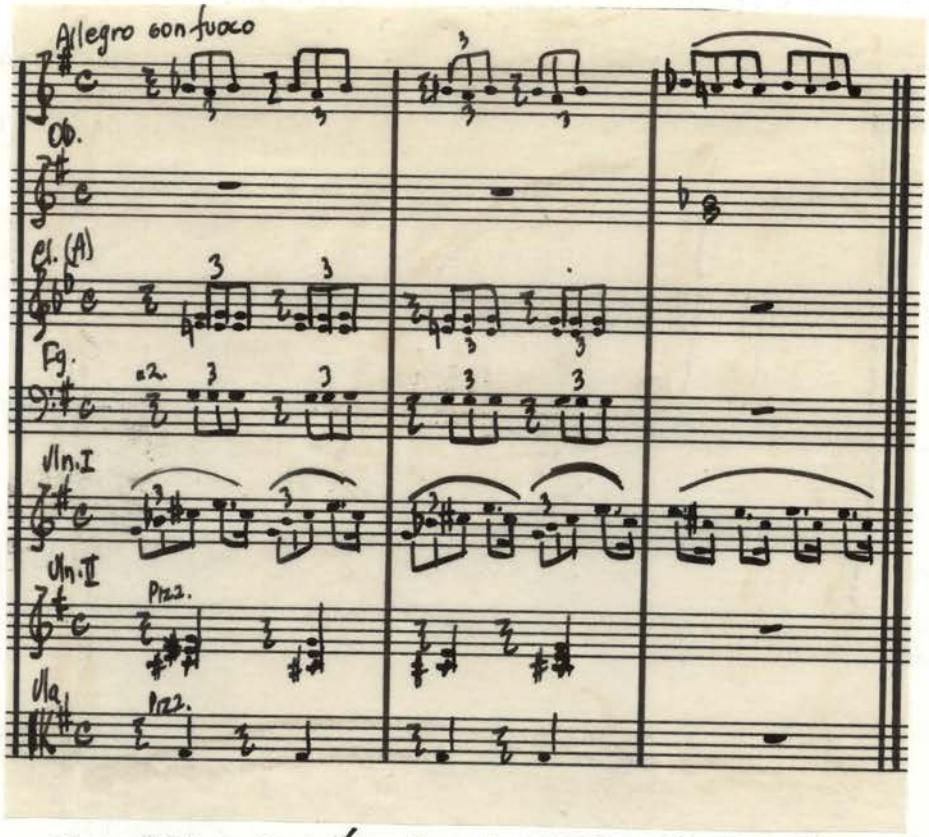

Fig. 103.--Dvorák, Symphony No. 5, fourth movement, measures 62-64.

The clarinet parts of Dvorák then have the following characteristics: (1) the clarinets are doubled in octaves, thirds, and sixths, mainly within the wood-wind section (Figs. 100, 101, 102, 103); (2) they are written in solo passages (Figs. 100, 102); (3) they are written in the inner voices (Fig. 103); (4) they are written in counterpoint (Fig. 100); (5) they are written in rhythmic and melodic contrast (Figs. 100, 103); (6) they employ unusual

figurations (Fig. 101); and (7) they employ all registers (all illustrations).

Peter Ilytch Tschaikovsky

Tschaikovsky (1840-1893) was one of the "most powerful influences in orchestration . . . [and] probably the most far-reaching since that of Wagner."[9] He was influenced by the lightness of the French school, and:

> Clear grouping of allied tone-colours in opposition to one another, rather than combinations of mixed tone-colours in co-operation with one another, was the fundamental principle on which both Russian and French orchestration was based; from his earliest to his most mature phase, Tschaikovsky remained a firm adherent to the former of these two opposing principles.[10]

An illustration of the separate treatment of the various sections is taken from the sixth symphony (1893) Fig. 104. This is an excellent example of wood-wind melody in unison and octaves, with the clarinets doubling the bassoons an octave below the oboes and flutes. The contrapuntal figure in the strings contrasts the two sections. Balance of tone is also illustrated here, with the brass playing "mp" and "p" against the "mf" of the other instruments.

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[9] Carse, History of Orchestration, p. 301.

[10] Ibid., p. 302.

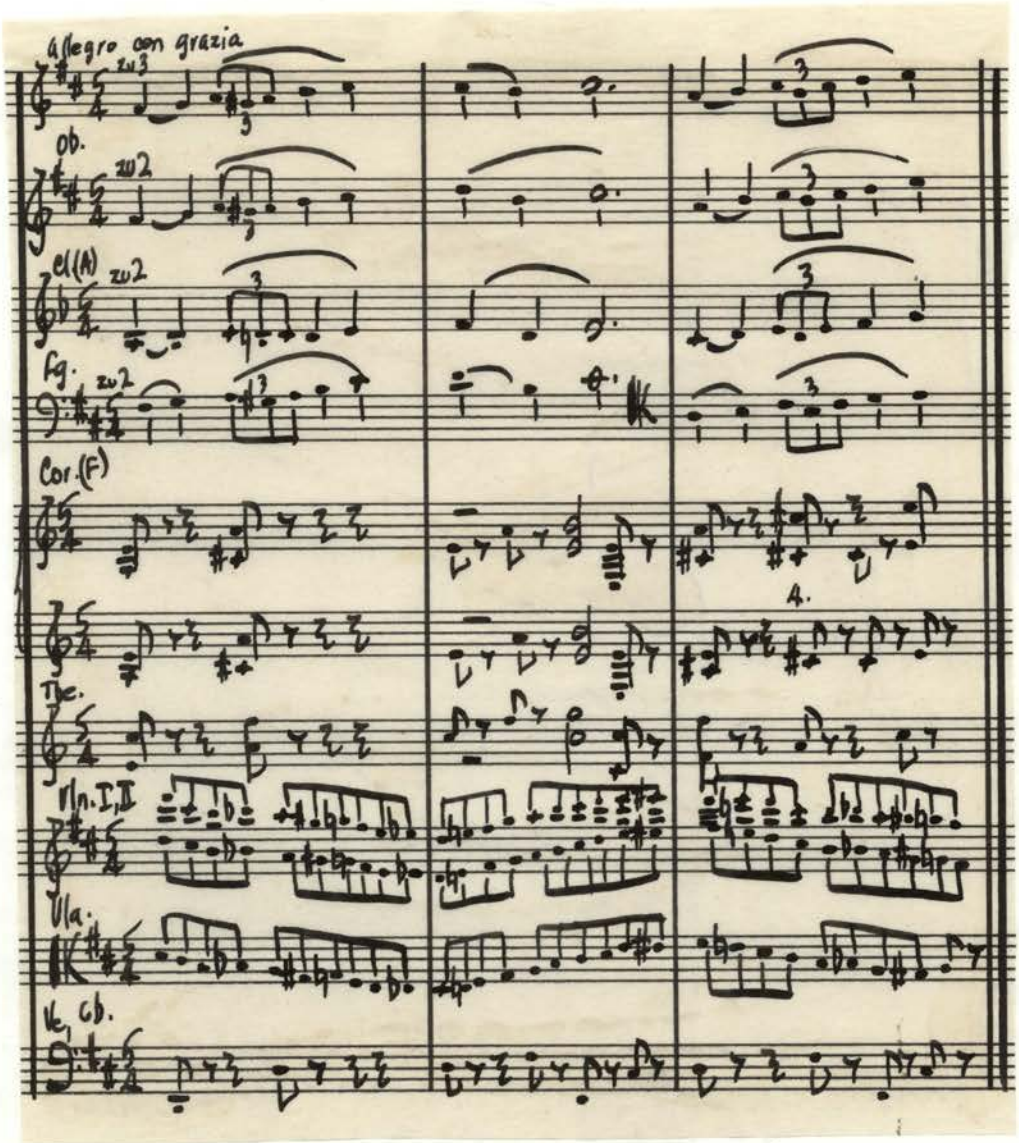

Fig. 104.--Tschaikovsky, Symphony No. 6, second movement, measures 33-36.

Fig. 105 illustrates the clarinet in a solo passage from this same symphony:

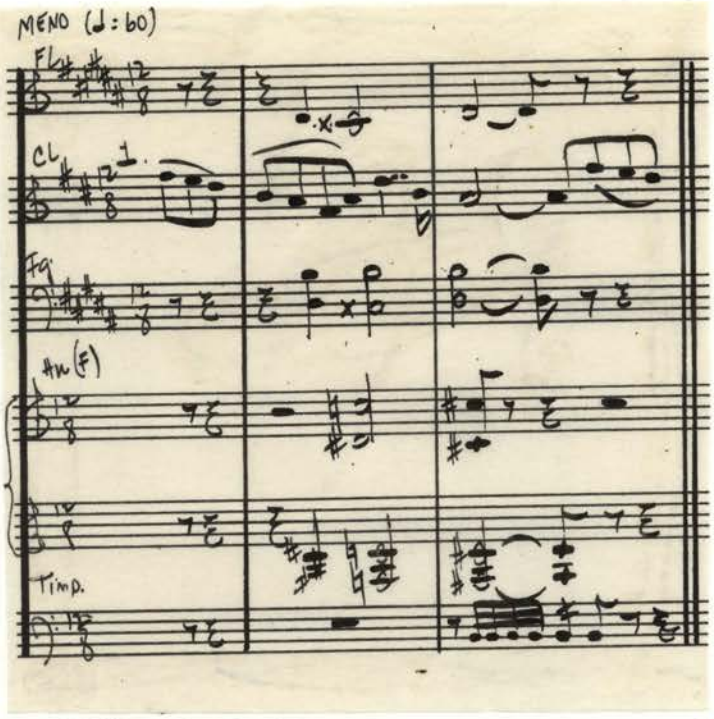

Fig. 105.--Tschaikovsky, Symphony No. 6, second movement, measures 326-328.

The return of the solo passage was selected because this example also illustrates the use of exaggerated dynamic markings. Presumably the idea here was to have the instruments play as softly as possible. The strings are silent here.

An example of contrast is also found in the sixth symphony (Fig. 106):

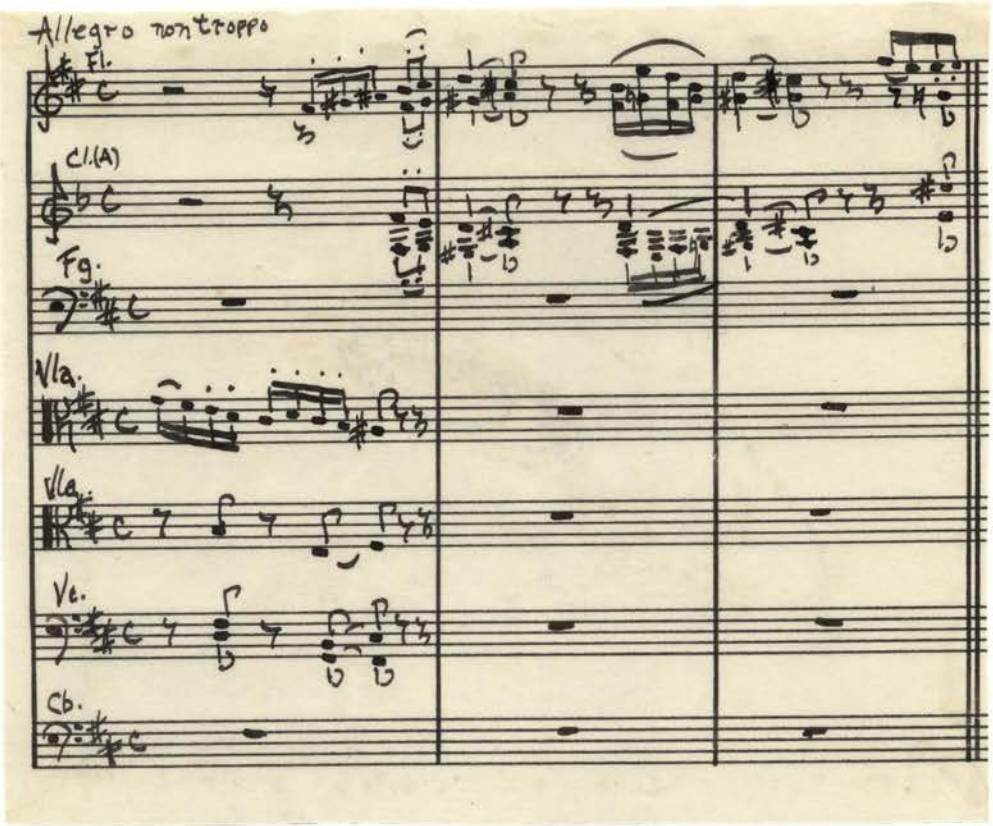

Fig. 106.--Tschaikovsky, Symphony No. 6, first movement, measures 23-27.

This passage not only illustrates the flute and clarinet in a contrapuntal passage with the strings, but it also shows the clarinets in the "chalumeau" register, with the second clarinet moving in contrary motion to the flute. The use of the "chalumeau" register is a characteristic of Tschaikovsky. Other examples of Tschaikovsky's use of the "chalumeau" register are found in Symphony No. 4 (1878), first movement (measures 297-312), and Symphony No. 6, first movement (measures 69-74).

An example of an unusual scoring for clarinets and oboes comes from the fifth symphony (Fig. 107):

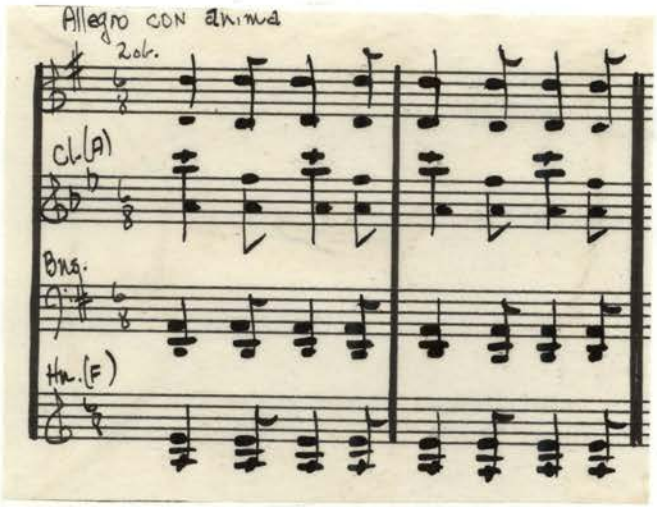

Fig. 107.--Tschaikovsky, Symphony No. 5, (1888), first movement, measures 154-155.

The usual arrangement for the scoring of oboe and clarinet parts is to have these two instruments alternate on the members of the chord as follows: 1st oboe, 1st clarinet, 2nd oboe, 2nd clarinet. However, in this passage the arrangement is reversed; the clarinets are given the first and third members of the chord, while the oboes assume the second and fourth parts, creating a very unusual sound.

Canonic effect is illustrated in Fig. 108, Tschaikovsky's Symphony No. 6. In this passage the clarinet and the bassoon are treated contrapuntally, while the strings furnish the accompaniment (the brass is silent). This is also

an example of the tendency to segregate sections in solo passages so there will be no danger of the masking of one section by another.

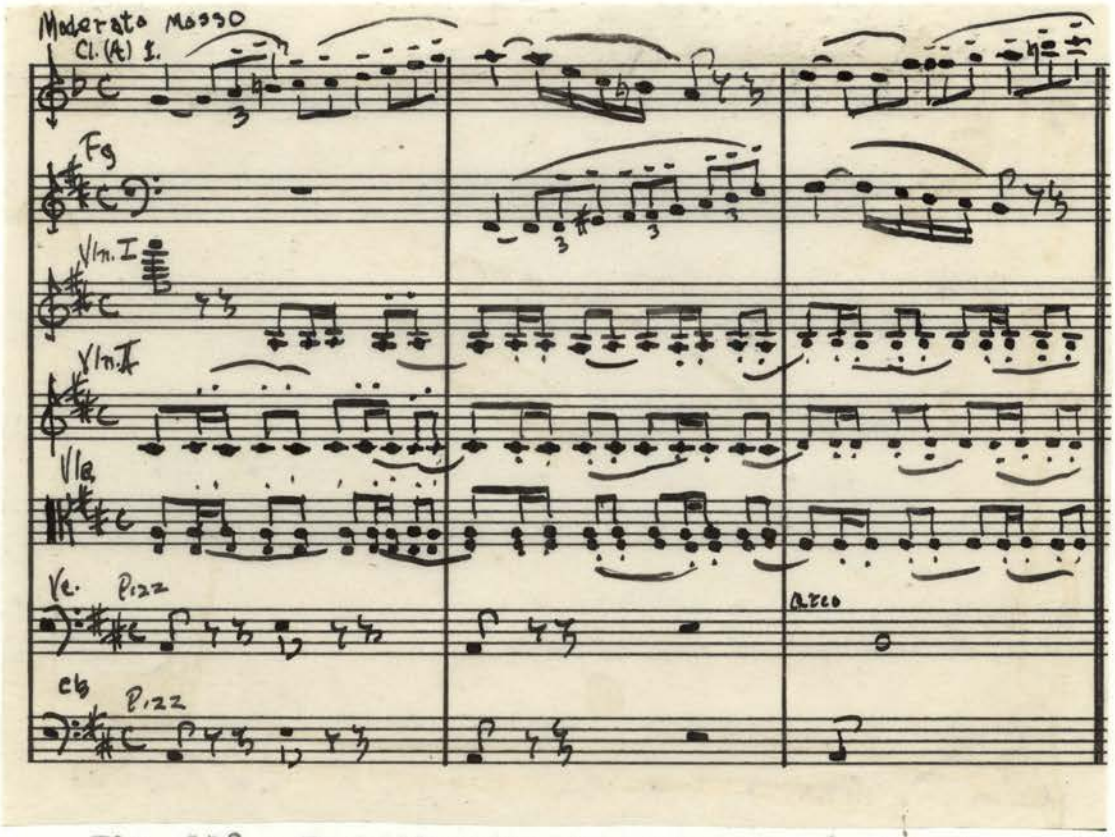

Fig. 108.--Tschaikovsky, Symphony No. 6, first movement, measures 109-111.

Another example of the concern for the different sections is illustrated in the following tutti passage:

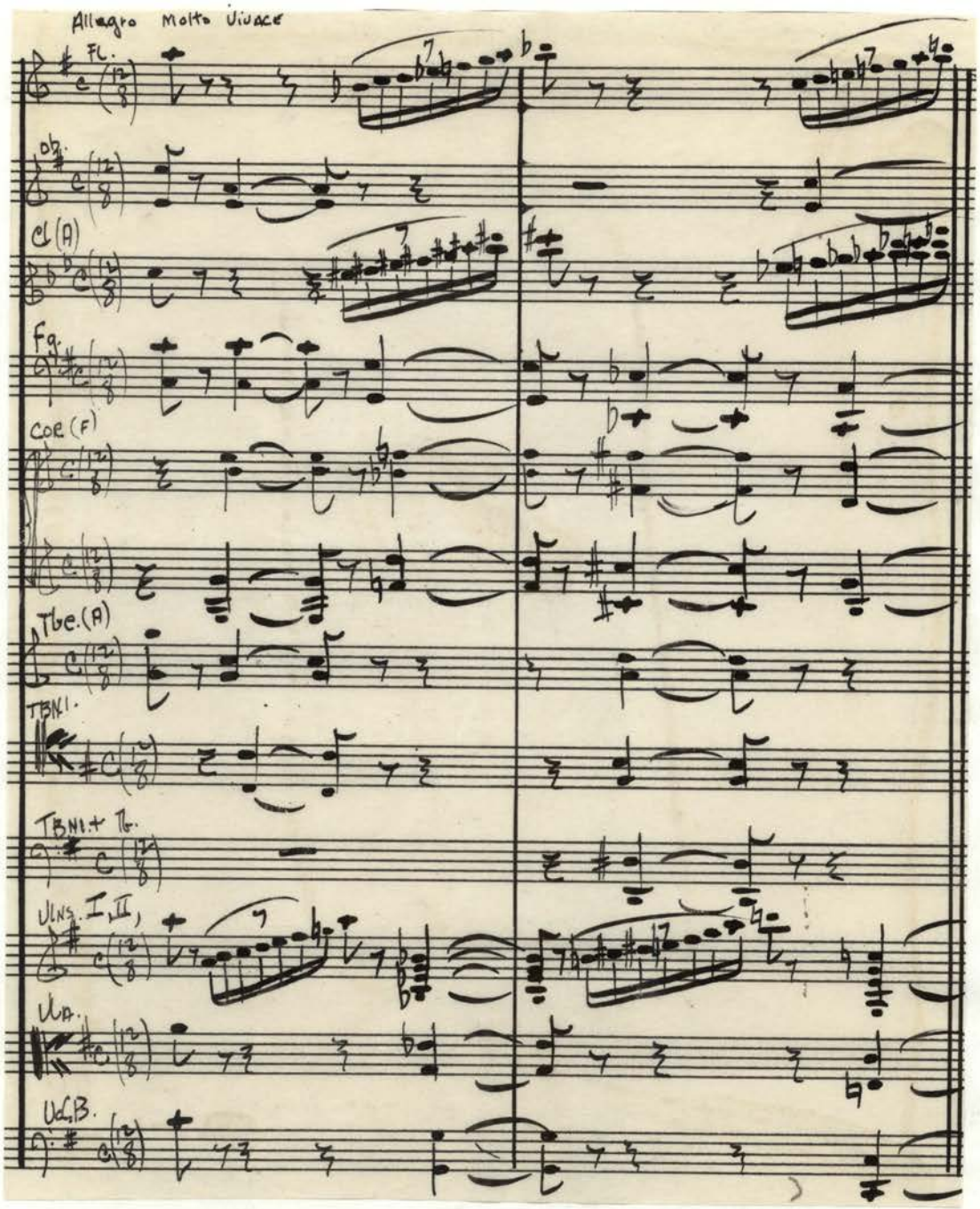

Fig. 109.--Tschaikovsky, Symphony No. 6, third movement, measures 326-327.

Notice how the brass (except for the horns) is left out when the wood-winds play the run in repetition of the melodic line of the strings. This was done to insure balance of tone between the sections. One should also note here the complexity of the run left to the clarinet and the flute, involving cross-fingerings for the clarinet throughout the passage.

The clarinet parts of Tschaikovsky have the following characteristics: (1) they show extensive use of the clarinet as a solo instrument (Figs. 105, 107, 108, see list, pp. 161, 162; (2) they are written in contrapuntal passages (Figs. 106, 108); (3) they illustrate innovations in scoring (Fig. 107); (4) they double other wood-winds in unison, octaves, thirds, fifths, and sixths (Figs. 104, 106, 107, 108, 109); (5) they are complex (Fig. 109); and (6) they make use of all three registers, especially the "chalumeau" register Figs. 104-109).

A multitude of examples could be given illustrating the use of the clarinet by Tschaikovsky, but lack of space prohibits. The following additional solo passages are listed for the benefit of the reader in order that he may receive a more complete idea of Tschaikovsky's treatment of the clarinet:

Symphony No. 4:

First movement, measures 195-8
First movement, measure 226
Second movement, measure 234
Third movement, measure 111
Third movement, measure 115
Fourth movement, measure 185-9

Symphony No. 5:

First movement, measures 1- 37
First movement, measures 41- 64
Second movement, measures 66- 70
Third movement, measures 169-178

Nutcracker Suite:

III-Waltz of the Flowers, measures 8-17

Nicoli Rimsky-Korsakov

It is necessary to include N. Rimsky-Korsakov (1844-1908) for a complete picture of the development of the clarinet in this period:

> Rimsky-Korsakov added to the elements identified with the earlier Russian orchestration a super-brilliance and splendour of colouring . . . . Exploring every corner of the orchestra for variety of colour and novel treatment, he surpassed Tschaikovsky in sheer brilliance and enterprise.[11]

For the most part Rimsky-Korsakov's use of the clarinet in writing with other sections is like that of Tschaikovsky, but in certain phases a vast difference of scoring is evident. One illustration of this is found in Scheherazade (1888):[12]

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[11] Carse, History of Orchestration, pp. 307-8.

[12] Brass and string parts are eliminated to conserve space.

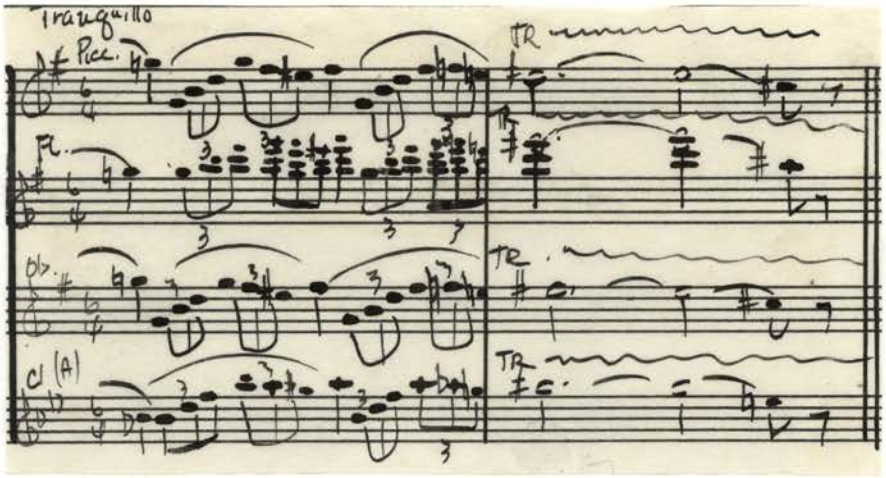

Fig. 110.--Rimsky-Korsakov, Scheherazade, first movement, measures 108-9.

In this passage the clarinet doubles the oboe, which is pitched an octave below the flutes and piccolo. This is an illustration of the extensive use of the trill by the wood-wind section; the use of trills was not characteristic of Tschaikovsky's clarinet parts (see p. 161).

Fig. 111 shows the wood-winds sustaining: In Fig. 111 the first clarinet is doubled with the first bassoon, and the second clarinet doubles the second bassoon and the second oboe. Both notes are doubled in the horns. Note the range of an octave and a fifth between the two clarinet parts; Tschaikovsky would have scored these parts in closer harmony (see p. 161).

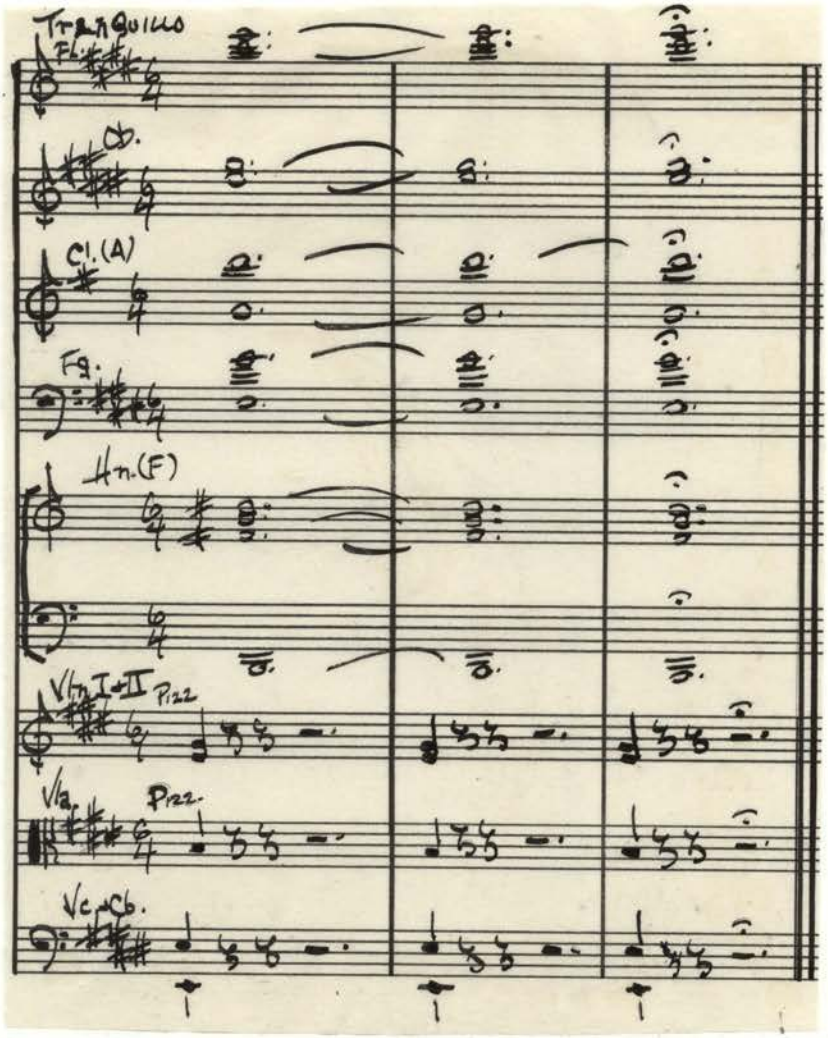

Fig. 111.--Rimsky-Korsakov, Scheherazade, first movement, measures 234-6.

Fig. 112 illustrates a contrapuntal use of the clarinet. In this illustration the clarinet and the flute are involved in a duet. The strings sustain except for the cello, which plays rhythmic figures. The unusual characteristic of this

passage is the use of leaps in the contrapuntal arpeggio solo of the clarinet.

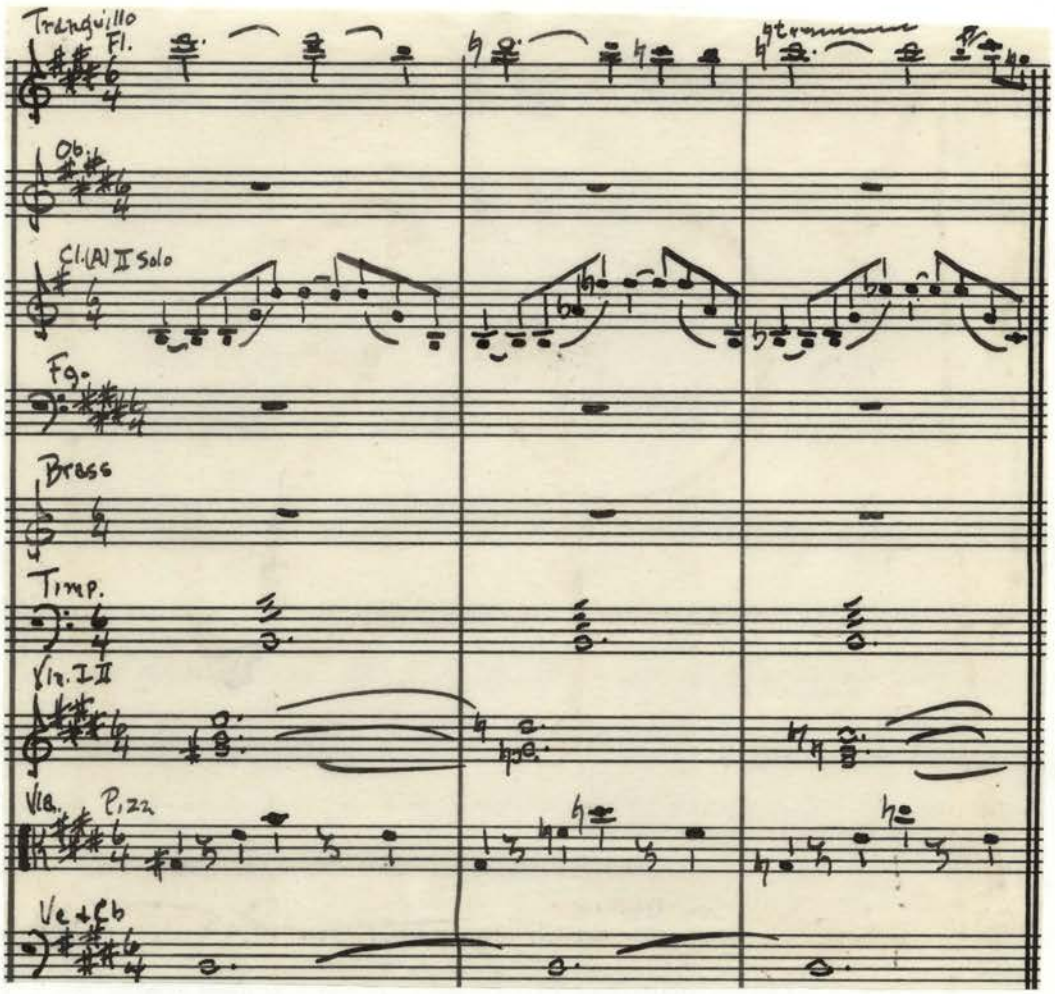

Fig. 112.--Rimsky-Korsakov, Scheherazade, first movement, measures 206-8.

One of the most unusual of all solos for the clarinet is found in a passage in the third movement:

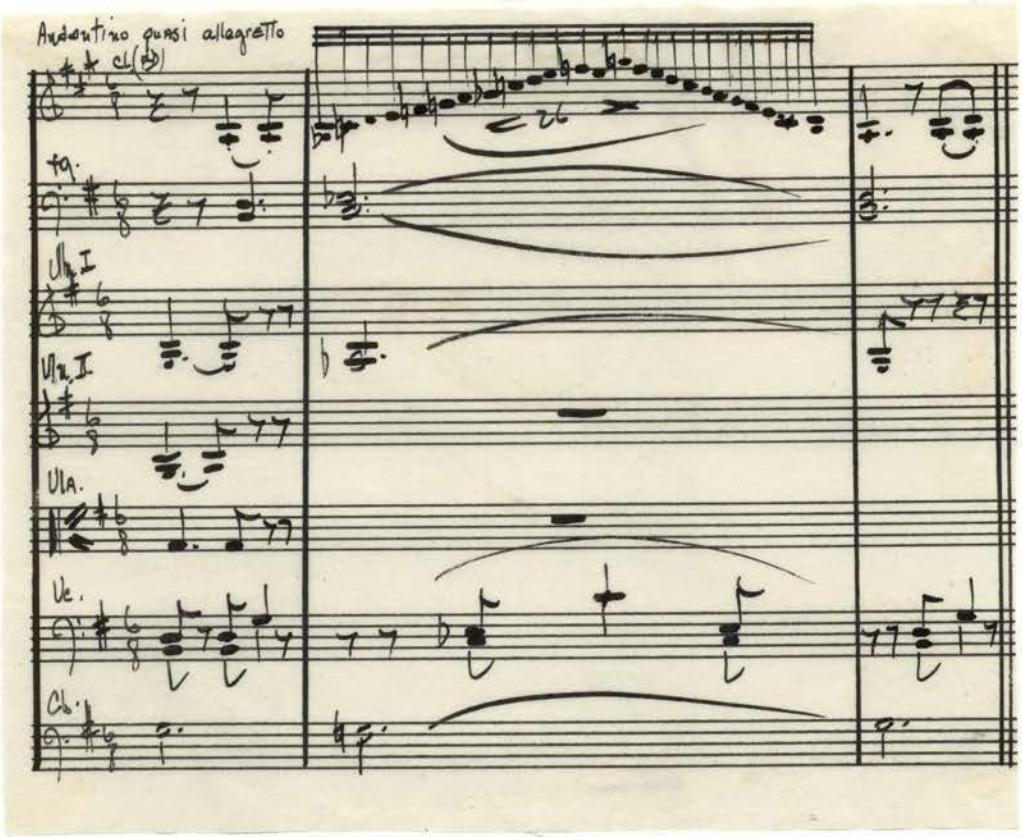

Fig. 113.--Rimsky-Korsakov, Scheherazade, third movement, measures 20-22.

In this passage the clarinet has the solo with the accompaniment furnished by the bassoon and the strings. A variation of this passage occurs beginning with measure 23. The rhythmic problem of this passage makes it a very difficult one to play smoothly.

Rimsky-Korsakov used the clarinet in other prominent solo passages throughout this composition:

First movement, measures 96-101
Second movement, measures 162-3
Second movement, measures 201-4
Second movement, measures 336-40
Third movement, measures 70-7
Fourth movement, measures 190-205

Characteristics of the clarinet parts in Rimsky-Korsakov are as follows: (1) they make extensive use of the trill (Fig. 110); (2) the harmonies are more complex (Fig. 111); (3) they are used in technically difficult contrapuntal passages (Fig. 112); (4) they employ wide leaps (Fig. 112); (5) they are written in unison, octaves, thirds, fifths, sixths, and twelfths with other wood-winds and other sections (all illustrations); and (6) they exploit the use of the clarinet as a solo instrument (Fig. 113; see also list, p. 162).

The clarinet parts of this period had the following characteristics: (1) they were written in the inner voices in unison, octaves, thirds, fifths, sixths, and twelfths; (2) they were used contrapuntally; (3) they were used in arpeggio accompaniment with soloists; (4) they were used in different rhythmic patterns (more complex than the previous period); (5) they were used with other wood-winds and other sections in illustrating contrast; (6) they sustained behind solo and tutti passages; (7) they exploited the use of all three registers; (8) the parts were more complex; (9) they were altered in their normal chordal function with the oboes (Tschaikovsky); and (10) they were exploited as a major solo instrument during this period.

Summary and Conclusions

Although the clarinet was used in the symphonies of both Mozart and Haydn, it was confined to a secondary function. Its adoption as a permanent member of the symphony orchestra was slow and uncertain for some time. Prior to the first quarter of the nineteenth century few symphony orchestras included clarinetists, and it was customary for the clarinet to be played, as an auxiliary instrument, by oboists (see Chapter II, page 30).

The first clarinet parts were written in the inner voices in octaves, thirds, or sixths with the members of the same or other sections (Mozart; Figs. 14, 15). While it was very rare that the clarinet was given solo passages, an exception is illustrated (1788) in the Symphony in E flat (K. 543) by Mozart (Fig. 22).

Clarinet parts written during the first quarter of the nineteenth century illustrated the acceptance of the clarinet by the orchestra, chiefly through the efforts of Beethoven. Doublings expanded to include the blend of the clarinet tone with that of bassoons, horns, and strings (Beethoven; Figs. 29, 31), and the clarinet began to replace the oboe in its function as the melodic instrument of the wood-wind section (Beethoven; Fig. 26). Contrapuntal passages, as well as occasional solos (Beethoven; Fig. 30), began to present

the clarinet as a very important part not only of the wood-wind section but of the orchestra as a whole.

Berlioz and his contemporaries (second quarter, nineteenth century) furthered the importance of the clarinet by using it in solo passages with the wood-winds or other sections (Figs. 43, 44), as well as scoring the parts in a more complex manner (Fig. 48). Berlioz added the innovation of the muted clarinet (Fig. 54), together with the exploitation of a new addition to the symphony orchestra (1830), the E flat clarinet (Fig. 52). Klosé's improvement of the key mechanism of the clarinet (1842) added to its value both as a solo instrument (Fig. 45) and as a contrapuntal instrument (Fig. 48).

As Klosé's innovations came into more wide-spread use, and as the composers began to cultivate this particular tone-quality, the clarinet parts became more complex (Fig.64). The use of the bass clarinet was so revolutionary that Wagner (Lohengrin, 1850) even changed the regular order of the score in order to make use of it (Fig. 64). Solos were becoming more common (Fig. 73), were written in a wider key-range (Figs. 64-80), and made use of all three registers of the instrument (Figs. 70, 71).

The final period of this study, that extending from Brahms to Rimsky-Korsakov (late nineteenth century), shows

the clarinet participating in the more complex harmonies of the time (Fig. 111), in solo contrapuntal passages (Fig. 106) in complicated rhythmic patterns (Fig. 112), as well as in difficult arpeggio passages (Fig. 112). It is in this epoch that, in passages of contrast (Fig. 106), in variety of the chord members assigned to it (Fig. 107), and in the exploitation of all the registors of the clarinet (Fig. 113) the clarinet becomes, thanks especially to the work of Tschaikovsky and Rimsky-Korsakov, one of the most prominent solo instruments of the symphony orchestra (Fig. 113).

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