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I hereby recommend that the thesis prepared under my supervision by Jacob F. Larson

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be accepted as fulfilling this part of the requirements for the degree of Doctor of Musical Arts in Trumpet

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THE ROLE OF THE TRUMPET IN THE MUSIC OF JOHANN SEBASTIAN BACH: PAST AND PRESENT PERFORMANCE CONSIDERATIONS THROUGH SELECTED WORKS

A thesis submitted to the

Division of Graduate Studies
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DOCTOR OF MUSICAL ARTS in TRUMPET

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CHAPTER I

INTRODUCTION

Scholars differ on the evolution of the orchestra from the days of Johann Sebastian Bach to the present. Frederick Dorian states one point of view:

> In contrast to the list of Monteverdi's orchestra units . . . , where the student must acquaint himself with the now obsolete instruments, he will find himself quite at home with the Bach orchestra.[1]

Charles Sanford Terry, on the other hand, maintained a totally different attitude about the orchestra of Bach:

> Of all the Masters whose art has continuing and unabated vogue, he especially spoke through voices silent in the modern orchestra. Some cannot certainly be identified. Of others his prescriptions are unprecise or ambiguous.[2]

Certainly there was an evolution in the progress of instruments in combination in the century between Monteverdi and Bach, but it cannot be said without qualification that the orchestra in Bach's time

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[1] Frederick Dorian, The History of Music in Performance (New York: W. W. Norton & Co., Inc., 1966), p. 78.

[2] Charles Sanford Terry, Bach's Orchestra (London: Oxford University Press, 1932), p. 1.

emerged as the present standard. In the case of the trumpet, one will observe that without exception, the instruments available to Bach during his creative lifetime are members of the modern orchestra in name only. Their physical appearance, performance application and other musical considerations have evolved more drastically from the time of Bach to the present than from Monteverdi to Bach.

In addition to the observable physical modifications made to the instrument over the last two centuries, the general approach to the performance of the instruments of the eighteenth century has changed drastically. One of the primary reasons for this change in approach was the period between 1750 and 1829 when the major works of Bach were not performed.[3] With this break in the performance tradition of many generations, possibilities for extremes in the interpretation of the works of Bach were found. Only meager directions for interpretation were left by the composer.[4] Nor did the trumpet performers of the period leave much information. The performance of these demanding trumpet parts was the primary domain of the Stadtpfeifer, the guild of trumpet players in the cities in Germany that developed the highly specialized art of clarino playing. The art of clarino

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[3]Dorian, The History of Music in Performance, p. 76.

[4]Robert Donington, Tempo and Rhythm in Bach's Organ Music (New York: Hinrichsen Edition, Ltd., 1960), p. 11.

playing lapsed after the Baroque period along with the instructions and directions which would permit present day reconstruction of this technique.

The present-day performer of Bach trumpet parts is faced with a number of problem areas. The physical demands of the parts are as challenging as anything in the repertoire of the modern trumpet. Range considerations are extreme and demand a performance capability in the extreme high register, no matter what pitch of trumpet the performer selects to play the works. The selection of the proper instrument to perform the works has become an ever increasing problem owing to the popularity of the works for public performance and the wide latitude of interpretation given them. In the last decade new instruments have emerged which are often utilized to perform the parts. Reconstructions of earlier models are also frequently used in public performance.

This thesis will help provide an identification of the varieties of instruments which were available to Bach and their relationship to representative works designating the trumpet. In addition, the trumpet parts of Bach and his approach to the instrument in different settings will be discussed. Some observations and determinations concerning past performance practice and present day interpretations will also be made.

CHAPTER II

DESIGNATION OF TRUMPET IN BACH'S SCORES

The so-called title "Bach Trumpet" is often confused with an instrument invented by Julius Kosleck for a performance of the B minor Mass in Eisenach in September of 1884.[1] This valved instrument was popularized over the years to perform works by Bach. Additionally, experiments such as the Steinkopf hypothesis of nodal holes have added to the confusion and controversy centered around Baroque trumpet parts.[2]

Actually, a number of different designations were made for trumpet as shown in his extant works. Most common of these was Tromba, the Italian name for trumpet during the Baroque. This designation for natural trumpet was a diminutive of the word Trump or Trompe, denoting a curved horn.[3]

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[1] Terry, Bach's Orchestra, p. 24.

[2] Mary Rasmussen, "Bach-Trumpet Madness: or A Plain and Easy Introduction to the Attributes, Causes and Cure of a Most Mysterious Musicological Malady," Brass Quarterly, V/1 (Fall, 1961), p. 37.

[3] Philip Bate, The Trumpet and Trombone (London: W. W. Norton & Co., Inc., 1972), p. 101.

In four works, namely the Arnstadt Cantata No. 15 and three Leipzig Cantatas Nos. 24, 48, and 167, Bach called for Clarino as the natural trumpet designation and again in Cantata No. 15 for Principale. In Cantatas Nos. 5, 20 and 77 he called for the instrument Tromba da Tirarsi and in Cantata No. 45 an alternative in Tromba ô Corno da Tirarsi. The Corno da Tirarsi was mentioned exclusively in Cantatas Nos. 67 and 162 and cornett was prescribed in eleven cantatas.[4] Lituus, an instrument associated with the ancient Roman empire received Bach's consideration in one score, the Cantata No. 118.

By the late eighteenth and early nineteenth century the tromba designation pertained to the range specification for trumpet parts. By that time, with few exceptions, the clarino range or fourth octave range of the natural trumpet was no longer called for in orchestral scores.

The Tromba da tirarsi and Corno da tirarsi differed from the natural trumpet in that they were equipped with a slide, using the same principal as the trombone. The Zugtrompete was a slide trumpet of the period after 1651 that would be able to perform the da tirarsi parts as will be explained in a later chapter.

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[4]Terry, Bach's Orchestra, p. 187.

Accompanying vocal lines in choral melodies was a particular concern of Bach's. In many of his cantatas, he prescribed the cornett in addition to the tromba and corno da tirarsi. This fully chromatic instrument was one of the oldest of lip energized instruments and was already obsolete by the time Bach engaged it for the purpose of choral accompaniment.

The Jägertrompete, a coiled instrument, similar to the horn, was also available to Bach. Because of its unique shape, and its characterization in pictures, especially the famous E. G. Haussmann portrait of Gottfried Reiche, one must consider it in a discussion of the instruments appropriate to the performance of Bach's trumpet parts during his lifetime.

CHAPTER III

THE EIGHTEENTH CENTURY TRUMPET IN GERMANY

The Natural Trumpet

The trumpet at the beginning of the eighteenth century very nearly resembled the instrument described by Virdung in 1511 as the Clareta.[1] Virdung's Musica Getutscht (1511) and Agricola's Musica Instrumentalis deudsch (1528) are two of the first literary references which provide information on the natural trumpet that can be verified with a few actual instruments dating from that period.[2] The Paris Conservatoire Museum has one of the oldest instruments preserved, a sixteenth century trumpet by Anton Schnitzer of Nuremberg.[3] Virdung illustrated three different trumpets of the folded variety which he identified as the Thurmer Horn, Felt Trumet, and Clareta. The Clareta distinction was believed to be associated with the

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[1] Werner Menke, History of the Trumpet of Bach and Handel, trans. Gerald Abraham (Nashville: The Brass Press, 1972), p. 19.

[2] Bate, The Trumpet and Trombone, p. 104.

[3] Grove's Dictionary of Music and Musicians, 5th ed., s.v. "Trumpet," by Anthony Baines. (New York: St. Martin's Press, Inc., 1961), p. 565.

beginnings of the art instrument as opposed to the military distinction.[4] The natural trumpets of Nuremberg were made of brass sheet with occasional models in silver.[5]

Before the standard of pitch was fixed by the Paris Academy in 1859 and in Vienna in 1885, much confusion existed as to the standard frequency designation for a given pitch. In church music using trumpet, the difficulty was tuning the trumpet to the numerous organs whose pitch level varied drastically. Strings and voices could easily be adapted to whatever pitch level was fixed by the organ, but the wind instruments were not as flexible. Menke made the following observation about pitch level of various trumpets from the period:

> It is noteworthy that no uniform pattern can be traced in the various old instruments still preserved. I may point out here the special remarkable fact that two D instruments of equal pitch show a difference of almost 30 cm. in length of tube.[6]

During the Baroque period three tuning levels were generally used. Kammerton or chamber pitch was used for instrumental music. Kammerton was the low pitch level of the period. Chorton or choir pitch was used for organs and thus for sacred music. Cornett-ton was a third level of tuning used by town musicians playing brass

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[4] Bate, The Trumpet and Trombone, p. 105.

[5] Grove's Dictionary of Music and Musicians.

[6] Bate, The Trumpet and Trombone, p. 212.

instruments. The usual pitch of the natural trumpet when used in the sacred music of the seventeenth and most of the eighteenth century was D, or Chorton, or high pitch. By use of a crook or additional pieces of tubing added to the instrument, the pitch of C could be obtained so that the trumpet could be in low pitch D or Kammerton.[7] The early Baroque composers used the instrument pitched in C such as those in the opera Orfeo by Claudio Monteverdi, written in 1607.[8] By the eighteenth century the Chorton pitch for organ was influential in providing the need for a trumpet pitched in D. The natural trumpet, that is one without any devices for decreasing or increasing the overall length, was preferred. The instrument was cylindrical from the mouthpiece to a point about fifteen to twenty inches from the bell. The cylindrical portion of the instrument was usually from 4/10 to 45/100 inches in diameter. The bell was about 4.5 inches wide.[9]

No important modifications in the physical characteristics of the instrument were made during the Baroque period. The trumpet described by Praetorius in 1619 was essentially the same as that of

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[7]Don L. Smithers, The Music and History of the Baroque Trumpet before 1721 (Syracuse: Syracuse University Press, 1973), p. 81.

[8]Grove's Dictionary of Music and Musicians.

[9]Ibid.

Daniel Speer in 1689,[10] and that of Johann Altenburg in 1795.[11] The final adjustment that was very necessary at the time when pitch varied considerably between localities was a small piece of tubing inserted between the mouthpiece and the main body of the instrument. These tuning bits called Setzstucke came in various lengths.[12]

During the sixteenth, seventeenth and eighteenth centuries Nuremburg supplied Europe with a large number of brass instruments by makers such as Haas, Schmeid, Nagel, Ehe and Wittmann. Italian makers and names such as Dudly, Bull and Harris were also important outside of Nuremburg.[13]

With the natural trumpet harmonically confined to specific keys, the instrument's length had to be varied to fit the key of the music being performed. Instruments of various lengths were available. The Heyer Collection at Leipzig and the Berlin collection contain instruments of the Baroque period pitched in C, D flat, D, E flat, F, F sharp and A flat.[14]

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[10]Adam Carse, Musical Wind Instruments (New York: Da Capo Press, 1975), p. 105.

[11]Johann Ernst Altenburg, Essay on an Introduction to the Heroic and Musical Trumpeters' and Kettledrummers' Art, trans. Edward H. Tarr (Nashville: The Brass Press, 1974), p. 21.

[12]Bate, The Trumpet and Trombone, p. 71.

[13]Menke, History of the Trumpet of Bach and Handel, p. 23.

[14]Terry, Bach's Orchestra, p. 24.

The physical appearance of the instrument is diagrammed in Figure 1. The first two cylindrical sections were called yards or channels and the third section was the bell.[15] The yards were held by two U-bends.

A trumpet made in Nuremburg by the early eighteenth century maker Wittmann, is presently in the Smithsonian Institution in Washington, D. C. and illustrates the measurements of the instrument pitched in D.

The total length of the instrument measures approximately seven and one-half feet. The diameter of the bore is approximately 11 cm. Only approximate widths can be given because rarely was the tubing perfectly round. This added refinement was needed in making trombones, but the early makers of trumpets felt this unnecessary.[16] The bell section is exponential in shape and is 4.65 inches wide at the end.

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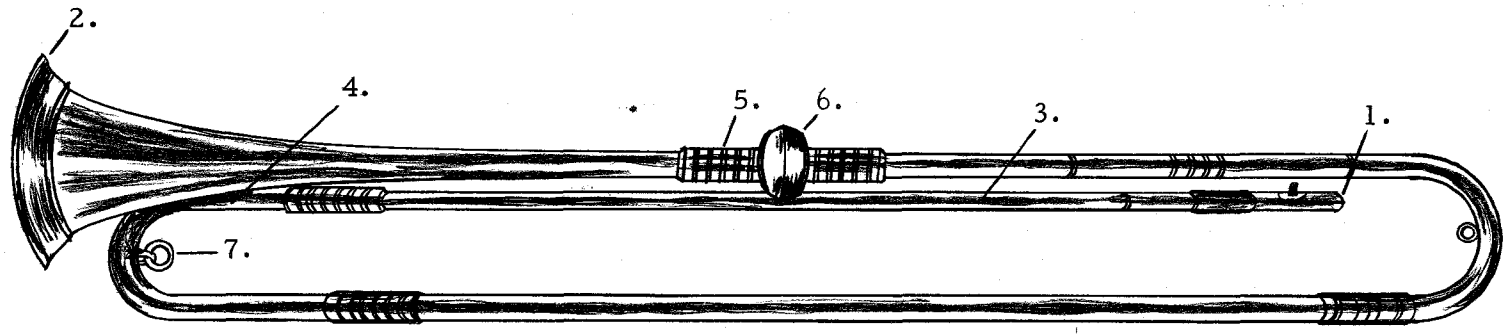
[15] Marin Mersenne, Harmonie Universelle: The Books on Instruments (1635), trans. Roger E. Chapman (The Hague: Martinus Nijhoff, 1957), p. 318.

[16] Robert E. Sheldon to Gerold Endsley. 17 October 1967, Smithsonian Institution, Washington, D.C., p. 3.



Parts of Instrument

1. Mouthpiece End
2. Bell
3. Yard
4. Bow
5. Garnish
6. Boss
7. Banner ring

Pitch: Eb or D of the period

Maker of this example: Christian Wittmann (? - c. 1807)[17]

Place: Nuremburg

A Wittmann trumpet is now in the Smithsonian Institution in Washington, D. C.[18]

Figure 1. The Natural Trumpet

[17]Smithers, The Music and History of the Baroque Trumpet before 1721, p. 66.

[18]Robert E. Sheldon to Gerold Endsley.

The Slide Trumpet

The use of tones not in the relative scheme of the harmonic series but desired on a trumpet-like instrument seemed to encourage Bach to add to his scores the slide trumpet. Although Adam Carse indicates that the instrument Bach had in mind could have been the treble trombone,[19] Altenburg indicated that such a trumpet-like instrument did exist and was not a member of the trombone family.

> The slide trumpet, which is commonly used by tower watchmen and by city musicians for playing chorales, is constructed almost like a small alto trombone because it is pulled back and forth during playing, whereby can easily bring forth the missing tones of the harmonic series.[20]

The Berlin Slide Trumpet was tied to the performance of Bach's works by Terry who gave a complete description of the instrument.

> The Berlin Zugtrompete (slide trumpet) has the appearance of an ordinary natural trumpet. But, unlike the latter, its mouthpiece is prolongated by an inner tube, which at the player's will, slides out and in within the topmost of the instrument's parallel branches. The length of its slide is 56 cm. (22.050 in.). The tubing, apart from the slide, is 143 cm. (roughly 56 in. = 4 ft. 8 in.) long, and the conical length of the instrument is 57 cm. (roughly 1 ft. $10\frac{1}{2}$ in.). Thus, with the slide drawn to its fullest extent, the trumpet measures roughly 112 cm. (3 ft. 8 in.) from mouthpiece to bell. Its internal diameter at 25 cm. of length is 12.8 mm. (under half an inch), and at the bell-end 98 mm. (roughly 4 in.).[21]

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[19] Adam Carse, The History of Orchestration (New York: Dover Publications, Inc., 1964), p. 117.

[20] Altenburg, Essay on an Introduction to the Heroic and Musical Trumpeters' and Kettledrummers' Art, p. 14.

[21] Terry, Bach's Orchestra, p. 31.

Although only a few examples of the Zugtrompete or tromba da tirarsi exist, Carse indicated that the natural trumpet could be adapted for this purpose by equipping the trumpet with a straight inner tube which could slide in and out of the mouthpipe.[22]

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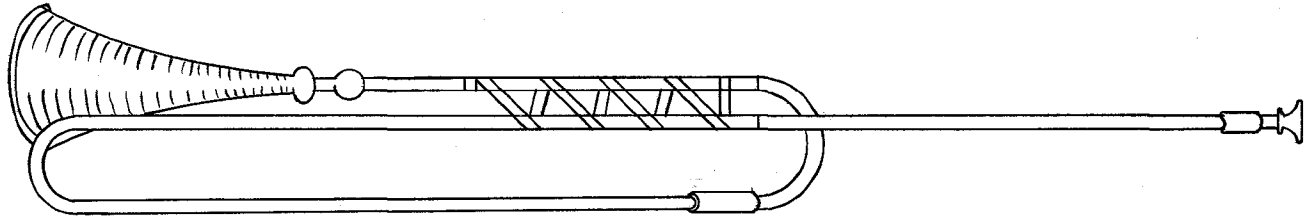
[22] Carse, Musical Wind Instruments, p. 236.



Pitch: D of the period

Name:	Berlin Zugtrompete	Maker of this example:	Hans Veit of Nuremberg
Slide length:	56 cm.	Date:	1651
Instrument tubing:	143 cm.		The Hans Veit Zugtrompete is now in the Berlin Instrumental Museum.[23]
Conical portion:	57 cm.		
Diameter:	12.8 mm.		
Bell diameter:	98 mm.		

Figure 2. The Slide Trumpet

[23] Curt Sachs, The History of Musical Instruments (New York: W. W. Norton & Co., Inc., 1940), p. 385.

The Stopped Trumpet

The portrait of Gottfried Reiche by Haussmann attested to the existence of the coiled form of the trumpet referred to in Germany as the Jägertrompete. The coiled version of the trumpet could possibly demonstrate two ways in which certain acoustical adjustments were made during the middle of the eighteenth century. The coiled version of the instrument was said to have been preferred by the Kammertrompeter, or chamber trumpet player, because the player was able to correct the out-of-tune harmonics by hand stopping.[24] Praetorius, in Syntagma musicum (1618), mentioned that this form of trumpet was not equal in resonance to the natural trumpet which allows us to conclude that the instrument was not as favored as the natural straight trumpet.[25]

Node holes could have been produced with holes in the approximate positions of Reiche's fingers. Their function would have been to produce the raising of the seventh and eleventh partial, the two partials most severely in need of adjustment. Altenburg mentioned

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[24]Smithers, The Music and History of the Baroque Trumpet before 1721, p. 31.

[25]Michael Praetorius, Syntagma Musicum, trans. Harold Blumenfeld II De Organographia, First and Second Parts. (New York: Bärenreiter, 1962), p. 33.

the experimental notions of nodal holes which seemed to indicate that it was not general practice in the eighteenth century.[26]

As to the classification of the Jägertrompete and its place as a member of the trumpet family, Werner Menke concluded:

> The instrument must be classified as a trumpet not only on account of the mouthpiece, but above all because the tube is purely cylindrical up to the last curve and only then becomes conical; whereas the shape of the horn was already at that time quite conical, even through (for technical constructional reasons) the conical form appears rather like the cylindrical shape of the trumpet. The curves which differentiate this particular instrument from the straight trumpet shape are, in my opinion, intended to make possible stopping . . . Even with Praetorius the idea "Clarin" was no longer connected with one distinct instrument; it only denoted the height of the sounds and the register.[27]

In examining the trumpet parts of Bach obviously meant for the natural trumpet, some sort of device to correct certain pitches would have been helpful. Fantini boasted that the coiled trumpet was totally chromatic. However, Bate interpreted the use of the instrument as coiled for the purpose of allowing it to be less strident.[28]

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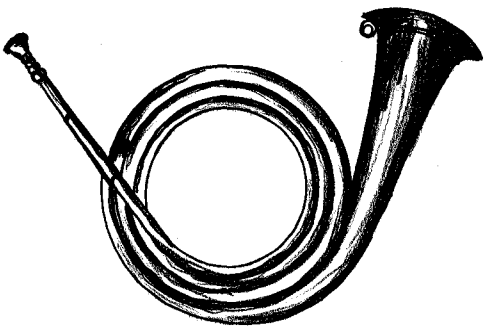
[26]Altenburg, Essay on an Introduction to the Heroic and Musical Trumpeters' and Kettledrummers' Art, p. 112.

[27]Menke, History of the Trumpet of Bach and Handel, pp. 68-69.

[28]Bate, The Trumpet and Trombone, p. 111.



Specifications: Similar to the natural trumpet counterpart relative to size of bore, length of tubing and cylindrical and conical boring.

Maker of this example: H. Pheifer[29]
Date: 1697
Formerly in the Grassi Museum, Heyer Collection, University of Leipzig (destroyed during Second World War)

Figure 3. The Stopped Trumpet

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[29] Ibid., p. 12.

The Cornett

The Cornett was a cup mouthpiece instrument more associated with the woodwind family than the brass group.[30] Because the instrument had as its fundamental principal of tone production the lip energized air column, and because the cornett parts in the Bach scores are presently played on the modern trumpet, a description of both the instrument and its use by Bach will be made.

The instrument was very important in the sixteenth and seventeenth centuries when it was the primary chromatic wind instrument capable of playing diatonic melodies. Cornetts existed in three sizes. They were the treble, small treble and tenor, of which the treble became the most used in the Bach scores. Of the three possible sizes, there were also three designs. The Curved cornett (cornetto torto) was 23 inches to 24 inches in total length and was constructed of two pieces of wood glued together after a conical bore was derived from carving out the insides of the instrument. It was usually finished with a thin black leather covering. Six finger-holes and a thumb hole made the instrument diatonic. The instrument usually had a mouthpiece at the top end, and was usually made of

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[30] Grove's Dictionary of Music and Musicians, 5th ed., s.v. "Cornett," by Anthony Baines. (New York: St. Martin's Press, Inc., 1961), p. 447.

ivory, bone ebony, horn or some sort of metal. The Straight cornett (cornetto diritto) was straight but made on the same general principal as the curved model. The Mute cornett (cornetto muto) was constructed similarly to the Straight cornett but the cup mouthpiece portion was actually cut into the body of the instrument and joined the instrument as part of it. This method of providing a mouthpiece had the effect of softening and covering the tone.

The instrument had a range from a to c''' according to the fingering chart provided by Speer in Grund-richtiger Unterricht der Musikalischen Kunst of 1697.[31] With a system of fork fingerings and half holes, the total chromatic scale could be produced.[32]

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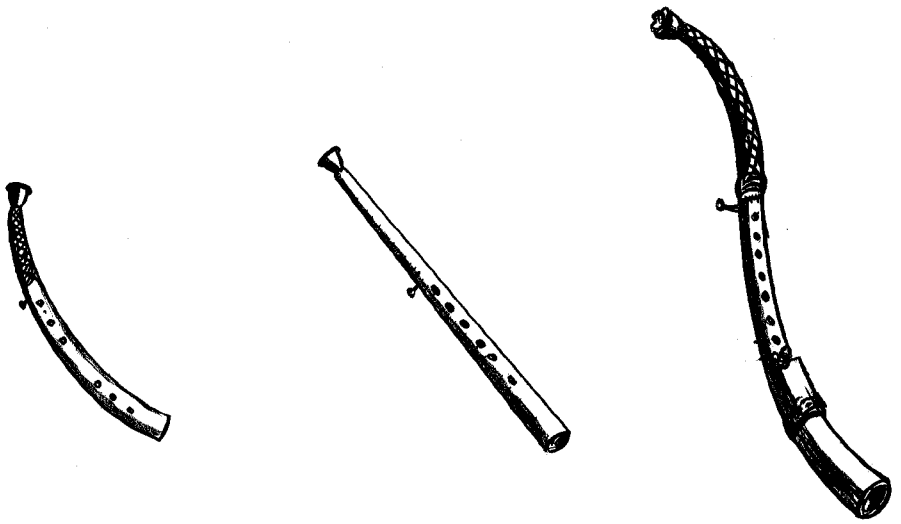
[31] Carse, Musical Wind Instruments, p. 339.

[32] Ibid.



Curved cornett
cornet à bouquin
Krummer Zink
cornett curvo

Straight cornett
cornetto diritto
cornetto muto
gerader Zink
stiller Zink

Tenor cornett
cornetto torto
cornon
great Zink

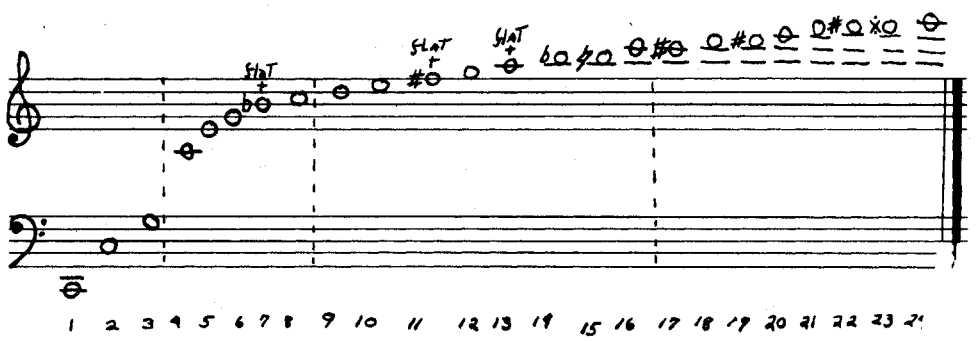
Figure 4. The Cornett

CHAPTER IV

COMMON PRACTICE RELATING TO RANGE DISTRIBUTION OF TRUMPET PARTS

J. S. Bach held strictly to the common practices relative to range and distribution of parts for the trumpet. The trumpet group was capable of playing all the harmonics of the harmonic series from the fundamental through the 24th partial as exhibited in Example 1.

Example 1



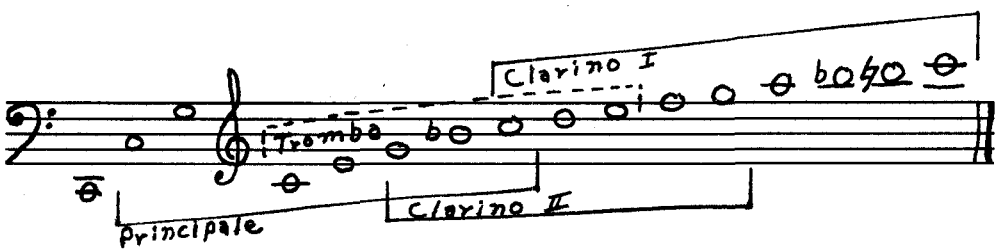
When Bach or any composer of the Baroque period required a diatonic line on the trumpet, the restricting aspect of the harmonic

series required that it be played in the fourth octave of the harmonic series.

Speer[1] in 1678 went into detail in the manner of the distribution of trumpet parts. The Volgan (Volgano in Monteverdi's Orfeo), Grob and the Fladdergrob were terms Speer used to define the single-note lower parts found in pieces for multiple trumpets.[2]

A system was eventually developed in which the total range of the instrument was divided into registers. The primary registers were known as Principale, from the 3rd to the 9th harmonic, and the clarino from the 8th to the 20th harmonic and above. A typical example of the part distribution is found in Example 2.

Example 2



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[1] Grove's Dictionary of Music and Musicians, 5th ed., s.v. "Speer, Daniel," by Sir George Grove. (New York: St. Martin's Press, Inc., 1961), p. 3.

[2] Smithers, The Music and History of the Baroque Trumpet before 1721, p. 139.

In examining the clarino parts of the eighteenth century, one must be aware that no special instruments or techniques have been lost in the playing of these parts in ensuing years. The playing of the fourth octave of the harmonic series, according to Speer and Altenburg, was no easy matter.[3] This specialization undoubtedly contributed to the abandonment of the high register by composers in the late eighteenth century. The natural trumpet was still used in the Principale range well into the nineteenth century.

The Tromba designation in Example 2 does not pertain to Bach's designation but one that evolved after the Baroque period. The term Tromba as a range designation after Bach and Handel referred to the general range of the third octave.

In dealing with the instrument Bach had in mind for the designation Tromba, one finds without exception that the parts could be performed within the limitations of the natural trumpet. The notes available on the natural trumpet were derived from the harmonic series. Bach utilized these notes in his scores through the twentieth harmonic as evident in Cantata No. 31, written in 1715.

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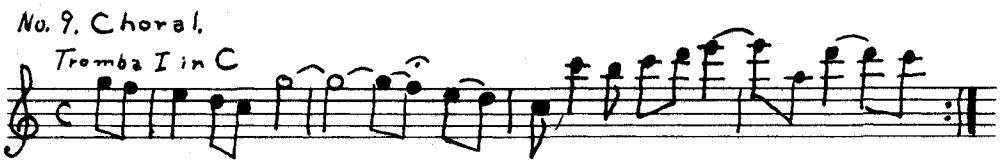
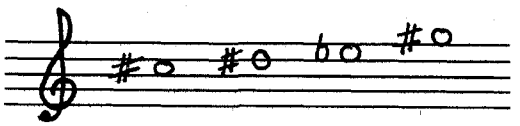
[3]Altenburg, Essay on an Introduction to the Heroic and Musical Trumpeters' and Kettledrummers' Art, p. 114.

Example 3



Notable exceptions to these written notes for the natural trumpet derived from the harmonic series were the occasional inclusion of the notes given in Example 4. These will be discussed later when they occur in a particular score.

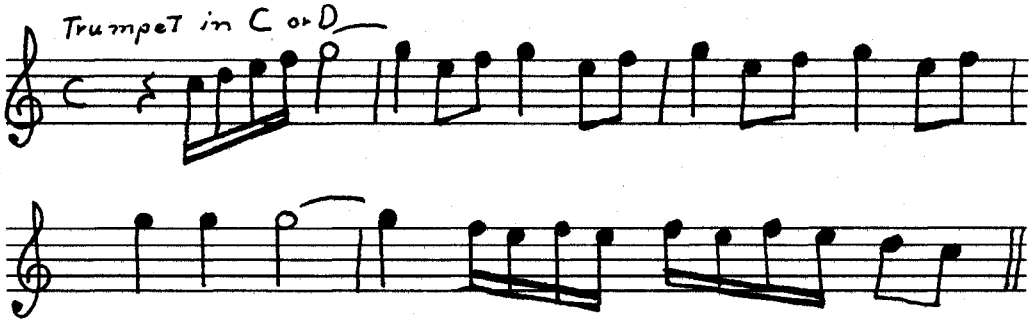
Example 4



When clarino and principale were indicated in the score, the designation became more a matter of the range of the instrument than the actual designation of a specific instrument. The clarino and principale were specific ranges for the natural trumpet. This range nomenclature existed throughout the Baroque period.

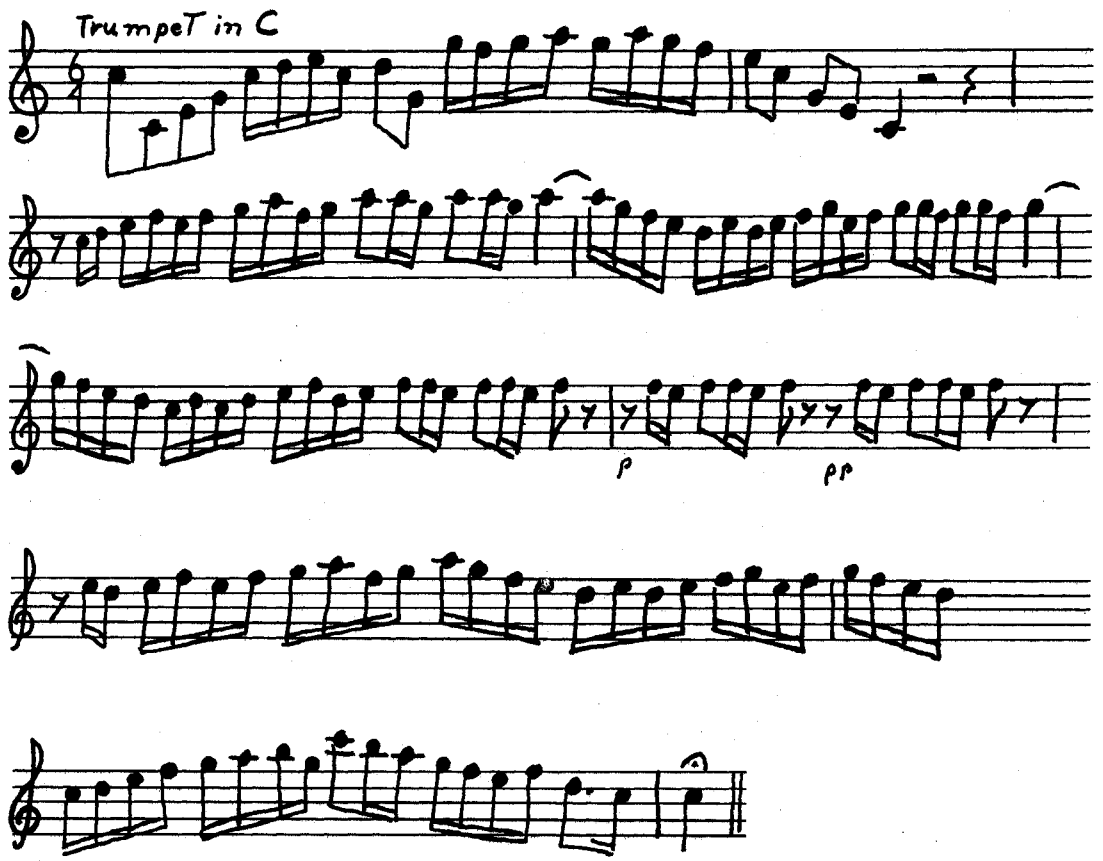
The use of the natural trumpet's high register came much earlier than the late Baroque period. The Toccata from Monteverdi's Orfeo extended the upper register of the trumpet to the 12th partial as shown in Example 5.

Example 5



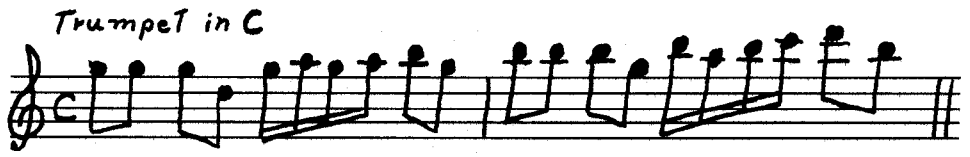
Lully, in his Te Deum of 1677 also scored for trumpets with an extended range to the 16th partial as shown in Example 6.

Example 6



Immediately prior to Bach, two German composers, Buxtehude and Kuhnau, involved the trumpet in highly florid passages and extended the upper register of the instrument. Example 7 from Buxtehude's Cantata, Ihr lieben Christen, extended the trumpet range to the 17th partial.

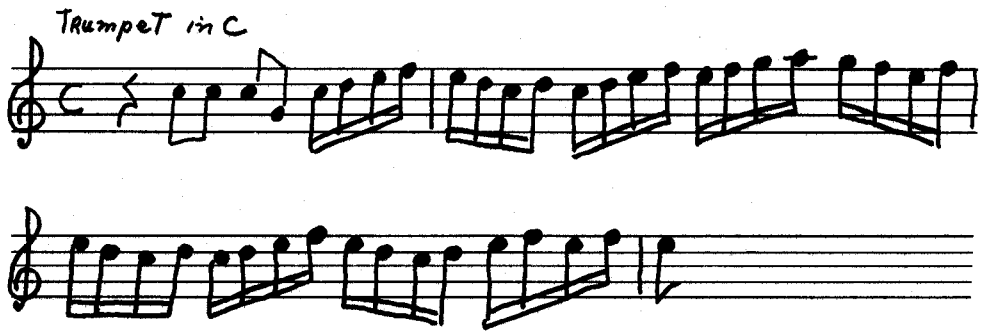
Example 7



Douglas Smith observed that Buxtehude was conservative in his use of trumpets, using the instruments paired and never as upper voices.[4]

Kuhnau's Wenn ihr frohlich seid gives us an example of the melodic writing of the composer for trumpet. Kuhnau, in Example 8, utilized the trumpet through the 13th partial.

Example 8



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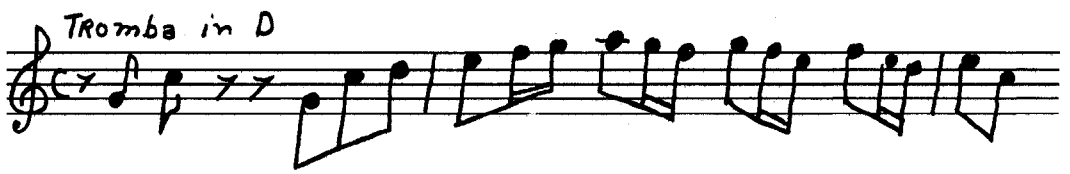
[4]Douglas Smith, "A Short History of the Trumpet," The Instrumentalist (January 1972), p. 23.

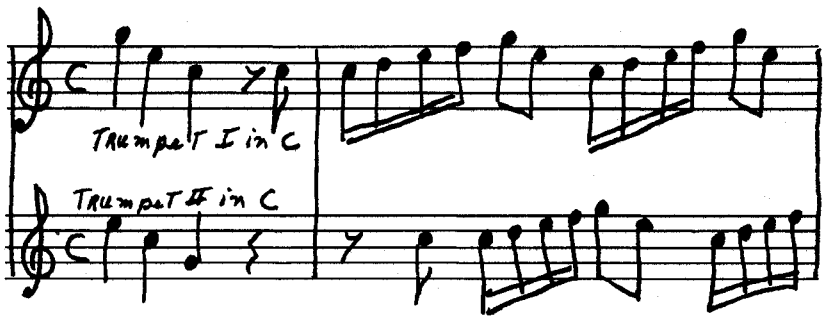
The works of Giuseppe Torelli, Antonio Vivaldi, Allessandro Scarlatti and Henry Purcell contain many examples of writing for the instrument in the fourth octave of the harmonic series. One such example is given as Example 9 from Torelli's Concerto in D for Trumpet and Strings.

Example 9



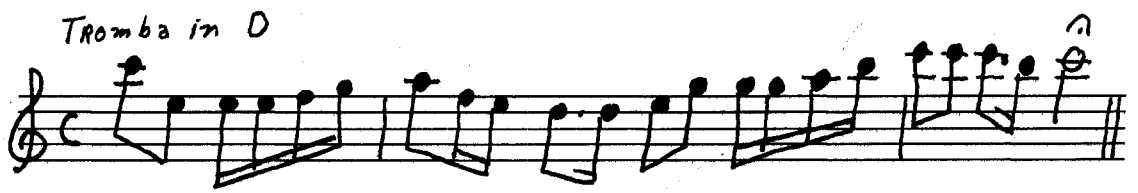
Vivaldi, like Torelli, wrote for the upper clarino register and often, like Buxtehude, for two equal trumpet voices. Bach adhered to the clarino I and II unequal part designations. Example 10 from Vivaldi's Concerto in C Major illustrates the equal treatment of parts for trumpet.

Example 10



In his cantata Su le Sponde del Terbo, Scarlatti used the trumpet as a solo trumpet and as an equal soloist with the soprano. This demanding trumpet part extended the range to the 16th partial as demonstrated in Example 11.

Example 11



Purcell wrote the Sonata in D Major for trumpet and strings prior to the period of Bach. This work was patterned on the style of

the trumpet sonatas of Bologna[5] with the trumpet having a range that extends from c' to a''' or from the fourth to the thirteenth partial.

Much has been said of the effect of Reiche's abilities on Bach's compositions using trumpet.[6] Reiche was first trumpet of the Thomaskirche orchestra and an important figure in the history of trumpet playing. However, Bach continued to write for the high clarino tessitura even after Reiche's death in 1734 as can be seen in Cantatas Nos. 11, 30, 34 and 175.

Don L. Smithers wrote two articles on the subject of Reiche's influence in Bach's works. The quotes given below taken from two different articles seem to contradict one another. First Smithers states:

> Bach's post-1934 trumpet parts show little variation from the technical difficulties that are found in his earlier trumpet parts, many of which were written expressly for Reiche. Johann Ludwig Schreiber too must have been a superb trumpet player . . . the difficult Tromba part of the second Brandenburg concerto was probably written for him.[7]

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[5]Horace M. Lewis, Jr., "A Study of the Clarino Style," Three Dissertations on Ancient Instruments from Babylon to Bach (Fullerton, California: F. E. Olds & Son, n.d.), p. 13.

[6]Darrel Urban, "Gottfried Reiche: Notes on His Art, Life, Instruments, and Music," Missouri Journal of Research in Music Education 1/5 (Autumn 1966), p. 38.

[7]Smithers, The Music and History of the Baroque Trumpet before 1721, p. 126.

Later, in reply to a September, 1974 statement in the Musical Quarterly made by Edward Tarr, Smithers states:

> Contrary to one of several erroneous statements made by Edward Tarr in the Musical Times (September 1974), Bach's demanding trumpet parts in Leipzig cantatas were indeed written for Gottfried Reiche and after his demise in 1734 we do in fact notice a market [sic] decline in the use of the instrument in Bach's scores.[8]

Recently, a new chronology of Bach's music put forth by Alfred Duerr and Georg von Dadelsen of the Bach Institute was evaluated in relation to Tromba da tirarsi parts by Darrell E. Urban.[9] But, until the question of chronology can be completely answered, the decline or consistent difficulty of the parts will remain a mystery.

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[8] Don L. Smithers, "Special Review," Brass Bulletin 10 (1975), p. 89.

[9] Darrell E. Urban, "The Enigma of the Tromba Da Tirarsi," Three Dissertations on Ancient Instruments from Babylon to Bach (Fullerton, California: F. E. Olds & Son, n.d.), p. 13.

CHAPTER V

SCORING FOR THE TRUMPET IN THE WORKS OF J. S. BACH

The Trumpet as a Non-chromatic Solo Instrument

Of all the works that utilize trumpets by Bach, only one used the natural F trumpet. That work was the Second Brandenburg Concerto. It was one of six works dedicated in the spring of 1721 to Christian Ludwig Margrave of Brandenburg.[1] The utilization of the wind instruments in the Second Brandenburg Concerto was in the style of the concerti grossi, as were numbers four and five.[2] The Concerto's instrumentation was Clarino trumpet in F (designated Tromba on the original score), Flute, Oboe, Violino Concertato, Strings and Continuo. The terms Flute, Flauto or Fiauto according to Albert Riemenschneider were designations of the time clearly for Blöckflote or recorder.[3] Briefly, the Flauto or Flauto à bec, differed from the

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[1] The original manuscripts, not mentioned in the Margrave's estate, eventually ended up in the Berlin State Library, where they are presently.

[2] Karl Geiringer, Johann Sebastian Bach (New York: Oxford University Press, 1966), p. 319.

[3] Albert Riemenschneider, The Use of the Flutes in the Works of J. S. Bach (Washington, D.C.: The Library of Congress, 1950), p. 10.

Flauto traverso, Flauto traversa, or Flauto traversiere in that it was an earlier form of flute. It was end blown as opposed to side blown like the modern flute. "The tone was softer and more impersonal than that of the traverse flute, which often led to its being called flute douce."[4]

Because of its limitation to the diatonic scale in the fourth octave of the harmonic series, the natural trumpet could be considered a non-chromatic instrument. The trumpet in F specified for the Second Brandenburg Concerto was unusual for the time and its use and origin are not clear. It was believed that the painting of Reiche by Haussman, given in Figure 5, depicted an F trumpet.

> The painting of Reiche by Haussmann depicts the player holding a small closely curled trumpet in his right hand and a piece of music in his left. The instrument has been measured as accurately as possible and was thought to be in D fitted with a small "C" crook. . . One can assume that a conscientious painter would be careful to depict the correct number of curls in an instrument but one cannot expect him to have his measurements exact and it is possible that the instrument is in F and carries an E-flat crook. In this case Concerto No. 2 would fit it perfectly and be quite playable on an instrument without the crook, i.e., in its basic key of F.[5]

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[4] Ibid.

[5] Urban, "Gottfried Reiche," p. 38, quoting Norman Carrell, Bach's Brandenburg Concertos (London: Allen & Unwin, 1963), p. 62.

GOTTFRIED REICHE
trumpet player to
J. S. BACH

Figure 5

The instrument held by Reiche has often been calculated to be in D.[6] A discussion of Reiche, connecting him with the Second Brandenburg Concerto, seems premature as Reiche was a member of the Leipzig Stadtpfeifer and the concertos were written while Bach was in Cothen. Terry mentioned the possibility of Reiche being in Cothen at the time:

> The Ouvertures in C and B mi., and all but one of the Brandenburg Concertos, were within the competence of the Capelle in respect to the instruments they require. But it supported no horn players, and the well remunerated visit of two guest Waldhornisten on 6 June 1722 undoubtedly indicates a performance of the Brandenburg Concerto in F, probably the first.[7]

At the time of his death, Reiche left two instruments in his estate. They were a Zugtrompete and a Waldhorn. With his owning a Waldhorn it is possible to assume that he was one of the players from Leipzig that participated in the performance of June 6, 1772 and could have played the Second Brandenburg Concerto at that time as well. This is not to say that the trumpeters, namely Joh. Christoph Krahl and Joh. Ludwig Schreiber, employed at the Court of Prince Leopold of Anhalt-Cothen during the period of Bach's employment (1717-1723), were not capable of the performance of the work.[8]

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[6] Ibid., p. 34.

[7] Terry, Bach's Orchestra, p. 7.

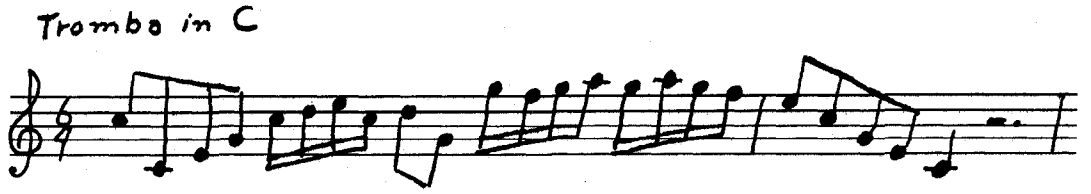
[8] Ibid., p. 5.

The demand for the upper register of the natural trumpet came early in the works of Bach. For example, in the final chorale of Cantata No. 31, Der Himmel lacht, written in 1715, he wrote an e''' for the trumpet.[9] This was the highest written pitch for the trumpet in the works of Bach. Cantata No. 31 was written while he was employed at Weimar. This pitch of e''' was also concert e''' as it was written for the C trumpet.

The notation for trumpet generally should be explained before one can fully understand the difficulty of the Second Brandenburg Concerto.

The practice of writing for trumpet of the time was to notate the trumpet parts in C harmonic series and utilize the appropriately pitched instrument for the key of the piece or the part desired. Thus the part for the trumpet in Cantata No. 147, Herz und Mund und Tat und Leben, and shown as Example 12 would be written:

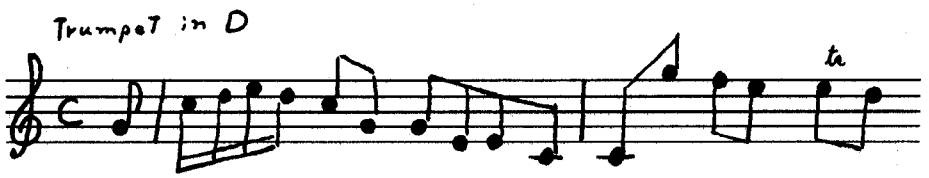
Example 12



[9] Lewis, "A Study of the Clarino Style," p. 27.

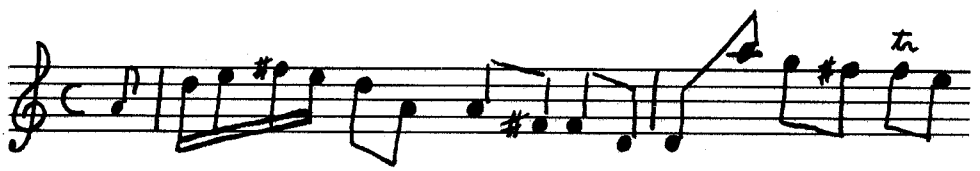
Because the part was for C trumpet it would sound the same pitches. The final chorale of the Christmas Oratorio was written for trumpet in D and would be indicated as in Example 13.

Example 13



The trumpet part given above would sound in concert pitch the notes given in Example 14.

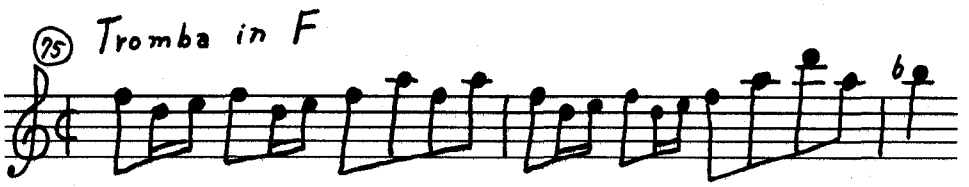
Example 14



The Second Brandenburg Concerto contained the highest trumpet parts in the literature of Bach. The reference is not to the written pitches but the actual sounding pitches. The highest written pitch

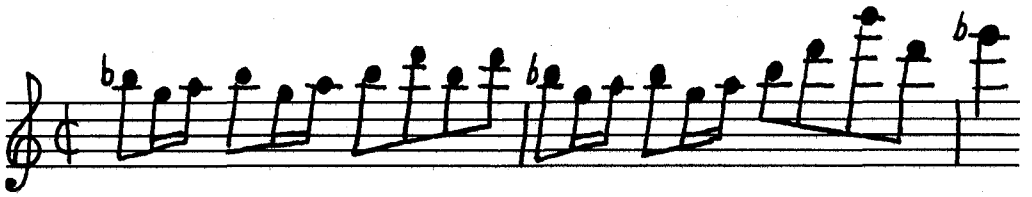
for the trumpet in the work was a written d''' which occurred three times in the first movement of the work. Measure 76 contained one such d''', shown in Example 15.

Example 15



Example 15 would sound in concert pitch the notes given in Example 16.

Example 16



This sounding concert g''', the highest pitch to be sounded in the scores of Bach was not to be equaled until the time of the Viennese composer Michael Haydn.[10]

Many observations about the general style of clarino parts through the Second Brandenburg Concerto and Bach's scoring for the natural trumpet may be made.

The general practice of the time, particularly in the trumpet concertos of his contemporary Telemann, was to have the trumpet play in the slow movement of the concerto, whereas the solo trumpet in works outside of Germany had the trumpet tacet in the second movement.[11] Bach, in the Second Brandenburg Concerto uses the three movement form without the trumpet in the second movement.

A common practice for Bach and other composers of clarino parts was to begin the part with establishing the key of the work in the third octave of the harmonic series. Example 17 shows this practice in the Second Brandenburg Concerto.

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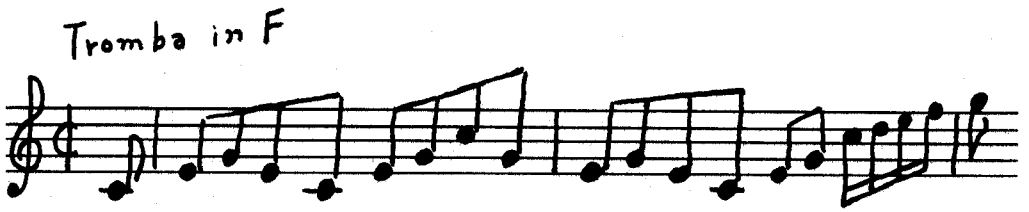
[10] Ibid.

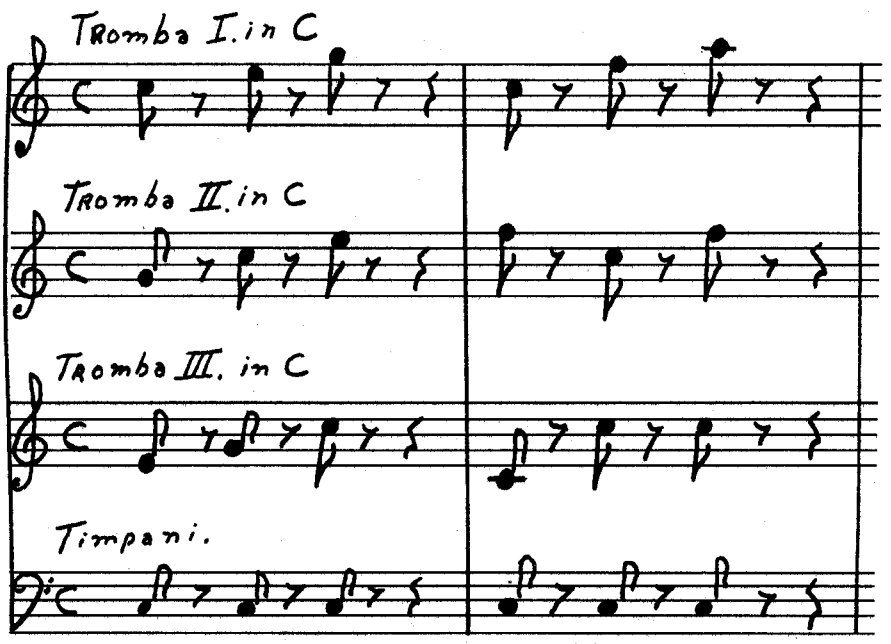
[11] Ibid., p. 24.

Example 17



This procedure was followed in multi-trumpet works also and exhibited in Example 18 from Cantata No. 130, Herr Gott, dich loben alle wir.

Example 18



The practice seemed appropriate to the music and was helpful to the trumpet player. Playing in the fourth octave of the harmonic series was difficult from the standpoint of accuracy, a problem that aided in the abandoning of that register by later composers. Allowing the player to establish the pitch level of the instrument and the key of the work at the outset had the additional important purpose of creating better pitch delineation later in the movement.

Another important characteristic of the concerto and an indication of the clarino style of writing was the use of small interval relationships in the highly florid passages in the fourth octave of the harmonic series. J. Murray Barbour in Trumpets, Horns and Music[12] made a statistical study of florid trumpet parts in the choral works of Bach, Handel, Kuhnau, Mayr, Steffiani, Buxtehude, and Lully. In this study seven figures seemed to have emerged that were used consistently. They are given in Example 19.

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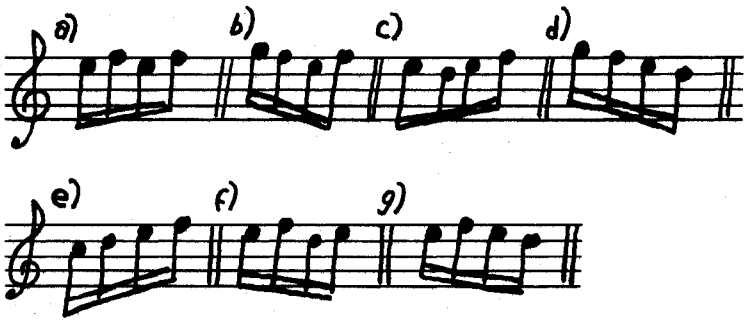
[12] J. Murray Barbour, Trumpets, Horns and Music (East Lansing, Michigan: Michigan State University Press, 1964), p. 46.

Example 19

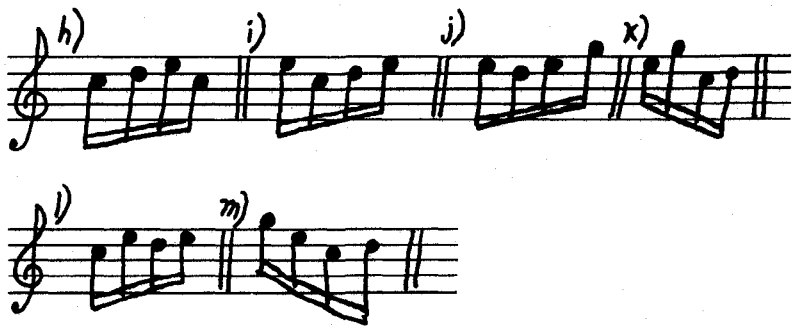


In applying the statistical analysis provided by Barbour to the Second Brandenburg Concerto, it may be observed that the figures provided cover many four-sixteenth note figures. Fifty-four four-sixteenth note figures appeared in the trumpet part in the first movement and 54 in the third movement. In the first movement, the Barbour identified figures appeared in the following quantity:

Example	No. Observed Occurrences
19a	2
19b	4
19c	2
19d	3
19e	0
19f	5
19g	4

This left the following configurations of four-sixteenth note patterns, as given in Example 20, not accounted for in the first movement.

Example 20



The occurrences of the remainder of these figures was as follows:

Example	No. Observed Occurrences
20h	5
20i	2
20j	1
20k	1
201	1
20m	1

Although it is possible to observe that the concerto was cast in the tradition of the Baroque trumpet concerto using the Barbour list of patterns, a study of the melodic intervals used in the score

is much more revealing. Of all the intervals between 16th notes, of which 262 occurred in the first movement and 228 in the third movement, the following types of melodic intervals occurred in the first movement:

First Movement

Interval	No. of Occurrences
Unison	30
Minor 2nd	60
Major 2nd	147
Minor 3rd	12
Major 3rd	6
Perfect 4th	5
Perfect 5th	1
Minor 7th	1

and in the third movement:

Third Movement

Interval	No. of Occurrences
Unison	0
Minor 2nd	58
Major 2nd	128
Minor 3rd	23
Major 3rd	12
Perfect 4th	2
Perfect 5th	5
Minor 7th	0

This statistical study of the intervals shows an overwhelming amount of small intervals, especially unisons, minor 2nds and major 2nds. From that point, the number of occurrences of intervals diminished as the intervals increased in size. The unison interval in the first movement occurred in the accompaniment type figures and usually not in the high clarino register of the trumpet part.

With this observation one can deduce that when the notes were quick the intervals were small. On the other hand a look at eighth note movement reveals that this speed of note created a different type of breakdown of internal relationships.

First and Third Movement

Interval	No. of Occurrences 1st Mvt.	3rd Mvt.	Total
Unison	117	33	150
Minor 2nd	3	2	5
Major 2nd	6	5	11
Minor 3rd	50	1	51
Major 3rd	55	1	56
Perfect 4th	62	9	71
Perfect 5th	11	6	17
Minor 6th	1	0	1
Major 6th	2	0	2
Octave	6	4	10
Major 12th	3	0	3

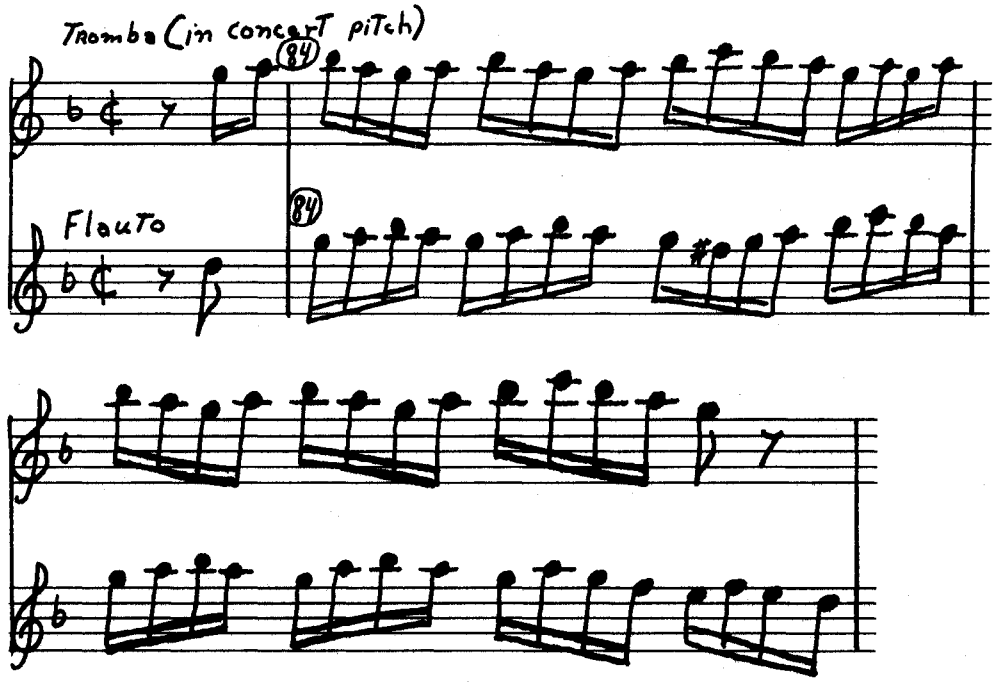
In total there were 316 intervals between eighth notes in the first movement and 61 in the third movement. Of these intervals, many occurred at the interval of a major 3rd, minor 3rd, unison and perfect 4th. The unisons that occurred were again in accompaniment figures in the lower octave of the trumpet, not when engaged in the clarino figures.

One more observation can be made about the use of intervals in the trumpet part. When the intervals were smaller they were usually in the upper register or fourth octave of the harmonic series. When the larger intervals were desired, they were generally in the third octave of the harmonic series.

The factor relative to small and large intervals was also true in all the other instrument parts of the Concerto. The distinction in parts being the trumpet's use of the fourth octave for small interval relationships and the third octave for the larger intervals.

Throughout the Concerto, the trumpet played in parallel thirds or sixths with the other concertino instruments. The trumpet also negotiated the same range as the other concertino instruments on occasion. In Example 21 the trumpet and flute parts from the first movement crossed voices continually.[13]

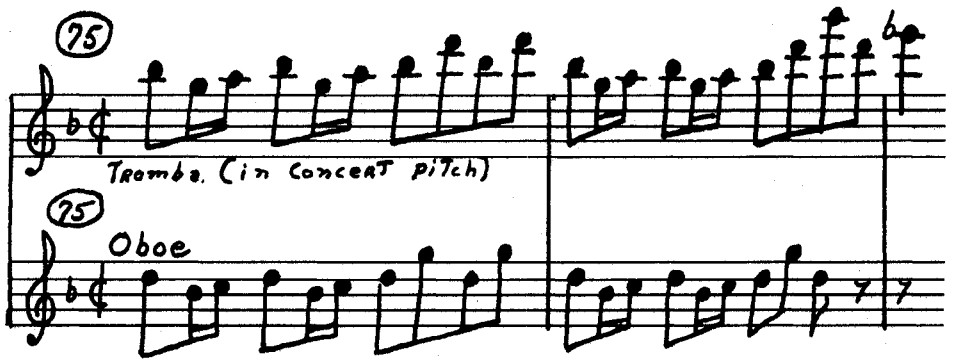
Example 21



[13] Ibid., p. 44.

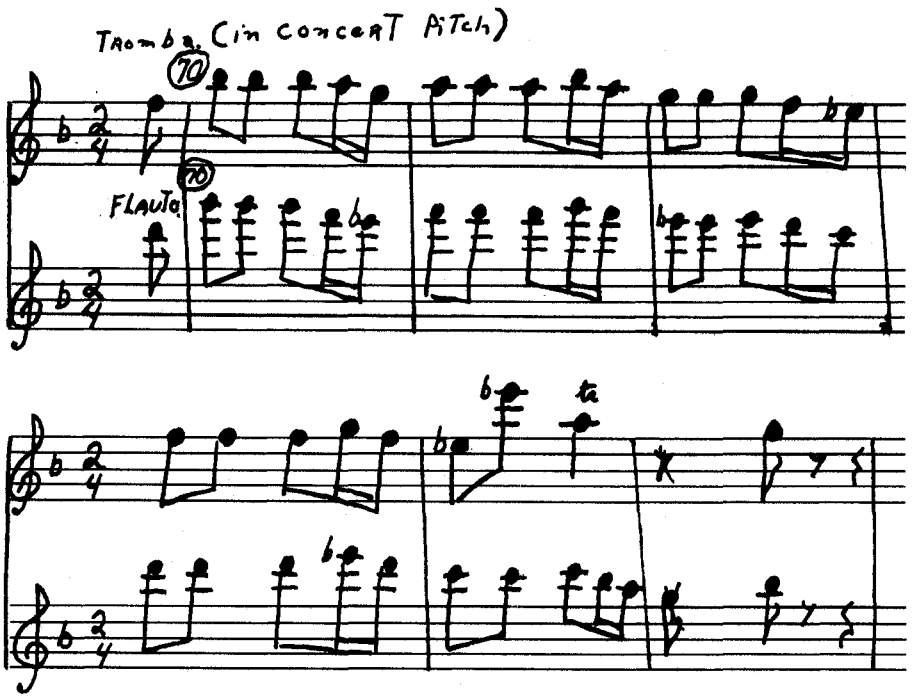
In Example 22 the trumpet was moving in sixths with the oboe,

Example 22



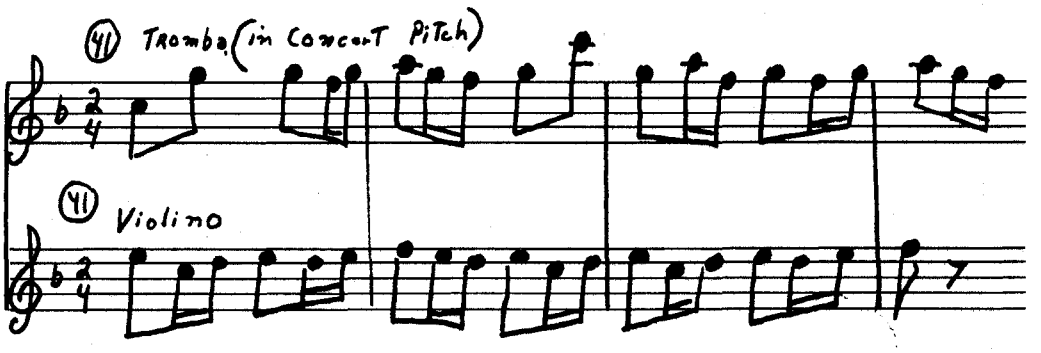
with the flute in Example 23,

Example 23



and in thirds with the violin from the third movement in Example 24.

Example 24



The fourth octave of the harmonic series, for the trumpet, allowed the instrument to participate diatonically in works and perform as an equal member of a solo group. It was not relegated to simple chordal and fanfare activities but, as in the last movement, participated in the melodic aspects of the work by introducing the fugal subject, playing the countersubject, and in the coda, playing the beginning of the fugal subject.

The reason Bach did not use the F trumpet after this work will probably always remain a mystery. It was not until Haydn and Mozart that the F trumpet came into common use with crooks and shanks to E and lower.[14] Anthony Baines gave this account for the pitch of F in the natural trumpet in the Second Brandenburg Concerto:

> Various 18th-century German authorities (e.g. Zedler's Universal Lexicon, Vol XLV, 1745) state that besides the German or ordinary trumpet, there were also made (in Germany) the French and the English trumpets, pitched respectively a tone and a third higher than the German. Altenburg defines these two higher pitches as F and G at Kammerton.[15]

Baines' statement was significant because it suggested the availability of the F trumpet in Germany during the time of Bach.

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[14] Bate, The Trumpet and Trombone, p. 107.

[15] Grove's Dictionary of Music and Musicians, "Trumpet," p. 566.

One reason why Bach could have insisted on the use of F as the key of the Second Brandenburg Concerto was his continued preoccupation with symbolism and logical order. In the scheme of the six Brandenburg Concertos the following key relationships evolved:[16]

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Concerto Key
F	F	G	G	D	Bb	
b	b	#	#	##	bb	

Whatever reason for the unique key of F, the Second Brandenburg Concerto followed the traditional patterns in construction. In the work, Bach used the natural trumpet in a way typical to this type of clarino style found in his other works that used the instrument.

The Natural Trumpet in the Solo Aria

Terry pointed to the texts of many cantatas that used the solo trumpet with the solo voice to emphasize the festive, joyful nature of the text and the appropriateness of the trumpet with voice, usually bass.[17]

In the first movement of the Easter Cantata, No. 66, the trumpet added an obbligato to the text of the chorus that sings:

> Rejoice now, ye faithful!
> Be mirthful and joyful!

---

[16] Geiringer, Johann Sebastian Bach, p. 322.

[17] Terry, Bach's Orchestra, p. 27.

In the first chorus of Cantata No. 70 the trumpet sounded the watchman's call:

> Watch ye! pray ye!
> Ready be, night and day!
> Soon upon the clouds ye'll see
> God to judge all mortals coming.

The trumpet again provided a descriptive connotation in Cantata No. 70:

> Welcome Resurrection morn!
> Peal out, ring out, Judgement call!

and from the bass aria in Cantata No. 128:

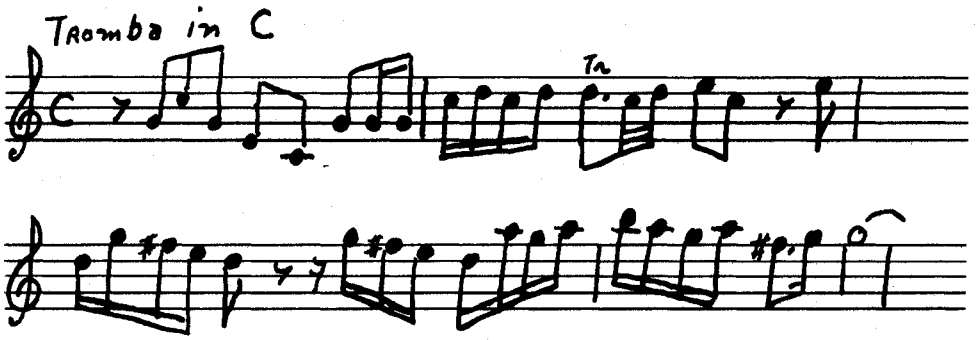
> Up, up, ye trumpets, call!
> Tell forth to one and all,
> Jesus on high is throned!

In order to compare and differentiate between the use of the trumpet in an aria as opposed to its solo use as in the Second Brandenburg Concerto, an examination in closer detail of the bass aria "Ich will von Jesu Wonden singen" from Cantata No. 147, Herz und Mund und Tat und Leben will be made. The appropriateness of the words

> Of Jesu's wounds my soul is singing
> A song of praise and loud thanksgiving.

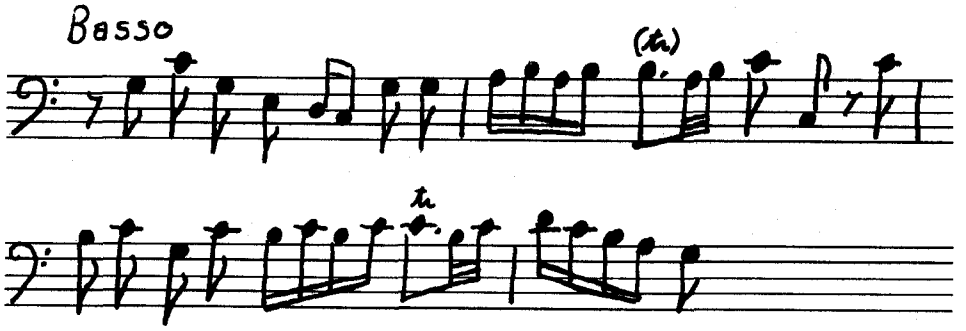
lended itself well to the choice of trumpet to announce this aria of praise. The trumpet made the first entrance with the phrase given in Example 25.

Example 25



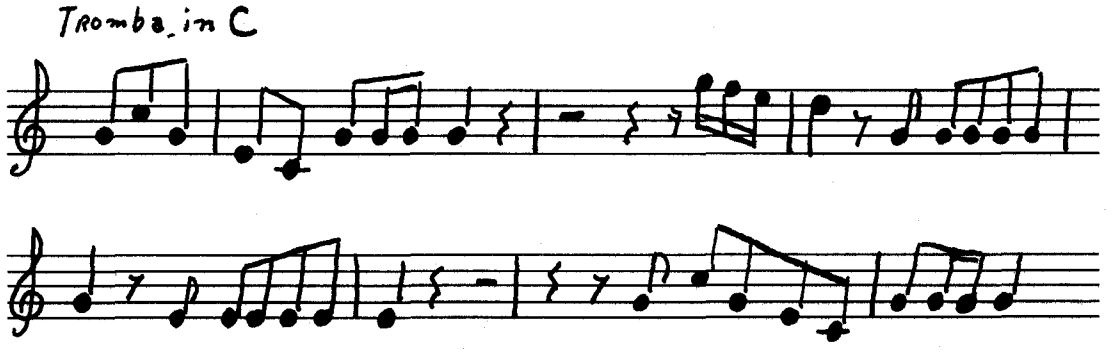
The high range of the instrument was not exploited in this work and the overall range for the trumpet in this aria was from c' to c''' with the upper note played only twice during the aria. In the Basso part, the melodic line that very nearly resembled the trumpet part, thus the solo line sang the large interval relationships of perfect fourths and major and minor thirds to accommodate the use of the trumpet. The Basso entered in measure eleven repeating almost note for note the trumpet line an octave lower.

Example 26



As the aria continued the trumpet was either engaged in playing the melodic material presented in Example 25 or performing triadic accompaniment figures such as the ones given in Example 27 in obbligato with the Basso solo. Each of the triadic figures had a direct relationship to the original statement.

Example 27



When hearing the modern trumpet in performance of these lines it is hard to perceive that an equal balance in timbre and volume could occur between the voice and the trumpet. However, an understanding of the instrument for which the part was originally conceived, the eight-foot natural trumpet, could change the perspective of the relationship between the two parts. A performance of the aria with a natural trumpet performing the Tromba part creates a more homogenous timbre between the two voices and created a better balance in volume. The volume relationship was better especially in the upper register.

Observing the range of the trumpet part, one sees that the outside notes resembled the Second Brandenburg Concerto. The tessitura of the part was considerably lower however. This was true of most solo arias by Bach using trumpet obbligato.

The Trumpet as a Chromatic Instrument

The composer did not always resort to adapting the vocal melodic line to the limitations of the natural trumpet, as observed in the previous section. To this end either the instrument had to be altered or another alternative had to be found.

Bach used the Tromba de tirarsi for the accompaniment of chorale melodies in keys impractical for the natural trumpet or for

the unison doubling of chorales in the lower register of the instrument. In Cantata No. 20, O Ewigkeit, du Donnerwort, for example, Bach called for the Tromba da tirarsi for a diatonic chorale section, and for simply a tromba for the obbligato to a bass aria. Unlike the chorale melody, the obbligato conformed exactly to the notes of the harmonic series.[18]

In almost all of the major works using trumpet in the Baroque period the natural trumpet was required to play certain notes alien to the harmonic series.[19] These notes were usually confined to the eleventh harmonic, involving the f'' and f#'' and the seventh harmonic, involving b' and b flat'. In addition to these notes, which Terry referred to as "ultra-harmonic notes,"[20] he also mentioned that the following notes were occasionally used.

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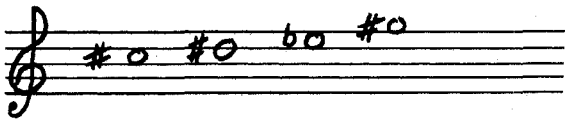
[18] Smith, "A Short History of the Trumpet," p. 24.

[19] Terry, Bach's Orchestra, p. 30.

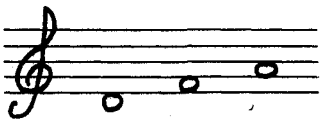
[20] Ibid.

Example 28



The utilization in the score of the following three notes, given in Example 29, was a specific sign that an instrument other than the natural trumpet was used.

Example 29



The manipulation of the notes given in Example 29 would require that they be either pulled, or lipped up, by at least one-half step from the normal position in the harmonic series, which was nearly impossible, or that the movement be down more than one-half step. The use of the cornett and Tromba da tirarsi (Zugtrompete) provided for these possibilities.

In eleven cantatas Bach called for the cornett specifically to sound the choral cantus.[21] "The compass of his cornett parts--from d' to a''--shows that he wrote for the ordinary Zink---the 'recht Chor Zink' of Praetorius--whose compass ranged from a to a''."[22]

According to the chronology provided by Terry, one notes that there were no cornett parts in Bach scores before 1723.[23] In nine of the later cantatas, the cornett provided the upper voice in a choir of trombones. In the Bach scores the cornett was never designated as a obbligato instrument but doubled the soprano line, often with other instruments in the choral portion of the cantata.

In fourteen movements of Bach cantatas the names Tromba da tirarsi, Tromba ô Corna da tirarsi and Corno da tirarsi appeared. Of the fourteen, eight reinforced the melody of a choral col Soprano as did the cornett when called for. In three of the fourteen movements, however, the instrument's range and function were very similar to that of the natural trumpet "with the freedom and fluency of that instrument."[24]

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[21] Ibid., p. 35-36.

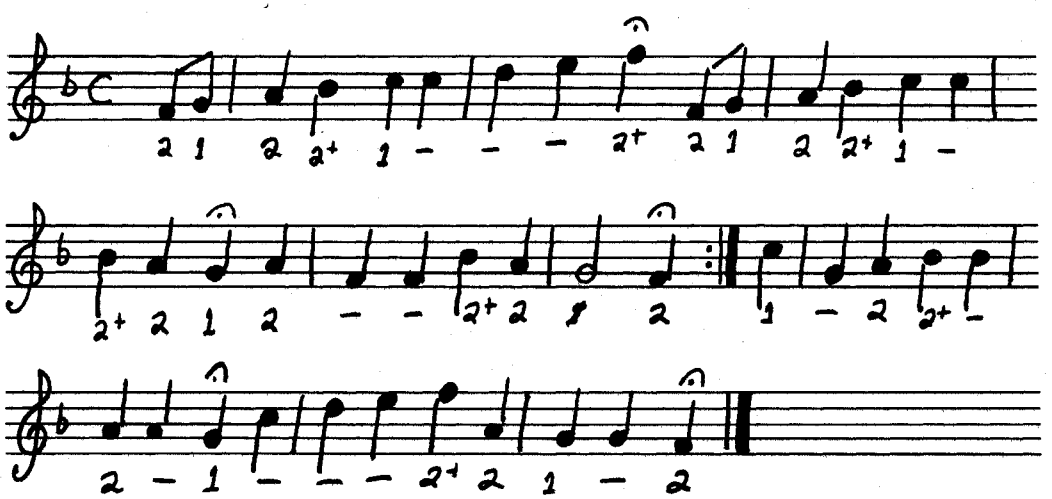
[22] Ibid., p. 38.

[23] Ibid., p. 194.

[24] Ibid., p. 30.

The Tromba da tirarsi, equipped with a single slide, required that it be extended twice as far as the double slide trombone and therefore made the seven normal positions on the trombone impossible. Only half the possibilities using a single slide were reasonable. In the final choral from Cantata No. 20, O Ewigkeit, du Donnerwort, given in Example 30, the Tromba da tirarsi was col Soprano in C.[25] It can be seen from the appropriate slide positions indicated in Example 30 that the choral was well within the technical limitations of the slide trumpet.

Example 30

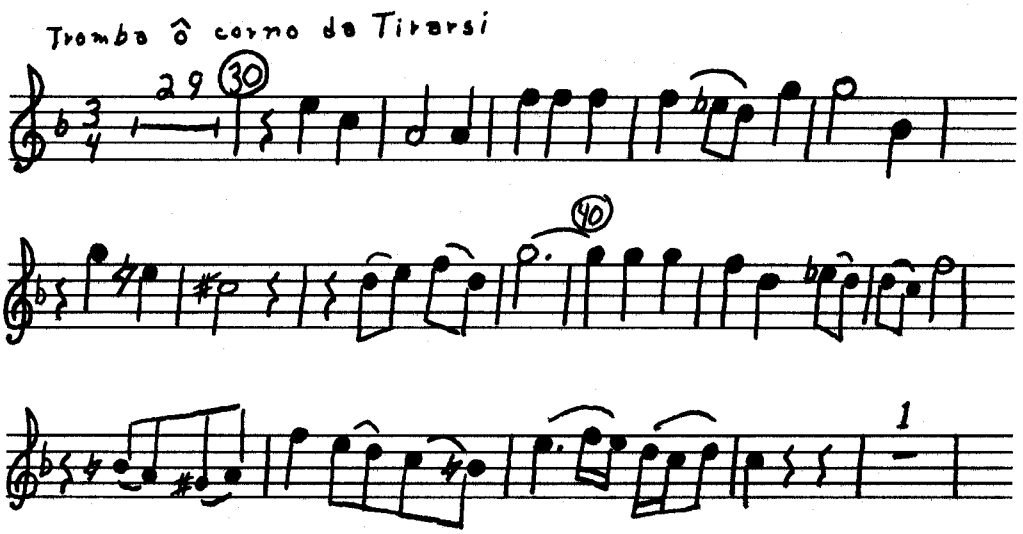


[25] Ibid., p. 33.

In addition to doubling the choral melody, the Tromba da tirarsi was assigned to play three obbligato movements in the cantatas and was used in thirty-two other Bach cantatas.[26] In these thirty-two cantatas the Tromba was called for but the presences of notes from Example 29 in the melodic line indicated that the part could have been played on the Tromba da tirarsi.

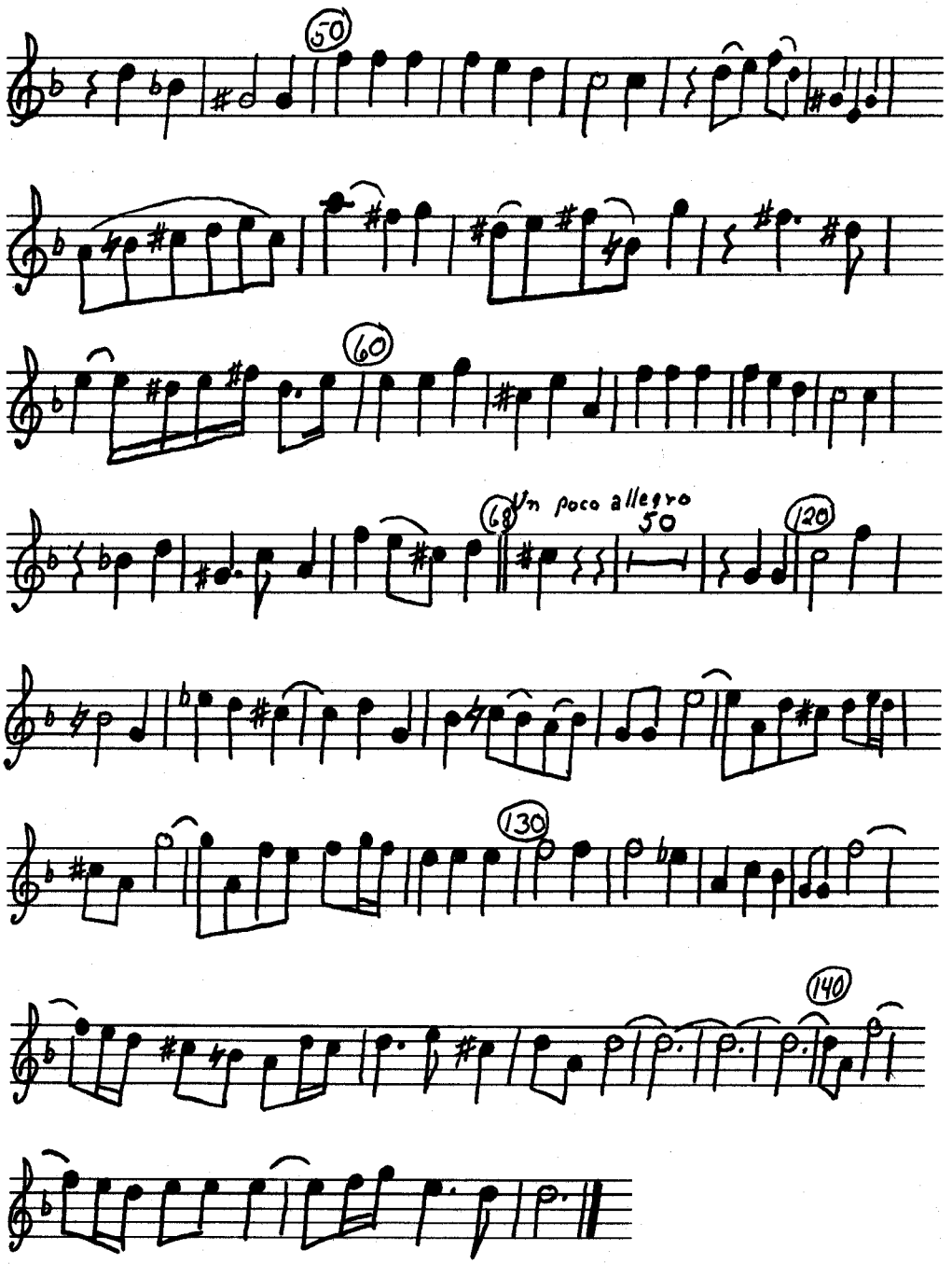
An example of the instrument's obbligato capabilities is shown in Cantata No. 46, Schauet doch und sehet. The complete trumpet part from the first chorus is given below as Example 31.

Example 31



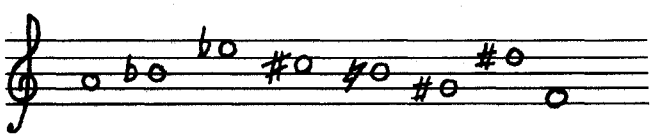
[26] Urban, "The Enigma of the Tromba Da Tirarsi," p. 15.

Example 31 cont.



The original score of this part called for Tromba ô corno da tirarsi.[27] Many notes in the example were out of the realm of playing possibility for the natural trumpet. Example 32 shows the notes derived from the above example and other Tromba da tirarsi parts that were not normally in the parts for the natural trumpet.

Example 32



Ludwig Güttler suggested that these parts be performed on the Tromba in C.[28] If this were a Tromba da tirarsi pitched in C, then the slide positions on the Tromba da tirarsi would be those given in Example 33.[29]

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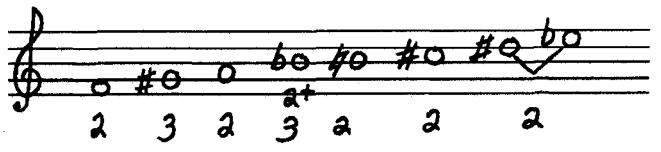
[27] Terry, Bach's Orchestra, p. 46.

[28] Ludwig Güttler, ed., J. S. Bach: Complete Trumpet Repertoire (Rev.) I (London: Musica Rara, 1970), p. ii.

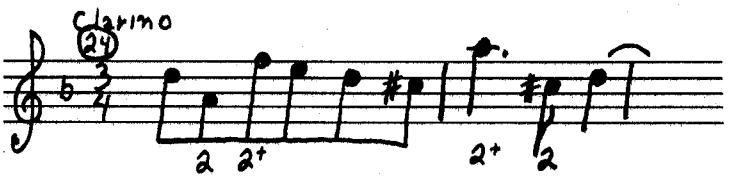
[29] Urban, "The Enigma of the Tromba Da Tirarsi," p. 15.

Example 33



One of the only unanswered questions remaining, relating to the instrument, was the speed in which it could be altered from any position to closed position or from one position to another. The moving of the single slide was a problem compounded by the long distance between positions. The scores almost invariably called for the trumpet to move from an extended position to an open position. An example of an exception to this was No. 3, Chorus in Cantata No. 24, Ein ungefarbt Gemute where the interval a' to f'' was required in the clarino part, making it playable on the Tromba da tirarsi. In this case the a' could be played in second position and the f'' could also remain in second because of the sharpness of the f'', being the eleventh harmonic. In the next measure the interval c#'' to a'' was called for and given in Example 34.

Example 34



This could also be handled by remaining in second position because although a'' was a valid note on the harmonic series, it was the thirteenth partial, and was considered out-of-tune. This could have been corrected with the slide. In the example from Cantata No. 46 the same technical situation existed. Between measures three and four, performing the a' to f'' in second position could improve the f''. The e'' could also be played in second position. In measure seven and eight the e'' and c#'' were both in second position and thus required no slide movement. The b' to e'' in measure thirty-two also created two second position notes in a row for the instrument, as did the f'' to b' in measure forty. Apart from the notes in closed position, second position notes were the most common. The preferred usage of second position over other positions created an added aid to facility and to the quality of tone of the instrument. The tone deteriated as the slide was lowered from close position.

The use of the third position was handled carefully in all four cases where it occurred. In measure forty-three the third

position note g#' occurred between two a's'. Because a' was in second position, this movement created no technical difficulty. Measures forty-nine and fifty placed the g#' between b flat' and an f''. B flat' and f'' were notes that were better played in a sharp second position because they were the seventh and eleventh harmonic respectively. Measures fifty-three and fifty-four placed the g#' between the d'' and e'. The d'' could be played in third position as an alternate position to the usual first position. Although the e' had no alternate position, the quarter note values aided in its exacution minimizing speed of movement of the slide as an additional problem. Measure sixty-six involved a third position g#'' between a d'' and c''. Again the d'' could be played in third position coming from a sharp second position with the b flat'. The dotted note was handled as a short note, as described in a performance practice recommendation of the period outlined in a later chapter. This could have given the player enough time to solve this problem.

Throughout the bass aria of Cantata No. 46, the Tromba da tirarsi added additional modulation and more unusual intervals to depict the words:[30]

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[30]Terry, Bach's Orchestra, p. 34.

Long since a tempest hath been brewing,
At last the storm in fury breaks,
and havoc dire and awful makes,
Thy sin and pride commingled
God's angry fires have kindled,
and doomed thee evermore to ruin.[31]

It was also possible that the Tromba da tirarsi was capable of playing the natural trumpet parts and could improve the intonation in the natural harmonics on the seventh, eleventh and thirteenth partial. The instrument in practice, however, served as a chromatic instrument with the characteristic trumpet tone.

The Natural Trumpet in Ensemble Without Timpani

So rarily did trumpets in ensemble appear without timpani in Bach scores that one could surmise that the omission was due to the fact that the timpani part was improvised or lost. One such example was the bass aria to Cantata No. 175, Er rufet seinen Schafen mit Namen, written in 1735.

In this example one sees two characteristics of writing for trumpet previously discussed. Primary throughout the work was the use of the Tromba I part written in the style of the clarino trumpet. Example 35 and 36 showed the Tromba II part as a companion to the first part but in thirds, fifths and sixths and always below the first part.

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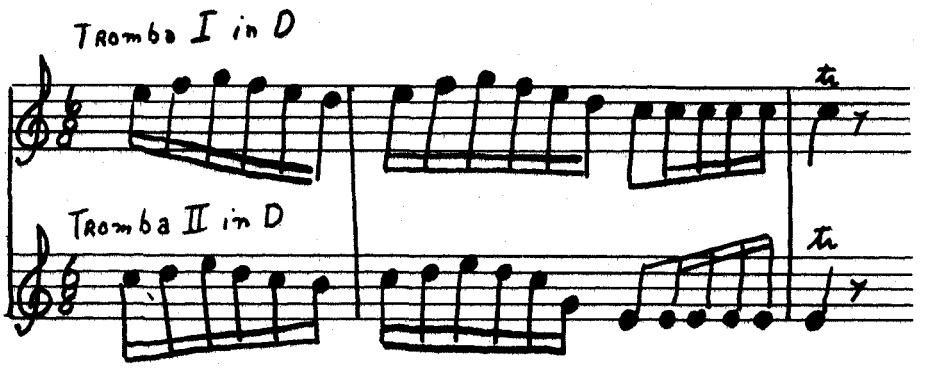
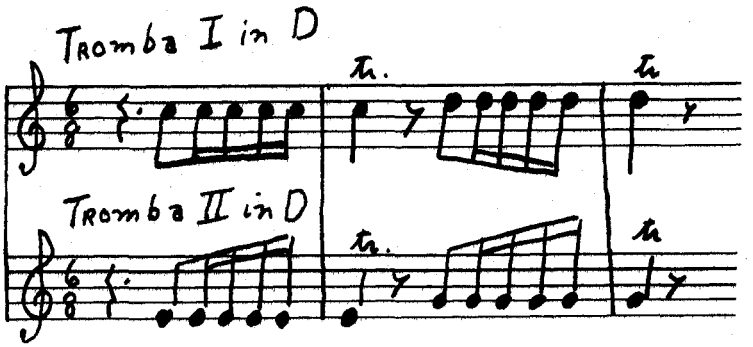
[31] Ibid.

Example 35

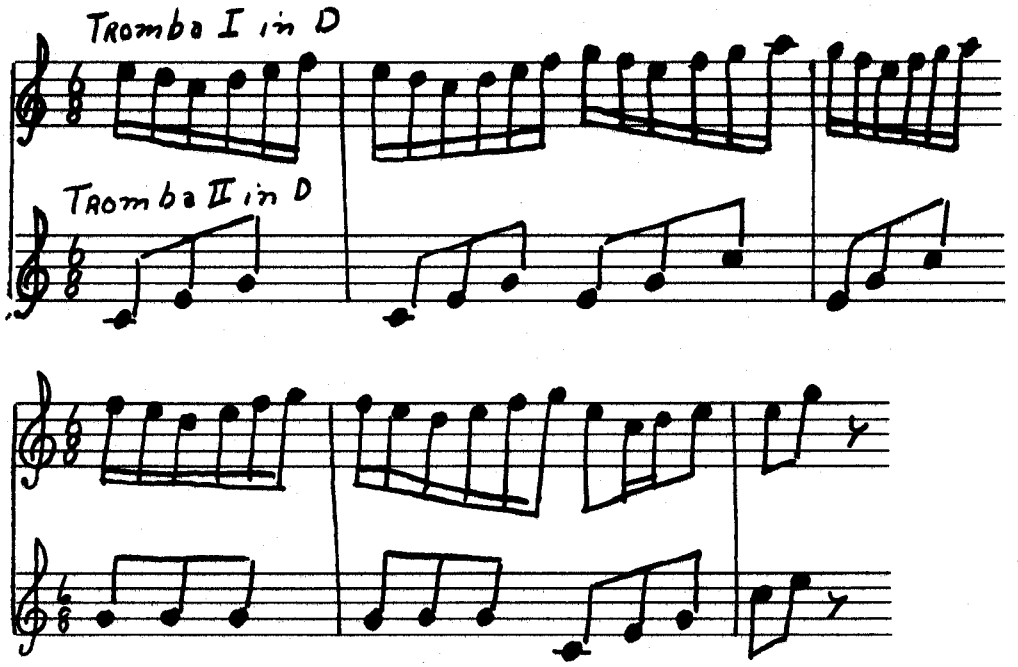


Example 36



The second trumpet part also accompanied the first trumpet in chordal patterns, as evident in Example 37.

Example 37

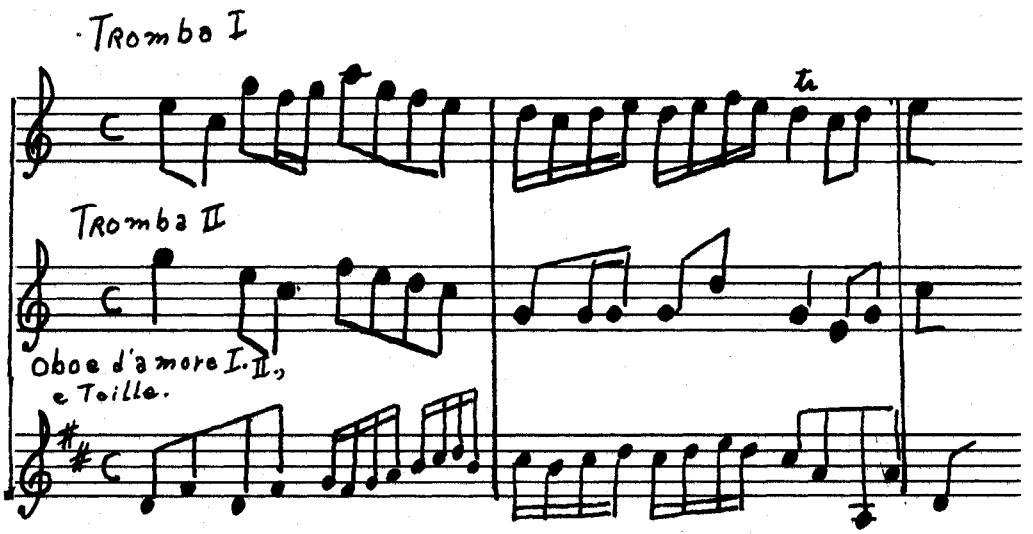


The accompaniment line was in a register for natural trumpet which allowed little more than large intervals on the instrument.

Another example of two trumpet parts alone without the supporting timpani appeared in the second Ritornello from Cantata No. 207, Vereinigte Zwietracht der wechselnden Saiten. In this work, Bach used a third accompanying wind voice, the Oboe d'amore I, II et Taille. A reasonable assumption is that Bach wished to have the third voice play the diatonic progressions not available on the trumpet as shown in Example 38. The third part was too

rapid to be played on the slide trumpet and contained notes not in the restricted harmonic series for the natural trumpet.

Example 38



The Natural Trumpet in Ensemble with Timpani

In church music for festive occasions, such as Christmas, Easter and Whit-Sunday, Bach usually employed three and sometimes four trumpets and drums. Additionally most of the secular contatas utilized trumpets with drums in the instrumentation.

Tamburi or Trommel were the two words Bach usually used to indicate drums on the score. The term Tympalles was used in

Cantata No. 11 and Tympali in the revised version of the Magnificat. In Cantata No. 191 the abbreviated word Tymp was used but Bach never employed the word Pauken in scores, which was the usual German designation.

Altenburg provided guidelines and directions for playing the kettledrums.[32] The guidelines were carefully observed in the Bach scores. The terminology of strokes and types of beatings used on the kettledrums was the same as that used in trumpet playing of the time. As an example, the einfache Zungen meant to employ single tonguing on the trumpet and Zunge meant single stroking on the kettledrum. It is important to note that in all the Bach scores the timpani were always used with trumpets or horns. Only on two occasions were the drums sounded without having the tumpets playing simultaneously. One such occurrence was the opening chorus of Cantata No. 207, Vereinigte Zweitracht der wechselnden Saiten, written in 1726. The drums played the following rhythmic figure alone to emphasize the meaning of the text.

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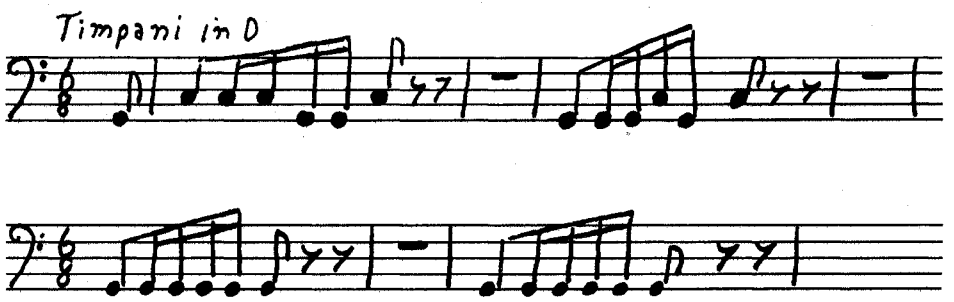
[32] Altenburg, Trumpeters' and Kettledrummers' Art, p. 124.

Example 39



Sweet voices harmonious of strings softly playing,
Ye thundering drum-rolls exultant and clear,
Hither draw listeners, coaxed by the sound![33]

In the first chorus of the Christmas Oratorio, the drum again appeared by itself to respond to the command of the text Tonet, ihr Pauken! erschallet, Trompeten!

Bach never called for the retuning of drums during the course of a movement. If the movement contained modulations, the drums did not play until the original tonality returned. Two drums were always used and were always tuned to different pitches.

The Bach scores exemplified the tuning of the drums as described by Altenburg.[34] The larger of the two kettledrums was

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[33]Terry, Bach's Orchestra, p. 54.

[34]Altenburg, Trumpeters' and Kettledrummers' Art, p. 122.

pitched in G and could be tuned up to A. Bach occasionally lowered this drum to F. The smaller drum was called the C drum and could also be tuned up a whole step to D, as was often the case, and down to B. Altenburg did not specifically designate the downward tuning of the drums.[35] The only other alteration that occurred for the drummer was the use of a black cloth (ein schwarzes tuch), spread over the parchment, which muted the tone.[36] As described by Altenburg, the use of the drum was "to sound the Fundament or Bass.[37]

When used with trumpets, the drums were always tuned in fourths and provided the dominant and tonic in the four voiced vertical structure. Almost without exception, Bach refrained from any technical displays on the drum, although in Altenburg's Essay[38] written only 20 years after Bach's death, such technical demands as rolls and double rolls were already a part of the drummers' vocabulary. Terry speculated that the drum used in church by Bach could have produced so much volume compared to the rest of the orchestral instruments that to include any virtuoso displays would only have

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[35] Ibid.

[36] Terry, Bach's Orchestra, p. 51.

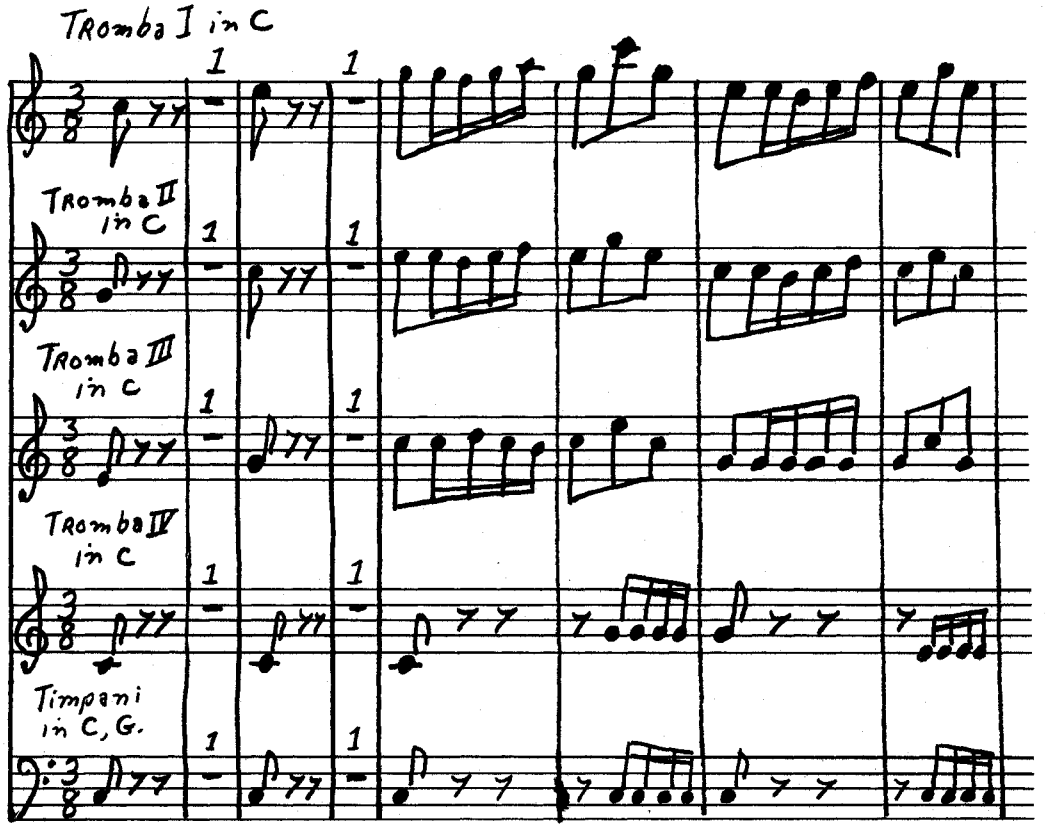
[37] Ibid.

[38] Altenburg, Trumpeters' and Kettledrummers' Art, p. 124.

enhanced the resonating qualities of the instrument, a situation best avoided.[39]

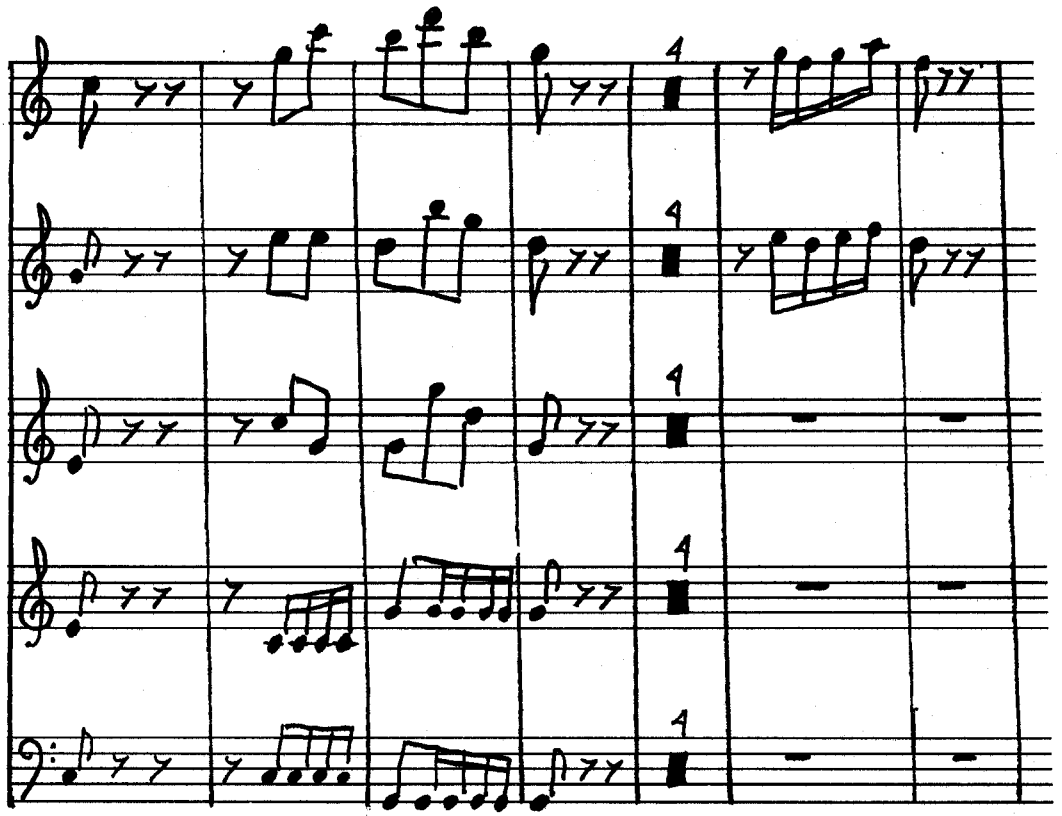
As can be seen in Example 40 the fourth trumpet part and the drum part were almost identical. Example 40 is from the Christmas Cantata No. 63, written in 1723.

Example 40

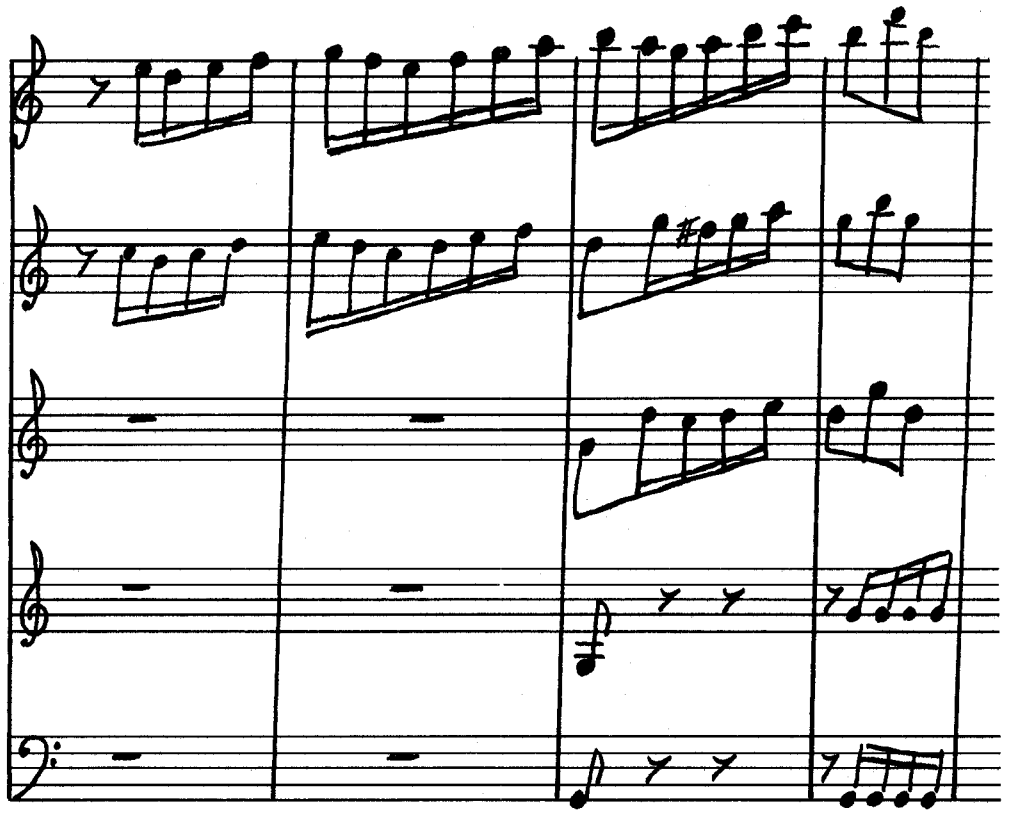


[39] Terry, Bach's Orchestra, p. 53.

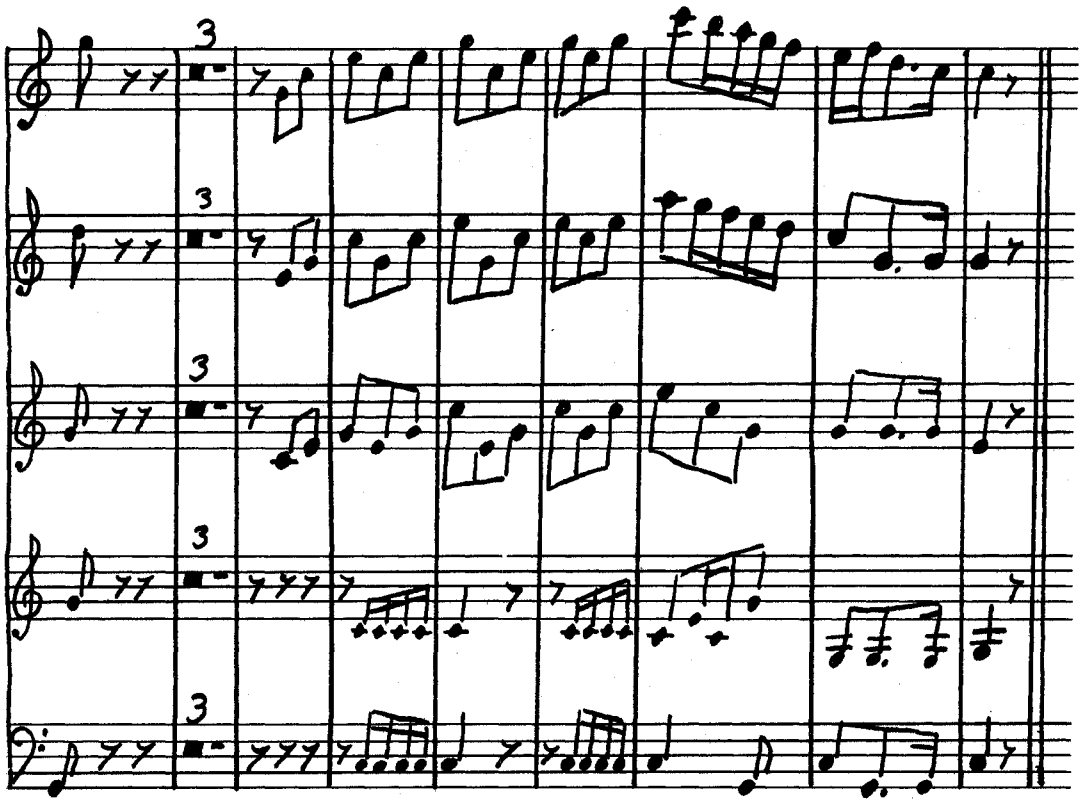
Example 40 cont.



Example 40 cont.



Example 40 cont.



While discussing the function of the individual trumpet parts in Polyhumnia, Praetorius mentioned that the timpani part need not be written out. Timpani players were capable of inventing their own part from the existing parts.[40] It may also be that the fourth trumpet part not available in the score could have been produced by deriving it from the other parts or substituting the fourth trumpet for a timpani.

In the total existing scores, Bach used drums in forty-nine compositions: thirty-nine church pieces, seven secular cantatas and three orchestral pieces. The kettledrums were almost always used in conjunction with trumpets and chorus in a festive or ceremonial mood.[41]

An examination of the trumpet and timpani parts in the first chorus in Cantata No. 119, Preise, Jerusalem, den Herrn, illustrates procedures already observed in Bach's treatment of instrumental voices in different ensemble situations. The parts are given in Example 41.

The timpani part and the fourth trumpet part were not exactly the same but form the same basic function in the performance of the

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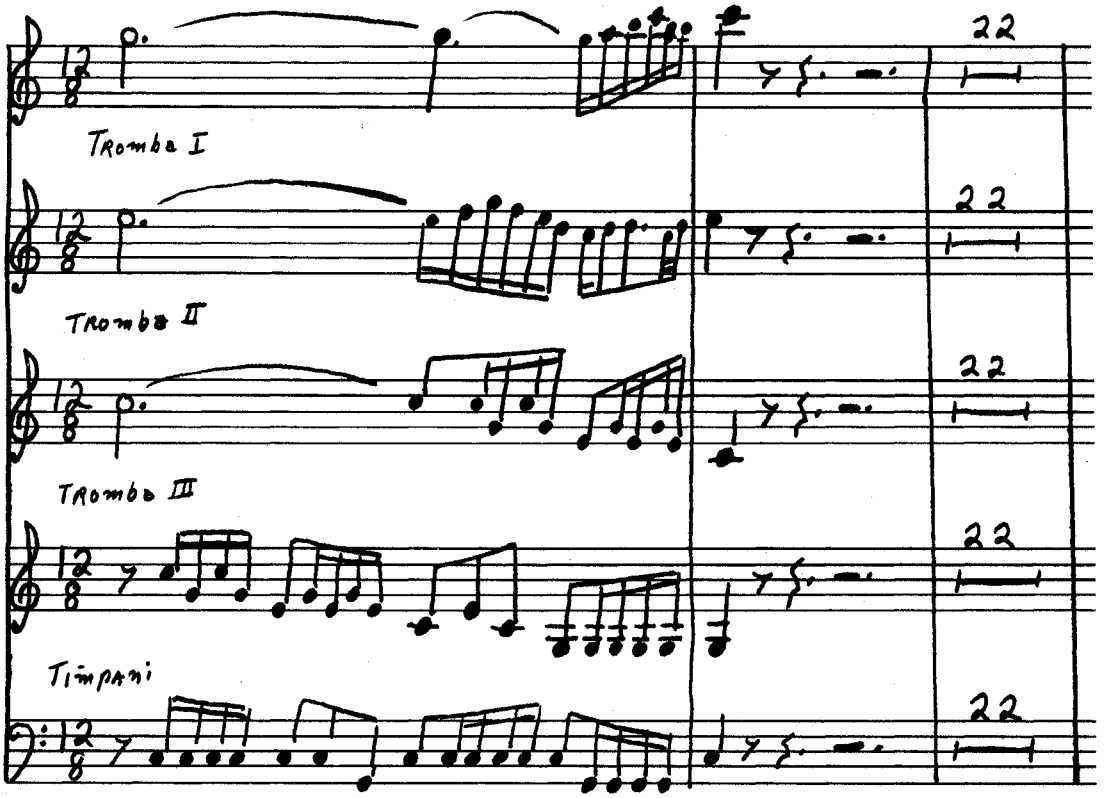
[40]Smithers, The Music and History of the Baroque Trumpet before 1721, p. 139.

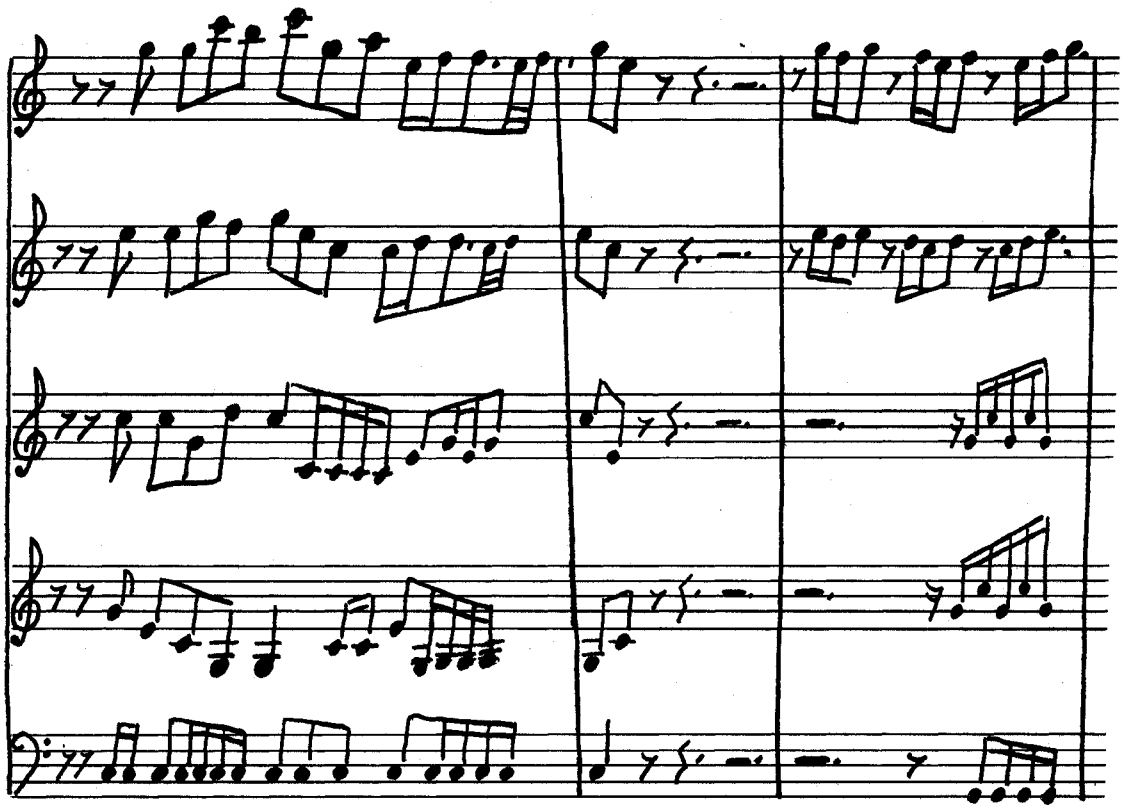
[41]James Blades, Percussion Instruments and Their History (New York: Frederick A. Praeger, Publishers, 1970), p. 245.

piece, that of providing the tonic and dominant root reinforcement upon which the other more florid parts were built. In most works using trumpets and drums, Bach used three trumpets. As seen in this example, the duplication of the fourth trumpet part by the drum was frequent, almost eliminating one of the parts through duplication.

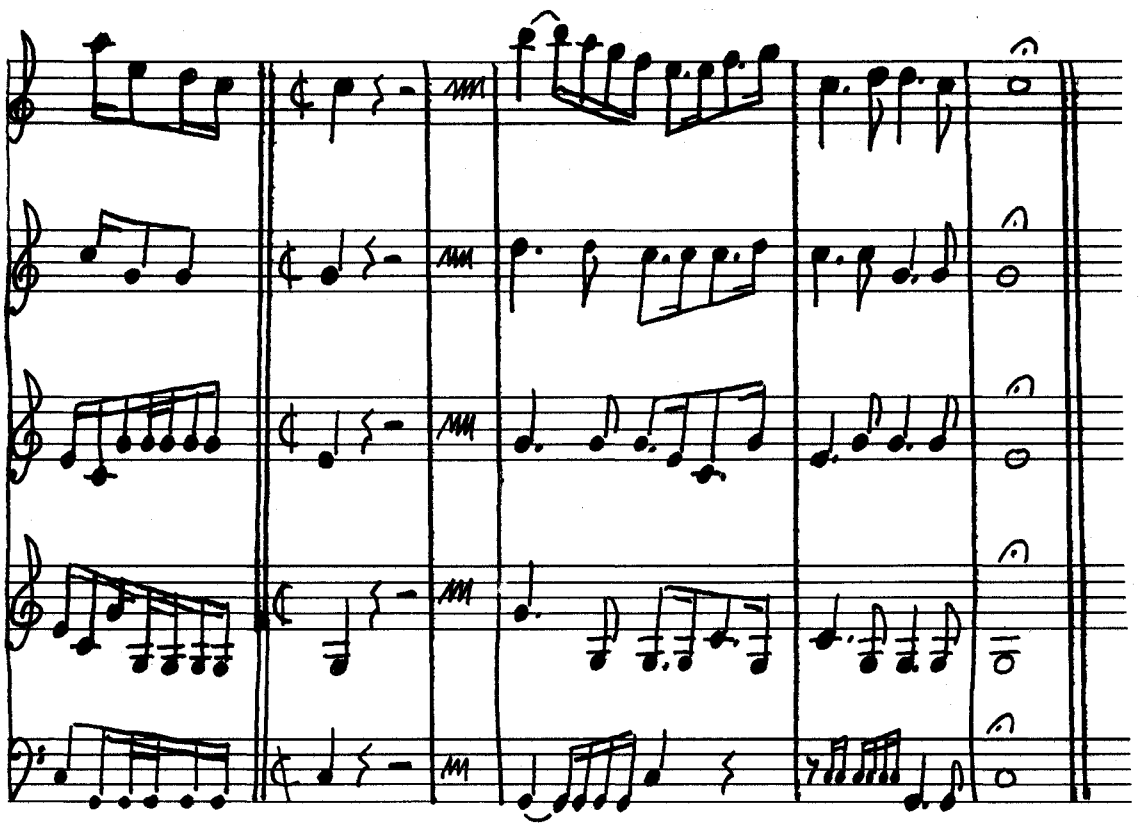
Example 41



Example 41 cont.



Example 41 cont.



The third trumpet part, because it was forced into the register of the third octave of the harmonic series, was also religated to much chordal playing. The third part did not participate in the sixteenth-note rhythmic figures unless it was moving in triadic movement with the other two top voices. When it did participate, it played the fifth of the triad.

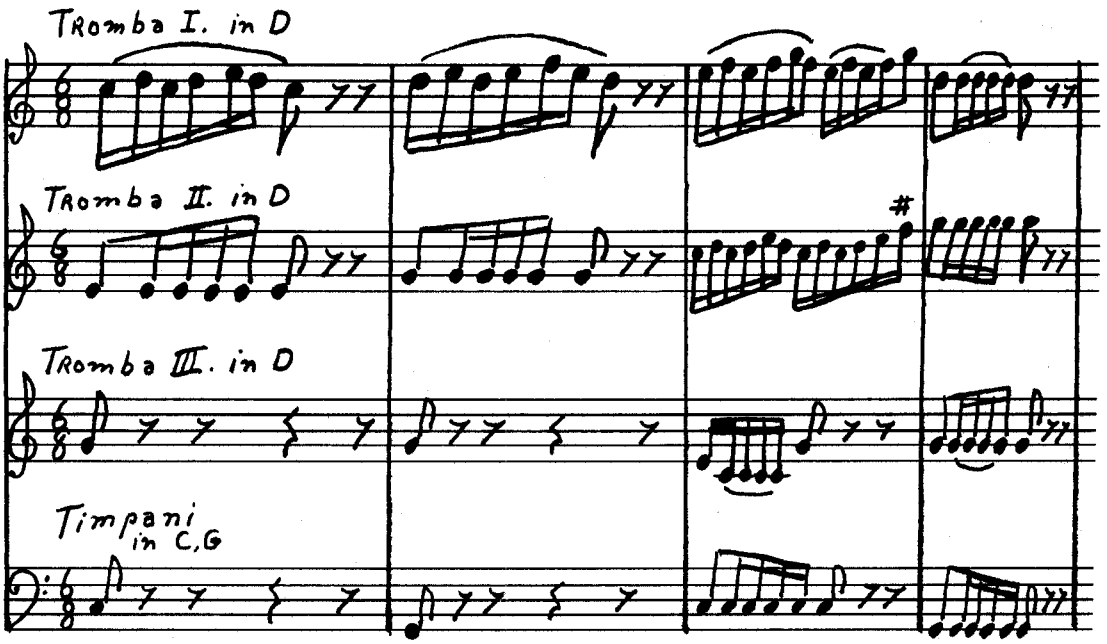
The first and second voices were treated with equal importance in the entire chorus although the traditional ranges of all the trumpet voices were adhered to. The upper part had a range of c' to d''', the second trumpet part from c' to c'''. The third trumpet part in the chorus was religated to the range of from c' to g'' while the fourth trumpet played from c' to c''.

When the second trumpet part was not playing in parallel thirds below the first part, it occasionally had a clarino style part of its own. In this case a cannon-type part existed with the first trumpet. As the upper voice held the pedal g'', the second part engaged in a flourish which went higher than the first part.

The first trumpet part was similar to the clarino part of any Bach work, when used in combination with other trumpets or alone. The tessitura and outside perimeters of the written range were identical to the Second Brandenburg Concerto. The part always had distinctive sixteenth note figures and maintained its position of prominance in the ensemble, no matter what the texture of the rest of the work.

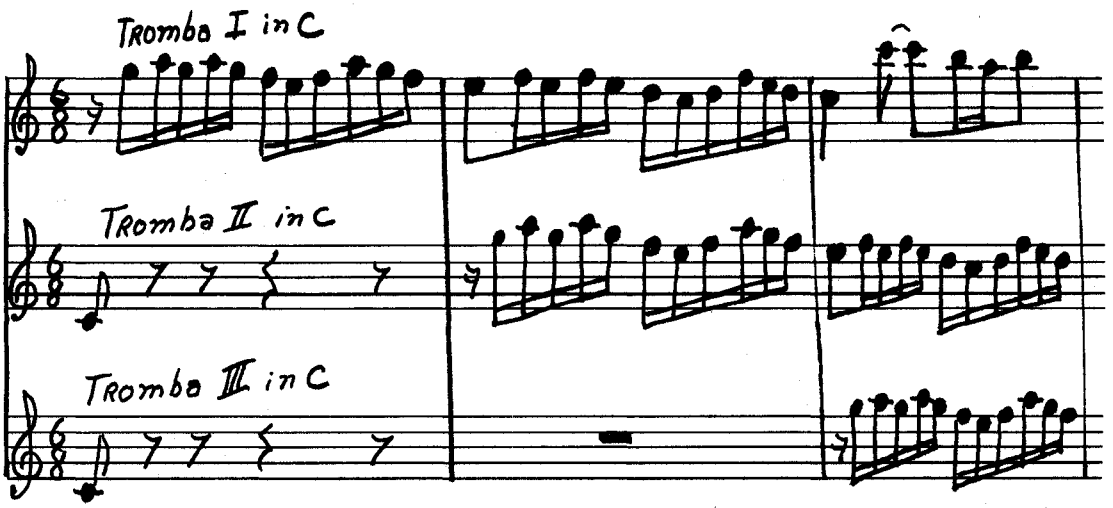
Example 42 demonstrates another instance of the three trumpet texture with timpani from Cantata No. 207, Vereinigte Zwietracht der wechselnden Saiten, First Chorus.

Example 42



The treatment of the upper three voices here was similar to the treatment of the upper three voices in a four trumpet voice texture. However, after a more careful examination of the three voices one sees that the third voice was treated more like the fourth voice in the previous example. The part was usually relegated to simple chordal texture. An exception to this procedure is seen in Example 43 from the Sonata from Cantata No. 31, Der Himmel lacht, die Erde jubilieret.

Example 43



In this example the third trumpet part assumed the role of a clarino trumpet for a brief but important section.

It is possible to deduce through these selected examples some basic principals in trumpet writing which Bach employed. These procedures seemed to coincide with the rules set forth by Praetorius, Altenburg and Speer regarding the part distribution and the function of the two upper clarino voices. The natural trumpet was the only trumpet type in combination with timpani in the existing Bach scores.

CHAPTER VI

THE TONE QUALITY OF THE TRUMPET IN BACH'S TIME

As early as 1474, distinctions between two aspects of trumpet playing were already discernable. Menke mentioned that expressions such as "blow" and "play" referred to different approaches to trumpet performance. The blowing pertained to the fanfare and the alarm while playing referred to melody playing from the watchtower.[1]

In 1713, the trumpet was criticized as an instrument with loud piercing qualities, as evident in Mattheson's comments about the sound of the Waldhorn:

> The stately mellow-sounding Waldhorn . . . has come a good deal into vogue of late . . . partly because it is less raucous than the trumpet, partly because it is more easily handled . . . It produces a rounder tone and fills out the score better than the shrill and deafening clarini.[2]

In 1789 Charles Burney in A General History of Music described the tone of the trumpet player Valentine Snow.

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[1] Menke, History of the Trumpet of Bach and Handel, p. 26.

[2] Johann Mattheson, Das newu-eroffnete Orchestre (Hamburg, 1713), p. 267, quoted in Charles Sanford Terry, Bach's Orchestra, p. 43.

> [Snow] was justly a favorite here, where his silver sounds in the open air, by having room to expand, never arrived at the ears of the audience in a manner too powerful or piercing.[3]

This remark had a double meaning. Although it appeared to be a compliment, Burney had had an opportunity to hear Snow in performance before. The above remark was more a criticism of his in-door playing.

However, among the criticisms were general expressions of admiration for the tone quality of the trumpet. In an Oboe tutor of 1695 the following comparison was made:

> besides its Inimitable charming Sweetness of Sound (when well play'd upon) it is also Majestical and Stately, and not much Inferiour to the Trumpet . . .[4]

Carse expressed his impressions of the sound of the Baroque trumpet:

> The real trumpet has a rich, broad, and majestic tone; it stands to the modern B-flat trumpet in the same relation as the French horn to the melophone. This qualitative difference is due to the longer tube and more extended natural scale.[5]

The fact that the trumpet was respected generally and received high praise during the time of Bach certainly must have influenced him in writing for the instrument. Avison, in 1752, made the following analogies:

[3]Charles Burney, A General History of Music (New York: Dover Publications, Inc., 1957), p. 1101.

[4]John Bannister, Oboe tutor (London, 1695) quoted in Thurston Dart, The Interpretation of Music (New York: Harper & Row, Publishers, 1963), p. 35.

[5]Carse, Musical Wind Instruments, p. 229.

> . . . the trumpet and French-Horn . . . have pieces of very different Styles adapted to them. The one, perhaps to animate and inspire Courage: the other to enliven and chear the spirits . . .[6]

Because the drum had been associated with the trumpet in so many of Bach's scores, one can draw some conclusions about the volume and balance between these two instruments. Altenburg indicated that "It is well known that kettledrums [have a] very penetrating [sound] and often drown out the other instruments."[7] Terry interpreted the fact that the drums were struck and sustained and not rolled in the two Overtures in D as an indication that an instrument with fairly slack parchments as heads would have had more than ample resonance.[8] Donington seemed to be speaking of the use of the trumpet in Bach scores when he said:

> It is valuable to know that we need not feel inhibited in giving Bach plenty of vivacity and brilliance where that is what the music itself implies.[9]

In 1930 Menke seemed to think that the trumpet did not have to be performed with such loud volume in Bach's orchestra:

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[6]C. Avison, An Essay on Musical Expression (1752) quoted in Dart, The Interpretation of Music, p. 35.

[7]Altenburg, Trumpeters' and Kettledrummers' Art, p. 125.

[8]Terry, Bach's Orchestra, p. 54.

[9]Robert Donington, "Tempo and Rhythm in Bach's Organ Music," School of Bach-Playing for the Organist, III (New York: Hinrichsen Edition, Ltd., 1960), p. 18.

> I have never been able to believe that the trumpet in Bach's time occupied such an astonishingly dominating position in relation to the rest of the ensemble. Moreover when one considers that our present-day trumpet asserts itself over a great mass of performers such as would have been out of the question in Bach's time, this fact becomes all the more prominent.[10]

The tone of the cornett was described by Menke in the following way:

> Interesting, among other things, is the connection with the Zinken (or Cornetti), in very common use at that time, which had already been made chromatic by means of flap-valves (or keys) and tone-holes. The tone of these instruments was, according to the older accounts, somewhat blaring, shrill, and peculiarly unpleasant to our ear, and the instrument was much used to tower-watchmen and town-musicians probably above all because of its greater utility (due to its chromaticism).[11]

Aside from the negative assertions of Menke, the cornett was an extremely popular instrument for a period of over 150 years. This was due in part to the fact that it was the only truely chromatic wind instrument during that time.

The slide trumpet was often made from existing natural trumpets. The tone quality was obviously related to the original instrument in first or closed position. The modern trombone has a noticeable change in the quality of sound as the slide is extended. This is even more obvious on the slide trumpet, due to the long extensions of the slide for the half-step alterations.

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[10] Menke, History of the Trumpet of Bach and Handel, Preface.

[11] Ibid., p. 41.

Considering the smaller instrumental ensemble size and the smaller choruses in Bach's ensemble, the present approach to volume seems historically inappropriate. All wind and string instruments, owing to advanced technology, have increased volume levels over the centuries. There is evidence that the trumpet was a prominent member of the ensemble during the Baroque. An examination of the original instruments themselves dictates a lower volume level that is more in keeping with the volume level of the other orchestral instruments in the ensemble.

CHAPTER VII

ORNAMENTS AND OTHER CONVENTIONS IN THE BACH TRUMPET PARTS

The modern trumpet is capable of much more flexibility in the embellishment of a melodic line than its historical counterpart. This is due primarily to its ability to produce chromatic alterations in all octaves. A primary danger in the interpretation of ornaments lies in the use of techniques not available to the trumpet player of the eighteenth century.

One of the most obvious of these is the passage from the aria "Grosser Herr and starder Konig," from The Christmas Oratorio, BWV 248. When the trill ornament shown in Example 44 was presented in the orchestral excerpt portion of the 1900 edition of Die Trompets als Orchester-Instrument und ihre Behandlung in den verschiedenen Epochen der Musik, Pietzsch indicated that "*This trill is impossible on the natural trumpet."[1]

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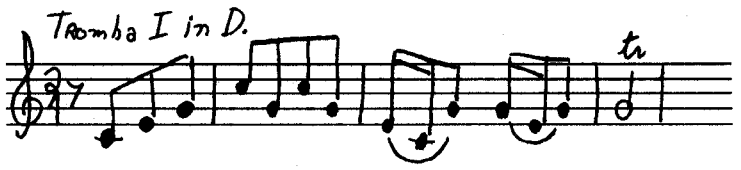
[1]Hermann Pietzsch, Die Trompete als Orchester-Instrument und ihre Behandlung in den verschiedenen Epochen der Musik. Trans. John Bernhoff. Rev. Edition (Ann Arbor, Michigan: The University Music Press, n.d.), p. 26.

Example 44



This would be true if one executed the trill in the modern manner of oscillation up one diatonic scale degree. However, the Baroque period performer did not interpret this ornament in only this way. Menke recommended the following possibilities for the treatment of the trill:

> The trumpet parts written in Bach's cantatas and oratorios often contain ornaments (turns and trills). Whether these decorations were played as genuine trills, mordents, and so on, or whether they were dealt with by double-tonguing or flutter tonguing (vibrato), is difficult to say for certain.[2]

This treatment was reinforced by Fantini in 1638 when he described the trillo and its function.

> . . . the trille was a very popular ornament used in singing around 1600, consisting of rapidly reiterated notes on one pitch.[3]

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[2]Menke, History of the Trumpet of Bach and Handel, p. 41.

[3]Girolamo Fantini, Method of Learning to Play the Trumpet in a Warlike Way as Well as Musically, trans. Edward H. Tarr. Original edition, 1638, (Nashville: The Brass Press, 1975), p. 3.

One can observe the treatment of ornaments by Bach in other instruments such as the Table of Ornaments from the Clavierbüchlein vor Wilhelm Friedemann Bach (1720).[4]

Rather than a complete listing of ornaments in the Baroque, and their application to the Bach trumpet parts, it might be more appropriate to survey the trumpet parts where ornaments occur. Bach wrote out ornamentation extensively in the trumpet parts. Baroque composers entrusted as little to written texts and as much to the performers' musicianship as he could in all decisions relating to rhythm, articulation and embellishment.[5] The possibilities for ornamentation that existed on the instruments will be limited to those extant conventions which were believed acceptable to the Baroque guild members and those tied to the conventions of the time.

The trills in the Second Aria from Cantata No. 5, We soll ich fliehen hin occur in five different ways. Example 45 gives the trill as written with one possibility of execution:

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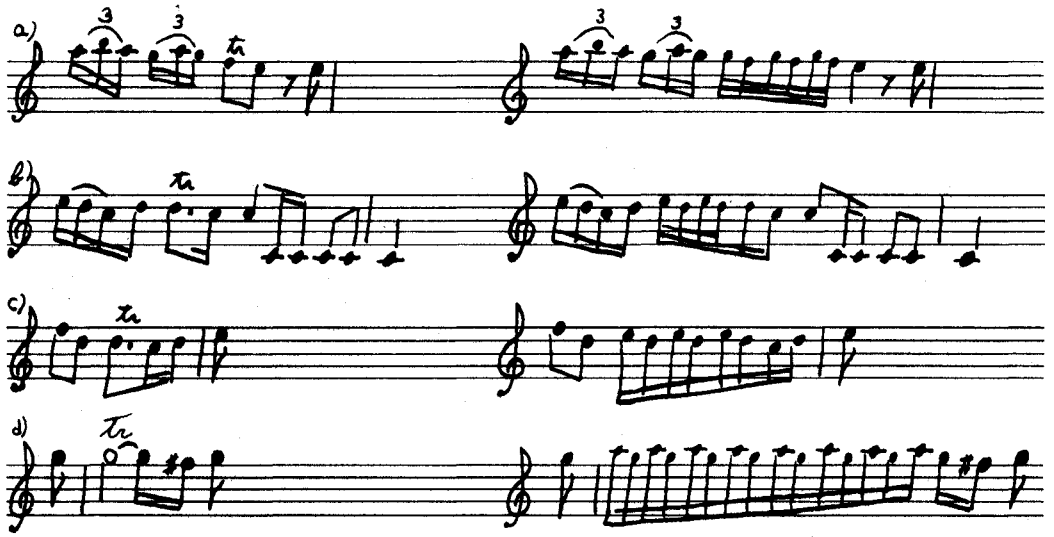
[4]Putnam Aldrich, Ornamentation in J. S. Bach's Organ Works. (New York: Coleman-Ross Company, Inc., 1950), p. 20.

[5]Grove's Dictionary of Music and Musicians, 5th ed., s.v. "Ornamentation," by Robert Donington. (New York: St. Martin's Press, Inc., 1961), p. 366.

Example 45



The trill on a dotted note could, according to Aldrich[6] be executed with the six possibilities as given in Example 46.

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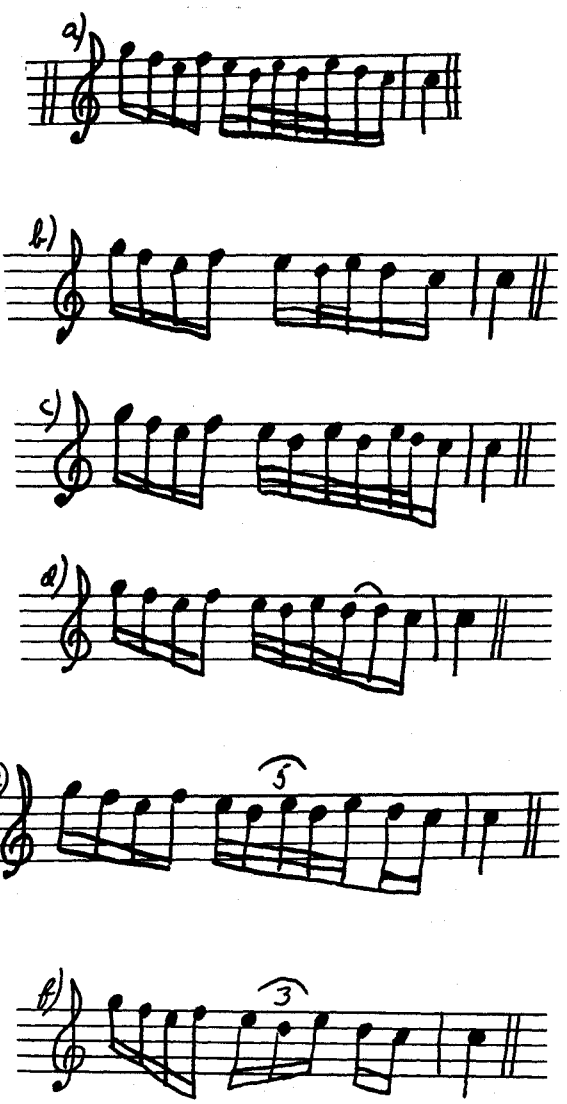
[6] Aldrich, Ornamentation in J. S. Bach's Organ Works, p. 21.

Example 46

Written

Played



All the possibilities existed within the framework of available notes on the natural trumpet.

Arnold Dolmetsch quoted Hotteterre-le-Romain from Principes de la Flûte Traversière of 1707 in which cadence trills were described in terms of another wind instrument.

> To render the idea of a shake clear to those who do not conceive it, it can be defined: "The agitation of two notes at the distance of a whole-tone or a semitone from one another, and beaten several times in succession." One begins with the higher note and finishes with the lower, and only articulates the first: It is the Finger which continues it . . . The number of repercussions is regulated by the length of the note. Above all you must be in no hurry to start the shake: but on the contrary hold it, about half the value of the note, principally in grave movements. The least you can give to short shakes is three movements of the finger, as on crotchets in quick movements.[7]

Three movements of the finger could be interpreted on the trumpet as the minimum of six notes needed in order to execute the ornament.

In reference to Example 45c, Dolmetsch gave many examples of the resolution of this trill pattern and quoted from F. W. Marpurg's Die Kunst das Klavier zu spielen (1750-1756)

> Sometimes two little notes from under are added to it. They are called Nachschlag (Termination), and add much brilliancy to the shake . . .[8]

Regarding 45d, Bach's written f#'' in this instance could be the termination suggested in the long shake and the example from Marpurg.

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[7] Hotteterre-le-Romain, Principes de la Flûte Traversière (Paris, 1707), quoted from Arnold Dolmetsch, The Interpretation of the Music of the XVII and XVIII Centuries. (London: Novello & Co., Ltd., 1946), pp. 164-165.

[8] F. W. Marpurg, Die Kunst das Klavier zu spielen (1750-1756) quoted in Dolmetsch, The Interpretation of the Music of the XVII and XVIII Centuries, p. 184.

> The shake begins with the note above. It is therefore superfluous to add a small note unless a long appoggiature is intended . . .[9]

In Example 45e again the termination note was present and thus the resolution as in executing the lip trill was, according to Speer, an acceptable method of performance.[10]

All the examples given above were within the possibilities of the harmonic series limitations of the natural trumpet and could thus be interpreted as they would be for keyboard or stringed instruments. Because the Leipzig Stadtfpiefer often performed on stringed instruments as well as trumpets their knowledge of ornamentation for other instruments could have been appropriately applied to the trumpet.

In all of the ornamental interpretations given above, the performance of the groppo as described by Fantini could also apply. Fantini distinguished between the Groppo and Trillo by designating the abbreviations 'G' and tri when appropriate.[11]

Fantini described the difference between the two ornaments in the following way:

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[9] Ibid.

[10] Menke, History of the Trumpet of Bach and Handel, p. 81.

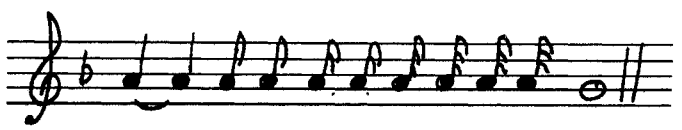
[11] Fantini, Method of Learning to Play the Trumpet.

> Finding a groppo, one should articulate it with the pointed tongue, whereas the trillo is performed with the strength of the chest and articulated with the throat, and can be executed on all the notes of said instrument.[12]

Tarr described the groppo by Fantini's description as the articulated trill and the trillo as the rapidly reiterated articulation on one pitch, similar to the ornament of singing popular in 1600.[13]

Praetorius, in 1619 described the one form of Trillo as a note in unison (a single note) repeated as in Example 47.

Example 47



This interpretation can be found in the works of Giulio Caccini and Monteverdi and are indicated by t, tr or tri. It is important that we allow for this possibility, especially in the trill in the Christmas Oratorio, cited in Example 44. If the ornament could be articulated on one note, with the interpretation afforded by Fantini and Praetorius, the the passage in Example 44 could easily be played as demonstrated in Example 48.

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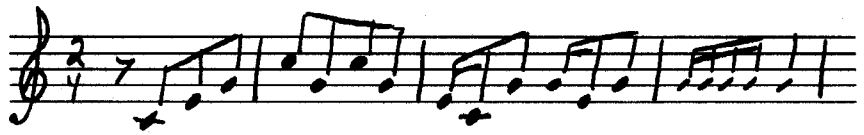
[12] Ibid.

[13] Ibid.

Example 48



If the interpretation of this trill could only mean the oscillation to the note above then the g' would have to preceed up to the sharp b flat' and the c' up to an e' (from Example 35, 36 and 44). Both possibilities violate the rule of the trill going up by one diatonic step.

Another type of convention existing in the seventeenth century was the use of dynamic contrast on a single note to add a specific effect. Fantini described this procedure in 1638.

> It must also be pointed out that wherever notes of one, of two, or of four beats length are found, they should be held in a singing fashion (in modo cantabile), by starting softly, making a crescendo until the middle of the note, and [then] making a diminuendo on the second half [of the note] until the end of the beat, so that it may hardly be heard; and in doing this, one will render perfect harmony.[14]

The use of vibrato in interpretation Bach's trumpet parts was a possibility if one used the practice as employed on other instruments or voice. Baroque trumpet players were certainly aware of the

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[14] Ibid.

ornamental procedures of string players as the following remark in 1757 by Marpurg indicates:

> No trumpeter or drummer shall be employed in princely services who does not play the violin well, since they all have to appear at court for large-scale musical performances and have to join in playing second violin or viola; to which parts they will be ordered by him who is supervising for that week.[15]

Dart mentioned that Geminiani, in his treatise on musical taste of 1745 indicated that ". . . the Close Shake (i.e., vibrato) . . . may be made on any note whatsoever."[16] Rousseau's tutor, written in 1687, recommended that on the viol one used vibrato discreetly[17] and Mersenne in the early seventeenth century and Ganassi in the sixteenth century both predated Rousseau's use of the technique.[18] Dart also indicated that in the period of Bach, not using vibrato in ensemble music was another possible interpretation of the technique.[19]

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[15] F. W. Marpurg, Die Kunst das Klavier zu spielen (1756), p. 183, quoted in Smithers, The Music and History of the Baroque Trumpet, p. 181.

[16] F. Geminiani, The Art of Playing on the Violin (London: 1751, Facsimile, 1952), quoted in Dart, The Interpretation of Music, p. 34.

[17] J. Rousseau, Traite de la viole (1687), quoted in Dart, The Interpretation of Music, p. 34.

[18] Ibid.

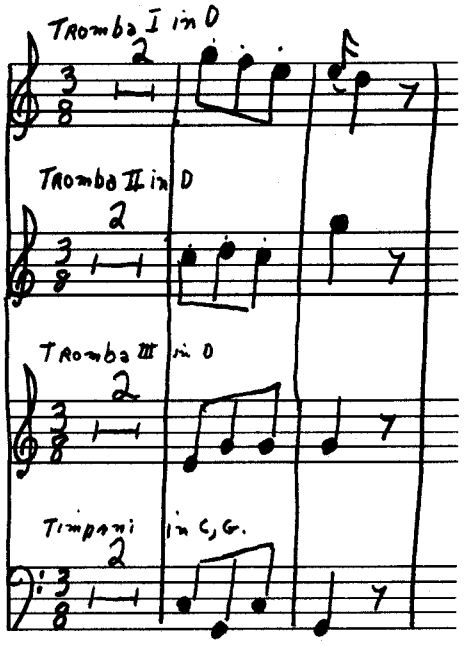
[19] Ibid.

With the exception of the trill, most ornaments in Bach trumpet parts were written out. Other ornaments added to the score by the performer were a justifiable possibility. We can relate the matter of interpretation of ornaments to the keyboard and voice and can also refer to Altenburg's practice of calling the different rolls and figures played on kettledrums by names referring to a type of trumpet articulation. In considering this, we could easily interpret the trumpet ornaments involving the trill as being an articulated ornament on one note, much like the technique described by Caccini and Fantini. In the case of percussion instruments, the ornament served as a method of extending the sound of the instrument that was struck and whose notes had a rapid decay rate.

The trumpet had an additional problem not found in other instruments which may have warranted the need for ornaments, that of faulty intonation. By ornamenting the seventh, eleventh and other partials of the harmonic series, as will be explained in a later chapter on intonation, the player could hide the actual pitch of the note that was in need of adjustment and eliminate some of the problem.

The appoggiaturas present in trumpet parts were often in only the first part as indicated in Cantata No. 201, Geschwinde, geschwinde, ihr wirbelnden Winde.

Example 49



Although the second trumpet part was higher than the first in the fourth measure, the appoggiatura did not exist in any of the other trumpet voices in the score. This is not to preclude the fact that it still may have been treated with the ornament.[20] In interpreting the appoggiatura Quantz indicated that they:

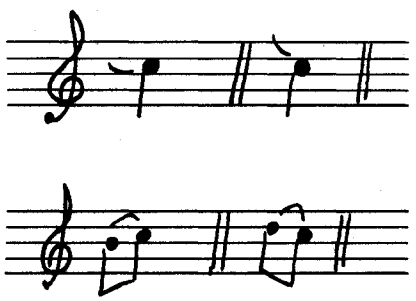
> . . . are written in small notes, so that they shall not be mistaken for normal notes, and they take their length from the

[20] Grove's Dictionary of Music and Musicians, "Ornamentation," p. 389.

> notes before which they are set. It scarcely matters whether semiquavers, quavers or crotchets are written. But it is customary to write them as quavers, and to write semiquavers only before notes from which none of the length can be taken: as before one or more long notes, such as crotchets or minims, of the same pitch. These semiquavers are to be executed very briefly, whether taken from above or below, and they must be taken on the beat, in the time of the main note.[21]

Bach, in his 1720 example of the execution of the ornament, indicated an even division of the note.

Example 50



It would be reasonable to assume, then, that the appoggiatura could be resolved with the application of two notes of equal value.

Altenburg went into great detail about trumpet ornaments and was quick to cite as additional sources Quantz's Versuch einer Anweisung die Flöte traversiere zu spielen, Leopold Mozart's

[21] Ibid., p. 392.

Violinschule, Hiller's Anweisung zum Gesange and Türk's Clavierschule fur Lehrer und Lernende.[22]

Referring to ornaments generally, Dart indicated that:

> The trouble about ornaments is not that there is too little information, but that there is too much . . . Ornaments are delicate, instinctive things; if they are not ornamental they are worse than useless, and anxiety about the right way to play them must never be allowed to cloud a performer's sense of the underlying structure of the music they adorn.[23]

Bach's choice of tempos is a question covered in many volumes including the works of Fritz Rothschild and Robert Donington.[24] Time-words and time-signatures, according to Donington ". . . do very little indeed towards establishing the tempo, and only a certain amount towards establishing the rhythm."[25]

Some observations by contemporaries were made concerning Bach's tempos. The following description was made by C.P.E. Bach and Agricola to a musical periodical:

> J. S. Bach was very accurate in his conducting and very sure of his tempo which he usually took very lively.[26]

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[22] Altenburg, Trumpeters' and Kettledrummers' Art, p. 109.

[23] Dart, The Interpretation of Music, p. 102.

[24] See Fritz Rothschild, The Lost Tradition in Music: Rhythm and Tempo in J. S. Bach's Time (London: Adam and Charles Black, 1953); Robert Donington, The Interpretation of Early Music (London: Faber and Faber, 1963).

[25] Donington, Tempo and Rhythm in Bach's Organ Music, p. 30.

[26] Ibid., p. 17.

Other remarks seemed to substantiate the fact that Bach's choice of tempos were usually lively and a bit on the fast side.[27]

The tempos of the works of Bach relate in an acoustical way to the physical surroundings in his time, just as they do now. Donington, speaking of the acoustical settings of organs made the following observation:

> Where the building has a reverberation time shorter than the ideal, a rather quicker tempo can help to overcome the effect of dryness. Where the building has a reverberation time longer than the ideal (and it is this respect of the problem with which, in a great majority of cases, organists have to contend), a rather slower tempo can help to lessen the confusion.[28]

Dart indicated that composers usually had an acoustical setting in mind when composing a work and made it an integral part of the work itself. The acoustical setting, then, may have dictated many things, including note length and tempo.[29]

From the reactions given, it seems reasonable that in deciding tempo, relative to the works of Bach, the technical limitations of the trumpet, especially in the upper part of the fourth octave of the harmonic series, and the difficulty in the manipulation of notes that were in need of adjustment, could have a major effect on the tempo of the selection or movement.

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[27] Ibid.

[28] Ibid., p. 16.

[29] Dart, The Interpretation of Music, p. 57.

General statements relative to tempos in the Baroque period include this remark made by Donington:

> It will be seen that all through the Baroque period (and no doubt earlier), the ordinary flexibility of tempo which every good musician makes in following his natural feeling is accepted as part of normal expression.[30]

In reference to another aspect of the correct speed, Donington stated:

> The right tempo for a given piece of music is the tempo which fits, as the hand fits the gove, the interpretation of that piece then being given by the performer. . . . An interpretation is always a combination of two people's visions: the composer's and the performer's. Provided that he is in fundamental sympathy with the music, the performer can enrich it from the storehouse of his own personality, and the stronger his personality, the more he can enrich it.[31]

Donington also quoted Quantz relative to the tempos of the period:

> It would be too long and at times impossible, to give demonstrative proofs on matters which nearly always look only to taste . . . Some like what is majestic and lively, and others what is tender and gay . . . one is not always in the same mood.[32]

The fermata occurred often in the cantatas of Bach. Frequently it occurred at the end of a work but it also was found in the structure of the movement or selection itself. One such fermata occurred in measure 104 in the first section of the Dramma per Musica, Cantata

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[30] Donington, Tempo and Rhythm in Bach's Organ Music, p. 35.

[31] Ibid., p. 12.

[32] Ibid., p. 13.

No. 201. Keller feels that it was necessary in the chorales in order for the congregation to breath, but in larger works:

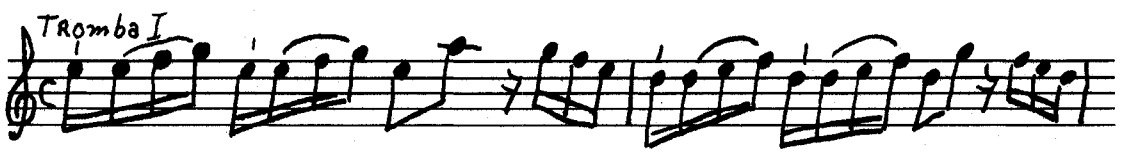
> These fermatas . . . are only reading signs, they serve for easier comprehension, and a conductor who wishes to sustain them in the chorales cannot justify this practice by the notation.[33]

The slur in brass music took on a special meaning according to Dart.

> In music for horns and trumpets a slur between two different notes usually implies that the instrument should be overblown--in the best coach-horn manner--so that the lower note leaps without a break to the upper one.[34]

Dart cited as his example the First Brandenburg Concerto which implied a crescendo effect. The excerpt for first trumpet from Section 64 of the Christmas Oratorio also demonstrated this effect in the trumpet,

Example 51



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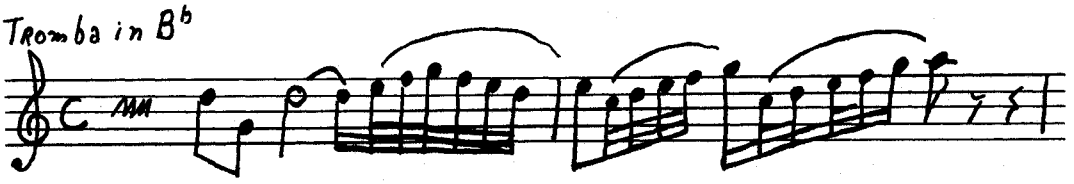
[33]Hermann Keller, Phrasing and Articulation Trans. Leigh Gerdine (New York: W. W. Norton & Co., 1965), p. 66.

[34]Dart, The Interpretation of Music, p. 99.

as did the Aria in section No. 3 of the Cantata No. 90, Es reifet euch ein schrecklich Ende, given in Example 52.

Example 52



Many confusing statements have been made concerning the interpretation of the dotted note in Bach's music. As to its application to the trumpet, Fantini explained its performance in a slow moving selection:

> Let it be known that wherever in the following pieces (sonate) dotted notes occur, one should breathe on the dot, according to the context, or the disposition of the player of said instrument.[35]

Donington indicated that the actual practice of performing the dotted noted was clear in the Baroque:

> The dot placed after a note had more meaning than one in proportional notation. By the baroque period, it was confined to one meaning, and that basically the one which it has for us today. But wheras today we treat the dot fairly strictly as a symbol lengthening the time of the note before it by one half

[35] Fantini, Method of Learning to Play the Trumpet, p. 3.

> of its original value, the baroque musicians treated it as lengthening the time of the note before it by an indeterminate amount conditioned both by taste and circumstances.[36]

Donington was referring to tempo and other matters of musical interpretation when he concluded that:

> It is a question of responding sensitively to the equally profound feeling which lies behind the orderly restraint of the great baroque composers.[37]

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[36] Donington, Tempo and Rhythm in Bach's Organ Music, p. 38.

[37] Ibid., p. 35.

CHAPTER VIII

INTONATION AND TUNING

The Affekt of tonality and its relationship with mood was another aspect of key usage that goes beyond the ordinary selection process. Charpentier's Regles de composition, written in 1690 told of certain moods associated with specific keys:

> "Why use different keys?
>
> "The principal reason is for the expression of the different passions for which the different fellings of the several keys are appropriate.
>
> "The key feelings abridged
>
> | | |
> |---|---|
> | "C major | Gay and warlike |
> | D major | Joyous and very warlike |
> | D minor | Grave and pious |
> | E flat major | Cruel and harsh |
> | F major | Furious and quick-tempered |
> | A minor | Tender and plaintive |
> | B minor | Solitary and melancholy"[1] |

The utilization of trumpets then, in the keys of C and D major, could have influenced the Affekt of the key and could have contributed to the overall description of the work.

The problem of playing a brass instrument in tune was compounded by the fact that the instrument worked on the just intonation

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[1] Smithers, The Music and History of the Baroque Trumpet before 1721, pp. 237-238.

principal, not the tempered scale. Willi Aebi, in his article "The Inner Acoustics of the Horn" described the problem in detail.

> Brass players' intonation is uncertain, and for two reasons. First of all, we must realize that the orchestra does not practice the compromise of the well-tempered scale. An orchestral musician's ear hears according to the harmonic scale. A given note in the scale does not lie at exactly the same pitch in various harmonic keys. Furthermore, the system of three valves leaves something to be desired when several valves are combined in a single fingering. The first and second, combined, do not quite result in a minor third, second and third not in a major third, and first and third not in a perfect fourth. The whole tone step from 8th to the 9th tone of the harmonic series, according to the vibratory ratio, is larger than the whole tone step from the 9th to the 10th tones.[2]

The questions related to the out-of-tune harmonics of the harmonic series had been of considerable concern to composers and audience. According to written accounts, Bach was seemingly more successful in the resolution of these notes than Handel.

> Burney (1789, Book IV; 1957, p. 801), in remarking on the trumpet part to Handel's overture in Atalanta, which had been played by Valentine Snow at Covent Garden in 1736, says bluntly, "The fourth of the key is, however, too much used even for vulgar ears to bear patiently . . . indeed, whenever the fourth or sixth of the key is otherwise used than as a passing-note, the ear is offended."[3]

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[2] Willi Aebi, "The Inner Acoustics of the Horn," Brass Bulletin 3 (1972), p. 35.

[3] Smithers, The Music and History of the Baroque Trumpet before 1721, p. 200.

The fourth and sixth of the key would have been the eleventh and thirteenth partials of the harmonic series. Carl Burney also described a trumpet performance in June of 1784 where the intonation problem again occurred in a Handel work.

> Mr. Serjant's tone is most pleasing and clear, but whenever he had to sustain the note G, displeasure was depicted on every face, which greived me sore.[4]

The G in question could be the eleventh partial on the harmonic series, the note being g'' on the D trumpet and sounding f''. It could also be the G concert pitch. When it is the fifth of a C major triad, it sounded very sharp when played with other instruments using the tempered scale. It was Menke's view that ". . . the listeners at that time possessed considerably more tolerant ears, we may further conclude that the players did their utmost to play these notes purely."[5]

Bach's trumpet players seemingly never received such extreme criticism as did Handel's. This could be for three reasons: 1) the German trained Stadtpfeifer were possibly better trumpet players, 2) the criticism of performances has yet to be discovered, 3) Bach was considerably more careful of his treatment of the most out-of-tune harmonics.

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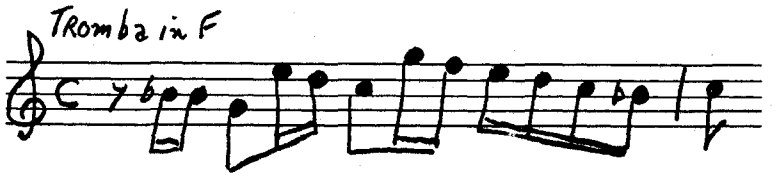
[4]Smith, "A Short History of the Trumpet," pp. 35-36.

[5]Menke, History of the Trumpet of Bach and Handel, p. 81.

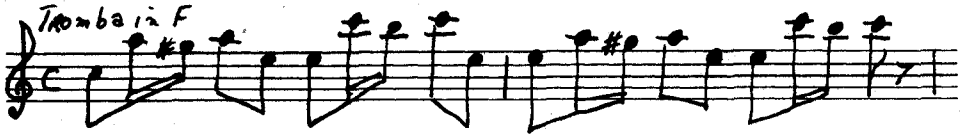
An examination of the first movement of the Second Brandenburg Concerto exposes certain situations which would lead us to believe that Bach was very careful of his treatment of the out-of-tune harmonics. In Example 53 the b flat' appeared on weak parts of beats:

Example 53



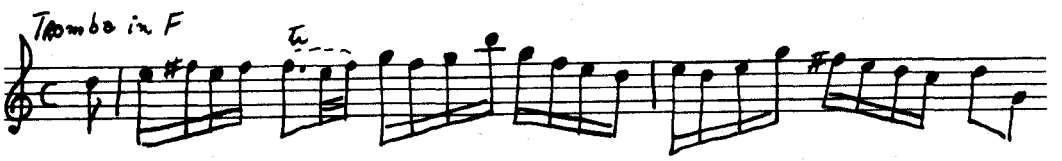
The g#'', a note not really on the instrument at all but produced by lipping down the a'', was again treated on a weak part of the beat as shown in Example 54.

Example 54



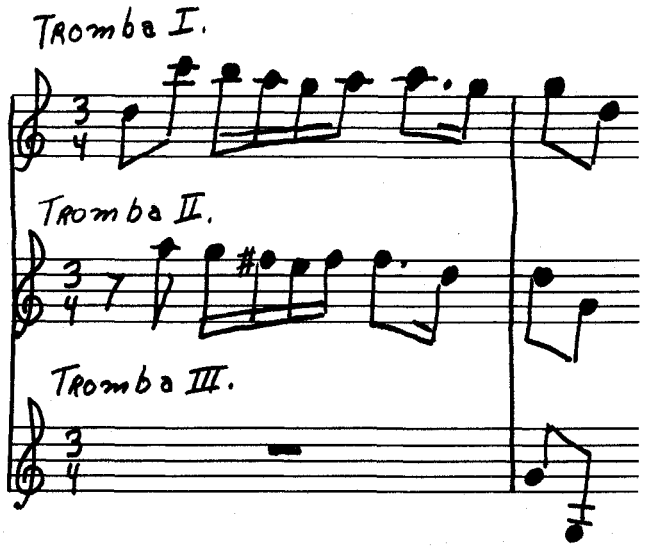
The f#'', the eleventh harmonic that was used as f'' and f#'', was placed in a most inconspicuous place. When it does emerge on a beat, it was shrouded with a trill, as in Example 55.

Example 55



Even in an ensemble of trumpets, the f#'', when occurring in voices other than the first trumpet, was carefully treated on weak parts of beats or as a trill, or was used in fast moving melodic situations. Example 56 is such a situation from the Magnificat.

Example 56



The facility needed in these given examples would preclude the use of the slide trumpet for a solution to the intonation problem as the rate of note movement would make the technical considerations impossible. The obviously careful treatment of the intonation problems of the natural trumpet was a characteristic of the Bach scores.

CHAPTER IX

PERFORMANCE PRACTICE RELATING TO INSTRUMENT USE SINCE THE TIME OF BACH

As mentioned earlier, the actual Bach Trumpet concept was erroneously introduced by the invention of an instrument by a trumpeter named Julius Kosleck. The occasion was the first performance of the entire B minor Mass in England in 1885.[1] The large works of Bach were not performed for a period of about one hundred years after his death. The trumpet used for this performance was a two valved instrument with straight tubing that in no way resembled in appearance the trumpets of the Baroque. The instrument was pitched in A. "Unfortunately, reporters and music lovers somehow gained the idea that with this special valved instrument, the authentic trumpet of the Baroque era had suddenly been resurrected."[2]

The English seemed to retain the tradition of the natural trumpet the longest. This can be observed in there use of an instrument equipped with a slide, similar in principal to the trombone. It's

[1] Edward H. Tarr, "The Baroque Trumpet, the High Trumpet, and the So-Called Bach Trumpet," Brass Bulletin 3 (1972), p. 44.

[2] Ibid., p. 46.

purpose was to correct the out-of-tune harmonics. This tradition of using the slide trumpet was carried on by the Harpers to as late as 1885, long after the valves were made available on brass instruments. The out-of-tune harmonics did in fact effect the English. Their displeasure can be observed in this quote used by Douglas Smith of Carl Burney's reaction to a performance in London in June, 1784:

> . . . in the Hallelujah Chorus, the fourth G is held for two bars! It is greatly to be desired that this inspiriting instrument may be rid of its defects by some mechanical device.[3]

Burney's projection of some mechanical device must have been more than a look into the future, it could be a strong indication that experiments were taking place at that time. The date of the above observation was twelve years before the established date of the keyed trumpet and long before the development of a valve system.

Eichborn related that a trumpet player named Adolf Scholtz, who died in 1884, utilized a Flügelhorn in high F for the successful playing of the cantabile Baroque trumpet parts.[4]

Dart indicated that all horn types and trumpet types were interchangeable during the eighteenth century thus allowing for great flexibility in present day interpretation.[5]

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[3]Smith, "A Short History of the Trumpet," p. 22.

[4]Menke, A History of the Trumpet of Bach and Handel, p. 62.

[5]Dart, The Interpretation of Music, p. 70.

In 1885 the high G trumpet with three valves was introduced by the Besson Co. for a Bach bi-centennial performance.[6]

By 1892 there appeared in the orchestra a shorter trumpet pitched in the key of D.[7] In that year the V. C. Mahellon Company was making trumpets in higher pitches.[8]

Menke, in 1930 developed a trumpet for the Baroque parts that more correctly resembled the original instrument than had any other attempts to that date. It was designed in the longer lengths and was equipped with two rotory valves to correct the intonation in the harmonics of the seventh and eleventh partials. The instrument is still being made today by the Alexander Company of Mainz.

Relating to the performance procedures of the early twentieth century, Menke brought forth the possibility that during his life-time there were advocates of the playing of the Second Brandenburg Concerto down an octave.[9] Terry mentioned that the substitution of the trumpet for the parts originally for Corno da caccia, Corno da tirarsi, Cornetto, Tromba da tirarsi, Tromba, Clarino and Principal

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[6]Menke, A History of the Trumpet of Bach and Handel, p. 63.

[7]Tarr, "The Baroque Trumpet," p. 45.

[8]Menke, A History of the Trumpet of Bach and Handel,

[9]Ibid., p. 83.

was acceptable according to Whittaker.[10] Terry did not, however, specify what pitched trumpet to use. Eichborn mentioned the possibility of trumpet players sharing the difficult parts.[11]

Otto Steinkopf, in 1860, together with the instrument manufacturer Helmut Finke developed a coiled trumpet, much on the order of the Jagertrompete, with three holes in the instrument. According to Tarr, the holes had no historical foundation but aided greatly the playing of the Baroque trumpet parts.[12] The Steinkopf-Finke Carentrompete used today is a good example of some attempt at authenticity in tone production for the Baroque works.[13] Altenburg, as early as 1795, suggested the notion of nodal holes for the correcting of certain out-of-tune notes, but this was some years after the decline of interest in the performance of the major Bach works.

Edward Tarr reconstructed, through the aid of the West German firm of Meinl & Lauber a natural trumpet by the famous Leipzig maker Wolf Wilhelm Haas (1681-1760). Tarrs' research reproduced the exact measurements and attempted to duplicate the alloy of the Haas instrument.[14]

[10]Terry, Bach's Orchestra, p. 238.

[11]Menke, A History of the Trumpet of Bach and Handel, p. 77.

[12]Tarr, "The Baroque Trumpet," p. 45.

[13]Lewis, "A Study of the Clarino Style," p. 37.

[14]Tarr, "The Baroque Trumpet," p. 46.

Introducing the natural trumpet into the modern orchestra creates balance problems. Dart pointed out the change in the volume and texture of the string instruments of the orchestra.

> String-tone, for instance, has changed very much indeed, the factors chiefly responsible for the change being the use of wire strings for the top most strings of a violin or a 'cello; the violin chin-rest and the 'cello spike; the modern large-sized viola; and the modern technique of the double-bass.[15]

These and comparable changes in the other instruments of the orchestra make the act of replacing the trumpets only one step in the re-creation of the Baroque orchestra.

The question of size of ensemble and choral groups is also a consideration in staging an authentic performance of the works. The total acoustical environment has also changed to a point where it would be difficult to immitate the sound of the natural trumpet because present day volume standards have undergone such a drastic evolution in the last 200 years. Obsolete voice technique is a consideration as is the change in instrumental techniques in the proper balance of staged works of Bach.[16]

In recent years the Zinken (cornetto) parts in works of the Baroque have been played on the trumpet as it was assumed that the parts were played by the trumpet players of Bach's time. It was

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[15] Dart, The Interpretation of Music, p. 34.

[16] Ibid., p. 49.

possible that the cornetto was the performance province of the oboists of Bach's time. One piece of evidence was the list of effects of the oboist Gleditsch. Besides a quantity of Abblasen pieces, apparently similar to those of Reiche, there was also a cornetto.[17] Smithers mentioned that the side embouchure used in cornetto playing of the time would not be as damaging to the oboist as to the trumpet player responsible for the clarino register.[18]

The modern orchestral trumpet player and soloist has provided us with many performances of the Bach works. In addition to the work on the historical instrument by Smithers, Edward Tarr and others, Roger Voisin, former principal trumpet with the Boston Symphony Orchestra has made a series of records of Baroque trumpet music. He used for these performances the shorter C and D trumpets equipped with valves to play the high trumpet parts.

Armondo Ghitalla, present principal trumpet with the Boston Symphony recorded the Baroque trumpet parts with a small G piccolo trumpet equipped with valves.[19]

Maurice André, who performed on over 85 Musical Heritage Society records of Baroque trumpet music, including the Second

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[17] Smithers, The Music and History of the Baroque Trumpet before 1721, p. 127.

[18] Ibid.

[19] Lewis, "A Study of the Clarino Style," p. 37.

Brandenburg Concerto, performed these works on an instrument in A and Bb with approximately two feet of total tubing and equipped with a fourth valve. The fourth valve when employed adds length to the instrument for the purpose of obtaining some of the low notes in the second octave.

An indication of the past difficulty connected with the Brandenburg Concertos and other Bach works was the Albert Schweitzer recommendation of the use of clarinets pitched in C and D in the trumpet passages of Bach and the use of flügelhorns in the First Brandenburg Concerto in place of the corni da caccia in F.[20]

The late Vincent Bach, noted instrument maker and trumpet player commented on the use of the natural trumpet when in performance of the Second Brandenburg Concerto:

> This type of instrument is not used today, and no performer could be expected to devote months of practice in order to master it.[21]

We can see that although this was a premise in performance practice as late as 1960, the last decade has totally changed the attitude of performers regarding the difficulties of the Second Brandenburg Concerto on authentic instruments. Vincent Bach

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[20] Kurt Janetzky, "Impossible?" Brass Bulletin 10 (1975), p. 38.

[21] Vincent Bach, "Bach's "Brandenburg Concerto No. 2," The Instrumentalist (September, 1960), p. 267.

mentioned that in playing the concerto the performer ". . . expose himself to severe embouchure punishment--a fact not readily considered by many symphony conductors . . . To accomplish this [Concerto] one needs a supernatural embouchure."[22] In a survey made by Vincent Bach, he mentioned that Mel Broiles, associate first trumpet with the Metropolitan Opera Orchestra played the concerto on a sopranino trumpet in high F (curled). William Vacciano, first trumpet of the New York Philharmonic performed it with a sopranino G trumpet. Gilbert Johnson, formerly first trumpet with the Philadelphia Orchestra played it on a piccolo trumpet in high Bb.[23]

The advantages and disadvantages outlined by Vincent Bach centered around the difficulty of execution of trills and the endurance factor, not the authenticity of the performance.[24]

Other trumpet players who specialize in Baroque trumpet music include Helmut Wobisch of the Vienna State Opera Orchestra and Adolf Scherbaum, a specialist in clarino music. Scherbaum's program notes indicate that he performed the works on an imitation

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[22] Ibid.

[23] Ibid.

[24] Ibid.

of an original Baroque trumpet, but the trumpet pictured on some of his records indicated that he used a three rotary valved instrument pitched in D and pitches higher than D.

Robert S. Douglass' experiments have produced an instrument 7 feet in length but with the modern valve system to correct faulty intonation.

In general, the shorter D trumpet has been the most common method of solving the range factor and the sustaining of the tessitura in the Baroque trumpet parts. Lately, the piccolo A and Bb, 2 foot length trumpets have been used and are now produced by Schilke,[25] Selmer, Getzen[26] and others. This instrument, because of its short tubing does not have a strident tone and through some obvious acoustical mismatch, rather closely resembles the tone of the natural trumpet.

The need to be extremely accurate in trumpet performance, something new to the art of playing, can be demonstrated in the attitude of Richard Strauss at the turn of the century. Janetzky said that when conducting Don Juan in 1890, Richard Strauss stated that ". . . fifty notes more or less do not count really . . . Only colour

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[25] Brass Bulletin 9 (1974), p. 71.

[26] Brass Bulletin 5/6 (1976), p. 32.

counts."[27] On another occasion, this time during a performance of Alpensinfonie, he remarked to the trumpet player "Ah well, this time we didn't make the top! . . ."[28]

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[27] Janetzky, "Impossible?" p. 38.

[28] Ibid.

CHAPTER X

CONCLUSION

Modern orchestras are continuing to program more Baroque music performances of the Second Brandenburg Concerto and other extremely demanding concertos of the period are becoming more abundant. The current interest and desire to perform the works well could stimulate further research and production of instruments for this purpose. Playing attitudes have changed also relative to the works. The orchestras of Bach's time did not render performances without some technical problems, especially in the brasses. Research, modern techniques, and new instruments could give us future performances of works thought impossible even by today's standard.

The present tradition in the interpretation of the Bach trumpet parts not only comes from the period of the composer but from the intervening years. The years have brought many experiments in the reconstruction of instruments, the performance practice of the parts themselves, and an attempt at recapturing the technique of the Baroque trumpet player. Many of these experiments, now proven invalid, are also an interesting part of the history of the use of

trumpet in Bach scores. Recent attitudes, as late as those expressed in the Vincent Bach article of 1960, have already been dated by the instrument makers and performers who recreate the music of Bach.

As to the difficulty of the parts, Smithers summed it up when he said:

> My personal feeling is that the greatest and most consistent demands were made of the trumpet in the music of Bach.[1]

The demands made by Bach in his use of the trumpet are not just technical and physical, but musical as well. It is hoped that some day the technical and physical will not be the main considerations but will be more in balance with the musical interpretations of the scores. Certainly no composer used the trumpet in such an important and completely idiomatic way as did Bach.

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[1] Smithers, "Special Review," p. 89.

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