



Taylor & Francis
Taylor & Francis Group

The Trumpet as an Orchestral Instrument

Author(s): Walter Morrow

Source: *Proceedings of the Musical Association*, 21st Sess. (1894 - 1895), pp. 133-147

Published by: [Taylor & Francis, Ltd.](#) on behalf of the [Royal Musical Association](#)

Stable URL: <http://www.jstor.org/stable/765374>

Accessed: 08/10/2014 20:18

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Royal Musical Association and Taylor & Francis, Ltd. are collaborating with JSTOR to digitize, preserve and extend access to *Proceedings of the Musical Association*.

<http://www.jstor.org>

JUNE 11, 1895.

PROFESSOR E. PROUT, MUS. DOC. DUB. ET EDIN.,
VICE-PRESIDENT,
IN THE CHAIR.

*THE TRUMPET AS AN ORCHESTRAL
INSTRUMENT.*

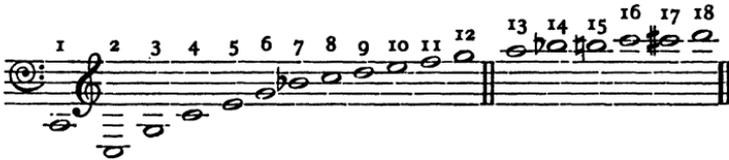
BY WALTER MORROW.

ORIGIN AND DESCRIPTION OF THE TRUMPET.

TRUMPETS seem to have been originated by someone discovering that sound could be produced by blowing into the opened end of the horns of animals, spiral shells, or hollow reeds, and on the use of metals being known trumpets of silver, copper, and brass were made in the form of horns and spiral shells. The chatzotzereth of the Hebrews and the Egyptians was a straight conical tube; the salpinx of the Greeks likewise. The schophar and keren of the Hebrews were horn-shaped, and the buccina of the Romans was made after the fashion of a spiral shell. Judging from the conical shape of these instruments one naturally comes to the conclusion that they were not musical. They would emit only one sound—a terrific blare—which was no doubt useful for giving signals, calling an assembly, or striking terror in the heart of an enemy, &c., but there was no music.

It would take a very long time to refer to the many shapes in which these instruments from time to time came to be made and the different materials used in their manufacture; but as the object of this paper is to treat of the trumpet as an orchestral instrument I will ask you to take a long skip over many centuries.

In the sixteenth century the trumpet had increased in length to eight feet, experimentalists having found that by lengthening their metal tubes, also by making the body of the instrument cylindrical instead of conical, they rendered it capable of producing some musical sounds as distinguished from mere noise. It was made up as follows: A mouth-piece, a cylindrical tube, about three-eighths of an inch in diameter, with two bends, thus forming three lengths placed triangularly, the latter fifteen inches gradually widening to a diameter of four inches in the shape of a bell. It was capable of producing the following scale or series of harmonics:—



It is technically called a scale, although it is not a "regular succession of notes proceeding by tones and semitones."

The first is called the "generator" and is produced by blowing with very loose lips into the instrument sufficient wind to fill the whole tube. A very large mouthpiece is required to produce this note, much larger than is generally used, and a player would be unable to ascend to the higher notes with such a mouthpiece. The note exists but it is never used. By compressing the lips a little so that the column of air only reaches half-way through the instrument the octave will be produced, by more pressure the third harmonic or fifth above the second C, and so on by increasing the pressure all these natural sounds can be emitted. Nothing has been written higher than the eighteenth, although it is possible to go beyond. These harmonics are not all correct in intonation—the seventh is flat, the eleventh is sharp, and the thirteenth flat.

In spite of the imperfections of these notes, they were freely written by the old masters, and played by the trumpeters of the time. The latter, with highly practised lips, could manipulate the faulty notes and make them fairly tolerable. Though all these notes exist, they are not all available for one player. To produce the lower notes a large mouthpiece is necessary; for the middle notes, one a little shallower; and for the high notes, one shallower still. Consequently the old players were arranged thus: First trumpet, second trumpet, and third or principal trumpet, the last often playing an independent part; and in an old instruction book for the trumpet, by a German named Wirth, mouthpieces of different sizes are prescribed for the different parts to be played.

It was about the year 1607 that trumpets were first used in orchestras, and from that time trumpet playing reached a high point of excellence—in Germany particularly—a guild of trumpet players being established there, who preserved as secrets their methods of manipulation. From this guild, doubtless, sprang the fine players who were able to execute the difficult tasks set down for them in the works of John Sebastian Bach.

Judging from the trumpet parts written by Purcell, Handel, and Bach, the key of D seems to have been the key that trumpets were made in; and the higher harmonics, from the eighth to the eighteenth, seem to have been much admired, both on account of their brilliancy of tone and because they proceed by consecutive tones, enabling the players to execute florid passages. This can be seen by examining the score of Bach's Mass in B minor, in which scale passages and trills abound.

To modern musicians, accustomed to correct intonation, without taking into consideration the enormous difficulty of these parts, it seems incredible that they were ever played on trumpets; in fact, many still refuse to believe it. Others, convinced that they were played, say: "then the art of trumpet playing is lost." I believe that they were rendered on the plain D trumpet, with all the imperfections of intonation, and that the art is not lost, but the style has fallen into disuse on account of the difficulty and uncertainty of manipulating these high notes. Then we have it as a fact in history that the high trumpet part in Purcell's *Te Deum* was rendered by an artist named Shaw, who, Dr. Bridge informs me, was a friend of Purcell's. Then there is a record of another phenomenal player named Valentine Snow, for whom Handel wrote special parts. He was the first to interpret the well-known obbligati to "Let the bright seraphim" and "The trumpet shall sound."

As a further proof that what I say is correct, I propose to play a few short passages from Bach's Mass to give you an idea of how they sounded. For this purpose I have borrowed an old D trumpet, made by Johann Leonhard Ehe, of Nuremberg, from my friend Mr. Walter Blandford, an amateur horn player of note, and an ardent collector of old and curious instruments.

Mr. Blandford says, in a letter which he kindly wrote to me: "My instrument was made by Johann Leonhard Ehe, of Nuremberg" (it bears an inscription to that effect). "He is known to have worked between 1698 and 1728, as instruments of his bearing those dates are in existence. It would be safe to put it down therefore as early in the eighteenth century." That is also about the time Bach and Handel's great works were written.

THE SOPRANO TROMBONE.

Having dealt at some length with the trumpet in what may be called its natural form—that is to say, an instrument without mechanism or artificial methods of producing notes—I will now proceed to deal shortly with the various forms of trumpets which have come into use at different times. But before I do so, I may mention that a member of the Musical Association asked me to include in my paper a species of trumpet, written for by Bach under the names of “*Tromba da tirarsi*” and “*Clarino*”; and by Gluck in his opera “*Orfeo*,” under the name of soprano trombone. Searching about for such an instrument, I found a very good specimen in the Engel collection at South Kensington Museum. By the courtesy of the authorities there I was allowed to examine it. Speaking to Mr. Hawkes, the instrument maker of Leicester Square, on the subject, he very kindly and unexpectedly undertook to reproduce one, which he has done.

I then saw my friend Professor Prout, who, as you all know, is very learned in the contents of the scores of the great masters; he very kindly offered to look up something for me. A few days after I received the following letter from him:—

[Copy.]

12, GREENWOOD ROAD, DALSTON,
May 7, 1895.

DEAR MR. MORROW,

I have been looking into the question of the “*Tromba da tirarsi*” for you. It was, as far as I can learn, a *soprano trombone*, most likely in B flat, therefore an octave above the tenor trombone. I send you three passages from Bach's Cantatas written for it. We can always tell when this instrument is meant, even when (as in No. 3) Bach calls it clarino; because he always writes for it as a *non-transposing* instrument, while he invariably writes for the ordinary trumpet in the key of C, just as Mozart or Beethoven would do.

Hoping these extracts may be of use to you, and with kind regards,

Yours very sincerely,

EBENEZER PROUT.

My next trouble was to give an adequate illustration of the tone of this instrument, which could not well be done without the co-operation of other orchestral instruments. On making my trouble known, three members of the Trombone Concert Quartet promised to come and assist me by playing the opening bars of Gluck's opera “*Orfeo*.” This is a short quartet for four trombones, soprano, alto, tenor, and bass, which we will now play to you.

THE SLIDE TRUMPET.

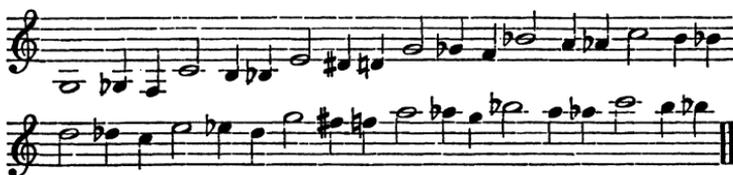
During the latter half of the eighteenth century, great changes in making trumpets took place. Composers wished to use trumpets in keys other than C and D, consequently shorter instruments were made, generally about sixty-seven

inches in length, giving the harmonics in the key of F. In France they were and are made shorter still, to produce the harmonics of G. But if a trumpet is shorter than sixty-seven inches it loses its distinctive quality of tone. Then there were additional tubes called crooks, because of their shape, enabling the performer to put his trumpet in E, E flat, D and C, and by combining crooks in B, B flat, and A. These three, however, were very unsatisfactory.

A change also took place in the manner of writing trumpet parts about this time: the use of the harmonics above the twelfth being abandoned, doubtless on account of their practical difficulty and faulty intonation; and if one examines the scores of Haydn, Mozart, and Beethoven harmonics above the twelfth will seldom, if ever, be found. Composers seem to have admired the middle notes, probably on account of the fulness and grandeur of tone, as well as the more facile practicability of this part of the instrument. Since then it would appear that players of the old high parts could not be found. To improve the tone of the middle and lower register larger mouthpieces were used, which rendered the high notes extremely difficult; therefore if any of the old works were performed the trumpet parts had to be re-written or modified. Mozart modified the part in Handel's "Messiah," Mendelssohn re-wrote the trumpet part of the "Dettingen Te Deum," and Franz did the same with many of Bach's works—the "Christmas" Oratorio and Bach's "Magnificat" particularly. Then I have taken part in performances when the first trumpet part has been played on C clarinets, producing a very curious effect, the second trumpet part, played on a trumpet proper, being very prominent, the first and higher being completely lost. We have said that the eleventh and thirteenth harmonics were very incorrect. In consequence of this players began to look round for a means of remedying these faults, and towards the end of the eighteenth century an Englishman named John Hyde conceived the idea of adding a slide to the trumpet after the manner of the trombone slide, the only difference being that it was placed at the second bend of the tubing instead of the first. This slide, when drawn out two inches and a half, of course adds five inches to the length of the tube, and its effect is to lower all the harmonics a semitone, and by drawing it out its full length a whole tone; so now we have the harmonics tripled, with one exception. There is not sufficient length of slide to lower the sixth harmonic a whole tone; this is a pity, because being so intolerably sharp it renders so many passages unplayable. It could, however, be used as E sharp in a passage like this:—



The slide enabled players to perfect the eleventh and thirteenth harmonics. This is the scale:—



This is the instrument used for so many years, and with so much admired effect by the two Messrs. Thomas Harper, father and son. Their rendering of the obbligati in Handel's works is something to be remembered, the younger especially. I heard him play a little Polonaise which he composed some years ago, and which I thought was a wonderful exhibition of the flexibility of lip he had obtained by long practice. I propose to play this for you, if you will have patience to hear it. But I am afraid it will only give you a *little* idea of how it sounded when Harper played it.

THE VALVE TRUMPET

(Also called Ventil Trompete, Trompette-à-pistons, or Trompette-à-cylindres).

About the year 1814 the piston, as applied to brass instruments, was invented by a Silesian named Blühmel; and a contemporary Saxon, named Stölzel, invented the cylinder. The piston has a vertical, the cylinder a rotary action. The results, however, are the same; both add tubing to the trumpet. There are usually three pistons or cylinders attached to an instrument. The middle one on being pressed down opens an extra tube about five inches long, which lowers all the harmonics a semitone in exactly the same manner that the slide of the older trumpet does. The piston nearest to the mouthpiece opens a tube about ten inches and lowers the harmonics a whole tone. The third opens a longer tube and lowers them a minor third. Then by pressing two or three pistons down at one time as occasion requires each harmonic is lowered six semitones, corresponding with the six shifts of the trombone. We now have a complete chromatic scale of two octaves and a fifth, and any passage within a given compass is practicable.

The valve trumpet was generally adopted in Germany, but not in England; the tone of the slide trumpet being considered superior. This idea is perfectly true, the many unavoidable acute angles in the valve trumpet causing the tone to deteriorate, but not much, and when we come to consider the advantages gained, of correct intonation and

the chromatic scale being available, it is difficult to understand why this instrument was not adopted here, especially as composers, no longer tied down to the use of natural harmonics only, have written parts for this instrument.

THE CORNET-À-PISTONS.

About the year 1832 a new sort of trumpet appeared under various names—*e.g.*, the small stop trumpet, cornopean, or cornet-à-pistons. This is a small trumpet about fifty-four inches in length, giving the natural harmonics of B flat, with three pistons having the same power of lowering these harmonics six semitones, as in the case of the valve trumpet already mentioned.

The cornet has an agreeable tone and is comparatively easy to manipulate. It very quickly became popular, and its popularity has not declined; on the contrary, it has caused the trumpet proper to become almost obsolete. Students perceived that showy results were easy of attainment and forsook the study of the trumpet. Experienced players of the older instrument, when they were called upon to play parts written for the valve trumpet, instead of adapting themselves to the valve trumpet resorted to the cornet. Consequently, the cornet has crushed the trumpet out of the orchestra altogether. One rarely hears the sound of a real trumpet now.

I am often asked by persons seeking information, What is the difference between the trumpet and cornet, and why do you so strongly maintain that it should be used? So-and-so plays on the cornet and produces a good trumpet tone.

My answers to these questions are: First, the difference between the two is in point of length. A tube a given length has a characteristic tone. The tones of the C, D, E flat, and F trumpets are rich and full. Above the key of F a tube loses its distinctive *trumpet* character, therefore when the tube is shortened to B flat the tone has been left far behind.

My answer to the second part of the question is obvious. Every player of an instrument likes to produce a good tone, and if the tone of the trumpet is superior, then he should play that instrument and not use one of an inferior quality of tone.

The assertion that the cornet can be played with a trumpet tone is good, and remains good until the two are heard at the same time, and under equal conditions, then, I think, the comparison will be in favour of the trumpet. I propose to play a short passage on both instruments, you will hear the difference and judge for

yourselves whether the loss of the superior quality of tone which I claim for the trumpet is to be so much deplored.

Most of the good cornet players I have known during the last thirty years, having arrived at proficiency on that instrument, have at some time or other "taken to the trumpet," thinking that their already acquired ability in cornet playing would make trumpet playing comparatively easy; but after a very short trial, usually about two months, they have abandoned it as too difficult, or because they have not sufficient time to study. It is a pity that they exercise so little patience and perseverance. A man who calls himself a trumpet player should endeavour to master the whole subject of trumpets, and not be satisfied with a little tawdry popularity by playing weak cornet solos. There is much excuse for men who are very busy and really have not time to study a new instrument, but young students should make themselves acquainted with the trumpet before they get too busy, and fit themselves to fulfil the duties of a trumpet player when called upon.

There is an idea prevalent that practising the trumpet has an injurious effect on the lip for cornet playing; this is fallacious—it will improve the lip, as well as the ear and intellect. A good trumpet player can always be a good cornet player; a good cornet player cannot play the trumpet without much practice. My advice to students is to practise the latter assiduously, it will be to their ultimate benefit.

There is one thing I would advise them to guard against, it is this: Some cornet players have tried to play the trumpet and for certain reasons have giving it up. Feeling some qualms of conscience that the cornet does not look well in a symphony orchestra, or in the performance of an oratorio, they have adopted what is called a "trumpetina"—a sweet name. This is an instrument of the exact dimensions of a cornet—that is to say, a tube fifty-four inches long; but instead of having four bends, it has only two, and thus has something of the appearance of the trumpet, but is in reality only a cornet. It is excused by saying that it has a *trumpet bore*, but even this cannot make a short tube give a tone equal to the longer. I have tried it and had it tested by persons qualified to judge. It is a veritable jackdaw in peacock's feathers. A deception. Do not use it or countenance it. The cornet is an honest instrument, the other is not. Get an F valve trumpet and a slide trumpet, and practise them. A satisfactory result is attainable, and is worth working for.

The principal difficulty to overcome is the pitch. This is difficult, but having become accustomed to it, the rest is easy. One other error I would like to warn students from falling into—that is, trying to play the trumpet with a cornet mouth-

piece. The tone of the instrument is at once destroyed by this, and the upper notes flattened. It is also very hard to sustain power, say through a long symphony. The cup of a trumpet mouthpiece should be hemispherical, not conical like the cornet. And the cup should not be less than five-eighths of an inch in diameter, measuring from the inner rim. I have known many young players use mouthpieces much smaller than this, for the purpose of obtaining high notes; but by so doing they sacrifice the tone of the lower part of the instrument, and in a few weeks they find, when playing on it some time, that the mouthpiece chokes, there not being room in the cup for the lips to vibrate.

Before leaving the valve trumpet, I propose to play a short solo on it.

THE BACH TRUMPET.

I should like to say a few words about a species of trumpet with which my name has become particularly associated. I mean the Bach trumpet, "so-called" as the papers put it. This is a straight trumpet nearly five feet in length, with two pistons. It therefore corresponds with the cornet in A. The tone of this instrument is beautiful in the higher register, but, being only the same length as the cornet, is poor in the lower register. Having condemned the "trumpetina" I suppose I ought, in common justice, to explain why I use this "cornet in A."

Purists, when criticising this instrument, with a shake of the head, say "Ah, I do not like the tone so well as the slide trumpet." Then I try to explain to them that it is not intended to supplant the real trumpet, but, in the words of advertisers, "is to supply a long felt want." It is constructed to accomplish what the slide and valve trumpets and trumpetina have for upwards of a hundred and fifty years failed to do—that is, to play the high parts written by John Sebastian Bach. This it is capable of doing with equal intonation, good tone, and some certainty, which I think is sufficient reason for its use. Everyone of course is not of my opinion. One writer of a notice of a performance in which I took part said that, "the trumpets aroused feelings in his breast less passive than contempt." He evidently did not like it. Well, it is difficult to please everyone.

I do not know the particulars of the story connected with an instrument of this kind, but I believe Mr. Blandford does and that he intends to enlighten you during the discussion, which I believe will take place later on. But I will tell you the history of this, my own particular trumpet.

It may be in the remembrance of many here that at a festival performance of Bach's Mass in B minor, given by the Bach Choir at the Royal Albert Hall, a gentleman from

Berlin, named Herr Kosleck, played the first trumpet part. A story got about that he had discovered an old trumpet in a curiosity shop at Heidelberg, made in the time of Bach, and that it was the sort of trumpet used to play the high trumpet parts. We were all in a high state of excitement to see this trumpet and hear it played, and to hear this first trumpet part which we considered impracticable on any system of trumpet which we knew. I had the pleasure of playing the second trumpet part. Herr Kosleck did not speak English or French and I could not speak German, so we did not chatter, and I got no information; but I endeavoured to see all I could. I watched him closely, and was not long in finding the dimensions of his trumpet and his mode of manipulation; but I noticed that he was careful to conceal his mouthpiece. Now I was very anxious to see this mouthpiece, feeling sure that a great part of the secret lay there. I made a grab at it once. He withdrew it, smiling the while, and implied by signs that it was not good for my lips to be blowing on a strange mouthpiece; however, he very courteously took off the mouthpiece and handed me his instrument to blow with my own mouthpiece. But that was not what I wanted. Nevertheless, I had to be contented, and some days after I made a drawing of his trumpet, and from that drawing Messrs. Silvani & Smith, of Finsbury, made me a trumpet. But I was for a very long time experimenting with mouthpieces before I found anything satisfactory. I do not think my mouthpiece is like Kosleck's, but it is a good one and produces, I think, a better tone than his.

I was delighted with Kosleck's performance and resolved to do my best to imitate him. My first feeling on seeing his trumpet was that of disappointment, for two reasons: First, it had two pistons, and pistons were not invented in Bach's time; secondly, it stood in A, and all Bach's trumpet parts were written in C and D (more often in D). His trumpet, I had no reason to doubt, was as old as he said; also, it was used in Bach's time, but not in Bach's music, nor was it capable of rendering such parts as he wrote without the aid of pistons, which, as we have already said, were not then invented.

I have some extracts from a work on trumpets written about the year 1795, by J. E. Altenburg, of Halle, in which two of these A trumpets or posthorns were used in combination with four D trumpets and two kettledrums. In these works only the natural harmonics are used, and only nine of them. The parts of Bach could not have been played on that instrument. Besides, we find the D trumpet was written for, and the natural harmonics properly belonging to that key—*ergo*, Bach knew what he was writing.

No doubt Kosleck on finding that he could obtain these high notes—and it only required the addition of two pistons to enable him to play the scale of D on his A trumpet—carried his idea out. He told a friend of mine that it took him six years to practise the first trumpet part of Bach's Mass, and I believe him. All honour to him for his determination culminating in success, for in my opinion he has succeeded in introducing an instrument capable of rendering these parts even better than they were played originally, with equal quality of tone and correct intonation.

As some of my hearers to-day may not have heard the tone of this trumpet, I will play a few bars from "Mighty Lord and King all glorious," in Bach's "Christmas Oratorio," in order that you may hear the sweet and flute-like tone of the high notes, which were formerly so much admired.

In accordance with my promise made in the synopsis, I shall now say a few words about writing for the trumpet, and as I am sometimes consulted on this subject by young composers, I trust that I shall not be deemed presumptuous in giving a player's idea of how parts should be written.

Scarcely any composers now will be tied down to the plain trumpet giving the natural harmonics only. So we can pass on from that to the slide trumpet, which a very few words will dispose of. This instrument is rarely seen in an orchestra; about two players have an affection for it and like to use it in the old works, but it is looked upon with more curiosity than appreciation, and no composers trouble to write for it now. Twenty years ago they did, and I have a pleasant recollection of the glorious slide trumpet parts my friend Professor Prout used to write, notably in his cantatas "Hereward" and "Alfred." They are the sort of parts a trumpeter loved to play.

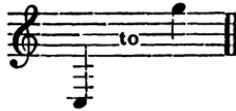
In Professor Prout's *Primer on Instrumentation*, when speaking of the trumpet in paragraph 127, he finishes by saying: "In writing, no account need be taken of the different varieties of mechanism." And he is right. He puts the whole matter in a nutshell. You may write anything you like within a given register, say from



and you will get it played. Some composers write their trumpet parts always in C—that is to say, they treat it as a non-transposing instrument. Well, that system is a safe and easy one, as even amateurs are accustomed to read from pianoforte scores, and soon learn to transpose. But I am

afraid that the system will not encourage the use of the trumpet proper, as people, to avoid even the trouble of that little transposition, will resort to the cornet in C, which is an abomination.

German composers now-a-days nearly always write for the valve trumpet in F; it is a very brilliant instrument, and capable of playing any semitone from



and if parts are written for that instrument much will be done to encourage its use.

The system of changing the trumpet to D, C, E flat, B flat, and A could very well be done away with, much to the advantage of players and the success of works to be played. It is very difficult even for experienced men to be constantly changing the intervals of transposition from one note to a minor third, a fourth, or a fifth. You will find that neither horn nor trumpet players use any crooks but the F and E, and I advise composers to keep to those keys. If the E flat, D, and C crooks are written for they will never be used by players of horns or trumpets. Having three pistons, enabling the player to proceed chromatically from one note to another, other crooks than the F and E are considered by players to be unnecessary. All scales, major and minor, are available, also chords in arpeggio form.

DISCUSSION.

THE CHAIRMAN — We have all been very deeply interested in Mr. Morrow's most valuable paper; certainly I have, for orchestral instruments and orchestration are special hobbies of mine. Talking about the earlier instruments, he quoted the Bible line, "With trumpets also and shawms." It is curious to notice that in Luther's version of the German Bible, the version which Mendelssohn set to music in his 98th Psalm, the score reads "Mit Trompeten und Posaunen"—"with trumpets and trombones." There is an interesting point with regard to the soprano trombone which our lecturer mentioned as being used in Gluck's "Orfeo." Mozart, in the Kyrie of his Mass in C minor, wrote for four trombones, including soprano trombone; and in two sets of little pieces—*Divertimenti*—he wrote for five trumpets, four kettledrums,

and two flutes—a curious combination, but he gets some very charming effects. I am going to add a suggestion with reference to the point that F below the middle G on the slide trumpet is always out of tune and sharp. Is it not possible that this may be because it ought to be a major tone below the G, giving the ratio eight to nine, whereas the slide only gives a minor tone with the ratio nine to ten? That, I think, is the reason why you cannot get the pure intonation of this for the slide trumpet. I most cordially endorse all Mr. Morrow said with regard to trumpets *versus* cornets. It is simply an abomination of desolation to play the cornet as a substitute for the trumpet. We must see that the better instrument—the trumpet—is kept in use in the orchestra, for certainly it has a fuller and rounder tone than the cornet, a fact which all must have noticed when Mr. Morrow gave us comparative illustrations on the two instruments.

Mr. BLAILEY.—Mr. Morrow's interesting paper is bristling with suggestions. In referring to the difference in tone between the trumpet and the cornet, he, I think, forgot to mention that this does not arise merely from the difference in their lengths. The cornet is constructed on different lines, and the tubing immediately following the mouthpiece is also different. It is regrettable that the trumpet is not more popular, but it is exceedingly difficult to get men to take to it and keep to it. Bandsmen say it is all very well learning it, but later on they will be obliged to play the cornet if they consider pounds, shillings and pence, and so long as conductors will accept the cornet for the trumpet it will be used. The matter, I believe, is entirely in the hands of conductors. I think Mr. Morrow was rather hard on the cone, when he said that we cannot get music from the conch-shell. Surely the conical form includes all instruments of the bugle, horn, and tuba type.

Mr. BLANDFORD.—The difficult trumpet parts found in the scores of Bach, Handel, and others have given rise to many groundless speculations. But there is plenty of evidence derived not merely from the scores, but from contemporary instruments, engravings, and books to show that they were actually played as Mr. Morrow has illustrated them, on the simple trumpet, with a tube bent twice on itself and without mechanism. Much light is thrown on the subject by Altenburg's "*Versuch einer Anleitung zur heroischen Trompeter und Paukerkunst*," written by the son of a celebrated player of Bach's time. It is probable that these parts, as originally played, would sound very unpleasant to modern ears; the shallow *clarino* mouthpiece was a hindrance to obtaining amplitude or beauty of tone, and, in spite of the player's skill, many notes of the scale were imperfectly represented by the natural harmonics. Thus Sorge, writing

about 1750, insists that the eleventh and thirteenth harmonics should not be sounded in conjunction with an instrument of fixed intonation, such as the organ. Trumpet music, such as Mozart's *Divertimenti* referred to by the Chairman, was very common in the seventeenth and eighteenth centuries, and the ears of audiences were quite accustomed to it; and the alteration of "The Messiah" trumpet parts by Mozart was due probably to his desire for reform rather than to the impossibility of finding performers. The "long trumpet" was discovered by Kosleck in 1871, in Heidelberg. He exhibited it at Berlin, after which it was described by Lessmann in the *Neue Berliner Musikzeitung*. It was a straight tube, four feet long, in B flat, which could be made to sound in D by an additional shank (not stated to belong to the original instrument). So far from its being a trumpet of Bach's time, there are good grounds for believing it to be about 150 years older. The results obtained on it by Kosleck were due to his skill, and not to the instrument, and might perfectly well have been got on a genuine eighteenth century trumpet. An objection to the use of the valve trumpet is the imperfect intonation obtained by transposition. A trumpet or horn player, transposing all parts by means of the same crook, usually produces a different series of intervals in every key. No valve instrument can be constructed to give the tempered scale accurately; it is, however, possible to give the intervals of the true scale in several keys, by proper adjustment of the valve slides and suitable fingering, and in performances of music written before chromatic brass instruments were introduced it is essential that these true intervals be given if their characteristic sweetness and quality is to be preserved. The distorted intervals given by the cornet are quite as objectionable as the inferior quality of its tone. It is much to be desired that horn and trumpet players who are trained at our musical academies shall be taught musical acoustics in relation to their instrument.

Dr. MACLEAN.—The cardinal point in the paper which has been read is the question of valve trumpet *versus* cornet-à-pistons in the English orchestras. The causes which have impeded the introduction of the former in this country are, I believe, these. In the first place, the slide trumpet (peculiar to England) took and occupied the ground in advance. The slide of this, however, lowered only to the extent of two or at most three semitones (against the six semitones of the three-valve system), and sometimes, as in the case of the instrument played on just now by the lecturer, it lowered only to the extent of a minor tone, so that the scale was still very defective. The slide trumpet was also, like the trombone, deficient in *legato*. Being thus a comparative failure the slide trumpet fell out of use, and the circumstance generally

made trumpets unpopular, and confirmed the use of the cornet-à-pistons in English orchestras. The second cause has been that, as stated in the lecture, the cornet-à-piston is an easy instrument to play. The third cause has been that the specimens here available of the valve trumpet have been mostly military band instruments in which the mouthpiece and bore have departed from the true trumpet character; however, as correct orchestral trumpets are now readily procurable, this consideration ought not to operate. I would remark in passing that Brahms, the most prominent composer of our day, still continues in a singular manner even in his latest scores to omit to take advantage of the chromatic trumpet and writes only for the old natural trumpet, and perhaps the lecturer will find an explanation for this; but, speaking generally, the use of the valve trumpet is now universal on the Continent, with a G standard for France and an F standard for other countries. It is in England alone that this instrument is in the position of asking leave to come in. The present state of the case is, as remarked by the lecturer—namely, that our conductors have only to insist upon the trumpet being used and it would be used. I rose mainly because I wished to point out that the lecturer is a practical pioneer in what is really an important matter, and that he deserves much support.

Mr. MORROW.—Referring to Brahms, he is so extremely conservative that he does not choose to depart from the old ways.

A hearty vote of thanks was then accorded to the lecturer, who briefly responded.