

To the Tuba, and Beyond

In a past Historical Instruments Column (“A Magnificent Instrument,” *ITEA Journal*, Winter, 2012) consideration was given to the problems and opportunities for nineteenth century low brass players as instrument mechanisms changed from finger-holes (serpent) to keys (ophicleide) and keys gave way to valves (tuba). The present article deals with the same topic from the viewpoint of three of the nineteenth century’s most important composers, arguably the three most important composers.

The earliest chronologically is the French conductor, writer, and composer Hector Berlioz (1803–1869). His orchestral and operatic works frequently demanded massive forces, creating serious problems of balance given the large numbers of higher wind instruments involved. Berlioz often resorted to using numerous low brasses in order to achieve better balance, as the following list of some significant works will show:

1824	<i>Messe solennelle</i>	Buccin (dragon-headed trombone) and Serpent (revised for Ophicleide)
1826 (later revised)	<i>Les Francs Juges</i>	2 Ophicleides
1828–46	<i>La Damnation de Faust</i>	Various; finally Ophicleide & Tuba
1830	<i>Symphonie fantastique</i>	Ophicleide & Serpent (revised for 2 Ophicleides)
1837	<i>Grande messe des Morts</i>	Orchestra I, 2 Valved Ophicleides; Orch IV, 4 [keyed] Ophicleides
1840	<i>Symphonie funèbre et Triomphale</i>	6 Ophicleides
1844	<i>Le Corsaire</i>	Ophicleide or Tuba
1834–7	<i>Benvenuto Cellini</i>	Ophicleide
1855	<i>L’Impériale</i>	2 Tubas & 3 Ophicleides
1856–8	<i>Les Troyens</i>	Ophicleide or Tuba

The most relevant of the several books on music written by Berlioz is *Traité de l’instrumentation et d’orchestration modernes*, in which he gives details of the instruments available at the time. (1.) The list above shows that he utilized new low brass instruments as they became available, and we know that he was enthusiastic about the possibilities offered by one in particular: the tuba. Here, at last, was something capable of producing the volume of sound he required. Although Berlioz bequeathed little directly to later composers, it can be argued that his inclination to score for serpents and ophicleides (all generally pitched in C) was important when the French came to settle on their preferred



Fig. 1. Reproduction early cimbasso by Perry, St. Albans, UK.

pitch of tuba.

Richard Wagner, German, born ten years after Berlioz (1813–1883) was, like him, also an author and conductor. As a composer he is generally considered to have been influential on all later composers. If you were to line-up the complete editions of his scores on a bookshelf and on the shelf below place the complete editions of his literary works, you would find the latter occupying considerably more space than the former. Much of his writing is concerned with his obsessive search for an art form in which music and drama would be one and indivisible, a form he called *Gesamtkunstwerke* (“total work of art”). He also wrote his own libretti while technically taking tonality to its limit, notably in *Tristan und Isolde*, and in terms of scale his four-opera *Ring des Nibelungen* (with a total playing time of some fifteen hours) has never been surpassed (perhaps fortunately for those of us in the

orchestra pit with frequent markings of “Tacet”).

That he was a man of his time is shown in the low brass demands of some crucial works (in chronological order):

1836–37	<i>Rule, Britannia!</i>	Ophicleide.
1837	<i>Nikolay</i>	Ophicleide [?valved].
1839	“Norma, il predesse”	Serpent (below three trombones).
1840	<i>Rienzi</i>	Serpent (below woodwind); [keyed] Ophicleide or Tuba (below brass + 4 Ophicleides in stage band, because of hoped-for performance in Paris). Later much revised.
1840	<i>Eine Faust-Ouvertüre</i>	Tuba (but probably added during revision before 1855).
1841	<i>Der fliegende Holländer</i>	Ophicleide (keyed) or Tuba.
1843	<i>Das Liebesmahl der Apostel</i>	Serpent (below four bassoons). Tuba (below three trombones).
1844	<i>Gruß seiner Treun aus Friedrich . . . den 9. August 1844</i>	2 Tubas (in military band).
1876	<i>Der Ring des Nibelungen</i>	Contrabass Tuba (below 4 Wagner Tuben); Contrabass Trombone (below 3 Bb/F Trombones).

I used the expression “man of his time” because, like Berlioz (with whom he became great friends) he was inclined to excess—in what was happening on the stage as well as in the orchestra. Singers had to develop totally new vocal techniques in order to cope with the barrier produced by the massive forces in the pit.

Through an extraordinary coincidence, in the same year that the greatest Teutonic opera composer was born in Leipzig, Germany, in Parma, Italy the greatest Italian opera composer was born: Giuseppe Verdi (1813–1901). Verdi was not an author or a poet so he relied on others to provide his opera libretti (although he worked closely with those authors), and he would never have dreamed of obscuring his singers’ voices by masses of brass. While this is only one of the many ways in which he was the antithesis of Wagner (whom he admired, although his admiration was not reciprocated), one crucial quality that they had in common was an innate feeling for what worked in the theatre. And they both reached uncannily similar conclusions about the low brass in the orchestra pit.

In the *Ring*, Wagner places a contrabass trombone below three Bb/F Trombones, making a unified quartet of low brass with relatively incisive tone, linked to the trumpet section by means of a bass trumpet of tenor trombone pitch. He placed his contrabass tuba below a quartet of Wagner Tuben (of which



Fig. 2. Valved cimbasso (*Trombone Basso Verdi*) by Farnell, Manchester, UK.

more below): a quintet of instruments with a more mellow tone. Verdi progressed over time towards a similar goal thus:

1842	<i>Nabucco</i>	Cimbasso [<i>serpentone, oficleide?</i>]. (Fig. 1)
1849	<i>Luisa Miller</i>	Cimbasso [<i>serpan, ofhecleide?</i>]
1853	<i>Il Trovatore</i>	Cimbasso [<i>ophicleide?</i>]
1862	<i>La Forza del Destino</i>	Cimbasso [<i>valved ophicleide?</i>]

He was consistent in his use of the term “cimbasso” for the lowest brass part, but there is evidence that other instruments, including the *bombardone* (tuba), may have sometimes been used in performance.

1874	<i>Messa da Requiem</i>	Oficleide.
------	-------------------------	------------

In this non-operatic work Verdi specified the ophicleide normally present at the time in Italian symphony orchestras. By 1881 he was advising that there should be four trombones in large theatre orchestras and “not that damned *bombardone*,” as he was to term it in writing to his publisher prior to the première of *Aida* later in the year.

1881	<i>Aida</i>	“Trombone Basso” (valved contrabass trombone). (Fig. 2)
------	-------------	---------------------------------------------------------

Verdi came to restrict the *bombardone* to the stage bands of his operas, having reached the same conclusions as Wagner in relation to the low brass in the pit, although he forebore to

develop “new” instruments in the manner of Wagner (who in turn forebore to utilize stage bands in the manner of Verdi). They both eventually came to prefer a quartet of four trombones to the normal orchestral low brass section of three trombones and tuba.

1898 *Quattro Pezzi Sacri* 4 Trombones.

In this late sacred work for voices and orchestra, but not for theatrical performance, Verdi retains the four trombones in his score.

There remains the question of Wagner’s “invention” referred to above: the one that musical enthusiasts so often ask tubists about but of which we are generally sublimely unaware. This is the Wagner Tuba, normally used in groups of four, two tenors in Bb and two basses in F (Fig. 3). Although known by the name of the composer, there is evidence that they were inspired following his visit to Adolphe Sax’s workshop in Paris (incidentally forming the impression that Sax was “a dreadful person”) and, particularly, time spent as assistant conductor at the Dresden Court Theatre in a town where military bands used similar sets of instruments invented by Červený in 1846.

Wagner Tuben (the normal plural) are usually in the oval shape favoured by many European makers, with four valves operated by the left hand and played with funnel mouthpieces (rather than the tuba-player’s cup-mouthpiece) as doubling instruments by French horn players. The instruments’ profile lies somewhere between that of horn and baritone. While Wagner’s notation for the tuba as known and loved by us all is quite straightforward, his Wagner Tuba notation is so variable that to this day there are arguments over the actual pitches of certain passages. This may well be related to Wagner’s concept of horn notation: he retained an old-fashioned approach to the French horn, treating the valves as methods of conveniently changing the crooks so as to convert the overall tonality of the instrument from one pitch to another (as, indeed, the valves actually do, although we don’t normally think about them in that way; this is what the inventor of the valve, the horn-player Stölzel was seeking to achieve). As a result, Wagner’s scores can sometimes change the required crooking of the horn from measure to measure. Players become used to this and can cope, but Wagner seemed to be lacking in confidence when it came to writing for the instrument that horn-players call “tuba” (i.e., Wagner Tuba). When his assistants were preparing the score of the Ring for publication, his changes of mind made it impossible for them to work out the different transpositions at some points. A recent book by William Melton, *The Wagner Tuba: A History*, explains their difficulties in detail, reproducing some of the proof pages with their deletions and alterations. (2.)

To summarize: Berlioz’s legacy for the tuba player consists of a number of works specifying multiple low brass, but all lying in a relatively high tessitura. As a result the preferred French

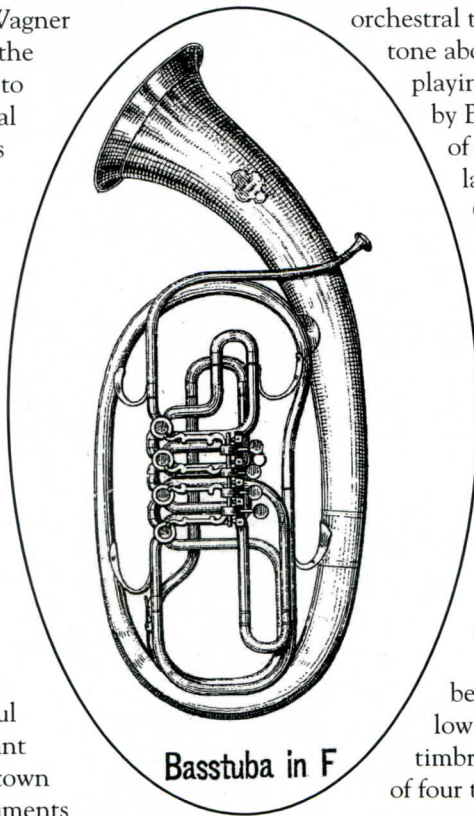


Fig. 3. Bass Wagner Tuba in F (from Niloff: *Instrumentations-Tabelle*, 1908).

orchestral tuba until the 1950s was pitched in C, one tone above the euphonium, perfectly suited to playing the parts originally marked “Ophicleide” by Berlioz. Orchestral tubists will also be aware of a tendency to use the higher register by later composers such as Poulenc, the Belgian César Franck and (notably!) Ravel.

Wagner’s concept of the contrabass tuba as a very distinctive orchestral voice with very specific functions led to its association with a “new” family of mellow-toned instruments, but also to its fulfilling some very dramatic roles, particularly in the Ring and notably in places like the prelude to *Siegfried* where it has an extended low register solo. The contrasts between Wagner’s use of tuba in works like *Der fliegende Holländer* and *Die Meistersinger* and contrabass tuba elsewhere are very marked.

For Verdi, as for Wagner, a tuba placed below three trombones did not form a unified low brass section owing to the mismatch in timbres. Both composers came to prefer a section of four trombones, each of appropriate pitch and bore. Verdi’s earlier works specified *cimbasso*, a term possibly deriving from the copyists’ *c. in basso* (“corno in basso” or bass horn) and defined at the time as an upright serpent (bass horn) or occasionally

ophicleide. When valves appeared they were commonly applied to the trombone in southern Europe and thus it was that the *cimbasso* as bass or contrabass trombone came into existence, an instrument expected by Verdi in the opera house. Verdi restricted the tuba proper to his stage bands where it fulfils the function traditionally associated with the tuba in a band: strictly an oompah role.

While trombonists play music written for trombone, trumpeters music written for trumpet and horn-players mainly music written for horn, tuba players can find themselves coping with music written for a whole variety of historical and modern instruments. A tubist’s life may sometimes be hard but at least it’s never boring.

Endnotes:

- 1) The paperback, *Berlioz: Treatise on Instrumentation*, published in 1977 by Dover Books, is still the best value among English-language translations. In addition, an online translation by Michel Austin, *Extracts from the Treatise on Instrumentation and Orchestration*, appears on The Hector Berlioz Website [<http://www.hberlioz.com/Scores/BerliozTreatise.html>], and an extensive treatment of the text was published by Cambridge University Press in 2007, *Berlioz’s Orchestration Treatise: A Translation and Commentary*, edited by Hugh Macdonald.
- 2) William Melton, *The Wagner Tuba: A History* (Aachen, Edition Ebenos, 2008).