

# Instruments of the Orchestra

## The Strings

(By C. Whitaker-Wilson)



**W**HEN considering the full orchestra as distinct from the smaller combinations of strings, the addition of the double-bass is necessary, apart from which it should be made perfectly clear that the string quintet is only a loose term, because five only would be quite inadequate. It does not strain the imagination of anyone to realise that five stringed instruments would never be heard against wood-wind, brass, and drums.

Indeed, many a conductor of a municipal orchestra, where expense has had to be considered, has had to fight his council on the matter of obtaining enough strings. The larger bands will have as many as thirty first violins; such a number is by no means uncommon.

In broadcasting, however, the difficulty is solved another way: by placing the stringed instruments nearest the microphone and the brass farthest away a reasonable balance is easily obtained. But such a method can only apply where a microphone is used. In "real life," so to speak, unless enough strings be employed it is impossible to secure a proper orchestral balance.

The stringed instruments are naturally important—they are the most important of all, so far as that goes—and it may be of interest to listeners to treat them here from the point of view of broadcasting.

Let us consider the violin first. It is an instrument which is entitled to great respect, if only upon account of its antiquity. It is not known who first constructed a perfect violin; it is quite likely that several good ones were made by different men about the same time. But such names as Stradivarius, Amati, and Guarnerius come to the mind immediately one thinks of a violin.

### Extraordinary History.

**T**HERE is something extraordinary about the history of the violin compared with that of the piano. Without going deeply into the evolution of either instrument, I might do worse than point out that the fact that no one wants a new violin if he can get an old one and no one has any use for an old piano if he can get a new one.

It is an old thought that the violin has passed its height of perfection two centuries ago and that the piano has yet to reach its perfect form. Every day of the month new patents are taken out for the protection of some improvement in piano action.

I played upon a new one by a leading maker a few months ago which had what seemed to me to be a perfect tone and touch. It ought to have had, for the price was over £600. Such a sum would not be out of the way for a violin by Stradivarius, by any means; but if one paid that amount for a piano two hundred years old it would only be because it was something of a curio. Neither would it be a real piano; it would probably be a harpsichord—one of the predecessors of the piano.

But a violin two hundred years old is younger than ever it was. To handle an instrument by Stradivarius or Amati is something of a thrill; one finds one's self wondering who has

*THIS is the second of a series of splendid articles on the instruments of the orchestra. The first, on the brasses and woodwinds, was published a few weeks ago. This article explains in simple terms the function of each of the stringed instruments and why some sound better than others over the air.*

played upon it, loved it, and coaxed the tones from its very soul.

But a piano, or rather a harpsichord, of that age is merely a curio, a relic of the past; it has little or no meaning in these days. So that the violin is, as I have said, entitled to some respect. We can afford to honour it as a broadcasting medium, for it "comes through" as well as any instrument in the orchestra.

I have several friends who are violinists, and we are always arguing the matter of the comparative difficulty of playing a stringed instrument with that of a keyed instrument like the piano or the organ. It is useless for me as an organist, for example, to say that I have to use both hands and both feet to produce my notes; the violinist always throws it in my face that he has to make his notes, whereas mine are already there.

There is not space here for me to lay forth both sides of the argument, but it has often proved to be interesting. Have you ever examined a violin? If you have, you cannot have failed to be impressed by the apparent simplicity of its construction: a resonant body of wood, a finger-board, a neck terminating in a head or scroll, and four strings carried from a tail-piece over a slight-looking bridge to tuning pegs in the neck.

The strings are of varying thickness. The thickest is the G string, and is tuned to the G below middle C on the piano. The next is the D string, the third is tuned to A, and the fourth to E. So that the violin cannot sound below the G, but each string is capable of being raised considerably by means of what is called stopping, effected by the fingers of the left hand.

### Shortening the String.

**E**ACH note of the scale—up to a considerable height—may be produced by placing the fingers on the string—shortening it, in other words—while the sound is produced by the bow held in the right hand, or by means of plucking the string with the fingers of the right hand, an excellent device (known as pizzicato) occasionally employed.

To those who play the violin this explanation will not be particularly interesting; but I am supposed to be addressing those readers who do not play any orchestral instrument.

**O**NE other point about the violin as used in the orchestra; it is the question of first and second violins. The "firsts" play a part higher than the seconds. That is all; there is no

difference in the actual instruments themselves.

### The Viola.

**N**OW let us consider the third of the so-called string quintet—the viola. Not many people can easily recognise a viola from a violin—at least, at a distance. It is really about one-seventh larger in size than the violin; it is consequently lower in pitch. That is a rule with orchestral instruments: the larger they are, the lower they are in tone.

The viola has a G string, just as has the violin, but it is not its lowest string. It possesses one tuned to what is called tenor C; that is to say, the C below middle C on the piano. The other three strings are the same as the three lowest on the violin, that is G, D, and A. Consequently the viola cannot soar as high as the violin, nor does it suit it to do so.

There is something very different about the viola—it is not so brilliant. All the same, it is a great mistake to suppose, as many do, that it is not a solo instrument. It is, on the contrary, exceedingly effective when played solo.

In its place in the stringed portion of the band it corresponds to the tenor in a vocal quartet; in fact, it is often called the tenor. Some very fine compositions have been written for the viola; strangely enough, many of the great composers played upon it rather than upon the viola.

If you happen to see any work for viola in the broadcasting programmes may I suggest that you listen carefully, comparing your impressions with those you gain when listening to a violin?

### The Violoncello.

**T**HE fourth of the stringed instruments is, of course, the violoncello—usually called the 'cello (pronounced chello).

This noble instrument is easily recognised owing to its considerable size. It is tuned one octave below the viola, and its strings are much thicker. Also, the bow for it is wider and shorter altogether than that belonging either to the violin or the viola.

The 'cello has always been a favourite instrument, probably on account of its deep, sonorous tone. As a solo instrument it is largely a one-stringed instrument by which I mean that the top string is in great demand owing to its melodic value. In the orchestra, however, the 'cello generally plays a much lower part.

It forms the bass of the string quartet and usually plays a bass part in the full orchestra, even though the double-bass is able to go down so much lower. As a matter of fact, the double-bass is generally playing the same part as the 'cello an octave lower.

The 'cello is always worth listening to on the wireless because, not soaring too high nor yet descending too low, it seems to suit the requirements of the microphone. Perhaps there is no instrument which is more effective on the wireless.

There is something very noble about the tone of several of them when playing together in a large orchestra.

### The Double-Bass.

**W**E now come to the last and the largest of the stringed instruments—the double-bass or contra-basso. This unwieldy instrument is the making of the orchestra, for its depth of tone makes it as valuable to the orchestra as the pedals are to an organ. I am not sorry I do not play the double-bass; I always feel sorry for those who do, because of the difficulty of taking it about. It generally means a taxi everywhere!

Perhaps you may have seen the excellent picture which appeared some years ago in one of the humorous papers of a double-bass player who was extremely annoyed because a small urchin followed him along the road. (He was carrying his instrument on his back.) In response to his inquiry, the boy said he was waiting to see him "chin" that thing!

The double-bass can have either three or four strings; four is the general number. Its lowest note is E—the lowest E on the piano—but the music is written for it an octave higher, merely as a matter of convenience in both writing and reading.

It is not a solo instrument in any sense of the term; neither can it be said to be wholly satisfactory on the wireless, because its lowest notes are so low that the microphone is inclined to miss them and the average set cannot reproduce them in any case. The same thing applies to gramophone recording; it is difficult to be sure of the deepest notes getting through.

But there has been a great development recently, and the day may come quite soon when we shall feel the grip of the double-basses in orchestras which are broadcast and recorded.

**L**OOKING at the strings as a whole, there is no doubt that they afford a great contrast with all wind instruments, whether wood-wind or brass, and there is no mistaking their tone on the wireless.

### "Pinch-Penny" Methods

**T**HE collection of half a crown from children for birthday calls now collected by 2FC and 2BL, Sydney, does not appeal, even though the cause is that of charity. The idea savours too much of "pinch-penny" methods, and is calculated to raise a class distinction. In many of the poorer homes, where there are generally large families, the payment of half a crown for each birthday call becomes a heavy tax, and, therefore, many a poor little kiddy who was made happy by hearing his birthday call from a radio "aunt" or "uncle" will now be denied that joy. The scheme breaks up the idealistic plan of one big happy family of juvenile radio nephews and nieces.