12 The *Grand Traité d'instrumentation*

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When Berlioz's *Grand Traité d'instrumentation et d'orchestration modernes* appeared at the end of 1843, the work was already known to the readers of the *Revue et Gazette musicale de Paris*, for it had been published there as "De l'instrumentation" – sixteen feuilletons that appeared from 21 November 1841 to 17 July 1842. In this series, whose "heroes" are the instruments of the orchestra, Berlioz considers that aspect of musical composition in which he had proven to be particularly inventive. The works that he had already written – three symphonies, the *Requiem*, *Benvenuto Cellini* – demonstrated the essence of what he brought to the art of instrumentation. In fact his interest in the subject seems to have been born with his very first musical impressions, if we are to believe his early letters, his first articles, and especially his *Mémoires*.

Beyond his own taste and intuition, what kind of guidance could be found, in the eighteen-twenties, by a young composer who was fascinated by the alchemy of the orchestra? "My two masters [Lesueur and Reicha] taught me absolutely nothing about instrumentation," writes Berlioz in chapter 13 of the *Mémoires*:

> I regularly attended all the performances at the Opéra. I would take along the score of the work to be played and would follow it during the performance. In this way I began to see how to write for the orchestra, and began to understand something of the timbres and accents as well as of the ranges and mechanisms of most of the instruments. By carefully comparing the effects produced with the means employed to produce them, I was able to see the hidden links between musical expression and the special art of instrumentation. But no one told me that this was the way to do it.

In the subject that became so crucial to his later career, it turns out, Berlioz was self-educated.

Such a situation could only reinforce the demands for fresh and sonorous musical invention made by a musician who so disliked everything that was commonplace. Furthermore, everything reveals that Berlioz himself was a most meticulous craftsman of timbres – the care with which he prepared his scores as well as the intransigence he displayed in his role as a critic – because he judged all performers on the basis of one inviolable criterion, namely, absolute respect for what the composer actually wrote.

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Thus Berlioz, with his eagle eye, observed utterly everything. As an imaginative symphonist and gifted writer, he personified the "one-man orchestra" to the point of caricature. But of course, like other self-consciously romantic artists, Berlioz knew perfectly well that the very excessive behavior which led to caricature was a highly useful means of drawing attention to himself.

Because of his good relations with those in positions of political authority, Berlioz was solicited by the government to travel to London, in 1851, to judge the musical instruments presented at the first Universal Exposition. The report that he signed in the wake of this visit is somewhat disappointing because it is both general and brief.[1] But behind the conventional style required for this sort of report, one can sense the precision of an ear highly refined by extensive experience as an orchestral conductor. Indeed, it was the fear of having his own musical intentions misunderstood by others that led Berlioz to take up the conductor's baton in the first place. His concert tours abroad, especially his excursions to Germany at a time when wind instruments in particular were undergoing a series of improvements (as they were, also, in France), his associations with orchestra players, and his readings of the *méthodes* that were prepared for use at the Conservatoire – these things completed his education in such a way as fruitfully and intimately to join his identity as a conductor to his identity as a composer. For, unlike the majority of his peers, Berlioz did not compose at the piano; the only instrument he would ever really learn to play was the orchestra.

So it is not at all by chance, as one might imagine, that the high point of his career coincided with a high point in the development of instrumental manufacture, and that a second edition of the *Traité* became necessary only twelve years after publication of the first. This second edition, which appeared in 1855, was augmented by a chapter on new instruments (the saxhorn, the saxophone, Édouard Alexandre's organ-melodium and piano-melodium, the concertina, the octobasse, and others) and by a substantive appendix entitled *The Orchestral Conductor and the Theory of his Art.*

Early on, as we have seen, Berlioz paid close attention to the problems of instrumentation. What were the immediate circumstances that led him to consider them in a special treatise? He gives us a general answer to the question at the beginning of the work: that never before in the history of music had musicians so concerned themselves with this subject. In so saying Berlioz was no doubt thinking of the *Cours d'instrumentation considéré sous les rapports poétiques et philosophiques de l'art à l'usage des jeunes compositeurs*, which Georges Kastner published in 1839 as a complement to his own *Traité général d'instrumentation* of 1837. Kastner

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was the first to attempt to fill the gap articulated by Joseph Mainzer, in an article entitled "Sur l'instrumentation," in the *Gazette musicale* of 2 March 1834:

> At the present time, even the most polished composers lack a manual that presents the upper and lower limits of each instrument's range, the keys in which each sounds either strong or weak, and the kinds of passage work that are easy, or difficult, depending on the nature of each instrument's mechanism, and not only taken individually, but in combination with others.

In proposing to remedy this situation himself, Berlioz adopted a rather more open approach than did Kastner, inspired as he was (though without ever saying so) by two works of Antonin Reicha: the *Cours de composition musicale ou Traité complet et raisonné d'harmonie pratique* (1816–1818), and the *Traité de haute composition musicale* (1822). Reading these treatises one discovers that, when he was writing his own works, Berlioz not only followed to the letter certain notions articulated by his teacher (Reicha suggests constructing chords from kettle drums tuned to different notes, for example, as Berlioz later did in the *Grande Messe des morts*), but that he also developed his "spatial" notion of timbre, stretched out to the ideal proportions of a perfect orchestra of four hundred and fifty-six players, on the basis of the chapter of Reicha's *Traité* entitled "The Creation and Development of the Musical Idea."

Despite these foreshadowings, Berlioz's conceptions are nonetheless faithful reflections of his own personality. His fundamental principle, in true romantic fashion, is a subjective one, for the characteristic timbre of each instrument is categorized, on an affective scale, with the help of a system of comparisons openly colored by anthropomorphism. However, a second principle reins in the first by exposing it to the rationality of a practice that recalls what the author's imagination owed to the idea of positivism, so dear to the eighteenth century, according to which all forms of productivity depend upon personal experience. One of the reasons that Berlioz's treatise superseded those that had been written earlier – by Vandenbroeck (*c.* 1794), by Francœur as revised by Choron (1827), by Catrufo (1832), to mention but three – is precisely that, for the first time in a consistent manner, the function of each instrument is seen from an "interactive" point of view. That is, the morphological description of the sounding body is seen as inseparable from the particular capacity it possesses to express this or that emotion: the oboe is rustic, tender, timid; the clarinet is the "voice of heroic love"; the horn is noble and melancholy, and so on. The instrument no longer simply colors the musical discourse, it actually engenders it.

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Thus, with Berlioz, one passes from instrumentation, which is a science, to orchestration, which is an art. Each instrument takes on its own color in accordance with that multiple entity that constitutes the inner self of the composer. Indeed, in a nineteenth century that charged music with so many purposes, the extent to which Berlioz charged it with *expression* – that key word – is something that hardly needs repeating.

For Berlioz, music first became expressive with Gluck. (Though it did not have to be, expressive music was most commonly associated with text.) Of the sixty-six numbered examples reproduced in the *Traité* and earlier mentioned in "De l'instrumentation," forty-five are taken from operas. In fact the voice itself takes its place in a particularly interesting and extensive chapter of the treatise. This said, however, it is revealing that Berlioz gives no examples from the works of Haydn or from earlier periods. He believes that before Gluck's great tragedies, the orchestra merely muttered a series of literally meaningless formulas. In "De l'instrumentation" there is one allusion to Bach, with reference to the use of the lute, but in the *Traité* the allusion was suppressed. This demonstrates how richly Berlioz's own instrumental style developed and blossomed forth from the emotional relationships the composer maintained with the works of those who first revealed to him the power of music: that "chosen few" of Gluck, Beethoven, Weber, and Spontini.

The larger context of the *Traité* is thus simultaneously rational and subjective. It is, in the true sense of the word, a *poetics*. But if Berlioz breaks new ground, he also breaks with the past rather less than one might be tempted to think. Thus, for example, in the comprehensive chapter devoted to the orchestra as a whole, the mechanistic concept of certain classic music theorists finds new life. In fact, for Berlioz, the orchestra is in itself a "grand instrument" comprised of "machines become intelligent, but subject to the action of an immense keyboard played by the conductor."

One especially provocative phrase in the *Traité* has captured the attention of twentieth-century readers: "Any sounding body employed by the composer is in fact a musical instrument." (This precept was not newly added when the text of the *Traité* was prepared, for readers of the *Revue et Gazette musicale* had already seen it in "De l'instrumentation.") Nonetheless it would be a mistake to insist upon Berlioz's modernity merely on the basis of this cardinal assertion. At most one can conclude from it that the ingenious individual with whom we are dealing was capable of pursuing his reasoning to its logical conclusion without necessarily feeling obligated to put it to a practical test. He would, after all, conclude his career with a mind closed to those whom he had a role in setting on their way, namely Wagner and Liszt – the controversial representatives

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of what was called at the time the "music of the future." Still, as is well known, the *Traité*, that would-be bible, which was soon translated into Italian, German, and English, and later into Spanish and Russian as well, would exert considerable influence over the years: indeed, a blueprint may be found here for the incomparably rich and abundant sonorities of the orchestras of Mahler and Strauss.

On 10 August 1842 Berlioz wrote to his brother-in-law Marc Suat that he was "putting the finishing touches" on a *Grand Traité d'instrumentation*:

> This is something that has long been lacking in the teaching of music and something that I have often been asked to undertake. My articles on the subject in the *Gazette musicale* only touched the surface, the bloom on the rose, and now I have had to redesign the book from the foundations up, filling in all of the small, technical details.

It should not be concluded from this that the book version of the text in some way invalidates the earlier, periodical version. It is simply that the *Traité* itself is first and foremost addressed to the apprentice composer, while the text of the article, "De l'instrumentation," published without a single note of music, is rather addressed to the cultivated amateur. Even in this form, the enterprise was more than a little daring, because Berlioz feeds the reader a prodigious quantity of technical details by no means easily digested, as the chapters on the flute and the horn demonstrate with particular force. What is more, he relies constantly on the reader's memory whenever he speaks of the instrument in a specific musical context, although here he limits himself to mentioning works most of which come from the grand Germanic tradition.

The inclusion of musical examples in the *Traité*, in full score, was a startling innovation, especially in view of the earlier works on the subject that we have mentioned. Otherwise whole chapters are lifted literally from the series that appeared in the *Revue et Gazette musicale.* At most, in refining his thinking, Berlioz removes certain phrases that were critical of the lacunae in the education offered at the Conservatoire – an understandable bit of repentance, since, if it was to withstand the test of time, a work of such ambition had to be free from the sort of hot-headed irritation produced by exasperation (such as his own) with anything and everything that was routine.

Rather more to be regretted is the omission, in the *Traité*, of certain passages in "De l'instrumentation" where the author speaks of what one might call the "archeology" of timbre, for here he goes so far as to express, at least implicitly, a desire to see the creation of a museum of musical instruments. (As the logic of French officialdom eventually had it, Berlioz

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did become director of the instrument museum at the Conservatoire, three years before his death, in 1866.) Finally, one may also regret the omission of several instruments considered in "De l'instrumentation": the lute, the baryton, the flageolet, the flute in G, and the dulcimer. Such omissions are compensated in the book publication, however, by the inclusion of articles on the bass tuba, the Russian bassoon, sets of bells, and (apparently a last-minute addition) the saxophone.

It is clear that the *Traité d'instrumentation* bears witness, at a given moment, to an evolution of which Berlioz, more than anyone else, knew how to take advantage – in his correspondence and, especially, in his music criticism. Indeed, the frequent reflections upon instruments and upon the orchestra that one finds in the musician's writings prior to 1840 constitute the ore from which much of the material of the *Traité* was extracted. Early on, and with an original approach, Berlioz begins to reconsider all aspects of the organization, function, and role of the orchestra, beginning with what one might call its disposition "in space." On several occasions he insists upon the fundamental importance of the proper acoustical placement of the orchestra, always in relation to the experience of the listener, something that leads him to deny the very existence of open-air music. For Berlioz it is not that the orchestra fills some preexistent space, it is rather that the orchestra generates its *own* space in accordance with the timbral combinations of the instruments. In this respect it is revealing to see the composer (who attended Alexandre Choron's funeral at the Invalides, on 9 August 1834) actually define in advance what would become the sonic configuration of his *Grande Messe des morts* – by means of the acoustical *dis*equilibrium which on that occasion marred the performance of the Mozart *Requiem.*

Berlioz, it is clear, viewed the orchestra from the vantage point of a sonic architect. His point of view as a critic thus reflected his point of view as a theorist – as may be seen, for example, in his article on the orchestration of Meyerbeer's *Robert le diable.*[2] Furthermore, it is on the basis of the weaknesses he perceived, particularly in theatre orchestras, that Berlioz advances, as from 1834, his own quite precise definition of the *ideal* orchestra. And to designate the person capable of composing for that ideal orchestra, which is at once a unity and a multiplicity, he forges an adroit neologism: the *instrumentaliste.*[3]

In the end we must remember that Berlioz sees the orchestra as sonic structure in and of itself, subject to the physical laws of sounding bodies each one of which, as a member of the larger ensemble, has its own peculiar characteristics. This conception determines the larger organization of the *Traité* into *families* of instruments: strings – plucked, struck, and

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bowed; winds – with reeds, without reeds, and with keyboard (the organ); brass – with mouthpieces; voices – high and low women's (with children and castrati), high and low men's; and percussion – with instruments both fixed and indeterminate in pitch. Far from resembling a cookbook, the volume embraces the small scale of the instruction manual and the grand scale of the epic. Enriched by numerous musical examples, the *Traité* remains of widespread contemporary interest because it is, above all, a consummate treatise on aesthetics.

Translated by Peter Bloom

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