

Notes

Preface

1 Henry Pleasants, *Serious Music and All That Jazz* (London, 1969), pp. 78–9.

1 The history of the orchestra

1 It is interesting to note that this division between orchestras specialising in ‘light’ and ‘serious’ music survives up to the present day. For example, the BBC employs two orchestras in London – the Concert Orchestra performs the lighter repertoire which is normally avoided by the Symphony Orchestra.

2 William Weber, ‘The Rise of the Classical Repertoire in Nineteenth-Century Orchestral Concerts’, in J. Peyser (ed.), *The Orchestra: Origins and Transformations* (New York, 1986), p. 372.

3 Daniel J. Koury, *Orchestral Performance Practices in the Nineteenth Century: Size, Proportion and Seating* (Ann Arbor, 1986), pp. 299–301.

4 Julia Allmendinger and J. Richard Hackman, ‘The More, the Better? A Four-Nation Study of the Inclusion of Women in Symphony Orchestras’. *Social Forces* 74 (1995), pp. 423–60.

5 In the twenty-first century, it is even possible to talk of two distinctive orchestral repertoires, one designed for the concert hall, the other conceived for the record enthusiast.

2 The development of musical instruments: national trends and musical implications

1 Herbert Spencer’s assertion that ‘Music must take rank as one of the highest of the fine arts’ (‘On the origin and function of music’, *Fraser’s Magazine* 56, 334 (1857), p. 408) is clear indication of the position of musical composition in the social scale.

2 Philipp Spitta, *Johann Sebastian Bach*, trans. Clara Bell and J. A. Fuller-Maitland (London, 1889), vol. II, p. 44.

3 Reinhard Beuth, ‘Playing on a Stradivarius: an Interview with Anne-Sophie Mutter’, *Encounter* 70 (May 1988), pp. 71–5.

4 Laurence Libin, ‘Progress, Adaptation and the Evolution of Musical Instruments’, *Journal of the American Musical Instrument Society* 26 (2000), pp. 187–213.

5 Stewart Carter, ‘Georges Kastner on Brass Instruments’, in S. Carter (ed.), *Perspectives in Brass Scholarship* (New York, 1997), p. 191.

6 The element of change comes from a move from a direct vendor–purchaser relationship to what Trevor Herbert describes as a ‘process culture’ in which the process of making, selling, buying, dispensing, etc. obtains its own motion that is independent of the type of direct negotiation that took place in the previous period. In essence, the market replaces the individual.

7 Many of these innovations in brass instruments are illustrated by Arnold Myers in ‘Design, Technology and Manufacture since 1800’, in T. Herbert and J. Wallace (eds.), *The Cambridge Companion to Brass Instruments* (Cambridge, 1997), pp. 115–30.

8 This subject is dealt with by this author in ‘A New Species of Instrument: the vented trumpet in context’, *Historic Brass Society Journal* 10 (1998), pp. 1–13.

9 Michael Praetorius, *Syntagma Musicum, Vol. II, De Organographia* (Wolffenbüttel, 1619), p. 48. ‘Und demnach dieselbige jedermannlichen bestandt ist darvon . . . etwas mehr anzudeuten und zu schreiben unnötig.’

10 Although published over 40 years ago, Anthony Baines’s *Woodwind Instruments and Their History* (London, 1957, 3rd edn 1967) still provides an excellent introduction.

11 See note 8 and pp. 164–5.

12 Donald Boalch, *Makers of the Harpsichord and Clavichord, 1440–1840*, ed. Charles Mould (Oxford, 3rd edn, 1995).

13 Grant O’Brien, ‘Ioannes and Andreas Ruckers’, *Early Music* 7 (1979), pp. 453–66.

14 Baines, *Woodwind Instruments*, pp. 297–302.

15 This spelling of Leichamschneider is taken from L. G. Langwill, *Index of Musical Wind Instrument Makers* (Edinburgh, 5th edn, 1972).

16 The phenomenon of the ‘invention of tradition’ is covered in a series of essays under this title edited by Eric Hobsbawm and Terence Ranger: *The Invention of Tradition* (Cambridge, 1984).

17 This violin, known as *Le Messie*, is part of the Hill Collection in the Ashmolean Museum, Oxford.

- 18 This complex subject is discussed very thoroughly by James Beament in *The Violin Explained* (Oxford, 1997), p. 236. The early 20th-century research of J. Chenantais, *Le violoniste et le violon* (Nantes, 1927), is also essential to a well-rounded understanding.
- 19 Baines, *Woodwind Instruments*, p. 94.
- 20 Museum of London, accession number 61.20, on loan from HM The Queen.
- 21 Musikinstrumenten-museum der Karl-Marx-Universität, Leipzig, #1835.
- 22 Ralph Dudgeon, 'Keyed Brass', in Herbert and Wallace (eds.), *The Cambridge Companion to Brass Instruments*, pp. 140–2.
- 23 Arnold Myers illustrates this in 'Design, technology and manufacture since 1800', *ibid.*, p. 121.
- 24 Clifford Bevan, 'The Low Brass', *ibid.*, p. 148.
- 25 Haine, Malou, *Adolphe Sax: sa vie, son oeuvre, ses instruments de musique* (Brussels, 1980).
- 26 Babcock's patent is illustrated in J. Parakilas et al., *Piano Roles* (New Haven and London, 1999), p. 59. This series of essays provides a good overview of piano development.
- 27 Simon Wills, 'Brass in the Modern Orchestra', in Herbert and Wallace (eds.), *The Cambridge Companion to Brass Instruments*, p. 157.
- 28 Gayle Young, *The Sackbut Blues: Hugh Le Caine, Pioneer in Electronic Music* (Ottawa, 1989).
- 29 Baines, *Woodwind Instruments*, p. 321.
- 30 Jaap Frank, Michael Cox and Hélène La Rue, 'The Louis Lot Debate', *Pan* 14/3 (September 1996), pp. 35–6.
- 31 Baines, *Woodwind Instruments*, pp. 49–51.
- 32 Horn player Richard Seraphinoff observes that 'the double horn is a device invented to preserve the player's sanity, and to help insure job security in orchestras where the works of Richard Strauss are often played'.
- 33 Baines, *Woodwind Instruments*, pp. 239–41.
- 34 *Ibid.*, p. 239.

3 The orchestral repertory

- 1 See John Spitzer and Neal Zaslaw, 'Orchestra', in Sadie and J. Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians*, (2nd rev. edn, London, 2001), vol. XVIII, p. 531. See also the early part of chapter 1 of this book.
- 2 Jan LaRue, *A Catalogue of 18th-Century Symphonies*. Vol. I: Thematic Identifier (Bloomington, IN, 1988).

- 3 The best study of this gigantic repertory is by Stefan Kunze, *Die Sinfonie im 18. Jahrhundert: Von der Opersinfonie zur Konzertsinfonie* (Laaber, 1993).
- 4 A large number of these works are available for study in Barry S. Brook (ed.), *The Symphony 1720–1840: A comprehensive collection of full scores in sixty volumes* (New York, 1979–85).
- 5 On Stamitz see Eugene K. Wolf, *The Symphonies of Johann Stamitz: A Study in the Formation of the Classical Style* (Utrecht, 1981).
- 6 On C. P. E. Bach's symphonies, see G. Wagner, *Die Sinfonien Carl Philipp Emanuel Bachs: Werdende Gattung und Originalgenie* (Stuttgart and Weimar, 1994).
- 7 The definitive study of Haydn's symphonies is still the *magnum opus* of H. C. Robbins Landon, *The Symphonies of Joseph Haydn* (London, 1955).
- 8 The standard work on Mozart's symphonies is Neal Zaslaw, *Mozart's Symphonies: Context, Performance Practice, Reception* (Oxford, 1989).
- 9 Of the enormous literature on Beethoven, a fine general treatment of the symphonies may be found in Antony Hopkins, *The Nine Symphonies of Beethoven* (London, 1981).
- 10 Brian Newbould's *Schubert and the Symphony: A New Perspective* (London, 1992) is a comprehensive treatment of its subject. See also L. Michael Griffel's article 'Schubert's Orchestral Music: "striving after the highest in art"', in Christopher H. Gibbs (ed.), *The Cambridge Companion to Schubert* (Cambridge, 1997), pp. 193–206.
- 11 Berlioz's symphonies and concert overtures have recently been discussed by Jeffrey Langford and Diana Binckley, respectively, in Peter Bloom (ed.), *The Cambridge Companion to Berlioz* (Cambridge, 2000), pp. 53–68 and 69–80.
- 12 R. Larry Todd contributed a useful overview of Mendelssohn's symphonic works to D. Kern Holoman (ed.), *The Nineteenth-Century Symphony* (New York, 1997).
- 13 For a good summary introduction to Schumann's symphonies, see Linda Correll Roesner, 'Schumann', *ibid.*, pp. 43–77.
- 14 In his programme to the *Symphonie fantastique*, Berlioz emphasises: 'The composer's intention has been to develop, insofar as they contain musical possibilities, various situations in the life of an artist.' (Translation from the Norton Critical Score edited by Edward T. Cone (New York, 1971), p. 21 (author's emphasis).)

- 15 The Liszt essay in Holoman (ed.), *Nineteenth-Century Symphony*, pp. 142–62, by Kenneth Hamilton, also covers the symphonic poems.
- 16 A good concise introduction to Bruckner's symphonies is Philip Barford's volume, entitled *Bruckner Symphonies*, in the BBC Music Guides series (London, 1978).
- 17 Raymond Knapp's *Brahms and the Challenge of the Symphony* (Stuyvestant, NY, 1997) is an interesting new study of Brahms's orchestral music.
- 18 The numbering of Dvořák's symphonies follows Jarmil Burghauser's catalogue, which was first intended to establish their correct chronology.
- 19 The Tchaikovsky and Dvořák chapters in Holoman (ed.), *Nineteenth-Century Symphony*, pp. 299–326 and 273–98 (by Joseph Straus and Michael Beckerman, respectively), provide a good start for the study of the two composers' works.
- 20 Strauss also wrote two early symphonies, both before the age of twenty.
- 21 The most comprehensive work on Richard Strauss's music is Norman Del Mar, *Richard Strauss* (London, 1962–72, repr. 1978).
- 22 At the beginning of his *Mahler Remembered* (London, 1987), Norman Lebrecht offers an interesting chart about the chain of influences that started with Mahler. Of the enormous literature on the composer, the most comprehensive analysis of the orchestral works may be found in Donald Mitchell's *Mahler: the Wunderhorn Years and Gustav Mahler: Songs and Symphonies of Life and Death* (London, 1985).
- 23 The seminal monograph on Sibelius is Erik Tawaststjerna, *Sibelius*, tr. Robert Layton (London, 1976–97).
- 24 On Elgar, see R. Anderson, *Elgar* (London, 1993).
- 25 On Nielsen, see M. Miller (ed.), *The Nielsen Companion* (London, 1994).
- 26 Each one of Ravel's works is discussed in Arbie Orenstein, *Ravel: Man and Musician* (London, 1975).
- 27 On Vaughan Williams, see Michael Kennedy, *The Works of Ralph Vaughan Williams* (London, 1964, rev. 1980).
- 28 On Bartók's orchestral music see David Cooper, 'Bartók's orchestral music and the modern world', in Amanda Bayley (ed.), *The Cambridge Companion to Bartók* (Cambridge, 2001), pp. 45–61.
- 29 Paul Griffiths's *Stravinsky* (London, 1992) is an excellent one-volume introduction to the composer's life and works.
- 30 Phillip Huscher, programme note for the Chicago Symphony, 15 October 1997. On Berg's music, see Anthony Pople (ed.), *The Cambridge Companion to Berg* (Cambridge, 1997).
- 31 There are many new works on Webern, but none as comprehensive as Hans Moldenhauer's *Anton von Webern: A Chronicle of his Life and Works* (London, 1978).
- 32 On Prokofiev, see Harlow Robinson: *Sergey Prokofiev: A Biography* (New York, 1988).
- 33 Lest this aspect of Shostakovich be considered exclusively from a political point of view, it should be remembered that Mahler, too, had created a similar ambiguity in the finale of his Seventh Symphony, among other places.
- 34 See Neil Butterworth, *The American Symphony* (Aldershot, 1998).
- 35 The most up-to-date introduction to Messiaen is Peter Hill (ed.), *The Messiaen Companion* (London, 1994).
- 36 On Carter, see David Schiff, *The Music of Elliott Carter* (Ithaca, 2nd edn, 1998).
- 37 On Lutoslawski, see Charles Bodman Rae, *The Music of Lutoslawski* (London, 3rd edn, 1999).
- 38 Dominique Jameux's *Pierre Boulez* (tr. Susan Bradshaw, Cambridge, MA, 1991) contains an overview of the works written up to 1986, and offers individual commentaries on them.
- 39 Iannis Xenakis, *Formalized Music: Thought and Mathematics in Composition* (Bloomington, IN, 1971), p. 237.
- 40 See Friedrich Spangemacher, 'Punk und Muttermilch. Ein Gespräch mit dem finnischen Komponisten Magnus Lindberg', *Neue Zeitschrift für Musik* (1991/1), pp. 25–8.

4 From notation to sound

- 1 But see below, concerning Ex. 4.6.
- 2 This point is made by Gordon Jacob, *Orchestral Technique* (London, 1931, 2nd edn 1940), p. 62. Jacob's book is, incidentally, a very useful handbook for score-readers, although it was written for composers.
- 3 I use 'bar-lined' here not to mean simply 'barred' but more specifically 'barred through one or more staves in the system to distinguish instrumental family or other groupings'.
- 4 In dealing with percussion instruments, especially, many music-lovers are confused by the instrumental names in the various languages. There is a useful table of names in Jacob, *Orchestral Technique*, pp. 4–5.

5 Until well into the twentieth century horns were conventionally written an octave lower than expected, therefore transposing upwards, when in the bass clef. For a fuller account of transposition conventions, including a discussion of transposing instruments, see Richard Rastall, *The Notation of Western Music* (London, 1983, rev. 2nd edn Leeds, 1998), pp. 236–40.

6 Jacob, *Orchestral Technique*; Hector Berlioz, *Grand traité d'instrumentation et d'orchestration modernes* (Paris, 1843, Eng. tr. 1856); Cecil Forsyth, *Orchestration* (London, 1914); Walter Piston, *Orchestration* (New York, 1955); N. Rimsky-Korsakov, *Principles of Orchestration* (St Petersburg, 1913; London, 1922, 2nd edn 1964).

7 Further on this, see the article 'Harmonics' in S. Sadie and J. Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (rev. 2nd edn, London, 2001), vol. X, pp. 854–6.

8 For more detail on mutes, including a list of brass mutes, see the article 'Mute' in *ibid.*, vol. XVII, especially pp. 559–61.

9 There are of course many other effects possible in the orchestra. The reader will find the less common ones gradually by studying scores and listening to the music while following the notation.

10 For a very good brief explanation of the harp's working see Jacob, *Orchestral Technique*, pp. 74–8.

11 'Pitch-class' refers to all the notes of a particular name – thus all the C♯s form a pitch-class, as do all the G♯s, and so on.

5 The art of orchestration

1 Various authors, 'Instrumentation and orchestration', in S. Sadie and J. Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (rev. 2nd edn, London, 2001). Prior to *The New Grove* (1980), all editions except the second (1906) deal with the subject under the heading 'Orchestration'.

2 H. Berlioz, *Grand traité d'instrumentation et d'orchestration modernes* (Paris, 1843, Eng. tr. 1856). H. Macdonald, *Berlioz's Orchestration Treatise: a Translation and Commentary* (Cambridge, 2002) includes many supplementary notes and a valuable summary of treatises before Berlioz.

3 'F.C.', 'Instrumentation', in J. A. Fuller-Maitland (ed.), *Grove's Dictionary of Music and Musicians* (London, 2nd edn, 1906), vol. II, pp. 473–84; F. Corder, *The Orchestra and How to Write for it: a Practical Guide* (London, 1896).

4 H. Riemann, *Katechismus der Orchestrierung (Anleitung zum Instrumentieren)* (Leipzig,

1902); R. Strauss, *Instrumentationslehre von Hector Berlioz* (Leipzig, 1905).

5 A. Reicha, *Traité de haute composition musicale* (Paris, 1824–6).

6 C.-M. Widor, *Technique de l'orchestre moderne* (Paris, 1904).

7 Igor Stravinsky and Robert Craft, *Conversations with Igor Stravinsky* (London, 1959), p. 31.

8 Gluck began this practice in Vienna, with *Orfeo ed Euridice* (1762). By the mid-1770s, the keyboard instrument was excluded from many orchestral locations, including the Paris Opéra. While in the 1790s Haydn in London presided over performances at the keyboard, actually playing the instrument was seldom obligatory. Some operatic traditions, however, retained a keyboard to accompany simple recitatives well into the 19th century, although there was no necessity for the keyboard to play elsewhere.

9 F.-A. Gevaert, *Nouveau traité d'instrumentation* (Paris, 1885) methodically covers the capabilities of the instruments, while his *Cours méthodique d'orchestration* (Paris, 1890) treats the ensemble as a whole. 10 An earlier instance of timpani playing a tritone appears in an opera, *La grotta di Trofonio*, by one of Beethoven's teachers, Salieri.

11 Music for ophicleide can be found in Mendelssohn, Overture *A Midsummer Night's Dream* (1826) and Berlioz, *Symphonie fantastique* (1830).

12 C. Dahlhaus, *Schoenberg and the New Music*, tr. D. Puffett and A. Clayton (Cambridge, 1987), p. 41.

13 H. Macdonald, 'Berlioz's Orchestration: Human or Divine?', *The Musical Times* 110 (1969), p. 256. C. Forsyth, *Orchestration* (London, 1914), pp. 135–6; Norman Del Mar, *Conducting Berlioz* (Oxford, 1997), p. 202.

14 Strauss, *Instrumentationslehre*. In the introduction Strauss states that Wagner represents the only progress in instrumentation since Berlioz.

15 Rimsky-Korsakov's *Principles of Orchestration* (St Petersburg, 1913) was unfinished at the composer's death and eventually published by his son-in-law, the composer Maximilian Steinberg.

16 M. Russ, *Musorgsky: Pictures in an Exhibition* (Cambridge University Press, 1992).

6 The history of direction and conducting

1 Carl Flesch, *Memoirs*, tr. Hans Keller (London, 1957), quoted in Harold Schonberg *The Great Conductors* (New York, 1967), p. 15.

2 Quoted in *ibid.*

- 3 Oscar Levant, *A Smattering of Ignorance* (New York, 1942), quoted in Nat Shapiro, *An Encyclopedia of Quotations About Music* (New York, 1978), p. 76.
- 4 Adam Carse, *The Orchestra from Beethoven to Berlioz* (Cambridge, 1948), p. 339.
- 5 Ornithoparchus (Andreas Vogelhofer), *Musicae activae micrologus* (Leipzig, 1517), quoted in Schonberg, *Great Conductors*, p. 27.
- 6 Thomas Morley, *A Plain and Easy Introduction to Practical Music* (London, 1597, repr. London, 1963), p. 19.
- 7 Johann Matthias Gesner, in his edition of Quintilian's *Institutio oratoria* (Göttingen, 1738), quoted in Schonberg, *Great Conductors*, p. 39.
- 8 François Raguenet, *A Comparison between the French and Italian Musick and Operas* (Paris, 1702, Eng. tr. London, 1709), quoted in *ibid.*, p. 82.
- 9 Georg Sievers, quoted in *ibid.*, p. 72.
- 10 *The Musical World*, London, 29 March 1840, quoted in Carse, *Beethoven to Berlioz*, p. 330.
- 11 Felix Weingartner, quoted in *ibid.*, p. 353.
- 12 Richard Wagner, quoted in Schonberg, *Great Conductors*, p. 108.
- 13 *The Musical World*, London, 5 August 1836, quoted in Adam Carse, *The Life of Jullien* (Cambridge, 1951), p. 131.
- 14 *The Courier and Enquirer*, New York, 1853, quoted in Schonberg, *Great Conductors*, p. 154.
- 15 John Reynolds, quoted in Carse, *Life of Jullien*, p. 131.
- 7 Dolmetsch, *Interpretation*, p. 458.
- 8 C. Saint-Saëns, 'The Execution of Classical Works: Notably Those of the Older Masters', *Musical Times* 56 (1915), pp. 474–8, reprinted in MT 138 (1997), pp. 31–5. This is the text of a lecture delivered on 1 June 1915 before the Salon de la Pensée Française at the San Francisco Exposition and first published in the local French newspaper, *Le Franco-Californien*. Saint-Saëns was honorary president of the Société des Instruments Anciens, which had been founded by Henri Casadesus in 1901.
- 9 Robert Haas, *Aufführungspraxis der Musik* (Wildpark-Potsdam, 1931), and Arnold Schering, *Aufführungspraxis alter Musik* (Leipzig, 1931).
- 10 Laurence Dreyfus, 'The Early Music debate', *Journal of Musicology* 10 (Winter 1992), p. 115.
- 11 Robin Stowell, *The Early Violin and Viola* (Cambridge, 2001), p. 3.
- 12 John Eliot Gardiner, 'Stand and Deliver', *BBC Music Magazine* (May, 1998), pp. 42–5. For Ernest Fleischmann's comments on the same subject, see p. 258.
- 13 Laurence Dreyfus, 'Early Music Defended Against its Devotees: a Theory of Historical Performance in the Twentieth Century', *Musical Quarterly* 49 (1983), pp. 297–322.
- 14 *Ibid.*, p. 210.
- 15 D. K. Nelson, 'An Interview with Pinchas Zukerman', *Fanfare* 13 (March/April 1990), p. 38.
- 16 Neville Marriner played an important part in accustoming audiences to a leaner, crisper sound in classical repertory, but his Academy of St Martin-in-the-Fields, like Camerata Bern or I Musici, was effectively ousted by the period revival within his specialist area.

8 The revival of historical instruments

- 1 In Clive Brown, *Classical and Romantic Performance Practice 1750–1900* (Oxford, 1999), Preface, p. vii.
- 2 H. Berlioz, *Grand traité d'instrumentation et d'orchestration modernes* (Eng. tr. London, 1856), pp. 115, 116, 141.
- 3 F. Gleich, *Handbuch der modernen Instrumentierung für Orchester und Militärmusikcorps* (Leipzig, 1853), p. 37.
- 4 J. Joachim and A. Moser, *Violinschule* (3 vols., Berlin, 1902–5), vol. III, p. 5.
- 5 Robert Donington in E. Blom (ed.), *Grove's Dictionary of Music and Musicians* (London, 5th edn, 1954), cited by Margaret Campbell in S. Sadie (ed.), *The New Grove Dictionary of Music and Musicians* (20 vols., London, 1980), vol. V, p. 530, art. 'Dolmetsch, Arnold'.
- 6 See Robert Donington, *The Work and Ideas of Arnold Dolmetsch* (Haslemere, 1932); Margaret Campbell, *Dolmetsch: the Man and his Work* (London, 1975).
- 17 B. Sherman, *Inside Early Music: Conversations with Performers* (Oxford, 1997), p. 310.
- 18 I have suggested elsewhere that recent period recordings of Beethoven, Cherubini and Rossini have failed to illustrate these differences, especially in the area of playing technique.
- 19 H. C. Robbins Landon, *The Symphonies of Joseph Haydn* (London, 1955), p. 110.
- 20 W. Apel (ed.), *Harvard Dictionary of Music* (Cambridge, MA, 2nd edn, 1969).
- 21 C. Brown, *Classical and Romantic Performing Practice* (Oxford, 1999).
- 22 Joseph Szigeti, *A Violinist's Notebook* (London, 1969), p. 134: '[we produce] a big and somewhat undifferentiated tone; we neglect many bowing subtleties ... we

articulate with less character than even a few decades ago.

23 Richard Taruskin, *Text and Act* (Oxford, 1995), p. 102.

24 See Robert Philip, *Early Recordings and Musical Style: Changing Tastes in Instrumental Performance 1900–1950* (Cambridge, 1992).

25 Booklet note to EMI CDC 7 54286 2, Brahms Symphony No. 1 (1991).

26 R. T. Dart, *The Interpretation of Music* (London, 1954), p. 165.

27 Dolmetsch, *Interpretation*, p. vii.

28 D. G. Türk, *Clavierschule, oder Anweisung zum Clavierspielen* (Leipzig and Halle, 1789); tr. by Raymond H. Haggh as *School of Clavier Playing* (Lincoln, NE and London, 1982), p. 337.

29 T. Adorno, 'Bach Defended Against His Devotees', in *Prisms*, tr. S. and S. Weber (London, 1967), pp. 133–46: 'At times one can hardly avoid the suspicion that the sole concern of today's devotees is to see that no inauthentic dynamics, modifications of tempo, oversize choirs and orchestras creep in; they seem to wait with potential fury lest any more humane impulse become audible in the rendition.'

30 *Early Music* 12 (1984), p. 519.

31 Gardiner, 'Stand and Deliver', p. 42.

32 In Dominic Gill (ed.), *The Book of the Violin* (Oxford, 1984), p. 154.

33 J. Kerman, *Musicology* (London, 1985), p. 208. Nicholas Kenyon has recently offered the more sympathetic observation that in order to develop the old techniques, players were taking big risks in cutting themselves off from the mainstream of orchestral life. John Eliot Gardiner has written of the lonely periods of trial and error and the brave experimentation under the scrutiny of a critical and sometimes sceptical public.

34 Sleeve-note to The Hanover Band recording of Beethoven's First Symphony and First Piano Concerto, Nimbus 5003 (1982).

35 C. Brown, 'Historical Performance, Metronome Marks and Tempo in Beethoven Symphonies', *Early Music* 19 (1992), pp. 247–58.

36 As John Solum has suggested in relation to the flute, the greatest antiques may have tonal superiorities to the best modern replicas, but the degree of difference is not as much as generally exists between old and new stringed instruments.

37 Robert Barclay, 'A New Species of Instrument: the Vented Trumpet in Context', *Historic Brass Journal* 10 (1998), p. 1.

38 R. Maunder, 'Viennese Wind-instrument Makers, 1700–1800', *The Galpin Society Journal* 51 (1998), p. 185.

39 Charles Burney, *The Present State of Music in Germany the Netherlands and United Provinces* (London, 1773), pp. 95–7.

40 L. Vallas, *Un siècle de musique et de théâtre à Lyon 1688–1789* (Lyons, 1932), p. 432. Neal Zaslaw ('Toward the Revival of the Classical Orchestra', *Proceedings of the Royal Musical Association* 103 (1976–7), p. 167) notes that this was not a satire, but a sober bureaucratic report, written at the request of the sponsoring organisation's board of directors.

41 See H. T. David and A. Mendel (eds.), *The Bach Reader: A Life of Johann Sebastian Bach in Letters and Documents* (New York, 1945, repr. 1966), pp. 120–4.

42 For illustrations and discussion of orchestral layout, see C. Lawson and R. Stowell, *The Historical Performance of Music: an Introduction* (Cambridge, 1999), pp. 95, 96, 134, 135, 141.

43 *Ibid.*, p. 23.

44 *Ibid.*, p. 1.

9 Recording the orchestra

1 Circular acoustic panels suspended below the dome and installed under BBC guidance. Reflective on their undersides and absorbent on their upper surfaces, they largely eliminate the formerly notorious double echo.

2 H. Atkins and A. Newman, *Beecham Stories* (London, 1978), p. 65.

3 The method was invented by the EMI sound engineer and pioneer of stereo, Alan Dower Blumlein (1903–42).

10 Training the orchestral musician

1 A. Pearce, 'The British Conservatoires' BMus (Hons) award; Current Attributes and Key Directions for the Future', *The Tacit Curriculum*, Birmingham Conservatoire, University of Central England (1997).

2 'Musicians' Union Research into the Training Needs of Orchestral Musicians' (London, 2000).

12 Historical recordings of orchestras

1 Conditions were not quite as cramped as some of the photographs of sessions suggest. A famous photograph taken in the studio after Elgar's first recording session in January 1914 is sometimes taken to show the players in their performing positions (most recently in the article on 'Recorded Sound' in *The New Grove II*). But most of the players have no music stands and no instruments, and have

clearly been grouped closely together in order to bring them within the field of view of the camera.

2 Details of this recording session and its preparations are given in Jerrold Northrop Moore, *Elgar on Record* (Oxford, 1974), pp. 19–21.

3 The range of orchestral recordings made by the old acoustic process is shown in Claude Graveley Arnold, *The Orchestra on Record, 1896–1926: An Encyclopedia of Orchestral Recordings made by the Acoustic Process* (Westport, CT and London, 1997).

13 The orchestral composer

1 Igor Stravinsky and Robert Craft, *Conversations with Igor Stravinsky* (London, 1959), pp. 29–30. See also Julian Rushton's observations in chapter 5.

2 Pierre Boulez, *Conversations with Celestin Deliege* (London, 1976), pp. 20–1.

3 Charles Rosen, *Sonata Forms* (New York and London, 1980, revd. 1988), footnote p. 105.

4 Arnold Schoenberg, *Fundamentals of Musical Composition*, ed. G. Strang and L. Stein (London, 1967), p. 11.

5 Paul Hindemith, *Traditional Harmony* (New York, 1953), p. 13.

6 It is beyond the scope of this article to delve deeper into post-tonal modality and its

possible background/foreground, as attempted by Felix Salzer in *Structural Hearing: Tonal Coherence in Music* (New York, 1952, repr. 1962), particularly in relation to orchestral usage.

7 Boulez, *Conversations*, p. 20.

8 David Schiff, *The Music of Elliott Carter* (New York, 1983), pp. 247–8.

15 The future of the orchestra

1 Marcia Herndon, 'Cultural Engagement: The Case of the Oakland Symphony Orchestra', *Yearbook for Traditional Music* 20 (1988), pp. 134–45.

2 *The Independent*, 8 August 1994, p. 14.

3 *The Phil*, part 1. Channel 4 television, 24 January 1999.

4 Ernest Fleischmann, 'The Orchestra is Dead. Long Live the Community of Musicians', address given at the commencement exercises of the Cleveland Institute of Music, 16 May 1987, p. 2.

5 Basil N. Tchaikoff, 'Preparation for the Orchestral Profession: which kind of symphony orchestra will we have in 2000?', *International Journal of Music Education* 9 (1987), p. 6.

6 *Ibid.*

7 Richard Kurt Kraus, *Pianos and Politics in China* (Oxford, 1989), p. 8.

8 *Ibid.*, p. 186.