Introduction: instruments and aesthetics

See the orchestra

For the past few seasons, the Philadelphia Orchestra has made use of an unexpected technology: it has incorporated surveillance cameras into its performances. Positioned around the hall, these cameras take the audience inside the orchestra. They can zoom in on the hands of the solo pianist or else provide a close up of a trumpet player normally obscured by ranks of woodwind and string players. This system has two alternate uses: either, the images are projected on two screens that flank the organ pipes behind the orchestra, so that the audience in the hall sees the orchestra twice – they watch both the live orchestra in front of them and the mediated images simultaneously (Fig. 0.1), or the Philadelphia Orchestra broadcasts the concerts live in high-definition quality to local movie theatres. This new cinematic approach to orchestral performance is not unique to the Philadelphia Orchestra: recently, the Berlin Philharmonic launched its Digital Concert Hall, whereby subscribers can stream both live and archived performances for a fee. The year 2011 was a watershed: in January, the Los Angeles Philharmonic began broadcasting their concerts nationally, showcasing their highly charismatic conductor Gustavo Dudamel; February witnessed the unveiling of a new concert hall designed by Frank Gehry for the New World Symphony in Miami. This New World Center encourages all sorts of looking: glass walls let visitors peer in on practice rooms, and the hall itself is equipped with ten cameras and five screens; images can be projected both on the screens in the hall and on the outside of the building, which is studded with speakers so that passersby can catch aural and visual glimpses of the orchestra's performances. The New World Center thus has built into its very architecture what other orchestras had to work into their space as an afterthought: while the Philadelphia Orchestra's screens are obvious additions, more redolent of a conference room than a concert hall, the five screens of the New World Center are integral to the hall, undulating Gehry-style above the orchestra. The critic Alex Ross, upon seeing the screens in action, declared that what he witnessed

Fig. 0.1 The Philadelphia Orchestra performs in Verizon Hall with its "Access" screens in 2007. Photograph by Ryan Donnell Photography, LLC.

was "not just a technological forward leap but the emergence of a new genre."[1]

What it means to attend concerts is changing with the reconfiguration of the relationship between orchestras, visual media, architecture, and technology. Projection systems, whether used in the hall or broadcast to cinemas, alter how we listen to the music. In the case of the Philadelphia Orchestra's broadcasts – whether for the in-house screens or for theatre shows – the preparation for filming the orchestra involves the coordination of the music, cameras, and a team of cameramen and creative directors. As with traditional televised musical performances, the process begins with an analysis of the score: this allows a director to determine the precise sequence of close ups on particular musicians, views of the whole orchestra, and shots of the conductor. Then, during performances, the technical and creative crews manipulate the input from the many cameras in real time to create compelling imagery and give the performance a

[1] A. Ross, "Schubert on the Beach: The New World Symphony's Radical New Home," *New Yorker* (Feb. 14, 2011).

visual text. The process requires them to address the fraught relationship between looking and listening in the symphonic tradition. For example, when a solo instrument takes up a melodic line, the director can show that instrument at the exact moment the line begins, or delay the close-up for a few seconds. In the latter case, the audience hears the line first and is given the chance to guess what instrument is playing before it is revealed on the screen. While the distinction between the two approaches is minimal from a purely visual perspective, each suggests a particular balance of media: the first is didactic ("this is an oboe"); the second invites the listener to participate in a kind of sonic guessing game.

By the careful coordination of the aural and the visual – a second-order orchestration – the cameras can draw attention to specific parts and highlight musical lines that might otherwise be obscured in thick textures. They not only show us how to listen, they also control our listening experience. This is perhaps the most radical thing that these technologies offer: they take us inside the orchestra, breaking the ensemble into its constituent parts, making individual musicians and particular instruments visible. We do not just listen, we look, and how we listen is shaped by how we look. New technological forms of mediation, perhaps ironically, can serve to make the orchestra more vivid, more immediate, rendering details more palpable.

Orchestration: the very idea

The flowering of new approaches to orchestral performance today serves as a reminder that the orchestra has always been a complex cultural and technical assemblage. The incorporation of new machineries is changing how contemporary audiences experience orchestral music and may ultimately revise our basic understanding of the orchestra. This book is about a similar reconfiguration in the eighteenth century: it focuses on the transformation of the orchestra from an ensemble that was heard as powerful, but sometimes blunt and indelicate, into a diverse musical community in which each instrument had its own character and identity and lent its unique voice to the whole. Capable of explosions of sound and subtle, delicate dynamic nuances, the orchestra radically altered how people listened to instruments and thought about their expressive qualities. At the beginning of the eighteenth century, sound was not understood to carry meaning in itself. It was criticized for being dubiously sensual and incapable of clear representation; it was more ephemeral than color, and

less edifying than language. Over the course of the century, however, composers and theorists began increasingly to pay attention to instrumental sonority, which manifest themselves in the birth of the concept of "timbre" and in the appearance of the earliest orchestration treatises.

This change is bound up with the consolidation of the modern orchestra as a musical body; this was both an institutional and conceptual achievement.[2] The orchestra began in the seventeenth century in the form of disciplined string bands at royal courts; over the course of the eighteenth century the orchestra crystallized as an ensemble comprising doubled strings, pairs of wind instruments, and timpani and percussion. As John Spitzer and Neal Zaslaw have shown, the ensemble reached a "consensus" that was spurred on by the circulation of instrumentalists during the eighteenth century. Different orchestras across Europe – while never becoming completely uniform – began more and more to resemble each other. Technological developments, in particular of wind instruments, also increased the range, variety, and stability of orchestral forces. The nineteenth and twentieth centuries saw the addition of various new instruments and significant changes to preexisting ones (the additions of keys to wind instruments, for example). But what has remained is the basic conception of the orchestra as a rigorously trained, professional ensemble, conceived of as a complete whole. With this consolidation came new ways of writing that took advantage of the "eachness" of particular instruments, to draw on a concept from Johann Gottfried Herder.[3] This is the birth of what we today call *orchestration*. In the context of the orchestra, the variegated voices of instruments were heard to possess personalities and meanings.

Present-day accounts of this period in music history tend to ignore this transformation of orchestral instruments. The traditional story goes something like this: at the beginning of the eighteenth century, thinkers ranked music lowest among the arts. It had an uneasy relationship to the doctrine of imitation, since music – even music with words – could not always be explained by recourse to mimesis. At the end of the century, however, a dramatic shift occurred whereby purely instrumental music began to be praised for many of the reasons it had formerly been

[2] J. Spitzer and N. Zaslaw, *The Birth of the Orchestra: History of an Institution, 1650–1815* (Oxford University Press, 2004).

[3] Herder invokes this term in his essay "Vom Erkennen und Empfinden den zwo Hauptkräften der menschlichen Seele" ("On Cognition and Sensation, the Two Main Forces of the Human Soul," 1775), in *Herder: Philosophical Writings*, trans. M. N. Forster (Cambridge University Press, 2002), p. 180. Chapter 2 below explores Herder's philosophy in more detail.

condemned. Music dramatically emerged as a powerful genre of art, becoming the subject of rhapsodic writing by the early romantics, described with a host of passionate adjectives: no longer vague and confused, it became "transcendental" and expressed "infinite longing"; this was music free of "extra-musical" associations and complete unto itself. The philosopher Charles Batteux, whose views about art and imitation expressed in his 1746 treatise *Les Beaux-arts réduits à un même principe* were influential across Europe, likened music to random paint splatters thrown on a canvas. By contrast, the romantic philosopher Wilhelm Wackenroder, poised on the cusp of the nineteenth century, would claim that, "no other art but music exists that has a raw material which is, in and of itself, already impregnated with such divine spirit."[4]

Musicology has called this development the "rise of instrumental music." In the dominant accounts of this period, scholars have tended to turn to developments in philosophical discourse in order to explain the evolving attitudes toward music: Carl Dahlhaus, looking primarily to German philosophy, classifies this period as the birth of what Richard Wagner was to call "absolute music"; Lydia Goehr emphasizes the importance of the "work concept"; and Mark Evan Bonds identifies the emergence of German idealism – the triumph of spirit over matter – as the foundation for the rise of instrumental music.[5]

Yet the narrative has shortcomings. First, musical practice is almost entirely absent in this story. For example, Bonds, whose work has been central to advancing our understanding of early romantic aesthetics, denies that there were any changes to actual compositional practice, claiming that "the new aesthetics of instrumental music reflected fundamental transformations in contemporary philosophy and general aesthetics that were unrelated to the music of the time."[6] The emphasis on philosophies that prize the abstract ignores the materiality of musical practice and risks undervaluing the history of listening. Furthermore, it

[4] C. Batteux, *Les Beaux-arts réduits à un même principe* (Paris: Durand, 1746); "Wilhelm Wackenroder, "The Characteristic Inner Nature of the Musical Art and the Psychology of Today's Instrumental Music," in *Wilhelm Heinrich Wackenroder's Confessions and Fantasies*, trans. M. H. Schubert (University Park: Pennsylvania State University Press, 1971), p. 189.

[5] C. Dahlhaus, *The Idea of Absolute Music*, trans. R. Lustig (University of Chicago Press, 1989); L. Goehr, *The Imaginary Museum of Musical Works: An Essay in the Philosophy of Music* (Oxford University Press, 1992); M. E. Bonds, *Music as Thought: Listening to the Symphony in the Age of Beethoven* (Princeton University Press, 2006). See also D. Chua, *Absolute Music and the Construction of Meaning* (Cambridge University Press, 1999).

[6] M. E. Bonds, "Idealism and the Aesthetics of Instrumental Music at the Turn of the Nineteenth Century," *Journal of the American Musicological Society*, 50/2–3 (1997), 387–420, p. 389.

encourages scholars to draw on those methodologies that most closely resonate with the philosophical discourse, particularly analytical methods that focus on musical form. In short, the process is circular.

The second problem is chronological: the story conflates later nineteenth-century developments – the idea of "absolute" music, the emergence of a robust discourse of musical form – with the radical changes to musical culture in the late eighteenth century. The phrase "around 1800" is commonplace in musicological discourse and it often enables a temporal slippage that conflates the generation after Beethoven with the late eighteenth century.[7] Third, late eighteenth- and early nineteenth-century music – and the discourse surrounding it – did not abandon notions of representation, mimesis, and meaning. As Richard Will has shown, no clear-cut distinction existed in this period between "programmatic" and "abstract" music. Explicitly programmatic works – such as battle symphonies – remained popular well into the nineteenth century.[8] The distinction between functional or occasional works and non-functional music was likewise blurry; Nicholas Mathew's recent scholarship on Beethoven's political music restores to our view the importance of these works for our understanding of Beethoven's canonical repertoire. Certain circles – especially those that published within journals such as the *Allgemeine musikalische Zeitung* – began to write with undeniable disdain about musical elements that seemed overly popular or "easy," including tone painting and orchestral effects, but those complaints should serve to underscore the continued popularity and importance of those elements, rather than signal their disappearance.

The last point relates to questions of genre: this narrative of the emancipation of absolute music privileges the symphony, yet the "rise of instrumental music" did not entail a corresponding "decline of opera." David Wyn Jones's recent book, for example, has shown that the symphony was hardly the dominant genre in early nineteenth-century Vienna.[9] Beethoven's cultivation of the symphony, Wyn Jones argues, partly reflected his inability to secure a position that would have allowed him to compose operas. Certainly fewer operas from the 1790s and early 1800s are part of our current repertoire, but the operas of Luigi Cherubini,

[7] For a thoughtful discussion of the "around 1800" problem, see N. Mathew, "The Tangled Woof" (review essay), *Journal of the Royal Musical Association* 134/1 (2009), 133–47; see especially the discussion beginning at p. 140.

[8] R. Will, *The Characteristic Symphony in the Age of Haydn and Beethoven* (Cambridge University Press, 2002).

[9] D. Wyn Jones, *The Symphony in Beethoven's Vienna* (Cambridge University Press, 2006).

Gaspare Spontini, and others were an important and influential part of the musical landscape of their period. And the most beloved work of the early nineteenth century was not a symphony, but an oratorio: Haydn's *Creation*, completed in 1798.

In turning attention toward instruments, I do not intend to supplant musicology's traditional narrative with a new one based on practice, but rather to show how, paradoxically, music's perceived immateriality and absoluteness depended upon concrete, material changes in orchestral practice. This book seeks to show how listeners, critics, and composers first had to reevaluate music on the level of sound itself before they could argue that combinations of tones created a self-sufficient artwork. The orchestra fueled this reevaluation by altering the basic conception of instruments: only after the orchestra could be taken for granted could scholars of music ignore music's materiality and imagine that music existed in an ideal realm as some sort of ineffable "absolute" object.

Haydn's orchestra

This book is not a comprehensive history of eighteenth-century orchestration. Such a study would include a detailed discussion of the dramatic orchestral writing when Orfeo pleads with the Furies to gain entrance to the underworld in Christoph Willibald Gluck's *Orfeo ed Euridice*; it would delve into the relationship between Anton Wranitsky's symphonies and eighteenth-century *Harmoniemusik*; it would chart the incorporation of the clarinet as a regular member of the orchestral ensemble and follow the increasing mechanization of the wind instruments during the late eighteenth and nineteenth centuries; it would explore the impact of François Tourte's modifications to the violin bow after he began using the newly available pernambuco wood in the late eighteenth century.[10] The space

[10] Some of this work has been done: David Charlton, for example, has explored issues of orchestration and ideas of "envoicing" in *French Opera, 1730–1830: Meaning and Media*; Michael Fend's study of Cherubini's Parisian operas likewise pays attention to the ways in which Cherubini's orchestration was received and the ways in which it helped inaugurate a new idea of what was eventually called *musique d'effet*; Sarah Hibberd, in her recent study *French Grand Opera and the Historical Imagination* (Cambridge University Press, 2009), likewise frequently attends to issues of instrumentation; the Yale Music Instrument Series has published thorough studies of individual instruments and instrument families that trace their historical development and changing performance contexts. D. Charlton, *French Opera, 1730–1830: Meaning and Media* (Brookfield, VT: Ashgate, 2000); M. Fend, *Cherubinis Pariser Opern (1788–1803)* (Stuttgart: Steiner, 2007); G. Burgess and B. D. Haynes, *The Oboe* (New Haven:

required to address the myriad intricacies and particularities involved in such a study would produce a book of such vast proportions as to begin to resemble Borges's map, reproducing rather than describing the domain of orchestration.

Instead, this book concentrates on the shifting understandings of instruments and orchestration by focusing on a single composer, Joseph Haydn. Haydn's long career stretched over a central period in the development of the modern orchestra, and his engagement with his own orchestral forces changed throughout his career in ways that reflected the history of the orchestra and orchestration more generally. I do not argue that Haydn learned to orchestrate with increasing dexterity during the progression of his long career – such a story would tread too close to the now-outdated accounts of Haydn which argued that he attained compositional maturity only in his "late style." From his earliest compositions, Haydn was sensitive to instrumental sonority and the kinds of nuances afforded by different instrumental combinations. Rather, his approach to instrumental writing changed as he wrote for different kinds of orchestras: in the 1760s, he worked with a modest ensemble of a dozen musicians; during the 1770s and 1780s, the orchestra expanded: flutes, for example, which had been only sporadically available, became regular members. Later in his career Haydn wrote for considerably larger forces: his six Paris symphonies were composed for the Concert de la Loge "Olympique", which boasted over sixty players; when he composed *The Creation* and *The Seasons* he wrote for even larger ensembles.[11] In many ways, Haydn's changing ensembles – and his strategies for writing for them – mirrored the larger development of the orchestra and orchestration. Looking at Haydn therefore reveals a great deal about orchestras more generally.

Conversely, looking at orchestras tells us something about Haydn and his reception in the eighteenth and nineteenth centuries. Examining his orchestration and the discourse it engendered helps us to understand some of the reasons why he was so celebrated in his lifetime and by the

Yale University Press, 2004), E. Hoeprich, *The Clarinet* (New Haven: Yale University Press, 2008), T. Herbert, *The Trombone* (2006), A. Powell, *The Flute* (2003), J. Montagu, *Timpani and Percussion* (2002).

[11] J.-L. Quoy-Bodin, "L'orchestre de la Société Olympique en 1786," *Revue de musicologie*, 70 (1984), 95–107. On early performances of Haydn's *Creation*, see A. P. Brown, *Performing Haydn's* The Creation*: Reconstructing the Earliest Renditions* (Bloomington: Indiana University Press, 1986) and N. Temperley, *Haydn:* The Creation (Cambridge University Press, 1991), pp. 31–46.

generation after him. Haydn was hailed as an orchestral innovator, celebrated by his contemporaries precisely for his treatment of instruments and the orchestra. This idea – that orchestration was an element by which a composer's prowess might be judged and celebrated – in turn tells us something about late Enlightenment and early romantic aesthetics.

Of course, the focus on Haydn should require little justification: he was the most famous composer of the late Enlightenment, and his works were celebrated not just in Europe but in the New World as well. As mentioned above, his *Creation* was one of the most beloved works of the early nineteenth century, published in full score shortly after its premiere and performed frequently across Europe and America in multiple versions – German, English, French, and Italian. Although Haydn's fame was bound up with the changing status of the orchestra, I do not mean to suggest that he "invented" orchestration. As a practice, modern orchestration grew out of a complex network of compositional, aesthetic, technological, and institutional factors and is therefore not attributable to any single composer, orchestra, or city. Indeed, crucial to the notion of orchestration is the idea that particular effects are reproducible from orchestra to orchestra. This is reflected too in the discourse about orchestration: some of the most ardent statements about instruments and effects arise in the circulation of music to new audiences. As we will explore in more detail in Chapter 6, the London-based Italian violinist Felice Giardini published a pair of trios satirizing the German style of wind-heavy orchestration in the early 1790s. His target was clearly Haydn, who was in London at the time enjoying the adoration of his audiences; the engraving on the cover of the trios pitted light and playful cherubs playing strings and flute against a quartet of strained Germans puffing away on wind instruments.[12] Likewise, a French critic, hearing a new symphony by Étienne Méhul, could complain in 1810 about the "Teutonic contagion" that spread following Beethoven's successes, inducing composers to use "barbaric dissonances" and make "a din with all the instruments of the orchestra."[13] In both cases, each critic seems to hear an invasion that plays out on the level of instruments.

[12] J. Deathridge, "The Invention of German Music, *c.* 1800," in T. Blanning and H. Schulze (eds.), *Unity and Diversity in European Culture c. 1800* (Oxford University Press, 2006), pp. 35–60, at pp. 41–44.

[13] A. M., *Les tablettes de Polymnie*, 1 (Mar. 1810), 8, 9. Transcribed in A. Pougin, *Méhul: sa vie, son genie, son caractère* (Paris: Fischbacher, 1889), pp. 303–04; trans. in D. Charlton (ed.), *The Symphony 1720–1840*, series D, vol. VIII (New York: Garland Publications, 1982), p. xiii.

Furthermore, if looking at instruments and orchestration helps explain why Haydn was so admired in his own lifetime, it also helps explain the decline of Haydn's popularity in the nineteenth century: many aspects of Haydn's orchestration – nuanced writing for individual instruments, dramatic contrast between the whole ensemble and individuals, special effects – became standard. At the same time, over the course of the nineteenth century, discursive enthusiasm for the powers of the modern orchestra was tempered both by the rising formal discourse of musical analysis and by the many perceived abuses of its instruments; the notion of celebrating a composer for orchestration became dubious. In the twentieth century, when Robert Craft asked Igor Stravinsky, "What is good instrumentation?" the composer replied: "when you are unaware that it *is* instrumentation. The word is a gloss. It pretends that one composes music and then orchestrates it." Stravinsky continued:

> It is not, generally, a good sign when the first thing we remark about a work is its instrumentation; and the composers we remark it of – Berlioz, Rimsky-Korsakov, Ravel – are not the best composers. Beethoven, the greatest orchestral master of all in our sense, is seldom praised for his instrumentation; his symphonies are too good music in every way, and the orchestra is too integral a part of them. How silly it sounds to say of the trio of the Scherzo of the Eighth Symphony, "What splendid instrumentation" – yet, what incomparable instrumental thought it is. Berlioz's reputation as an orchestrator always seemed highly suspect to me.[14]

During the nineteenth century, then, orchestration came to occupy a marginal position in musical discourse. Hector Berlioz's *Grand traité d'instrumentation et d'orchestration modernes* (first published 1844) marks the crystallization of orchestration as its own discipline; it also cemented a separation between orchestration and other aspects of composition. As Stravinsky insinuates, when orchestration was the subject of discussion in music criticism, it was often invoked negatively. Good orchestration was elusive, even invisible; instruments disappeared from the mainstream of musical discourse that produced modern musicology.

Instruments and mediation

In order to tackle questions concerning the place of instruments in Enlightenment and early romantic musical culture, this book draws on themes that

[14] I. Stravinsky and R. Craft, *Conversations with Igor Stravinsky* (Garden City, NJ: Doubleday & Company, 1959) p. 27.