

Reflections on Music Theory Pedagogy: Virtual and Archeological Known Unknowns

JONATHAN DUNSBY

PRELIMINARIES

Teachers of music theory in the college sector fall into demographic groups, such as those who are notable researchers and those who are not, or those who call themselves music theorists and those who don't.¹ The familiar cross-currents of college life include what are perhaps more significant musical divergences also, those that may be revealed for instance by the sometimes elusive margin between Western art music and vernacular music. We may encounter, too, the sometimes sharply contrasting needs among different student groups. The performance major and the liberal arts student may subscribe to intersecting perspectives on music theory, the most common of common perspectives being the simple question—why am I being required to do this?—which is an anxiety not shared by the theory major. There are other, more obviously purposeful meeting points, for example the one that is gaining currency where teachers of markedly different stripes, and at least some of their students, ask what is to be learned from musical performance, usually meaning recorded performance, to deepen our theoretical and cultural understanding of the music. If intradisciplinary distinctions are not black and white, nevertheless they are familiar to most who have taught as well as studied music theory, and obviously readers would be able to think of more; representing more interesting tensions, it may be; or distinctions that are more relevant to individual professional experiences. The point about such an angle of approach, through contrasts and even paradoxes, is that even if it threatens a certain amount of agonizing and compromise pedagogically, it does deal in comprehensible challenges. It articulates unavoidable puzzles that we can realistically aim to address, if not solve.

¹ I am grateful to Mary Farbood of New York University and Arnold Whittall of King's College London for their advice and encouragement in the preparation of this material, though they do not necessarily subscribe to all the views it expresses, and any inaccuracies are mine alone.

It also seems, to this writer at least, the right kind of conceptual setting for considering what will be called here 'known unknowns' of theory pedagogy. Philologically, it would be appropriate to call these known unknowns 'aporias', that is, in this case, features of music that seems to present us with insoluble questions. Simply, known unknowns means features of music theory pedagogy we have no option but to reckon with, yet we can't expect to be able to explain them conclusively.

TECHNOLOGY

Pragmatically, in the music theory pedagogy arena, technology often appears in that guise. It would be revealing, one must suspect, to take a poll among *engaged* music students studying music theory in excellent schools of how many do use professionally oriented internet sites. For example, Solomon's Music Theory site² has been available for about a decade, and the question might be how many theory majors in that time have used it—for methodological explanation, as a portal for instance to online set calculators, for glossary advice, possibly for philosophical and aesthetic guidance. And how many of their professors? The specific answer may not matter too much, but the known unknown it could inform is the question of whether music theory pedagogy as a discipline has developed an adequate and pervasive culture of *evaluation* of online professional resources. Only a few years ago, sentiments such as the following seemed timely: 'as operating systems and programs become ever more closely tied to the Web, with teaching and learning in the education business inevitably following, all of us will need to use computers in the most efficient and effective ways possible.'³ It is true that virtual connection has prevailed increasingly in everyday life. Is it true, though, that the education business has followed 'inevitably', in significant ways? Leaving that question for readers to think about from their own experience, I also add as a preliminary that there is a world of difference between research-oriented technology and classroom delivery

² <http://solomonsmusic.net/theory.htm>

³ Dave Headlam, 'Multimedia for Music Study on the Web: Director from Macromedia', *Music Theory Online*, 3/5, 1997, [13.4].

technology. We shall begin here by thinking about sophisticated and specialized technological tools that students serious about understanding certain advanced topics need to learn how to use and possibly implement; then move on to the use of non-specialized computer tools for teaching that anyone with everyday knowledge of a computer can and probably should use. Yet different though those contexts may be, the need to evaluate technology in them is a common imperative.

A SHORT DIVERSION ON SO-CALLED ATONALITY

To take a particular case in point—because there is much to be learned from it even if you are not specially interested in atonal music—one may certainly observe ‘atonal theory’ being taught, with reference to pitch-class set theory, but without the use of set calculators. That serious students of atonal music who are prepared to assimilate some kind of pc set theory need to understand at least some of the set-theoretic and permutational assumptions and manipulations underlying it, calculating ‘by hand’ as it were, may go without saying. Yet it also goes almost without saying that pc set analyses done mentally and on paper can turn out to contain trivial, fatal errors in set identification or set relation calculations. Nor is this merely a matter of accuracy, even if perfect accuracy in pc set work is at a premium. It also matters whether students can move on from localized set identification and moderate engagement with pc set relations to contemplating the universe of pitch space. It is easy to find an analogy in the history of Webern analysis. For decades, Webern’s dodecaphonic permutations were studied and written about, and taught in the classroom as probably they largely still are, without reference to the simultaneities of the real musical surface, to what it is quite in order to call Webern’s ‘harmony’. In the later serial works he writes polyphony that mostly adumbrates three- and four-tone ‘chords’, just like Heinrich Isaac. The proximate relations among these ‘chords’ may be much stronger features of the music than is their derivation from twelve-tone supersets. Pc set analyses and serial analyses, of any music, that do little more than identify sets and then log their basic inclusion and exclusion relations are surely miles away from the music’s

actual harmony.⁴ Without sophisticated modeling, that is hardly possible with pen and paper, and hardly possible anyway in a brief survey course, we are surely not going to understand the pitch space in which any composer imagines this or that piece of music. We shall not come even close to what we are intuiting musically.

Comment such as the above on so-called 'atonal theory' is a specific example where the pros and cons are relatively easy to describe or to leave as assumed. The known unknown of technology raises, though, not only rather elevated questions such as quality control in our evaluation of online resources, and questions about how far 'atonal' or spectral musics, or African rhythms for that matter, can be analyzed without computational aids. That known unknown also engenders generalized feelings about our relationship to technological potential. The computer toolkit available to the present-day college music teacher is astonishing, certainly when considering what little was generally available as recently as the end of the last century. We may take it for granted that listening practices have changed, and perhaps also that information resources have offered new ways of approaching Western art music.⁵ What we should not take for granted, surely, is that we instinctively, or through simple common sense, know what to make of this new technological scenario pedagogically.

THE AUDIO IN AUDIO-VISUALS: FROM SEMIOLOGY TO CLASSROOM ANALYSIS

Returning to the hortatory idea from 1997 that 'all of us will need to use computers in the most efficient and effective

⁴ The balance between pitch connection and pitch derivation is at issue not only in twelve-tone music. A similar question was first asked about Messiaen's 'borrowed' tones by Rosemary Walker: see her article 'Modes and Pitch-class Sets in Messiaen: A Brief Discussion of 'Première Communion de la Vierge', *Music Analysis*, 8/1-2, 1989, 159-68.

⁵ For recent discussion of listening practices in the age of technology, see Arved Ashby, *Absolute Music: Mechanical Reproduction* (Berkeley: University of California Press, 2010).

ways possible,⁶ and after broaching that subject in the rarified cause of so-called atonality, much simpler material needs to be considered also. It is worth thinking about the computer almost certainly within easy reach of almost every reader, and whether we have properly evaluated it from our professional point of view. The combination of presentation and audio-editing software nowadays is a powerful pedagogical tool, of which one's awareness may be a very slow burn indeed if based only on instinct and common sense. It is also worth recalling the creative impulse that lies at the heart of valuable music analysis, the activity through which music theory pedagogy learns its trade. Dora Hanninen, influenced by Benjamin Boretz, offers this wise description of music analysis, which underlines the crucial importance of its representational character:

Music analysis might be described as the conceptualization and representation of musical relationships; alternately, one might say that the conceptualization and representation of musical relationships is a music analyst's (or the music analytical) way of 'making music.'⁷

An example of the interface with the known unknown, bearing in mind readily available computing facilities, is paradigmatic analysis, an approach with certain strict tenets and attitudes, and involving lots of jargon. It may not be familiar to most readers terminologically, but it basically means *comparative* analysis, and so any musician can acknowledge that it is what music analysis of every kind is to some extent always doing. Some may recognize paradigmatic analysis as a throwback to the allegedly structuralist impulse initiated in applied musical thought by, above all, Jean-Jacques Nattiez,⁸ four decades ago. Without going

⁶ See note 2 above

⁷ Dora A. Hanninen, 'Orientations, Criteria, Segments: A General Theory of Segmentation for Music Analysis', *Journal of Music Theory*, 45/2, 2001, 345-433; 345.

⁸ Nattiez's writings as a whole reveal a passion for interpretation that belies his reputation in some quarters at the end of the last century for taking a programmatic approach to explaining music's neutral, structural qualities. The brief account of his work in the *Revised New Grove Dictionary* goes a little way towards rectifying that view—penned, as it happens, by the current author, and overdue for thorough updating.

into further discussion here of musical semiology, it may be said that its characteristic paradigmatic analysis offers interesting inflections in the parsing of musics of all kinds, and has been one of the trends that stimulated the increasingly fashionable interest, in American music theory circles currently, in what is called music semiotics.⁹ More to the point, paradigmatic analysis remains a lively area for inquiry, not only as part of the new wave of music-theory research ideas identified by Kofi Agawu, but for instance in the pedagogically oriented recent work of Nicolas Donin and Jonathan Goldman.¹⁰ One of the central objectives in the methodology that Donin and Goldman have been developing in computer programming at IRCAM is a means of segmentation and analytical reconstruction of the musical score so that one may not only, so to speak, see through it, but also *hear* through it (Schenker would have called this ‘synthesis’; and he did not in fact use the term analysis, contrary to popular misconception). In particular they sought to achieve this for complex new music scores, though in truth, in a world where even Mahler could not aurally ‘read’ a Schoenberg score more than a century ago,¹¹ their method has a long backwards reach, one that is later in this essay

⁹ Paradigmatic analysis found its way into textbooks, including Nicholas Cook’s influential *A Guide to Musical Analysis* (London: Dent, 1987; see also 1994, paperback ed.). A list of pioneers of music semiotics—which may be said to amount to the study of musical ‘topics’ and which some regard as a kind of positivist stylistics seeking to put a hard edge on the narrative urge of what was called ‘new musicology’ in the 1980s and 90s—would necessarily include Kofi Agawu, Robert Hatten and Eero Tarasti. For a rare example of music-semiotic exegesis by a true philosopher-musician, see Naomi Cumming, *The Sonic Self: Musical Subjectivity and Signification* (Bloomington: Indiana University Press, 2000).

¹⁰ Kofi Agawu, ‘Analyzing Music under the New Musicological Regime’, *Music Theory Online*, 2/4, 1996; Nicolas Donin and Jonathan Goldman, ‘Charting the Score in a Multimedia Context: The Case of Paradigmatic Analysis’, *Music Theory Online*, 14/4, 2008.

¹¹ Schoenberg tells us that Mahler’s exact words in 1905, concerning the former’s First String quartet, were as follows: ‘I have conducted the most difficult scores of Wagner; I have written complicated music myself in scores of up to thirty staves and more; yet here is a score of not more than four staves, and I am unable to read them’: see Arnold Schoenberg, ‘How One Becomes Lonely’, *Style and Idea* (London: Faber and Faber, 1975), 30-53; 42.

going to be characterized as archeological. We would need to look only at the tortuous graphics of one of the first published music-analytical ‘transfers of the paradigm to the syntagm’ to appreciate how limited non-aural analysis is and can only be.¹² More modern, ‘hearable’ paradigmatic analysis has the musical virtue of being not only accessible but also, I would argue, more musically ‘true’.

There follow two basic, indeed simple demonstrations from the writer’s own undergraduate core theory teaching. Consider first the music-analytical observation in Example 1, quoted from a recent study. It maintains uncompromisingly how J.S. Bach is introducing a new theme of the kind that ‘barges into’ the music, in one of his famous double fugues. There is an unsavory element to that assertion, from the music theory pedagogue’s perspective. Its author gives us to understand that the theorist, probably the theory teacher (cf. ‘theoretical forearms’, implying a well toned practitioner of the dark arts of thinking), would be somehow working against the composer’s ideas. Needless to say, the heroic, Beethovenian Bach (shades of Peter Schickele, who will arise later also in this essay) can easily, by means of his inspired second theme that simply cannot be ‘wrung’ out of the first, run rings around the sterile theorist. Except that of course it does not need to be ‘wrung’ out because the connection is musically blatant. On the face of it, students just looking for the obvious would doubtless be thinking that a theme beginning with six equally spaced tones (quarter notes)—not all that common a feature of Baroque fugal practice—presumably generates at least rhythmically the other theme, in the same work, also beginning with six equally spaced tones (half notes). The point of Example 2, however, is to hear slightly beneath the surface, the ascending chromatic infill between dominant and tonic—we know from a mass of evidence that Bach thought

¹² That ‘transfer’ is semiological jargon for understanding how musical entities that are like each other, if you compare them out of time, perhaps by as it were laying them on top of each other and looking through them to see how they form similar shapes, may also serve as patterns in real time that control the succession of different kinds of shapes. My comments on the graphic limitations of such analysis are a self-accusation: see my methodologically original but musically opaque ‘A Bagatelle on Beethoven’s WoO 60’, *Music Analysis*, 3/1, 1984, Example 15; nowadays I would want to publish that semiologico-Schenkerian analysis as an audio-visual example.

as it were ‘vertically’, paradigmatically, about the combinatorial potential of his fugue subjects. Pedagogically, it is not only a matter of seeing what happens in the music, or of playing the themes in isolation on the piano in the classroom, but of letting students hear the organ extracts literally next to each other, which without pedagogical leadership would not be feasible. Students are not obliged to hear a connection; but an aural paradigmatic analysis, even of such a rudimentary kind, may *enable* them to hear what is going on if they wish to do so. This is how the theory teacher, whose job it surely is to know the music inside out, synchronically as well as diachronically, can offer something to students, rather than tell them something in the manner of Example 1—let alone something so plainly contestable. Bearing in mind, purely from the point of view of graphics, that with a scanner, audio player and PowerPoint software musical examples like that can be made in a few minutes, one may be forgiven for childlike wonder at the visual pedagogical impact nowadays available on the desk of every college teacher in prosperous parts of the globe. The meaning of such examples needs to be heard, however, from the embedded sound extracts that can also be generated in a few minutes—edited to the millisecond and with fades and similar—using for example the freeware Audacity.

Consider, secondly, Example 3, through which the almost tiniest details of the opening of Schubert’s Second Symphony could be heard if this were in a presentation rather than a printed medium as here: Example 4 shows the beginning of the development section of which Example 3 is indicating the etiology. In general, if you describe or annotate some of the motivic minutiae of this majestic symphony for an average group of undergraduate students there will be an understandable credibility gap—engendering first-principle stumbling blocks like ‘did the composer do this on purpose?’¹³ as well as perfectly reasonable caveats such as ‘how can I be expected to assimilate so many vast amounts of musical detail?’¹⁴ When students physically hear precisely what they are

¹³ For the record, my favored answer in the classroom is ‘Yes. Next question?’, but obviously we must share with students curious about intentionality many stimulating readings—Gurney, Hanslick, Klee, Wimsatt....

¹⁴ Example 3 used as an audio-visual example in the classroom was, I hasten to add, in a context where the students had learned Schubert’s whole movement intensely for some weeks, and were considering special topics such as thematic derivation, modality, and rhythmic foreshortening.

being shown, on the other hand, the connectivity and elaboration can become fully musically comprehensible, just as they could have been to Bach or Schubert. It may seem a small step from what is heard in Example 3 to asking the students to consider the family resemblance of three-tone motives in this composition, starting with whether the first theme, with its substrate B $\flat$ -C-F (bars 11, 15 and 19 respectively), is the same musical idea in a wider pan.¹⁵ Conceptually though, that step can be a typically impassable gulf. That is no surprise, for to articulate structural connections requires so much gawky verbal explanation, and so much experienced insight into creativity in Western art music; so much that music explainers from Hoffmann to Tovey, and beyond, may often have been achieving precious little.¹⁶ One may feel they were recounting what trained musicians are aware of anyway and what others are never going to 'get'—and why should they? However, let the students *hear* this connection in aural apposition,

¹⁵ It may seem obvious to many readers that Schubert took his tune, with its I-ii-V support, from the first theme of Beethoven's First Symphony, knowingly or not; but students will not easily find that hypothesis in the Schubert literature.

¹⁶ A music-analytical overview of a piece, such as a Schenkerian graphic analysis always entails, is not as people sometimes give the impression a particularly abstract entity, counterintuitive, or in any other way objectionable to the reasonable person. Recall how the scriptwriters of the movie *Titanic* (1997) began a long, complex and barely believable true tale by screening a computer-animated simulation of what happens when *Titanic* goes down, complete with improbably broken hull, astonishingly vertical stern and so on. The simulation is shown to the old lady survivor Rose Calvert by the explorer Brock Lovett, and implants into the moviegoer's mind a chronological background image of the entire and shocking destruction of the indestructible. Thinking of Schenkerian middlegrounds and backgrounds as *simulations* is something of which I imagine their inventor would have approved.

and the moment passes in no time, completely believed, part of the potentially rich fabric of deeper understanding of the music.¹⁷

NORTH AMERICAN AFTERWORD/INTERMISSION ON CLASSROOM IDEALS

Stepping aside from the main argument here, let us take stock of where ideas of this kind fit in the portfolio of aptitude and skills that ought to support good music theory teaching. Since this essay is somewhat journalistic, it may as well also indulge in being briefly parochial. At the Eastman School of Music, each year several hundred of the world's most able and experienced musical achievers study 'core theory', because that is believed to be integral to a rounded education in Western art music. Great attention is paid to the pedagogical efficacy of Eastman's theory teaching. It has to be, not least in that most of the school's distinguished faculty are performers and performance pedagogues who must take the value of their students' theory learning largely on trust. So much attention is paid that our theory teaching assistants, new and returning, attend an annual, week-long boot camp in the week before the start of the school year. The agenda of pedagogical essentials is a long one, among which key items are: framing a class, and content design; vocal technique and sight singing; what testing is for and achieves; workshops where students teach in front of their colleagues and faculty; policies such as grading. The continual, almost continuous emphasis is on student engagement with music and ideas. This makes us think about the sheer diversity of criteria that have to be on the theory teacher's mind, and the essence of it all: communication. No wonder that in the general scope of what good theory teaching is thus deemed to entail—and for sure in how value

¹⁷ There are clearly going to be cases where illustrating musical relationships more abstractly than in 'real' sound bites, if more aurally concretely than purely on paper, will be appropriate. There is also the question, not to be dismissed as if it were somehow solved, between, as it is often put, thinking music and thinking about music. In relatively modern times perhaps no teacher achieved greater inroads into exploring that distinction and making an analytical virtue out of its empirical necessity than Hans Keller (1919-1985), notably through his technique of wordless functional analysis: see for example Hans Keller, *Functional Analysis: The Unity of Contrasting Themes; Complete Edition of the Analytical Scores*, ed. Gerold W. Gruber (Frankfurt and New York: Lang, 2001).

is inscribed in matters such as the difference between teaching and learning, or the necessity to make musical, aural reality a recurrent and integrated part of the students' classroom experience—the technology 'toolkit', as it was called earlier, will offer seemingly endless, new and genuine enhancements and solutions.

CANONICAL SO-CALLED TONALITY AND THE CANONICAL DARK OF PRINT

The other known unknown to be addressed in the main thread here is what we mean, or think we mean, by Western art music. Gone are the days when its entire contemporary canon could be embraced seriously. How much Machaut and Marenzio did Mozart know? And how much Massenet and Messiaen? Such absurd thoughts as the latter—Peter Schickele has taught us that they are not always as daft as they may appear to be, and playing with time will occupy the rest of this discourse—can give us some sense of the sheer scale of our contemporary canon, even before we incorporate also world musics and vernacular music. This is not a new observation, but it can remind us of the pace of change nowadays and some of the ways in which technology has produced unprecedented factors, in the information explosion, in information overload, in diversity of musical taste. Pedagogically, our strategies for taming those factors include canonization: the Bach chorales; the *Great American Songbook*. Wise counsels have been warning us: 'Music is part of being human, and there is no human culture in which it is not highly developed and esteemed. Its very ubiquity may cause it to be trivialized in daily life....'¹⁸ You might be forgiven for wondering whether musicologists of recent decades who devoted so much attention to scorning canonicity sometimes forgot that to *devalue* beliefs about music is no laughing matter.

In a searching, nonconformist account of music theory contemplating the world of popular music, Dai Griffiths offers,

¹⁸ Oliver Sacks, *Musophilia: Tales of Music and the Brain* (New York: Alfred A. Knopf, 2007), 347. A striking feature of Daniel Barenboim's 2006 Reith Lecture series 'In the Beginning was Sound' (BBC, London) is his strongly expressed dislike of classical music being used promiscuously, and he is among a whole generation of the world's leading classical musicians who expressed the importance of not just hearing music, but listening to it.

among extensive arguments documented in scholarly detail, moments of acute caricature that capture such thoughts in a way that any reader will admit is at least memorable:

[W]e still prepare for what Kant described, in the shorter working day which Marx looked forward to, filled with the activities of listening and composing and performing which the broadening of access to music aims for; in which a canon of specific pieces listened to again and again is important not for its content as much as the various human fragilities which give rise to those choices; in which being 'an attentive listener placed between two expensive speakers in a darkened room' is a good indication that the drugs are working.¹⁹

It is not only popular music though which makes us interrogate the canon of music theory's music. Richard Cohn expresses the shift in focus that should be leading us to abandon, as music theory pedagogues, the old tonal/atonal paradigm in favor of a view originally expounded, we shall see, by Schoenberg.

Several developments in the late 20th-century academy – notably a suspicion of historicizing teleologies and the re-evaluation of the distinction between classical and vernacular – stimulated recognition of diatonic tonality as a living tradition. Perhaps the most important trend in practical harmony at the beginning of the 21st century is the reintroduction of contemporary music, in the form of folk music, jazz, show-tunes, rock and so on into manuals of practical harmony, in both Europe and North America, in the service of compositional and improvisational as well as analytical training.²⁰

In the twentieth century, it turned out, tonality never did leave

¹⁹ Dai Griffiths, 'The High Analysis of Low Music', *Music Analysis*, 18/3, 1999, 389-435; 416. Griffiths's quotation is from David Hesmondhalgh reviewing Allan Moore's *Rock: The Primary Text in Cultural Studies*.

²⁰ Carl Dahlhaus, et al., 'Harmony', *Grove Music Online*. *Oxford Music Online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/50818> (accessed July 13, 2010).

the field of play. Trained musicians tend to think that it did at least as far as overtly non-tonal music is concerned, that is, atonal music *and* serial music taken together. Yet serial music, many are now coming to think, is in particular the arena in which tonality was an ongoing consideration for composers, even if listeners would and will take some time to assimilate that feature. The idea that tonality was ‘abandoned’, a mantra threading its way through the historiography of early- and mid-twentieth-century music, in truth has been a highly localized perception, the overestimation of one feature of the then present—and that kind of overestimation is common enough in any contemporaneous cultural theory. Cohn’s somewhat distracting emphasis, reflecting his focus on the classical/vernacular paradigm, is on ‘diatonic’ tonality, as opposed to tonality as a general feature embracing what Schoenberg told us all the time was quite wrongly called ‘atonality’.²¹ Tonality is and was, we can all now see, a surprisingly malleable phenomenon, and it is perfectly reasonable to say that it was no more abandoned even in apparently ‘non-tonal’ music than image was abandoned in then-modern visual art.

The ‘canon of music theory’s music’, as it was called above, concerns not merely conceptual issues such as those just discussed, but it entails the actual musical materials we choose to study. Every time a modern anthology or textbook selects a new-looking item of music, it is excluding some other item that would not have drawn attention to itself—‘just’ another bit of Mozart string quartet, for example. A recent article from the young composer’s perspective provides a thoughtful discussion of some of the implications, asking ‘how individuals cope with all of the aesthetic, cultural, and political challenges of...Western art music in the 21st century.’ The statement of the challenge could hardly be more clear: ‘contemporary Western art music is sometimes portrayed as being in crisis—fragmented, its canons questioned, its sense of identity dissolved (which, many have argued, is a good thing)—and its lack of public appeal

²¹ In 1911 Schoenberg theorized that you could not really call ‘ultramodern music...atonal’; and in his revision published in 1922 he added explicitly that atonal is a word ‘entirely inconsistent with the nature of tone....*Everything* implied by a series of tones...constitutes *tonality*’, *Theory of Harmony*, trans. Roy E. Carter (London: Faber and Faber, 1978), 128 and 432 respectively, my emphasis.

is often cited as proof of its increasing marginality.' Yet as El-Ghadban argues, this situation is not necessarily reflected in the institutional practices of Western art music. Tellingly, he notes that 'for the most part, current rituals of Western art music have been left unexamined or, in the case of ethnographic studies of the tradition, have centered on the analysis of the inner intrigues of Western music institutions (Born 1995).'²² So much has doubtless been said before in other ways, but the spin in El-Ghadban's article includes an important perception of agency: 'young composers or young performers, who are arguably on the front lines of Western music's rituals of recognition, have rarely, if ever, with the noted exception of prodigies, been at the center of these studies.'²³ Nor have theorists, one must suspect, for it seems more than likely that students understand the canon of music theory's music to be a strictly intradisciplinary phenomenon: yes, one has to analyze Webern in order to have been educated in core theory about twentieth century music; but no, that doesn't mean we sing or play Webern's music outside class. This is not the place to pursue any detailed repertoire statistics and filiations. Let one comparison of recent materials serve as emblematic. The number of composers in common between Benjamin's anthology of music for analysis²⁴ and Briscoe's anthology of music by women composers,²⁵ given, naturally, the differing aims and intentions of those publications? One. Amy Beach.²⁶

²² The reference is to Georgina Born, *Rationalizing Culture: IRCAM, Boulez, and the Institutionalization of the Musical Avant-Garde* (Berkeley: University of California Press, 1995).

²³ Yara El-Ghadban, 'Facing the Music: Rituals of Belonging and Recognition in Contemporary Western Art Music', *American Ethnologist*, 36/1, 2009, 140-60; 140-1.

²⁴ *Music for Analysis: Examples from the Common Practice Period and the Twentieth Century*, ed. Thomas Benjamin, Michael Horvit and Robert Nelson (New York: Oxford University Press, 2010; 7th ed.).

²⁵ *New Historical Anthology of Music by Women*, ed. James Briscoe, with a foreword by Susan McClary (Bloomington: Indiana University Press, 2004).

²⁶ Beachcombing gets easier by the year. Her 'Scottish Legend', bars 1-8, crops up in James Mathes's *The Analysis of Musical Form* (Upper Saddle River, NJ: Pearson Prentice Hall, 2007), 57-8, a volume generously furnished with musical examples; though why that extract's 'phrase structure' should have made it into print is anyone's guess.

Thinking about repertoire in relation to the exigencies of music theory pedagogy involves even more complexity than canonicity alone, and one can hardly blame pedagogues if they despair of ever being able to think through the bewildering range of issues. We all have to trust our textbooks to some extent.²⁷ Yet why, after all, must repertoire be studied chronologically forward in time, as all textbooks tend to do?²⁸ It's not the way archeologists work, nor the way composers seem to think in general, and theorists too are constantly alive to the most recent ideas about music, on which their trawls backwards through the history of Western art music may be able to throw some new light. We do tend to impart methodology 'backwards': one might like to know what miniscule proportion of graduate students has ever made a close study of Romantic tonal theory up to and including Schenker's essential treatise *before* they studied more contemporary sources such as Forte/Gilbert or Pankhurst first;²⁹ or a study of how

²⁷ See for example Donald Traut, 'A Comparative Review of *The Complete Musician* by Steven G. Laitz, *Harmony in Context* by Miguel Roig-Francoli, and *A Musician's Guide to Theory* by Jane Piper Clendinning and Elizabeth West Marvin', *Journal of Music Theory Pedagogy*, 20, 2006, 151-60.

²⁸ I am not thinking so much of cross-cultural music theorizing, which has a long pedigree including for example the well-known *Sonic Design: The Nature of Sound and Music* by Robert Cogan and Pozzi Escot (Englewood Cliffs, New Jersey: Prentice-Hall, 1976), but of digging down, in other words backwards, in our exploration of music history. An imaginative example in popular historical musicology is Christian Darnton's *You and Music* (New York: Penguin Books, 1940), which did not, though, ignite any archeological fuse in music theory. In notable English-language fiction, some readers may be aware of Martin Amis's novel *Time's Arrow: or, The Nature of the Offence* (London: Jonathan Cape, 1991), which tells the story of a man's life from death to birth. The reader interested in an intense exploration of historicity in music analysis may enjoy Robert Morgan's 'The Concept of Unity and Musical Analysis', *Music Analysis*, 22/1-2, 2003, 7-50. Morgan's conclusion about adopting some kind of Foucaultian reverse discourse is that 'one should do no less for Mozart, Haydn, Beethoven and Brahms', 44.

²⁹ Heinrich Schenker, *Free Composition* (New York: Longman, 1979); Allen Forte and Stephen E. Gilbert, *An Introduction to Schenkerian Analysis* (New York: Norton, 1982); Tom Pankhurst, *Schenker Guide: A Brief Handbook and Website for Schenkerian Analysis* (New York: Routledge, 2008).

Classical phrasing works through the very long lamented Koch *before* the very current Caplin. Nevertheless, much as historians from Dwight Allen through Richard Taruskin have urged us to resist the Romantic legacy of the ‘great man’ theory of evolution of Western art music—to resist the illusion of music as a single, magic filament spun forward from one generation to the next—in general we do tend to teach theory chronologically in the sense of covering tonal music before post-tonal music, pre-Classical harmony (conveniently, it’s mostly up-front T-PD-D-T) before the mysteries of the half diminished 7th chord, Classical form before contemplating Brahms’s ‘second development’ sections in sonata form codas.

How are we to understand Brahms’s second developments, though, if not archeologically? Is it necessary, even worth the time of day, to take on board some nouveau orthodoxy about Classical sonata form codas such as the following?:

The mere existence of a coda—especially one of greater length—can provide a challenge to the preceding sonata, as though the normative bringing of sonata-space to completion at the end of the recapitulation were being arraigned as insufficient to the expressive task at hand.³⁰

As any kind of guide to our theoretical understanding of Brahms’s presumed Classical compositional models (always assuming we can buy into that rhetoric where we are asked to believe that bits of music can ‘challenge’ other bits and indeed ‘arraign’ them—a serious legal step, that one!)? My parenthetical remark is not offered for amusement, or not only so. What Brahms was thinking about Mozart’s forms—and we know by inference that thinking deeply about Mozart’s forms was one of Brahms’s most important musical obsessions—matters so much more in our understanding of Brahms, and Mozart, than many theory writers’ texts nowadays.

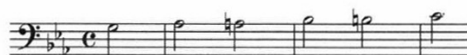
³⁰ James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (New York: Oxford University Press, 2006), 283.

PANORAMA

All being well, the reader who has made it to this last word will at least empathize with an attachment to exploring the known unknowns in music theory pedagogy. Admittedly, that concept 'known unknown' got an uneasy, mixed public reaction in the USA in 2002. All the same it has a respectable pedigree in fairly recent thinking—in philosophy, literature, economics. Its versatility alone qualifies it to be salvaged from political hubris.

Here, it was used to focus our attention on the *promise* of technology, an important promise in that we do not have to regard technology as cold science, but on the contrary technology *guarantees* us good outcomes, if we put it to good uses; and many believe that there is a moral imperative to do so. In principle we can know nothing about the future of technology while having every confidence in our ability to exploit its present virtues for future musical benefit. The ideas we develop now for the use of technology in music theory pedagogy will likely be those on which we shall build in the future—and of course the learning that technology produces currently will leave vital traces in that future, as certainly as anything can be certain. Ironically perhaps, the 'archeology' of music, spread backwards in its absolute entirety, in all its immutable truth, may sometimes seem to present us with fewer knowns. The idea of the known unknown can remind us of the truth content in the past, of the things that by definition we do know, while sometimes having yet to see perhaps their most important meanings for us now.

Consider, again, Bach's organ fugue in C minor, BWV 537. A work of this type is sometimes referred to as a double fugue, since midway through it, a second theme barges into the development section and takes the work to an entirely different dramatic plane. The second theme, consisting only of a series of chromatically ascending notes:



can hardly be wrung out of the principal theme, no matter how strong one's theoretical forearms might be:



And yet it ratchets up the dramatic impact of the work, leaving us with a whole entity that is much the greater for its intrusion.

Example 1 - James Manns, "The Concept of Unity in Music", in *What Kind of Theory is Music Theory? Epistemological Exercises in Music Theory and Analysis*, ed. Per Broman and Nora Engebretsen (Stockholm: Stockholm University Press, 2007), 120

Consider, again, Bach's organ fugue in C minor, BWV 537. A work of this type is sometimes referred to as a double fugue, since midway through it, a second theme barges into the development section and takes the work to an entirely different dramatic plane. The second theme, consisting only of a series of chromatically ascending notes:

begin like this

end like that

can hardly be wrung out of the principal theme, no matter how strong one's theoretical forearms might be:

The diagram shows two arrows pointing from the text 'begin like this' to the start of the principal theme, and two arrows pointing from the text 'end like that' to the end of the principal theme. The text 'can hardly be wrung out of the principal theme, no matter how strong one's theoretical forearms might be:' is placed between the two musical staves.

And yet it ratchets up the dramatic impact of the work, leaving us with a whole entity that is much the greater for its intrusion.

Example 2 - Try using our ears?

71

Nr. 2
Sinfonie in B

D 125 1

10. Dezember 1814 – 24. März 1815

Largo

Flauto I
ff
ffz

Flauto II
ff
ffz

Oboe I, II
ff
ffz

Clarinetto I, II
in Sib/B
ff
ffz

Fagotto I, II
ff
ffz

Corno I, II
in Sib/B
ff
ffz

Tromba I, II
in Sib/B
ff
ffz

Timpani
in Sib-Fa/B-F
ff
ffz

Violino I
ff
ffz

Violino II
ff
ffz

Viola
ff
ffz

Violoncello
e Basso
ff
ffz

reminder from development!

Example 3 - When did we first hear that 3-note motive?

The image displays a musical score for a string ensemble, specifically focusing on the Violoncello (Cello) part. The score is written in a key signature of two flats (B-flat and E-flat) and a 2/4 time signature. The Violoncello part begins with a *pp* (pianissimo) dynamic and a *coll'arco* (with bow) instruction. The first measure shows a descending scale: G2, F2, E2, D2, C2, B1, A1, G1. This scale is then repeated in a more complex, rhythmic pattern in the subsequent measures. A bracket connects the text "motive is generated from a descending scale" to the first measure of the Violoncello part. The score also includes staves for other instruments, such as the Violino (Violin) and Viola, which are shown with rests in the first measure.

motive is generated from a descending scale

Example 4a

motive, e.g.

274

p

simile

281

fl

ob

pp

bn

pp

simile

Vc

Tutti

motive in 4-part imitation

Example 4b - motivic saturation