

Foreword

In April 2012, 19 scholars from 12 countries met in Graz, Austria for a 3-day exploratory workshop entitled 'Cognition of Early Polyphony'. The workshop was sponsored by the European Science Foundation and convened by Richard Parncutt, Professor of Systematic Musicology at the University of Graz. As one of the founders of the Society for Interdisciplinary Musicology, Richard is keenly aware of the potential of interdisciplinary contributions to music research, especially when humanities (such as music history, ethnomusicology, music theory, or cultural studies) are combined with sciences (such as psychology, acoustics, neuroscience, or computer science). Interdisciplinary collaborations of this kind have always been part of 'systematic musicology' in German-speaking countries, and in spite of the difficulties of communication across epistemologically remote disciplines, they are becoming increasingly common internationally.

This tendency is particularly strong within the discipline known as music cognition, which aims to understand the musically relevant cognitive processes and capacities of humans. It is an empirical field, and listening experiments play an important role in its methodology. The cognition of today's musicians and non-musicians is difficult enough to study, yet Parncutt asked an even harder question: What about the perception and cognition of long-dead listeners from earlier historical periods? How did their perception and cognition shape the music of their times, and how in turn was it shaped by their music? What can we infer about this from combining what we know about the structure of early music and the perceptual processes of modern listeners? Can we gather enough evidence to test hypotheses about past listening behaviours and experiences? How might any results of such studies contribute to modern scholarly discourses in historical musicology and music theory?

Workshop participants represented fields as diverse as ethnomusicology, music history, music cognition, psychoacoustics, neuroscience and computing¹. Some had already made significant contributions to the workshop topic. For example, keynote speaker David Huron's study of the perceptual foundations of traditional voice-leading rules is well-known (Huron, 2001; see also Huron, 2006). For others, the challenges were entirely new. Inevitably, there were substantial differences of opinion, but these led on the whole to fruitful discussions and clarifications.

One particularly fascinating discussion - to take one of many examples - addressed the phenomenon of 'inkshots': the number notes a scribe, while copying a musical score, would write before dipping his pen into the inkwell again. Inkshots can often be identified relatively easily. If scribes memorised the notes from the source they were copying--which seems likely--do those inkshots reflect their cognitive processing of the melodies, such as chunking processes and expectations? Can we learn from inkshots something about a scribe's knowledge of the musical structures of his time? What can we learn from the frequencies and locations of scribal errors about their melodic memory and more generally their perception of their contemporary music? These are promising questions for future research. Discussions of this kind confirmed that questions about the cognition of early polyphony can be meaningfully

answered by combining (or confronting) methods from humanities and sciences. This special issue of the Journal of Interdisciplinary Music Studies is the outcome of such shared insights. The decision to compile this issue was taken in the concluding session of the workshop. But it proved difficult to match the format of the individual workshop talks to the interdisciplinary co-authorship model of JIMS, in which one of the first two authors represents the humanities and the other the sciences.

To solve this problem, the journal adopted a new publication format alongside the standard dual- or multi-author format: Open Peer Commentary or OPCⁱⁱ. The target article of an OPC contribution can be submitted by a single author. After acceptance for publication, a call for commentaries is published and commentators from contrasting disciplines are selected. As far as possible, articles by scientists are reviewed by humanities scholars and vice-versa. Commentaries are then sent to the target article author(s), who prepare(s) a reply of about 1500 words. What makes OPC a particularly attractive format is the immediate, visible continuation of the scholarly debate after publication of the paper. As the editors of this special issue, we were pleased by the interesting and diverse commentaries and the thoughtful responses of the authors.

This special issue is dedicated to Prof. Dr. Rudolf Flotzinger, who was head of the Department of Musicology at the University of Graz from 1971 until 1999. During that time, he created the first Austrian Professorship of Systematic Musicology - the position now held by Richard Parncutt. Flotzinger is a pioneer in the research on the cognition of early polyphony, although he might say that with different terminology. His most recent book, *Das sogenannte Organum* (ADEVA, 2011), brings together numerous research articles that in different ways shed light on our topic. Prof. Flotzinger also kindly wrote a short introduction on the background and topic of the workshop - a fascinating, personal account of his drive to bring together 'historical' and 'systematic' approaches to understanding and appreciating music, in all its complexity and diversity.

The second keynote speaker of the conference, Eleanor Selfridge-Field, wrote a second introductory text. It contextualizes the five papers of the special issue from an entirely different perspective: bibliometry. Ten concepts that play a central role in these five studies, from Trecento to dissonance judgments, were entered as search terms into major bibliographic databases. Interestingly, different search terms produce quite different distributions of citations - suggesting that they belong to different musicological discourses that seldom come together, and underlining the novelty of the topic of this special issue.

The five articles forming the core of this special issue could be arranged in several ways. What struck us is that questions of both dissonance and melody figured prominently in multiple contributions, and that these topics seem to intersect in a couple of studies with a particular focus on counterpoint. We therefore decided to use this as the ordering principle for the articles. We start with two contributions devoted to dissonance, an overview and a case study. These are followed by a study that places dissonance in the context of two contrasting contrapuntal traditions. We then move on to a case study about the role of expectation in voice leading. The issue ends with a more general study of melodic expectation.

The scene is set by Omigie, Dellacherie and Samson's paper 'Effects of learning on dissonance judgments'. The authors bring together evidence from diverse studies to demonstrate that harmonicness of sound is not the only factor shaping dissonance judgments - learning and memory processes are also important. This insight can explain how context and culture affect the perception of musical consonance.

Next, Ambrazevičius' paper 'Dissonance/roughness and tonality perception in Lithuanian traditional *Schwebungsdiaphonie*' is a case study for the cultural shaping of dissonance judgments. In traditional Lithuanian *Sutartinės* (the term refers to 'singing in consonance'), singers seem to maximise sensory roughness, though not sensory dissonance. As a consequence, tonal hierarchies are quite different from the ones found in Western tonal music.

Differences in the treatment of consonance and dissonance in voice leading are at the heart of the distinction between *prima* and *seconda prattica* in polyphonic music around 1600. Jürgensen, Pearson and Knopke performed a listening experiment with modern listeners. In the exposure phase, the listeners were immersed in *prima prattica*. They were subsequently exposed to examples of *seconda prattica*. Results indicated that they perceived *seconda prattica* as unfamiliar and perhaps even as ungrammatical relative to the *prima prattica*. In this way, the study partially recreated a historical process of musical acculturation, enabling it to be studied in a new way.

Rotter-Broman's 'Contratenor parts in polyphonic songs from the late Trecento (Italy, ca. 1400): Challenges for concepts of polyphony and improvisation' compares two versions of Bartolino da Padova's 3-voice ballata *El no me giova*. While the cantus and tenor parts from both sources are essentially the same, the contratenor parts are quite unrelated. Nevertheless, they share a similar, fragmentary nature that points to what seems to be their particular role in this music: to confirm or challenge the listeners' expectations provided by the two-voice framework of cantus and tenor, cadences in particular.

The issue ends with Pearce and Eerola's 'Towards predictive models of music perception in historical audiences.' Whereas the previous article discusses expectations in the context of a single musical work, this article studies the process of musical expectations quantitatively, by developing statistical models of long-term memory for melodies in five different styles. Commentators questioned the validity of this approach on multiple (philosophical, empirical, music-theoretical) grounds; in their reply, the authors clarified the limitations of their modelling. The article argues clearly for the importance of interdisciplinary approaches to understanding early music cognition and, on that basis, music in general.

In conclusion, even though some of the findings and propositions in this issue may seem preliminary, we believe it vividly demonstrates the potential of interdisciplinary approaches to shed light on challenging questions. The discussions, both during the workshop and here in the form of OPC, bear witness to the difficulties of cross-disciplinary exchanges and the effort that participating scholars put into the task of communicating across different disciplinary perspectives and methodologies. The discussions also illustrate the potential benefits of such interdisciplinary discussions. We hope that these examples will motivate more music scholars to cross disciplinary

boundaries and tackle challenging interdisciplinary questions with new combined tools and methodologies.

We would like to thank everyone who contributed to the publication of this special issue, often in multiple capacities: the authors of the papers, the anonymous reviewers, the commentators, and of course all participants of the workshop that started it all. Special thanks go to the editors of the journal, Ali C. Gedik and Richard Parncutt, for their continuous support and patience. Finally, we thank Eleanor Selfridge-Field and Rudolf Flotzinger for their stimulating introductions. We hope you will enjoy reading this issue and wish that it will inspire you in your own research, teaching and enjoyment of music.

Frans Wiering and Barbara Tillmann

guest editors

References

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- Huron, D. (2006). *Sweet anticipation: Music and the psychology of expectation*. Cambridge, MA: MIT Press.

ⁱ For a full listing of participants see the Workshop report at:
http://static.uni-graz.at/fileadmin/_Persoenliche_Webseite/parncutt_richard/Pdfs/Pa12_ESF.pdf

ⁱⁱ The OPC model was inspired by journals such as *Behavioral and Brain Sciences*
(<http://journals.cambridge.org/action/displayJournal?jid=BBS>) and *Physics of Life Reviews*
(<http://www.journals.elsevier.com/physics-of-life-reviews/>)