CHAPTER 6

Conclusion

The main objective of this research has been to expand the microtonal possibilities of the current unmodified bass clarinet. For me, microtonality has belonged to bass clarinet language from the very first moment I came into contact with the instrument, that is, when I was introduced to this sound world by Eric Dolphy's playing.

My specialised bass clarinet studies and fascination with contemporary music were the driving forces behind my personal search for new sonic possibilities. The results of my findings were first published by Salabert in 1989, as a book entitled *New Techniques for the Bass Clarinet*. There were two microtonal sections in my book, 'Fingerings for variations in timbre' and 'Fingerings for microtones and micro-intervals', but as a performer and a composer, I felt a growing need for preciseness and accuracy when dealing with microtonality.

I wanted to improve upon the accuracy of existing fingering patterns, and to come up with new options where suitable solutions were (still) missing. I also wanted to push boundaries and see to what extent I could find fingering patterns for different divisions of the tone.

Highly motivated to find out as much as I could regarding the microtonal possibilities of the bass clarinet by using adapted fingering patterns, I also wanted to explore another kind of microtonality, one which is inherent to the instrument. The acoustics of the bass clarinet and the way overtones are produced, according to the natural harmonic series, made me aware of the inherent microtonality of the instrument and the additional microtonal options it offers.

My research covered the aforementioned microtonal areas, and discussed and developed the microtonal challenges and opportunities the bass clarinet has to offer, answering the following research questions:

- Which information concerning microtonal possibilities on the bass clarinet is currently available and is this information correct?
- Is it possible to play (more) precise quartertones on the bass clarinet, and if possible, which fingering patterns can be established to do so?

- Is it possible to play (more) precise eighth-tones on the bass clarinet, and if possible, which fingering patterns can be established to do so?
- Is it possible to play 31-tones on the bass clarinet, and if possible, which fingering patterns can be established to do so?
- Is it possible to use the root-overtone system in order to expand the microtonal language of the bass clarinet?
- Is it possible to find microtonal possibilities of less than an eighth-tone on the bass clarinet?[86]

To find the answers to these research questions I started by studying and reviewing the existing literature. All the fingering patterns were checked and (re)measured using the same method and the same set-up (including the reed). The results can be found in Appendices A1, A2, and A3. As the next step I also retested the fingering patterns found in my book *New Techniques for the Bass Clarinet*. Realising that many of the available fingering patterns did not match the strict parameters I had set for the research, I started to search for new fingering patterns. My knowledge of the acoustics and the working of the bass clarinet supported the process of trial and error I used to uncover new possibilities.

The outcomes of this research are:

- My definitive quartertone scale from D2-G5 (Appendix B)
- My definitive eighth-tone scale from D2-G5 (Appendix C)
- A scale of 31-tone fingering patterns from D2-G4, version 1, for use with the Fokker organ (Appendix D)
- A scale of 31-tone fingering patterns from D2-D5, version 2 (Appendix E)
- A scale of 31-tone fingering patterns from D2-D5, definitive version (Appendix F)
- Documents detailing various aspects of the root-overtone system (Appendices G1, G2, and G3)
- Instruction videos covering the technical aspects relevant to microtonal playing
- Videos of my microtonal scales (Appendices B-F)

[86] These small microtonal intervals are referred to as nano tones.

The new fingering pattern charts have already been utilized by a number of composers. The information contained in the Appendices is laid out in a way that other composers and performers will be able to benefit from it. For me, as a performer, my research has led to new, challenging pieces to present to concert audiences. As a composer, I have already profited considerably from the results of my research, writing new solo pieces and compositions for ensemble, a full list of which can be found following my biography. Live recordings of two of my recent compositions, *Multi-Micro I* (2014)[87] and *Fifty shades of Dee* (2017)[88] are included.

Audio example 32: Bok, *Multi-Micro I*

Audio example 33: Bok, *Fifty shades of Dee*

Currently, I am expanding the microtonal polyphony in my ensemble works, as microtonal voicings for two or more instruments are a new artistic challenge for me as a composer. Another project which has occupied me in the final stages of this research is the verification of my microtonal data on a Buffet Crampon Prestige instrument, as I recently switched to this make and model.

Future projects could include the expansion of the information on viable combinations of 31-tone pitches, the possibilities and challenges of combining different forms of microtonality, and the documentation of nano tone variants through the addition of keys to the root-overtone fingering patterns.

[87] Performed by duo Hevans.
[88] With Rainer Klaas on piano.