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UNIVERSITY OF CALIFORNIA, SAN DIEGO

A preliminary manual of phonetics in flute playing

A dissertation submitted in partial satisfaction of the requirements for the degree

Doctor of Musical Arts

in

Contemporary Music Performance

by

Reiko Manabe

Committee in charge:

Professor John Fonville, Chair
Professor Milton Saier
Professor Harvey Sollberger
Professor Jane Stevens
Professor Shahrokh Yadegari

2008

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Chair

University of California, San Diego

2008

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CD on file at Geisel library

VITA

- 1995-1999 B.M., Toho Gakuen School of Music, Tokyo
- 2000-2002 M.F.A. in Music, California Institute of the Arts, Valencia
- 2002-2008 D.M.A., University of California, San Diego

ABSTRACT OF THE DISSERTATION

A preliminary manual of phonetics in contemporary flute playing

by

Reiko Manabe

Doctor of Musical Arts in Contemporary Music Performance

University of California, San Diego, 2008

Professor John Fonville, Chair

This dissertation is an instructional manual written both for flute players who would like to play Beat Furrer's *auf törnern füssen*, and also for composers who are interested in knowing about the techniques in Furrer's piece. The purpose is to contribute to the birth of techniques of this sort by providing a resource. An instructional manual and sound examples focus on the practical and aural aspects of producing wind sounds with unvoiced consonants and vowels or with plosive sounds.

I. INTRODUCTION

In 2002 Swiss-born Austrian composer Beat Furrer wrote a piece for flute and narrator entitled *auf törnernen füssen*.¹ A speaker reads a contemporary poem by Friederike Mayröcker, “Etwas wie Küsten Kleefarben und Gewahrsam der Meer”²; but this recitation is secondary to the flute part, the speaker merely accompanies, or rather shadows the flute part. Throughout the piece the flute player is asked to create kaleidoscopic wind sounds both on and off the instrument. In order to produce these sounds, she has to shape her throat, tongue and oral cavity in many different ways so as to make various filters for the air stream. In the score Furrer indicates both a range of degrees of openness of the mouthpiece (open, half-open, closed) and a variety consonants and vowels for attacks and sustained notes. The flute player produces sounds in the piece either by sending breath through the flute or by playing quite close to the mouthpiece of the instrument.

In the past half century, several flute players have published books on new techniques, but none has focused on the timbral differences of wind sounds produced

¹ Beat Furrer was born in Switzerland in 1954 and moved to Vienna in 1975 in order to study at the Hochschule für Musik und Darstellende Kunst. He is a founder and a conductor of the new music ensemble, Klangforum Wien. Since 1991, Furrer has been a full professor of composition at the Hochschule für Musik und Darstellende Kunst in Graz, Austria. He was awarded the Golden Lion at the Venice Biennale in 2006 for his opera, *FAMA*.

² Friederike Mayröcker is one of the most important figures of contemporary German-language poetry. She wrote *Etwas wie Küsten Kleefarben und Gewahrsam der Meer*, a poem used in *auf törnernen füssen* between 1955 and 1960. (Mayröcker, Friederike: *Raving language: Selected Poems 1946-2006*, translated by Richard Dove, Carcanet Press limited, 2007)

with unvoiced consonants and vowels, or with plosive sounds³. Through the process of learning *auf törnern füssen*, I gradually established ways to differentiate all of the sounds written in the score. Once I had learned how to make these sounds I was inspired to display them individually without any additional complications from other elements in the music. Then I began to assemble a list of sounds related to those in *auf törnern füssen*. The following manual lists Furrer's sounds, together with other related ones.

This research is based on my experience with Beat Furrer's piece and does not represent a complete list of techniques of this sort. Since people speak different languages and have different physical characteristics, we are accustomed to making different sounds. However, I hope this guide will be useful to composers and performers of new flute music.

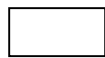
³ See the books by Artaud, Dick, Koizumi, Levine and Mitropoulos-Bott listed in the bibliography.

II. PRELIMINARY NOTE

A preliminary manual of phonetics in contemporary flute playing is a list of plosive and unvoiced consonant and vowel sounds in Beat Furrer's *auf törnernen füssen* together with other similar ones. For the sake of convenience, all of the notations for lip placements, breathing, vowels and syllables and pitch indications are written in same ways as in Beat Furrer's piece. For the sound demonstration on the accompanying discs I played everything with low D fingering (D4), the fingering that appears most frequently in *auf törnernen füssen*. The tempo is moderate except the ones for the examples with particular characteristics such as sustained sounds and quick gestures.

NOTATION

Lip placement on the mouthpiece



normal
(Ordinary position)



closed
(Blowhole remains open but lips completely enclosed mouthpiece.)

Breathing



exhale through the flute



inhale through the flute

Vowels and syllables



vowels and consonances that the player speaks



syllables that the player speaks

Duration Line

Each line indicates the length of sound.

_____ short to medium

_____ long (sustained)

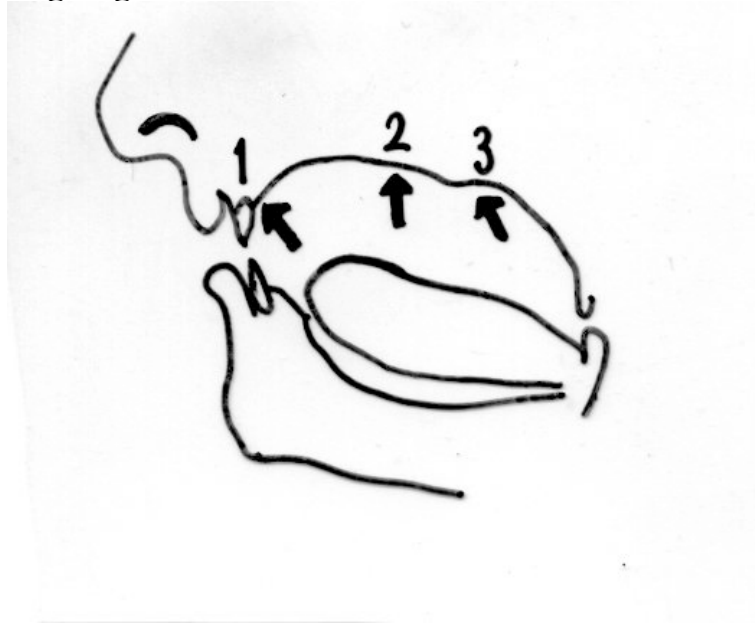
Pitches

As in conventional notation, the height of note symbols corresponds to the pitch. Thus if a horizontal duration line is located relatively higher than others, the pitch is higher.

III. ATTACKS

Attacks played with or without tonguing;
can also be considered as short sounds because of ensuing resonance.

Attacks with tonguing



(directions of air explosion)

- tr.1** The tip of the tongue hits the back of the teeth. (1)
< t >
- tr.2** The tip of the tongue hits the roof of the mouth between
< t >/< r > “t” and “r”, without rolling the tongue. (2)
- tr.3** The back of the tongue hits the back of the hard palate.
(3)
< k >

These attacks can also be performed with a closed mouthpiece.

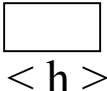
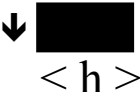
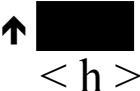


(smiley shape)

In order to produce these three attacks clearly it is helpful to make a smiley shape with your mouth. That will shorten the distance between an air explosion and the mouthpiece. Since the flute tube amplifies the air sound, it is more effective.

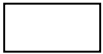
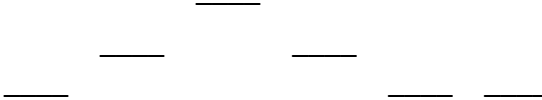

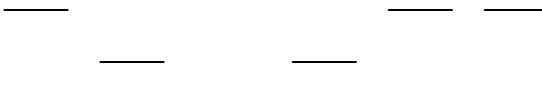
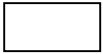
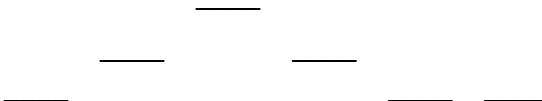
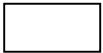
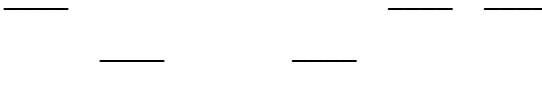

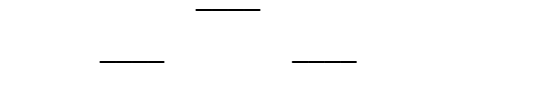
- | | | |
|-------------|---|---|
| tr.4 | Tongue pizzicato
(percussive tonguing) | Lips are in normal playing position. The tip of the tongue is slightly out between lips for the preparation. Then the tongue is rapidly pulled back to the inside of the mouth to produce a percussive sound. |
|-------------|---|---|


Air attacks without tonguing


- | | | |
|-------------|---|---|
| tr.5 |  | The tongue remains on the bottom of the mouth, while the throat makes an "h" sound. |
| tr.6 |  | The player exhales into the closed mouthpiece. |
| tr.7 |  | The player inhales through the closed mouthpiece. |


Attacks-multiple pitches

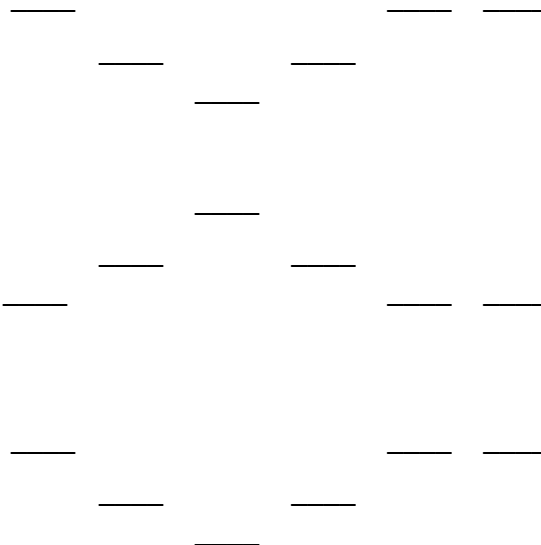
In order to make different pitches you have to change the shape of the inside of the mouth. When it is narrow the pitch goes high, on the other hand, when it is broader the pitch goes low.

tr.8	 < t >	
tr.9	 < t >	
tr.10	 < k >	
tr.11	 < k >	
tr.12	 < h >	


tr.13 ↓ 
 < h >


tr.14 ↑ 
 < h >

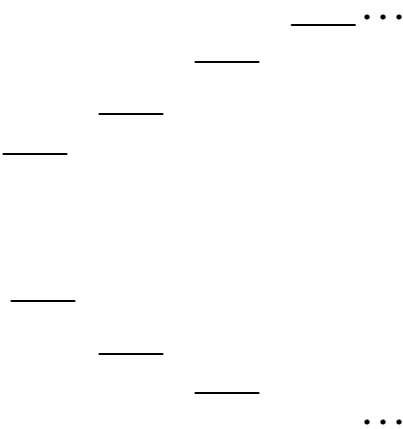
tr.15 ↑ 
 < h >



Generally inhaling (↑) is softer than exhaling (↓), and it is easier to make a wide range of pitches while exhaling.

tr.16 ↓ 
 < h >

tr.17 ↓ 
 < h >



IV. VOWEL SINGING

tr.19

< a > ___ < e > ___ < i > ___ < o > ___ < u >

unvoiced (whispered) singing⁴

tr.20

< a > ___ < e > ___ < i > ___ < o > ___ < u >

unvoiced (whispered) singing through the flute

When vowels are sung as unvoiced, the timber is richer than in normal singing. In addition, whispered singing through the flute makes stronger distinctions in both timbre and pitch.

Vowel singing—separated pitches

tr.21

[♩ = 108]

< u > < a > < e > < chi >

(Beat Furrer's *auf törnernen füssen*, p.5, l.3)

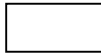

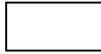




⁴ See tr.18 for standard vowel pronunciation.

V. SUSTAINED SOUNDS (WITH SYLLABLES)

In *auf törnernen füßen* there are places where the flute player sustains sounds with syllables starting “ch”. Since Furrer does not specify the pronunciation, I examined three different ways that I could think of.

The first one is the German pronunciation of Bach, the second is choose, and the third is shoes. Among those three I find the first one to be the most suitable for sustained sounds. While the others have strong accents at the beginning, German pronunciation allows the air stream to be quite steady and constant.

Unvoiced vowels with German pronunciation

tr.22	 [cho]_____	 [cho]_____
tr.23	 [cha]_____	 [cha]_____
tr.24	 [chu]_____	 [chu]_____
tr.25	 [chi]_____ [u]_____	

tr.26



[chi] _____ [u] _____ [i]

Voiced vowels with pronunciation as in choose

tr.27

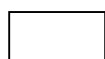


[cho] _____



[cho] _____

tr.28

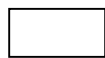


[cha] _____



[cha] _____

tr.29



[chu] _____



[chu] _____

Voiced vowels with pronunciation as in shoes

tr.30

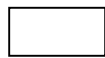


[cho] _____



[cho] _____

tr.31

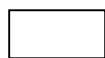


[cha] _____



[cha] _____

tr.32



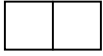
[chu] _____



[chu] _____

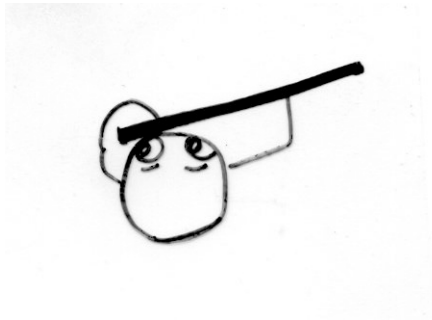
VI. ADDITIONAL COMBINATIONS

Lip placement on the mouthpiece between normal and closed

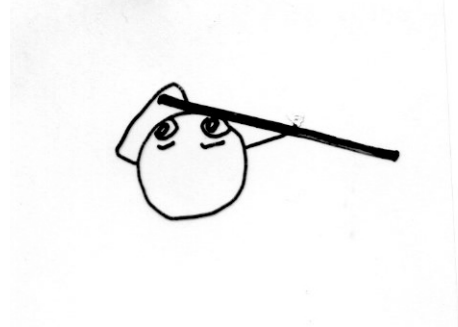


Half open

(Keep the embouchure on the plate in playing position. The angle of the body of the flute forward or back wards so that the flute is at either an oblique or an acute angle)



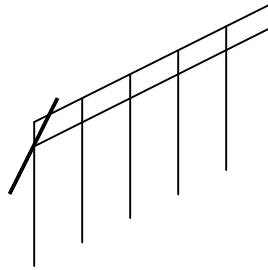
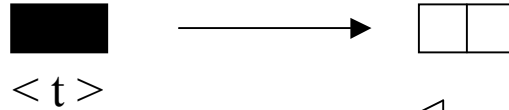
(oblique)



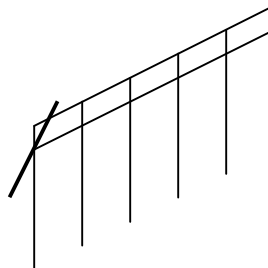
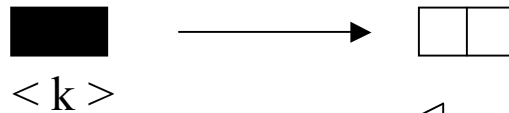
(acute)

Shifting from closed to half open

tr.33

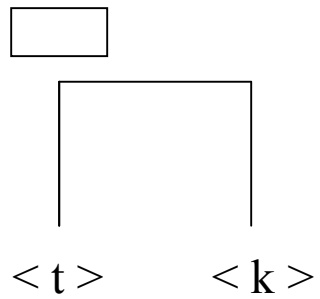


tr.34

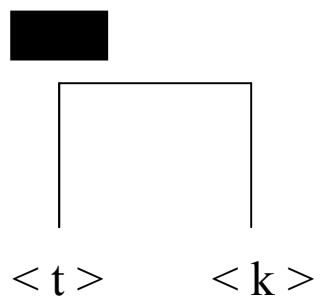


Shifting consonants

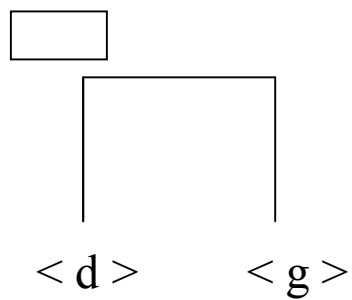
tr.35



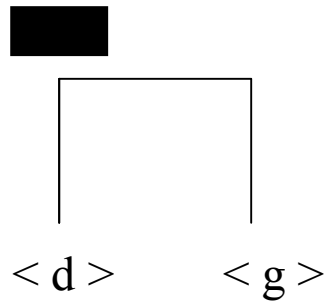
tr.36



tr.37

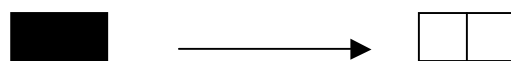


tr.38

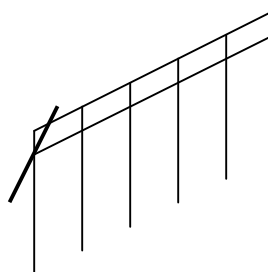


Double tonguing with alternating consonants

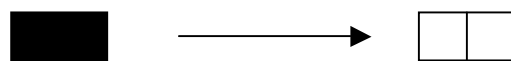
tr.39



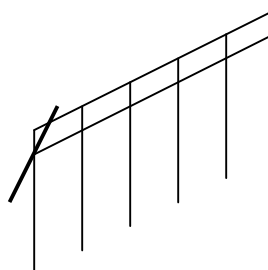
< tk >



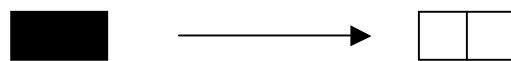
tr.40



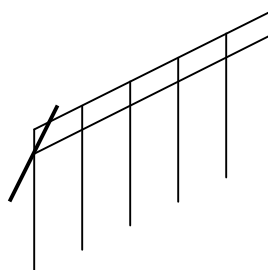
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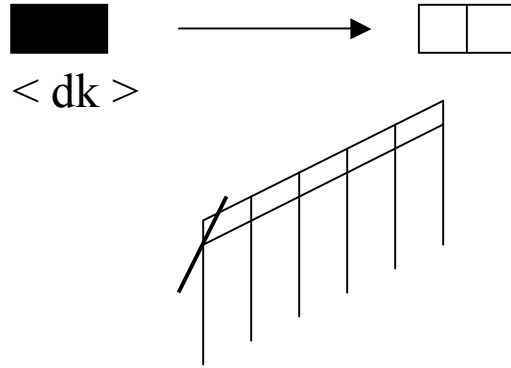
tr.41



< tg >



tr.42



VII. CONTENTS OF CD

Attacks

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Live performance of *auf törnernen füssen* tr.43

April 22nd, 2008
Reiko Manabe (flute) and Aaron Helgeson (narrator)
At UCSD Mandeville recital hall

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