THE OTHER FLUTE

A Performance Manual of
Contemporary Techniques

Second Edition

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Acknowledgements

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Introduction

The purpose of this book is to explore in depth the capabilities of the flute as a sound-producing instrument. It has become clear in recent years that the valid but limited traditional conception of the flute encompasses only a restricted number of the sonorities the instrument can produce. In preparing the material for this work, I have dropped the following preconceptions usually made about the flute:

1. The flute has only one basic tone quality and its ability to vary that quality is sharply limited.
2. The flute can produce only one note at a time.
3. The mechanical construction of the Boehm flute allows production of only a few microtones.

I have set out to remove the non-traditional aspects of the flute—such as unusual tone qualities, microtones, multiple sonorities, 'bending', etc.—from the category of 'special effects' and into the realm of valid musical materials. To do so, the first step included making explicit the habitual and/or intuitive pitch and color adjustments flutists make as a matter of course,[1] and developing new fingerings and techniques. The next step was to notate these sonorities from a logical and acoustic point of view. Thus, the notations presented for natural harmonics, microtones, whisper tones, residual tones, jet whistles, and percussive sounds are, hopefully, more practical than the notations presently in use.

I hope that the contents of this book are without stylistic or aesthetic bias, and that it will be useful to composers and instrumentalists alike. The traditional conceptual limitations of the flute exclude it from many of the innovations taking place in the musical fields of the avant-garde, jazz, and rock. Furthermore, the adaption of the Boehm flute to the microtonal subtleties of non-Western music has, in general, so far been unsatisfactory. Many flutists want to play in these idioms and therefore I feel it necessary to find ways of developing the instrument's inherent capabilities. Having been involved in much contemporary music that involves improvisation, I find composers extremely interested in new sounds for the flute and eager for a work that codifies and notates these sounds.

I was inspired in writing this book by the works of two other researchers, John C. Heiss, whose articles contain the first published listings of multiple sounds for the flute,[2] and Bruno Bartolozzi, whose book *New Sounds for Woodwind*[3] presents may concepts for developing new sonorities for the woodwind group. These pioneering works are important, for they are the preliminary investigations that have shown the existence of new and vital musical worlds. This book encompasses (and, when necessary, corrects) the examples given by Heiss and Bartolozzi, and, among its explorations, develops the areas touched upon in their work.

This volume is organized pedagogically. Flutists will find the easiest material presented first in all chapters, and each chapter, to a degree, is a preparation for the next. In this light, it is also significant to note that flutists will find working with the new sonorities and techniques beneficial to their traditional playing, especially in the area of tone development. Quite simply, practice of the new sonorities serves to develop both the strength and suppleness of the embouchure.

Since flutists may not be familiar with the new materials, composers should always check any new sonorities or techniques with a sympathetic player, rather than simply copying from the book.

I have tried to present my findings in the most comprehensive and practical form possible. The wealth of sonorities for the flute is astonishing in its variety and quantity, and it is hoped that this work will help bring about many kinds of beautiful music.

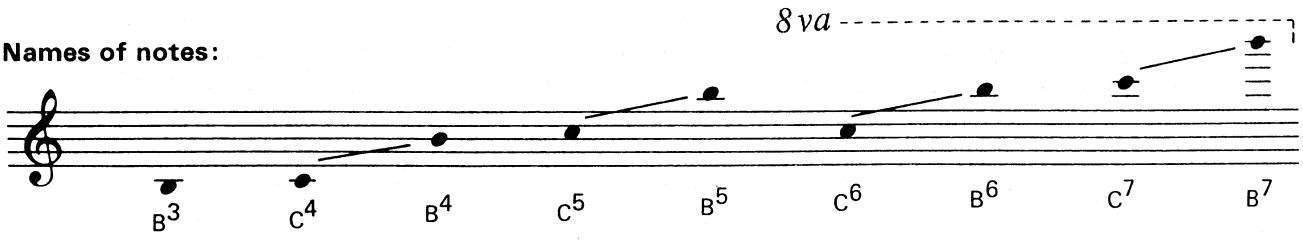
[1] The flute is not perfectly in tune on all pitches. Thus, some notes, especialy C♯5, D 5, E 5, F♯6, G 6, G♯6, B 6, and C 7, must be adjusted in order for them to sound correctly in tune. Further, many coloristic changes are made by experienced flutists as a means of expression.

[2] John C. Heiss, 'Multiple Stops for Flute' and 'Some Multiple Sonorities for Flute, Oboe, Clarinet, and Bassoon', *Perspectives of New Music*, Vol. 5, No. 1 (1966) and Vol. 7, No. 1 (1968).

[3] Bruno Bartolozzi, *New Sounds for Woodwind*, translated and edited by Reginald Smith Brindle (Oxford University Press, London, 1967).

Special Signs and Distributions of Parameters

Names of notes:



Intonation:

= ¼-tone sharp

= slightly sharp

= almost ¼-tone sharp

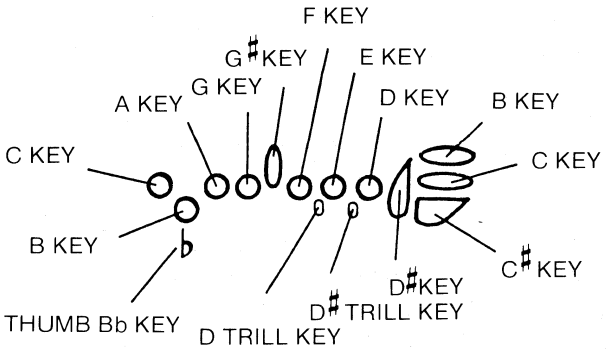
= ¼-tone flat

= slightly flat

= almost ¼-tone flat

= microtonal pitch slightly lower than note to left and slightly higher than note to right

Fingering diagrams: the flute diagrams show only keys actually operated



○ — KEY UP

● — KEY DEPRESSED

◐ — OPEN-HOLE KEY WITH RIM DEPRESSED AND CENTER-HOLE OPEN

∅ — KEY TRILLED

Glissando:

= smooth glissando

= slightly broken glissando

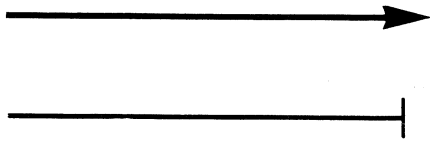
●→◐ slide finger off center-hole of open-hole key while keeping rim depressed, or vice versa

Ease of response: 1-5

1 = produced very easily
5 = produced with great difficulty

Dynamic range: each pitch can be played in tune within its given dynamics

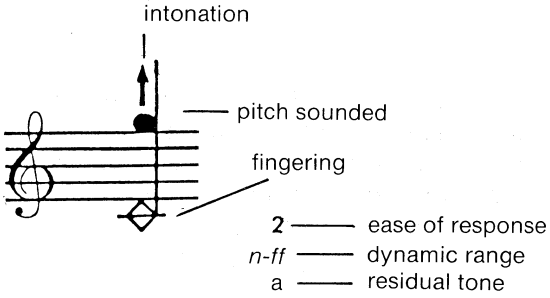
n = *niente*—can be played *ppp*
A pitch with a dynamic range of maximum width is labelled n - fff



= pitches above arrow have gradually increasing or decreasing dynamic ranges. The beginning dynamic is placed before, and the ending dynamic after, the arrow.

= all pitches above line can be played within the dynamic range directly to the left of the line.

Natural harmonics:



Residual tones

a = pitch is heard without residual tone
b = pitch is heard with slight residual tone
c = pitch is heard with pronounced residual tone

Timbre:

Normal — pitches have very strong fundamentals, strong second partials, and progressively weaker third, fourth, fifth, sixth, seventh, and eighth partials.
Diffuse — pitches have strong fundamentals, strong second partials, fairly weak third and fourth partials, and extremely weak fifth and sixth partials if they are at all present.
Muted — pitches have fairly strong fundamentals and weak second and third partials. If any higher partials are present, they are extremely weak.
Bright — pitches have strong fundamentals, very strong second partials, strong third partials, and progressively weaker fourth, fifth, and sixth partials. Higher partials may be present, but are very weak.
Edgy — pitches have fairly strong fundamentals and extremely strong higher partials.

Noise:

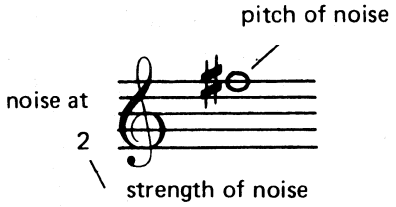
When certain fingerings are played, noise is heard along with the desired pitch. The noise is without definite pitch, or it is heard at one or more pitches. Some fingerings yield both unpitched and pitched noise. Unpitched noise is rated 1-5:

1 = slightly breathy
5 = extremely breathy

Pitched noise is rated 1-5:

1 = slightly audible pitched noise
5 = pronounced pitched noise

Notation of pitched noise:



MULTIPHONICS:

Ease of response and starting time: 1-5

1 = produced very easily with all pitches starting simultaneously
2 = produced easily with a maximum delay of one second before all pitches sound
3 = produced with moderate difficulty with a delay of 1-2 seconds before all pitches sound
4 = produced with difficulty with a delay of 2-3 seconds before all pitches sound
5 = produced with great difficulty with a delay of 3 seconds or longer before all pitches sound

Stability: a-c

a = sustained very easily
b = sustained with moderate difficulty with a slight tendency to oscillate between the individual pitches
c = sustained with great difficulty with a strong tendency to oscillate between the individual pitches

Modulation: modulation is rated 1-5. When modulation causes beating, it is marked 'B'.

M1 = slightly audible modulation
M5 = pronounced modulation

Class: Multiphonics are classified I-IV according to the lip opening and tension required to produce them. Thus within each class the ease of response, starting time, and stability of the multiple sonorities are very similar, although other characteristics such as dynamic range and timbre vary enormously. The similarities in lip opening and tension make it possible to play legato between multiple sonorities in a given class. Legato playing between members of classes I and II is difficult, and legato playing between all other classes is practically impossible.

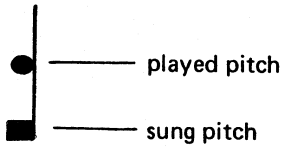
Class I: generally the lowest two pitches produced by a given fingering, usually forming an interval of a sixth to tenth
—ease of response, starting time, and stability: 1, a
legato: can be freely played to and from any single pitch and all class I multiple sonorities. Legato playing between sonorities of classes I and II is difficult.

Class II: generally the second and third lowest pitches produced by a given fingering, usually forming an interval of a fourth to sixth
—ease of response starting time, and stability: 2-3, b
legato: can be played to and from any single pitch with moderate difficulty. Legato playing between class II sonorities is moderately difficult, and often there will be a slight discontinuity between the multiple sonorities.

Class III: generally the third and fourth lowest pitches produced by a given fingering, usually forming an interval of a third to fifth.
—ease of response, starting time, and stability: 3-4, c
legato: playing legato between a given class III multiple sonority and a single pitch is very difficult, and is generally restricted to single pitches of the same or very similar fingering as the multiple sonority. Legato playing between class III sonorities is also very difficult, and there is almost always a discontinuity between the multiple sonorities.

Class IV: generally the fourth and fifth or fifth and sixth lowest pitches produced by a given fingering, usually forming an interval of a third to sixth
—ease of response, starting time, and stability: 4-5, c
legato: playing legato between a given class IV multiple sonority and a single pitch is extremely difficult, and is restricted to single pitches of the same fingering as the multiple sonority. As a rule, there is a discontinuity of as much as three seconds between the multiple sonorities.

With practice, however, any number of intervals can be formed and played with facility by means of this technique. It is suggested to composers that, when calling for singing and playing simultaneously, at least two choices for the sung pitch be given the flutist, one for high voice and the other for low voice. The notation for singing and playing follows:



G. Circular Breathing

Circular breathing is an age-old technique by means of which wind players have sustained the sound of their instruments while inhaling. Circular breathing is the traditional method of breathing for several types of flutes, including the *narh* flutes of the Indian provence of Rajasthan and the Bulgarian *kaval.* In brief, circular breathing is accomplished by inflating the cheeks while playing and then using the air in the cheeks to play momentarily while air is inhaled through the nose. The back of the tongue is brought into contact with the back of the hard palate at the moment of inhalation in order to isolate the air in the mouth from the air being inhaled. Learning circular breathing opens many musical possibilities in traditional and new playing, and is highly recommended. As both a flutist and composer, I have found the degree of musical freedom this technique makes possible to be of the highest magnitude. Learning circular breathing, however, is a complex process. I have created a learning method for circular breathing that has proven more effective than the traditional method, and this is presented in *Circular Breathing for the Flutist.*[1]

[1] Robert Dick, *Circular Breathing for the Flutist* (Multiple Breath, New York, 1987).