TRAVERSO

Historical Flute Newsletter

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The Hexachords and the Renaissance Flute

Ardal Powell

WHAT LIGHT CAN renaissance music theory shed on our understanding of early flutes and flute-playing? At first sight we might think it is not very much. After all, playing this repertoire seems perfectly straightforward: surely we just read the dots off the page and put our fingers up or down on our simple instruments to produce the right notes?

In practice, interpreting renaissance music is not quite as artless as that. The player, or more commonly, all the players of a four-part consort, must first arrive at certain decisions about what pitch the notated music will sound at, and consequently what sizes of instruments to use, for each composition. To help make these decisions, two kinds of information are essential: a familiarity with the basic theory appropriate to the music, and an understanding of the instrument itself. As this short survey will show, the way sixteenth- and seventeenth-century musicians thought about music, as well as about the about the flute, was rather different from ours. But their ideas continued their influence into the eighteenth century, so they affect our interpretation of baroque flute music as well.

However when we read what modern authors have written about the flute in the renaissance and baroque periods, it is clear that this fundamental knowledge is not very well distributed. First and foremost, the nature of the renaissance flute is the subject of widespread confusion and misstatement: the most widely-read books on the flute claim that the basic scale of the renaissance flute is that of D major. Nancy Toff, in her popular manual *The Flute Book,* for instance, writes that "the flute designated alto or tenor [in Michael Praetorius's *Syntagma Musicum*, 1619-20] is pitched in D major, like all pre-Boehm concert flutes."

Toff's remark might be considered true in the narrow sense that closing all the holes and then raising the fingers one by one from the bottom produces what we would call a D major scale. Sixteenth-century flutes could of course play those notes, but nobody in the sixteenth century would have thought of desribing them as the normal scale of the instrument, and for us to do so is to ignore the renaissance flute's nature and purpose. To understand why, we need to consider two aspects of music theory that may be unfamiliar: modes and hexachords.

The concept of "D major" is really a relatively modern one. Out of a rich palette of modes available in the middle ages and renaissance, our mainstream musical culture has retained only two, major and minor. (Though many others live on in Western folk music, folk musicians rarely teach musical theory!) The major and minor modes, like all the others, are defined by the sequence of whole tones and semitones in their scales. The major mode has half steps between the 3rd and 4th and the 7th and 8th degrees, and the minor between the 2nd and 3rd and the 5th and 6th. That is why today we use the 3rd degree of the scale, the first distinctive one we encounter, and the sole mutable one in a tonic triad, to determine whether a tone sequence or key is major or minor.

In medieval music theory, with its more economical and flavorful interval-relations, the modes arose by beginning each one on a different note, producing a distinct sequence of whole and half steps in each case. We can follow the same process by starting a scale on each of the "white" notes of the keyboard in succession.

Two of the old modes could begin on D, the lowest note of the tenor/alto flute: Mode I, or the Dorian mode, and Mode VIII, the Hypomixolydian, one of the so-called plagal modes. Both these modes have the same scale, though their finals and repercussions (other characteristics that were important to medieval theorists) are different. We do not need to consider the plagal modes (those beginning with "Hypo-"), or the finals and repercussions here, only the sequence of tones and semitones.

The sequence of tones in the Dorian mode resembles neither a major scale nor a minor one precisely. Its 3rd, the most distinctive degree in our scales, is indeed minor. But contrary to the expectation this sets up for us, the 6th is major. The other aspect of the Dorian scale that strikes our ears as unfamiliar is that the 7th degree is natural, instead of raised by a semitone in the way we expect the "leading tone" of both major and minor scales to be. Its minor third, produced by a forked fingering, can hardly be mistaken for the major one produced by raising one finger at a time. Yet the Dorian scale, as we learn from sixteenth-century writers, is the "natural" one of the renaissance flute.

Modes
Semitones occur between notes printed in bold

Mixolydian, like the major scale with natural 7th

GA**BC**D**EF**G

Ionian, like the major scale

CD**EF**GA**BC**

Lydian, with sharp 4th

FGA**BC**D**EF**

Dorian, like the minor scale with a natural 7th

D**EF**GA**BC**D

Aeolian, like the ascending melodic minor with natural 7th

A**BC**D**EF**GA

Phrygian, not like anything

EFGA**BC**DE

BULLETIN BOARD

ARTICLES

Henrik Wiese, "Zur Entstehungsgeschichte der Flötenkonzerte," *Mozart-Jahrbuch* 1997, 149-56.

Roger Lustig, "On the Flute Quartet, K. Anh. 171 (285b)," *Mozart-Jahrbuch* 1997, 157-79.

Dominik Sackmann and Siegbert Rampe, "Bach, Berlin, Quantz und die Flötensonate Es-dur BWV 1031," *Bach Jahrbuch* 83 (1997): 51-85.

Luca Della Libera and Cecilia Lopriore, "Le trascrizione per flauto delle opere di Händel", Part 1, *Syrinx* 37 (June-September 1998, 26-33.

RECORDING

Quantz, Dornel, Bach, Telemann, Los Angeles Baroque Players (**Anthony Brazier**) New Mix Music NMM 1006

BOOK

Gabriele Busch-Salmen, ed., *Handbuch Querflöte*, Bärenreiter 1998

PRODUCTION NOTES: As you see the newsletter has undergone a redesign for Volume 11. It is now produced on a Hewlett-Packard DeskJet 1120C Inkjet printer rather than on a conventional offset press. This new process should reduce the cost of production while at the same time permitting us to carry color illustrations and employ a more flexible design. Technical improvements, as well as an increasing subscriber base, have made it possible to begin our eleventh year at the same subscription rates as in1989, increases in paper and postage costs notwithstanding. Nominations for **Editor of the Decade** should be forwarded to the *TRAVERSO* editorial offices. Thank you in advance, and **thank you** to each and every subscriber.

TEN YEARS of writing on historical flutes and flute-playing appear in the reprint of *TRAVERSO* Vols. 1-10, going to press as you read this. Besides forty articles on the baroque flute, its repertoire, and performance practice, the book contains a new bibliography of writings on historical flutes published in 1989-98, compiled by David Lasocki.

$24.95

+ shipping: $3.00 US, $7.00 airmail
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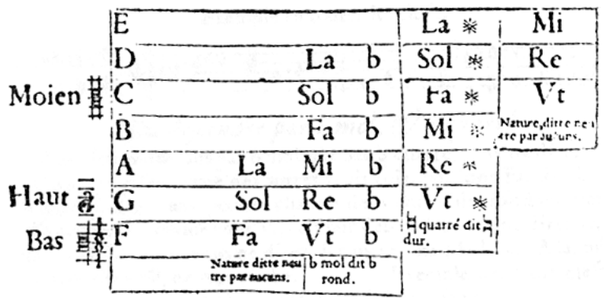
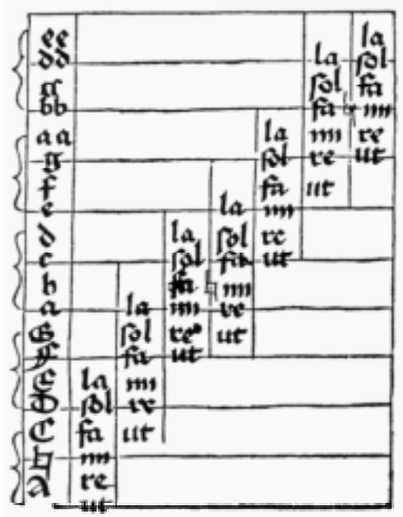
The earliest books of instruction for playing wind instruments were published in the sixteenth century. Philibert Jambe de Fer's *L'Epitome musicale de Tons, Sons et Accords, des Voix humaines, Fleustes d'Alleman, Fleustes a Neuf trous, Violes, et Violons* (Lyons, 1556) was the first tutor that aimed to give amateur players instructions for playing music at home. Accordingly it contained instructions in the rudiments of music and in playing the most popular instruments. Jambe de Fer's treatise is especially interesting to transverse flutists: he gave pride of place to our instrument, and because the musical life of sixteenth-century Lyons was so rich and comparitively well documented, we can learn something of the context that contemporary music-making provided for his remarks. (An English translation and a discussion of Jambe de Fer's chapter on the flute will appear in a coming issue of *TRAVERSO*.)

Philibert begins his tutor at the beginning, with the scale or gamut. The notes, or "voices" as he calls them in the terminology of his time, are grouped into three patterns of six notes, each pattern covering a perfect fifth, and containing the same arrangement of tones and semitones with the same names: ut, re, mi, fa, sol, la.





Two tables showing the gamut and the hexachords. Above: from Sebastian Virdung, *Musica getutscht* (Basel, 1511) Left: from Philbert Jambe de Fer, *L'Epitome musical* (Lyons, 1556).

Philibert's diagram of the scale (above) looks like a puzzle to modern eyes, but is quite simply and economically arranged. On the left are three clefs, from the bottom up: an F clef on the middle line, labeled "*Bas*" or "low"; a G clef on the second line, labeled "*Haut*" (high); and a C clef on the middle line designated "*Moien*" (medium). These are, simply enough, the precedessors of our bass, treble, and tenor clefs.

In the next column to the right appear the names of the notes, F, G, A, B, C, D, and E, then come the three hexachords: the natural, split between the second and fifth column, and labled "*Nature*" (Natural); the flat (♭ *mol*), with flat signs alongside the names ut, re, mi, fa, sol, la; and the hard (♮ *quarré*), with sharp signs alongside the note-names.

The semitone in each of the hexachords falls between mi and fa. The hexachord beginning on C, called the natural hexachord (it begins in the rightmost column of Philibert's table with Ut Re Mi, and continues three columns to the left with Fa Sol La) , contains C, D, E, F, G, and A. The next contains G, A, B, C, D, and E, with a mi-fa between B and C. This is called the "hard" hexachord because in medieval notation the B was designated as a square or "hard" B (♮), while B flat was notated as ♭—the round or "soft" B. The "soft " hexachord begins on F and contains F, G, A, B♭, C, and D. These patterns, or "hexachords" can be overlapped seven times to cover a range of twenty notes from G an octave and a 4th below our middle C, to E an octave and a 3rd above it.

Philibert's table, like Virdung's shown above, indicates that each of the letter-named notes can have more than one syllable associated with it, depending on which octave it occurs in. When he refers to *A la mi re*, we know he means the very highest note of the flute's range, rather than the A an octave below it, which is called *A la mi*, or two octaves below, *A la*. D in the natural hexachord is called *D re*, and is a whole tone above *C ut*. *D sol*, a fifth above ut in the hard hexachord, has a quite different function, as does *D la*, the sixth note in the soft or flat hexachord.

The name for B tells us whether it is flat or natural. In the soft hexachord, the note is fa, a semitone above mi, as fa always is. In the natural hexachord it does not appear, and in the hard hexachord it is mi, a semitone below fa, as mi always is. Thus B fa and B mi are a semitone apart, and a separate designation for B♭ is not strictly necessary.

Philibert provides a fingering chart for the flute that gives precedence to the soft, or flat, hexachord. In describing his fingering chart, he tells us that

*Playing in flats [*le Jeu de b mol*] is marked right on the table, because it is the most pleasant, easy, and natural way…*

The basic scale he gives, if we transpose it for a D tenor flute as he intended, has an F natural (a minor 3rd), a B natural (a major 6th), and a C natural (a natural 7th)—all the characteristics of the Dorian mode. Other notes that Philibert considers playable on the flute are listed in a separate column as "feints", or artificial notes.

This preference for the flat hexachord plays an important part when making those decisions about where a piece lies best on a renaissance flute or consort of flutes. The necessity for transposition is a topic for another essay, but for now it is enough if we gather from Philibert and his contemporaries that we should not expect the flute parts to allow us to play in a D major scale. On the contrary, and despite the modern misconception that the renaissance flute is a D major instrument, F natural is preferable to F# and C natural to C# in its typical language.

Ardal Powell is at work on a book on the flute for a new series on musical instruments from Yale University Press (London).

Recommended reading on renaissance music theory:

Sarah Mead, "Aspects of Renaissance Theory", in Jeffery T. Kite-Powell, ed., *A Performer's Guide to Renaissance Music* (New York: Schirmer Books, 1994), 287-316

BOXWOOD, a school dedicated to exploring the oral traditions of flute playing, unites participants from all over the world in the historic seaport of Lunenburg, Nova Scotia for a week this summer to rediscover and celebrate the music of the traditional wooden flute. Begun in 1996 by director **Chris Norman**, Boxwood's guest faculty changes from year to year to include leading players and teachers from among the flute's many traditions. Players of the modern Boehm system flute are welcome, as are players of all levels—novice and experienced. Instruments will be available for loan.

Boxwood staff in 1999 are: **Chris Norman**, Musical Director (traditional flute); **Stephen Preston** (baroque & classical flute); **Jean-Michel Veillon** (Breton flute); **Rod Garnett** (basics of wooden flute playing); **Ronn McFarlane** -baroque lute; **Catherine Folkers and Ardal Powell** (makers and researchers); **Davod and Nina Shorey**, historical flute experts; chefs **Spike and Amy Gjerde**, and specialty baker **Richard Church**, to further stimulate the spirit and help facilitate the exchange of ideas.

Classes will take place at the historic Lunenburg Academy, commanding a panoramic view of this historic town by the sea, designated as a world heritage site. Lunenburg is one hour from the Halifax International Airport, which is served by Continental, and Northwest Airlines among others. Ferry service to Nova Scotia is available from Portland and Bar Harbor Maine. Further information on Nova Scotia travel & lodging can befound by calling 800.565.0000 or on the web at http://explore.gov.nc.ca/virtualns

THE WILLIAM E. Gribbon Memorial Award for Student Travel offers students support for travel and lodging to attend the 1998 Annual Meeting of the **American Musical Instrument Society**, this year at Vassar College, Poughkeepsie NY June 17-20, 1999. College or university undergraduate or graduate students may apply. The deadline is January 31, 1999. Details from:

Susan E. Thompson, Yale University Collection of Musical Instruments, PO Box 208278, New Haven CT 06520-8278. E-mail: set3@pantheon.yale.edu.

Nancy Joyce Roth

July 30, 1946 - Aug. 25, 1998

NANCY JOYCE ROTH, a performer and teacher well-known for her work with historical flutes passed away August 25, 1998 after an extended struggle with cancer.

Nancy was born and raised in Santa Barbara, CA and went on to study flute with James Pappoutsakis at the New England Conservatory of Music in Boston, MA. As a graduate student, she specialized in baroque flute and other early wind instruments, earning a master's degree in the Performance of Early Music from the Conservatory. She was a member of the **Boston Camerata**, **Banchetto Musicale**, and appeared frequently with other ensembles including the **Boston Museum Trio**. She recorded on Nonesuch, Vanguard and other labels. In 1984, she and her family moved to the Seattle area where she devoted her musical energies to teaching children and to church music, while continuing to raise her family. She is survived by her husband Ken, their three children, Jason, Elisa and Nicholas.

Nancy was my first and only traverso teacher, one of my first and most helpful customers when I began flute-making, and later my colleague in orchestral and chamber music concerts. She and her husband Ken, mainstays of the Early Music Department at NEC, shared with their students not only their vast knowledge and experience but also their untiring enthusiasm for music of earlier times. We were gently guided while at the same time always encouraged to explore more fully whatever dimension of music we happened to be studying. Nancy's devotion to her students, many of whom have pursued successful careers in the field of early music, characterized her teaching. I will miss her, and I'm sure I'm not alone.

Catherine Folkers