

Preliminary Exercises & Etudes In Contemporary Techniques For Saxophone

By Ronald L. Caravan

INTRODUCTION

The tonal resources of woodwind instruments have been greatly expanded in recent years. Among the numerous unconventional techniques called for in contemporary music are multiphonics (production of more than one audible tone simultaneously), quarter tones, timbre variation, glissando, portamento, vibrato manipulation, non-traditional methods of attack and release, percussive effects, vocal sounds, and air sounds. Once the peculiarities of a few experimenters and jazz musicians, many unconventional sounds have, during the second half of the twentieth century, become accepted as viable material for contemporary serious musical composition.

The purpose of the present volume is to provide material which may assist the saxophonist in developing flexibility with some of the non-traditional techniques often required in the performance of contemporary music. The exercises and etudes contained here deal principally with three techniques which generally involve unconventional fingerings (variation of timbre, quarter-tone production, and the performance of multiple sonorities, or multiphonics). Fingering diagrams are included throughout this study material to guide the saxophonist in his execution of the various sounds as they occur in the notation, as is generally the case with most contemporary music utilizing such techniques. A key to the fingering diagrams, which are designed to be as practical and immediately communicative to the performer as possible, is provided below.

The material in this volume is divided into three basic sections. The first deals with timbre variation, the second with quarter tones, and the third with multiphonics. There is no set, prescribed manner as to how one should proceed through the book; one might work out of all three sections simultaneously, or go from the beginning to the end in order. In the event one would choose to do the latter, the effectiveness of this course might be enhanced by the fact that the first section (timbre variation) contains primarily a technical challenge (i.e., getting used to reading the fingering diagrams at sight), the second (quarter tones) adds more of an aural challenge, and the third (multiphonics) additionally introduces a much greater challenge to the performer's tone-production flexibility.

For the fairly advanced student who possesses good basic playing habits, the material in this volume may be able to serve as appropriate introduction to the unconven-

tional sounds involved. In my own teaching experience, utilizing many of these exercises and etudes in this way, I have even had students utilize some of the etudes as performance material at the studio-recital level, in what has often been a good introductory experience for them in performing with sounds which are generally quite new to them.

There is an important warning which I feel must be rendered to the student saxophonist who may be approaching unconventional techniques such as these, perhaps for the first time. I suggest that material such as this is not something to be dealing with unless there already exists, presumably through more traditional studies and disciplines, a reasonable degree of solidification of basic saxophone tone production and technique. Particularly with regard to the study of multiphonics, these unconventional sounds often involve significant and complex deviations from normal tone-production habits (potentially healthy deviations if built on a well-established, disciplined technique, and potentially unhealthy deviations if added to an unsolidified, inconsistent tone production). The student who is undergoing or has yet to undergo a solidification with basic aspects such as proper breathing and the abdominal support, embouchure, or light staccato tonguing, may be well advised to delay studies in unconventional sounds until a later time.

ABOUT THE AUTHOR

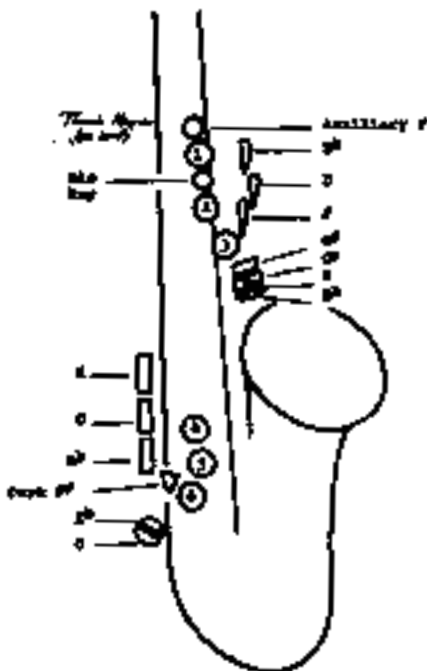
Ronald L. Caravan (b. 1946), a performer of both the clarinet and the saxophone, received degrees of Master of Arts in music theory and Doctor of Musical Arts in music education from the Eastman School of Music, Rochester, N.Y., U.S.A. He also earned the Performer's Certificate from that institution. His doctoral dissertation, *Extensions of Technique for Clarinet and Saxophone*, is a widely recognized source on performance, pedagogy, and composition of unconventional sound resources for these instruments. Among Dr. Caravan's other works utilizing extended techniques for saxophone are *Sketch for Alto Saxophone* (Seesaw Music Corp.), *Momologue for alto saxophone* (Ethos Publication), and *Lament for an Unknown Infant Victim of War for Saxophone Quartet and Grand Piano* (Ethos Publications), and *Paradigms I* (Dorn Productions), a graded set of 10 compositions utilizing unconventional sounds.

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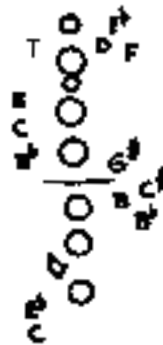
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Guide to Fingering Diagrams

Keys and Open Holes on Instrument



As Diagrammed



- - Open hole or undepressed key.
- - Hole closed or key depressed with an appropriate finger.
- () - Optional for considerations of tuning or timbre.
- N - Use normal or regular fingering.

A Selected List of Extensions of Technique for Saxophone

I..... Timbre Variation

- A. Changing Timbre while sustaining or repeating a pitch
- B. Changing timbre of successive pitches
- C. Timbre trills

II Quarter Tones

III Multiphonics

- A. Use of conventional fingerings with distorted tone production
- B. Use of special fingerings
 - 1. Isolated and combined multiphonics
 - 2. Multiple sonorities linked to single tones
 - 3. Multiphonic trills
- C. Use of the voice

IV Vibrato Manipulation

- A. Variation of rate
- B. Variation of width

V Glissando (rapid chromatic or possible diatonic movement)

VI Portamento (sliding movement)

VII Variation in Articulation

- A. Flutter tonguing
- B. Slap tonguing
- C. Smorzato (attack & decay with embouchure pressure; no tonguing)
- D. Reverse envelope of attack and decay.
- E. Glissando attack and release (Or portamento)

VIII .. Percussive Effects

- A. Key clicks
- B. Key Pops (Key slaps)
- C. Hand pops

IX..... Air Sounds

X..... Vocal Sounds

XI..... Mouthpiece Alone

XII Lip Buzz

AN IMPORTANT NOTE CONCERNING THE FINGERINGS IN THIS BOOK

All of the fingerings contained in this volume for timbre variation, quarter tones, and multiphonics have been derived and thoroughly tested utilizing the E-flat alto saxophone. This does not preclude the possibility of using other sizes of saxophones, such as soprano or tenor, in these study materials, but in many cases fingering adjustments may be necessary for tuning purposes in the timbre-variation and quarter-tone fingerings; some of the multiphonic fingerings may not respond well at all on saxophones other than the alto. It is also noteworthy that the actual pitch content of the multiphonics will often differ from one performer and/or instrument to another.

Timbre Variation

The issue of timbre, or tone quality, as a parameter which can be predictably manipulated by the performer suggests a wide range of manifestations.

The development of a performer's characteristic tone quality is itself, in the final analysis, the development of his ability to achieve and consistently manifest his tonal concepts throughout the pitch and dynamic ranges of the instrument. But, of course, this tone quality is not a single timbre resulting from a fixed pattern of harmonics (overtones) throughout the range of the instrument. The harmonic spectrum, and hence the timbre, changes with every pitch and dynamic nuance which is played. (Other elements which enter into the acoustically complex issue of timbre are formants, phase, noise elements, presence of inharmonic partial, transients, and radiation properties of the instruments. Additionally, there are moment-to-moment changes in the balance of harmonics in a humanly-produced sustained tone).

For all of the variables involved in the tone-production processes of the individual saxophonist (e.g., embouchure components, tongue positions, air pressure), an effectively consistent tone quality is generally achieved by the more mature player (the frustrations of different reeds, mouthpieces, and even instruments notwithstanding!). However, it would be futile to attempt to define precisely the exact effects of these variables, with their complex interactions, in even one player, not to mention from one player to the next.

The fact emerges that the most effective and most easily standardized method of achieving a variety of tone colors on a particular pitch on the saxophone is to employ several fingering combinations, in addition to the most conventional one, which produce different harmonic spectra from one to the other and hence, varied timbres. Using alternate fingerings is the most predictable method of varying tone color on the saxophone since the different

resonances inside the instrument which result are more predictable than the human components which enter into the tone-production process.

The *Etudes on Timbre Variation* which follow exploit some of the possibilities for tone-color variation through the use of various fingering alternatives. Many of the alternate fingerings employed may seem awkward at first, but the performer should experience no difficulty once he is used to adjusting his fingers to the unconventional patterns involved. It will probably be necessary for the saxophonist to focus his eyes more on the fingering diagrams than on the music notation in the course of playing, at least in the early stages.

With regard to changes in embouchure, oral cavity, or air speed components in the course of performing tone-color variations with alternate fingerings, there are at least two circumstances when tone-production adjustments might be appropriate. First, some of the unconventional fingerings will result in minute pitch variations as well as tone-color changes; by careful "favoring," the performer might be able to minimize pitch fluctuation in a succession of timbre changes involving different fingerings. A second and more subtle consideration is that of utilizing one's tone-productions flexibility to complement the tendency of a given alternate fingering. For example, a slight amount of supportive tone-production adjustment added to a succession of fingerings on a constant pitch going from "dark" to "bright" can enhance the effect of the overall gesture.

With the possibility of predictable timbre variations through the use of alternate fingerings, the potential also exists for producing trills between two different tone qualities (where the fingerings employed are plausible for rapid alternation). Timbre trills are utilized in the fourth and sixth of the etudes which follow; the graphic undulating line above the staff indicates relative trill speed.

Etudes On Timbre Variation For Saxophone

♩ = 72-80

I

pp mp

pp

mf mf