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A SYSTEMATIC APPROACH TO FIVE CLARINET FUNDAMENTALS

AS UTILIZED IN ROSE'S *FORTY ETUDES*

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A SYSTEMATIC APPROACH TO FIVE CLARINET FUNDAMENTALS AS UTILIZED IN ROSE'S *FORTY ETUDES*

by

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Treatise

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PREFACE

The composer of *Forty Etudes*, Cyrille Rose (1830-1903), was a successful musician, performer, and teacher, in addition to being a composer of clarinet study methods. Cyrille Rose succeeded Adolphe Leroy as professor of clarinet at the Paris Conservatory in 1876, both pupils of Hyacinthe Klosé.[1] Rose's tenure at the Conservatory lasted twenty-four years, during which time he taught many prize-winning students such as Prospere Mimart, Henri and Alexander Selmer, Paul Jeanjean, Louis Cahuzac, Henri Paradisi[2], and Henri Lefebvre.

From 1857-1891, Rose's playing as solo clarinetist of the Opera National Orchestra in France won him respect among musicians and composers, many of whom were interested in learning more about his knowledge of the clarinet's technical and artistic capabilities beyond those established in the military band tradition.[3] His background, rooted in lyrical and expressive phrasing found in opera, laid the groundwork for his teachings and study materials supporting these concepts.

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[1] Harry Gee, *Clarinet. Solos de Concours, 1897-198*0 (Indiana: Indiana University Press, 1981), 13.

[2] Pamela Weston, *Clarinet Virtuosi of the Past* (London: Robert Hale and Co., 1971), 240.

[3] Gee, *Clarinet. Solos de Concours, 1897-198*0, 13-4.

Cyrille Rose's *Forty Etudes* and *Thirty-Two Etudes* are some of the most widely known methods for clarinet, dating as far back as the teachings of Daniel Bonade in the 1930's, and they have appeared in numerous editions by a variety of publishers. Today, both volumes of etudes are widely used for applied clarinet study and contest audition material. Specific etudes have also been selected for entrance auditions into the clarinet studios of several college and summer festival music programs. What accounts for the popularity of the Rose etudes is the fact that they focus on specific fundamentals of clarinet playing within the context of musical and expressive phrasing.

Each volume of Rose's etudes are based on music originally devised for other instruments that he has transposed, altered, or expanded. As Lawrence Maxey observes, "Rose freely modifies the factors of rhythm, articulation, tempo, range, melody, dynamics, expression markings, meter, phrasing and key."[4] Nearly all of the *Thirty-Two Etudes* are based on the works (Op.31) of oboist F. Wilhelm Ferling whereas the *Forty Etudes* are transcriptions of violin etudes from the French classical school.

According to Jean and David Hite, "In transforming violin music into clarinet music, the violinist's bowing and fingering technique become challenges for the clarinetist in the development of legato finger control from slow to fast,

[4] Lawrence Maxey, "The Rose Thirty-Two Etudes: A Study in Metamorphosis," *The Clarinet* 1974, vol. 1, no. 4: 8-9.

variety and clarity in articulation, and expressive phrasing."[5] Rose's *Forty Etudes* afford the opportunity to concentrate on many of these techniques. While the *Forty Etudes* often center on specific technical aspects, however, they also represent a consolidation of works by composers whose primary goals are musical ones. Rose's compositional output listed below presents the original sources and composers for each study:

Cyrille Rose's Compositional Output:

16 Phrasing Studies, (from the Thirty-two Etudes by D. Bonade).
20 Grand Etudes, (on the Rode Caprices for violin)
26 Etudes (on violin works of Mazas and Kreutzer)
32 Etudes, (on the oboe studies by F.W. Ferling)
40 Studies (based on violin works of Dancla, Fiorello, Gavinies, Kreutzer, Mazas, Ries and Schubert).[6]

Other compositional contributions include Rose's cadenzas for two of Carl Maria von Weber's concertos and several new editions of Weber's clarinet works.[7]

Jean and David Hite's "foreword" to their (2000) revised edition of *Forty Etudes* states that, "Rose demonstrated great pedagogical insight not only in selecting appropriate studies for the development of these clarinet techniques, but also in placing the studies in a logical, progressive order in suitable

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[5] Jean and David Hite, *Cyrille Rose, Forty Studies for Clarinet* (San Antonio: Southern Music Company, 2000), 4.

[6] Ibid, 52.

[7] Gee, *Clarinet. Solos de Concours, 1897-198*0, 15.

transpositions."[8] While I agree that the etudes selected by Rose respond well to the clarinet's capabilities, calling for the strength of development in fundamental areas of clarinet playing, I question the logic behind the order in which the etudes are presented. The existing order does not follow a progression of key schemes or gradually increasing technical difficulty, nor a clear progression based upon articulation, rhythmic, or intervallic difficulty. The goal of this treatise is to order the *Forty Etudes* in a way that follows a systematic approach to five clarinet fundamentals: tone, articulation, finger technique, rhythm, and phrasing.

For this "suggested ordering" of Rose's *Forty Studies* to be most helpful to students or other musicians seeking greater depth to their knowledge of the five clarinet fundamentals basic to my ordering system, one chapter each has been devoted to: 1) tone quality, 2) finger technique, and 3) articulation. Chapter four combines two fundamentals, rhythm and phrasing, due to the inseparable relationship that they share. After providing a detailed description of each fundamental and its universal and/or necessary subcomponents through chapters one through four, students may begin to directly apply their intellectual, technical, and artistic skills to a group of etudes that will progressively hone each aspect of their development on the clarinet.

[8] Jean and David Hite, *Cyrille Rose, Forty Studies for Clarinet,* 4.

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In the study of the clarinet there are two main sources of literature. In the first group, there are books written about the clarinet–its history, acoustics, development, etc.–as well as technical aspects of clarinet performance. The second group consists of method books ranging from elementary to professional levels. While a few books merge teaching and playing, most do not. This treatise responds to this gap in clarinet literature by exploring the relationship between performance and teaching methodology. The first four chapters present a thorough discussion of five clarinet fundamentals; tone quality, finger technique, articulation, rhythm, and phrasing. The information presents generally agreed

upon components of clarinet playing from standard literature written about the clarinet.

I have selected one method book, Cyrille Rose's *Forty Studies,* to demonstrate how the teaching of fundamentals can be directed toward performance from the outset. I have analyzed each of its forty etudes in terms of the number and type of the five clarinet fundamentals that they reinforce. Through this analysis, I have found that the various etudes tend to isolate specific combination of playing problems. The numbered order of the *Forty Etudes,* on the other hand, does not reflect any particular pattern with regard to increased difficulty, key scheme, or technique.

My intention in this treatise is to merge the intellectual study of clarinet fundamentals with an applied component, one directly based on a "suggested reordering system" that builds progressively upon tone quality, finger technique, articulation, rhythm, and phrasing. In this way, this treatise may serve as a resource for self-guided study for any player or teacher desiring to learn, revisit, or apply the five basic clarinet fundamentals in a systematic way.

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CHAPTER I

TONE QUALITY

Developing good tone quality is an essential part of the clarinetist's training. According to the American Standard Acoustical Terminology 6.050, tone quality is "that attribute of auditory sensation in terms of which a listener can judge that two sounds similarly presented and having the same loudness and pitch are dissimilar."[1] Tone quality, then, has to do with those aspects of sound that give it a particular color. Clarinet tone can vary in terms of its size, resonance, depth, clarity, character, and projecting power. Although there are different points of view regarding what is desirable, there are certain fundamental features essential for successful performance on the instrument. Identifying basic features of clarinet tone and the physical mechanics that are used to produce it (embouchure, airstream, tongue position, equipment), may help inform our understanding of good clarinet tone quality.

In his book, *The Art of Clarinet Playing*, Keith Stein states: "A beginner will sound no better than his pre-determined concept of tone" and that "tone concept, like musical taste, develops with listening experience."[2] Stein's position

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[1] As quoted in William H. Stubbins, *The Art of Clarinetistry* (Michigan: Ann Arbor Publishers, 1965), 39.

[2] Keith Stein, *The Art of Clarinet Playing* (Illinois: Summy-Birchard Company, 1958), 31.

is that beginners have not heard enough examples of good clarinet playing to formulate a tonal concept. Therefore, he encourages students to surround themselves with the best recordings and live performances available, with the intention of adopting favorable playing qualities.[3] Many teachers agree about the positive influence recordings have on a performer's tonal concept and encourage students to listen to legendary performances, their personal favorites, recordings of themselves, (if available), and those that support their school of playing. Although auditory impressions and repeated hearings of recordings help a student develop his or her own concept of what is a desirable tone, there are several other steps that may be taken to ensure success in this area: acquiring an idiomatic clarinet sound, generating a description of good tone quality, establishing a "core" sound, gaining control over performance technique, and finally, adding expressive nuances to the tone.

Step 1: Acquiring an Idiomatic Sound

A good tone will reflect the full range of harmonics that distinguish the clarinet from other woodwinds such as the oboe or saxophone. The student must develop the ability to make this distinction on the clarinet. Learning about acoustical variances, even to an elementary degree, may help a student understand the clarinet's sound. The clarinet's cylindrical bore versus the conical bore of the

[3] Ibid.

oboe and saxophone affects overall tone quality, intonation, reed response, projection, and the necessary compensations for blowing resistance. The cylindrical bore with one end of the instrument open and the opposite end virtually closed due to the mouthpiece-reed combination, results in the production of only odd-numbered partials in the overtone series.[4]

The reed responds to the incoming air by vibrating. "This type of production is known as a coupled system; the tone generator is the reed and mouthpiece, while the resonator is the air column within the bore of the instrument."[5] The clarinet is capable of producing three distinct registers: (low) Chalumeau register, (middle) Clarion register, and (high) Altissimo register. Extensive research has been given to the study of clarinet acoustics and some teachers have made it a required part of their applied curriculum.

Step 2: Generating a Description

After learning what constitutes an idiomatic clarinet sound, the student may solidify his or her understanding by describing it in words. Some terms that may be used are dark/bright, full/thin, smooth or round/edgy, dull/resonant or ringing, and spread/focused. Keith Stein further analyzes tonal components such

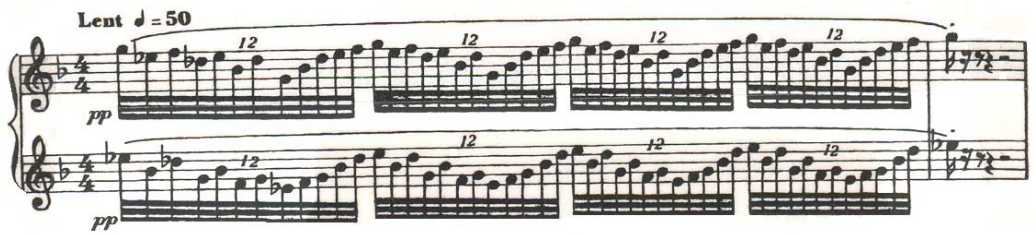
[4] Norman Heim, *A Handbook For Clarinet Performance* (Maryland: The University of Maryland, 1965), 1.

[5] Ibid.

as "shape, body, depth, cover, glow, resonance, edge, richness, brilliance, intensity, mellowness, and cushion" in detail in his text.[6]

The ideal sound may represent neither extreme (dark or bright) fully, but rather, contains a mixture of both and is pliable, capable of being bent in the direction that best conveys the music. Therefore, a variety of tone colors are possible. For instance, the opening of Maurice Ravel's Daphnis et Chloe, Suite II shown in Ex. 1.1[7] calls for tone quality that is smooth and transparent.

Example 1.1: Daphnis et Chloe, Suite II, mm. 1-2.



By contrast, in Igor Stravinsky's *Petroushka*[8], shown in Ex. 1.2, the clarinet tone could be described as alarming, strong, bright, and penetrating.

Example 1.2: Petroushka

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[6] Stein, *The Art of Clarinet Playing,* 32.

[7] Stanley Drucker, *Orchestral Excerpts from the Symphonic Repertoire for Clarinet,* vol. 7 (New York: International Music Company, 1971, permission by Durand & Cie, 1911), 20.

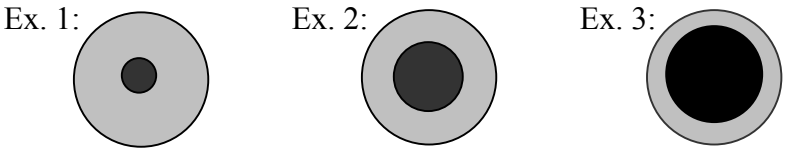
[8] Robert McGinnis, *Orchestral Excerpts from the Symphonic Repertoire for Clarinet,* vol. 2 (New York: International Music Company, 1950), 25.

Neither example embodies the ideal tonal concept, but each calls for a kind of tone quality that is appropriate depending on the demands of the music. Tonal awareness, then, allows for a wide palate of colors, dictated by musical style.

Step 3: Establish a Core Sound

A third tonal attribute, core, is essential to all types of music. Core may be defined as the central and stable presentation of a pitch, apparent at all dynamic levels. The most important determinant of an effective core sound is the strength of the airstream. Other factors include oral cavity, embouchure, breathing, air pressure, and mouthpiece/reed compliance. David Pino describes "beautiful clarinet sound as having two desirable aspects: a firm, full body, or core, and, *around that*, a clear, penetrating, or carrying 'ringing edge.'"[9] One may think of core both visually, as in figure 1.1, and aurally:

Figure 1.1: Core sound



When the core is disproportionate to the ring (Ex. 1 and 3), the sound may be bright or dull, inflexible, or lacking projection in various registers or mediums.

[9] David Pino, *The Clarinet and Clarinet Playing* (New York: Charles Scribner's Sons, 1980), 63.

The thin core shown in Ex. 1 may be less effective in an orchestra, while the thick core in Ex. 3 may be less effective in chamber settings.

Step 4: Gaining Control Over Performance Techniques

The fourth step deals with perception. Players are sometimes dismayed when they hear live recordings of themselves; the sounds they hear are not those they remember playing. Thus, "Not only must the player develop and manifest a fine tonal concept, but he must do so in such a way that the sound he wants is the one that is projected to the listeners, and that is *not* the one projected only to himself as he plays."[10]

Listening to recordings allows students to hear themselves from the perspective of an audition committee. This, in turn, can help to determine the effectiveness of musical ideas in terms of accuracy, dynamic contrasts, articulation, intonation, and tonal concept. Were notes, rhythms, and articulations accurate? Was the diminuendo loud enough for an orchestral context? Did the crescendo distinctly cover all dynamic markings between *piano* and *forte*? Did the staccato length match the accompanying instruments? Were there intonation problems? Was tone color appropriate for the musical style? These questions make evident the performance areas requiring attention after critical listening and analysis. Once the areas for improvement are identified, the students can further

[10] Ibid., 62.

validate their progress by comparing their recordings to professional ones, which may serve as models.

Step 5: Adding Expression

A final step toward developing good tone quality is the application of musical expression. Slight manipulations of the air and embouchure allow tone to be an expressive tool within each phrase. Whether conveying phrase beginnings or endings, climactic or passive moments, or any nuance, the tone must be expressive. Although clarinet playing is accomplished both physically and mechanically, the clarinet student should strive to produce good tone quality with the ease of a singer.

Mechanics

For the tonal concept to become internalized, several specific factors must be properly learned and refined. They include embouchure, air support/breathing, tongue position, choosing appropriate equipment, and reed selection/adjustment. The factors must operate well together and incorporate each player's unique physical attributes. Two factors, embouchure and air support, are crucial to the development of excellent tone quality.

Embouchure

The word embouchure, from *bouche* meaning mouth,[11] is the position and shape of the mouth, lips, tongue, jaw structure, and oral cavity when playing a wind instrument. Physical features, barring any extraordinary defects, greatly influence one's choice of wind instrument, but should not be the only determining factor. Many wind players are able to play several instruments by adapting to each instrument's embouchure requirements, but tend to feel most comfortable playing their primary instrument.

There are two categories of embouchure used on the clarinet: *Single lip* and *Double lip*. The *Single lip* embouchure is so-named because the lower lip is rolled over the teeth while the upper teeth remain uncovered, resting directly on the top of the mouthpiece. By contrast, the *Double Lip* embouchure uses both lips to cover both sets of teeth before meeting the mouthpiece.

The single lip embouchure is most common, especially in the United States. For some players, the double lip can be equally effective. Because the upper teeth are not resting on the mouthpiece, the instrument may become unstable. Double lip players remedy this problem by sitting while playing, resting the instrument upon the knees, or by using a neck strap.

Another problem, common to both embouchure types, occurs when the teeth cause unpleasant indentations or cuts into the lip(s) folded over them. This

[11] Jack Brymer, *Clarinet* (New York: Schirmer Books, 1976), 122.

happens from playing too long with too much tension or bite pressure from the teeth or jaw or from irregular practice habits. The double lip style exaggerates the potential for this discomfort.

Discomfort lessens with greater lip and chin muscular strength and with conscious effort towards using non-bite or horizontal muscles for security. Without this, the player may continue to have unpleasant experiences. Whereas the single lip embouchure remains most common, teachers may advocate trying the double lip embouchure temporarily, as a remedy to un-learn the biting habit. Double lip embouchure also encourages opening and relaxing the oral cavity, thereby increasing smoothness and resonance in the sound. Some famous clarinetists that have used the double lip embouchure include Harold Wright, Ralph McLane, David Weber, and Tom Ridenour.

There is significant variation among teachers regarding the steps of single lip embouchure formation, amounts of mouthpiece and lip used, and the roles of certain muscles. These variations may be very hard on students, especially if a student's clarinet teachers include several band directors (whose primary instrument may not be clarinet), private teachers, college professors having studied in different institutions, and summer festival or band camp instructors that offer intense, short-lived study. Despite this, Keith Stein stresses the importance of learning embouchure supervised by a teacher, as he feels without it, the student

will find some way (good or bad) to acclimate to achieve security.[12] The following section describes commonly agreed factors in the teaching of the single lip embouchure.

Procedure for Forming the Single Lip Embouchure:

1. Place the mouthpiece ¼ to ½ inch under the top teeth. Based upon teeth/jaw structure and tongue length, the amount of mouthpiece the player takes in is variable. Students should use the maximum amount that they can comfortably control. The more mouthpiece under the teeth, the more freely vibrating reed will be in the mouth. This amount can be maintained with the aid of a mouthpiece patch coupled with right hand thumb support.
2. After taking a full breath, fold half of the lower lip over the lower teeth. Depending on lip size, this amount of lip will vary. With moderately sized lips, some of the pink part of the lower lip will be visible when playing.
3. The lower lip acts as a firm cushion for the reed; however, the approach to forming this cushion is a point of dispute. Some teachers and authors refer to the terms *soft cushion* and *hard cushion* when creating the lower lip cushion by either a) pushing in or b) pulling back.
    a) Pushing in refers to the gathering of the lower lip by bringing in the corners of the mouth towards the mouthpiece. A significant amount of

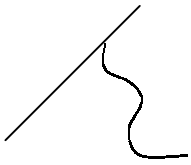
[12] Stein, *The Art of Clarinet Playing,* 12.

lip is cushioned between the teeth and reed, filling in the natural dip in the lower lip's center. As the cushion provides support for the reed, this method is less effective if the gathering of the lower lip occurs *after* the reed is already resting on it. In this event, the remaining lip crowds the sides of the reed, muffles vibration, looks undisciplined, and lends itself to biting or chin collapse. I advocate the pushing in method when employed in careful order with the supervision of a trained teacher.

b) Pulling back refers to drawing the contours of the mouth backward like a smile. The lower lip is pulled taut against the lower teeth forming a hard cushion with less lip material between the teeth and reed.

In both cases, advocates support a flat chin. Regardless of which approach is used, the skin just underneath the lower lip is pulled down and away from the reed, often creating a dimple in the chin.

Figure 1.2: Flat chin underneath reed



The flat chin provides a secure, stable, immobile surface. Some students have difficulty disciplining the chin while others will do it naturally. With conscious practice, this can be learned to the point of automatic response.

Another consideration is the importance of integrating the top lip muscles into the embouchure formation. The top lip pushing down on the top of the mouthpiece counteracts the lower lip's tendency to compress the reed. By pressing the top lip, both outer and inner lip muscles, actively against the mouthpiece top and horizontal surfaces, biting is lessened, the air seal is improved, and stability and flexibility are heightened.

Posture, including vertical head position and instrument angle, affects embouchure and tone quality. When the right-hand thumb does not properly support the weight of the instrument, the head will often tilt downward. Therefore, teachers frequently tell students to bring the instrument up to them, not the reverse. As the head tilts downward, the airway becomes less open and improper articulation, tongue, and embouchure placement may develop. The student will compensate for this by holding the instrument away from the body to prevent squeaking.

Holding the head down and the instrument out obstructs the principle of the "offset bite" and should be discouraged. Keeping the clarinet at approximately 38-45 degrees from the head and body, the clarinet forms a right triangle with the back and legs. The two sets of teeth are "offset," as the top teeth

rest further up on the top of the mouthpiece than the bottom lip does on the reed. At this angle, the player may achieve great resonance, assuming there is enough mouthpiece, that is, under the teeth, an open throat, and sufficient air speed. If the clarinet is held farther than 45 degrees or closer than 38 degrees, the reed will be compressed and the offset bite becomes more even, characteristic of the saxophone.

Once set, the embouchure should remain constant, no matter what musical passage or articulation is used. Rosario Mazzeo supports this by saying: "Your embouchure should be in its ultimate tensed position *before* you initiate any sound--there should be absolutely no movement of your embouchure as the sound commences, nor as it continues, nor indeed until *after* it has ceased."[13]

When students have difficulty holding the embouchure constant, teachers often advocate the use of a mirror. They invoke the student's conscious awareness of the ideal shape through repeated reminders, analogies, or by having the student practice exercises such as long tones with supervision.

Again, it may prove valuable to record oneself. Recording affords immediate feedback when developing the embouchure by allowing the player to monitor the consistency of sound, noting the places he or she is prone to change. Students should remember to relax all of the muscles not directly associated with

[13] Rosario Mazzeo, *The Clarinet, Excellence and Artistry* (Massachusetts: Dorn Publications, 1990), 122.

the lip muscles during embouchure formation. Tension adds unpleasant aspects to the sound, immediately noticeable upon playback.

Effects of an improper embouchure include: poor tone quality, intonation problems, lack of response or control, non-uniformity of registers, and difficulty playing in the upper register. This can lead to a chain reaction of tension and bad habits that develop when attempting to compensate.

There is unanimous agreement that biting, the application of excessive lip pressure against the reed, has a negative effect on tone quality and reed vibration. There must be a balanced, proportional relationship between lip pressure and air pressure. With excessive lip pressure, the tip opening between reed and mouthpiece is lessened, diminishing the air's entryway. The tone becomes thin and bright, and the probability of squeaking in the upper register, between registers, or during wide intervals increases. On the contrary, with generous air pressure and insufficient lip pressure, the tone becomes flat in pitch and quality, airy, and unfocused. A certain amount of lip pressure is absolutely necessary to make a good sound, varying within the parameters of one's mouthpiece facing, reed strength, and air support.

Many variables must work together efficiently to achieve a high quality sound. Although the reed's changing condition represents a continual challenge, the air/embouchure relationship constantly adapts to meet musical demands such as dynamics, phrase beginnings, and endings. The student should strive to keep

personal variables minimized with a consistent embouchure, a dependable and thoughtfully prepared airstream matched with appropriately selected equipment.

Breathing and Airstream

It is imperative when discussing tone quality to remain aware of the breathing process and the use of air by the instrument. There appears to be no disagreement about the importance of careful breathing and less variation among teachers regarding correct breathing habits.

Which tonal aspect should be addressed first: breathing or embouchure? With inadequate breathing, strong embouchures cannot create, focus, or sustain sound. Even with a strong airstream, a malformed or weak embouchure produces an unfocused sound. Keith Stein takes into account the intertwined relationship of embouchure and breath by saying, "Embouchure has already been compared in importance to the human heart; breath compares with the life blood flowing through the heart."[14]

Because young students do not often think about internal anatomy, the teacher can approach the subject of embouchure before talking about breath support, while with young adults, correct breathing may become the foundation of their study. Regardless of order, both must be given thorough attention and

[14] Stein, *The Art of Clarinet Playing,* 18.

explanation. Likewise, the player must be prepared to revisit and refine each aspect often throughout his or her career for personal excellence.

Some of the best sources regarding breathing are vocal performance texts, since a vocalist's body is his or her instrument. Complete awareness of the vocalist's physiology involved in the breathing process can enhance proper execution. For wind instrumentalists who are taught breathing technique from a physiological standpoint rather than a metaphorical one, misunderstanding can occur over the roles of certain breathing muscles, which can lead to improper uses of terminology. The next section will be devoted to the breathing process, physiology, and main points of agreement regarding the clarinetist's development.

The two main components of breathing are inhalation and exhalation. A common analogy for the action of breathing is the bellows of an organ or accordion. However, Scott Nelson, in *Breathing For Musicians*, prefers to compare breathing to "the action of a bicycle pump turned upside down."[15] Whichever description is preferred, the emphasis is always on a change in atmospheric pressure. During inhalation, the lungs are pulled downward by the diaphragm. Atmospheric pressure inside the lungs becomes less than that outside the lungs causing an influx of air through the mouth to equalize the pressure. As the abdominal muscles are applied to compress the inhaled air, atmospheric pressure inside the lungs becomes greater than the outside, resulting in the exit of

air through the mouth to equalize the pressure.[16] This is referred to as forced or active exhalation and is applied to varying degrees during speaking, singing, and wind playing.[17]

It is important to reinforce that the diaphragm is used for inhalation only. Since a muscle functions in one direction only, the abdominal muscles take over during exhalation. The diaphragm influences the rate of exhalation, but does so "only to the extent that its degree and rate of relaxation can be controlled to balance the upward pressure against it from the action of the abdominal muscles."[18] Therefore, telling a student to support from the diaphragm is not an accurate statement.

The rate of exhalation has a large effect on clarinet tone quality, response, and the sustained quality of a phrase. With too little pressure exerted during exhalation, the air speed may be too slow for a given note to respond or for a certain reed to produce a clear and focused tone. With insufficient inhalation, a long phrase may not reach completion, resulting in throat or embouchure tension to compensate for the lack of breath.

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[15] Scott A. Nelson, DMA, *Breathing For Musicians* (Virginia: Rheinhardt and Still, May 1999), 12.

[16] Ibid., 12-3.

[17] Virgil A. Anderson, *Training the Speaking Voice,* 2d ed. (New York: Oxford University Press, 1961), 31.

[18] Ibid., 31-2.

Another component that teachers agree facilitates efficient breathing is posture. Correct posture may be achieved through relaxed, vertical alignment of the head, shoulders (with chest high), and pelvis. Relaxation limits shoulder, neck, throat, and jaw tension. In order to achieve this, W. Venard tells us to "imagine that you are a marionette, hanging from strings, one attached to the top of your head and one attached to the top of your breast bone."[19] Practice the feeling of vertical alignment while lying down flat on your back against the floor or a wall. As most instrumentalists perform in a seated position, the same principles may be applied; however, a flat or forward-tilting chair best serves posture. Keep the feet placed flat against the floor with the front half of the seat supporting the body's weight.[20]

The point to remember for singers or instrumentalists is to maintain a relaxed and open throat. The effects of throat constriction can be heard in clarinet tone quality in the form of excessive brightness, edge, or thinness. A tense throat acts as an obstruction to the airflow upon initial releases of tones and in response to frightening or high range passages. Tension also limits inhalation. Some teachers have suggested decreasing throat constriction by panting the syllables "hah-hah-hah" as if "fogging up one's glasses." Another approach is to practice without taking in a breath between syllables, suspending the air pressure with the

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[19] William Venard, *Singing, the Mechanism and the Technique*, 4th ed. (New York: Carl Fischer, 1967), 19.

[20] Nelson, *Breathing For Musicians,* 22-3.

breathing muscles. One may also concentrate on maintaining the feeling of an open throat. By recalling this feeling during inhalation, the passageway remains clear for the optimal breath.

During inhalation, the clarinetist must hold the mouth adequately open. Young students barely remove their lips from the mouthpiece to maintain a consistent embouchure or they lift their top lip and breathe around the front teeth. In both cases, a noisy, ineffective breath is taken, hindering efforts to keep the throat open. A small, tight aperture during breathing instigates tension. As with embouchure, a mirror helps to detect how the mouth reacts while breathing.

Students should breathe through relaxed, detached corners of the mouth, which create adequate openings on both sides of the mouthpiece or by dropping the lower lip and jaw downward, breathing underneath the reed before reforming the embouchure. Pulling the corners back when breathing will limit the size of the air's entryway. The amount of time available for the breath and embouchure formation determines which method will work best.

Freeing the embouchure from the reed when possible relieves fatigue and creates opportunities for re-adjustment. Whichever method is chosen, the student should avoid detaching the top lip and breathing around the front teeth. The breath should be quick, quiet, and efficient.

Once correct breathing has been facilitated by good posture and relaxation of the throat, the student may begin to practice breathing. Normal breathing, of

course, is unconscious. However, breathing for wind playing is conscious, controlled, specific to musical passages, and fitted uniquely to the resistances offered by a variety of wind instruments.

During inhalation, one may feel the air enter the mouth and throat, extending to the lower part of the lungs which, in turn, lowers the diaphragm muscle, creating expansion in the abdominal and back regions (the "belt muscles"), followed by the middle chest and last, by the upper chest. The shoulders should remain still without rising. The student can practice this by lying on the floor with either a hand or a book on the abdomen. Expansion raises one's hand during inhalation and lowers with exhalation. With assisted exhalation from the abdominal muscles, the release of air returns the diaphragm to its original position. The idea of supporting one's sound consists of maintaining optimal air pressure while blowing.[21] A sufficient amount of air pressure is required to create a quality sound. The volume and speed of the air changes to meet loud or soft dynamics but must never drop below the baseline speed or the core will suffer.

Vocal texts and clarinet methods such as Leon Russianoff's *Clarinet Method, book I* or Keith Stein's *The Art of Clarinet Playing* contain breathing exercises. Some clarinet teachers may, on the other hand, prefer to create their own exercises. Awareness and application of correct breathing technique is a

[21] Leon Russianoff, *Clarinet Method, bk.1* (New York: Macmillan Publishing, 1982), 1-2.

crucial part of the clarinetist's development of tone quality, regardless of how it is taught.

Tongue Position

Aside from its function in articulation, a surprisingly small amount of literature has been written about the tongue's position in the mouth. Those who do discuss it, disagree about the ideal placement of the tongue for tonal focus, while they tend to agree that the tip (or nearly the tip) of the tongue should touch beneath the tip of the reed during articulation.

As Pino notes, "The tongue's position should actually be considered part of the embouchure, since it is located in the oral cavity and contributes to refining tone quality and response."[22] Considering the inside of the mouth vertically, from the topside of the tongue to the roof of the mouth, the tongue can divide the oral cavity into three possible planes.

Tongue placement affects the air's speed and direction, which can be identified by the syllables: ah, oo, and ee. The "ah" syllable places the tongue in the lowest position, "oo" in the middle, and "ee" in the highest position. Teachers may strongly suggest one of these three syllables or some combination of them to help the student accommodate register shifts from low to high. The higher the position of the tongue, the smaller the distance is between the top of the tongue

[22] Pino, *The Clarinet and Clarinet Playing,* 59.

and the roof of the mouth. By creating a smaller space, the air is compressed and accelerates. This is similar to how water travels through a hose. The water's speed and distance increases when the thumb is placed over the exit space.

Low tongue position creates a larger vertical space in the oral cavity and requires a capable airstream for tonal focus. I advocate a "medium-high" approach to tongue position, a combination of the "oo" and "ee" syllables. The tongue is suspended in the upper two-thirds of the oral cavity without eliciting tension in the back of the tongue. One tongue position should be maintained in all registers of the clarinet with as little change as possible. There is universal agreement that tongue position should be relaxed and that poor tongue position will obstruct breathing, restrict airstream, cause tension, compromise articulation placement, and lead to a poor tonal concept.

Equipment: Mouthpiece, Ligatures, and Reeds

1. The Mouthpiece

Appropriate equipment can greatly enhance the performer's ability to produce a beautiful, natural tone. Basic mouthpiece information, then, is necessary to help the student make informed choices.

The most self-evident feature of the mouthpiece is its size and shape. The mouthpiece is cylindrical at its connecting end and narrows toward the mouth

side. Although flat underneath the reed, the rails curve away from the reed toward the mouthpiece tip creating an aperture for the air to enter. The aperture size and related dimensions differ greatly among mouthpieces and makers. While the depth of difference is not visually measurable, its effect is profound. Frederic Thurston states: "Research has shown remarkably little variation between the lays, or slopes, of eminent players' mouthpieces."[23]

Mouthpieces may be made of ebonite, hard rubber, plastic, various types of wood, or glass.[24] The quality of the materials used to create the mouthpiece body or "blank" cannot be underestimated; they can affect sound quality, conduction, projection, and tonal attributes.

Figure 1.3: Parts of the Mouthpiece:[25]

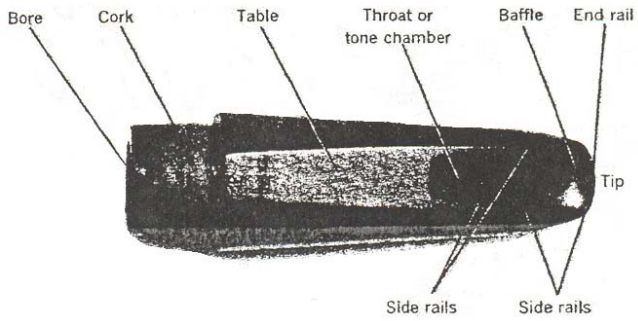

Figure 1.3 shows the parts of the mouthpiece. The facing or "lay" of the mouthpiece begins at the bottom of the window and includes the necessary curve

[23] Frederic Thurston, *Clarinet Technique* (London: Oxford University Press, 1985), Appendix II, 52.

[24] Ibid.

[25] Everett Timm, *The Woodwinds* (Boston: Allyn and Bacon, 1964), 58.

of the mouthpiece's side rails towards the tip that creates an opening for air to enter. When discussing a small degree of curve, the facing is called "close," while conversely, with a wide degree of curve; the facing is regarded as "open". Within this parameter, there is the possibility for medium-close, medium, and medium-open facings as well. The facing and its appropriate reed complement are regarded as crucial factors in determining a mouthpiece's tone quality and compliance. The length of the mouthpiece window and degree of the curve determines blowing resistance and, consequently, affects one's selection of reed brand and strength. In the United States, the medium French facing is the most common.[26]

Many reed brands work well on the French facing, including Vandoren, Zonda, Olivieri, and Mitchell Lurie. By contrast, German facings are longer and more open than French, requiring harder reeds, greater air volume/pressure, and physical effort.[27] Vandoren BlackMaster and Steuer reeds are examples better suited to this facing. Regardless of facing type, advanced players may become disillusioned with available reed options and choose to make their own.

An experienced mouthpiece craftsman can measure the facing by holding a piece of glass containing gradations against the mouthpiece table and extending to the tip and carefully sliding metal gauges horizontally between the glass and

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[26] Robert Willaman, *The Clarinet and Clarinet Playing* (New York: Robert Willaman, 1949), 25.

[27] Ibid.

the facing. A set of numeric measurements is created as the gauge's varying widths stop along the mouthpiece curve. An example measurement might read: 34, 22, 12, 6, 1.01. Another set of long metal gauges inserted down the mouthpiece tip measures internal dimensions that affect tone quality, projection, resonance, and pitch. Internal design mechanics coupled with the facing play an intricate role in the total sound potential.

Thurston remarks: "A close or medium lay tends to give a more refined, firmer sound with control of tone gradations; an open lay is more suitable for glissandos and vibrato."[28] Generally, classical players play close and medium facings more than jazz musicians do. Since many woodwind players double on clarinet and saxophone, an open clarinet mouthpiece is complementary to the naturally larger and more open saxophone mouthpiece.

It is not necessary to memorize mouthpiece measurements in order to select a good mouthpiece. Knowledge of a favorite mouthpiece's measurements can assist the player in finding others with similar design; however, it is most important to be familiar with the gradations that work best for the individual player. This is why students begin playing on machine-made mouthpieces with moderate or standard facings. Learning to play the instrument is enough of a challenge for the beginner. Thus, young clarinet sections are more likely to produce a uniform sound with tolerable intonation when suited with similar

[28] Thurston, *Clarinet Technique,* 52.

machine-made mouthpieces whose margin for variance is small. Once the student has competently learned to play the instrument with correct fundamentals, they may use a custom mouthpiece to enhance their performance.

Mouthpiece dimensions beyond the facing include:

1) Baffle-the slope that begins from the mouthpiece tip down into the chamber.
2) Height of the bottom of the chamber to the top of the window.
3) Size and frame shape of the tonal chamber.
4) Size of the bore.[29]
5) Length of the entire mouthpiece.
6) Correspondence of mouthpiece and instrument bore.[30]

With regard to point 6, Stubbins states that "the length of this conical segment must correspond to the correct acoustical length of the entire bore, and its diameter must also be properly calculated for the instrument on which it is to be used. It is the primary reason for certain mouthpieces being unsatisfactory on certain makes of clarinet."[31]

Complementary equipment impacts intonation, tone quality, and blowing compliance. Band directors frequently encounter students who are excessively out-of-tune. When traditional remedies such as improved embouchure, air and right hand thumb support, instrument angle, and tongue position still fail; one can try measuring the lengths of the mouthpiece and barrel. Standard barrels measure

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[29] Timm, *The Woodwinds,* 58.

[30] Stubbins, *The Art of Clarinetistry, 68.*

[31] Ibid.

66mm, but barrels can range from 63-68mm. One can also have a craftsman check the instrument and mouthpiece bore relationship as well.

Finally, a well-made mouthpiece maintains symmetry between the size and taper of the side rails and consistency of the thickness and shape of the tip rail.[32] Players generally gravitate toward symmetrical facings with balanced reeds. However, there are mouthpiece makers whose facing design is slanted and patrons play these exclusively. Asymmetrical facings may require specific reed work, but the same tonal goals can be successfully achieved.

1a: Mouthpiece Brands, Makers, and Refacers

There are three basic types of mouthpieces: machine-made, custom-made, or refaced versions of the first two types. Machine-made mouthpieces are produced entirely by machines in large quantity by corporations such as Vandoren, Selmer, Yamaha, Bundy, or Leblanc. Each company has several different models to offer designed to serve orchestral, chamber, solo, or jazz mediums effectively. Due to mass production, these mouthpieces are less expensive than custom mouthpieces and readily available at retail and wholesale music stores. For beginners and their parents, price can be the dominating factor until the student exhibits significant progress or interest in the instrument. Band directors often select a mouthpiece that has proven to be successful, and they have

[32] Timm, *The Woodwinds,* 59.

their entire section play them. Price, consistency, availability, intonation, and playing ease are driving factors in initial mouthpiece selection, as young students are not overly discerning. Some professionals can find machine-made mouthpieces that serve their needs well. Since their tonal concept is highly developed, they are not limited by equipment.

Some common **machine-made** mouthpieces include:

Vandoren: models 5RV/ lyre, 2RV, B45, B40, M13/lyre, M14, M15
Selmer: HS*, C*, B*
Leblanc/Woodwind: G8, G7
Gigliotti, Combs, Portnoy
Buffet, Yamaha or "stock mouthpieces" (those included with the purchase of a new instrument).

Individuals may also create custom mouthpieces by selecting a blank for production and putting facing dimensions on it by hand. Each mouthpiece may then be hand inspected, measured, and finished to the maker's specifications. The materials used for blanks in custom mouthpieces can range from steel ebonite, hard rubber, and crystal to various types of wood. When individual attention is given to each product, price increases accordingly. Average prices range from $100-$250. Greater variances exist among custom mouthpieces, so it is important to try several within the same maker, model, or style. One can test them by playing for a trusted colleague and asking for feedback. The differences in each mouthpiece may be frustrating upon selection, yet, once the player acclimates to the newly chosen mouthpiece, he or she may find its unique features endearing.

When a person rather than a machine creates the mouthpiece, you can send it to that person for minor adjustments.

Custom mouthpieces are suited to advanced players or professionals who:

a) seek something specific in their tonal concept

b) have achieved a level of skill and physical strength that allows them to adapt to the more sophisticated demands of the mouthpiece, or

c) are unable to satisfy their ideal for power, projection, pitch, or nuance in their performing medium on machine-made mouthpieces.

Custom mouthpieces are generally available from wholesale music companies or directly from the maker.

Several **custom mouthpiece** makers are listed below:

Charles Bay	Jerry Hall	Ralph Morgan
Robert Borbeck	Richard Hawkins	James Pyne
Clark Fobes	David Hite	Tom Ridenour
Roger Garrett	Michael Lomax	Gregory Smith

Mouthpiece makers are also able to *reface* mouthpieces. During refacing, a craftsman alters the facing dimensions of a previously finished mouthpiece to repair damage, to copy a certain style, or to approximate the unique specifications of the client. Some custom-makers will only reface their own mouthpieces, while others will adjust any type of mouthpiece. Some clarinetists have pursued the art of refacing with great success, becoming famous exclusively in this regard. Still others practice refacing only as a hobby.

When a mouthpiece is refaced, several factors must align for success. First, the mouthpiece in question must be refaceable. This means it is not too damaged, old, warped, or obscure in design that it cannot be fixed. By conveying clear ideas to the craftsman, he/she can redesign the mouthpiece to meet his/her tonal goals with the needed time, space, and correct tools. It is desirable to be present with the craftsman while he/she works, allowing for mouthpiece testing and discussion of further corrections. When proximity is not available, rely on the recommendations of satisfied customers and the craftsman's reputation.

Even in the best of circumstances, refacing does not always improve a mouthpiece. Clarinetists are accustomed to this sort of risk when adjusting reeds. Refacing costs vary with each craftsman and the length of time it takes to complete the job. Refacing costs range from $30-$60 per mouthpiece or per hour. Some notable mouthpiece refacers include: Brad Behn, Clark Fobes, Richard Hawkins, Lee Livengood, Everett Matson, James Pyne, Tom Ridenour, Robert Scott, Greg Smith, and John Weigand.

Regardless of which type of mouthpiece of the three categories best suits a given clarinetist's tonal goals, once satisfied with a particular mouthpiece, he or she should play it exclusively, rather than alternating between several. Should tonal goals change, the player may then seek another product that addresses his or her current needs.

2. Ligatures

The ligature is designed to hold the reed securely in position against the facing of the mouthpiece while fostering maximum reed vibration. Standard position ligatures have the tightening screws underneath the reed; while those considered "inverted" have the tightening screws on the front side of the mouthpiece. In either position, the screws always tighten on the right. If not, a standard ligature is being used in inverted position. Although it is a misapplication of the ligature's ideal design, the reed will be held in place. Standard ligatures are less costly than inverted ones and students may try to assimilate the inverted function by turning it around without considering design goals.

Ligatures are made primarily of two materials: metal or fabric (cloth, vinyl, leather, etc.). However, there are some plastic brands such as Gigliotti and Luyben. Metal ligatures (silver, nickel, or gold-plated) tend to sound brighter than fabric due to greater vibration. Varieties of thought have been applied to ligature construction: thickness of material, different shapes or sizes of openings, and simple to ornate patterns centered over the reed. The design of both metal and fabric ligatures will affect tone quality, articulation, and response.

In recent years, ligatures have emerged that are engineered specifically to alleviate reed constriction. Certain ligatures employ a metal piece (perhaps modeled after the Bonade ligature) between the ligature and reed that creates a

secure fastening without allowing the outer body to stifle vibration on the sides of the reed. When the metal pieces or plates are interchangeable, tonal variation can be achieved easily.

The primary function of the ligature is to hold the reed in place. In this way, there are virtually no bad ligatures, but some are better than others in the way their design strategically holds the reed without constricting vibration. Careful application of the ligature is required to prevent damage to the reed or mouthpiece tip. The tightening screws should hold firmly, but not excessively. A guide for this is that once the screw stops, turn it back 1/8 turn. Having the screws too loose is detrimental if the screws vibrate, if the reed moves, or if the entire mouthpiece-reed-ligature combination comes loose when removing the mouthpiece.

There is disagreement over how high the ligature should rest upon the reed and mouthpiece. Many mouthpieces have an upper ring design around them. The top of the ligature should be even or slightly below this ring. If no ring exists, show approximately ¼ inch of the reed below the ligature. Experimenting with varying heights within this range may affect tone quality and response.

Ligatures may range in price from ten to eighty dollars, depending on whether they are purchased from retail or wholesale dealers. The average price is twenty to sixty dollars, depending on quality, brand, and style. Common metal, fabric and combination-style ligatures include:

Metal Ligatures:

Maker	**Model Style** (if applicable)
Charles Bay	Traditional
Daniel Bonade	Regular or Inverted
BG France	Tradition
Buffet	
J & D Hite	
Selmer	
Vandoren	Regular or "Optimum"

Fabric or Vinyl Ligatures:

Maker	**Model Style**
Kyle Pyne	
Rovner	Dark, Light or Mark III

Combination-Style:
(Fabric body with metal inserts, both non-removable and removable)

Maker	**Model Style**
Charles Bay	Covered style has an outside metal body and covered inside
BG France	Standard, Revelation, Super Revelation
Rovner	Eddie Daniels model

As with mouthpieces, one's choice of ligature is a personal one. The decision is based on compliance between the mouthpiece and reed. A discerning player can hear and feel how the ligature affects tone quality and articulation. To decide which ligature is best, the student may ask teachers or accomplished players which brands they feel confident about. After acquiring the recommended ligatures, the student should try them while their teacher listens to them play each one using well-known music and in an acoustically pleasing space. Also, recording oneself can again help in the final decision. The student should choose equipment based on sound and playing comfort, not cosmetic value. If price is a

determining factor, consult teachers or respected musicians for the best brands within a given price range.

3. Reeds

The most frustrating piece of equipment for the clarinetist is the reed. With the best mouthpiece, ligature, and fundamentals, the inconsistencies from one reed to the next can produce self-doubt and lack of playing enjoyment. Knowledge of reeds, reed adjustment, and reedmaking helps the player gain some control over these inconsistencies. The following information provides basic criteria for reed selection, adjustment, storage, and brands.

Reeds are made from a plant known as Arundo Donax, also referred to as cane. Despite the development of plastic and synthetic materials, reeds made from cane continue to be used most often. Like many plants, Arundo Donax grows best in certain regions in the world, primarily in southeastern France (Province of Var), Spain,[33] and Argentina.

After a lengthy process of harvesting, drying, curing, seasoning, and assessing the cane by its uniformity of color, size, and thickness, it is sent to the manufacturer.[34] Color can indicate whether a reed has been dried for the ideal amount of time, while spotted cane bears no indication of a reed's potential. A

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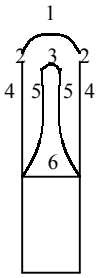
[33] George T. Kirck, *The Reed Guide*, 1st ed. (USA: Reed-Mate Company, 1983), 1.

[34] Ben Armato, *Perfect A Reed* (New York: PerfectaReed, 1980), 2.

similarity between reed cane and mouthpieces is that the quality of the material used determines potential. Just as a mouthpiece can be refaced, a reed can be adjusted to suit individual preferences.

Figure 1.4: Parts of the Reed:

1) Tip 2) Corners 3) Heart
4) Side Rails 5) Edges of the Heart
6) Vamp



When selecting a commercial reed, look for the following criteria while using Figure 1.4 as a reference:

a) Uniform golden color
b) Uniform dispersion of xylem or grains
c) Symmetrical appearance of the reed's cut on three views: back to front, left to right, and three-dimensionally.
d) Appearance of an upside-down V or U extending from the cut of the reed gradually toward the tip. This is visible when the reed is held so that a light source passes through the back of the reed, illuminating its features.
e) Evenness of the blank and the taper of the side rails and slope.
f) Flatness of the back of the reed or its potential to be corrected without harming overall proportions.[35]

While the guidelines listed above can help in the selection of the best reeds from a given box, visual tests are only a preliminary indicator of reed potential. One may, for instance, place the reeds in order based on visual speculations. To confirm the choices made, one should play each reed briefly and

[35] Ben Armato, *Perfect A Reed…and Beyond* (New York: PerfectaReed, 1996), 25-8.

place them in order from softest to hardest. By wiping off the excess moisture and placing the reed to dry on a flat surface, such as a piece of glass or a glass-lined reed case, the reed is less inclined to warp.

At this stage, some players will break-in their reeds using a process of soaking, drying, and polishing. Many students try to bypass learning reed work or overdue the soaking process to avoid the break-in period. A reed is constantly involved in a wet-dry cycle between playing and humidity changes. Therefore, it is important to organize reed handling and implementation. When starting a reed regime, either one suggested by a teacher or from readings, one should follow it precisely before adopting an accommodated version. After learning a variety of techniques, the player is prepared to form his or her own system.

After placing ten reeds in order from softest to hardest, one may select five exhibiting the most potential. The student may then play these five reeds in daily rotation for approximately ten minutes each. By day three, if the reeds are showing little natural improvement, one may adjust them with the following criteria in mind:

a) Flatten the back of the reed (where the writing is) as needed with WetorDry Automotive sandpaper, fine (400) or superfine (600) grit.
b) Symmetry and taper of the side rails.
c) Shape the reed tip to match the mouthpiece tip.
d) Compare the length of the mouthpiece window to the length of the cut of the reed. If too short or too long, compensations should be made. This factor will contribute to your reed brand selection.
e) Reed balance

Reed balance is a goal for peak performance. Lack of reed balance can be detected visually, by touch, and by playing tests. Each test provides useful information, but the playing test is the best indicator. A wet reed can be gently flexed by moving the finger along the reed's tip from left to right, allowing the detection of hard/inflexible spots or ultra-soft/overly flexible spots compared to the overall elasticity. Hard spots can be fixed while soft spots may require extensive reworking or discarding of the reed. One may continue the flex test downward in concentric height levels to reveal remaining imbalances.

Playing tests can be executed in two ways. Some players tilt the head slightly and play an open "G" on the left and right corners of the mouthpiece for comparison. The corner from which your embouchure is blowing is the side of the reed you are listening to for adjustment. Others will hold the head still and tilt the mouthpiece to the right and left. Turning the mouthpiece to the right dampens the right side of the reed against the embouchure, allowing the left side of the reed to vibrate freely. Using this method, one can adjust the *opposite side* from which he or she has tilted the mouthpiece. The chief purpose in either method is to balance both sides of the reed for maximum compliance with the mouthpiece.

Reed adjustments are made with sandpaper, reed knives, or reed rush. Tip contour should be adjusted with sandpaper or a reed clipper. When inexperienced with a reed knife, the clarinetist can safely use fine grit sandpaper for both flattening and specific changes. Adjustments should be made incrementally and

followed by testing. Wiping off excess reed or sandpaper dust before playing eliminates unpleasantness and potential harm to the mouthpiece facing. One can always make more adjustments when too small, but it is difficult or impossible to correct changes that are too severe. Small adjustments, made over time, allow the reed to continue to break-in or change towards optimal resistance. Adjusting a reed too much or too soon allows it to play easier immediately, but loses resilience quickly.

The relationship between mouthpiece facing and reed suitability coupled with embouchure strength and air stream determines choice of reed strength. Open facings require softer reeds and close facings require stronger reeds. Do not select reed strength based exclusively on playing ease. Reeds that sound good in your immediate surroundings may not sound good at a distance.

Making reeds by hand requires patience and skill; however, several reed machines have been designed to copy and expedite the handmade process. The main difference from adjusting commercial reeds to making reeds is that *you* start from tubes of cane, to making blanks, and later, the playable reed. Every step is part of the handmade process. Learning reedmaking has been an invaluable tool in my understanding of reed adjustment. Time and money can be preventative factors in making reeds, while some professionals would play nothing else.

Proper storage, good oral hygiene, and reed rotation will extend reed longevity. Once the first five reeds are in regular playing use, begin to start

another batch. The principle is to have a constant flow of reeds representing old, "perfect," and new that guarantee you will have good reeds to play, despite unexpected weather changes or occasional reed mishaps. Common commercial reed brands are shown below:

Commercial Reeds Brands/Styles:

Alexander Superial	Regular and DC
Bay	
Glotin	GIII, Gala, Groove
Gonzalez	
Grand Concert Select	Regular, Thick Blank, Evolution
La Voz	
Marca	Regular and Tradition
Mitchell Lurie	Regular and Premium
Mozart	
Olivieri	Regular and Rico Royal
Steuer	White and Blue Line
Vandoren	V12, Traditional, Hand Select, White/Black Master
Zonda	Regular, Classico, Ready-to-Finish

Reed strength ranges in number from one to five, from softest to hardest. Despite this numbering system, strength numbers feel different between various brands. For example, a Mitchell Lurie #4 feels similar to a Vandoren #3½. Also, dramatic changes in temperature or humidity may require changes in reed strength. Finding the appropriate strength/brand for one's mouthpiece and embouchure is the goal.

Chapter I has been devoted to the fundamental of tone quality. It is impossible to discuss tone quality without mentioning the subcategories: embouchure, breathing, air stream, tongue position, and equipment due to their

essential contributions to tone quality. Forming a well-conceived tonal concept depends on physical discipline and thoughtfully selected equipment. Tone quality affects all music, thus, occupying a central role in all of the Rose *Forty Studies*. Tone quality will be most noticeable, however, in slow, legato studies. In the next chapter, I will discuss finger technique, including a variety of subcomponents such as hand and finger position, alternate fingerings, and suggested ways to achieve efficient finger motion.

CHAPTER II

FINGER TECHNIQUE

"A proper, intelligent use of the fingers enhances all aspects of clarinet playing: rhythm, intonation, timbre, character, mood, and style."[1]
Leon Russianoff

Good finger technique begins with good hand position. Several beginner clarinet methods briefly describe hand position, recommending that the finger pads cover the clarinet tone holes completely, but their main focus is on the fundamentals of music reading and on teaching the corresponding fingerings. This leaves the teacher responsible for teaching efficient finger motion.

Detailed descriptions of hand position can be found in music education method books designed to prepare student musicians to become band directors. One example, Frederick W. Westphal's *Guide To Teaching Woodwinds,* describes the "guide position"[2] on the clarinet, a basic hand position that serves as a reference point from which all other motions should originate. It contains the following features:

- right hand thumb under the thumb rest
- right hand pinky rests on the F/C key

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[1] Leon Russianoff, *Clarinet Method, bk. I* (New York: Schirmer Books, 1982), 14.

[2] Frederick W. Westphal, *Guide To Teaching Woodwinds,* 4th ed. (Iowa: Wm. C. Brown Publishers, 1974), 64.

- placed at a diagonal angle, the left hand thumb operates both the tone hole and the register key with the first joint of the thumb
- left hand pinky rests on the E/B key
- the remaining fingers of the left and right hands fall in a natural curve with finger pads centered no more than one inch above the three corresponding holes.

The concept of guide position provides a useful framework around which to build good finger habits. Westphal's statement that "the 'guide position' is fundamental for hands and fingers, and should be maintained at all times except when the fingering for a note involves moving a finger to another location," similar to the guide position found on a typewriter[3] illustrates the importance of this concept. In the following section, each component of the guide position will be discussed is detail. For the purposes of the following discussion, I will refer to the fingers as thumb, first finger (index), second, third (ring finger), and fourth (pinky). This description agrees with clarinet fingering charts but does not correspond to piano finger position numbers.

Right-Hand Thumb

The right-hand thumb supports the entire weight of the clarinet when placed underneath the thumb rest. David Pino suggests "that the embouchure

[3] Ibid.

merely keeps it (the clarinet) from falling off of the thumb."[4] The thumb rest is placed between the base of the thumbnail and the first knuckle while the thumb's pad touches the wood. The teacher should assist the student in finding the most comfortable and appropriate positioning within this acceptable range as extreme variations can cause several problems. If the thumb is too far underneath the thumb rest, the right-hand fingers will extend too far past the rings to cover the tone holes on the fleshy pads just behind the fingertips. Students will typically compensate for this problem in two different ways:

1) by collapsing the first knuckle to flatten the first finger joint in order to cover the hole, or
2) by curving the right-hand fingers severely, using only the tips of the fingers to cover the holes.

A less common problem occurs when the right-hand thumb does not extend far enough under the thumb rest. In this case, the thumb may be too weak to adequately support the instrument's weight causing the student to use other fingers incorrectly to hold up the instrument. Also, the right-hand fingers may not be able to entirely reach the holes without distorting hand position or completely straightening the fingers. Lack of coverage always elicits squeaks.

When the student appears to be using correct thumb placement, but the fingers remain unnaturally curved, the teacher should look at the student's

[4] Pino, *The Clarinet and Clarinet Playing,* 66.

finger/hand relationship apart from the clarinet. If long fingers are mismatched to a short thumb, it will be impossible to maintain the correct guide position curve, resulting in frustration and poor performance.

Poor thumb support causes different problems for the clarinetist than poor thumb placement. These problems affect the instrument's pressure upon the reed with the embouchure and are caused by fatigue incurred from holding up the instrument's weight for long periods. They include: 1) incorrect head position and/or instrument angle, 2) inconsistent amounts of mouthpiece placed under the teeth, and 3) weight compensations, such as resting the instrument on the chair or knees. Each problem is addressed below.

Incorrect Head Position/Instrument Angle

When thumb support is absent, the student's head will tilt downward to meet the mouthpiece. As a consequence, the student may hold the instrument outward past forty-five degrees to feel the mouthpiece securely under the teeth. As mentioned in Chapter 1, the head-down/instrument-out position will lessen airflow and obstruct the offset bite needed to play the clarinet properly. Likewise, the tone quality will suffer.

Inconsistent Mouthpiece Amount Under Teeth

Maintaining enough mouthpiece under the teeth will allow the student to produce a fuller, more consistent tone quality. As the thumb gently wedges the mouthpiece under the teeth, one feels a sense of vertical security. This security results from a combination of good head position, strong air column, consistent amount of freely vibrating reed in the mouth, and consistent lip pressure against the reed. Unconscious relaxation of the right thumb, however, may occur until strength and a tonal concept is acquired.

Weight Compensations

Beginner students are usually not capable of holding the instrument correctly with the right thumb for long periods. Hence, when students are not able to take breaks as often as they need--when they play in school band, for instance--they often compensate by holding the instrument in incorrect ways. The most common of these are to wedge the side of the right-hand index finger under the lowest side key or to place the fingers that are not currently in use against or underneath the clarinet for added support. These "solutions" are temporary ones and will cause further problems. The extra "support fingers" will eventually be needed for other fingerings as they arise.

Less obvious, yet still incorrect, compensations are to hold the instrument on top of both knees, between the knees, or resting on either knee. The

relationship between the size of the upper and lower torso will determine how much the student's posture may be affected by resting the clarinet on or between the knees. In both instances, the clarinet bell may be blocked by the knees, which may affect tone quality, volume, projection, and intonation. When resting the instrument on top of either knee, make sure that the bell is in the proper relationship to the head so that the mouthpiece-reed combination exits the embouchure at the correct angle or reed response and tone quality may suffer. Should a student lack the ability to play for moderate durations without incurring bad habits or pain, a neck strap may be a better solution than resting the bell on the knees. There are several wholesale music companies that carry a variety of neck strap brands and styles.

Beginner students are often unaware of the many side effects of a lack of thumb support. By demonstrating the visual, physical, and tonal consequences of insufficient thumb support, the teacher can provide understanding and awareness to discourage possible problems.

Right-Hand Pinky

The right-hand little finger should rest on top of the F/C key during guide position. If a natural curve exists, the pinky will touch the topside of the key closest to the end. Students who approach this key with a straight or locked finger may find that fingers one through three begin to pull away from the holes of the

instrument or they must bend unnaturally to cover the holes. From a vertical perspective, all four fingers should share a similar curve. The right-hand pinky also controls the Ab/Eb key and alternate E/B and F#/C# keys.

Left-Hand Thumb

Unlike the right thumb, the left thumb does not support the weight of the instrument. Its positioning is based on the placement that most efficiently operates the thumbhole, register key, or the combination of both. In order to accomplish this, the thumb should contact both the thumb and register keys at an angle approximating between 1 and 2 on a clock.[5] At this angle, the thumb's pad can completely cover the thumbhole in the chalumeau register while still touching the base of the register key without pressing it open. When the clarion and altissimo registers are used, requiring the register key to be opened, the slight overlap of the thumb's pad allows for immediate use with a minimum of motion. The flexibility of the player's thumb will determine whether motion originates from the first knuckle in the thumb or from the wrist. In either case, as long as the register key opens or closes completely each time and the remaining fingers do not shift off the essential holes, the player can choose the best option for him or herself.

[5] Ibid, 67.

In only one instance, when playing the third line Bb on the treble clef, will the register key be used without the thumbhole. This note is fingered as throat A plus the register key. A small forward rotation of the thumb should allow the register key to be pressed open while allowing air to vent out through the thumbhole. Since the standard fingering for Bb produces resistance and sounds stuffy, the student should be very careful how much of the thumbhole is being covered. If venting is adequate, the student may experiment by adding combinations of right-hand and left-hand fingers, called "resonance fingerings," to further improve the throat Bb. Should no "resonance fingering" significantly improve the sound, the alternate Bb fingering may be substituted whenever possible.

Left-Hand Pinky

The finger pad of the fourth finger of the left-hand should rest on top of the E/B key in guide position. This placement enables easy access to the left-hand keys, standard B and C#, and alternate C. As with the right hand, a straight or locked pinky tends to pull the left-hand fingers away from their respective holes, especially noticeable when playing standard C#, resulting in the production of unwanted high harmonics.

In addition, inexperienced students sometimes unconsciously raise the second and third left-hand fingers out of alignment with the holes in response to

the first finger rolling backward to operate the A key. Always resting the left-hand pinky on the E/B key lessens the degree to which misalignment can occur and improves spacing between fingers, thereby enhancing smooth exchanges over "the break" from throat tones A and Bb to B natural.

Right and Left-Hand Fingers

After proper right-hand thumb position and support have been established, the remaining right-hand fingers will have a greater probability of achieving correct positioning as well. When hanging the right arm at one's side in a relaxed state, the fingers form a natural curve. Sometimes, the weight of the instrument resting on the right thumb causes the remaining fingers to become tense, altering their shape. In this case, the student must try to maintain the natural curve with conscious effort as the fingers are applied to the instrument.

Well-positioned thumbs and pinkies elicit more correct responses from fingers one through three, barring extreme variations in finger size. The role of fingers one through three is to cover corresponding holes with the finger pads just behind the fingertips. The fingers should aim for the center of each hole so that the fleshy pad sinks into and expands around the hole, without the first or second knuckle collapsing upon contact. In the event that a student has a "double-jointed" knuckle that collapses or locks upon impact, slow practice will be required to build strength using new habits.

With proper positioning, no force should be required to completely cover the hole. David Pino, for example, suggests that when playing, it should feel as though a finger is "*falling* into place because of its own *heaviness*."[6] Hence, there is no need to hear a loud, popping sound upon contact as assurance that the hole is being covered as some teachers and band directors advise. While popping keys may make it easier to see and feel finger action, it does not create an efficient, approach to finger technique.

When using the term "finger pad" with a student, the teacher should point out the fleshy part of the student's finger and then demonstrate how to move the finger with consistent finger pad placement. Each person's finger pads may form a point of maximum thickness that is closer or farther from the fingertip than the next person's. A simple method for testing if the holes are centered on the finger pads is to have the student firmly squeeze the fingers against the six rings of the instrument, leaving circular impressions. The teacher can detect inefficient placement, make comparisons between each finger's placement, and emphasize the fingers whose placements are accurate.

In order to maintain clean seals and releases between the finger pads and the tone holes, the student must develop efficient finger motion. Many method books and books on clarinet playing advocate moving each finger from the back knuckle. Any other knuckle used as a pivot point straightens or lengthens the

[6] Ibid., 68.

finger. Using the back knuckle allows the entire finger to move up and down without changing finger shape or disrupting the finger pad's consistent placement over the hole.

It is best when finger motion is taught as early as possible to avoid bad habits that require constant conscious attention to rectify. When executed correctly and with relaxation, a former "popping" noise will become a quiet, sealing "swish," similar to the sound heard when a refrigerator door is gently closed. Analogies of pressing down "marshmallows" or "sponges" assist the student in visualizing the finger motion before applying it to the instrument.

A final consideration beyond finger placement, shape, and motion is the height of the finger motion. Close proximity of the fingers to the holes helps finger technique by improving the probability of complete coverage and minimizes motion making it more efficient and as a result, improves speed. The student can keep the fingers as close to the keys as will still allow proper venting of air through the holes of the affected note. Several texts recommend that the student hold the fingers a distance of three-eighths to one-half inch. Conversely, if the fingers are too close to the keys, affected notes will sound fuzzy, feel resistant to blow, and will be flat in pitch.

The student must train each finger to raise a comfortable distance from the key, moving from the back knuckle until this position feels natural. When one finger maintains close proximity and another does not, playing successive notes

may sound uneven or rhythmically unstable. In addition, if two fingers are required to play a certain pitch simultaneously, the closest finger will reach the hole first, creating an unwanted extra pitch. This extra sound makes the interchange between all intervals of a third or higher sound sloppy.

To reinforce finger proximity to the keys, a musical instrument accessory called the "finger trainer" has been devised. Connecting clips attach long metal rods to the clarinet approximately one inch above the keys to prevent the fingers from rising too high. Although this device is a reminder of excessive finger height, the player can also teach him or herself this concept with conscious effort and perseverance.

The best types of exercises to retrain finger height are slow, slurred melodies that fall in comfortable ranges. Initially, the student should begin with two slurred notes separated by the interval of a major or minor second so that only one finger is required to move. The two-note exercise should also utilize uniform rhythmic patterns. Playing this exercise in extended ranges adds difficulty; possibly uncovering any tension that might affect finger motion. Once each finger has performed the two-note exercise successfully in all ranges, small stepwise fragments can be used, leading up to the performance of scales in extended octaves. Using a metronome will help facilitate even technique at a variety of tempos. The two-note exercise can be played without music; however, appropriate two-note exercises can be found in a variety of method books

including Klosé's *Complete Method for Clarinet or* JeanJean's *Vade-Mecum du Clarinettiste*. In the study of finger technique, the student should practice exercises in successive intervallic order, from seconds to octaves, followed by similar exercises and etudes that isolate each interval pattern being studied.

As Robert Willaman suggests, "The main obstacle to smooth playing is due to varying natural strength and agility of the several fingers and to the differing force required to cover holes and to operate keys of all sizes."[7] The index finger, for instance, is stronger than the pinky finger. In addition, certain keys are naturally more resistant to open. It is important to have one's clarinet adjusted so that key/spring tensions are uniform. However, even in the best instrument conditions, the left-hand third finger encounters little resistance when covering the open hole compared to that of the fourth finger opening the Eb/Ab key. Springs cannot be too weak or the affected key's pad will blow open causing a leak. When a weak finger must operate a more resistant key, unevenness in finger technique may occur in all passages containing the affected note.

Disparities in finger strength, key heights, and resistances are not the only variables that affect precise finger technique. Wide intervals are more difficult to finger than narrow ones because they require more fingers to be operated at once. In addition, intervals whose motion is confined to one hand are simpler than those requiring both hands. This explains some of the difficulty in "crossing the break"

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[7] Willaman, *The Clarinet and Clarinet Playing,* 121.

from throat A to long B. In this slur, the player must start with only one finger and simultaneously shift to nine, using both hands to operate keys of different heights and both open and closed holes coupled with a great change in blowing resistance. The most common suggestion to facilitate crossing the break is to have the student add right hand fingers to the "throat A" fingering in preparation for the change. The student must spend additional time practicing "crossing the break" or any exercise that builds strength in a given finger(s) to minimize uneven intervallic changes.

Scales and Arpeggios

After correct finger motion has been studied and practiced, the next step is to build a "technical vocabulary" by learning scales and arpeggios. By playing scales, muscle memory for scale patterns may be developed and technical flaws revealed. Frederic Thurston states, "Scales and arpeggios are the foundation of finger technique on any instrument, and you must by very patient in practicing them, as they will help you overcome most of the difficulties of clarinet playing."[8]

Playing scales represents a logical step in finger technique because it strings notes together to form longer melodic lines consisting of frequently encountered scale patterns. Certain scales fall comfortably on the clarinet, like F and G major, which may account for composers using them more frequently in

[8] Thurston, *Clarinet Technique,* 19.

solo compositions. Other scales, such as F# and Db major, elicit awkward finger patterns that require significant repetition to learn accurately. Having a student play any scale and its arpeggio over several octaves can reveal deficiencies for a given player such as unevenness or difficulty when changing registers. The goal is to have as equal proficiency as possible in all keys. Through familiarity and practice, scales and arpeggios may become automatically recognized and interpreted in clarinet music on both harmonic and melodic levels.

Robert Willaman, in his book *The Clarinet and Clarinet Playing*, presents an "inventory of the technical armament needed to play the clarinet parts of all music,"[9] outlining a progression of scales and arpeggios for study. They include:

> Chromatic
> Twelve major scales; straight, and in thirds, sixths, and octaves
> Twelve melodic minor scales; straight, and in thirds, sixths, and octaves
> Twelve harmonic minor scales; straight, and in thirds, sixths, and octaves
> Twelve major arpeggios
> Twelve minor arpeggios
> Twelve dominant seventh arpeggios
> Twelve dominant ninth incomplete ("7-7") arpeggios
> Three diminished seventh arpeggios
> Two whole tone scales
> Four arpeggios of augmented chords
> All above patterns in all possible forms-straight, broken, returning, etc.[10]

Willaman's suggested order follows a typical progression found in many method books such as:

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[9] Willaman, *The Clarinet and Clarinet Playing,* 123.

[10] Ibid., 123-4.

Author	Title
Albert, J.B.	24 Varied Scales and Exercises
Baermann, Carl	Complete Celebrated Method, Op. 63 (also sold separately as Divisions 1-3)
Klosé, Hyacinthe	Complete Method for Clarinet
Langenus, Gustave	Complete Method for Clarinet, Parts 1-3
Lazarus, Henry	Method for Clarinet, Parts 1-3
Rubank	Intermediate and Advanced Methods for Clarinet

In addition to the scale and arpeggio configurations presented in method books, the student may also use scales to improve his or her ability to play accurate rhythms by applying a variety of rhythmic patterns and meters to the scales as they perform them. By expanding the student's practice to include variations on each exercise, he or she will be more prepared for the rhythmic diversity found in musical literature.

Good finger placement and motion are the foundation of good finger technique. However, certain passages may call for extraordinary motions or fingering choices. In the event that traditional fingerings are inefficient, or simply not possible, alternate fingerings must be explored. The following section outlines the most common alternate fingerings and their uses with examples from Rose's *Forty Etudes.* For the following fingering descriptions, the words "left-hand and right-hand" will be abbreviated as "LH and RH," and "left and right" as "L and R," respectively.

Alternate Fingerings

1) Fork Fingering

The fork fingering is used in passages that alternate between Bb and B natural in the chalumeau register, F and F# in the clarion register, and D and D# in the altissimo register. The purpose of the fork fingering is to eliminate the possibility of extra notes that may result from a poorly timed exchange between the right hand's first and second fingers. The fork fingering is fingered as LH 1, 2, 3, and RH 1, plus RH finger 3 on what is referred to as the "sliver key," emulating a fork-like shape. Whatever term is chosen for this alternate fingering, the student should mark the music with a symbol that denotes the use of the fork fingering. In the following example, the fork fingering should be used for the note Gb found between two F naturals.

Example 2.1: Rose *Forty Etudes*, No. 30, m. 33.

2) Alternate High Bb: "One and One"

Standard fingering is played with LH fingers 1 and 2, the RH lowest side key, plus thumb and register key. However, when playing a Bb arpeggio or a slur from any RH note to Bb in the clarion register, the alternate fingering of

"one and one" is best employed and is fingered with LH 1 and RH 1, plus the thumb and register key. In the following example, the "one and one" Bb is used twice within the first two beats.

Example 2.2: Rose *Forty Etudes*, No. 33, mm. 22-3.

Another High Bb option is useful when playing trills or in chromatic passages. This option consists of LH fingers 1 and 2, plus LH finger 3 on the left-hand sliver key.

A third and somewhat infrequently used option for high Bb occurs when slurring from clarion F# to Bb. The Bb can be fingered with LH first finger and RH middle finger. All of the above fingering options can also be used for the standard low Eb, Eb arpeggios, and the chromatic scale. Learning an alternate fingering may seem awkward at first, but will become smooth and simple with concentrated practice.

3) Alternate F#, also known as chromatic F#

Chromatic F# is fingered as thumb F plus the two lowest RH side keys. Whenever students alternate between thumb F and first finger F#, they run the risk of a poorly timed exchange resulting in an extra note, open G. This fingering works well in chromatic passages and whenever F and F# alternate. However, the

player should always look at the note which follows this slur as the side F# does not work as well when slurred to intervals above the break. In the following example, alternate F# can be used on the last sixteenth-note of the third beat, but should not be used on the second sixteenth-note of beat four.

Example 2.3: Rose *Forty Etudes*, No. 13, mm. 23-4.

4) Alternate B, C, and C# (also low E, F#, and F without the register key).

Alternate B

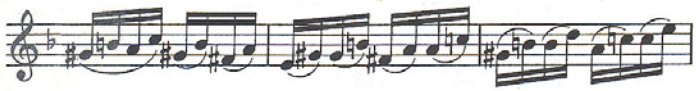
Alternate B is best used in key signatures involving sharps, especially those with three or more sharps. Whenever the scale or passage utilizes an ascending or descending combination of the notes B, C#, and D# in the clarion register, one must use the RH B. Most clarinets have only one fingering for the note D# and two fingerings for each B and C#. Therefore, the way the note D# is approached or followed will dictate which adjacent fingerings must be chosen. Instrument companies are now making models of clarinets such as the Buffet Prestige, Festival, and Vintage, LeBlanc Opus, Yamaha Custom, and Selmer Signature that contain a standard extra D#/Eb key on the left side to equalize fingering options. I would not recommend a purchase of one of these models based exclusively on the extra key. (There are more important considerations when buying a particular clarinet such as the quality of the wood and its bore

design, which affect resistance, intonation, projection, response, and tone quality). If a player's hands are small, he or she may risk the left-hand third finger slipping off of the hole in order to reach the added key. In addition, there are very few passages that might be enhanced with an alternate D#/Eb fingering. Most passages can be done equally well on clarinets without the extra key. The example below illustrates the use of alternate B whose combination with LH C# negates the need for the extra D# key:

Example 2.4: Rose *Forty Etudes*, No. 32, m. 44.

Other comfortable and/or necessary uses of RH B include slurring from throat G# to B, from middle B to upper register G#, or playing the E major arpeggio in its inversions. The example below contains many slurs from throat G# to B for the player to select alternate B.

Example 2.5: Rose *Forty Etudes*, No. 15, mm. 22-5.



A final comment regarding B natural deals with the standard fingering. Most band directors tell their students to leave down the RH C key as the standard fingering when playing LH B to facilitate crossing the break. This works well in the key signatures of C and G major. However, in keys of two or more sharps,

students automatically put down the RH C key with LH B and then slide the right pinky diagonally to play RH C#, as a matter of necessity. The LH B should work without the aid of the RH C key and if not, the student may have a leak in his or her instrument that requires repair.

Alternate C

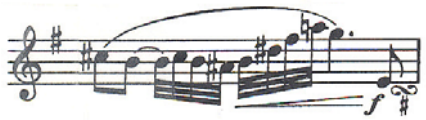
Alternate C (LH) is most frequently used in passages that move to Eb/Ab. Again, the additional key on some clarinets can give the player an option for this exception. Alternate C is also used in combination with the alternate B. In both cases, the objective is to eliminate sliding the pinky between two notes on the same side of the instrument. Sliding is generally unacceptable; however, there are some passages where sliding is the best option. In the following example, sliding the RH pinky between sixteenth notes Eb and C during measure 25, beat two, sets up the subsequent Db and Eb to be played with standard fingerings. However, in the second instance of Eb to C, found on beat one of the following measure, alternate C is a better choice than another slide. The player will repeat this fingering combination again in measures 27-8.

Example 2.6: Rose *Forty Etudes*, No. 9, mm. 25-8, sliding and alternate C.

Alternate C#

RH C# follows LH B or in accordance with any passage where previous alternate fingerings (RH B, LH C) have been used in chromatic order. RH C# feels natural in passages where the surrounding notes are also in the right hand. While the first four notes in the example below can be played L-R-L-R, the note D# should be approached by a LH B. Therefore, for consistency, it would be better to play all B's in this measure on the left and all C#'s on the right.

Example 2.7: Rose *Forty Etudes*, No. 32, m. 8.

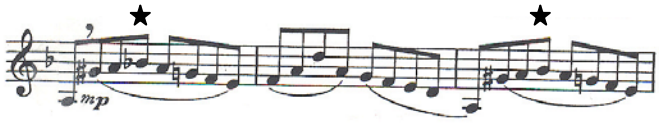


The most important points for the student to remember about the notes B, C, and C# are: to learn standard fingerings first before alternate fingerings and to play B, C, and C# in alternation, L-R-L or R-L-R, using sliding between two notes on the same side of the instrument as an exception.

5) Third line or "throat" Bb

The quality of standard throat Bb may be improved by adding resonance fingerings. Despite this, alternate Bb is inherently clearer. It is fingered like throat A while adding the second RH side key from the top. In measures 61 and 63 in the following example, alternate Bb can be easily substituted for the standard Bb fingering.

Example 2.8: Rose Forty Etudes, No. 7, mm. 61-3.



Alternate Bb is also excellent for A to Bb trills and fast passages that do not cross the break. Some people have large enough hands to move from alternate Bb to a long fingering, like C, over the break; however, such note changes require perfect timing and coverage for success. In addition, if the less resistant alternate Bb follows the more resistant C, the Bb timbre tends to "stick-out." Therefore, the goal is to make seamless connections between notes with regard to finger changes and matching timbres.

The combination of alternate fingerings with standard fingerings offers options for the smoothest connections between notes and gives the player an efficient means to perform a musical phrase without mechanical hindrances. Learning alternate fingerings may seem difficult in the same manner that learning standard fingerings did when lessons began. With practice, alternate fingerings will become automatic and interchangeable solutions to fingering problems.

Fingerings and finger patterns repeat themselves logically in the clarion and chalumeau registers, whereas altissimo fingerings deviate from the established patterns making them more awkward. In order to assist response and correct intonation in the altissimo register, certain keys must be added or subtracted. The most immediately apparent fingering disparity in the altissimo

register is the removal of the LH first finger, which vents the first tone hole, acting like a second register key beginning on all notes beyond thumb C. In addition, on altissimo notes D and higher, the Eb/Ab key should be depressed as a part of the standard fingering position. The Eb/Ab key resonates the tone, raises the pitch, and facilitates the response of altissimo notes. However, certain passages contain note combinations or tempo markings that make using the Eb/Ab key difficult or impossible. Therefore, intonation and fingering accessibility should be the determining factors whether the student chooses to deviate from the standard fingering use of the Eb/Ab key in the altissimo register.

This chapter has been devoted to a multi-layered view of finger technique. The first layer includes correct posture, hand, instrument, and guide positions. Layer two has to do with the placement, shape, and motion of the fingers. The third layer is the application of proper position and motion to a progressive vocabulary of exercises, scales, and arpeggios with careful attention to the use of alternate fingerings for facility and intonation. The final goal is to combine these layers to play musical lines with ease and expressive intent. In the next chapter, I will discuss a variety of processes and styles involved in articulation on the clarinet.

CHAPTER III

ARTICULATION

According to Pino, "Articulation refers to the *manner in which* tonguing assists technique."[1] Tonguing, then, is the most crucial aspect of articulation, which refers to the overall clarity of individual tones. Tonguing separates sounds into discrete entities each with its own onset, duration, decay, and release. Used as a technical term, tonguing also refers to the proper use of the tongue to produce clear and precise initial releases.

One inherent obstacle to the teaching of articulation is that the tongue's action, placement, and shape are not visible to the teacher, making it more difficult to address problems. Students themselves consciously address tonguing when it affects speed and response, particularly when playing in the upper register. That is, they address the problem only when it interferes with their ability to negotiate the notes of a passage in tempo. When proper tonguing is taught early as a process, with a focus on correct tongue and reed placement, and reinforced through repetition, bad habits are less likely to develop.

In my view, the development of a strong tonal concept and embouchure along with good breath support should precede the teaching of articulation.

[1] Pino, *The Clarinet and Clarinet Playing,* 82.

Tonguing alone will not improve a weak embouchure or unpleasant tone quality. A weak embouchure can be further compromised by the tongue's movement inside the mouth. Clarinet playing involves several opposing actions occurring at once. Examples of this are holding the chin flat and immobile while the tongue moves, moving the tongue on and off of the reed while the airstream remains constant–not puffing the air with each articulation, and moving the corners of the mouth in horizontally towards the sides of the mouthpiece while the chin pulls down vertically. Therefore, it is imperative that each concept is introduced in a progressive manner.

Beginning clarinet methods present new pitches, often written as whole, half, or quarter note durations, but often do not provide specific (or sometimes, any) instruction on how to separate individual sounds. The beginner method's initial goal is to learn note names, correlate the correct names with the correct fingerings, and produce the appropriate pitches. If tonguing is mentioned as the means to separate sounds at all, the beginner book will tell the student to touch the reed with the tip of the tongue or to say a syllable such as "ta." While this explanation is not incorrect, it is not specific enough. At this point, then, the teacher has three options.

Option 1: The teacher may start students without a method book temporarily, focusing only on embouchure and the sound production of a few simple long, sustained pitches. Once a solid, consistent tone and embouchure

takes hold, the teacher can explain what the tongue does, how it is used, and then, apply this information to previously learned pitches to create separate sounds.

Option 2: If using a beginner method from the outset, the teacher may ask the student to blow the various pitches and rhythms without using the tongue until embouchure development and sound consistency take hold, and then later, explain and convert them to correct tonguing procedure.

Option 3: The teacher may introduce all of the concepts of note reading, fingerings, sound production, rhythmic values, and tonguing at once as the beginner method indicates.

Of these options, Option 1 has proven, for me, to be the most successful. Note reading and correlative fingerings are the easiest concepts to detect and correct, relying primarily on repetition for memorization. Option 1 exclusively centers on the physical processes that correctly create sound and silence without adding conflicting visual and mental stimuli. Option 2 can also be successful as long as tonguing is isolated and practiced as a process, taught thoroughly by the teacher, and done so early in the student's training. The students will have difficulty switching from an air articulation to a tongue articulation if the former method has become a habit. Option 3, is used most often in large, beginner classes. Although some students will have the natural ability to grasp multiple concepts correctly, many will develop fundamental problems that remain undetected without private instruction and are extremely difficult to change.

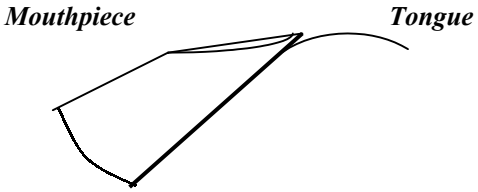
Compartmentalizing individual concepts, such as tonguing, for the beginner and building on them progressively, interrupted only by explanation or needed revisitation of the processes, allows for the creation of checkpoints to help eliminate new problems. Even with the best of intentions, however, misinterpretation can still occur. By enlisting the student's conscious awareness, he or she will begin to correctly execute concepts and acquire muscle memory.

Books written about clarinet playing emphasize the procedure for correct articulation, staccato and other styles, and speed to lesser or greater degrees. Unlike the teaching of embouchure, there are few variations among tonguing methods except those caused by one's physical attributes. Few method books describe correct tonguing procedure beyond the beginner level and have only limited discussions at that. They describe the styles indicated by articulation markings, but rarely describe how the tongue is used to create those effects. The following sections will explain some procedures for developing correct tonguing/releases of sound, articulation styles, and speed.

The Process of Tonguing

The first step in developing a proper tonguing technique is to make sure that the correct part of the tongue contacts the appropriate part of the reed. The top of the tip of the tongue should touch just beneath the tip of the reed as shown in Figure 3.1.

Figure 3.1: Tonguing Contact Points



When teaching this concept, the teacher can have the student place the reed on the top of the tongue's tip *outside* of the mouth, assisting him or her with correct placement, and reinforcing awareness by having the student look in a mirror. Once the student both sees and feels the contact points, the teacher can have the student duplicate this placement with the mouthpiece inserted under the teeth. It is important for the tongue to remain as relaxed as possible during these activities.

A practical application of correct tongue placement is an exercise called the "on and off" exercise, also referred to as stopped or clipped tonguing. The "on and off" method is carefully outlined by Daniel Bonade in *The Clarinetist's Compendium, p. 8:*

> Blow an open G-Hold it and then suddenly stop the tone by putting the tongue on the reed. Keep constant pressure of wind, although no sound comes out of the instrument. Then take your tongue OFF the reed. This will start tone again. Repeat same procedure several times (take breath when necessary) and continue until the tongue moves regularly.[2]

The student may continue this exercise with four to eight repetitions on a single note before changing to the next note. The teacher should also make sure

[2] Daniel Bonade, *The Clarinetist's Compendium* (Wisconsin: LeBlanc Publications, 1962), 8.

that the student isolates registers when practicing so that the upper register is attempted last because it is the most difficult register. When performing the exercise, the student should keep the following points in mind:

1. Keep the embouchure still, independent of the tongue's motion.
2. When removing the tongue from the reed, draw it *slightly* downward and backward, but always maintaining close proximity to the reed. (refer to Figure 3.1). The faster one articulates, the smaller the movement of the tongue becomes.
3. Try to limit motion to the tip and first third of the tongue, operating like a hinge, rather than moving the entire tongue, to simplify tongue movement and to avoid striking or hitting the reed.
4. Remember that the length of time the tongue is off of the reed determines the length of the sound; and conversely, the length of time the tongue stays on the reed determines the length of silence between notes.
5. Maintain a consistently fast airstream when tonguing, even when the tongue is still on the reed, in order to create good tone quality, response, and clarity of articulation.
6. Remember that the speed in which the tongue releases from the reed coupled with air pressure building behind the tongue and reed determines the style and sound of note beginnings.

7. “Think” syllables such as “ta” or “da” to assist in both learning and performing tongue motion and articulation styles.
8. Use slow careful practice to gain security and ensure that the tongue is coordinated with the fingers.
9. Practice often with a mirror to indicate extraneous motion in the embouchure, jaw, and throat and to aid with tongue placement.
10. Remember that articulation quality and speed can only be developed with daily practice.

Frederic Thurston further warns against common tonguing faults:

a) Do not use the very tip of the tongue against the tip of the reed, as it can cause contraction, contortion, and tension in the tongue.
b) Do not strike the reed too far down, or with too large a part of the tongue’s surface for quality sound.
c) Do not tongue without touching the reed at all, either against the lower lip, or against the roof of the mouth.
d) Do not expel or ‘puff’ the breath in short spasms with each note from the diaphragm. It is exhausting, limits speed, and continuously stops necessary airflow.[3]

It may become necessary to alter tongue placement on the reed if one has a particularly long tongue. This situation often leads to a varied procedure known as “anchor tonguing.” During anchor tonguing, the tongue’s tip rests behind the lower teeth while the middle of the tongue touches the reed. While a high degree of sensitivity and speed can be developed using this method, most teachers do not recommend it because it often results in labored and harsh articulation. Anchor

[3] Thurston, *Clarinet Technique,* 27-8.

tonguing should be used to accommodate unusual physical features rather than used spuriously.

Once execution of the "on and off" exercise becomes natural, one may begin to attach note values, beginning with whole notes, then half, quarter, eighth, and sixteenth notes, so as note lengths decrease, silence increases. Through practice, the student will gain ease, control and build a vocabulary of styles.

Styles

Articulation styles are like variations on a theme. The tonguing process remains the same, but is varied slightly to serve musical intent. Style variations are created in three ways: by varying the length of time the tongue is off of the reed, by the speed of the tongue's motion, and by the pressure of the tongue's touch to the reed. These individual factors or any combination of them will generate the spectrum of styles discussed below, ranging from most connected (legato) to the least connected (staccato) articulations as well as various types of note beginnings.

Legato

With *legato* style, there should be no silence between notes; each one connects to the next creating a continuous unbroken sound. *Legato*, of course, is indicated either by short, horizontal lines drawn above each note, by a slur

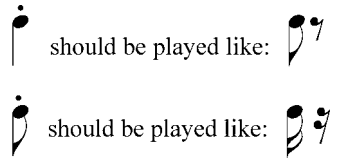
marking over two or more notes, or with the term *legato* written above or below the staff. Slurring is the epitome of legato style because the tongue does not touch the reed beyond the first pitch, while the air and fingers together complete the rest of the slurred passage. By contrast, tonguing requires that the tongue move off and on the reed for every note. Therefore, to tongue in a legato style, the tongue should not stop the reed from vibrating completely, but rather it interrupts the sound by lightly touching the reed and immediately releasing. In contrast to stopped tonguing, legato tonguing occurs primarily off the reed. However, the same embouchure, airstream, tongue placement, and proximity should be maintained. If an articulated legato note is the last one of a given phrase, the tongue will not return to the reed. In this case, a breath release can be used to end the sound.

Staccato

Staccato may be understood as the opposite of *legato* and can mean to play a short, separated, or light note depending on the context. To execute the staccato articulation, the tongue starts on the reed with constant air pressure behind it. After the tongue releases from the reed, it returns to the reed immediately. While the chief written indicator of staccato is a dot above or below the note head, musical style and tempo markings can sometimes imply staccato

even in the absence of such a marking. Many clarinet methods will explain staccato length as follows:

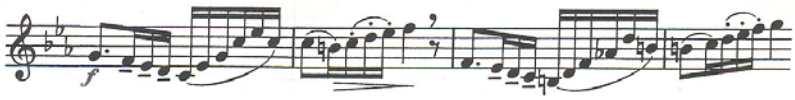
Figure 3.2:



The interpretation of staccato is affected by tempo, type of musical work, and stylistic intent of the composer as understood by the performer. The speed at which the tongue returns to the reed and the stability of the airstream behind the tongue determines the length of the staccato. Therefore, a variety of staccato styles are possible. Considering slurring as the smoothest type of articulation and stopped staccato as the opposite extreme, a range of separated durations can be identified:

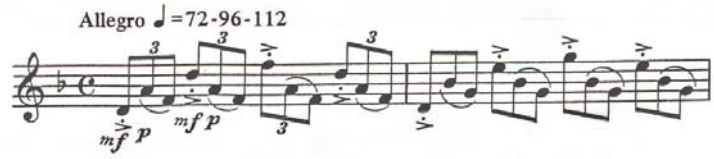
a) *Legato staccato*: written with a dot and line above the note or as a staccato note underneath a slur as in Ex. 3.1. Notes are played long with a slight separation. Some players create separation by leaving the tongue on the reed for a split second in between notes while others tongue note beginnings with an additional exit of air at note ends, maintaining a baseline level of air speed rather than stopping the airflow altogether. The syllables, "tah" or "tuh," reflect this approach. This style is heard most often in slow, emphatic music.

Example 3.1: Rose *Forty Etudes*, No. 21, mm. 21-4.



b) *Medium-length stopped staccato*: one degree shorter than *legato staccato* but not yet considered short. Proportions of sound to silence may be two-thirds to one-third, therefore, the tongue will return to the reed more quickly than *legato-staccato*, resting on the reed slightly longer. Dots may or may not appear above the notes. This style occurs at moderate tempos as in Ex. 3.2.

Example 3. 2: Rose *Forty Etudes*, No. 5, mm. 1-2.



c) *staccato*: short or separated with the tongue creating silence by stopping the reed at an equal proportion to the sound in all tempos slower than *Allegro Vivace.* Example 3.3 provides an example of this type of articulation.

Example 3.3: Rose *Forty Etudes*, No. 16, mm. 1-2.

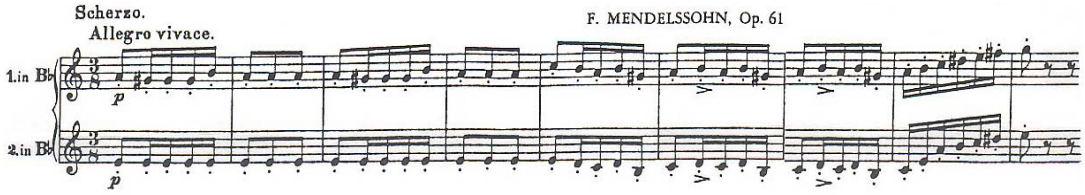
At fast tempos involving four or six sixteenth-note groups, as in Ex. 3.4, staccato notes are often too fast or too light for the tongue to be left on the reed long enough to fully stop it. Therefore, the tongue only touches the reed once per note and each new touch of the reed is both the end of the previous note as well as

the beginning of the next one. In essence, tonguing this way is identical to legato tonguing, except the speed of note repetitions caused by the fast tempo completely negates the need for further shortening of note values.

Example 3.4: Rose *Forty Etudes*, No. 11, mm. 1-2.

Confusion may arise over whether to use stopped staccato or non-stopped staccato when tempos occur at the "breaking speed" as in Ex. 3.5. "Breaking Speed" is the speed at which either style could be implemented equally well. Each player's breaking speed is based upon his or her capabilities. Therefore, the choice of staccato must be based upon the technique that best serves musical style while taking into account the player's limitations. The following example illustrates a combination of both stopped (tongue remains on reed) and non-stopped (tongue ends up off reed) staccato styles. In this case, all of the eighth notes would be stopped tongued, while all the sixteenth notes would not.

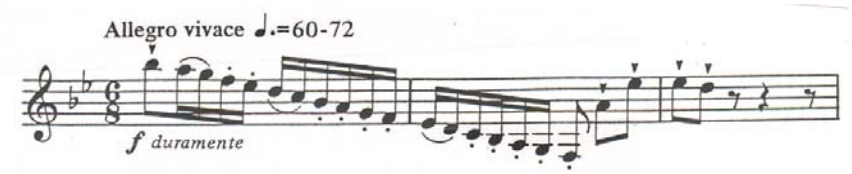
Example 3.5: Excerpt from Mendelssohn's *Midsummer Night's Dream Scherzo*[4]



[4] Robert McGinnis, *Orchestral Excerpts from the Symphonic Repertoire for Clarinet,* vol. 2, 34.

c) *Staccatissimo*: the most extreme degree of staccato displays a proportion of silence that is greater than the sound value. Consider Ex. 3.6. In playing this excerpt, the tongue barely leaves the reed and instantly returns. Accented versions of this extremely short style are accomplished through increased air pressure, which builds behind the tongue and bursts forward upon the tongue's release.

Example 3.6: Rose *Forty Etudes*, No. 23, mm. 1-3.



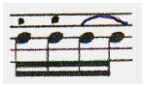
When the tempo of a given work becomes too fast for an individual's best single-tonguing (tongue touches the reed once per note), the clarinetist is faced with two options: adding slurs to create faster combination tonguing or if able, employing multiple tonguing.

Articulation: Combination Tonguing

While some clarinet studies isolate *legato* and *staccato* exercises, music itself generally combines a variety of styles and note lengths. In this treatise, I will use the term *combination articulation* when referring to a mixture of both slurring and tonguing, in various groupings such as:

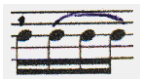
Figure 3.3:

Slur 2, tongue 2



Tongue 2, slur 2

Slur 3, tongue 1



Tongue 1, slur 3

Tongue 1, slur 2, tongue 1

After tonguing the first note of a slur, style and tempo will determine when and how quickly the tongue should return to the reed. When the last note of a given slur precedes a staccato note or in syncopated slurred groupings, one should clip or shorten the last note of the slur. This action serves to create a clean sound and the silence created by the tongue resting on the reed allows time to prepare the finger(s) for the upcoming note change. Practicing the technique of "prepared fingering" (finger(s) move during the silence between notes) carefully at slow to medium tempos will assist in the synchronization of tongue and fingers at fast tempos.[5]

Many varieties of articulations can be employed within a phrase. Advanced clarinetists have the skills to perform and recognize various styles, and may interpret articulation marks according to their own understanding of music. Over time, an individual's responses may become more natural and fluid. When playing in an ensemble, the clarinetist must choose articulation lengths that match

[5] Bonade, *The Clarinetist's Compendium,* 9-10.

those of the other performers. It is easier to teach the different styles than it is to teach good judgment about when to employ them. Daniel Bonade, in *The Clarinetist's Compendium, pp. 3-4, 10-12,* suggests some basic rules, applicable excerpts, and studies to help improve one's skill and interpretation of articulation.

Developing Speed and Multiple Tonguing

Fast tongue speed is a technique that often plagues clarinetists. Some students start off with a natural, effortless articulation while others struggle. It is possible to achieve great speed despite improper placement; however, the quality of articulation will suffer.

The development of fast single tonguing should precede the development of multiple tonguing. Single tonguing refers to one contact with the reed for each note while multiple tonguing is executed by a combination of strokes: the first, for example, may touch the reed and the next the roof of the mouth. By having two separate places of contact rather than one, the player can tongue repeated notes in tempos that surpass his or her single tonguing ability. When multiple tongue strokes are grouped in two or three-note combinations, the techniques are referred to as double-tonguing and triple tonguing, respectively.

Deterrents to learning multiple tonguing on the clarinet are:

1) blowing resistance
2) mouthpiece placement inside the mouth as opposed to against the mouth as with brass instruments or flute and
3) lack of uniform quality of articulation.

Blowing resistance, sometimes referred to as "back pressure," is greater on the clarinet than the flute, saxophone, and bassoon due to the cylindrical bore of the clarinet coupled with the mouthpiece/reed combination and its comparatively small tip opening. Finding a level of blowing resistance that provides comfortable response and flexible tone quality is a challenge. Articulation with the tongue interrupting and stopping the reed separates the tone into distinct pieces. When resistance is too great, articulation may become difficult and labored.

Some of the best explanations for the teaching of double tonguing are seen in brass and flute method books, as double tonguing is an advanced, necessary articulation style on these instruments. Irving Bush suggests that double-tonguing passages can be articulated "tu-ku-tu-ku" or "ku-tu-ku-tu" in his text, *Artistic Trumpet Technique and Study,* and that both ways should be practiced to accommodate specific musical passages.[6] In addition, he mentions four points that hold true for all instruments when learning double-tonguing: 1) the air stream

[6] Irving R. Bush, *Artistic Trumpet Techniques and Study* (California: Highland Music Co., 1962), 64.

should remain constant, 2) the two varied syllables should match accurately at a slow tempo before striving for increased speed, 3) the fingers must be perfectly synchronized with the tongue for clean technique, and 4) daily practice is required for the retention of proficient double-tonguing.[7] Other acceptable double-tonguing syllables might be "da-ga" or "ta-ka."

When double-tonguing on the clarinet, the first stroke (referred to here as the syllable, tu) will touch the reed and the second will touch the roof of the mouth (referred to as the syllable, "ku"). The "ku" articulation is more hindered by blowing resistance than the "tu" syllable. The inconsistency in resistance is frustrating, and the student may abandon practicing double-tonguing before reaching the point where comfort resides. The clarinet mouthpiece inside the mouth creates a vehicle of blowing resistance and takes up much of the physical space that could more easily accommodate the "ku" syllable. As a result, uneven articulation and unmatched articulation quality are possible outcomes of underdeveloped multiple tonguing attempts. Triple tonguing entails a combination of three syllables; two that touch the reed and a third that touches the roof of the mouth. Triple tonguing is rarely used on the clarinet since the majority of articulated passages are accessible with fast single or double-tonguing. Highly evolved double tonguing is undeniably impressive and cannot be duplicated by single tonguing.

[7] Ibid., 64-5.

Several books, such as David Pino's *The Clarinet and Clarinet Playing* or Keith Stein's *The Art of Clarinet Playing*, provide detailed explanations, exercises, excerpts, or etudes where double and triple tonguing could be best implemented. Most commonly, these techniques are seen in clarinet concertos, virtuoso literature or new music ensemble literature from the twentieth and twenty-first centuries. For the purposes of discussing Rose's *Forty Etudes*, multiple tonguing is not a necessary tool. What is required is an efficient, clean, light single articulation that can accommodate moderate to challenging speeds, which have clearly indicated tempo markings.

Suggestions for the Development of Fast Single Tonguing

There has been little written about how to develop fast single tonguing. Teachers may give exercises to their students to help them develop this skill, but there is no certain prescription for success except practice and perseverance.

Some people are naturally gifted with regard to their ability to produce fast articulation. This should not be taken to mean that a matching level of skill cannot be developed through practice or that naturally gifted players do not need to practice articulation. In either case, rapid proficient tonguing has several features in common:

a) Relaxed execution
b) Fast air stream
c) Appropriate reed/mouthpiece resistance
d) Correct Placement
e) Close proximity to the reed
f) Daily maintenance

Tension in any part of the tongue, throat, or jaw reveals itself through decreased speed or poor articulation quality. Likewise, a slow air stream will not provide the propulsion needed for speed and clarity, thereby creating tension. As previously mentioned, blowing resistance will impede both relaxation and air stream. Excessive energy will be required to simply produce sound making articulation labored.

While correct placement on the reed will not ensure that the tongue will move faster, it will give the student the best chance to tongue more quickly by enhancing efficiency. Maintaining close tongue proximity to the reed is paramount to achieving speed. When the distance from which the tongue leaves the reed is small and consistent, travel time is not wasted between tongue strokes. However, to make small regular movements feel natural, relaxed and perfectly synchronized with changing fingerings, daily practice is imperative.

A Suggested Exercise

Begin with quarter note repetitions on a single pitch with a metronome at quarter note=60, later followed by eighth notes, triplets, and sixteenth-note groups. Once all rhythms can be executed evenly and with relaxation, proceed to

the next metronome marking and repeat. If the fastest value, sixteenth notes, cannot be well executed at the current metronome marking, do not increase speed because the slower values are accurate. After this initial practice containing repetitions of a single note, begin to practice memorized scales in the four rhythmic values with the current metronome markings. This helps ensure automatic note recognition, tongue-finger coordination, and keeps the focus on tongue speed.

At the end of each practice session, perform an articulation etude containing triplets or sixteenth-note values, such as Rose *Forty Etudes No. 22,* at the metronome markings covered that day. Finish your practice session with an articulation excerpt from band or orchestral literature at your day's range of speeds. To chronically practice speed within the context of the actual excerpt to be performed can cause frustration and tension. By practicing tongue speed as an individual skill and later applying it to the item for performance, your awareness will be focused on that skill's development rather than a psychological battle with a particular excerpt.

While there are a wide variety of exercises that can assist in the development of tongue speed, the most important point is to practice consistently, progressively, and with clearly defined goals. On the following page is a brief list of resources that contain sections designated for articulation study.

Carl Baermann	Method for the Clarinet, Third Division
David Hite	Melodious and Progressive Studies, Book 2
Paul JeanJean	Vade-Mecum du Clarinettiste
Reginald Kell	17 Staccato Studies
Rubank	Advanced Method for Clarinet, Books 1 and 2
Leon Russianoff	Clarinet Method, Book II, Lessons 15 and 18
Robert Stark	Daily Staccato Exercises

Although not specifically designated as above, many etudes from David Hite's, *Artistic Studies from the French School* containing Rose 40, 32, and 9 etudes; Klosé *Universal Method for Clarinet*, Cavallini *Thirty Caprices*, Frederick Thurston *Passage Studies, Books 1 and 2*, J.S. Bach *Quinze Etudes,* and orchestral excerpts are excellent materials for the development of articulation.

CHAPTER IV

RHYTHM AND PHRASING

The fundamentals of rhythm and phrasing have been coupled here in Chapter four due to the close relationship they share. Perhaps the most accessible aspect of rhythm is the sense of pulse it conveys. Pulse is a regular recurring event. Beats, on the other hand, are accented or unaccented events within metrical groupings. In the following section, I will focus on beats within metrical grouping at the measure level as well as beats and rhythm within larger grouping including complete phrases, sections, and pieces.

Basic Rhythm Fundamentals

One of the most difficult things for musicians at all levels to do is to keep a steady beat, especially when performing difficult rhythms. Rhythms cannot be accurately executed nor the beat properly divided when the primary pulse fluctuates widely *without musical justification.* Many musicians find practicing with a metronome to be a useful activity. For young students, foot and toe tapping, hand clapping, or drumming may also be employed to help the student make a physical connection with the beat, which hopefully over time, will become internalized. Once the primary beat is solidified, the student may have an easier time breaking the beat down into its smaller subdivisions, a skill frequently

required in the slow etudes of Rose's *Forty Etudes.* Leon Russianoff notes that "use of the metronome; however, does not guarantee consistent evenness: while the principal beats may match the evenly spaced metronome ticks, the intervening (weak-beat) notes may still be uneven."[1] A metronome that has subdivision functions can circumvent inaccuracies in beat placement and help students better perform designated rhythms as they practice. Where advanced rhythm skills are concerned, the student may encounter a variety of changing meters in musical literature; the *Forty Etudes,* however, do not exceed basic duple and triple meters or time signatures.

Keeping a steady beat, of course, also relates to tempo. Rhythmic precision must not be altered by musical expression; that is, even though the tempo may change, rhythms must continue to be rendered accurately. A common adage stated by band directors is that "soft does not equal slow nor does loud equal fast." It is for this reason that practicing with a metronome is invaluable at all levels of proficiency to keep the pulse consistent while employing dynamics and other nuances. Should an advanced player decide to take artistic liberties with tempo, he or she may do so by judiciously "taking time" from the preceding or subsequent beats and making up time elsewhere, always in a controlled manner and without sacrificing musicality. This skill, referred to as rubato, cannot be performed successfully or intentionally without an innate understanding of the

[1] Russianoff, *Clarinet Method, bk.1,* 56.

basic pulse. David Pino agrees that one should take a moderate approach to rubato, noting that the successful performer "neither disorients his listeners with an excessive use of ritards, nor fails to please or thrill them with an occasional well-placed and well-executed one," and as a result, the "music must never lose its flow and direction."[2]

Like the development of any other skill, musical concepts build upon each other from simple to complex. Significant time must be spent on single concepts, such as note values, and later reviewed, until mastery is attained. Some helpful methods in the study of basic rhythm skills include:

Pasquale Bona	*Rhythmic Articulation*
Anne Carothers Hall	*Studying Rhythm*
Daniel Kazez	*Rhythm Reading: Elementary Through Advanced Training*
Daniel Kazez	*The Rhythm Book*
Robert Starer	*Rhythmic Training*
Larry Teal	*Studies in Time Division*

Advanced rhythm skills are required when the music contains complex rhythm patterns, shifts in tempo, meter, pulse, grouping, articulation, accents, dynamics, or any combination of the above. All of these attributes play a role in determining how the player executes a given phrase. Phrases constitute a rhythmic unit at a higher level. It is important to render phrases in a way that remains sensitive to the structure of the composition as a whole. Hence, individual rhythms at the measure level must not only be performed accurately, but in a way that takes into account the overall shape of the phrase in relation to

[2] Pino, *The Clarinet and Clarinet Playing,* 108.

the piece in general. For example, similar phrases and rhythms should be performed in a similar way--or at least in a way that allows them to be recognized as similar ideas.

For these and other reasons, phrasing can be a difficult concept to teach to a young player whose musical understanding or performance skills may be limited, especially when the phrases themselves are ambiguous or fail to follow patterns the student can easily recognize. When asked how a phrase should be played, for instance, students in secondary school often respond by pointing out places to get louder or softer, as if using dynamic contrast is equivalent to or constitutes good phrasing. It is often true that the climax of a phrase should be emphasized and phrase ends should taper gradually. Dynamics, however, are a means for expressing a phrase, not a formula for recognizing them.

William Stubbins states that the phrase or "musical 'idea,' is not an intellectual nor a reasoned evaluation of philosophical thought, but rather an appeal to the feelings of the listener, and a motivation of a mood and an emotional response created by the sound patterns and the designs presented to his aural sense."[3] Stubbins' statement implies that a musical phrase must not only be performed accurately, but artistically. If students get caught up in the mechanical aspects of performing music, their music may sound machine-like and uninspired.

[3] Stubbins, *The Art of Clarinetistry,* 299.

Stubbins elaborates on the flexible boundaries between "thinking" and "feeling" in musical presentation in his text, *The Art of Clarinetistry*, p. 300:

> The form of this musical idea must be accomplished in presentation by the use of the technical data concerning its manufacture and its transmission which is vital to any initiation of 'feeling' for the listener. But beyond this technical presentation, and due to the nature of the art, the subtleties of such presentation, based on the technical aspects as they may be, are nevertheless subject to an infinite variety of practices of performance.[4]

Considering the many expressive possibilities that can be considered acceptable in performing even a single musical phrase, executing phrases with both precision and taste can be extremely difficult indeed. This discussion suggests that both intellectual and intuitive knowledge is important to the acquisition of the skills necessary to perform phrases effectively. Perhaps, then, a more moderate path may be taken, one that combines 'tangible concepts' derived intellectually with the "intangible," human qualities associated with intuition. Such an approach can allow the student to render phrases with conviction based on careful, informed reflection without sacrificing either accuracy or emotional content.

"Phrase" and "Phrasing"

This discussion suggests that much of what we know about phrasing may be intuitively felt without being put into words. Indeed, it is difficult to define

[4] Ibid., 299-300.

just exactly what a phrase does consist of. Hence, there is no universal definition for "phrase" or "phrasing" that captures all of the aspects that are involved in helping one perform a given phrase successfully. There are, however, certain recurrent features.

William Nathaniel Rothstein quotes two definitions in his book, *Phrase Rhythm in Tonal Music*. The first definition contains two quotes by Roger Sessions from his book, *The Musical Experience of Composer, Performer, and Listener*: "What for instance, is a so-called 'musical phrase' if not the portion of music that must be performed, so to speak, without letting go, or, figuratively, in a single breath?" More directly, he continues, "The phrase is a constant movement toward the goal-the cadence."[5]

The second definition by Peter Westergaard in his text, *An Introduction to Music Theory,* focuses on the structural attributes of a phrase. A phrase:

1) establishes one set of pitches and then
2) moves to a second set of pitches in such a way that:
    a. we expect those pitches
    b. we have some sense of when they are about to occur, and
    c. once they have occurred we know the phrase has gotten where it's going and that no further pitches are needed to complete that phrase.[6]

Rothstein continues to compare these two definitions, separating them by their emphasis on two phrase attributes: a) rhythm (Sessions) and b) tonality

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[5] William Nathaniel Rothstein, *Phrase Rhythm in Tonal Music* (New York: Schirmer Books, 1989), 3-4.

[6] Ibid., 4.

(Westergaard). As a result, Rothstein merges two crucial aspects of phrase organization into a definition of his own by stating: "A phrase should be understood as, among other things, a directed motion in time from one tonal entity to another; these entities may be harmonies, melodic tones (in any voice or voices), or some combination of the two. *If there is no tonal motion, there is no phrase."*[7] Still, a few other aspects of phrases are universal and require mention. Phrases:

1. may or may not correlate to a set number of measures; the melodic, harmonic, and rhythmic aspects of a passage determine this.
2. tend to contain a moment of "climax" or "maximum intensity" that is accomplished through a variety of means, such as:
    a. being the highest note in a melodic line
    b. being the loudest point in the music
    c. being the moment of tension that requires melodic/harmonic resolution at the cadence
    d. being the moment of rhythmic intensity that reinforces harmonic goals.

It may be important to keep in mind and/or reference the definitions of rhythmic, melodic, and harmonic terms from Appendix I, as we now take a look at how they function within the Rose *Forty Etudes.*

[7] Ibid., 5.

As Leonard Meyer indicates:

The delineation of musical patterns is the result of the relationships within and among a number of factors-namely:

1) the presence of similarity and difference between successive events within a particular parameter. Both complete and uniformity and total heterogeneity preclude syntactic organization, and hence establish no stability-instability relationships;
2) the separation of one event from another in time, pitch, or both; or through clear differences in dynamics, timbre, or texture;
3) immediate repetition, whether varied or exact, of part or all of a pattern;
4) the completion of previously generated implications;
5) harmonic cadence and tonal stability.[8]

The factors mentioned above; movement towards a goal, cadences, melodic/harmonic implication and expectation, climax, resolution, and rhythmic reinforcement all occur within what we call a "phrase," but also within larger structures and "forms." One's knowledge of different musical forms, then, may assist him or her in detecting predictable patterns among phrases, and this, in turn, may help phrases become more easily rendered in performance.

Relationships Among Phrases

It may seem absurd to compare the formal structure of a large work, such as a four-movement symphony to etudes, such as those found in Rose's *Forty Studies*. There is certainly no comparison in terms of overall length. I would argue, however, that the same patterns emerge in these etudes as in many types of

[8] Leonard B. Meyer, *Explaining Music, Essays and Explorations* (Los Angeles: University of California Press, 1973), 83.

larger works. Both consist of phrases working within a large-scale goal-directed structure. As authors, Peter Spencer and Peter M. Temko note in their text, *A Practical Approach to the Study of Form in Music,* "Structural phenomena [phrases, sections and the like] are cues, perceived both aurally and visually, that allow the larger structure to be understood in smaller sections. These phenomena are associated with the following common musical elements: *cadence, tonality, tempo, meter, rhythm, dynamics, density, timbre, register, texture,* and *motive."*[9] Such criteria are as important to small works as they are to large works.

One of the most important aspects of phrase organization is cadence. Spencer and Temko refer to both the tangible and intangible qualities of cadence that qualify it as a "structural phenomenon."

> **Cadence** is understood as a *point of relative cessation of musical activity.* Such cessation of activity may signal the reaching of an important harmonic or melodic goal, or it may simply represent a relaxation of rhythmic activity. In some context, one of these components may be more significant than others. For purposes of formal perception, however, the *sensation* of the music's having reached a point of cadence is more important than the identification of the components that produce the cadence. It is that sensation that produces a *structural phenomenon.*[10]

Phrases reach their temporal goals by means of a cadence, which is, in turn, expressed by some combination of harmonic, melodic, and/or rhythmic arrival. When a phrase "cadences" on a chord that is the dominant chord (V) for the given key, it provides a temporary pause in musical activity that requires

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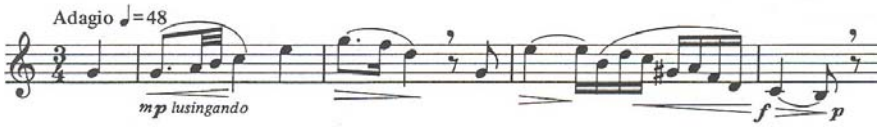
[9] Peter Spencer and Peter M. Temko, *A Practical Approach to the Study of Form in Music* (New Jersey: Prentice-Hall, Inc., 1988), 1.

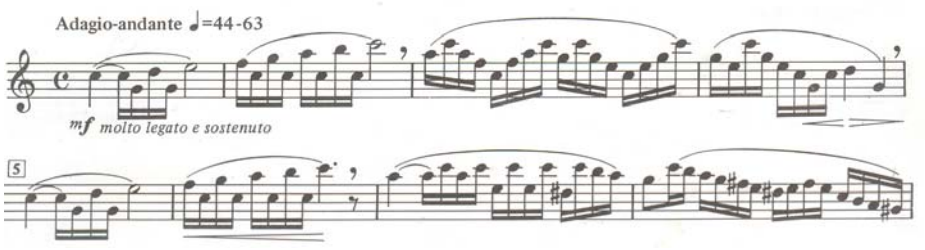
continuation. The music, undoubtedly, cannot end at this point. A cadence of this type is typically referred to as a "half cadence." Such a phrase is "left hanging" so to speak and is often referred to as an "antecedent phrase."

Example 4.1: Rose *Forty Etudes*, No. 34, mm. 1-4, antecedent phrase ending in a half cadence.



The phrase that follows an antecedent phrase is typically called the consequent phrase. The consequent phrase functions like a response to a question and provides completion. Its cadence communicates a strong sense of finality due to the return of the tonic (I). There are several names for this type of cadence, such as perfect, perfect authentic, full, or terminal cadence. Two phrases that share an antecedent-consequent relationship, reinforced by half and terminal cadences form a larger structure called a *period.* In the event that the two phrases are equal in length, they are said to be symmetrical. If the phrases utilize the exact same melodic material, they are said to be parallel.

Example 4.2: Rose *Forty Etudes*, No. 1, mm. 1-8, illustrates a parallel period.



[10] Ibid., 2.

Phrases and sections combine to form larger and larger sections arranged hierarchically. In some cases, phrases form structures that do not conform to the periodic antecedent/consequent type described above. The cadences in these "phrase groups" typically do not resolve in the usual manner. To create clarity among a series of phrases with inconclusive cadences, one must begin to look at additional contextual factors other than cadences, rhythm, harmony, and melodic content, for example, to determine how the piece progresses towards its final resolution. In fact, musical phrases in Rose's *Forty Etudes* tend to be organized mainly in terms of their rhythmic, harmonic, and melodic content rather than antecedent/consequent constructions. Thus, cadential progressions tend to be avoided until the end of the work. I will address this issue in greater detail later in this chapter.

For the most part, the larger forms in Rose's *Forty Etudes* contain three and less frequently, two large sections. Etudes 9, 13, 18, and 25 are examples of a two-part or "binary" structure where there are two distinct sections delineated either by decisive key changes, fermatas, or by the introduction of a contrasting secondary theme that incorporates previous rhythmic or melodic material. The original theme in these cases does not recur and/or there is no significant change of key.

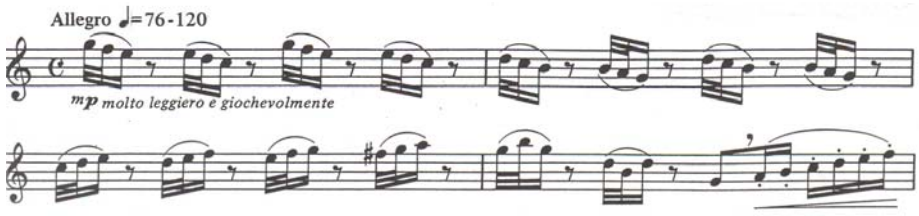
Three-part or "ternary" forms are used in over half of the etudes. In these etudes, the principal or "A" section has been devoted to the statement of an

important opening motive or theme in the tonic key. Several phrases then follow, containing elements of the opening theme. These move harmonically towards another key, which is usually, but not always, the dominant (V). The middle or "B" section either introduces a subordinate theme, develops the principal theme in a closely related key (such as the relative or parallel minor), or travels through a variety of tonal areas. Finally, the original "A" section returns in tonic with the same theme or motive, but in a slightly altered or elaborated fashion. Sometimes the return of the principal theme is extremely brief, appearing in the last few lines of the etude or occurs much earlier and is developed even further, bringing back fragments of both A and B themes. Sometimes, the returning "A" section is extended harmonically through a "quasi-coda." While the cadential and phrase structures often do not follow the harmonic prescription typically seen in sonata form, these etudes do demonstrate certain elements of exposition, development, transition, and recapitulation in an abbreviated way. Although the three sections (A-B-A) tend to be unbalanced in length, they are clearly separated by changes in tonality and are unified by rhythmic, harmonic, and melodic motivic elements. As these observations indicate, Rose's *Forty Etudes* are quite typical in terms of their style and form.

Motive

While cadences provide closure, motives often emerge which unify melodic material within phrases and sections. As Douglass Green has observed, "The motive is a short melodic fragment used as a constructional element" and is "characterized by its melodic contour, with its harmonic implication, and by its rhythm."[11] Not every short fragment of music functions as a motive. Only those fragments that recur in either original or transposed form take on the characteristics of a motive. Melodies can be constructed from as few as one motive, but generally, two or more motives, reinforced through repetition and sequence.[12]

Example 4.3: Rose *Forty Etudes*, No. 10, mm. 1-4, illustrates the use of a unifying rhythmic/melodic motive. Repetition and sequence are also used, but alterations tend to coincide with harmonic change.



Motives can also be varied by means other than repetition and sequence and still retain their identity or melodic impact. When one element, such as rhythm, remains unchanged, alterations to the melody--ornamentation or

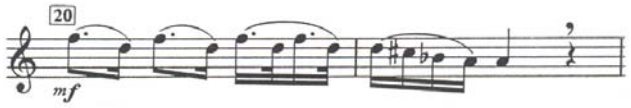
[11] Douglass M. Green, *Form in Tonal Music, An Introduction to Analysis* (New York: Holt, Rinehart, and Winston, 1965), 31.

[12] Ibid., 31-2.

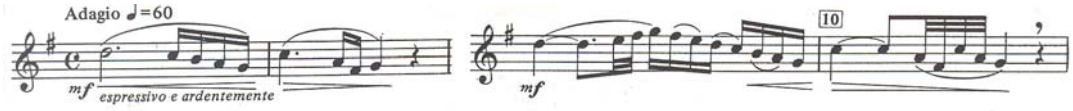
inversion of intervals, for example--may be employed. Conversely, when a motive's melodic content remains unchanged but the rhythm is either twice as slow or twice as fast, the motive, though altered, will still be recognizable. Douglass Green summarizes three principal methods by which motives may be varied: "1) Change of intervals with retention of rhythm (intervallic, inversion), 2) Change of rhythm with retention of intervals (augmentation, diminution), and 3) Ornamentation of the motive."[13] Some examples from Rose's *Forty Etudes* that correspond to Green's motivic variations occur in the following examples.

Example 4.4: Rose *Forty Etudes*, No. 11, mm. 36-9, "Changes of intervals with retention of rhythm."

Example 4.5: Rose *Forty Etudes*, No. 24, mm. 20-1, "Changes of rhythm with retention of intervals."



Example 4.6: Rose *Forty Etudes*, No. 18; comparing mm. 1-2 to mm. 9-10 shows how the use of shorter rhythmic values affords the addition of passing/neighboring tone that embellish the opening motive.



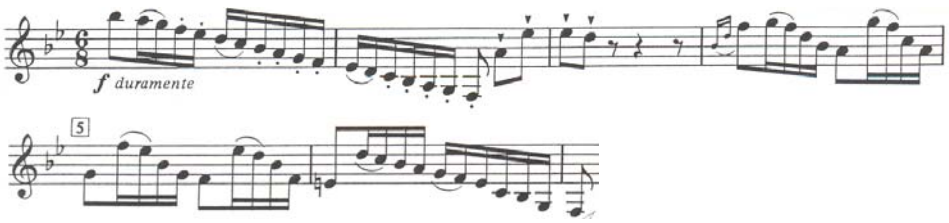
[13] Ibid., 35

Motives can be melodic, rhythmic, harmonic, or some combinations of any or all of these as the following examples demonstrate.

Example 4.7: Rose *Forty Etudes*, No. 22 measures 1-2, shows the use of a "melodic motive."

While the constant use of sixteenth notes propels the music forward in Ex. 4.7, the rising/falling fragments followed by single, repeated notes constitutes the principal melodic motive in this passage. The ascending and descending fragments in this case carry a harmonic function by outlining the implied chord progression. However, the alternation of chord members and passing tones on beats one and three would not create a motive by themselves without the single, repeated pitches. The number of repeated pitches varies within the first four measures, ranging from five to seven in a row, depending on the speed of harmonic change. However, four-sixteenths seem to be the most important grouping, remaining intact even through the development section, mm. 15-25.

Example 4.8: Rose *Forty Etudes*, No. 23, mm. 1-6, illustrates how a rhythmic motive provides cohesion among phrases.



The rhythm consisting of an eighth followed by four-sixteenths on beat one of the first measure becomes the central figure in this phrase as well as throughout the etude. While there are at least two other important rhythmic figures that occur in Etude no. 23, this initial rhythmic fragment becomes the "building block" for all other deviations. Reversing the figure to four-sixteenths followed by an eighth provides another means for expanding on this motive.

Example 4.9: Rose *Forty Etudes*, No. 36, mm. 1-4, show the use of a "harmonic motive."

Measures 1 and 3 of Ex. 4.9 outline C and G chords respectively. This eighth-note figure, then, constitutes what may be thought of as a harmonic motive. The harmonic motive outlines a variety of chords and always occurs in measures 1 and 3 of each four-bar phrase. Rhythm also contributes to the motivic construction here. That is, the harmonic pitches emerge as a motive because they are always presented with the same rhythm, in this case, a series of eighth notes.

Rhythm, harmony, and melody are all important in creating motives. Motives, in turn, form a fundamental building block for musical phrases and sections. Because there is no accompanying instrument to provide harmonic, rhythmic, or melodic interest, Rose's melodies fuse all three of these components into a single line. In some cases, where etudes contain no rhythmic change, only two components emerge. The melody becomes an arpeggiation of the harmony,

solely dependent on the speed of harmonic change and cadences to give phrases direction. These etudes tend to be technically oriented. Therefore, the use of rhythm, harmony, and melody will determine the character of a given etude, how phrases are to be performed, and as I will discuss in Chapter 5, which clarinet fundamentals are important to the successful execution of the etude.

In summary, to perform rhythms and phrases successfully, the student should keep in mind that rhythms and phrases go hand in hand. Phrase beginnings, for example, merely constitute downbeats at larger levels in a passage. In addition, rhythm, and especially phrasing, cannot be performed successfully without taking into consideration other aspects of the musical context including harmony, melody, cadence, repetition, texture, and motive. To perform rhythms and phrases correctly, then, one must attend to many of the fundamentals I have been discussing in this treatise in addition to rhythm alone. In Chapter 5, I will discuss how the five fundamentals (tone quality, finger technique, articulation, rhythm, and phrasing), central to this treatise, interact in Rose's *Forty Etudes,* and suggest a possible reordering of the etudes that takes these fundamentals into account.

CHAPTER V

FORTY ETUDES BY ROSE

Preface and Purpose

In the genre of clarinet method/etude book literature, the *Forty Etudes* is a principal mainstay. In terms of Rose's "compositional output," the *Forty Etudes* is one of three compilations of etudes, along with his 32 Etudes and 9 Caprices. Rose did not compose the etudes in this collection, but rather, transcribed etudes already written for the violin. David Hite, in his edition, Artistic Studies from the French School, has listed the original composers for each of the forty etudes, ranging from composers such as Franz Schubert and Rodolphe Kreutzer to lesser-known composers such as Charles Dancla and Federigo Fiorillo. Hite credits Rose for his "excellent choice of materials for his collections," and notes that Rose "is, perhaps, better known today than many of the other (Paris) Conservatory clarinetists."[1]

The first American edition of Rose's *Forty Etudes*, published by Carl Fischer Music Company, appeared in 1910. Over time, edits to the etudes have been made by a variety of clarinetists and these have resulted in new and reprinted versions published by International, Carl Fischer, and Southern Music

[1] David Hite, *Artistic Studies From the French School for Clarinet* (San Antonio: Southern Music Company, 1986), inside cover "comments."

Companies, to name a few. Through these republications, the etudes have been altered by the addition of expressive markings, dynamic and articulation changes, and in some cases, instructional commentary. The most notable editor has been David Hite.

During advanced high school and undergraduate students' training, the Rose *Forty Etudes* are used most often as Region and State Band audition materials and as applied clarinet study material. My study of the Carl Fischer edition of these etudes occurred during the years 1986-1992, then appearing as two separate volumes of twenty etudes each. These two volumes are referred to, affectionately, as the "red book" and the "green book." As a result of my investigation, I found that certain etudes were well suited to the study of a particular fundamental problem in my own playing. I approached many of the etudes in a non-consecutive manner, skipping to the etude I found most useful at the time, and thus, did not follow a clear systematic progression.

It may not be necessary, then, to play every etude in a method book or to play them in the numerical order. Therefore, my suggested reordering of Rose's *Forty Etudes* attempts to provide three things:

a) A thorough and efficient approach to the study of five basic clarinet fundamentals that may be directly applied to the literature being studied.

b) A structured approach to teaching for high school and college level teachers as well as teachers of private lessons based upon careful examination of the etudes and the fundamentals they contain.

c) A resource for self-guided study that merges the intellectual and performance aspects of clarinet playing in a structured way.

Reordering the Rose *Forty Etudes* in order to provide a systematic presentation and development of the five clarinet fundamentals allows for an organic approach to clarinet study that can be applied here and to other clarinet literature.

The following section is devoted to the suggested reordering of the Rose *Forty Studies* based upon two main criteria:

1) The five fundamentals presented in chapters 1-4:

   Tone, Finger Technique, Articulation, Rhythm, and Phrasing, and

2) The number of fundamentals that each etude reinforces most predominantly. Easier exercises address only a few fundamentals whereas the more difficult exercises address a greater number of fundamentals, with a maximum of five.

It is impossible for any of these etudes to address one fundamental only as tone quality is always a concern. Therefore, in my suggested reordering, two fundamentals will be the fewest number of fundamentals to be discussed. Should the player choose to isolate tone quality as he or she plays, then, performing slow,

sustained etudes such as 1, 7, 9, 13, 18, 21, 24, 32, and 34 would tend to best highlight tone quality.

Other etudes, 2, 4, 12, 14, 15, and sections of 25 and 38, although written in moderate to fast tempos, accentuate tone quality through the regular use of legato passages in scale form, arpeggios of chords, broken and unbroken, or a combination of both, occurring over a wide range of the instrument. The use of scales and arpeggios in these etudes keeps interval size within a sixth or less, with seconds and thirds used most often. Concentrating on smaller intervals makes it easier to hear tonal disparities between registers and breaks in the musical line. The mastery of tonal uniformity among small intervals (e.g., seconds, thirds) can also be treated as a prerequisite for etudes whose intervals are wider (fourths and higher) and/or whose arpeggiations undergo rapid harmonic changes, often seen in the more difficult technical etudes of the Rose *Forty Studies.*

Interval size, range, harmonic rhythm, and tempo influenced my assignment of a difficulty level when reordering the etudes. In addition, it is important to mention that my "suggested reordering system" is intended only to demonstrate how the etudes *could* be reordered by someone taking into the consideration the teaching of clarinet fundamentals; other instructors might reorder the etudes differently because they rate a particular fundamental more highly in their personal hierarchy. My "suggested order," then, represents an

attempt to make connections between, and bring awareness to specific attributes covered in chapters one through four.

Etudes with "Two Fundamentals"
(A copy of Rose's *Forty Studies* is beneficial while reading this chapter)

As I have already mentioned, the fewest number of fundamentals to be addressed in any one exercise is two. Moreover, these will always consist of "tone quality" plus one other fundamental. This approach could lead to an unmanageable number of combinations. I have found, however, that two main subcategories predominate: 1) tone coupled with finger technique and 2) tone coupled with articulation.

Etudes highlighting tone and finger technique are greater in number than those devoted to tone and articulation. I will follow the order in which the fundamentals were presented in chapters one through four, beginning with tone and finger technique. Etudes in the tone/finger subcategory are: 4, 2, 1, 15, 7, 14, 12, and 27. These shared fundamental attributes were not considered in Rose's original numbering nor do the etudes follow a progression of increased difficulty in technique or key scheme.

The majority of the etudes in this group utilize sixteenth notes in groups of four as the primary rhythmic figure. In fact, etudes 4, 2, 1, 16, 7, 14, and 12 use sixteenth notes exclusively, the only deviations from this practice being found in etudes 1 and 12. Etude 1 uses other values, such as quarter, half, and dotted

quarter notes, and tied value combinations to reinforce harmonic cadences and phrase endings. Even in these exercises, sixteenth notes predominate. Etude 12 uses six sixteenth-note groups to fill the relatively slow pulse of the 6/8 time signature, while etude 27 primarily uses triplets. Both etudes deviate rhythmically from their primary patterns to create breaks in the momentum for the clarinetist to breathe.

The consistent use of one rhythmic figure, either sixteenth notes or triplets, in these etudes de-emphasizes rhythm and phrasing as predominant fundamentals. With little to no change in rhythm, the clarinetist need only attend to playing with a steady beat rather than drawing on the skills needed to execute more complex rhythms. Phrasing, meanwhile, is dictated by melodic contour and the harmonic progression, and, therefore, requires little extra attention.

Articulation is also not a predominant fundamental in these etudes as the slur markings in this etude group require the player to touch the reed only once per beat, per measure, or every two measures, causing smooth finger technique to emerge as the main fundamental. Etudes 4, 2, 1, 15, 7, 14, 12, and 27 center on legato finger technique and have been arranged in order from the easiest to most difficult based on melodic interval size (smallest to largest: seconds, thirds, etc), range, key scheme, awkwardness of finger patterns, frequency and number of passages that cross register breaks, and the difficulty of any or all these criteria

within the given tempo markings. The chart shown below and on the following pages summarizes the criteria used to assemble this group of etudes.

Figure 5.1: Table of Etudes with "Two Fundamentals"

Etude	Primary Rhythm	Meter	Key	Tonguing/ Articulation	Intervals Used	Tempo Marking	Range Covered
4	All sixteenths	4/4	G	Once per measure, or every two measures at the beginnings of slurs	Seconds, thirds	Allegro ♩=108-120	Two octaves and a sixth
2	All sixteenths	4/4	G	Once per measure or once every two beats at the beginnings of slurs	Thirds, fourths, fifths, and sixths as determined by chord arpeggiations	Moderato ♩=96	Two octaves and a sixth
1	Mostly sixteenths, but also longer values	4/4	C	Once or twice per measure at the beginnings of slurs	Seconds through octaves; fourths, fifths, and sixths predominate	Adagio-andante ♩=44-63	Two octaves; mainly clarion register
15	Sixteenth notes; some triplet-sixteenths in opening motive	2/4	F	Mostly once per beat, sometimes twice; slur two, tongue one for triplets; articulation groupings reinforce motive	Seconds through ninths, but thirds predominate	Allegro moderato ♩=80	Nearly three octaves; centers on upper chalumeau, throat, and clarion registers

Etude	Primary Rhythm	Meter	Key	Tonguing/ Articulation	Intervals Used	Tempo Marking	Range Covered
7	Eighth notes in cut time function as sixteenths	2/2	d	Mostly once per beat	Seconds through sevenths; outlines chords of harmonic progression	Moderato 𝅗𝅥=63	Nearly three octaves; centers on upper chalumeau, throat, and clarion registers
14	Nearly all sixteenths; eighth notes and eighth rests at phrase ends	3/4	G	Once per measure at the beginnings of slurs	Seconds through sevenths; outlines chords of harmonic progression	Allegro moderato ♩=100-112	Three octaves; regular use of upper clarion to altissimo
12	Sixteenths in groups of six per beat	6/8	E	Once per measure or per beat at the beginnings of slurs	Seconds up to octaves; seconds and thirds mostly; increased use of chromatic non-chord tones	Moderato 𝅗𝅥.=54	Three octaves centering on upper chalumeau, throat, and clarion
27	Sixteenths for intro; triplets for the remainder	4/4	B	Once per measure at the beginning of slurs	Seconds through tenths; sixths predominate	Moderato ♩=96/ 60-104 for triplets section	Two and a half octaves falling in throat and clarion registers

Two remaining etudes within the group of "two fundamentals," etudes 22 and 25, have tone and articulation as their focus. Etude 22 contains a melodic motive comprised of ascending/descending groups of four-sixteenths outlining the

chord members of the underlying harmony followed by repeated, articulated four-sixteenths groups. Repeated tongued notes at the same pitch level allow for rapid articulation practice exclusively. More difficult technical etudes contain fast changes in pitch, requiring special attention to the synchronization of tongue and fingers.

Measures 15-22 deviate from the first fourteen measures in that they include increased harmonic rhythm and incorporate more legato, arpeggiated chords. In addition, they employ fewer repeated tonguing figures. This section brings back the original key of e minor, along with the opening rhythmic/melodic motive.

Etude 25 continues to address the fundamentals of tone and articulation, but contains more variety of articulations than etude 22. The articulation pattern of two two-note slurs within a four sixteenth-note group allows the second and third repeated pitches to be clearly separated. Coupling articulation changes with repeated pitches on the internal sixteenths can produce a disparity between tongue and finger movement.

Measures 18 through 26 changes to a slightly varied articulation pattern that support alterations in melodic contour and more rapid harmonic changes. It is because of its greater variety of articulation types, technical difficulty, advanced key signature (A major), and the frequency of chromatic non-chord tones that etude 25 may be considered more difficult than etude 22. However,

both etudes continue to resemble the other "two fundamental" etudes with regard to the predominance of sixteenth notes as the primary rhythmic figure and the clear phrase delineation caused by melodic contour, harmonic cadences, and the use of rests and breath marks at the ends of phrases.

In sum, there are ten etudes in the Rose *Forty Etudes* that clearly display two fundamentals. Eight are grouped according to the fundamentals of tone and finger technique and two according to both tone and articulation. Four more etudes, 10, 24, 28, and 16, focus on two predominant fundamentals, although the "additional fundamental" often is not as pronounced as the others. Unfortunately, categorizing an etude into a precise number of fundamentals is not always possible. Thus, the alternating or partially occurring "additional fundamentals" in these etudes cause them to fall into "gray areas" between two and three, three and four, or four and five fundamentals, respectively. I will discuss etudes that fall into these "gray areas" in addition to those that concentrate on a distinct number of fundamentals.

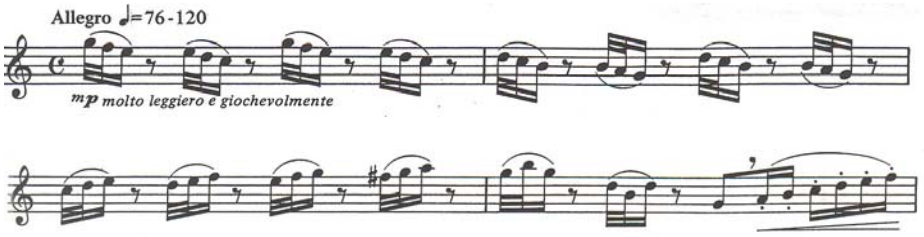
"Gray Area 1":
Etudes with Two Alternating Fundamentals in Addition to Tone Color

Etudes 10, 24, and 28, focus on tone quality in addition to two alternating fundamentals, finger technique and rhythm. Etude 16, on the other hand, focuses on tone quality in addition to an alternation between finger technique and articulation. Of these four etudes, Etude 16 most clearly represents the

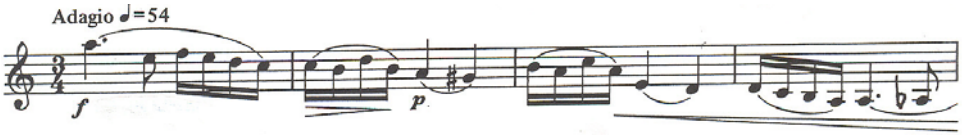
interdependent relationship between the tongue and fingers. With a constant sixteenth-note rhythm, practicing the technique of "prepared fingering" (mentioned in chapter three) enables good synchronization between tongue and fingers despite wide interval leaps, rapid chord changes, crossing registers, and inconsistent chord arpeggiations. Etudes 10, 24, and 28 alternate between finger technique and rhythm, but the stylistic presentation of these two fundamentals is quite different in each of these etudes.

Example 5.1: Stylistic differences among opening measures of Etudes 10, 24, and 28.

Etude 10:



Etude 24:



Etude 28:

Figure 5.2: Table of Etudes with "Two Fundamentals" (Gray Area 1)

Etude	Tone	Finger Technique	Rhythm
10	This etude spans only two octaves, mainly in the upper clarion register. Close interval fragments, rather than lines, highlight register breaks	Requires rapid, efficient, and rhythmic movement with short stepwise or thirds melodic fragments	Requires accuracy of thirty-second/sixteenth-note fragments at a rapid tempo and accurate subdivision when changing from fragments back to longer values and lyrical lines
24	Heard in long, sustained, lyrical, stepwise lines that cross register breaks within a three-octave range	Careful, rhythmic, accurate finger placement over the holes for smooth, legato technique	Nearly all sixteenths; however, in a slow, subdivided tempo, the regular use of tied and long values requires metronome practice
28	Displayed in slurred, scalar, chordal, and short virtuoso-like passages of close intervals	Accurate, smooth technique for long, slurred, technical lines comprised of seconds and thirds intervals further complicated by ornaments, accidentals, and alternating rhythms	Sixteenths are the most common rhythmic figure, but there is great alternation between eighths and sixteenths, and dotted-sixteenth/thirty-second note patterns. The opening theme establishes a rhythmic motive

Etudes with "Three Fundamentals"

The "three fundamentals" category comprises the greatest number of Rose's etudes, fourteen of forty. In these etudes, finger technique and articulation are combined, elevating the majority of the etudes, eleven of the forty, to a new level of technical difficulty. The remaining three etudes in this group highlight some combination of tone, finger technique, and either rhythm or phrasing.

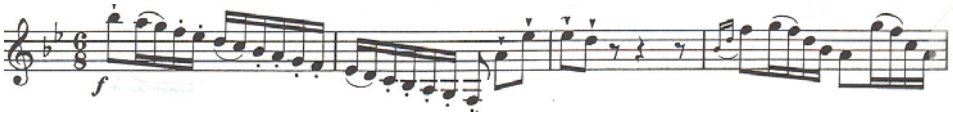
Rhythm was de-emphasized as a fundamental in the ten "two fundamentals" etudes outlined in Figure 5.1 because certain rhythmic figures,

such as triplets or four or six-sixteenths groupings last for the entire etude with little or no variation. This continues to be the case in the eleven etudes (5, 6, 40, 11, 23, 33, 8, 37, 30, 19, and 31) outlined on the following pages. Etudes 6 and 23 contain slight rhythmic variety. These two etudes remain within the "three fundamentals" category, as the variances are predictable and easily subdivided and managed, even by students whose rhythm skills are less advanced. Of the two etudes, etude 23 contains the most rhythmic variety, but its three main eighth/sixteenth-note combinations, together with the melodic/harmonic intentions, are easily remembered.

Example 5.2: The beginning of rhythmic variety is seen in the opening measures of etudes 6 and 23.

Etude 6:

Etude 23:



Phrasing is also somewhat de-emphasized since the "melody" in these etudes is made up of chord arpeggiations, sequences, and rising/falling scale passages that clearly convey harmonic structuring rather than melodic continuation.

Figure 5.3: Table of Etudes with "Three Fundamentals"

Etude	Rhythm	Interval Used	Meter	Key	Tempo	Articulation Varieties	Finger Technique Issues
5	All triplets	2nds through 10ths; often arpeggiated	4/4	d	Allegro ♩= 72-96-112	Accents, stopped-staccato and combination articulations	Tongue/finger, abbreviated "T-F" coordination needed; several occasions to use alternate fingerings, mm. 8-19
6	$16^{th}/32^{nd}$ groups and 6 16^{th}-note groups	2nds, arpeggios, and wide intervals	3/4	C	Andante ♩=56	All tongued except for combination tonguing in 6-16^{th} note groups	T-F coordination, knowledge of chord arpeggios and utilize the prepared fingering technique described in Chapter 3
40	Nearly all 16ths and some eighth/ two sixteenth -note combin-ations	2nds through octaves; seconds dominate	4/4	g	Allegro moderato ♩=69-100	No variety; all tongued Stopped staccato can be employed at slower tempos, but with increasing tempos, a light staccato is key	T-F coordination very complicated as tempo increase among rapidly changing scales and tonal areas. Some alternate fingerings are required
11	All 6-16^{th}-note groups	2nds through 10ths	6/8	G	Allegretto ♩.=60	Slur 2, tongue 4 most common; occasionally the two-note slur is displaced, which helps to emphasize register shifts in the melody	T-F coordination, knowledge of chord arpeggios and utilizing "prepared fingering" technique as described in Chapter 3; alternate fingerings 1/1 Bb and LH C

Etude	Rhythm	Interval Used	Meter	Key	Tempo	Articulation Varieties	Finger Technique Issues
23	6-16th-note groups or eighth/16th-note combin-ations	2nds through 10ths, but 2nds used most often melodically	6/8	Bb	Allegro Vivace ♩.=60-72	Slur 2, tongue 2 Slur 3,tongue, 3 Slur 2, tongue 4 All tongued Stopped and Light staccatos Accents	T-F coordination in a fast tempo with variety of rapidly changing articulations and tonal areas
33	All 16ths	2nds, 3rds, arpeggios, inversions and passing tones. Mm. 35-9 have 2-3 octave leaps	4/4	C	Allegro Moderato ♩=88	Slur 2, tongue 2 Slur 3, tongue 1 Tongue 1, slur 2, tongue 1	T-F coordination with light staccato is called for in a fairly rapid tempo. Inconsistent patterns of arpeggiation and inversion. Trills should not interfere with momentum of the line. Several alternate fingerings are needed
8	All triplets except for longer values ending phrases	2nds through two-octave leaps; Most frequent intervals are 2nds, 3rds, and 6ths	4/4	G	Allegro moderato ♩=104	All tongued Tongue 1, slur 2 Slur 2, tongue 1 Tongue 1, slur 3 Slur 2, tongue 2; slur 2, slur 2 overlapping triplet groups Slur 3 Accents	T-F coordination is complicated by the variety of articulations, wide intervals, and register shifts. Stopped staccato facilitates prepared finger technique. Accents or articulations beginning on the second member of the triplet creates a hemiola effect
37	All 16ths	2nds to two octaves; 2nds and 3rds are most prominent; frequent wide leaps	4/4	A	Allegro ♩=96	Slur 2, tongue 2 Slur 3, tongue 1 Slur 2, slur 2 All tongued	A major is more awkward than easier keys previously used. Alternate fingerings, RH C and B are needed, (except where D# dictates RH-B-LH-C). Arpeggios and wide intervals over breaks make T-F coordination a challenge

Etude	Rhythm	Interval Used	Meter	Key	Tempo	Articulation Varieties	Finger Technique Issues
30	All 16ths except for an eighth note followed by an eighth rest and longer values at phrase ends	2nds through 12ths; 2nds and 3rds dominate	4/4	D	Allegro Moderato ♩=84	Tongue 1, slur 2, tongue 1; Slur 2,tongue 2; 2-note slurs beginning on the second 16th note following staccato notes/rests; full measure slurs, Slurred combinations	T-F coordination is complicated by the combination tonguing patterns that use repeated thirds intervals as motives. Several tonal areas occur. The interval of the third provides unity, despite the sharply different sections, key areas, motives and articulations
19	All 16ths except for an eighth note followed by an eighth rest and longer values at phrase ends	2nds through octaves with 2nds, 3rds, and 5ths as most prominent	4/4	C	Moderato ♩=84	Slur 2, tongue 2 Slur 3, tongue 1 Slur 1, tongue 2, slur 1 Slur 4, 8, and 12	T-F coordination is exacerbated by the wide interval arpeggios in mm. 1-5 and by the variety of key areas in mm. 10-25. Altissimo fingerings are needed for smooth technique. Due to awkward patterns and the key of c minor, "sliding" and LH C are required
31	All 16ths except at cadences; 8^{th}/2-16^{th}-note combinations, and one bar of triplets	2nds through two-octave leaps	3/4	A	Allegro Moderato ♩=88	Tongue 1, slur 2, tongue 1 mostly; Slur 2, tongue 2 Slur 3, tongue 1 Tongue 2, slur 2	The wide interval arpeggios, registral transposition of the melody, and extended sequential passages exacerbate T-F coordination

Overall, the "three fundamentals" group of etudes supporting tone, articulation, and finger technique requires the coordination of tongue and fingers.

In nearly all of these etudes, a variety of "combination articulations" are used in conjunction with unfolding chord arpeggiations that cover a wide range of the instrument, despite the use of narrower melodic intervals of seconds through sixths. The manner in which chords are arpeggiated determines the regularity (or lack thereof) of interval size; sometimes there are leaps of one or more octaves. As interval size and the number and variety of articulation patterns increases, so does the etude's overall technical difficulty. Techniques such as "prepared fingering" and "stopped-tonguing" (chapter three) are regularly required for tongue/finger synchronization and clean technique.

Finally, to play rhythmic figures evenly requires the maintenance of a steady beat, despite articulation varieties and irregular chord arpeggiations. Due to the uniform rhythm of triplets, sixteenths, or sextuplets throughout an entire etude, any inconsistency is immediately noticeable and should be corrected with metronomic practice.

The three remaining etudes, 9, 21, and 38, deviate from the previous ten by focusing on aspects other than tone, articulation, and finger technique. Interestingly enough, each etude combines different groups of fundamentals:

- Etude 9: Tone, finger technique, and phrasing
- Etude 21: Tone, phrasing, and rhythm
- Etude 38: Tone, finger technique, and rhythm

Etude 9: Tone, finger technique, and phrasing

Etude 9 contains four sixteenth-note groupings and intervals spanning seconds through tenths, already seen in the majority of the ten "three fundamentals" etudes. Interval size is now determined by the ascending or descending line that occurs on the odd-numbered sixteenths intertwined with a repeated pitch found on the even-numbered sixteenths.

Example 5.3: Etude 9, mm. 1-4.

As the line descends, the interval between the moving melodic pitches and the stationary ones becomes wider and conversely, smaller upon the ascent. This is very different from the first ten etudes in this category whose interval size was mainly generated through chord arpeggiation and the frequency of harmonic changes. The placement of rests and longer values serves to make clear where phrases begin and end. However, it is due to melodic content, contour, ebb and flow created through the expansion and contraction of intervals within the harmonic construct, and the placement of melodic stress on the strong portion of the beat that phrasing requires more consideration here.

The legato nature of etude 9 de-emphasizes tonguing except for a single, light touch to the reed once per measure or every other measure. Rather, the legato style requires smooth, even finger movement and a steady air stream over

increasingly wide intervals, thereby, giving prominence to finger technique as a fundamental.

Etude 21: Tone, phrasing, and rhythm

Etude 21 is the "first of its kind" in that it highlights rhythm as a fundamental. The number and variety of rhythms used within its compound 6/8 meter is in sharp contrast to the rhythmic uniformity that has been the norm in the "three fundamentals" category. The rhythmic variety, though ever-changing in etude 21, is consistent in the way that phrases are delineated by long notes that occur at their boundary points. Though the phrases themselves are defined by the location of long values, melodic contour, and through the antecedent/consequent relationship of ascending and descending lines, it remains difficult to determine how to play these phrases with regard to expression, emphatic stress, dynamics, and changes in tone color in the lyrical lines of etude 21.

Tone quality, which remains a basic fundamental in any etude, is further exposed in etude 21 by means of the ascending and descending lyrical lines that constantly cross "the break" between throat and clarion registers. Slurred sustained lines, the majority of which contain closely related intervals, arpeggios, and passing/neighboring tones between chord members, allow for the production of a consistent tonal quality, while releasing finger technique and articulation from primary consideration.

Etude 38: Tone, finger technique, and rhythm

Overall, etude 38 is generally legato as denoted by frequent slur markings. While most of the etude is fast and slurred, there are a few fragments that require a slur-two/tongue-two sixteenth-note articulation pattern as well as middle and coda sections that employ an eighth/two-sixteenths rhythm pattern. There are far fewer of these articulation patterns than there are legato, sustained passages, so articulation, in my view, does not constitute a predominant fundamental in this etude.

The lyrical, stepwise lines fall within the upper chalumeau and clarion registers, crossing the break with regularity and pronouncing tonal consistency as a fundamental. In addition, the connected, sustained quality of the melody requires smooth finger placement with close proximity to the keys for fast, even sixteenth notes. Certain passages, such as mm. 31-41, are awkward and require the use of several alternate fingerings with repeated practice to allow difficult and not-so-difficult measures to flow into each other smoothly. Executing smooth finger technique here has the effect of rendering accurate and even sixteenth notes.

Rhythm is reinforced as a predominant fundamental in etude 38 in several ways. First, the four sixteenth-note rhythms seen uniformly throughout previous "three fundamentals" etudes are used less frequently here, and often appear in conjunction with other values/rests. Rather, many other rhythmic values are now

employed, but still require that the student be aware of the sixteenth and eighth-note subdivisions in order to execute entrances and rests appropriately.

In sum, there are fourteen etudes in the "three-fundamentals" category. Eleven etudes share common attributes that emphasize the fundamentals of tone, articulation, and finger technique and when practiced diligently, may improve the coordination of tongue and fingers, allowing for a cleaner, more facile technique. The last three etudes in this category stray from articulation as a major fundamental, and instead, employ a unique combination of three of the four remaining fundamentals: tone, finger technique, rhythm, and phrasing. In all three etudes, a greater emphasis on melodic line is apparent. As a result of these deviations, the way is paved for more sophisticated etudes containing four and five fundamentals.

"Gray Area 2":
Etudes with Three Alternating Fundamentals in Addition to Tone Color

Etudes 17, 29, and 13, all focus on three fundamentals along with a fourth, less pervasive, fundamental. In this case, the fourth fundamental occurs either briefly, rather than consistently throughout the etude, or does not fit clearly into one category or another. The following section outlines and discusses the fundamentals contained in this group of etudes.

- Etude 17: Tone, articulation, finger technique, and less prominently, rhythm
- Etude 29: Tone, finger technique, rhythm, and less prominently, articulation
- Etude 13: Tone, finger technique, phrasing, and less prominently, rhythm

Each of these etudes is unique in the way it engages the three main fundamentals; in any case, the etudes are generally more complex than those previously seen. Etude 17 is 134 measures long and uses four-sixteenths as the basic rhythmic figure. When a different rhythm does occur, it is one that does not occur in any other etude (mm. 27-42). In addition, while there is some chord arpeggiation, a clear melodic line emerges, emphasized by several combination articulation patterns. In conjunction with the variety of articulations, the tongue may assist finger technique through the use of stopped staccato in these exercises. Also, the fingers may execute the many wide intervals more accurately when kept closer to the keys.

Consistency of tone between registers becomes more problematic since etude 17's range expands to three octaves. Despite the general emphasis on both clarion and throat registers, etude 17 enters the altissimo with greater frequency, while also using expanded intervals--sixths to octaves--and occasionally, two-octave leaps. The variety and frequency of articulations and rhythms, the use of

increasingly wide intervals, expanded range and length attest to etude 17's increased complexity and supports its placement in "Gray Area 2."

By contrast, etude 29 emphasizes tone, finger technique, rhythm, and possibly, articulation. Unlike etude 17, rhythmic variety occurs constantly, but the rhythms used reiterate those found in the opening motives (mm. 1-7). The ubiquitous presence of ornamentation (trills and grace notes) significantly raises the complexity of finger technique, while at the same time, requires that the fingers render the rhythms accurately in spite of them. The need for staccato and combination articulations, accents, and frequent, well-timed legato articulations at the beginnings of slurs, raises the level of articulation difficulty, but again, not enough necessarily to qualify articulation as a primary fundamental in this etude.

Etude 13 is another etude with a fourth, less important fundamental. The first half of the etude uses double-dotted eighths followed by thirty-second notes within the context of a slow tempo that requires a continuous eighth-note subdivision. The second half of the etude disposes of the double-dotted figures, and returns to basic, simple rhythmic values in a slightly faster tempo that may or may not require subdivision. As a result of the inconsistent level of rhythmic skills required, the three other fundamentals stand out more predominantly.

One of the few slow etudes thus far, etude 13 also requires strong attention to tone quality. Its *Adagio* tempo and sustained, legato quality makes differences in tone, intonation, and the connected quality of intervals—especially those

crossing the break--very noticeable. Phrases, though well defined by long values and rests, require careful consideration. The student must also practice the variety of ways that the air and embouchure are used to produce phrase direction, climax, sustain, taper, and expression. Legato finger technique will further assist the player in executing the phrase properly and accurately performing rhythms, which in the context of the keys of c# minor and Db major are perhaps the most difficult keys yet seen. These key signatures mandate the regular use of alternate fingerings, and "sliding between two notes on the same side of the instrument" can be avoided through a carefully pre-planned set of finger alternations. It is for these reasons that etude 13 highlights tone, phrasing, and finger technique, and for half of its duration, rhythm.

To summarize, fourteen of Rose's *Forty Studies* allow the student to concentrate primarily on three fundamentals. Eleven of these etudes (5, 6, 40, 11, 23, 33, 8, 37, 30, 19, and 31) emphasize tone, articulation, and finger technique, while three others: 9, 21, and 38 combine tone, finger technique, rhythm, and phrasing into their own distinct configuration of three fundamentals. Three additional etudes: 17, 29 and 13, bring a fourth, less prominent, fundamental into play, thereby, foreshadowing the "four fundamentals" category.

The technical skills acquired from the successful study of these etudes may make it possible for the student to approach other musical aspects such as rhythm and phrasing with greater confidence. Although these skills do not

necessarily predispose a student to play expressively, they may enable expression to be less hindered by technical defects.

Etudes with "Four Fundamentals"

Five etudes, 18, 34, 36, 35, and 3 comprise the "four fundamentals" category. The fundamentals contained are outlined below:

- 18 and 34: Tone, finger technique, phrasing, and rhythm
- 36 and 35: Tone, articulation, finger technique, and rhythm
- 3: Tone, articulation, finger technique, and phrasing

The first two etudes, 18 and 34, bear a great resemblance to each other in their use of *Adagio* tempos requiring eighth-note subdivision, thirty-second note technical passages containing chromatic non-chord tones, the frequent use of ornamentation, a variety of rhythmic patterns, and the need for expressive nuances in phrasing.

Both etudes use simple key signatures, G major and C major, respectively, but tend to move quickly to other related key areas, both major and minor, before returning to the original. The lyric and legato quality of both etudes requires smooth, rhythmic, finger technique despite the virtuoso-like passages. Of the two etudes, etude 34 offers two places to perform cadenzas, both of which are chromatic in nature.

Although there is a lot of rhythmic variety in each etude, etude 18 uses triplets and sextuplets most often, whereas etude 34 uses four-sixteenths and dotted-eighth/sixteenth rhythms most often. Students may find the aspect of eighth-note subdivision equally difficult to perform in each etude due to its rhythmic variety. Ironically, however, students may tend to make fewer rhythm mistakes in passages containing sixteenths and thirty-second notes than they will when performing long, traditionally simple values, such as dotted half notes and quarter notes because they may allow their attention to wander when performing simpler rhythms.

At slow tempos requiring the division of the quarter note into two eighth notes, longer values will seem twice as long as those in moderate to fast tempos and the use of thirty-second notes may seem inordinately difficult to students on initial inspection because they have more beams than the more typical eighths and sixteenths. Likewise, the majority of the etudes in the "three fundamentals" category prepare the player for performing with a steady sixteenth-note pulse and generally uniform rhythm, but not necessarily for the skills called for in etudes 18 and 34. Therefore, rhythm is a pronounced fundamental aspect here.

In the same manner that rhythmic difficulty has been elevated, so has phrasing. Phrases, although of unequal length, are easily defined, and nearly always separated by rests, breath marks, and fermatas. The phrasing issue here is

that of execution rather than definition. Upon closer inspection, etudes 18 and 34 produce more problems in the area of phrasing than it first appears.

Phrasing Attributes of Etude 18

Etude 18 has a different "feel" or "phrase rhythm" than etude 34, due to its triple meter. The regularity of two-bar antecedent-consequent phrases for four measures *separated* clearly by rests, followed by another four-measure phrase *not separated* by rests (despite the breath marks), is a structure that repeats itself over the first half of the etude. The second half deviates from this structure by beginning a phrase on the second half of beat three instead of beat one. Here, phrases begin on the weak portion of the beat and often at a *pianissimo* dynamic level. In addition, a brief tonicization of d minor creates tension in the music, and thus, a different mood.

Structural components having been considered, the melodic line in etude 18 uses rhythmic duration, repetition, and harmonic cadences to fuel both phrase climaxes and resolutions. Long values slow down phrase energy and rely on the air's intensity within the subdivision of the beat to give a phrase direction. Conversely, shorter values increase phrase energy until reaching strategically placed cadential pitches.

Melodic themes within phrases provide the basis upon which later melodic content can be built upon. Etude 18 uses passing/neighboring tones, different

rhythmic values, and phrase transposition to embellish previously stated material. Examples of this are seen when comparing mm. 1-4 to mm. 9-12 and mm. 5-8 to mm. 13-16. This continues to be the norm for the rest of the etude as well. Knowledge of the phrase structure of etude 18 as well as melodic and harmonic components drives phrases towards their temporal (half cadences) and ultimate goals (terminal cadences).

Phrasing Attributes of Etude 34

Etude 34 has clearly defined phrases that begin with a long value, such as a quarter note or longer. Phrases cadence either with a quarter note on a chord member followed by a rest or more often, a quarter-note on a non-chord tone (appoggiatura or escape tone) that resolves to an eighth-note cadential pitch followed by an eighth rest. The antecedent/consequent nature of two short phrases often spans four measures in the 3/4 or simple triple meter and is reinforced by the melodic contour and harmonic progression.

There is less return of previously stated melodic themes in etude 34 than in etude 18. However, an example of embellishment of the initial theme is seen when comparing mm. 1-4 to mm. 20-5. Phrase structure and content are mainly unified by harmony, short rhythmic motives, and similar cadential figures, rather than by the recurrence of melodic material. The additions of two quasi-cadenzas act as climactic responses to the descending chromatic lines previously used.

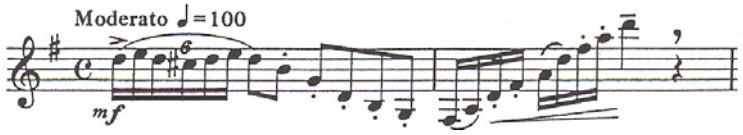
Although etudes 18 and 34 have a similar character but different subcomponents, they both still represent the use of four fundamentals: tone, finger technique, rhythm, and phrasing.

The next two etudes within the "four fundamentals" category, etudes 35 and 36, focus on tone, articulation, finger technique, and rhythm. Phrasing does not require as much attention as both etudes' phrases follow a predictable, symmetrical two or four-bar scheme that rely on melodic contour and harmonic progression for their energy and direction.

As seen in etudes falling between three and four fundamentals, etudes 35 and 36 contain a variety of rhythm patterns. These rhythms, in conjunction with the melody and harmony, make up important motives.

Example 5.4: Opening motives of Etudes 35 and 36.

Etude 35:



Etude 36:

The return of these motives help the listener identify the large sections or A-B-A' structure of the work. The implementation of shorter values and varied rhythm patterns, such as continuous four or six-note groups of sixteenths, instead of those

contained in the original motives helps propel phrases to their continuous and terminal cadences as shown in examples 5.5 and 5.6.

Example 5.5: Etude 35, mm.7-8.

Example 5.6: Etude 36, mm. 24-5.

Sixteenth and eighth notes remain the central rhythmic figures in etudes 35 and 36, but they function differently in each etude's meter, 4/4 and 6/8 respectively. Etude 36 is the more difficult of the two etudes from both technical and endurance standpoints.

Etude 36 is twice as long, uses thirty-second notes, frequent ornamentation, and contains regular and extended passages of wide intervals of an octave or larger. As a result, the level of finger technique required rises sharply. Both etudes contain motives and themes that require the player to perform a variety of articulations: stopped, light, and legato staccatos, combination articulations, accents, and frequent or consecutive slurs of two to six-note groupings.

The four fundamentals addressed in each of these two etudes are completely interdependent. A variety of articulations are called for, and if the tongue is not synchronized with the fingers, the rhythm will also be inaccurate. Since a three octave range has become a regular occurrence here, the ability to maintain a consistent tonal quality throughout the entire range of the instrument is crucial.

The last etude in this category, etude 3, resembles no other etude in the *Forty Studies,* despite sharing some similarities in its incorporation of the four fundamentals: tone, articulation, finger technique, and phrasing. Rhythm is not an important fundamental in this etude because the entire etude is comprised of eighth notes, except for the values used in several cadences. As a result of the use of two-note leaps spanning an octave, a tenth, or as much as two octaves presented in both slurred and articulated fashions, tonal consistency between two different registers of the instrument may be constantly compared. Although small, slurred groups are contrasted with staccato groups only, reducing the number of articulation styles, the need for stopped staccato and prepared fingering are vital requirements for clean technique. The continuous and prolonged use of large interval leaps further exaggerates the need for tongue/finger coordination.

Another feature that separates etude 3 from the other etudes in the "four fundamentals" category is the fact that melodic changes occur primarily on the strong portion of each beat. If not carefully emphasized by the player, the

melodic line will be poorly phrased. In nearly all instances, a two-tiered or "compound melody" unfolds simultaneously, distinguished by register, articulation, and dynamic contrasts. Two other ways in which the melody has been layered are: 1) by widening the slurs from two to three notes and placing them so that they bridge across the bar line, and 2) by cadencing phrases on the weak beat in the measure (consistently beat two in ¾ time). Through a variety of means, etude 3 manifests the fundamental of phrasing more consistently and clearly than most etudes within the "three fundamentals" category.

"Gray Area 3": Etudes with Four to Five Fundamentals

Etudes 32 and 26 contain all five fundamentals, but in an unbalanced way. These etudes, moreover, are slightly more difficult than similar etudes from the "four fundamentals" category and yet, contain a somewhat weak fifth fundamental. Etude 32 highly resembles its four fundamental counterparts—etudes 18 and 34—with respect to its slow, subdivided, sustained character, but it is more rhythmically challenging, diverse, and syncopated. Phrases are still fairly well defined but tend to include more emphatic pauses, dynamic contrasts, and a greater potential for expression as the phrases adhere less to the bar line. The key of e minor is inherently darker and more morose than the keys of G major and C major in etudes 18 and 34.

Of the five possible fundamentals, articulation is the most weakly represented in this etude. While there are a few accents, staccato and legato-staccato articulations, in general, the tongue's main function is to begin the slurred lines. Therefore, care should be taken with regard to how the tongue is used to start the sound. At the same time, articulation markings should be literally interpreted without disrupting the musical line.

Etude 26 provides practice in four fundamentals: tone, finger technique, articulation, and rhythm in its distribution. Tone is displayed in both lyrical passages and throughout the work by the lines created by the continuous flow of closely related articulated intervals. While there is generally one overriding rhythm, several others are introduced in mm. 21-40, often as a motivic or cadential figure. It is due to the predominant, articulated rhythm that finger technique and tongue/finger coordination become inseparable fundamentals as well. Medium-length stopped staccato and prepared fingering techniques give the space, clarity, and accents called for between pitches.

Etude 26 contains two or four-measure phrases that nearly always cadence on a quarter note followed by a quarter rest. Those phrases that do not cadence on a quarter-note resolve from a quarter-note non-chord tone to an eighth-note chord tone resolution. In these ways, etude 26's phrases contain steady, predictable, and clearly defined beginnings and endings. The playful, operetta-like melodies help carry interest to the work's end. The challenge in phrasing here is a musical one,

not an intellectual one. The student will have little difficulty knowing where the phrases are, but may have difficulty expressing them in an energetic and goal-oriented fashion.

Etudes with "Five Fundamentals"

The final category of fundamentals contains only two etudes, 20 and 39. What sets these etudes apart from their earlier counterparts is that they place an equal amount of emphasis on all five fundamentals. As a result, etudes 20 and 39 begin to resemble solo literature in their virtuosic nature, while still presenting ideas in a truncated etude format. Each etude is very different in style from the other and therefore, will be discussed separately.

Etude 20

A one-page Polonaise, etude 20, has a buoyant, dance-like character in ¾ meter. The rhythm is characterized by combinations of sixteenth and eighth-note fragments combined into long melodic phrases. Etude 20 has a clearly defined opening theme that returns in measure 68.

Proper articulation is of vital importance to the effectiveness of the polonaise. Nearly every possible articulation is presented, requiring that the player be able to execute rapidly changing and diverse styles. While finger technique is mostly a consideration with regard to its coordination with the

tongue, trills, alternate fingerings, syncopated rhythms, and the interval of the minor third all play a role in the overall technical difficulty. Sixteenth notes, eighth notes, and a variety of combinations of both make up the majority of the rhythmic figures. However, less frequent but equally important quarter notes on both strong and weak beats are emphatic points within phrases, often functioning as chromatic passing tones that delay the V chord or continuous cadence in the antecedent phrase. Advanced rhythmic skills are required to maintain a steady beat and to perform the constantly changing rhythms accurately. Melodic contour, rhythmic durations/stresses, harmony, contrasted articulation styles, registration, cadential patterns, and overall A-B-A' form all serve to reinforce phrasing as a fundamental as well.

With all five fundamentals reinforced with equal weight and related in an organic way, etude 20 becomes the first totally comprehensive study. If the student can perform this etude well, then he or she will have accomplished a great deal in the area of clarinet fundamentals and should be well equipped to take on solo literature containing similar attributes.

Etude 39

Etude 39 contains melodies and virtuoso style playing that is reminiscent of transcriptions for clarinet derived from opera arias. As the tempo-marking *Allegro brillante* indicates, the brilliant and emphatic opening might be compared

with an opera's overture, or simply an introduction to the melody that begins in measure 22.

This "introduction" is riddled with fast sixteenth-note runs that each outlines a significant chord:

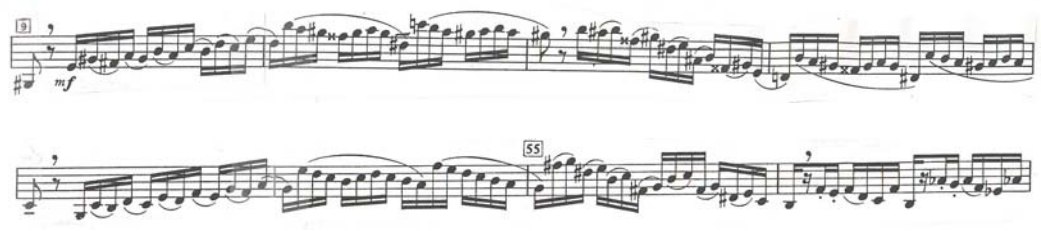
- C major mm. 1-4
- a minor mm. 5-8
- E major mm. 9-12
- g# minor to b minor mm. 13-15

The harmonic progression above leads to an e diminished seventh chord in measure 18 that foreshadows the new key area of F major, marking the end of the introduction and the beginning of the "aria." While it is possible to analyze any of the Rose *Forty Etudes* in terms of their harmonic content, etude 39's harmonic progression is reflected in its linear, unfolding melody and as a result, helps to indicate the etude's formal structure, creating distinct sections more clearly than in many of the other etudes.

A sixteenth/dotted eighth/sixteenth rhythmic figure serves as a pickup to the new melodic section beginning in measure 24 and will remain an important motivic fragment for the rest of the etude. Similar to the opening "introduction," the melody arpeggiates the underlying harmony, but due to the addition of passing tones and repeated chord tones, the melody looks and sounds more scalar.

Four sixteenth notes continue to be the most commonly used rhythmic grouping, however, it is interspersed with enough other rhythmic values and rests to be different from the "etudes with three fundamentals" uniformity. When extended passages of sixteenth notes do occur, they function in both melodic and harmonic ways serving to tie together thematic material between large sections. This is seen in Example 5.7 when comparing measures 9-12 to measures 53-56. Sixteenth-note figures also allow for faster harmonic changes while driving lyrical phrases more intensely towards their cadences.

Example 5.7: Rose Etude No. 39, mm. 9-12 and 53-56.



The remaining fundamentals of tone, finger technique, and articulation, all carry equal weight by:

- Extending to nearly a three octave range
- Incorporating an extensive variety or articulation patterns
- Combining and contrasting legato/lyrical styles with technical/articulated styles
- Displaying extended passages of smooth finger technique and those requiring tongue/finger coordination

- Using articulations to support the melody, motives, and phrase intent.

It is for these reasons that Etude 39 is perhaps the most difficult and comprehensive etude in Rose's *Forty Studies*. The presentation of diverse technical and musical aspects on these two pages may be more typical of an etude, but the musical tools acquired are necessary prerequisites for the performance of solo literature.

Final Synopsis/Suggested Reordering of Rose's *Forty Etudes:*
(Categories, fundamentals, and corresponding etudes)

The final synopsis that follows produces a suggested reordering of Rose's *Forty Studies* based on the number of fundamentals that each etude shares and in accordance with the study of five fundamentals: tone, finger technique, articulation, rhythm, and phrasing, presented in chapters 1-4. It is my desire that the player/student might read the relevant chapters that discuss the fundamentals being studied and then, perform the related etudes within each group, building systematically from two to five fundamentals.

Two Fundamentals:
Tone and finger technique: 4, 2, 1, 15, 7, 14, 12, 27
Tone and articulation: 22, 25

Gray Area One (2-3 fundamentals):
Tone, finger technique, rhythm: 10, 24, 28
Tone, finger technique, articulation: 16

Three Fundamentals:
Tone, finger technique, articulation: 5, 6, 40, 11, 23, 33, 8, 37, 30, 19, 31
Tone, finger technique, and phrasing: 9
Tone, phrasing, and rhythm: 21
Tone, finger technique, and rhythm: 38

Gray Area Two (3-4 fundamentals):
Tone, articulation, finger technique, and possibly, rhythm: 17
Tone, finger technique, rhythm, and possibly, articulation: 29
Tone, finger technique, phrasing, and possibly, rhythm: 13

Four Fundamentals:
Tone, finger technique, phrasing, and rhythm: 18, 34
Tone, articulation, finger technique, and rhythm: 36, 35
Tone, articulation, finger technique, and phrasing: 3

Gray Area Three (4-5 fundamentals):
Unbalanced representation of all five fundamentals
Weak fundamental is articulation: 32
Weak fundamental is phrasing: 26

Five Fundamentals: 20, 39

APPENDIX I

TERMINOLOGY DEFINED

Rhythmic Elements

Pulse: "A pulse is one of a series of regularly recurring, precisely equivalent stimuli."[1] A pulse can exist both objectively, like seconds on a clock, or subjectively, with regard to how duration is heard, imprinted on and represented in the mind. A beat, on the other hand, is a basic, repetitive unit in a musical passage. The relationship between accented and unaccented beats determines the meter of the work.[2]

Meter: The grouping of beats into regularly occurring patterns with consistent accented/unaccented relationships. Duple, triple, and quadruple are the most common types of metrical groupings and contain two, three, and four beats respectively; their patterns of metric accent differ from context to context. In all

[1] Grosvenor Cooper and Leonard Meyer, *The Rhythmic Structure of Music* (Chicago: The University of Chicago Press, 1960), 3.

[2] Ibid., 4.

three meters, beat one (as well as beat three in quadruple meters) is strongly accented while the remaining beats are considered weak.[3]

Tempo: The speed of the basic pulse of a work. The tempo will help determine how the meter signature is to be interpreted.

Rhythm: According to Christ, Delone, Kliewer, Rowell, and Thomson, "rhythm means the articulation of time (in music, the articulation of time by sound)."[4] Therefore, every musical aspect constitutes a duration including both sound and silence, in single or multiple instances. Hence, "it is the coordinate activity of both short and long events that produces the total effect of rhythm on music."[5]

Accent: The effect of an accent can be achieved through a variety of means: duration, volume, melodic placement, style, articulation, and regularity of occurrence relative to the preceding and subsequent notes. "An accent, then is a stimulus (in a series of stimuli) which is *marked for consciousness* in some way."[6]

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[3] Stefan Kostka and Dorothy Payne, *Tonal Harmony*, 2nd ed. (New York: McGraw Hill Publishing Co., 1989), 27-8.

[4] William Christ, Richard DeLone, Vernon Kliewer, Lewis Rowell, and William Thomson, *Materials and Structure of Music*, 3rd ed. (New Jersey: Prentice-Hall, 1980), 5.

[5] Ibid.

[6] Cooper and Meyer, *The Rhythmic Structure of Music*, 8.

For this reason, an accented beat becomes the central figure among several unaccented beats, causing the listener to group both types of beats in a rhythmic context.

***Stress**:* Stress, for some, may be considered a sub-category of accent, while others maintain that stress and accent are distinctly different terms. In their book, *The Rhythmic Structure of Music,* Cooper and Meyer refer to stress as "the dynamic intensification of a beat, whether accented or unaccented."[7] Regardless of whether a "stress" is achieved through the slight prolongation of a value or through intensity of volume, it results in an alteration or clarification of the beginnings and climaxes of rhythmic groupings.

Grouping: Grouping is a process through which sounds are mentally organized in rhythmic patterns by their relative proximity as well as through their similarities and differences with regard to pitch, range, duration, dynamics, instrumentation, etc. It is how a musician perceives successive sounds and which musical aspects he or she is drawn towards "that makes different phrasings and different

[7] Ibid.

interpretations of a piece of music possible."[8] Duration, intensity, difference, and proximity are four musical aspects that play a decisive role in grouping.

It is impossible to mention rhythmic elements only without incorporating elements of harmony when discussing phrasing, particularly relative to its application on the clarinet and the study of Rose's *Forty Etudes.* To the extent that the melodies in Rose's *Forty Studies* outline harmonic structures, harmony will also play an integral role in one's ability to interpret phrases and perform them with intent.

Melodic and Harmonic Elements

Melody: A series of pitches progressing in a linear fashion that function within the underlying harmony.

Cadence: A structural point of closure within a melody that may signify a temporary pause requiring continuation (progressive cadence) or may signify a final conclusion (terminal cadence). While elements of both "rhythm and pitch combine to produce the cadence effect," the relationship of a melody to the key or tonality of the work determines a cadence's designation and function.[9]

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[8] Ibid., 9.

[9] Christ, DeLone, Kliewer, Rowell, and Thomson, *Materials and Structure of Music*, 3rd ed., 56.

Phrase: "The patterns that span the distance from one cadence to the next are called phrases."[10] Comparable to the unfolding of words and syllables in sentences; in music, a phrase relays melody and rhythm with a natural ebb and flow of sound of both equal and unequal lengths, clarified by cadences. The succession and types of phrases/cadences operating in a work determines its musical form.

Contour: The overall shape or direction of a melodic line, generally heard as ascending or descending, or a combination of both directions, presented with regularity.

Motive: A recognizable, short unit or fragment that helps unify melodic or rhythmic material contained within a phrase.

Repetition*:* The consecutive or non-consecutive return of identical melodic or rhythmic material.

Sequence*:* The act of repeating melodic or motivic material, often consecutively, in a slightly altered way, such as transposed by step.

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[10] Ibid., 59.

Chord: "Chord Structure is the vertical arrangement of notes sounding simultaneously."[11] Three notes must be able to be stacked on three consecutive lines or spaces to form major or minor triads. Both major and minor triads contain the interval of a fifth between their outer pitches when vertically stacked. The major triad will contain the interval of a major third between its first and second notes and the interval of a minor third between its second and third notes. A minor triad contains the same intervals, however, in reverse order (minor third-major third). When the three pitches of a chord occur in a different order than when consecutively stacked, they are said to be in an inversion of the chord.

Chord function: tonic, subdominant and dominant: "If we build a triad on each degree of the major or minor scale, we can identify the resultant chords according to their relationships to the tonic degree of that scale."[12] Tonic, subdominant, and dominant chords are those that are built on scale degrees one, four, and five respectively. Hierarchically speaking, the tonic chord is the most important. The tonic chord represents the main tonality of a work. The dominant chord weakens tonality the least since its placement in conjunction with the tonic chord, (notated

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[11] Leon Dallin, *Techniques of Twentieth Century Composition,* 3rd ed. (Iowa: Wm. C. Brown Co. Publishers, 1974), 71.

[12] Christ, DeLone, Kliewer, Rowell, and Thompson, *Materials and Structure of Music,* 3rd ed., 177.

V-I) is the fundamental harmonic structure in Western music, and likewise, in the *Forty Etudes*.

On the clarinet, as with any wind instrument, the player (barring certain twentieth-century techniques) plays one pitch at a time. Chords, however, can be conveyed through arpeggiation. One's ability to recognize and group related pitches as chord members is an invaluable tool, one that is especially called for in Rose's *Forty Etudes.*

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