

UNIVERSITY OF MIAMI

TUBA PEDAGOGICAL ARTICLE COMPENDIUM ARRANGED  
ACCORDING TO THE DEWITT BRASS MODEL

By

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A DOCTORAL ESSAY

Submitted to the Faculty  
of the University of Miami  
in partial fulfillment of the requirements for  
the degree of Doctor of Musical Arts

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Tuba Pedagogical Article Compendium Arranged  
According to the DeWitt Brass Model

Abstract of a doctoral essay at the University of Miami.

Doctoral essay supervised by Professor John Olah  
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The focus of this essay is the creation of a tuba reference guide based on the compilation and investigation of tuba pedagogical articles. The content in the collected articles is examined and summarized in a methodical approach. Critical information is gathered from the selected articles and integrated into the new tuba compendium. Five topic areas of performance based on a practical brass model developed by Dr. Timothy DeWitt are used to organize the materials and information in a logical and clear manner. The five topic areas of performance that form the main chapters in this document are; Air and Tone, Range and Flexibility, Articulation, Technique, and Practical Application. A concluding chapter presents data that was collected during the research and organization of this document. The new data is intended to suggest possible trends in the publication of tuba pedagogical articles. Tuba performers of all levels should find useful information and perspectives based on the experiences of numerous past and present tubists. In addition, the chapters that are focused on the five topic areas of performance include a section that is directed toward instructors of tuba.

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## CHAPTER 1

### INTRODUCTION

Tuba practice guides serve to convey the performance suggestions of numerous authors. Existing tuba sources are effective in demonstrating the pedagogy of a single performer. There are a handful of excellent existing general brass sources in print that include information on effective brass practice techniques. Some well known sources include: “The Tuba Handbook” by J. Kent Mason,<sup>1</sup> Brian Frederiksen’s “Arnold Jacobs: Song and Wind”,<sup>2</sup> and Philip Farkas’ “The Art of Brass Playing”<sup>3</sup> to list a few.

These sources are tremendously useful because they provide in one document the proven approaches of a single authority. Frederiksen’s book, “Arnold Jacobs: Song and Wind,”<sup>4</sup> is an enduring testament to a virtuosic tubist and pedagogue and is an example of a pedagogical source based on the pedagogy of a single legendary individual. Many existing low brass practice guides are based on the experiences and knowledge of the author(s) associated with each individual source. Some draw upon an extensive bibliography to strengthen their recommendations. Norman Hunt’s, “Guide to Teaching

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<sup>1</sup> J. Kent Mason, *The Tuba Handbook* (Toronto: Sonante Publications, 1977)

<sup>2</sup> Brian Frederiksen, *Arnold Jacobs: Song and Wind* (WindSong Press, 1996)

<sup>3</sup> Philip Farkas, *The Art of Brass Playing: a Treatise on the Formation and Use of the Brass Player’s Embouchure* (New York: Wind Music, 1962)

<sup>4</sup> Brian Frederiksen, *Arnold Jacobs: Song and Wind* (WindSong Press, 1996)

Brass,”<sup>5</sup> is entirely legitimate and useful by drawing upon his experiences as an instructor. Also, his book includes an extensive bibliography. It is however the recommendation of a single authority.

There is an opportunity to create a new tuba practice guide that is built upon a large selection of credible sources. Existing brass sources are largely restricted to the ideas and conclusions drawn by the author(s) of the particular source in question. There exists no tuba practice guide that relies upon the ideas and recommendations of an extensive selection of authorities.

### **THE PROBLEM**

Brass guides rarely include a detailed methodology. In the tuba chapter of “Teaching Brass: A Resource Manual,” the authors offer no explanation of the procedure used in selecting the method materials listed in the graded literature list.<sup>6</sup> In such cases, it is difficult to determine the process used in the selection of materials or the manner by which the source materials were integrated into the document. Certainly, biases and personal preferences affect an author’s judgment in source selection. An author may solely draw upon sources that complement his own pre-conceived ideas of brass pedagogy. This is all fine and expected. But the problem persists that extant brass practice guides lack a detailed methodology of source selection and integration.

One tuba source that should not be confused as a pedagogical practice guide, but that is a tremendously useful tool in a tuba pedagogical investigation, is the “Tuba Source

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<sup>5</sup> Norman Hunt, *Guide to Teaching Brass* (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1968)

<sup>6</sup> *Ibid.*, 121.

Book,” by R. Winston Morris and Edward Goldstein.<sup>7</sup> The source by Morris and Goldstein is a recent edition that adds to Morris’s previous book and that methodically lists materials according to type of source. It is a source-listing book and is not intended to serve as a practice guide. It will be further examined in the literature review of this document.

There is no existing compilation of tuba pedagogical sources according to a suitable pedagogical model of brass performance. As described in the problem above, existing tuba guides and pedagogical manuals lack a clearly defined method of source selection.

### **NEED FOR A TUBA PEDAGOGICAL ARTICLE COMPENDIUM**

As mentioned in the introduction, there exists no tuba practice guide that relies upon the ideas and recommendations of an extensive selection of authorities. It will be a significant benefit for tubists if a source is created that is a practice guide encompassing the recommendations and ideas of several tuba pedagogues. A new pedagogical compilation of tuba articles from journals will be used to serve as a practice guide.

Of equal importance is the compilation approach chosen by this author to investigate and assemble these sources. This will address the problem cited above. In the creation of this document, there needs to be a clear method of investigation, compilation, and integration of pedagogical article sources. This author has chosen to arrange the articles in this document according to a brass pedagogical model developed by Dr. Timothy DeWitt.

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<sup>7</sup> R. Winston Morris and Edward Goldstein, *The Tuba Source Book* (Bloomington and Indianapolis: Indian University Press, 1996)

Since completing doctoral studies at the Eastman School of Music, Dr. DeWitt has served as the brass faculty at Alderson-Broaddus College in Philippi, West Virginia, since 1984. He was a member of the West Virginia Symphony Orchestra from 1985-2002, and according to his profile description listed on the college's website, he also performed with the Maryland Symphony Orchestra, the Tower Brass Quintet, and several other prestigious ensembles. His students have gone on to perform with several notable ensembles including the River City Brass Band, the Pittsburgh Symphony Orchestra, the Glenn Miller Orchestra, several military ensembles, and many others. During his recent sabbatical in the fall of 2009, Dr. DeWitt continued his extensive research in the area of brass pedagogy.<sup>8</sup>

The brass model developed by professor of music Dr. Timothy DeWitt is implemented throughout this compilation to logically arrange all sources according to their topic area of focus. The DeWitt Brass Model is described in detail in chapter three, but consists of five key areas of concentration; Recollection of Air and Tone, Expansion of Range and Flexibility, Confirmation of Clarity and Resonance in Articulation, Expansion of Technical Facility, and Confirmation of Musical Purpose / Practical Application.<sup>9</sup>

There is an additional need to create an updated pedagogical source for tuba. The review of literature in chapter three reveals that many of the revered sources of brass pedagogy are becoming increasingly dated. This appears particularly true for tuba

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<sup>8</sup> <http://www.ab.edu/academics/degrees/music/faculty/dewitt>, accessed March 15, 2010.

<sup>9</sup> Timothy DeWitt, "DeWitt Brass Model." Derived from an unpublished document that Dr. DeWitt distributes to his students, this heading will remain consistent throughout the rest of this document although it is invariably referred to by other names. Furthermore, Dr. DeWitt confirmed with this author the appropriate use of this title as the DeWitt Brass Pedagogical Model on March 16, 2010.

pedagogical sources. The trend in recent years for tuba pedagogy is for information to be shared in brief article form. It may be that contemporary tuba performers and pedagogues are intimidated by the reverence that brass players apply to older extensive texts. Perhaps the education system today is structured in such a way that encourages and rewards article submissions rather than books. These are only speculations. However, a new source on tuba pedagogy can compile these article sources into an extensive and methodically arranged practice reference. This will strengthen the ideas and recommendations of all existing tuba pedagogical articles into a single current and comprehensive source.

### **THE PURPOSE**

The purpose of this study will be to create a compilation and investigation of tuba pedagogical articles arranged according to the DeWitt Brass Model. The result will be a current tuba practice reference that integrates articles into five topic areas of brass pedagogy.

### **TASKS**

Sources will be arranged into the five following tasks:

1. Air and Tone.
2. Range and Flexibility.
3. Articulation.
4. Technique.
5. Practical Application.<sup>10</sup>

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<sup>10</sup> Timothy DeWitt, "DeWitt Brass Model."



## **DELIMITATIONS**

This compilation of pedagogical articles for tuba will be restricted to article sources that can be clearly categorized into one of the five areas of the DeWitt Brass Model. Article selection will be restricted to those that are intended to address pedagogical issues solely for the tuba. Only those articles authored by tubists are included in this compilation.

Articles will be selected from two journals: *The Instrumentalist*, and the *International Tuba and Euphonium Association Journal (ITEA Journal)*. The *ITEA Journal* existed previously as the *TUBA Journal*, and prior to that as the *TUBA Newsletter*. Articles from these predecessors to the *ITEA Journal* will also be included in this document. All years of publication of each journal will be investigated for tuba pedagogical articles. These will form a reasonable selection of articles to create the intended document.

## **OPERATIONAL DEFINITIONS**

*DeWitt Brass Model*. The daily routine for brass player's that has developed throughout Dr. Timothy DeWitt's brass teaching and trumpet performance career. It is a model that is segmented into five topic areas: Recollection of Air and Tone, Expansion of Range and Flexibility, Confirmation of Clarity and Resonance in Articulation, Expansion of Technical Facility, and Confirmation of Musical Purpose and Practical Application.<sup>11</sup>

*Tuba Pedagogical Article*. A journal article that includes critical information regarding an identifiable area of tuba pedagogy in the DeWitt Brass Model.

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<sup>11</sup> Ibid.

*Air and Tone.* Air is the power source that instigates tone. Tone is dependent upon a projected volume and velocity of air passing through a vibrating source.

*Range and Flexibility.* Range is the area of notes that are idiomatically attained by an instrument. This area encompasses the lowest notes extending up to the highest notes. Flexibility is the ability to maneuver the embouchure in a manner that results in efficient changes of notes, through lip slurs and legato playing. The scope of the definition of flexibility can be more narrow or broader depending on its application.

*Articulation.* Articulation is the concept that surrounds the coordination of the tongue, lips, and air to create a certain quality of sound to a beginning of a note.

*Technique.* An ability to execute a specific skill through extensive and consistent training. This term can apply specifically to fingering, tonguing, breathing, and phrasing. Numerous other specific uses may be applicable.

*Practical Application.* Practical application is the integration of air and tone, range and flexibility, articulation, and technique into a cohesive musical result. Etudes in various styles, for example, serve to integrate all concerns of air and tone, range and flexibility, articulation, and technique, into an intelligent musical outcome.

## **CHAPTER 2**

### **LITERATURE REVIEW**

Article sources authored by tuba performers were consulted for the purpose of research in this tuba pedagogical compilation. All articles included in this compilation have been reviewed according to the five areas of the DeWitt Brass Model that is described in Chapter One.

This chapter will review a sample of literature sources, including non-article sources, which correspond with the five topic areas used in chapters four through eight. All compilation sources will be integrated into the appropriate chapters corresponding to the DeWitt Brass Model. The review of literature in the five areas outlined herein should provide additional justification for the use of the DeWitt Brass Model as an organizational and structural model in which to compile and integrate the articles in this document.

#### **AIR AND TONE**

The sources reviewed in this heading will be examined in relation to air and tone. This is the first area of the DeWitt Brass Model. It is no surprise that the initial topic presented in the DeWitt Brass Model refers to air. It appears that almost all tuba sources directly or indirectly imply the importance of air as the paramount issue for consideration in performance. A profound source about one of the greatest masters of tuba performance, Arnold Jacobs, includes in its title, "...Song and

Wind.”<sup>12</sup> Rafael Mendez in “Prelude to Brass Playing,” reminds readers with a simple statement in an opening chapter that wind, or air, is the defining element for which all wind instruments are named.<sup>13</sup>

A book source by J. Kent Mason further illustrates the primary significance of air to the discussion of tuba pedagogy. Following a historical discussion that serves as a prelude to the pedagogical content he begins with the pedagogical topic of breathing.<sup>14</sup> Air is very often the starting point in discussing, instructing, and defining a brass instrument.

In the DeWitt Brass Model, tone is necessarily elided into the topic of air. Justification for this structure is apparent in sources that describe air as the primary source of sound. James Winter in “The Brass Instruments” details this concept fittingly in the opening chapter of his book. He emphasizes that projected air, and not the lips, serve as the determining source of sound.<sup>15</sup>

When considered as a single integrated concept, the topic of air and tone permeates many subsequent topics in tuba pedagogy. This permeation suggests another logical explanation for listing air and tone as the starting point in the DeWitt Brass Model. It is worth noting that both air and tone are included in Frederiksen’s book immediately following an explanation regarding the topic of articulation that corresponds with the third topic in the DeWitt Brass Model. Frederiksen writes, “The tongue is an

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<sup>12</sup> Brian Frederiksen, *Arnold Jacobs: Song and Wind* (WindSong Press, 1996)

<sup>13</sup> Rafael Mendez, *Prelude to Brass Playing* (New York: Carl Fischer, 1961), 7.

<sup>14</sup> J. Kent Mason, *The Tuba Handbook* (Toronto: Sonante Publications, 1977), 25.

<sup>15</sup> James Winter, *The Brass Instruments* (Boston: Allyn and Bacon, 1964), 4-5.

unruly organ...but can easily get into the air stream and negatively affect the tone's production."<sup>16</sup> The elision of the topic of articulation with the topic of air and tone is made clear by Frederiksen's statement.

A frequent contributor to the ITEA Journal outlines the clear connection of air and tone. David Porter explains methods in which he addresses the use of air in order to achieve a desirable sound.<sup>17</sup> Porter includes examples of exercises that will, "...create a lot of airflow."<sup>18</sup> This will be explored more in the appropriate chapter on Air and Tone.

### **RANGE AND FLEXIBILITY**

The second area that is listed in the DeWitt Brass Model presents a category with exercises that are meant to expand a player's flexibility and range following the recollection of proper air and tone. These include; lip slurs, lip bends, and expanding flexibility studies. Most tuba pedagogy guides offer complementary suggestions and exercises intended to establish a more flexible embouchure. In his book, "Guide to Teaching Brass," Norman Hunt states that the tension and release effect that occurs to the lip muscles during lip slurs not only helps to keep the embouchure flexible, but that it is essential to develop embouchure strength.<sup>19</sup> He offers additional examples of exercises for all brass instruments in various ranges.

Range is an important consideration in the development of a flexible embouchure. Hunt makes this implication in drawing attention to a daily routine by stating, "For the

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<sup>16</sup> Ibid., 126.

<sup>17</sup> David Porter, "Buzzing the 'Bohm'." *ITEA Journal* 33 (Summer 2006): 83-84.

<sup>18</sup> Ibid., 84.

<sup>19</sup> Norman Hunt, *Guide to Teaching Brass* (Dubuque, Iowa: William. C. Brown Company, 1968) 69-70.

development of the embouchure, this routine consists largely of lip slurs throughout the register of the instrument.”<sup>20</sup> An article by Porter comments on a more detailed alternative approach to develop a greater range. His pedagogical suggestions are particularly intended for students for whom traditional approaches haven’t produced results. Relying upon a four-step procedure that he learned from the extraordinary tuba instructor R. Winston Morris, Porter outlines steps in detail using a student as an example. This procedure involves blowing air across the roof of the mouth that is directed toward the top lip.<sup>21</sup>

An article by Cherry Beauregard lends further importance to the topic of range and flexibility. The article “Learning to Play Lip Slurs,” highlights the need to maintain daily flexibility. He states, “Lip slurs, or the ability to play lip flexibility patterns should be a basic part of every tuba player’s technique.”<sup>22</sup> Beauregard’s explanations and advice in the article will be further explored in the chapter dealing with range and flexibility. This source supports the inclusion of early-published article sources in an effort to integrate their insights into an updated source compilation.

## **ARTICULATION**

In daily routines, brass players will most certainly encounter exercises or methods that attempt to promote consistent articulation. There are differing views on this subject but not necessarily contradictory. The one quibble of contradiction that the literature reveals is that the manner in which effective articulation is taught appears to have

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<sup>20</sup> Ibid, 70.

<sup>21</sup> David Porter, “Roof ‘N’ Mouth.” *ITEA Journal* 35 (Spring 2008): 81.

<sup>22</sup> Cherry Beauregard, “Learning to Play Lip Slurs.” *TUBA Journal* 7 (Fall 1979): 6.

evolved quite radically from the approaches proposed at the turn of the century. Jason Byrnes in the article, “Articulating a Few Concepts,” briefly describes an older approach to teaching articulation that was advocated in early versions of the “Arban Complete Method.” This approach consisted of using a pencil against the lips during articulation.<sup>23</sup> In his article, Byrnes presents a modern effective approach to consistent articulation. He lists ideas for the use of various speech consonants, advocating for the use of “toe” as a starting point. The article is further informative in divulging ideas on establishing consistent articulation throughout the entire range of the tuba.<sup>24</sup>

Discussion of articulation evidently elides into more detailed investigation of the aspects that involve the creation of articulation. Tonguing, an established brass concept that surrounds the immediacy of articulation is a central concern in any general brass articulation study. The word tongue appears in the first sentence in Philip Farkas’s chapter on articulation in “The Art of Brass Playing.” Farkas reiterates that there are several different approaches to tonguing.<sup>25</sup>

The authors of a recent brass teaching manual “Teaching Brass,” list ‘tonguing’ as the first heading in their tuba articulation section. In contrast to other brass teaching manuals, this work discusses articulation separately for each of the brass instruments. In the introduction to the tonguing section in the chapter for tuba, the text stipulates that tonguing on the tuba contrasts greatly from that of the other brass instruments.<sup>26</sup> An

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<sup>23</sup> Jason Byrnes, “Articulating a Few Concepts.” *ITEA Journal* 34 (Winter 2007): 94.

<sup>24</sup> *Ibid.*, 94.

<sup>25</sup> Farkas, Philip, *The Art of Brass Playing* (Bloomington: Musical Publications, 1962), 45.

<sup>26</sup> Wayne Bailey et al., *Teaching Brass: A Resource Manual* (New York: McGraw-Hill, 1992), 110.

example of an earlier brass pedagogy guide by John Green and Robert Winslow demonstrates that articulation has not always been carefully discussed as a separate entity unique to each brass instrument. In their guide, “Playing and Teaching Brass Instruments,” Winslow and Green do however include extensive musical examples of four types of articulation that are written in four brass parts.<sup>27</sup>

## **TECHNIQUE**

One of the subdivision topics in the DeWitt Brass Model concerning is the development of finger technique. DeWitt proposes several exercises to focus on this element of brass technique. Porter writes, “...the tuba valve stroke is...the longest, widest and heaviest of all the brass instruments.” In order to overcome fingering issues, he continues to outline a method that is arguably intended for younger players with deficient finger technique. Advanced tubists with superb technique may see limited benefit from these suggestions.<sup>28</sup>

Discussion of the embouchure is often presented in the context of strengthening one’s lip muscles or tongue placement. Byrnes presents a detailed account of embouchure tendencies and irregularities rather than a simple discussion of strengthening the lip muscles. The article outlines some disadvantages to the ‘smile’ embouchure and includes suggestions in creating an embouchure that promotes greater overall technique. In addition to presenting a logical explanation to correcting a smile embouchure, Byrnes includes credible sources to strengthen his position.<sup>29</sup>

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<sup>27</sup> John Green and Robert W. Winslow, *Playing and Teaching Brass Instruments* (Englewood Cliffs: Prentice-Hall, 1961), 69-81.

<sup>28</sup> David Porter, “Tubastroke – Not a Boat Stroke.” *ITEA Journal* 32 (Summer 2005): 83.

<sup>29</sup> Jason Byrnes, “How Healthy is Your Embouchure.” *ITEA Journal* 34 (Fall 2005): 76-77.



## PRACTICAL APPLICATION

One source, “The Tuba Family,” by Clifford Bevan, may contribute historical context for the purpose of discussion throughout this investigation. Bevan’s exhaustive historical tuba book may prove invaluable in its discussion of the tuba outside of the orchestra. It includes the use of the tuba in jazz band, concert band, and other avant-garde styles for the tuba.<sup>30</sup> Even though it is not integrated into this compendium, it is an example of a tuba source that provides practical application information to the tubist.

R. Winston Morris and Edward Goldstein’s book is a comprehensive listing of tuba sources arranged in ideal categories for easy reference. This source is an indispensable tool for every tubist regardless of his or her field of interest.<sup>31</sup> It appears that the text by Morris and Goldstein is a valid replacement of the now-dated text by Mary Rasmussen. The 1968 text by Rasmussen, “A Teacher’s Guide to the Literature of Brass Instruments,” was conceived during a period that only began to produce notable repertoire works for tuba. She exclaims perhaps shortsightedly, “No one ever claimed that the tuba had any solo repertory...one should think twice before consigning anyone to the tuba player’s fate.” Rasmussen’s book may be consulted for quick reference of older pedagogical texts but its limited use in current research is obvious.<sup>32</sup>

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<sup>30</sup> Clifford Bevan, *The Tuba Family* (London: Faber and Faber, 1978) 9, 176-189.

<sup>31</sup> R. Winston Morris and Edward Goldstein, *The Tuba Source Book* (Bloomington and Indianapolis: Indiana University Press, 1996) 417.

<sup>32</sup> Mary Rasmussen, *A Teacher’s Guide to the Literature of Brass Instruments* (Durham, NH: Appleyard Publications, 1968) 59.

The greatest use of the source by Morris and Goldstein will be for its practical listing of pedagogical article sources. The authors include an exhaustive listing of pedagogical articles from a multiple selection of journals.<sup>33</sup>

Gary Bird's "Program Notes for the Solo Tuba," is a program notes compilation. The composers or those who have studied the selected works closely are the authors of the included program notes. This source highlights the necessity of the previous discussed areas of the DeWitt Brass Model. In one note, composer John Stevens exclaims that his work implies a virtuosity of technique and tone projection.<sup>34</sup> In Bird's book, the accompanying notes to Persichetti's "Serenade No. 12 for Solo Tuba" served as a practical example to this writer who consulted the text by Bird for performance preparation of Persichetti's unaccompanied work for tuba. The text regarding this work illustrates the need to focus on technique, air and tone, and articulation, in order to present the wide dynamic leaps, the extensive use of buoyant syncopated rhythms, and to perfectly execute the difficult Capriccio movement, which, "...makes the most demands on the player's technique and agility."<sup>35</sup>

Young players may not apply the same musicianship approach in solo or lesson playing as they do in ensemble performance. In another article, "The World Behind the Bell," Porter ironically argues that young students are too focused on the practical application of their skills. This results in the student performer demonstrating solid

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<sup>33</sup> R. Winston Morris and Edward Goldstein, *The Tuba Source Book* (Bloomington and Indianapolis: Indiana University Press, 1996) 442-444.

<sup>34</sup> Gary Bird, *Program Notes for the Solo Tuba* (Bloomington and Indianapolis: Indiana University Press, 1994) 100.

<sup>35</sup> *Ibid.*, 70-72.

musicianship as long as they are in an ensemble, but failing to maintain that standard in private lesson or solo playing. Porter emphasizes that young students will better apply their musicianship in private lesson when they learn to be as passionate about their own sound rather than relying on inspiration from an ensemble sound.<sup>36</sup>

## SUMMARY

The literature concerning tuba pedagogy has evolved into more detailed explanations of advice, ideas and suggestions, and accepted facts. This is especially seen in comparing brass-teaching manuals from decades ago to those that are current. Older sources by Norman Hunt,<sup>37</sup> Robert Winslow and John Green,<sup>38</sup> and Winter,<sup>39</sup> discuss topics such as articulation in a general scope. Recent brass texts point toward a trend to explain issues in greater detail and with a more specific scope. The more recent source, “Teaching Brass: A Resource Manual” explains some general brass issues, including articulation, in its first five chapters. However, the chapter dedicated to tuba extends considerable specific information on issues concerning embouchure, articulation, and breathing.<sup>40</sup>

In the following chapters four through eight that deal with the actual investigation and integration of tuba pedagogical articles within the structure of the DeWitt Brass Model, some articles may be included in more than one area. One example of this is an

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<sup>36</sup> David Porter, “The World Behind the Bell.” *ITEA Journal* 35 (Winter 2008): 72-73.

<sup>37</sup> Norman Hunt, *Guide to Teaching Brass* (Dubuque, Iowa: William. C. Brown Company, 1968)

<sup>38</sup> John Green and Robert W. Winslow, *Playing and Teaching Brass Instruments* (Englewood Cliffs: Prentice-Hall, 1961)

<sup>39</sup> James Winter, *The Brass Instruments* (Boston: Allyn and Bacon, 1964)

<sup>40</sup> Wayne Bailey et al., *Teaching Brass: A Resource Manual* (New York: McGraw-Hill, 1992), 1-19, 107-112.

article by Ronald Bishop, “Fundamentals of Tuba Playing,” that includes significant statements on topics that relate to three areas of the DeWitt Brass Model. Bishop’s main topics in his article include; breathing (Air and Tone), slurring (Range and Flexibility), tonguing (Articulation), and range (Range and Flexibility).<sup>41</sup>

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<sup>41</sup> Ronald Bishop. “Fundamentals of Tuba Playing.” *TUBA Journal* 5 (Winter 1978): 10-11.

## **CHAPTER 3**

### **METHOD**

This chapter will address the problem noted in Chapter One by outlining the method used to create a practical tuba pedagogical compilation and practice reference that is based on the insights investigated in tuba pedagogical articles. There are four steps used to compile each tuba pedagogical article. The four steps will be discussed in this chapter under the following headings: Data Gathering, Data Classification and Presentation, Analysis of the Information, and Application and Integration of the Information. The four steps used in this document to compile tuba pedagogical articles are loosely derived from a study of the Alexander technique.<sup>42</sup>

#### **DATA GATHERING**

The procedure used to collect data will be to consult article sources from two journals: *The Instrumentalist*, and the *International Tuba and Euphonium Association Journal* (ITEA Journal). As mentioned in Chapter One, the ITEA Journal existed previously as the *TUBA Journal*, and for a short period of time prior to that as the *TUBA Newsletter*. Articles from these two journals that have evolved into the current ITEA Journal will also be included in this document. All years of publication of each journal will be investigated for gathering tuba pedagogical articles.

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<sup>42</sup> Shao-Chin Chien, "Application of the Principles of the Alexander Technique to Viola Playing and Performance" (DMA diss., University of Miami, 2007), 17-20.

## **DATA CLASSIFICATION AND PRESENTATION**

Information that was collected was classified according to the five areas of the Dewitt Brass Model. Each area will comprise a separate chapter in sequence following the conclusion of the present chapter. The five chapters in order from four through eight will be: Air and Tone, Range and Flexibility, Articulation, Technique, and Practical Application.

Each of the five areas in the DeWitt Brass Model is further subdivided. In each chapter of the compilation, chapters four through eight, the sources will be integrated in the subheadings that are developed based on the major topics that are discussed in the gathered tuba pedagogical articles. An effort is made to correspond the subheadings in the compilation with the subheadings in the DeWitt Brass Model.

In the first topic, Air and Tone, the following subheadings apply: Preparing Air Source and Freeing the Air Stream, Additional Considerations in Air and Tone, and Air and Tone Strategies for Teachers. Each subheading in this chapter and the others will contain additional subdivisions that are entirely derived from the topics in the gathered articles. These subdivisions of the subheadings can be seen in the Table of Contents.

In the second topic, Range and Flexibility, the following subheadings apply: Establishing the Flex, Expanding the Range, and Range and Flexibility Strategies for Teachers.

The third major topic, Articulation, contains the following subheadings: Tonguing on the Airstream, Establishing Consistency of Attack, and Articulation Strategies for Teachers.

The fourth topic, Technique, includes the following subheadings: Challenging Fingers, Challenging Facility, Additional Considerations in Technique, and Technique Strategies for Teachers.

The final topic, Practical Application, includes the following subheadings: Phrasing and Flow Studies, Characteristic Studies, Exercises Personally Derived from Current Repertoire, Additional Considerations in Practical Application, and Practical Application Strategies for Teachers

### **ANALYSIS OF THE INFORMATION**

All articles will be reviewed by thorough investigation of the text. This will determine into which area of the DeWitt Brass Model each source should be classified. Some sources will be appropriately discussed in more than one topic of the investigation.

The articles will be analyzed by reading and writing-up a one to two paragraph summary. Analysis of sources will include determination of the following information: purpose of the pedagogical article and its information, credibility or background of the author, quality of prose, and significance of the statements made by author.

The purpose for the article summary will be to maintain a detailed and coherent outline method in which vital ideas are extracted from each source. This will provide a practical method of research, and ensure that the ideas extracted from sources are filtered through a thought-provocative process of interpretation, critique, and conclusion.

The summary of each individual article will be stored in a separate document called Article Summaries. This document will help to maintain organization. For instance, when the information of a particular article has been inserted into the

compilation, the writer will make a note beside the article summary in the Article Summaries document that the information has been inserted and completed.

It is expected that the summaries will aid in the determination of an intelligent organization of the sources. The Article Summaries document will be used as part of the process of analysis of the information as outlined in this method and will not be included in the compilation.

### **APPLICATION AND INTEGRATION OF THE INFORMATION**

After the information of each source has been analyzed it must be carefully integrated into the appropriate area of the compilation. The text will selected from the Article Summaries document and will be further edited to suitably integrate into the compilation. The degree in which each article will be applied in this compilation will depend to some extent on its length, but more extensively on its pedagogical relevance and information contribution for each topic.



## CHAPTER 4

### AIR AND TONE

#### PREPARING AIR SOURCE AND FREEING THE AIR STREAM

##### *Breathing Techniques*

Tuba players, more than any other wind instruments, must deal with the matter of sufficient air intake and the struggle to not allow this to disrupt the musical phrase. For this purpose, in the article “Breathing Life into Your Performance,” Scott Mendoker asserts that the breath must be carefully planned just as one would plan the most difficult passage in a work. He writes that the goal is to make the breath a part of the whole picture.<sup>43</sup>

Mendoker’s specific suggestion in breathing is to fill up air to about eighty percent of lung capacity. Beyond eighty percent, he states, “...there is muscle tension that also develops when the lungs are too full.” On the other end of the lung capacity spectrum, he advises using air down to about fifty percent of lung capacity. He advises against using the air that is below fifty percent lung capacity. He writes, “When the volume of air in the lungs drops below fifty percent of capacity, the brain engages certain muscles to further help push the air out of the lungs.” If a performer is not cautious, the pushing of air can decrease overall tone quality.<sup>44</sup>

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<sup>43</sup> Scott Mendoker, “Breathing Life into Your Performance.” *Tuba Journal* 22 (Summer 1995): 30.

<sup>44</sup> Ibid.

Mendoker provides a brief exercise to develop quick air intake. With the metronome set to a moderately slow tempo, he writes, "...in 5/4 time, exhale for beats one through four so that by beat four, you've pretty much emptied your lungs. On beat five, inhale. Repeat this exercise several times...turn up the speed...aim for a total refill over the period of one beat, regardless of the tempo...stay relaxed..." It is vital that the tuba performer consider the ideas above by Mendoker in a real effort to make the tuba breath a part of the music.<sup>45</sup>

Daniel Perantoni provides descriptive physiological steps in the breathing process. In, "Tuba Talk Part II – Performance Tips," Perantoni begins the section of breathing by stating, "Breath is the most important physical aspect of tone production because it is the source of energy that causes the lips to vibrate." The breath should be taken often enough, he says, especially in long phrases, in order to avoid the possibility of tension in the tone.<sup>46</sup>

In order to take a full and relaxed breath of air, Perantoni provides the following explanation,

...suck in air to expand both the abdominal area and the rib cage naturally and simultaneously. The sternum (breast bone) should rise gradually along with an upward, as well as outward, movement of the rib cage. At the same time, the abdominal muscles should relax with an outward movement to increase the size of the lower section of the chest cavity...the tubist's chest cavity is able to reach its greatest size with a minimum waste of body energy."<sup>47</sup>

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<sup>45</sup> Ibid.

<sup>46</sup> Daniel Perantoni, "Tuba Talk Part II – Performance Tips." *The Instrumentalist* 38 (January 1984): 40.

<sup>47</sup> Ibid.

Perantoni suggests that the ‘o’ vowel should be used for both inhalation and exhalation. He also points out the effect that the need for breathing has on the musical product. Tubists, more than other wind players, need to, “...learn to breathe frequently and quickly, and to sub-phrase long lines.” Described in other words, tuba players have the right to take more personal breaths as long as they do not interfere with the musical integrity of the phrase.<sup>48</sup>

Donald Stanley begins his article, “Breathing Techniques for the Tuba Player,” by justifying the need for a breathing techniques article. In his introduction, he proclaims that the tuba is the most demanding instrument for breathing and breath support. His article is distributed into three areas of concern: Inhalation, Breath Support, and Breath Control.<sup>49</sup>

In order to maintain a natural posture for inhalation, Stanley cautions against any movement that seems to resemble reaching for the mouthpiece with a protruded neck. He describes the ideal inhalation position, “The chest should be held as high as possible to create the feeling of enlarging and expanding the chest cavity...Avoid raising or tightening the shoulders – these are movements which do not raise the chest and thus prohibit the free flow of breath.” Stanley reiterates that following these ideas for inhalation, proper posture will promote efficient breathing.<sup>50</sup>

In the second area of breathing, Stanley offers a definition for breath support. He writes, “Breath support for the tuba player depends on the intensity and speed of the air

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<sup>48</sup> Ibid.

<sup>49</sup> Donald Stanley, “Breathing Techniques for the Tuba Player.” *The Instrumentalist* 30 (October 1975): 55.

<sup>50</sup> Ibid.

stream as it passes through the lips and instrument.” It is inadequate to rely simply on the relaxation of the diaphragm during exhalation. Stanley states that this will not produce positive tone results. The performer should ‘push’ the diaphragm with the abdominal and intercostal muscles. This, writes Stanley, puts more pressure on the air in the lungs. He cautions about forcing too much air through a smaller aperture in higher registers. This can cause a backpressure buildup of air in the throat.<sup>51</sup>

In the initial stages of exhalation, a performer will need less breath support and require more concern in controlling the escape of air. Stanley writes, “As the air supply decreases, a more conscious effort is necessary to support and lift out the last half of the air supply to the lips.” Stanley summarizes this idea, “...less breath support is needed at the beginning of the phrase than at the end.” The proper approach to breath support will “...make it possible to maintain good, consistent tone quality from beginning to end [of a phrase].”<sup>52</sup>

Ralph Hepola interviews Roger Bobo in the article, “Roger Bobo Talks Tuba.” In one question, Hepola asks Bobo to offer his ideas on breathing. In response, Bobo stresses simplicity to breathing. He says, “Make as little out of it as possible. As soon as breathing becomes a self-conscious function, it’s becoming more important than it should be.” Bobo maintains the simplicity approach even when mouthpiece buzzing. He does this to eliminate any inconsistencies in tone quality.<sup>53</sup>

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<sup>51</sup> Ibid.

<sup>52</sup> Ibid.

<sup>53</sup> Ralph Hepola, “Roger Bobo Talks Tuba.” *The Instrumentalist* 32 (November 1977): 60.

There are several elements of tone production that are shared by vocalists and instrumentalists. To distinguish even further among instrumentalists, Chester Roberts, claims that brass players more closely correspond to the physical tone producing functions of a vocalist than a woodwind, string, or keyboard player. In the article, “A Singer Looks at Brass Playing,” Roberts compares the physical mechanisms and processes in singers and instrumentalists. He specifically focuses on what the brass player may adapt from the vocal tradition with regard to this topic.<sup>54</sup>

Roberts lists three critical elements in tone production: “...(1) that which vibrates...(2) that which causes the vibrator to vibrate...(3) a resonator...” For a brass performer, Roberts writes, “It is only the resonator which remains outside and apart from him,” unlike all other instruments which are much less intimately involved in the production of tone. The resonance chamber in a brass player, unlike a vocalist, is, “...a manufactured contraption – a tube of metal.” For a vocalist, Roberts adds, the resonating chamber, “...with all its implications for expressivity, is a very major element in the singer’s art; whereas for the brass player, the single fixed mode of resonance at his disposal offers no comparable variability of tone color...”

The instrument on its own, Roberts explains, can produce nothing. It is a passive tool that is only capable of resonating that which is transported through it in the form of a vibrating column of air that begins at the lips. In an effort to highlight vocal and instrumental similarities, Roberts writes, “...the vocal chords bear a marked resemblance to the lips. Like the latter, they are environed by a complex arrangement of muscles whereby tension-compression states are adjusted for production of frequencies over a

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<sup>54</sup> Chester Roberts, “A Singer Looks at Brass Playing,” *TUBA Journal* 16 (Fall 1988): 45.

compass...of two octaves and more.” Vocalists, Roberts reports, are encouraged to learn tone production without excess focus on controlling detailed aspects of muscle functions. Brass players should also be encouraged to develop, “...natural and instinctive efficiency,” without being burdened by too much focus on musculature functions.<sup>55</sup>

Roberts’ final area of concern is the actuator in tone production, also known as the breath function. He provides a detailed description of the muscles involved in contraction and expansion during inhalation and exhalation. The most critical warning he provides is that the diaphragm is too often mistakenly understood as a voluntary muscle. He reminds, “...it is designed by nature to operate automatically – that is, independently of conscious volition.” Instead the ‘power surge’ of breath as he calls it, is derived from costal breathing of the lungs (contracted during inhalation), and abdominal breathing which involves the expansion of the abdominal wall, “...in unison with the downward-and-outward movement of the diaphragm, as in ordinary respiration.”<sup>56</sup>

He concludes the article by stating that breathing must basically satisfy three areas of performance. Breathing must provide sufficient air, oxygen, and it must be deliberately in accordance with the musical phrase. He stresses the importance to plan all breaths in any prepared work.<sup>57</sup>

Jeffrey Funderburk presents a different perspective on breathing, one based on his readings of Zen meditation. In the article, “Proper Breath,” Funderburk writes, “A key point involves relaxation of both mind and body. This relaxation helps to reduce outside

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<sup>55</sup> Ibid., 46.

<sup>56</sup> Ibid., 47.

<sup>57</sup> Ibid., 47-48.

distractions. The goal in this use of breath control is to effectively quiet the mind.” To achieve the highest goal, that Funderburk states should be to free the mind in order to keep musical ends as the primary objective, he presents a simple breathing exercise that he calls the 5-3-1 Breathing Exercise. He explains, “In 5 even counts, breath in completely...After 5 counts, exhale in the same steady, relaxed fashion...Without pause, continue the breathing cycle with a 3-beat inhalation and exhalation...Finally, proceed to a 1 count inhalation and exhalation...” This exercise should be done in a slow steady beat, and each count should be repeated three times before proceeding to the next. He cautions that this exercise may cause some dizziness, but that the benefit will be a completely relaxed breathing apparatus.<sup>58</sup>

Funderburk includes an important section at the end of the article on what he calls the most important part of breathing – the exhalation. Long tone exercises, he suggests, can promote the air to be released, “...in an easy, effortless way in order to produce the fullest, most resonant tone.” He explains a simple unmeasured long tone exercise. On an open partial, low C on a CC tuba, play a warm and even tone. He continues, “Play at a comfortable, unstrained volume – *mp* to *mf*. Keep the pitch and tone even. When the air runs low, stop the tone in the same way that the breath ends when sighing. The end of each note should be as even and relaxed as the rest of the note.” He cautions, “Do not force in order to completely empty the lungs, as this causes unwanted tension to develop.” Funderburk concludes that breath attacks should be used in this exercise.<sup>59</sup>

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<sup>58</sup> Jeffrey Funderburk, “Proper Breath.” *TUBA Journal* 14 (November 1986): 17.

<sup>59</sup> *Ibid.*, 18.

In the article, “Fundamentals of Tuba Playing,” Ronald Bishop devotes two paragraphs to breathing. He compares the breath to the bow of a string instrument, and the embouchure to the string of a cello. Bishop describes a practical and simple exercise to try using a three-inch tube with an approximate three-quarter-inch diameter. He explains, “Starting with your lungs ‘empty,’ inhale through the tube as much air as quickly as you can. Try it again and sense the incredible ease with which the lungs get filled with air...” The point of this exercise is to establish in the tuba player the sense of effortlessly attained air.<sup>60</sup>

Breathing in tuba performance is often compared to bowing in string playing. Donald Little, in the article, “A Young Tubist’s Guide to the Breath,” writes, “...the breath is to tuba playing as the bow is to string playing. Both the breath and the bow initiate and prolong vibrations which help create musical sound...” Both, he continues, must produce smooth musical lines through steady and continuously flowing technique. This article intentionally avoids in-depth anatomical study into the breathing processes of tuba performance, and instead focuses on general breathing concepts that can be easily applied through study.<sup>61</sup>

Little highlights the differences between regular breathing and tuba performance breathing. The two main differences that should be understood are, in Little’s words, “...during tuba playing much more air must be moved in and out...[and]...during tuba playing the exhaled breath must be expelled and projected (rather than just released) in a controlled and smooth flow.” The key to success in this effort, Little points out, is to

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<sup>60</sup> Ronald Bishop, “Fundamentals of Tuba Playing.” *TUBA Journal* 5 (Winter 1978): 10.

<sup>61</sup> Donald Little, “A Young Tubist’s Guide to the Breath.” *TUBA Journal* 8 (Winter 1981): 2.



maximize efficiency with minimal effort. He attributes this simple point to his influences from Arnold Jacobs.<sup>62</sup>

The next subject that Little discusses to attain correct breathing is proper posture. His unique view of quickly attaining correct posture is shared in this statement, “...correct posture for the tubist is to sit as you stand.” The player, he explains, should not slump toward the tuba in the slightest amount.<sup>63</sup>

Little cautions about the detriment of tension in particular areas of the body. Tension is common in the shoulders, throat, and abdominal areas. Some instructors urge the player to actively keep the shoulders down. However, with too much attention on keeping the shoulders down, tension may be encouraged rather than eliminated. Little advises, “Instead, think of the shoulders as being ‘free-floating,’ and allow them to both rise and fall slightly as you breathe and play.” The throat area, Little describes, can be thought of as the fuel-line for the breathing system. He suggests that one way to eradicate tension in this area is to imitate the feeling of a yawn. He also suggests the syllable ‘hoe’ during inhalation. The abdominal area can be tense as a result of a player who strives to over-manipulate the inhalation process. This problem is sometimes exaggerated in young players when they respond to their director’s demands for more air support. Little advises that the player should give more thought to the drawing in of large quantities of air and allow the chest cavity and abdominal area to expand on its own.<sup>64</sup>

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<sup>62</sup> Ibid., 3.

<sup>63</sup> Ibid.

<sup>64</sup> Ibid., 4.

One of the final recommendations that Little makes is to avoid holding the air immediately after inhalation. He calls this the ‘locking’ in of air. He says, “Instead, play off of the ‘rebound of the breath’ by starting to blow just at the moment the lungs are full or nearly full.” The essence of good breathing is to establish a process that is natural, relaxed, and efficient.<sup>65</sup>

Arnold Jacobs shares his thoughts on breathing and airflow in the article, “Arnold Jacobs Master Class.” One of the enemies of proper breathing is muscle stiffness. Jacobs writes that because the human body has hundreds of muscles paired as antagonists to one another, there is enormous potential for stiffness. He relates this concern to breathing and stomach muscles. Jacobs writes, “I teach that strength in the stomach muscles, which some teachers teach as support, is an enemy. I want weakness. It sounds strange, but like a bow arm on a violinist, we don’t want triceps and biceps contracted when using a bow.”<sup>66</sup>

### ***Breath Placement***

In discussions concerning breathing, physical aspects of breath control often take primary consideration. Jeffrey Funderburk produces an article that concentrates on an area of breath control that is overlooked in many circumstances. In “Where to Breathe,” Funderburk focuses on the breath as an essential component of musical interpretation. He writes, “Viewed as an interpretive device rather than merely a physical necessity, breath placement becomes an integral interpretive feature of the music.” In fact, he

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<sup>65</sup> Ibid., 5.

<sup>66</sup> Arnold Jacobs, “Arnold Jacobs Master Class.” *The Instrumentalist* 45 (June 1991): 21.

asserts, properly placed breaths can help create a musical phrase that is so captivating whereby the audience can breathe with the music.<sup>67</sup>

Before outlining a few tips to aid in breath placement, Funderburk presents two important points for consideration. First, he asserts, it is critical to understand the entire score. Breath placement decisions should not be made from the solo part alone. He writes, "...the accompaniment will often dictate many of our choices. In some cases the accompaniment may help 'cover' a breath, while at other times breaths may be placed to heighten the musical effectiveness of passages in the accompanying parts." Secondly, Funderburk points to an essential musical element to consider in breath placement – the sequence. As a rule, he writes, breaths should be placed between sequences.<sup>68</sup>

The second portion of Funderburk's article presents additional tips to consider in breath placement. He discusses them in the order of his preference. First, players should make the biggest opportunity to breathe efficiently at rests in the music. The endings of phrases are often a logical place for breath placement. In tuba performance, when breathing becomes necessary before the conclusion of a phrase, Funderburk advises that the next best place to insert a breath may be after tied or dotted notes. He writes, "Notes that have dots or ties offer an excellent choice as they commonly represent a point of 'pause' within the flow of the musical line." Finally, he says, it may be necessary to consider leaving out a note, especially within extended technical passages. The function

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<sup>67</sup> Jeffrey Funderburk, "Where to Breathe." *TUBA Journal* 26 (Fall 1998): 77.

<sup>68</sup> *Ibid.*

of the note that is to be omitted must be taken into consideration so that the logic of the phrase is not disturbed.<sup>69</sup>

### ***Sound Concepts***

Tubists may place such an emphasis on developing a dark and heavy tone that they may be unable to suitably adapt when an ensemble or solo scenario demands a different sound. Cherry Beauregard in the article, “Diversity of Sound and Adaptability,” writes that the tone that tuba players should strive to achieve is, “...solid, compact and well centered; a sound that is mobile and adaptable.” A heavier tone is less agile and mobile, Beauregard comments, but it is needed when playing orchestral works by composers such as Bruckner and Prokofiev. He continues, “What about some of the Richard Strauss operas like ‘Electra’ and ‘Salome,’ or the off stage tuba part in Alban Berg’s opera ‘Wozzeck’? These parts are extremely technical, requiring fleet, clean playing.”<sup>70</sup>

Equally important for tubists is the ability to adapt when a conductor demands a sound that is unexpected, perhaps even outrageous, compared to the sound concept that the tubist conceived. Beauregard does not write extensively on how a performer can develop adaptability. In one statement, he writes, “...within limits, a performer can change his tone color and the lightness or heaviness of his playing.” The second main suggestion that Beauregard offers is that the tubist can acquire different sizes and pitches of tubas. A large tuba can serve well for most orchestral parts, but a smaller tuba is

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<sup>69</sup> Ibid.

<sup>70</sup> Cherry Beauregard, “Diversity of Sound and Adaptability.” *TUBA Journal* 9 (Spring 1982): 9.

necessary for Berlioz as well as much of the quintet repertoire. This article is an appeal to give consideration to developing a broader perspective on sound rather than an instruction guide on how to achieve this goal.<sup>71</sup>

In the article, “Arnold Jacobs Master Class,” Jacobs shares many of his thoughts that relate to sound production. To create sound, the brass player must generate these ideas before they are performed. Jacobs writes, “. . .with a brass instrument you have to hear the pitch in your brain based on recall and conceptual thought.” He stresses the importance of avoiding an over-analytical approach to performance: especially an approach that attempts to focus in too great detail on every musculature movement. Jacobs explains this idea in greater detail. He says, “We should not concern ourselves with the physical details of playing a brass instrument but concentrate instead on how we want the instrument to sound. Sound is the end product of what we do; I try to focus on the concept of sound and minimize the mechanical procedures that produce it.”<sup>72</sup>

Directed to performers and teachers, David Porter’s article, “Power Through the Woof!” provides descriptions, criticism, and commentary on two distinct tuba sounds. In the middle of the article Porter asks, “. . .does the tuba world want the clear sound or the woofy sound to be the characteristic trademark for tuba?” As an introduction to the discussion, Porter highlights the point that tubists usually seek a sound with higher harmonic characteristics. This allows them to hear themselves better. In contrast,

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<sup>71</sup> Ibid., 9-10.

<sup>72</sup> Arnold Jacobs, “Arnold Jacobs Master Class.” *The Instrumentalist* 45 (June 1991): 21-22.

ensemble directors tend to seek a sound that has more powerful lower harmonic characteristics.<sup>73</sup>

The ‘clear sound’ is the model that most professionals choose to pursue. Porter says, “I’ve noticed many professionals drifting to a characteristic clear yet pleasing tuba sound, focusing on higher harmonics for definition.” The advantage in the clear sound is that it is clear and direct. This makes it especially suitable for solo and chamber performance where the bass sound needs to be immediate. Porter says that the weakness to the clear sound is that it lacks a real ‘bass’ quality, as it tends to blend too much with higher sounding instruments.<sup>74</sup>

In contrast, the ‘woof’ sound provides true bass support. It is massive. Porter says, “...this sound can be heard everywhere, literally omni-directional. The result is a powerful bass sound coming through the ensemble. When done properly the sound is gorgeous, and the amount of airflow from the player can only be measured in many multiple liters of air per minute.” The weakness is in its clarity, particularly with regard to fast-articulated notes. The lower harmonics of this sound require more time for the sound to be heard. It takes more time to move such a large mass of sound.<sup>75</sup>

The decision about which sound a player should choose should be based on the required task. Porter comments, “We have to play to fit the particular job.” He advocates that teachers should teach both sound concepts. Listening to recordings and performers, and trying to listen and develop an understanding of the lower and higher

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<sup>73</sup> David Porter, “Power Through the Woof!” *ITEA Journal* 31 (Spring 2004): 86.

<sup>74</sup> *Ibid.*, 87.

<sup>75</sup> *Ibid.*

harmonics in a sound are the best approaches to learning the characteristic qualities of the two sounds. Porter states, “Just pointing this out to [students] can instigate dramatic differences in how they play.” Again air and tone are intertwined in this topic. Porter reminds the reader at the conclusion of the article, “Always...the most common element for sound manipulation is airflow.”<sup>76</sup>

Brass players are familiar with the manipulation of changing vowel sounds, especially in their application in serving as a useful aid during lip slurs. One example of this is the use of the vowels ‘ah-ee’ when ascending in a slur from a lower partial to a higher partial, and reversing this vowel set to ‘ee-ah’ when descending on the same partials. Rex Conner, in the article “Tuba Diphthongs,” argues that the application of these diphthongs may not serve as useful a purpose for tuba players, especially in the lower register, as they do for their higher brass colleagues. The appropriate sound concept should determine the vowel formation rather than the ease of flexibility.

Conner illustrates the point that it is the various sets of tubing, resonating distinct sounds, which determine the appropriate embouchure vowel formation. Conner most clearly explains this in the following example. He writes,

If we play a Bb scale on the BBb tuba, and move slowly from Bb to C where we go from the open horn to the 4<sup>th</sup> valve or 1<sup>st</sup> and third the player will surely notice that the sound of the C is richer if the cavity of the mouth is expanded. The vowel will not get smaller to play the pitch which is one step higher but will, in fact, approximate or match the vowel formation of that used for low F a major fourth below the Bb.

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<sup>76</sup> Ibid.

This statement eliminates the general application of the ‘ah-ee’ vowel formation set to be used as the pitch range rises. Conner recommends that tuba players keep the vowel formation constant when the valve combinations are constant.<sup>77</sup>

## **ADDITIONAL CONSIDERATIONS IN AIR AND TONE**

### ***Ensemble Sound Versus Solo Sound***

Porter discusses, compares, and contrasts the elements in ensemble sound and solo sound. His article focuses on the difficulties that students have in transferring their typically good ensemble sound into an equally good solo sound. He poses the question, “...how to get students to recognize what they do well in ensemble and repeat it individually?”<sup>78</sup>

Initially, Porter presents the characteristics and purpose for a tuba player being able to play in both styles. He makes an example that Dave Fedderly, Principal Tubist of the Baltimore Symphony Orchestra, and Gene Pokorny, Principal Tubist of the Chicago Symphony, have both conducted clinics on the differences and importance of audition sound and ensemble sound. This establishes more credibility to his attention to the topic of two different sounds. Porter presents that solo sound is, “...crystal, articulate (whether legato or staccato), no noise around core sound – focus on medium high to high harmonic frequencies or sound.” In contrast he describes his understanding of ensemble sound as, “...not as refined, articulate, more homogenous, rough around core edge, focus on lower harmonic frequencies of sound.”<sup>79</sup>

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<sup>77</sup> Rex Conner, “Tuba Diphthongs.” *TUBA Journal* 4 (Spring/Summer 1977): 11.

<sup>78</sup> David Porter, “The World Behind the Bell.” *ITEA Journal* 35 (Winter 2008): 72.

<sup>79</sup> Ibid.



He instructs that it may be better for a younger student to achieve a single good homogenous sound that is suitable for ensemble and solo playing. Porter writes, “Perhaps it is best to have a great ensemble sound that is tweaked for solo performances.” Playing in an ensemble brings out the practical application element of performance, and that Porter writes, is the focus of young students. He suggests incorporating scales, etudes, long tones, and breathing exercises into their ensemble music and to point out the similarities. This should improve the student’s solo sound even though their attention continues to remain focused on applying their skills for ensemble.<sup>80</sup>

### ***Circular Breathing***

Considering the concept of circular breathing, one would think that this would require more than two pages of space. In the article “Circular Breathing Defined,” the author Paul Nobis restricts the length to two pages in an effort to define circular breathing rather than extensively elaborate on the topic. At the outset, he establishes a justification for the article. He writes in his first sentence, “Wind instrumentalists and vocalists: you can enhance your performance by modifying your breathing.”<sup>81</sup>

The article includes sections to achieve and better understand circular breathing. In the section titled ‘Method,’ Nobis summarizes the means to achieve circular breathing as, “...contracting and relaxing groups of muscles independently of each other.” He adds that the rate of inflow (air going in) should exceed the rate of outflow (air going out) to maintain appropriate air support. In the ‘Technique,’ section he describes three phases in successfully using the muscles to result in good circular breathing. A final section,

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<sup>80</sup> Ibid., 73.

<sup>81</sup> Paul Nobis, “Circular Breathing Defined.” *ITEA Journal* 36 (Winter 2009): 101.

‘Supplemental Study,’ Nobis urges the performer to consult a medical library for more muscle function understanding, and to consider various physical conditioning programs to promote air, specifically as it relates to muscle function in circular breathing.<sup>82</sup>

### ***Air Flow and Controlled Sound***

In an extended article featuring the thoughts of Harvey Phillips, R. Winston Morris provides succinct and carefully edited notes to summarize the key issues that were presented by Phillips in a 1973 clinic. In “A Tuba Clinic with Harvey Phillips,” Harvey Phillips singles out the greatest difficulty, especially among young players. Morris writes down Phillips’ thoughts, “The most basic problem is producing a good controlled sound...” He continues, “Three bad habits to watch for and avoid are pulling back the corners of the mouth (smiling method), cheek puffing, and articulating between the lips.”<sup>83</sup>

Regarding the smiling method, Phillips notes that pulling back the facial muscles reduces the cushion of the embouchure on the mouthpiece. This will leave players with little endurance. Cheek puffing, “...eliminates the firm corners of the embouchure and hence control [of sound].” Especially in the lower register, Phillips encourages the player to lower the jaw instead of puffing the cheeks. Finally, Phillips states that cheek puffing inevitably leads to the third problem of articulating between the lips. Lowering the jaw is also a remedy for this problem. Phillips states, “This approach simultaneously provides

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<sup>82</sup> Ibid., 101-102.

<sup>83</sup> R. Winston Morris, “A Tuba Clinic with Harvey Phillips.” *The Instrumentalist* 29 (January 1975): 52.

more lower lip to vibrate (thicker, looser) and a larger oral cavity (resonating chamber).”<sup>84</sup>

Careful distinction must be made when one considers breathing as a function of taking in sufficient air through the process of inhalation versus the important consideration of airflow that occurs during exhalation. Scott Watson, in the article, “Three Exercises for Correct Air Flow on the Tuba-Euphonium,” describes air flow as it pertains to the, “...physical process of playing.” He introduces the idea that consistent air flow will result in consistent sound. Inconsistent air flow, he warns, will result in, “...a wide range of musical problems such as intonation, agility, and tone quality.”<sup>85</sup>

Watson presents three short exercises to illustrate and develop correct air flow. The first exercise is called “The Pencil and Tabletop.” In this exercise the tubist should blow a pencil across a flat surface and analyze the consistency of speed in the roll of the pencil. Watson reports that this may be helpful in revealing, “...a stream of air that is inconsistent in speed and volume.” The second exercise, illustrated in Example 1, is the “Mouthpiece Drill.” Watson describes, “...buzz glissandos between intervals of a perfect fourth or more at a slow tempo on the mouthpiece alone.” Any inconsistencies or imperfections in the buzz, Watson states, may reveal the slight stopping of air that passes through the mouthpiece.<sup>86</sup>

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<sup>84</sup> Ibid., 52.

<sup>85</sup> Scott Watson, “Three Exercises for Correct Air Flow on the Tuba-Euphonium.” *TUBA Journal* 10 (Fall 1982): 8.

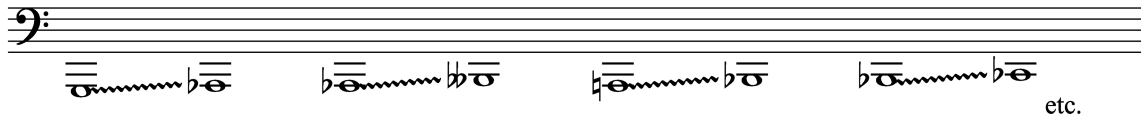
<sup>86</sup> Ibid.

Example 1. Scott Watson, “Three Exercises for Correct  
Air Flow on the Tuba-Euphonium.”<sup>87</sup>



The third exercise, displayed in Example 2, is the “Valve Glissando Drill.” Watson provides a detailed description of his approach to this exercise, but the essence of it is to slowly ascend or descend chromatically while depressing the valves very slowly.

Example 2. Scott Watson, “Three Exercises for Correct  
Air Flow on the Tuba-Euphonium.”<sup>88</sup>



The extra resistance during the glissando, “...forces [the player] to constantly push a steady stream of air through [the] instrument.” If the sound should stop during any of the glissando, Watson urges that the note be repeated in order to achieve the benefit of the exercise.<sup>89</sup>

Arnold Jacobs, notable for teaching musicians to minimize concentration on physical functions in performance and to focus on ‘song and wind,’ allows students to

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<sup>87</sup> Ibid.

<sup>88</sup> Ibid.

<sup>89</sup> Ibid., 9.

take an analytical approach for short periods of time. In the article, “Wind and Song,” he writes, “Temporarily I allow a student to increase his awareness of bodily functions...” Sharing his knowledge on airflow, Jacobs writes, “Respiration should be based on vertical breathing, in which the rib cage moves up and the diaphragm moves down.”<sup>90</sup>

Brass players are often taught that the diaphragm functions involuntarily, and for this reason there is perhaps more attention given to manipulating muscles that cause tension. Jacobs clarifies the function of the diaphragm. The following is an explanation of the diaphragm’s function in air flow, “Players often go through a stage in which they are conscious of the motion in the lower respiratory tract, but regardless of the amount of air taken in by the descent of the diaphragm, it cannot come out again unless the diaphragm returns to its expiratory position. The diaphragm is active in breathing in and passive in breathing out.”<sup>91</sup>

Keeping the diaphragm down with too much effort during exhalation can create unwanted tension. Jacobs writes, “...many of the problems in these regions [tongue and neck] are caused by a diaphragm that is held down. Players want to close things in the neck region, the larynx, the tongue, which can block and swell up. Much of the stiffness in the upper respiratory tract is relieved by the full use of the diaphragm.”<sup>92</sup>

### ***Vibrato***

The addition of a relaxed and controlled vibrato tone in a solo tuba passage can be an excellent tool to add variety to a performer’s sound palate. Phillip Sinder writes on

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<sup>90</sup> Arnold Jacobs, “Wind and Song.” *The Instrumentalist* 46 (November 1991): 18.

<sup>91</sup> *Ibid.*, 18-19.

<sup>92</sup> *Ibid.*, 19.

the topic of vibrato use in tuba performance in the article, “Thoughts on Tuba Vibrato.” The ability to create a tuba sound with vibrato, he says can, “broaden [the performer’s] sound concept and range of expressiveness.”<sup>93</sup>

Sinder lists three basic types of vibrato. The first and most desirable type is the jaw vibrato. The other two and less desirable vibrato types are the breath vibrato, and hand vibrato, although this is only true for tuba. Sinder describes the process to use jaw vibrato. He explains, “. . .the jaw must move in a very slight up and down motion, as realized through the use of the syllable patterns ‘tah-wah-wah-wah. . .’” He next provides a detailed exercise to practice the jaw vibrato. He writes, “Starting in the middle register, and with the metronome set at about 60 beats per second, the player should practice holding out long tones and using vibrato at the rate of two, three, four, five, and six variations in pitch per beat. . .the pitch should be moved equally up and down from the center. This exercise should be practiced in all registers, at different dynamic levels, and with the width of the vibrato varying.” Usually, Sinder adds, it is preferable to play with a slower vibrato and little attention drawn to its actual use.<sup>94</sup>

Although this sound effect should be mostly reserved for solo performance, there are occasions when the tubist may implement this sound characteristic in orchestral performance. Two examples given by Sinder include: the “Bydlo” scene from Mussorgsky’s “Pictures at an Exhibition”; and the “Dancing Bear” solo from

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<sup>93</sup> Phillip Sinder, “Thoughts on Tuba Vibrato.” *Tuba Journal* 10 (Fall 1982): 15.

<sup>94</sup> *Ibid.*

Stravinsky's "Petrouchka." The use of vibrato should be carefully planned ahead of each performance just as one would plan in advance for breathing points.<sup>95</sup>

## **AIR AND TONE STRATEGIES FOR TEACHERS**

### ***Breathing and Tone Production***

It is ironic that the one thing, which every human learns to do well and in most cases very efficiently, is also a topic that receives an enormous amount of attention in brass playing. For tuba players, breathing properly is necessary to produce a desirable sound. David Porter writes an article for young tuba students devoted to the concept of breathing. In "Don't Forget to Breathe!" he explains that humans usually reserve an air capacity of about twenty-five percent, and speaking phrases are often begun on this small air reserve. Beginning tuba students can make the mistake of also beginning their sound on the bottom twenty-five percent of their air capacity, thereby ensuring a tight and stuffy tone.<sup>96</sup>

Porter emphasizes the importance to constantly remind young tuba students to breathe. He presents an idea to instill proper breathing as a habit. The student must be able to identify the need to breathe in large quantities. Porter explains to the student that the lips require much more air to generate sound than do the speaking vocal chords. This provides the student a visual image. He writes, "...the lips...are not nearly as efficient as vocal chords...more air is required to make the lips vibrate..." Porter refers to the bottom twenty-five percent air capacity reserve as the 'comfortable spot'. He explains that the performer must not push out air beyond this comfortable limit. With this breathing

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<sup>95</sup> Ibid., 16.

<sup>96</sup> David Porter, "Don't Forget to Breathe!" *ITEA Journal* 29 (Spring 2002): 63.

technique, the performer should be much more relaxed and capable of the expansion necessary to strive for a desirable sound.<sup>97</sup>

As the title “Little Player, BIG TUBA” exclaims, this article is geared toward teachers and their approach to dealing with young players. One of the two basic skills that Porter explores is breathing. He advises to teach young students a simplified four-point illustration of breathing mechanics. The first point is, “The abdomen expands out breathing in, deflates inward breathing out.” The second point: “The collarbone area expands up breathing in, deflates down breathing out.” The third point: “The ribs expand out breathing in, deflate down breathing out.” The final point is: “The ribs in the back expand backwards breathing in, deflate forward breathing out.” Porter cautions about the need to remind students to not let their shoulders rise during inhalation.<sup>98</sup>

A severe problem that tuba students have is that they try to play phrases the same length as smaller wind instruments. Porter writes, “...tubists must move about four more times the amount of air than a trumpet per minute in order to produce a good sound.” An inadequacy of air will result in a thin or tense sound.

David Porter explains that thirteen to fourteen is the earliest age at which most young students may begin developing a professional sounding tone. Porter writes the article, “Muffy and Woofled,” to convey the basic full sonorous sound that directors can strive for in young students. Referring primarily to the middle and low register, Porter explains the sonorous sound that is jokingly referred to in the title of the article. He writes, “I am encouraging listening for a warm, low, resonating sound that they ‘feel’

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<sup>97</sup> Ibid.

<sup>98</sup> David Porter, “Little Player, BIG TUBA.” *ITEA Journal* 34 (Winter 2007): 97-98.





David Porter explores four subtopics about air that offer suggestions to apply in lessons with students. He labels the four areas of discussion clearly in the article, “Visualize the Air – Inside and Out,” for clarity and understanding. The four categories are: Peripheral Vision, Legato Airspeed, Lip Puffing, and Air Stream Approach.<sup>102</sup>

The first topic, Peripheral Vision, offers suggestions for the moment that the full breath of air is about to be exhaled. The reason for this advice is because students have difficulty maintaining, “...a relaxed, warm sound with lungs so full of air that your chest area feels tight.” The visual suggestion is to take a full breath of air while staring straight. Porter describes the additional following steps: “Try keeping the upper collarbone and chest in sight as you breathe out...With practice one should be able to develop a better sense of keeping the air from quickly disappearing yet keeping airflow flowing freely.”<sup>103</sup>

The second topic, Legato Airspeed, includes discussion on playing moving legato notes. Porter offers a unique suggestion. He writes, “When playing legato, try to intentionally relax the air speed (especially when adding valves during a passage). Sometimes try to make the air feel like it is coming from below the lungs.”<sup>104</sup>

In the third topic, Lip Puffing, Porter brings attention to the need to eliminate air pockets that young students tend to develop under the top or bottom lips. In young players, Porter says, these air pockets may serve as a crutch to help create a seal with the embouchure and mouthpiece. He writes, “Encourage students to keep these air pockets

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<sup>102</sup> David Porter, “Visualize the Air – Inside and Out.” *ITEA Journal* 31 (Summer 2004): 75.

<sup>103</sup> *Ibid.*

<sup>104</sup> *Ibid.*

from happening. When these air pockets are pulled in, it helps to focus the air forward, thereby giving a supported sound.”<sup>105</sup>

The last topic, Air Stream Approach, is intended to get the performer to re-think the way that air is exhaled. Too often the student understands air stream as blowing through a straw. This understanding results in a closed sound because the focus of air is associated too strongly with the point at which it escapes through the aperture. Porter urges to think of the air as coming from the waist and up through the entire upper body. He states, “This approach helps them warm the air, slow the speed, produces a bigger sound, and promote relaxation.” To conclude, Porter stresses that the Air Stream Approach is particularly helpful for loud dynamic playing.<sup>106</sup>

In another article directed to teachers of beginning tuba students, David Porter amalgamates some of the breathing concepts of his teachers. Teaching air movement to a young tuba student may be more effective if simplified and relayed in a visual approach. Porter warns, “...a purely pedagogical and methodological approach (i.e., air bags, spirometers, intellectual lingo) does not always produce the desired effect.”<sup>107</sup>

In order to simplify teaching air movement for young tuba students, Porter recommends focusing on the key words ‘inhale’ and ‘exhale’. He writes, “For tubists, the air is flowing constantly one direction or the other. Tubists must have relaxed muscles for good airflow.” When teaching inhalation, it is better to use the word ‘expand’. For exhaling, Porter recommends the word ‘deflate’ or ‘collapse’. Also he

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<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> David Porter, “Mechanics are Not Just for Cars.” *ITEA Journal* 29 (Summer 2002): 59.

urges to not use terms that suggest ‘making’ the body expand, but rather allow or ‘let’ the body expand. The word ‘move’ is an effective word to convey relaxed airflow.<sup>108</sup>

David Kuehn examines the subject of breathing in the article “Toward Better Tuba Players.” He says that sufficient breath is essential to control sound and to shape notes and musical phrases. He puts forth the idea of inhaling to the bottom of the feet: a strategy that helps the student focus on low, relaxed breathing. One strategy to prove the impact of a steady and projected airstream is to have the student hold a piece of paper against a wall just by breathing against it. The goal, says Kuehn, is to have the student feel that the tuba is an extension of the player. Kuehn writes, “Too many young musicians blow ‘against’ or ‘at’ the tuba. The concept of air projecting through the instrument, out the bell, and, if you will, ‘across the room’, is indeed an important one.”<sup>109</sup>

Tuba players perhaps must consider the issue of air inhalation and exhalation more than performers on other brass instruments. The author Donald Stanley offers ideas to increase a tuba player’s ability to improve air intake. In the article, “Teaching Concepts for Tuba,” Stanley writes that repetition is the best approach to instill the best ideas for air inhalation. He lists examples of standard effective recommendations on inhalation such as, “fill the bottom of the lungs first,” and “...make the lungs expand downward.”<sup>110</sup>

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<sup>108</sup> Ibid., 60.

<sup>109</sup> David Kuehn, “Toward Better Tuba Players.” *The Instrumentalist* 21 (September 1966): 66-67.

<sup>110</sup> Donald Stanley, “Teaching Concepts for Tuba.” *The Instrumentalist* 21 (February 1967): 66.

For exhalation, Stanley cautions against an often-taught teaching expression that says “Put more air in the horn.” Rather, the performer should be given concepts that convey the idea of projecting air through the horn. In more specific elaboration on good tone production, Stanley continues to offer comments on throat tension. He writes, “A tight or tense jaw will almost always result in tension in the throat as well.” The throat, he writes, is a passageway for the air column.<sup>111</sup>

New students to the tuba should first learn to inhale and exhale large amounts of air in preparation for basic tone production. Together, Harvey Phillips and Roger Rocco share ideas with teachers in an article titled, “First Lessons on Tuba.” Young students should begin on a three-quarter-size tuba. Concerning airflow, Phillips and Rocco suggest that simplicity is the key to success with young players. They write, “...explanations of the mechanics of breathing are unnecessary and often confusing.” They explain that something simple such as imitating a vacuum cleaner may be sufficient to instigate proper inhalation.<sup>112</sup>

Mouthpiece buzzing away from the instrument is a fundamental element of early tone production. Phillips and Rocco state that it is necessary to demonstrate buzzing away from the mouthpiece first, and then on the mouthpiece. Again, simplicity is the key to progress in early buzzing. For students who cannot naturally produce a buzz, it may be helpful to imagine making the sound of a horse or a siren. The standard mouthpiece position is described as about two-third or three-quarter on the upper lip, and one-third or

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<sup>111</sup> Ibid., 67.

<sup>112</sup> Harvey Phillips, and Roger Rocco. “First Lessons on Tuba.” *The Instrumentalist* 62 (January 2008): 42.

one-fourth on the lower lip. However, most students will assume a correct mouthpiece position according to their facial structures. With simplicity and the assistance of imagery, teachers can set their students on the path to early tone production using large quantities of airflow.<sup>113</sup>

One of the areas that David Porter includes in the article, “Tis the Season!” focuses on breathing skills that can be improved during the marching band season. In the second area of discussion, called ‘Playing Skills,’ Porter briefly explains ideas to improve breathing techniques, embouchure placement, and mouthpiece pressure.<sup>114</sup>

The motivation that may help students use more relaxed breathing techniques is to get them to project sound more efficiently over large distances on the field. Proper embouchure placement and teeth width will promote more air movement as well. Porter suggests working to keep the teeth more open. He concludes this section with an emphasis on making mouthpiece pressure an important issue during marching band season. He writes, “...they should be keeping a firm forward focused embouchure that allows a seal around the mouthpiece but not visible signs of embouchure tissue being stressed or damaged.”<sup>115</sup> Maintaining attention to breathing techniques during marching band season should contribute to the student’s improved tone and air use when concert band season begins.

Another difficulty, especially among young players, but also in advanced performers is maintaining a good quality of tone in the low range. Much of the article

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<sup>113</sup> Ibid.

<sup>114</sup> David Porter, “Tis’ the Season.” *ITEA Journal* 36 (Summer 2009): 58.

<sup>115</sup> Ibid., 59.

“Holding the ‘Oh’” by David Porter, deals with improving the low range long tones while they are sustained. There is considerable attention to air and tone in this article even though much of the article’s information is presented in the Range and Flexibility section of this compilation.

In a subheading ‘Long Tones,’ Porter suggests to practice, “...long tones in scales for several octaves...” He recommends sustaining these notes at first in half notes, especially for younger students, as this will establish a platform to build on in improving sound and embouchure. Porter provides another piece of advice to further improve tone. He writes, “...play for them and get them to try and imitate what they hear.” This is straightforward and simple advice. However, Porter adds a more interesting perspective to this advice. He states, “My bigger problem with the students is for them to ‘hear’ the good sound as it resonates to them from their position behind the bell...they are trying to ‘hear’ at the same time their whole head is vibrating from the inside out.”<sup>116</sup>

One more note that Porter adds to the area of ‘Air and Tone,’ is in his brief discussion of aggressive playing. He says that he is a passive personality but that in performance he is aggressive. He writes, “...do not confuse aggressive with tense. My meaning is to move air in large quantities...but still stay relaxed.”<sup>117</sup>

The purpose in the article, “Pressure? What Pressure?” is to encourage performers to use the air to its fullest. Pressure is the result of air that is not allowed to properly flow through into the instrument. This is particularly common and visible in a performer that

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<sup>116</sup> David Porter, “Holding the ‘Oh.’” *ITEA Journal* 34 (Spring 2007): 70-71.

<sup>117</sup> *Ibid.*, 72.

plays with unusually puffed cheeks. David Porter offers information that should, “...quickly help tuba students in releasing their air to its fullest extent.”<sup>118</sup>

His first advice is to remind teachers that tuba students need to be taught from a different perspective than their higher brass colleagues. He advises, “Do not try to teach tubas the same airflow and support concepts as the higher brass.” He continues that tuba performers require an airflow that is slower and warmer, and that focuses on reducing, not increasing, air pressure in the body. In an effort to relay the concept of airflow, Porter describes a few steps to try. He writes, “First, have them collapse air into their horn like heaving a big sigh. Use this analogy to visually show them body movement and the feeling of warm airflow. Then have them blow the air, but make it feel the same way as collapsing. Watch for tense body parts.” If air is still not flowing freely, then he suggests that the lips may be too closed.<sup>119</sup>

In greater length, Porter describes a demonstration using a single piece of paper held against the bottom lip. This is intended to better understand decreasing and releasing air pressure. He writes, “...have them blow in a downward stream across the top of the paper. If they do this right, the paper will rise up even though they are blowing across the top of the page.” Porter explains that moving air has less pressure than still-air. He adds, “The moving of air through the mouth will cause the still-air outside the mouth to help push the cheeks in.” Sometimes there can be too much focus on creating great amounts of air with a lack of focus on properly expelling the air from the body. A

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<sup>118</sup> David Porter, “Pressure? What Pressure?” *ITEA Journal* 30 (Summer 2003): 69.

<sup>119</sup> *Ibid.*



huge volume of built-up air with pressure inside the body is equally detrimental to performance as a lack of air.<sup>120</sup>

### ***Reducing Resistance***

In the article “Resistance Isn’t Acceptance,” David Porter writes, “In every wind instrument there will be airflow resistance factors.” The purpose of the article is to reduce the points of resistance that the airflow faces from the lungs to the mouthpiece. Porter states, “...the air pathway from the lungs into the mouthpiece needs to be open and unhindered.” In order to improve this area of breathing, he writes about the points of resistance that the air must overcome. These points are the neck, throat, tongue, mouth, teeth, and the lips.<sup>121</sup>

The neck should be as relaxed as possible with no signs of bulging veins or muscles. The throat can be opened up by using an ‘o’ vowel during inhalation and exhalation. The tongue should stay out of the way of the airflow by staying flat in the mouth. Regarding the mouth, Porter reminds students that it is not a stopping place for air. Air must go through the mouth into the mouthpiece. The teeth should remain open more or less depending upon the register. Porter writes that the lips are the area of most constriction. They must stay closed enough to vibrate but must allow an open airflow as well. Similar to the suggestion for the mouth, Porter says that air must feel that it is flowing through the lips.<sup>122</sup>

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<sup>120</sup> Ibid.

<sup>121</sup> David Porter, “Resistance Isn’t Acceptance.” *ITEA Journal* 30 (Fall 2002): 75.

<sup>122</sup> Ibid.

Porter includes a final more extended thought for breathing. He writes, "...the English 'o' vowel is the best vowel for opening up the airway from lungs to mouthpiece." The 'o' vowel, even more than the 'ah' sound, allows the back of the mouth to open more. Porter cautions that the 'o' vowel however can cause the lips to close in a manner that blocks the air. He suggests, "Try having the students say half of the vowel with their lips, stopping the lip movement halfway through the vowel pronunciation." This lip and mouth shape maintains a cylindrical air column, says Porter.<sup>123</sup>

### ***Visualizing Sound***

Jason Byrnes presents the benefits of using a spectrogram in low brass lessons. In the article, "More Effective Teaching through Seeing Sound," Byrnes argues, "It is better to provide visual information as well as aural information since research indicates that providing feedback in multiple modalities (i.e., senses) is more effective than in a single mode (Rucker and Thomson 2003)." A spectrogram provides a three-dimensional view of sound in graph form.<sup>124</sup>

Byrnes presents several figures that display various types of articulations and the correlating quality of resonance. The spectrogram can effectively display scoops in sound that negatively affect resonance. Byrnes notes that using the spectrogram to display tone quality in lesson provides students with immediate and accurate feedback. He writes, "Students seemed more attentive to teacher instructions since the changes were evident through the visual display, and not something that was obtuse and beyond

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<sup>123</sup> Ibid.

<sup>124</sup> Jason Byrnes, "More Effective Teaching through Seeing Sound." *ITEA Journal* 33 (Summer 2006): 80.

their level of auditory sophistication.” The use of this device defuses any ambiguity that an aural evaluation may contain.<sup>125</sup>

David Porter provides ideas for helping students to improve their ability to grasp sound models. In the article, “Sing, Sound, Tuba!” he writes that these ideas will, “...help their artistic concepts become more realistically visualized.” A better understanding of sound concepts will improve a student’s chances of reproducing that sound, rather than by relying on the sound that they hear while they are playing and while their heads are resonating from behind the bell.<sup>126</sup>

Porter lists a few ideas to try with students. His first suggestion is, “Play a recording of someone you are trying to get the student to imitate in tone and musicality.” He asks the parents of his students to buy recordings in the same way that they purchase music books.<sup>127</sup>

The next step is getting the students to hear a good sound model from their own sound. To achieve this step, Porter stresses the importance of acquiring at least a good handheld recorder. Another idea is to immediately stop the student when they play a note or phrase that has a professional sound and praise the sound that they made. Porter says that it is important to have the student repeat this achievement and ask the student to think of how it feels in their embouchure, head, and ears.<sup>128</sup>

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<sup>125</sup> Ibid., 81.

<sup>126</sup> David Porter, “Sing, Sound, Tuba!” *ITEA Journal* 32 (Spring 2005): 88.

<sup>127</sup> Ibid.

<sup>128</sup> Ibid.

The closing suggestion that Porter provides is to imagine the instrumental part as a singing part. A student can imagine what it feels like to sing the part, but it is most effective to try singing the passage on a ‘la’ syllable. Even if they are not good singers, the students will begin to comprehend and visualize how their instrumental part is actually, “...music without words.”<sup>129</sup>

### ***Buzzing to Improve Sound***

In an effort to encourage better sound, David Porter describes two concepts that help players get complete control over their playing. In “Buzzing the ‘Bohm’” Porter explains the motivation behind these concepts. He had two students who had good basic fundamentals and a great sense of breathing and using air. However their major obstacle was in their sound. Porter describes, “...their sound was about the size of a sunflower seed. Both of these students ‘gripped’ notes very tightly with their lips...”<sup>130</sup>

Porter acknowledges acquiring useful buzzing perspective from his teacher David Fedderly, of the Baltimore Symphony Orchestra. The first concept that Porter presents is, “...the lips are going to shape the notes. We start with the universal tuba approach, the ‘o’ vowel. From there, we teach large ‘o’ for low, smaller ‘o’ for mid-range, and ‘oo’ for high range.” Porter advises first buzzing these sounds without the tuba and emphasizes that the teacher provide visual and aural guides.<sup>131</sup>

The second concept relates to the title of the article. The ‘bohm’ is the sound that Porter recommends the teacher to sing a passage with, and then have the student imitate

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<sup>129</sup> Ibid.

<sup>130</sup> David Porter, “Buzzing the ‘Bohm’.” *ITEA Journal* 33 (Summer 2006): 83-84.

<sup>131</sup> Ibid.

on the tuba what they think they heard. Porter comments, “Using this syllable allows generous expression and shaping of each note, even when sung fast.” He theorizes that the reason teachers prefer to use the ‘bohm’ syllable is because it makes non-voice majors sound better.<sup>132</sup>

### ***Embouchure and Tongue Placement***

Several factors are involved to enable good tone production. In the article, “Buzz Placement Makes a Honey of a Sound,” Porter brings up this topic as the source of sound. More specifically, the flow of air through the lips causing vibration produces sound. Beyond this concept, Porter lists several points to consider in the placement of the embouchure, and effectively, the placement of the buzz.<sup>133</sup>

The first guideline is to maintain an elliptical ‘o’ shaped aperture that extends from, “...one side wall of the mouthpiece to the other.” The second point is to keep the corner of the embouchure close to the mouthpiece with enough firmness to prevent air from leaking out. The third suggestion is to maintain an embouchure placement that has the bottom and top lips centered vertically and horizontally in the mouthpiece. The fourth point is to maintain relaxed lips so that they will vibrate with the slightest airflow. Porter emphasizes, “...actual buzzing should occur because the lips are relaxed enough to vibrate, not because the lips are being forced to vibrate.”<sup>134</sup>

Tongue placement is an important tone consideration as it can impede sound quality through increased resistance. With regard to tongue placement, he writes,

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<sup>132</sup> Ibid., 84.

<sup>133</sup> David Porter, “Buzz Placement Makes a Honey of a Sound.” *ITEA Journal* 30 (Winter 2003): 79.

<sup>134</sup> Ibid.

“...whenever the tongue is not helping to start a note, it should be down and out of the way of the air stream.” The performer should be aware to avoid the tendency to move the jaw up and down on every tongued note. Porter mentions that some movement of the jaw is expected, but he reiterates that the air and tongue should be the main moving parts.<sup>135</sup>

In “Toward Better Tuba Players,” David Kuehn states that puffy cheeks are often a result of muscles that are not functioning properly to control the use of the embouchure. The corners of the embouchure should be firm as opposed to tight. Kuehn brings attention to jaw tension as a hindrance to suitable embouchure use. Usually, he says, jaw tension becomes an issue as a result of embouchure fatigue. The firmness that should be in the corners of the embouchure suddenly shifts to the jaw in a fatigued player. Kuehn instructs, “The jaw must remain free enough to drop open gradually, as the student plays toward the extreme low notes.”<sup>136</sup>

Beginning tuba students will often form excessive puffing in the cheeks in order to produce a sound. It is typical for tuba players of all levels to exhibit a slight puffing in the cheeks, particularly in the middle and lower range. When cheek puffing is so excessive that it creates an unfocused sound, David Porter offers a solution for teachers to try with their students. In the article, “Double Puff or Whistle,” Porter simply suggests that the student try whistling. If the student cannot whistle, it may be enough for the student to imagine what they would do to create a whistle noise. The result in the embouchure is a more vertical focus of the lips. In higher range notes, the whistle

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<sup>135</sup> Ibid.

<sup>136</sup> David Kuehn, “Toward Better Tuba Players.” *The Instrumentalist* 21 (September 1966): 67-68.

formation will help to direct the angle of the air stream downward. For middle and lower range notes, the whistle formation may open a little bit more horizontally, allowing a slight puff in the cheeks, but maintaining the focus of the initial whistle formation.<sup>137</sup>

### ***Air Direction***

The movement of air is usually thought of in horizontal terms. In order to maintain direction in a musical phrase, a performer will learn to project air from the embouchure horizontally through the mouthpiece. However, in an article entitled, “Go Vertical!” David Porter discusses vertical aspects for consideration in air direction. He introduces two approaches to accomplish air direction. Both approaches involve blowing air up for low notes, and blowing air down for high notes.<sup>138</sup>

Porter first describes the more common of the two approaches. He writes the popular approach is, “...to dip one’s head vertically when playing in the mid-to-low-range of the tuba and raise one’s head vertically when playing in the mid-to-high-range.” The result of this method, Porter says, is that the bottom lip movement in and out of the mouthpiece causes air to move up or down in the mouthpiece. Porter describes the benefits of the first method. He states, “The first approach is definitely easier, seems more natural, and usually produces a very clear, well-projected sound in the low register and a smooth, velvety tone in the high register.”<sup>139</sup>

The less common but equally effective second method is to move the head in the opposite vertical direction of the first method. Porter says the benefit of the second

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<sup>137</sup> David Porter, “Double Puff or Whistle.” *ITEA Journal* 37 (Summer 2010): 63.

<sup>138</sup> David Porter, “Go Vertical!” *ITEA Journal* 30 (Spring 2003): 69.

<sup>139</sup> *Ibid.*

method is, "...a very warm sound in the low register and a more clear, projecting sound in the high register. The second approach also allows more movement to go higher in the range, since there is space between the mouthpiece and the nose for vertical movement of the head." The possible disadvantage to the second approach, Porter states, is that it is more difficult and it is not natural. He recommends that the performer consider learning both approaches to apply when a different sound is sought in performance.<sup>140</sup>

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<sup>140</sup> Ibid., 70.



## CHAPTER 5

### RANGE AND FLEXIBILITY

#### ESTABLISHING THE FLEX

##### *Slurs*

Regarding slurring, in the article, “Articulating a Few Concepts...” Jason Byrnes points out that many students incorrectly use bursts of air to simulate a slur although it lacks the control over flow and embouchure. Byrnes states, “Slurs must be the smoothest transition between two different pitches, and developing this on slow slurs is necessary before tackling the more complex lip slurs...”<sup>141</sup>

Byrnes describes a very unique problem that the tuba presents when a performer attempts this technique. He writes, “Because of the slowness of the air used on tuba, it is easy for the air to backup and bounce the embouchure around, interrupting the buzz; this is most easily observed when slurring up from a short length of tubing to a much longer length of tubing, for example from the B-flat below the bass clef staff to the B-natural immediately above on a BB-flat tuba.” He offers a couple remedies to develop in order to overcome difficulties in slurring. It is essential, he notes, to strive to maintain the buzz throughout the note transitions. He also recommends reducing the pressure of the

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<sup>141</sup> Jason Byrnes, “Articulating a Few Concepts...” *ITEA Journal* 34 (Winter 2007): 94.

mouthpiece on the embouchure in order to, "...better engage the musculature of the embouchure."<sup>142</sup>

David Kuehn, in the article "Helpful Hints for Tuba Players," reminds the tuba performer to hear the pitch in mind before slurring up to it. For ascending slurs he recommends thinking the syllables "ta-ee." For downward slurs he writes that the syllables "tee-ah" should be used. During slurs the tongue should rise as the pitch ascends. Kuehn provides an example to demonstrate this effect. The performer should whistle a low pitch and feel the tongue rise as the pitch is raised.<sup>143</sup>

In the article, "Fundamentals of Tuba Playing," Ronald Bishop explains that slow slurs are particularly useful in promoting an efficient embouchure. He writes, "While I enjoy rapid slurring as a flexibility warm-up and general all around 'loosener-upper,' I find that for practical application in my work it is slow slurring which gets the job done." Bishop provides a slurring example that reaches beyond two octaves. The exercise, shown in Example 4, should be done as slowly as possible but with one breath ascending and one breath descending.<sup>144</sup>

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<sup>142</sup> Ibid., 95.

<sup>143</sup> David Kuehn, "Helpful Hints for Tuba Players." *The Instrumentalist* 16 (May 1962) 70.

<sup>144</sup> Ronald Bishop, "Fundamentals of Tuba Playing." *TUBA Journal* 5 (Winter 1978): 10-11.



ensures that it will be a bad slur.” To avoid this tendency, the performer should maintain support through speed and intensity of sound. This can be done even if the volume of air is reduced during a lip slur over a diminuendo dynamic. Beauregard explains, “The sound thus gets softer, but the support is kept strong and the lips are able to function properly.”<sup>147</sup>

In conclusion, he mentions two additional critical factors in lip slur performance. The lips must be centered for each note of a lip slur. It is not enough to merely touch one of the notes. Performers will decrease the likelihood of an unpleasant ‘bump’ that can occur during a lip slur, by reaching the center on each note. Secondly, the lip should move from one position to the next as quickly as possible. This will reduce the effect of a glissando during the lip slur.<sup>148</sup>

## **EXPANDING THE RANGE**

### ***General Range Extension***

Ralph Hepola asks Roger Bobo in the article, “Roger Bobo Talks Tuba,” to expand upon his ideas on low and high register playing. Bobo responds that the overall maturity of the performer needs to be developed in order for the low register to become stable. Bobo notes that the importance in the low register is not just the attack, but also the sustaining quality of the note. Bobo continues, “I find it very useful, and almost universally beneficial when a player protrudes and drops his jaw somewhat in the lower register. That proportionalizes the framework behind the lips.”<sup>149</sup>

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<sup>147</sup> Ibid., 6-7.

<sup>148</sup> Ibid., 7.

<sup>149</sup> Ralph Hepola, “Roger Bobo Talks Tuba.” *The Instrumentalist* 32 (November 1977): 60.

Bobo offers a unique response to high register playing. He acknowledges that the high register is difficult to play in, but to this he adds, “You don’t play relaxed up there but it should sound relaxed.” His additional comments to develop high register playing stress the importance of performing materials that actually involve the high register. He writes, “You take etudes that go progressively higher. You do a lot of Schlossberg-type trumpet studies and basic warm-ups that dwell up in that register.”<sup>150</sup>

R. Winston Morris writes down specific thoughts on range extensions that were delivered by Harvey Phillips in a 1973 conference. In the article, “A Tuba Clinic with Harvey Phillips,” one of the requests was for Phillips to share his suggestions on developing the extreme registers of the tuba. Phillips directly responds that the primary issue in upper range performance is, “...breath support and embouchure placement.”<sup>151</sup>

He elaborates in detail about the need for careful embouchure placement and a special pivot technique necessary to achieve success in range development. Morris writes down the suggestions of Phillips,

I believe we should set our embouchure for the middle of our full tuba keyboard (second space C for CC tuba...). We must then strive to achieve – on that keyboard center – the best sound possible, the most control, the most technique. We want to retain these qualities of sound control and technique as we ascend and as we descend. To me this demands maximum retention of the embouchure utilized in our mid-range with absolute minimum variation as we go into either the upper or lower register. In approaching the upper register, I raise the lower jaw and at the same time pitch the instrument slightly forward. This allows me to ‘place’ my embouchure for any given note before it is sounded.

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<sup>150</sup> Ibid.

<sup>151</sup> R. Winston Morris, “A Tuba Clinic with Harvey Phillips.” *The Instrumentalist* 29 (January 1975): 53.

Phillips further emphasizes that pivoting the tuba back toward the player encourages the pitch to go down, while tilting the instrument forward promotes the pitch to rise.<sup>152</sup>

In the article, “Fundamentals of Tuba Playing,” Ronald Bishop comments on general range issues and concludes with statements emphasizing low register practice. He summarizes that four octaves are necessary for modern repertoire demands. One way to maintain this suitable range, he emphasizes, is through daily practice of scales and arpeggios. With regard to low register playing, Bishop states, “Low register playing encourages wide amplitude lip vibrations...” He continues that students who acquire a fatter and fuller tone in the low register will have potential to extend this robust and lyrical sound through the upper register.<sup>153</sup>

### ***High Range Extension***

Fritz Kaenzig presents general recommendations on improving high register performance interspersed with suggestions that are not routinely mentioned by other pedagogues. The article, “Improving Tone in the High Register,” begins with a simple caution that practice in the high register should be approached with the same caution as one would when beginning a weight-lifting regiment. He warns, “...it is possible to damage muscles and facial tissues while establishing some bad habits.”<sup>154</sup>

As Kaenzig anticipates the most substantial portion of his article, he introduces what he suggests are two of the most important concepts, often touted by Arnold Jacobs,

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<sup>152</sup> Ibid.

<sup>153</sup> Ronald Bishop, “Fundamentals of Tuba Playing.” *TUBA Journal* 5 (Winter 1978): 11.

<sup>154</sup> Fritz Kaenzig, “Improving Tone in the High Register.” *TUBA Journal* 13 (November 1985): 20.

for improving high and low register: song and wind. The first of these, ‘song,’ receives the briefest explanation. Kaenzig writes, “...the first priority should always be to create a beautifully round and resonant vocal quality in one’s head before even attempting to play a note. It is always helpful to sing a pitch or passage prior to playing it on the tuba.”<sup>155</sup>

Kaenzig immediately delves into the focus of his recommendations. Regarding the use of ‘wind,’ to achieve positive results in high register playing, he writes, “...we need to move fast air across the lips...it will serve little productive purpose to attempt to reduce the quantity of air in the upper register. Try instead to keep fast air moving across the lips while maintaining the syllable ‘oh’ or ‘ooo’ in one’s head and oral cavity.”<sup>156</sup>

He then discusses mouthpiece pressure and its effect on high register performance. Kaenzig advocates maintaining a significant seal between the lips and mouthpiece. He writes, “Contrary to a commonly held belief, strong mouthpiece contact against the lips is needed in the upper register. On the tuba...it is difficult to use too much pressure since the mouthpiece is so large and the rim well-rounded.”<sup>157</sup>

With regard to embouchure, Kaenzig discourages the ‘smile’ embouchure where the lips are pulled back too much, as well as an embouchure that produces an unnatural pucker. Kaenzig states, “...the embouchure which occurs naturally when increasing air is probably the best one that could be found.”<sup>158</sup>

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155 Ibid.

156 Ibid.

157 Ibid.

158 Ibid.

Refocusing on the concept of wind, Kaenzig provides an image to consider when picturing fast air for high register playing. He writes, “When blowing these fast velocities of air across the lips, keep in mind the concept of moving the air as wind rather than as a forced column of air.” Kaenzig concludes with exercise suggestions to engage the high register in daily performance. One of the simplest and effective daily strategies to begin preparing the high register is to play arpeggios that touch the high register, as seen in Example 5, with little strain.<sup>159</sup>

Example 5. Fritz Kaenzig, “Improving Tone in the High Register.”<sup>160</sup>



In another article, David Porter examines an old method from his former instructor that is intended to develop the high range for tuba students that have great difficulty in this area. Porter summarizes the general ideas concerning range and embouchure that were discussed in a previous article before presenting this new idea.

The new idea is a method that his teacher R. Winston Morris passed on to him.

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<sup>159</sup> Ibid., 21.

<sup>160</sup> Ibid.



The purpose for this method that Porter calls ‘Roof ‘N’ Mouth’ is to help students develop their high range playing if all other efforts fail.<sup>161</sup> Porter describes Morris’s method; “Winston’s ‘secret’ for the high notes was to blow the air up across the roof of his mouth and then point that air at his top lip. This method caused the air to be blown down in the mouthpiece, causing the bottom lip to come in a little...allowing the top lip the freedom to move even on high frequencies.”<sup>162</sup>

Porter includes a few steps that will help guide teachers and performers to adopt this method. The first step is to, “...make a squealing buzz sound without the tuba by puffing air behind [the] top lip only.” The second step is merely an explanation of the result of the first step: It results in the air being channeled up over the mouth roof and the top lip forces the air to be expelled downward. After success with the first two steps, the third step instructs to, “...try it just outside but not touching the mouthpiece (mouthpiece [should] be in tuba).” In the final step, the performer should squeal just outside the mouthpiece and move toward it during the squeal.<sup>163</sup>

With perseverance, Porter said that his student, “...gradually developed, the strength to hold and seal his embouchure on the high notes.” An additional benefit according to Porter is that this method also removes pressure from the top teeth and reduces pain. Porter emphasizes that he has since tried this method on several students with similar results and success.<sup>164</sup>

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<sup>161</sup> David Porter, “Roof ‘N’ Mouth.” *ITEA Journal* 35 (Spring 2008): 81.

<sup>162</sup> *Ibid.*

<sup>163</sup> *Ibid.*

<sup>164</sup> *Ibid.*

### *Low Range Extension*

Expanding the flex and range with vibrancy means to pursue a habit of striving for an efficient, beautiful, and consistent sound throughout the range. All of these items with practice over time should be attained with increasing ease. David Porter provides details on a new approach that he has implemented with his students and in his own playing to promote greater vibrancy, indeed a better sound, in his sustained low range.<sup>165</sup>

In the article, “Holding the ‘Oh’,” Porter writes that he has a new realization in promoting long low notes even at a pianissimo dynamic. He writes, “...what to do for more beautiful long low notes has opened up a whole new area in being able to play better and help my students.” Porter introduces his idea on improving range in great length. He writes that learning to hold the ‘Oh’ has improved his, “...lifelong problem of not being able to play low notes to my satisfaction.” This musical improvement will “...help make long low notes and fast ones more presentable.”<sup>166</sup>

Porter describes, ‘holding the ‘Oh’” basically as being able to perform sustained low notes steady and in tune. The strength to achieve this, he writes, comes from the cheek muscles behind the embouchure. Porter adds that this improvement should also prevent performers from smiling too much in the high range.<sup>167</sup>

In addition to playing long tones in the low range in scalar modes, and imitating good sound, Porter brings attention to the embouchure. He writes, “periodically shift the student’s focus on the side facial cheek muscles, rather than on the corners.” He adds,

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<sup>165</sup> David Porter, “Holding the ‘Oh’.” *ITEA Journal* 34 (Spring 2007): 70-72.

<sup>166</sup> *Ibid.*, 71.

<sup>167</sup> *Ibid.*

“...when I practiced holding the ‘Oh’ from the facial cheeks, it was easier to keep my corners forward to the shape.”<sup>168</sup>

Peter Popiel draws attention to the tone production aspects of low register performance. In “The Tuba: Concepts in Low-Register Tone Production,” Popiel summarizes two critical factors involved in producing low register tones. The first choice that the performer must make is to choose the best fingering on his or her tuba for that particular low register note.<sup>169</sup>

Popiel elaborates on the embouchure setting that one should strive for in low register performance. Popiel states, “...this register involves a very relaxed lip placement on the mouthpiece rim and a relaxed, slack lower jaw.” The mouth aperture, Popiel writes, is more open than most performers are aware. One of the greatest problems in low register playing is air leakage from the corners of the embouchure. Popiel suggests, “...anchoring the embouchure corners even though the jaw drops...” Although he does not provide any studies or materials to practice the low register, Popiel simply concludes that using the low register is the best way to develop it.<sup>170</sup>

Fritz Kaenzig in “Tuba Pedagogy: Building a Successful Low Register,” contributes methods of practicing in the low register. He suggests that tuba performers may be swayed to avoid the low range because composers appear to emphasize the middle and upper range in their compositions. While playing long tones in the daily warm-up, Kaenzig urges that the tubist extend beyond the low B-flat. He recommends

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<sup>168</sup> Ibid., 72.

<sup>169</sup> Peter Popiel, “The Tuba: Concepts in Low-Register Tone Production.” *The Instrumentalist* 33 (January 1979): 44.

<sup>170</sup> Ibid., 44.

that the performer continue with rearticulated pitches that extend into the pedal range. The following exercise, shown in Example 6, demonstrates the rearticulated patterns that Kaenzig suggests.

Example 6. Fritz Kaenzig, “Tuba Pedagogy: Building a Successful Low Register.”<sup>171</sup>



Kaenzig invokes the message of Arnold Jacob’s “song and wind” in discussing low register improvement. With the idea of breathing fully firmly established for low register playing, Kaenzig explains, “...huge quantities of wind must cross the lips under very low velocity...so we need to take more frequent breaths than in the middle and upper registers...” Referring to embouchure adjustment, Kaenzig continues in the same paragraph, “The lower jaw will drop rather dramatically as the aperture in the lips enlarges to accommodate the increased air flow necessary for the low range.”<sup>172</sup>

An advanced player, writes Thomas Bough in the article, “The Bottom of the Band is the Tuba Pedal Register,” should strive to achieve a low register range descending to at least an octave below the B-flat below the bass clef staff. Bough offers general advice for practicing in the low range. He writes, “...breathe as often as needed

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<sup>171</sup> Fritz Kaenzig, “Tuba Pedagogy: Building a Successful Low Register.” *TUBA Journal* 13 (August 1985): 23.

<sup>172</sup> *Ibid.*, 24.

to maintain a full, resonant sound using a plentiful and smooth stream of air, regardless of the indicated phrasing.”<sup>173</sup>

Continuing with specific comments and exercises, Bough emphasizes playing low register intervals in tune and he offers the following exercise, shown in Example 7, to help achieve this goal.

Example 7. Thomas Bough, “The Bottom of the Band is the Tuba Pedal Register.”

The image shows two staves of musical notation for a tuba exercise. The first staff is in bass clef, 4/4 time, with a key signature of two flats (B-flat and E-flat). It begins with a series of eighth notes (G2, F2, E2, D2, C2, B1, A1, G1) followed by a half note (F2), all under a slur. A fermata is placed over the final half note. The second staff is also in bass clef, 4/4 time, with a key signature of three flats (B-flat, E-flat, and A-flat). It begins with a series of eighth notes (G2, F2, E2, D2, C2, B1, A1, G1) followed by a half note (F2), all under a slur. A fermata is placed over the final half note. A small number '7' is written to the left of the second staff.

To achieve a desirable sound in the low register, Bough advocates articulating with the syllable and vowel combination ‘toh’. Bough summarizes his thoughts by concluding, “After a resonant, open sound can be consistently produced in slurred exercises, practice for detached articulation of low register notes using a continuous stream of air, a relaxed throat, and the articulation syllables ‘toh’ or ‘doh’.”<sup>174</sup>

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<sup>173</sup> Thomas Bough, “The Bottom of the Band is the Tuba Pedal Register.” *The Instrumentalist* 56 (August 2001): 76.

<sup>174</sup> *Ibid.*, 76-78.

## **RANGE AND FLEXIBILITY STRATEGIES FOR TEACHERS**

### ***Range Extension***

In an effort to get young players to play lower notes with greater ease, David Porter describes his ideas on loosening the lips. He writes, “Too often I find young tubists unable to loosen their lips enough to play with a full sound and even more critical, to play any low notes at all.” The introduction to the article “Sink the Ship” is of an elementary level discussion, but the suggestions that are presented toward the middle of the article are helpful for all levels to consider.<sup>175</sup>

Porter’s first suggestion is to imagine the lips needing air like a waterfall rather than a stream. The lips are much more difficult to make vibrate than vocal chords, and it is helpful for young players to understand the difference in a visual manner. For very young beginners, Porter advises to have the student flutter the lips like a horse. The next step should be to do the same flutter, but with the mouthpiece in the instrument. Porter comments, “The mouthpiece will bring their lips into vibrating focus, while their efforts to flutter should cause their lips to be loose enough to get some sort of a low sound, be it good or bad.” Porter concludes that this can be a starting point to begin building the low range.<sup>176</sup>

Tuba players will often, comically or not, substitute a concluding note in a piece for a dramatic pedal tone. This can be effective especially when it is not overdone or poorly performed. In an article directed to band directors, “Tuba Pedal Tones,” Donald Stauffer encourages directors to urge their tuba students to incorporate pedal tones in

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<sup>175</sup> David Porter, “Sink the Ship.” *ITEA Journal* 33 (Winter 2006): 94.

<sup>176</sup> *Ibid.*

their band works. He says that it is a safe assumption that more composers and arrangers would make use of the effect if they were aware of it. This argument serves to justify the judicious use of the pedals.<sup>177</sup>

Stauffer cautions when applying pedals in performance, “They are slower to respond and require more air to sustain than notes in the general playing range of the tuba, and they should be used only in consecutive tones played slowly and deliberately.” When there are several tubas in a section, Stauffer instructs the director to have only one tuba play the pedal register. This is because it is more difficult to lock into the intonation of the upper octave when playing in the pedal register.<sup>178</sup>

Instrumentalists are often fascinated by the concept of extreme range playing. For young players, this concept can be even more exciting and may help generate greater interest to improve their overall skills. David Porter, in the article, “Screeches and Pedals are Not Frightening,” states that this area of performance can be viewed as either unimportant, because composers generally write for the ‘money’ register, or the teacher can view it positively as a motivational tool to help students engage in their own development.<sup>179</sup>

Porter agrees that most composers do not have much use for the extreme register of the tuba, particularly in young student performers. He believes, however, that students can develop their skills through the heightened motivation that is generated by youthful enthusiasm and intrigue in the extreme register. He writes, “...helping students learn

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<sup>177</sup> Donald Stauffer, “Tuba Pedal Tones.” *The Instrumentalist* 64 (December 2009): 34.

<sup>178</sup> Ibid.

<sup>179</sup> David Porter, “Screeches and Pedals are Not Frightening.” *ITEA Journal* 31 (Winter 2004): 82-83.

how to do something that they first find unattainable can help them progress by leaps and bounds, both in their skill and musicality.” Increasing a young tuba player’s overall range will help to develop their playable range. While taking precaution to avoid bad habits or injury, Porter outlines some positive ways to approach extreme range practice. He advises allowing the student to hear recordings or live demonstrations of extreme range playing. The extreme range should always be approached from the middle range, advisedly in scale patterns.<sup>180</sup>

Many students in their efforts to search for an extreme high note will attempt the buzz without the air support. Porter writes, “I emphasize air first and then the buzz. This allows the neck muscles to remain relaxed for the high notes and keeps their mouth open for notes in the low range. As comfort increases with these notes, begin encouraging them to seal the embouchure with the mouthpiece.” When attempting extreme low notes, the student should first be encouraged to get the lips to flutter. Beyond that, Porter says to, “...work on opening the teeth and moving massive amounts of slow, warm air...low playing is relaxation throughout their upper body.”<sup>181</sup> The excitement that a student displays when dealing with extreme range development should be directed toward overall musicianship development.

### ***Sample Exercises for First Year College Students***

The article “Working with Incoming College Music Students” lists critical range and flexibility concepts to apply in a student’s first college semester. Michael Fischer includes lip slurs, low range extension, and high range extension exercises to develop

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<sup>180</sup> Ibid.

<sup>181</sup> Ibid.



range and flexibility skills. In order to develop flexibility of the embouchure, Fischer provides several lip slur examples beginning from slow to fast patterns.<sup>182</sup>

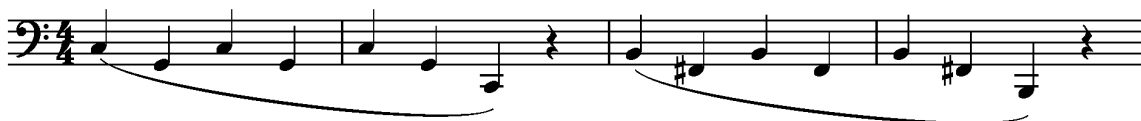
The first lip slur exercise, illustrated in Example 8 for CC tuba, begins on an open G concert on the first line in the bass clef and is notated to slur downward a fifth to an open C concert. This pattern is repeated once and concludes on a half note G concert.

Example 8. Michael Fischer, "Working with Incoming College Music Students."<sup>183</sup>



The second lip slur exercise, shown in Example 9, begins on the next open partial above the first exercise and has a descending slur conclusion.

Example 9. Michael Fischer, "Working with Incoming College Music Students."<sup>184</sup>




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<sup>182</sup> Michael Fischer, "Working with Incoming College Music Students." *ITEA Journal* 33 (Summer 2006): 87.

<sup>183</sup> Ibid.

<sup>184</sup> Ibid., 88.

To develop range, Fischer provides an example of a low range extension and a high range extension. The low range extension, displayed in Example 10, begins on an open partial and descends one octave.

Example 10. Michael Fischer, “Working with Incoming College Music Students.”<sup>185</sup>



The high range extension, illustrated in Example 11, begins on a lower open partial and ascends through an octave.

Example 11. Michael Fischer, “Working with Incoming College Music Students.”<sup>186</sup>



All patterns illustrated in Example 8 through Example 11 continue chromatically in their implied directions beyond what is shown. Fischer includes among his teachers Donald Little and Daniel Perantoni, so the importance of these exercises for their intended goals should not be underestimated.<sup>187</sup>

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<sup>185</sup> Ibid.

<sup>186</sup> Ibid.

<sup>187</sup> Ibid., 89.



shorter attack.” The connection of sixteenth notes in fast passages is the result of a tongue articulation that merely dents the airstream rather than stops it.<sup>189</sup>

Tonguing discussion often concerns the attack of the beginning of the note. Ronald Bishop addresses the sound quality that is affected by the tongue position after the initial articulation of the note. In the article, “Fundamentals of Tuba Playing,” Bishop writes, “Both quality and frequency can be changed by the position of the tongue and most students play with the tongue too high and too tense after they attack.” When the tongue is improperly placed after the initial articulation of a note, the air stream is impeded, resulting in reduced resonance.<sup>190</sup>

Bishop offers a different approach to achieving an unimpeded air stream. His suggestion is a passive approach to tongue placement. He writes that instead of ‘opening your throat,’ or ‘keeping your tongue down,’ it may be enough to simply keep the tongue lying lazily in the mouth in a sleeping position after the attack. He explains, “It isn’t necessary or desirable to close your throat and/or to raise your tongue.” These bodily directives, he cautions, may serve more to promote tension than to achieve positive outcomes.<sup>191</sup>

According to Cherry Beauregard, the perfect coordination of the tongue, lips, and valves are essential features in order to achieve clarity in tuba playing. In the article, “Clarity in Tuba Playing,” Beauregard attributes the challenge of clarity in tuba playing to, “the length of the air column that is vibrating.” Beauregard writes that poor timing of

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<sup>189</sup> Ibid.

<sup>190</sup> Ronald Bishop, “Fundamentals of Tuba Playing.” *TUBA Journal* 5 (Winter 1978): 11.

<sup>191</sup> Ibid.

the tongue articulation is the main culprit in the lack of articulation clarity, rather than tongue position.<sup>192</sup>

The tongue must function in tandem with the air. Beauregard writes, “Sometimes the air starts to move through the lips before the tongue strikes. Thus the lips are already being set in motion and we get a blunt imprecise attack, regardless of how well the tongue works, a split second too late.” The tongue, he states, must have complete control of the release of the air stream. Beauregard includes a paragraph to remind that clarity of articulation is also dependent on lips that can center on each note. He cites one of the main reasons why the lips may not center; “Often the ear is not trained to hear each interval as exactly as it should.”<sup>193</sup>

The concluding remarks are reserved for the fingers and their combined coordination with the tongue and lips. The obvious problem with fingers is stated, “If the valves are still in motion at the moment a note is articulated, that note will not sound clean.” Beauregard concludes, “Thus, to attain clarity in playing, each of the above systems must be well controlled by itself and then perfectly combined with all the others.” He reminds that clarity in tuba performance is attainable with conscientious effort and success in these essential areas functioning as a coordinated unit.<sup>194</sup>

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<sup>192</sup> Cherry Beauregard, “Clarity in Tuba Playing.” *TUBA Journal* 7 (Spring 1980): 2.

<sup>193</sup> Ibid.

<sup>194</sup> Ibid., 3.

## ESTABLISHING CONSISTENCY OF ATTACK

### *Tongue Positioning and Speech Models*

In the article “Articulating a Few Concepts...” Byrnes instructs students to, “...listen and match the articulation made on other instruments or voice, since these are the sounds with which we must blend.” Byrnes outlines a couple older methods of teaching articulation that are in the book, ‘Arban’s Complete Method,’ before explaining a newer method that he suggests is more effective. He writes, “Using syllables in this way provides a level of consistency of articulation not found in a haphazard approach to tonguing...”<sup>195</sup>

Byrnes explains that he teaches articulation using speech consonants. He writes, “The strength of these spoken consonants corresponds to the strength of the articulations.” For beginners, Byrnes suggests to start with a “toe” articulation, because it provides a more open oral cavity than the “tee”, or “tah.” In a four-step process, Byrnes instructs to first sing the tune using “toe.” Then do the same thing but monitor that there is no movement of the chin. Third, Byrnes says to think of the tune but to blow wind with the tongue motions instead of singing. Finally, he instructs to play the tune with these motions.<sup>196</sup>

Other articulations that he presents include; “thoe,” “no,” “doe,” “koe,” and “go.” It may be necessary to modify articulations based on the student, in order to get a softer or harder result. Byrnes advises, “...the sound should be the first and foremost guide in evaluating and modifying instruction.” The goal in experimenting with articulations is to

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<sup>195</sup> Jason Byrnes, “Articulating a Few Concept.” *ITEA Journal* 34 (Winter 2007): 94.

<sup>196</sup> *Ibid.*, 94-95.

add variety to the music. Byrnes concludes, "...experimenting with articulation and finding the perfect front, middle, and end for each and every note, greater variety of style and character is possible in every phrase."<sup>197</sup>

To introduce the concept of tonguing, Rex Conner compares the action to whistling. A high-pitched whistle brings the tip of the tongue forward and the middle section arches up in an 'ee' sound. A low whistle, "...draws back down the throat as if one were pronouncing the 'oh' down in the throat." In the article, "The Tongue and the Tuba," Conner recommends tonguing on the roof of the mouth for best tone quality and attack results. He writes in detail, "Place the tongue exactly where you would if you were pronouncing the letter 't'."<sup>198</sup>

Conner provides some warnings about how not to tongue. The worst type of tonguing is through or against the lips. Another attack that should be avoided is a 'th' articulation. This is caused by a player who doesn't get enough curve in the tip of the tongue. After providing examples of articulation with a 't' attack, Conner offers his opinion that using a 'do' attack is better than 'toh' or 'tah'. In each case the tip of the tongue hits the same place, but each results in a much different sound. He writes, "...voice teachers call the letter 't' a breath consonant and the letter 'd' a voiced consonant. Pronounce the letter 't' slowly and you will hear air before you hear the voice. Pronounce the letter 'd' and you will hear the voice immediately." The 't' attack

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<sup>197</sup> Ibid., 95.

<sup>198</sup> Rex Conner, "The Tongue and the Tuba." *The Instrumentalist* 12 (May 1958): 55.

may however be ideal if a performer is looking for an attack with more of an explosion or punch.<sup>199</sup>

For triple tonguing, Conner recommends using a ‘du-du-gu’ attack rather than ‘tu-tu-ku’. He says that the first way is, “...more relaxed, faster, and obtains more tone quality...” Near the conclusion of the article, Conner emphasizes that the tuba is not inherently built for slow response. He concludes, “Slowness of response is not due to the length of tubing. It is due to lack of resistance to the diaphragm and weak tonguing.”<sup>200</sup>

Somewhat contrary to Rex Conner’s preference of the ‘do’ attack, Daniel Perantoni advocates the use of the ‘tu’ syllable in the starting articulation of a tuba player. In “Tuba Talk Part II – Performance Tips,” he describes an ideal attack. Perantoni says, “A good attack combines the breathing apparatus, embouchure, oral cavity, and the tongue, all in correct timing.” The tongue moves in an up and down rather than in and out motion. Of equal consideration is the end of a note. To stop a sound, Perantoni writes, “...simply stop the air as when saying the ‘h’ ending in ‘toeh.’”<sup>201</sup>

Tongue positioning is critical for tubists to consider. The position of the tongue can help create an open or a closed sound. It is common for educators to discuss tongue position with students and work toward an ideal shape. Arnold Jacobs, in the article, “Mind Over Metal,” explains his alternative approach to teaching tongue positioning. He writes, “Many brass instructors teach positioning of the tongue, but I teach how speech relates to the tongue.” He continues, “I teach tonguing like speech, with consonant and

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<sup>199</sup> Ibid., 55-56.

<sup>200</sup> Ibid., 57.

<sup>201</sup> Daniel Perantoni, “Tuba Talk Part II – Performance Tips.” *The Instrumentalist* 38 (January 1984): 40.



vowel relationships. To enhance tone production, the concept is on the vowel, *tAH*, *tAH*; you add the consonant later. Go for the vowel and get the tone.”<sup>202</sup>

He says that players, in articulating notes, often put too much emphasis on the consonant ‘t’. This, Jacobs says, starves the notes of tone. Jacobs adds, “Tonguing problems occur when the ‘t’ consonant is used incorrectly as a tone production phenomenon, instead of a diction phenomenon as in speech...The psychology of tone production is to stress the vowel...” Attention to tone should be given particularly in staccato playing. The quality of sound should not suffer because the note is short. Jacobs writes, “The dangers in staccato playing are that you starve the embouchure of air necessary for tone production...Shortness is how much vibration there is in the lip, not the tongue.” He concludes that low vowel forms, such as ‘ah’, ‘o’, and ‘ooo’ keep the tongue down and out of the way of the air column and are preferable to vowel forms such as ‘ee’, ‘a’, and ‘i’, that move the tongue in the way of the air column.<sup>203</sup>

In the article, “Helpful Hints for Tuba Players,” David Kuehn presents three possibilities for the placement of the tongue in articulation. The first is behind the upper teeth. The second is between the teeth. The third possible placement is behind the lower teeth. Contrary to current teaching, Kuehn suggests allowing the student to place the tongue in a natural position if he or she is having difficulty in this area. In agreement with modern techniques however, Kuehn does suggest that the best starting point may be the gum line of the upper teeth. He further emphasizes to avoid completely retracting the tongue during rapid passages. Instead he writes, “...the tongue moves very little and

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<sup>202</sup> Arnold Jacobs, “Mind Over Metal.” *The Instrumentalist* 47 (October 1992): 15-16.

<sup>203</sup> Ibid.

strikes the teeth or gum softer than when one is tonguing slower, and a smaller area of the front of the tongue touches the teeth.”<sup>204</sup>

## **ARTICULATION STRATEGIES FOR TEACHERS**

### ***Articulation for Beginners***

Articulation can be successfully taught away from the tuba using only the mouthpiece. Harvey Phillips and Roger Rocco, in the article, “First Lessons on Tuba,” state that playing away from the instrument for young students can be beneficial because, “...mouthpiece playing is not limited by technique or music-reading limitations.” They recommend any open syllable for articulation, but suggest that ‘ta’ is the most common open syllable. Most important, students should avoid any syllable that closes the wind stream. The open ‘ta’ syllable for articulation can be effectively reinforced by the teacher conversing with the student using words that have the ‘ta’ sound. Phillips and Rocco conclude, “The tongue should refine the beginning of a note but never stop the sound.”<sup>205</sup>

### ***Spectrogram***

In the article, “More Effective Teaching through Seeing Sound,” Jason Byrnes explains the reasons for the use of a spectrogram in low brass lessons. He describes the spectrogram as, “...a three-dimensional graphical representation of sound...” The spectrogram is useful in displaying in graph form the articulation and resonance aspects of sound.<sup>206</sup>

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<sup>204</sup> David Kuehn, “Helpful Hints for Tuba Players.” *The Instrumentalist* 16 (June 1962): 71.

<sup>205</sup> Harvey Phillips, and Roger Rocco. “First Lessons on Tuba.” *The Instrumentalist* 62 (January 2008): 43.

<sup>206</sup> Jason Byrnes, “More Effective Teaching through Seeing Sound.” *ITEA Journal* 33 (Summer 2006): 80.

Byrnes points out that it is particularly useful in displaying the contrast between good and bad articulation attacks. The spectrogram for instance will provide a graphic image of the tone being stopped with the tongue. It also is useful in displaying the difference in slurred and articulated notes. The spectrogram will make inconsistencies in articulation immediately apparent to the student.<sup>207</sup>

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<sup>207</sup> Ibid., 81.

## CHAPTER 7

### TECHNIQUE

#### CHALLENGING FINGERS

##### *Finger Strength and Coordination*

The valves on tuba are larger in size than on any other brass instrument. David Porter's article, "Tubastroke – Not a Boat Stroke," explores the challenges that young performers encounter in attempting to coordinate their fingers during the valve strokes. Porter states, "...the tuba valve stroke is...the longest, widest and heaviest of all the brass instruments." There are three main ideas that Porter discusses for the purpose of improving finger strength and coordination.<sup>208</sup>

The first suggestion is to, "play the notes with the fingers." The student is to play the passage with the fingers only and without any sound. Porter explains that this exercise helps the performer to shift their finger focus to the bottom of the valve stroke where the note begins. Porter explains the continuing steps in this exercise, "We then began adding back in tonguing and singing, then tonguing with air, then tonguing with buzzing, then playing the horn – each time trying to retain the original focus of the fingers helping play the notes." This exercise is particularly helpful in improving finger coordination in fast passages.<sup>209</sup>

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<sup>208</sup> David Porter, "Tubastroke – Not a Boat Stroke." *ITEA Journal* 32 (Summer 2005): 82.

<sup>209</sup> *Ibid.*

The second step is to ‘curve the fingers over the valves with the fingertips.’ Young students may lack finger strength and keep their fingers too straight on the valves. Porter says that this idea helps to provide strength in their fingers and adds clarity to the passage.<sup>210</sup>

The final step is to ‘move the fingers from the knuckles.’ The need for this technique is to prevent the student from moving their whole wrist for every valve stroke. Porter writes, “...in order to be quick the fingers move naturally from the knuckle joint, not the wrist.” Porter summarizes all three steps in one sentence: “Play the notes from the knuckle joint, curved through the finger tip into the valve stroke connecting the bottom of the down stroke with the tongue releasing air to buzz the lips into instant sound.” In order to further strengthen and condition the fingers, Porter advises to embark on resistance and strength training involving weights. Another benefit of this training, according to Porter, is that it helps to prevent tendonitis.<sup>211</sup>

In a brief article, “Don’t Neglect Alternate Fingerings,” John Stevens provides useful alternate fingering suggestions. The tuba should not be dismissed as a clunky instrument incapable of playing difficult passages with clarity. Often this is the result of limited knowledge with regard to the possibilities of alternate fingerings. Stevens describes the general goal of acquiring alternate fingerings in a tuba player’s technical arsenal. He writes, “Alternate fingerings can be one step toward cleaner, more precise tuba playing.”<sup>212</sup>

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<sup>210</sup> Ibid.

<sup>211</sup> Ibid.

<sup>212</sup> John Stevens, “Don’t Neglect Alternate Fingerings.” *TUBA Journal* 15 (August 1987): 17.

Stevens emphasizes the utility of alternate fingerings in performing fast trill passages. He states, “Some of the most difficult figures to play well on the tuba are rapid, slurred passages, particularly trills.” He concedes that smooth constant air movement is of utmost importance in successful performance. Equally important, he writes, “...is smooth, rhythmic, consistent fingering of the valves to change from note to note.” He provides alternate fingerings, shown in Example 13, for whole step and half step trills.

Example 13. John Stevens, “Don’t Neglect Alternate Fingerings.”<sup>213</sup>

1, 2, 3 - 3      1, 3 - 3      0 - 3      2, 3, 4 - 2, 4      2 - 3

Tuba

1, 4 - 4      0 - 4      1, 2, 3 - 2, 3      1, 3 - 3      1, 3 - 2, 3

Tba.

2, 3 - 3      1, 4 - 2, 4      0 - 3      1, 3 - 2, 3      2, 3 - 3

Tba.

Stevens advises that based on the configuration of the instrument and its tendencies, a performer must make important decisions still with regard to intonation, and any other aspects that may be effected by applying an alternate fingering.<sup>214</sup>

<sup>213</sup> Ibid.

<sup>214</sup> Ibid.

## CHALLENGING FACILITY

### *Trills*

Trills, writes Cherry Beaugard, present the tubist with two problems, "...one is musical, the other is technical." In order to present a technical solution to a problem that most tubists do not suitably overcome, Beaugard writes an article simply titled, "Trills." He summarizes two basic types of trills. One is the trill that comprises two notes at an interval of a minor second apart. The second type of trill is that which covers an interval greater than a minor second.<sup>215</sup>

Each of the notes in a minor second trill are fingered. Beaugard explains, "On a tuba with five valves, satisfactory fingerings for all minor second trills are available...some of the combinations are a bit unusual and might necessitate a certain amount of practice."<sup>216</sup>

More interesting is Beaugard's technical suggestions for improving performance of trills with intervals greater than a minor second. In contrast to the minor second trill, where the lips hold a single position while the valves change the pitch in rapid motion, the lips have to be in motion with the valves in larger interval trills. One sign of a poorly performed large interval trill is something that Beaugard calls the 'bubbling effect,' where there is actually no pitch change. Beaugard best summarizes the technique required for the larger interval trill as follows, "In the middle and upper registers, all trills larger than a minor second should be played as lip trills. Lip trills are

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<sup>215</sup> Cherry Beaugard, "Trills." *TUBA Journal* 7 (Winter 1980): 7.

<sup>216</sup> Ibid.

performed by using the fingering for the lower note, and the lip, without any help from the valves, moves back and forth between the two desired notes.”<sup>217</sup>

In lower registers, there is a greater challenge in applying the lip trill technique, because the lip must overpower the normal vibrating column of the overtone series. Following a brief explanation of ‘privileged tones,’ Beauregard writes, “The lip trill in these [lower] registers is accomplished by using the fingering for the lower note (exactly as in the upper register) and then creating a ‘privileged tone’ a major second above.” One exercise to accomplish this technique with perfection is to first slowly trill the two notes using the fingers. This will achieve the important task of implanting the feel and tone of the notes in the ears and lips. The goal is to master trills to the point where they become a musical expression instead of a technical burden.<sup>218</sup>

### ***Pitch Finding***

Unlike other instruments that have a specific hand or finger position for each note, brass instruments have several notes that can be sounded by any valve combination. This raises a challenge for young tuba students; a problem that is exacerbated David Porter says because, “The pitches are harder to hear down low.” In the article, “Here a Pitch, There a Pitch...” Porter offers suggestions to help young tuba students develop the skill to find pitches on the instrument.<sup>219</sup>

He believes that the quickest way to develop the skill of finding pitches is to match pitches with a piano. This is the most convenient self-help method for a student.

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<sup>217</sup> Ibid., 7-8.

<sup>218</sup> Ibid., 8.

<sup>219</sup> David Porter, “Here a Pitch, There a Pitch.” *ITEA Journal* 30 (Fall 2003): 80.



A longer-term approach to help students is to do various ear-training exercises. Porter outlines a few suggestions to help develop their ear: “a) using a piano demonstrate what higher and lower means, b) to some degree, try having them sing the pitches...”<sup>220</sup>

The second method for pitch finding is a little more complex. It requires focusing on the lip buzz, which Porter refers to as the source of the sound. He tells the teacher to have the students begin buzzing a single note on the mouthpiece away from the instrument. Then the teacher plays the note on the piano and names it. He says, “Have them focus on what the buzz ‘feels’ like at that pitch. Have them memorize that feeling for that pitch.” Porter emphasizes that repetition is critical in these procedures to develop a memory of the feeling of the buzz on different higher and lower pitches.<sup>221</sup>

### ***Sight-Reading Skills***

The primary focus in the article “Two Stepping – Not Just a Country-Dance” by David Porter is the development of sight-reading skills. It is geared toward younger players, but offers ideas that are helpful for teachers and all players. Porter briefly explains that he has transformed some of his own ideas on this issue from a multi-step process to a simplified two-step process: key signature notes, and time signature rhythms. In the first step, Porter advises to, “...skim the piece for accidentals, programming our minds like a computer...find the notes that are in the key signature.” In the second step he strongly advises that students find the downbeats. He describes these as rest stops or checkpoints. To strengthen his advice, Porter includes a number of comments that

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<sup>220</sup> Ibid.

<sup>221</sup> Ibid.

illustrate how young students wrongfully guess at the length of rhythms when sight-reading.<sup>222</sup>

## **ADDITIONAL CONSIDERATIONS IN TECHNIQUE**

### ***Embouchure Strength and Health***

The embouchure is an important component of efficient playing. In the article, “How Healthy is Your Embouchure,” Jason Byrnes offers a clear explanation on the strength and health aspects of the embouchure, and the purpose of improving this technique. A smile embouchure, although the most natural at first, may result in many troubles including excessive mouthpiece pressure on the lips, lack of consistent results, and injury.<sup>223</sup>

Byrnes proposes an alternative to the smile embouchure called the “whistle-smile” embouchure. In this embouchure, opposing muscle groups create firmness. He describes these muscles: “...the opposing muscle groups are the muscles we use when puckering or whistling and the muscles we use when smiling.” The “whistle-smile” embouchure brings more lip into the mouthpiece. He writes, “This quantity of firm muscle provides more cushion and protection to the lip tissues sandwiched between the teeth...resulting in increased endurance and embouchure health.” Another benefit is a larger sound because of the increase in the vibrating surface.<sup>224</sup>

Byrnes notes that the consistency of intonation and tone are also improved because this embouchure can be employed in all registers. One significant visual result is

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<sup>222</sup> David Porter, “Two-Stepping – Not Just a Country-Dance.” *ITEA Journal* 37 (Fall 2009): 54-55.

<sup>223</sup> Jason Byrnes, “How Healthy is Your Embouchure.” *ITEA Journal* 33 (Fall 2005): 74-75.

<sup>224</sup> *Ibid.*

that the cheeks are unlikely to puff since the cheek muscles are in use as well. Byrnes sympathizes that a change of embouchure can be difficult. He exclaims, “Modifying an embouchure is usually a difficult process but can be successful with patience and careful practice.” When first attempting to modify the embouchure technique, Byrnes advises starting with very slow lip slurs, noting that the player will immediately notice a large increase in the required airflow.<sup>225</sup>

### ***Slide Adjustments for Intonation***

Larry Pitts provides a very clear explanation of the intonation tendencies of the first valve harmonic series on a BB-flat and CC tuba. In the article, “Using the First Valve Slide to Adjust Tuba Intonation,” Pitts presents the first valve partials and explains their pitch characteristics. He writes,

The need to make adjustments with the first valve slide arises from the difference between equal temperament and the natural harmonic series. When a tone is sounded on a brass instrument, the resulting harmonic series remains compatible with the equal tempered system of tuning on the first, second, fourth, and eighth partial; the third partial is two cents sharp, the fifth partial is fourteen cents flat, the sixth partial...is two cents sharp...<sup>226</sup>

For the fifth partial, Pitts suggests that the first valve slide may need to be physically shortened by a repairman in order to bring the pitch in tune when the slide is pushed in all the way.<sup>227</sup> One additional suggestion is to lip the pitch up slightly into tune with the slide pushed in as far as it goes.

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<sup>225</sup> Ibid.

<sup>226</sup> Larry Pitts, “Using the First Valve Slide to Adjust Tuba Intonation.” *The Instrumentalist* 29 (April 1975): 52.

<sup>227</sup> Ibid., 52.

### *Practice Techniques*

Rather than justify the importance of diligent practice, Daniel Burdick provides clear practice techniques that may inspire enthusiasm in practice. In the article, “Overcoming Practice Boredom,” Burdick lists techniques that he gathered through study with Fritz Kaenzig, Sam Pilafian, Elizabeth Green, Chester Schmitz, and Wesley Jacobs. He summarizes the purpose of the article by stating, “One of the most important areas in sustaining practice enthusiasm is developing specific techniques to deal with the frustration and the lack of perceived improvement concomitant with learning new music and mastering difficult passages.” Burdick divides practice technique strategies into two areas: the ‘Three Practice Principles,’ and the ‘Add-Ons.’<sup>228</sup>

In the “Three Practice Principles,” he lists “slow practice” as a critical first step. He describes it as, “...playing at a speed where no mistakes are made.” The second step is the “three-times rule.” In this step, “...each repetition must be played without a mistake.” The tempo can be slightly increased after three successful repetitions. The third basic practice technique is to “chunk” the music into, “...small, limited amount or chunk of material on which to focus.” The length of the section of music selected to ‘chunk’, he writes, is dependent on the difficulty of the passage and the performance level of the player.<sup>229</sup>

In the second major section, entitled “Add-Ons,” Burdick provides practice techniques that can help a player reach a greater level of proficiency. The first two ‘add-ons’ are the process of practicing fast passages in long-short dotted rhythms, and short-

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<sup>228</sup> Daniel Burdick, “Overcoming Practice Boredom.” *TUBA Journal* 23 (Winter 1995): 36.

<sup>229</sup> *Ibid.*, 36.

long dotted rhythms. The third add-on is to practice reversing the printed dynamics, followed by the fourth add-on, in which the player reverses the printed articulations. For passages in a high range, Burdick suggests the fifth technique, in which the player takes the passage down an octave. This helps, he says, "...to embed the passage in the mind aurally." It also reduces the strain on the lip muscles.<sup>230</sup>

In order to improve practice techniques, it is helpful to have a basic understanding of how sometimes seemingly mundane routines, such as technical exercises and difficult passage practice, are encoded into our brain and translated into success in performance. Eros Sabbatani and Christopher Spiteri co-author an article, "Learning More Efficiently: Understanding the Memory Mechanisms," in which they explain the basic correlation of practice and the function of memory mechanisms.

They explain that the human mind can be thought to have two types of storage: Short Term Memory, and Long Term Memory. As it relates to music practice they write, "The data present in the STM [Short Term Memory] during any given instant are sorted out according to a 'repetition buffer.' This information is stored in this buffer until it gets permanently transferred to the LTM [Long Term Memory], or gets replaced by new data." In order for a passage of music to get transferred from the Short Term Memory to the Long Term Memory, it must be practiced consecutively ten times. Any mistakes made during the repetition sequence may either delete or corrupt the data that is supposed to be transferred into the Long Term Memory.<sup>231</sup>

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<sup>230</sup> Ibid., 37.

<sup>231</sup> Eros Sabbatani, and Christopher Spiteri. "Learning More Efficiently: Understanding the Memory Mechanisms." *ITEA Journal* 37 (Spring 2010): 50-52.

Sabbatani and Spiteri explain, "...for us to learn efficiently as much as possible it is necessary to never make mistakes during our practice time! It may seem impossible, but it is more effective to repeat a musical passage for ten times correctly at half the tempo instead of repeating the passage inaccurately a hundred times in tempo." They add that it is similarly helpful to study a piece of music in smaller segments with precision, rather than practice a whole passage with errors.<sup>232</sup>

One article is directed toward the development and solidification of technically difficult sections of music. Robert Brewer describes practice approaches to manage technique effectively. In the article, "Tuba Pedagogy: Preparing New Etudes," Brewer writes that the, "...acquisition of technique is the subject of surprisingly few authors." Brewer uses the example of preparing a technical etude to describe a five-step process of technique development.<sup>233</sup>

The first step is to develop a plan by marking all breaths and phrases. The second step is to, "...sight-read the etude three times...without stopping for minor mistakes." Brewer cites Roger Bobo as a major advocate of sight-reading to develop the ear. The third step is to mark the major trouble sections immediately after the sight-reading step has been completed. The fourth step is reserved for the next practice session. Brewer writes that it involves working out only the marked trouble spots. He cautions that patience should be observed in working on the difficult passages. It may also be

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<sup>232</sup> Ibid.

<sup>233</sup> Robert Brewer, "Tuba Pedagogy: Preparing New Etudes." *TUBA Journal* 19 (Spring 1992): 42.

beneficial to practice the passage down an octave. Brewer states, “This will give the embouchure a chance to relax and the ear a chance to hear the intervals correctly.”<sup>234</sup>

The final step involves connecting the entire piece together. Here it may be necessary to erase some of the markings used in the previous four steps, especially if any parentheses markings of the difficult passages interfere on the musical page. Brewer summarizes his purpose in writing this article, “A disciplined, well-organized approach is the foundation of developing a sound technique in preparing etudes.”<sup>235</sup>

In the article, “Roger Bobo Talks Tuba,” Ralph Hepola asks Bobo to provide recommendations for developing fast and clean technique. Bobo’s answer is reflective of what he has passed on to his students. He urges first to play the music slowly and with a metronome. The correct slow tempo is the one where the music sounds excellent, even if the tempo is extremely slow. His additional comments are more intriguing. Bobo states that this slow playing should be done, “...with a real firm attack on the notes...rather pesante, and marcato so that there’s a very good impetus to each of the notes, so that the intonation, evenness of attack, and balance between the notes are all very uniform.” The tempo should then be increased as fluency increases. Bobo adds that the length of the notes should adjust automatically as the tempo increases.<sup>236</sup>

### ***Mouthpiece Buzzing***

Brass instructors and performers may never reach a consensus on the value of mouthpiece buzzing to enhance performance outcomes. Tubists may consider the view

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<sup>234</sup> Ibid.

<sup>235</sup> Ibid., 43.

<sup>236</sup> Ralph Hepola, “Roger Bobo Talks Tuba.” *The Instrumentalist* 32 (November 1977): 60.

of Arnold Jacobs on this subject to inform their perspective. In the article, “Mind Over Metal,” Jacobs firmly states his opinion. He writes, “Mouthpiece practicing is extremely valuable. I know teachers that say it is not, but I think it is a great tool.”<sup>237</sup>

Jacobs suggests that it is more valuable to play simple tunes on the mouthpiece rather than long tones and lengthy drills. He explains, “In mouthpiece playing, students draw on their musical thoughts. I never give exercises...but challenge them with music...Students should have recall and the lip fibers should be responsive to thought when they play on the mouthpiece.” Buzzing a tune on the mouthpiece relates to Jacobs’ pervading view of the importance of ‘song’ in the performer’s mind. Removing the instrument from the equation, the performer must depend on the mind to produce a lip vibration that will simulate the ‘song’ that is in the mind of the performer. Jacobs continues, “If you buzz a tune you get music; not profound music, but you sing it in the brain and bring it out with the lips.”<sup>238</sup>

He concludes the section on mouthpiece playing by explaining in greater detail the benefit of mouthpiece buzzing. Jacobs states, “By removing the instrument, the student is forced to recall the function based on vibration of the lip rather than blowing of breath.”<sup>239</sup>

### ***Legato Technique***

Moving large amounts of air smoothly through the piping in the massive chambers of the tuba can be an onerous task. The depression of a valve suddenly

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<sup>237</sup> Arnold Jacobs, “Mind Over Metal.” *The Instrumentalist* 47 (October 1992): 16.

<sup>238</sup> *Ibid.*, 16-17.

<sup>239</sup> *Ibid.*, 17.



changes the direction that the air must travel, and yet the musical legato effect must remain unhindered. In the article, “Legato Technique for Tuba,” Donald Stanley addresses an issue that he says does not garner enough attention. Developing better legato technique, he believes, will improve tone, intonation, and range. Playing legato on tuba is dependent upon four factors: embouchure, breath, fingers, and the tongue.<sup>240</sup>

The embouchure should use a, “...minimum of movement.” He advises against forming a smile embouchure, but the corners of the lips should nonetheless maintain some firmness. In order for the sound to maintain a legato style, Stanley writes that the column of air must likewise be continuous. He elaborates on the ability of the tubist to sustain a column of air through the horn for the duration of a phrase. He writes, “...the player needs to feel some resistance to the air stream. This resistance is provided by the lip aperture, the mouthpiece, and the instrument itself.” The resistance helps to regulate the outflow of air during legato playing. In the third factor dealing with fingers in improving legato technique, he maintains that many players simply do not depress the valves all the way or with enough speed. He writes, “...ask the [tubist] to slam the valves down as an aid to quickness of motion and to insure the valve moving its total distance.”<sup>241</sup>

The tongue affects the response of the sound, and is therefore, according to Stanley, considered the fourth critical factor to legato technique. He maintains that the tongue can often be used to softly articulate notes that are played in a legato style. He

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<sup>240</sup> Donald Stanley, “Legato Technique for Tuba.” *The Instrumentalist* 24 (December 1969): 59-61.

<sup>241</sup> *Ibid.*, 59-60.

writes, “This technique of legato tonguing is produced by lightly touching the tip of the tongue to the hard palate. The tongue must not create a seal so that the air is stopped.” The tongue, Stanley urges, creates distinctness to the beginning of each pitch while the air is continuous. He compares this to the technique used to articulate “...repeated pitches within a slurred passage.”<sup>242</sup>

### ***Extended Techniques***

Barton Cummings defines multiphonics as, “...the producing of more than one pitch simultaneously on one instrument...” He unapologetically asserts the credibility and importance of this technique as a musical gesture. In “Multiphonics and the Tuba,” Cummings writes, “Short of physical damage to the tuba or tubist, these new sounds and techniques are very legitimate and extremely exciting when used by master composers and performers.” Cummings explores different ways in which this technique can be used.<sup>243</sup>

Essentially there are two possibilities for the use of multiphonics. The simplest form is the application of multiphonics on two stationary pitches. The following musical excerpt, shown in Example 14, demonstrates the bottom tone that is played and the upper tone that is sung in a series of fermatas.

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<sup>242</sup> Ibid., 61.

<sup>243</sup> Barton Cummings, “Multiphonics and the Tuba.” *TUBA Newsletter* 3 (Spring/Summer 1976): 1.

Example 14. Barton Cummings, "Multiphonics and the Tuba."<sup>244</sup>

Musical score for Example 14, showing a tuba part with "Sing" and "Play" staves. The "Sing" staff has a melodic line with notes and rests. The "Play" staff has a corresponding line with notes and rests, starting with a dynamic marking of *mf*.

The second possible use of multiphonics is the complex form in which one or both of the voices become rhythmically active. The following excerpt, shown in Example 15, features a suspended lower tone that is played and a rhythmically active upper part that is hummed.

Example 15. Barton Cummings, "Multiphonics and the Tuba."<sup>245</sup>

Musical score for Example 15, showing a tuba part with a complex multiphonic structure. The score includes dynamic markings (*pp*, *mp*, *f*, *sf*, *p*, *mp*, *mf*, *f*), articulation (*accel.*, *short*), and glissando (*gliss.*) markings. The score is written on a single staff with a bass clef.

The possibilities of complex form multiphonics are abundant as Cummings provides additional examples of these advanced techniques. One complex multiphonic excerpt, displayed in Example 16, is from a piece that has found widespread acceptance in the tuba repertoire. The piece, *Encounters II*, by William Kraft, displays the voice and

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<sup>244</sup> Ibid.

<sup>245</sup> Ibid.



performance of a solo fantasia, caused considerable astonishment among his audience by sounding four notes of a dominant seventh chord simultaneously.”<sup>248</sup>

Randolph outlines two essential requirements for the basic performance of multiphonics. First, he writes, the intonation must be perfect. The second requirement is that the balance between the played note and the sung pitch must be given serious consideration. Randolph provides several examples of basic multiphonic studies, “...used by the writer in developing consistently accurate and balanced multiphonics...” These are especially useful for students who are new to the technique. Intervals of fifths and octaves, writes Randolph, should have no beats present.

Example 17 includes an exercise for the interval of a fifth, on the first staff, and for the interval of an octave, on the second staff. In all of the following examples, the bottom notes are played and the top pitches are sung.<sup>249</sup>

Example 17. David Randolph, “Toward Effective Performance of Multiphonics.”<sup>250</sup>

Perfect 5ths

Octaves

<sup>248</sup> David Randolph, “Toward Effective Performance of Multiphonics.” *TUBA Journal* 8 (Fall 1980): 2.

<sup>249</sup> *Ibid.*, 2-3.

<sup>250</sup> *Ibid.*, 3.

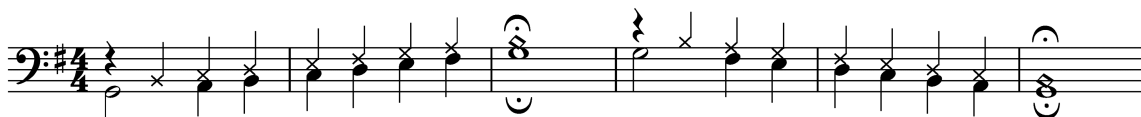
Example 18 involves a scale pattern. Randolph recommends repeating this on other scales in a comfortable vocal range.

Example 18. David Randolph, “Toward Effective Performance of Multiphonics.”<sup>251</sup>



The next exercise, shown in Example 19, includes major and minor thirds. Randolph writes that major thirds, sixths, and tenths seem to be the easiest intervals to perform in multiphonics.

Example 19. David Randolph, “Toward Effective Performance of Multiphonics.”<sup>252</sup>



The final exercise in this article, shown in Example 20, is the most challenging of the presented exercises. In this example, the upper sung pitch is sustained and the lower played notes are moving. Randolph cautions to give particular attention to intonation near the top of the scale.

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<sup>251</sup> Ibid., 4.

<sup>252</sup> Ibid.

Example 20. David Randolph, “Toward Effective Performance of Multiphonics.”<sup>253</sup>



The examples included in this article, Randolph states, are intended to be preparatory exercises for the study of multiphonics. He concludes by mentioning some of the advanced aspects of multiphonic production. These are, “...sustaining dissonant intervals, starting the played pitch after the sung pitch, and singing below the played pitch.” The ideas presented by Randolph give the tuba player a good grasp of early multiphonic techniques.<sup>254</sup>

In the avant-garde literature for solo tuba, performers are instructed by the music to produce sounds of indefinite pitch that include such examples as striking the tuba, clicking the valves, stamping a foot on the floor, and hissing into the mouthpiece. David Randolph, in the article, “Avant-Garde Effects for Tuba – Music or Noise?” asserts, “Far from being ‘just noise,’ these sounds can add much color and variety to a composition.” He explains in the introduction that the fact many of these techniques are of an indefinite pitch does not qualify them as non-musical sounds. He lists percussionists as an example of those who would agree that indefinite pitches certainly qualify as musical sounds.<sup>255</sup>

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<sup>253</sup> Ibid.

<sup>254</sup> Ibid.

<sup>255</sup> David Randolph, “Avant-Garde Effects for Tuba – Music or Noise?” *TUBA Journal* 8 (Winter 1981): 19.

Randolph inserts several brief excerpts of compositions that incorporate avant-garde techniques. One, by a well-known composer, is included in this summary. Samuel Adler’s composition, Canto VII for Solo Tuba, written in 1974, makes use of sounds that are created by the vocal tract as well as percussive sounds created by hitting an object. The consonant vocal sounds that Adler uses are ‘s’ and ‘f’. Both of these in their appearance are preceded by a ‘t’ consonant, to produce a vocalized percussive effect. The excerpt, shown in Example 21, includes percussive sounds created by clicking the valves, and stamping the foot on the floor. Randolph writes, “Adler’s alternation of them [striking sounds] with traditional sounds has enhanced the march-like character of the second movement of his composition.”<sup>256</sup>

Example 21. David Randolph, “Avant-Garde Effects for Tuba – Music or Noise?”<sup>257</sup>

The musical score for tuba, Example 21, consists of two staves. The first staff is in 2/4 time and contains several measures of music. It features a sequence of notes with rhythmic markings: a quarter note followed by a triplet of eighth notes, another quarter note followed by a triplet of eighth notes, and a final quarter note followed by a triplet of eighth notes. Below the staff, the notes are labeled with phonetic symbols: 'Tss', 'Tf Tf', 'Tf Tf Tf', and 'Tf Tss Tss Tss'. The second staff is in 3/4 time and begins with a measure of sixteenth notes marked 'Click valve' and 'Foot stamp' with a 'sff' dynamic marking. This is followed by a measure of eighth notes and a final measure of eighth notes.

Randolph emphasizes that the use of avant-garde techniques described in this article must be included in the music in a way that they appropriately relate to the entire movement or composition. He concludes, “They may well be called noise by definition,

<sup>256</sup> Ibid., 20-21.

<sup>257</sup> Ibid., 21.



but their imaginative use enhances the avant-garde (and decidedly *musical*) examples of which they are integral parts.”<sup>258</sup>

## **TECHNIQUE STRATEGIES FOR TEACHERS**

### ***Rhythmic Development***

In the article “Downbeat, Upfeet,” David Porter provides his experiences, views, and suggestions in the use of foot tapping by students and its effect on their rhythm.

Although this article is intended to provide teachers with ideas to help students ‘embrace’ correct foot tapping, he advises that eventually the student should be weaned from the habit. The difficulty that students have is coordinating foot tapping when it contradicts the direction of airflow. He writes, “Inhaling on the upfeet is easy because it ‘feels’ like it is going the same direction... When a student tries to blow air and tongue notes on the upfeet, it feels like things are happening in opposite directions...”<sup>259</sup>

### ***Posture***

Instrumental posture can affect breathing and tone production. The tuba, due its enormous size and awkward construction, can present real problems to young students in particular. The article, “Stands and Positions for Tuba Students,” is written by John Taylor with the goal to offer teachers and directors of young students information on fundamental posture techniques. He generalizes, “It is important to remember that the

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<sup>258</sup> Ibid., 23.

<sup>259</sup> David Porter, “Downbeat, Upfeet.” *ITEA Journal* 36 (Winter 2009): 102-103.

goal is...to sit comfortably and use their full respiratory capacity while the mouthpiece is at a comfortable position, the head is erect, and the throat is open and relaxed.”<sup>260</sup>

Without proper instruction and supervision, young students may develop sitting and holding positions that restrict airflow and encourage distorted embouchures. The mouthpiece should be at an even level with the performer’s mouth. To achieve this, directors may consider providing their tuba students with commercially available tuba stands or create their own solution using a book or wooden block. Taylor writes about another option for directors if the mouthpiece in a particular tuba is consistently awkward in a majority of young players. He says, “In some cases it may be necessary to raise or lower the lead-pipe...Any repairman can change the height and angle of a lead-pipe...”<sup>261</sup>

The left arm is often badly positioned in a draping manner over the tubing of the tuba. Taylor comments, “Because the valve slides have to be adjusted for good intonation on some notes, the left arm should be positioned to do this without restricting respiration.” Even if young students do not adjust tuning slides frequently, the proper left arm position near the tuning slides will help prevent an improper posture.<sup>262</sup>

Thomas Bough, in the article “Weighty Problems for Low Brass,” addresses posture for beginning tuba students in three basic areas. First, the mouthpiece should be placed without the instrument, at the most comfortable place on the lips. For some students, Bough writes, “...this will be an equal distance from the nose and chin and an

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<sup>260</sup> John Taylor, “Stands and Positions for Tuba Students.” *The Instrumentalist* 51 (September 1996): 93.

<sup>261</sup> *Ibid.*, 92-93.

<sup>262</sup> *Ibid.*, 92.

equal distance from side to side, but other students may play better with the mouthpiece slightly higher or off center because facial structures differ.”<sup>263</sup>

The second step is to place the mouthpiece in the instrument, and maintain the previous position but in a standing position. According to Bough this will, “...verify that the mouthpiece placement and embouchure are the same as when the student was only holding the mouthpiece...” Young tuba players may require some assistance to hold the tuba for the few moments that this step is completed.<sup>264</sup>

The final step for the young player is to be seated and assume a playing position with the mouthpiece in place on the embouchure. Bough explains that a tuba stand may be the best solution to maintain the proper position and prevent any tension in the arms, neck, and shoulders that may result from incorrect posture. There should be no shame in requiring the assistance of a useful piece of equipment. Bough writes, “Cello and bass players use an end pin to bring the instrument to a good playing position, as do bass clarinet players...Tuba players could use just as much help holding their instrument as the people who play these other instruments.”<sup>265</sup>

In the article “Little Player, BIG TUBA,” teachers are advised to persistently monitor their students’ posture. David Porter particularly refers to the angle of the lead pipe to the embouchure. In a brief explanation, he explains the correct position as, “...the

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<sup>263</sup> Thomas Bough, “Weighty Problems for Low Brass.” *The Instrumentalist* 60 (June 2006): 54.

<sup>264</sup> Ibid.

<sup>265</sup> Ibid., 54-55.

lead pipe has to be at a right angle to the vertical plane of the front teeth.” He further explains that for most students this will result in the lead pipe angling downward.<sup>266</sup>

In order for the lead pipe to be lower than the player, either the tuba needs to be lowered, or the player needs to be raised. One of the dangers of students not adhering to this position is that their lower jaw may protrude in an effort to reach up to the mouthpiece. Porter explains that this will produce, “...a tight, nasal sound that feels very secure.” The first attempts to correct this technique will result in less tone security for the student, but will develop properly with determination to maintain the correct position.

Posture often describes the sitting position, good or bad, of a student in relation to the instrument. However, sometimes just striving for the correct posture doesn’t take into account differences in an instrument’s construction. In the article, “Plane Angle Equals Air Route Ratio,” David Porter specifically concerns his suggestions in regard to the angle of the leadpipe. He calls this the, “...physical relationship between the student and the instrument.” Porter justifies concern for this topic by stating, “...unchecked form in sitting and holding the tuba can lead to playing problems in the air column and embouchure, as well as permanent health problems...”<sup>267</sup>

The concern with the angle of the leadpipe more specifically is addressed in order to, “...get the best quality tone, to achieve the most unobstructed air flow for the best sound resonance and projection, and to provide maximum comfort of the player.” The correct position of the leadpipe to the player is as follows: “...the leadpipe needs to be at a right angle to the vertical plane of the front teeth.” The teacher can examine the angle

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<sup>266</sup> David Porter, “Little Player, BIG TUBA.” *ITEA Journal* 34 (Winter 2007): 97.

<sup>267</sup> David Porter, “Plane Angle Equals Air Route Ratio.” *ITEA Journal* 29 (Fall 2001): 87-88.

with the student sitting down with the tuba in position. The various points of adjustment to monitor include: the instrument, chair, music stand, sitting height, and the space around the tubist.<sup>268</sup>

Porter summarizes the route that air takes in order to reach the leadpipe. He writes, “Starting from the lungs...through the throat area, into the mouth, over the tongue, between the front teeth, between the lips, into the mouthpiece, and through the leadpipe.” These are all potential points of disruption in the air stream, and the angle of the leadpipe is one of the final points along the air route that needs to be considered.<sup>269</sup>

### ***Learning Note Names***

Directed toward teachers with young beginner students, the article “101100101110” by David Porter provides ideas for helping students develop music note reading skills. Porter describes from his experience that many young students learn to play notes by fingerings, thereby developing a type of digital process. He says that as a student is asked to play scales faster they will encounter a hurdle. Porter writes, “...digital thinking valve combinations quickly will also cause them to get lost as they play.”<sup>270</sup>

Instead, he promotes teaching the analog method of reading note names as early as possible. He comments, “...thinking note letter names will help them to keep track of where they are in the music, and, most importantly, focus on the music.” Students, who learn scales and ensemble music according to what valves they push rather than the note

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<sup>268</sup> Ibid.

<sup>269</sup> Ibid.

<sup>270</sup> David Porter, “101100101110.” *ITEA Journal* 33 (Spring 2006): 84-85.

names, are really just trying to figure out shortcuts to learning. Porter provides a solution to this problem that involves playing scales. This process is to show the student how the alphabet is used in music, A-B-C-D-E-F-G, and to learn the basic skills of which lines and spaces correspond with certain letters.<sup>271</sup>

Finally, a fingering chart should be placed beside the music so that the students can look up note fingerings rather than writing it in the music. Porter emphasizes that taking the time to teach young students this fundamental note reading technique will enormously improve the amount of scales that they can learn in the first year alone.<sup>272</sup>

### ***Metronome Use to Develop Technique***

Michael Fischer makes a thorough justification for his emphasis on using the metronome during practice in order to facilitate technical expansion. In the article, “Working with Incoming College Music Students,” he writes, “The metronome is a very important tool for developing a strong internal pulse, playing rhythmically accurate and for developing fast technique.”<sup>273</sup>

When learning a new piece, Fischer advises to first sight-read the piece at tempo with a metronome. Then he recommends to practice very slowly and to continue using the metronome, building up the tempo gradually after each passage can be performed correctly three consecutive times. In order to develop consistent pitch accuracy, Fischer advises to perform the music on the mouthpiece at the piano. To strengthen endurance, he writes that each practice session should conclude with a run-through of the music. He

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<sup>271</sup> Ibid.

<sup>272</sup> Ibid.

<sup>273</sup> Michael Fischer, “Working with Incoming College Music Students.” *ITEA Journal* 33 (Summer 2006): 86-89.

states, “This technique will build the physical endurance required for playing that particular piece and to help the student to not hesitate during a performance when a mistake occurs.”<sup>274</sup>

### ***Fostering Independent Musicianship***

Young students will often choose the path of least resistance in accomplishing a task. In music, these students may seek for ways to play the notes, rhythms, and dynamics without really learning it through the most valuable process of independent study. In the article, “Music is a Second Language,” David Porter urges teachers to establish in young tuba students a “...common ground of musical independence...”<sup>275</sup>

With time constraints, deadlines, and upcoming band competitions, ensemble directors may feel compelled to teach music by rote. Porter calls this the demonstration approach, in which the director may clap, sing, or play the notes and rhythms during rehearsals. Porter encourages this approach, but only as one of the latter rehearsal steps in order to solidify what is already learned.

There are at least two steps that should be encouraged before teaching through demonstration. First, Porter explains to have the student look through the music from the first page and have them identify the musical language. They should be able to count and read the music, or at least make an independent effort to do this. Second, Porter encourages a more active method to figure out the music. He writes, “...try to challenge students to figure out rhythms and pitches on their own – with no instruction or demonstration. Occasionally challenge them section by section, to isolate students who

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<sup>274</sup> Ibid., 89.

<sup>275</sup> David Porter, “Music is a Second Language.” *ITEA Journal* 29 (Winter 2002): 88.

are ‘going with the crowd’.” With these steps in place, Porter says that one can be assured that real music education is occurring.<sup>276</sup>

#### ***Fourth-Valve Considerations***

In an early article from 1960, “Use That Fourth Valve,” Carson Johnson makes important claims for the use of the fourth valve. He immediately states that the fourth valve’s purpose is more than just to extend the range downward. He writes, “If used properly it will aid intonation and [serve as] a valuable tool to facilitate fingering in certain difficult passages.” Johnson’s primary motivation in writing this article is to educate school music directors about the importance of making the consideration of four-valve tubas in their programs.<sup>277</sup>

Johnson first addresses the intonation benefits of the fourth-valve. The fourth valve lowers the pitch a perfect fourth or the combined tubing lengths of the first and third valves. Johnson writes that by lowering the fourth-valve slide, the player now has an option to the ‘notoriously sharp’ one and three combinations. The second major benefit of the fourth-valve is in facilitating fingering in difficult technical passages. Johnson provides two examples where the fourth-valve substitutes awkward multiple finger combinations. He says this is especially pertinent in band music in which the tuba part is transcribed from string bass parts. Intonation and finger facility are two benefit factors often overlooked in deciding between a three-valve or four-valve tuba.<sup>278</sup>

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<sup>276</sup> Ibid.

<sup>277</sup> Carson Johnson, “Use that Fourth Valve” *The Instrumentalist* 14 (April 1960): 56-58.

<sup>278</sup> Ibid.



## CHAPTER 8

### PRACTICAL APPLICATION

#### PHRASING/FLOW STUDIES

##### *Vocalise Performance*

According to Peter Popiel, vocalise studies, "...encompass mainly mid-nineteenth century vocalises in bel-canto style..."<sup>279</sup> In the article, "A Direct Approach to Legato on the Low Brass Instruments," Popiel says that performers must seek direct models of these vocalises sung by singers. He urges studying the operatic literature from which the vocalises are derived. It seems reasonable to speculate that vocalise study on a brass instrument will improve legato style performance. However, Popiel asserts that equally important to the consideration of legato technique is concern for the, "...authenticity of musical style and of performance practices as well." He compares the high level of careful attention usually given to Baroque performance practice as what is needed to perform vocalises as well. In Baroque music, ornaments can present a tremendous challenge to be effectively executed. Popiel states, "Likewise, the concept of *rubato* and the musical performance of the many cadenzas appearing in this literature can be just as foreign as the skillful execution of the ornament." He strongly advocates listening to the best recordings from this literature.<sup>280</sup>

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<sup>279</sup> Peter Popiel, "A Direct Approach to Legato on the Low Brass Instruments." *TUBA Journal* 11 (Winter 1983): 8.

<sup>280</sup> *Ibid.*, 8-9.

## CHARACTERISTIC STUDIES

### *Performance Practice*

In the article, “Baroque Literature: How to Get Started,” Steven Maxwell stresses the need to perform Baroque music on tuba in a manner that is historically informed. He notes that before beginning a baroque transcription, it is essential to do preliminary background research into the time of composition, place of composition, and the composer’s background. He cites Robert Donnington’s text “Baroque Music Style and Performance” as a helpful and concise performance practice resource. His article includes a brief introduction into ornamentation including French, Italian, and German traditions of ornamentation. Maxwell writes, “[Italian] composers most often wrote out the ornamentation in the music...French...did not...write out the ornamentation but rather used symbols...The German tradition...is basically a combination of Italian and French styles.” This article includes additional baroque resources that provide historical background as well as ornamentation information. Finally he lists a few works for tuba players to borrow from the baroque.<sup>281</sup>

In the article, “Concerns in Baroque Performance Practice for Tubists,” Alex Lapins explores issues in performance practice of interpreting Baroque transcriptions that he feels are often inadequately addressed by tubists. The goal for tubists, he states, should not be to re-create a performance. Instead, an informed performance will be based on familiarity, “...with the conventions (embellishment, dynamic emphasis, rhythmic alteration) and non-musical influences (timbrel dimensions, idiomatic characteristics of

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<sup>281</sup> Steven Maxwell, “Baroque Literature: How to Get Started.” *ITEA Journal* 33 (Spring 2006): 82-83.

the original instruments and performance spaces) while exploring the effectiveness of our interpretations.” He continues, “We should look at all our options and goals before turning to a period of informed experimentation.”<sup>282</sup>

Lapins’ article is lengthy, detailed, and informative. He outlines the contents of the topics that are discussed. These are; “...emphasized notes, note length, slurs, articulations, unequal notes, and embellishment in the styles of both France and Italy. I will also discuss rhetoric and affect, as well as spatial and acoustical concerns of both the Baroque and Modern eras.”<sup>283</sup>

Emphasized notes, explains Lapins, are emphasized dynamically and otherwise in three general ways. He bases this on principles put forward by C.P.E. Bach. Lapins writes, “First, in general, dissonances are played loudly and consonances softly. Second, an exceptional turn of a melody, which is designed to create a violent affect, should be emphasized. Finally, all tones of a melody which lie outside the key may well be emphasized regardless of whether they form consonances or dissonances.” The scope of this summary limits a detailed investigation into all of the performance practice matters discussed by Lapins. It is incredibly valuable to the tuba performer of baroque transcriptions to thoroughly consult this article that is authored from the perspective of a tuba artist.<sup>284</sup>

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<sup>282</sup> Alex Lapins, “Concerns in Baroque Performance Practice for Tubists.” *ITEA Journal* 37 (Summer 2010): 48-57.

<sup>283</sup> Ibid.

<sup>284</sup> Ibid.

## **EXERCISES PERSONALLY DERIVED FROM CURRENT REPERTOIRE**

### ***Marching Band Repertoire to Improve Musicianship***

For some performers, especially at the high school level, their current repertoire may consist of marching band music. David Porter presents an article directed to marching band directors in which he emphasizes the importance of maintaining focus on improving musicianship skills using current marching band repertoire. In the article, “Tis’ the Season!” Porter divides discussion into three areas: musicality, playing skills, and safety.<sup>285</sup>

In the first area of discussion, ‘Musicality,’ he lists several key suggestions. He recommends keeping the music level difficult, giving them music with dynamic contrast, inflecting the style so that it is noticeable on a large field, and developing tempo and inner pulse. The second area, ‘Playing Skills,’ is covered under the Air and Tone section of this compilation. Porter concludes with a list of safety considerations, especially as they apply to the mammoth weight of the tuba that young high school students must contend with. He suggests several ideas including; using foam and towels between the metal and shoulders, using safety belts, doing stretches, keeping good posture, and taking off the instrument when not playing.<sup>286</sup>

### ***Find the Challenge Before the Solution***

It may be useful for a performer to consider a suggestion by professional tuba soloist Oystein Baadsvik in order to motivate their practical application of performance skills. In the article, “Tuba, the Light Instrument,” Baadsvik suggests to first find the

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<sup>285</sup> David Porter, “Tis’ the Season!” *ITEA Journal* 36 (Summer 2009): 58-59.

<sup>286</sup> *Ibid.*

challenge, and then the solution. A player may decide on their current repertoire first, and then develop the strategies to accomplish the challenge. Too often, Baadsvik notes, players mundanely practice technical drills and etudes. Instead, he prescribes that a player find a challenge, something that is exciting to perform, and then practice to make these things playable. He states, "...you must deal with things in the right order: First the challenge, then the solution."<sup>287</sup>

Baadsvik employs a light-humored title to emphasize the point that the tuba is capable of playing melodic and technical music just as a trumpet, cello, or any instrument. He writes that literature for tuba is often written simpler and less demanding, which results in performers that are less developed and skillful than their peers. He writes, "Since no one writes advanced tuba parts, the tubists don't have to refine technique and musicality." Baadsvik emphasizes that a tuba player is capable of playing music that is sensitive and expressive.<sup>288</sup>

Returning to the first point of first finding the challenge before the solution, Baadsvik urges tuba players to focus on motivating the practice session by inserting musical material that is more rewarding and fun. He concludes the article by including a few ideas to make the tuba a playful instrument. These ideas include incorporating special sound effects, multiphonics, and recording devices that can be used to create a self multi-track.<sup>289</sup>

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<sup>287</sup> Oystein Baadsvik, "Tuba, the Light Instrument." *ITEA Journal* 33 (Summer 2006): 84-85.

<sup>288</sup> *Ibid.*

<sup>289</sup> *Ibid.*

## ADDITIONAL CONSIDERATIONS IN PRACTICAL APPLICATION

### *Audition Strategy*

It is reasonable to state that maintaining air control during auditions is far more important for wind players than other instrumentalists. However it is this particular physical function that is most impacted by nerves during the audition process. All instrumentalists deal with another physical function that is critical to control during auditions. Maintaining mental control is paramount in order to keep concentration on the musical process rather than distractions of the audition process. In the article, "Audition Strategy," Jeffrey Funderburk presents brief strategies for dealing with nerves and mental control during the audition process.

Nerves are often cited as a reason for a failing outcome in performance. Funderburk writes, "Nervous reactions cause tension and tensing of muscles...the most common problem results in poor breathing." He explains that the best preventative measure to combat nervous tension is to be completely prepared; "The music for the audition should be thoroughly known. If you cannot hear the complete work in your mind's ear, then you do not truly know the music." To achieve this, he recommends listening to recordings, recording oneself, and isolating specific technical challenges separately from the run-through part of practice sessions.<sup>290</sup>

Maintaining complete control of the music also will help maintain concentration and mental focus. Funderburk raises the issue of the audition space as a preparation strategy to achieve better focus. He states that a performer should have a plan what to do in various sizes of rooms. He writes, "...the size of room may affect the instrument you

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<sup>290</sup> Jeffrey Funderburk, "Audition Strategy." *TUBA Journal* 18 (Spring 1991): 52.

choose to use and the extremes of dynamics may need to be considered and modified...” It is also important for the auditionee to consider how a warm-up will occur in situations where a warm-up area is assigned, and if no warm-up room is designated, than to plan a warm-up before arriving for the audition.<sup>291</sup>

Toward the end of the article, Funderburk concludes with a strategy that will perhaps instill more confidence and control to the player. The performer should understand a specific purpose for each musical selection. He writes, “Perhaps one selection will demonstrate a very lyric style, another will show loud volume control, and another technical proficiency.” The mind is far more focused on the specific task when the goal for each excerpt is clearly established.<sup>292</sup>

### ***Practice and Performance Strategies***

In the article, “Some Thoughts on Brass Playing,” Jonathan Rees presents ideas to improve overall performance that are based on his personal experiences. He has studied with several legends such as Rex Martin, Arnold Jacobs, and Gene Pokorny, and appropriately acknowledges the guidance that they provided him. Rather than offer specific technical advice, he provides general suggestions to consider. He clearly outlines his thoughts in four subtopics entitled; “1) Keep Your Thoughts on a Purely Musical Level.”, “2) Listening is as Important as Playing.”, “3) Practice – How Much, Where, and How?”, and “4) Well Being.”<sup>293</sup>

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<sup>291</sup> Ibid.

<sup>292</sup> Ibid.

<sup>293</sup> Jonathan Rees, “Some Thoughts on Brass Playing.” *TUBA Journal* 26 (Winter 1999): 53-55.

In the first topic, ‘Keep Your Thoughts on a Purely Musical Level,’ Rees recommends that the music should first be read away from the instrument. His argument for this is that the mechanical application of the instrument in the process can impede musical interpretation and understanding. He asserts the importance of sound, rhythm, and style as three musical elements that are equally essential in producing the final product. With regard to rhythm, he specifically says, “...the best orchestral brass players play on the front side of the beat with rhythmic intensity.”<sup>294</sup>

In the second topic, ‘Listening is as Important as Playing,’ Rees says that listening provides models of sound that allow a performer to make statements rather than ask questions. He gives credit to Arnold Jacobs for this thought. Rees writes, “Listening is the ultimate demonstration of what the end goal could be.” Listening combined with score study will help a performer determine when they should play out and when they should take a secondary role.<sup>295</sup>

The most emphatic statement that Rees makes is the beginning of the third topic, ‘Practice – How Much, Where, and How?’ He begins the section by stating, “Never practice – always perform!” Rees reminds the reader that every performer’s approach to practice will vary. But he believes that there are specific elements that are common among the greatest brass players. The daily routine, he says, “...which emphasizes excellence in all registers and all dynamic levels is paramount.” Among the other

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<sup>294</sup> Ibid.

<sup>295</sup> Ibid.



essential items to practice he lists; sight reading skills, scales, arpeggios, and practicing in large spaces.<sup>296</sup>

In the final topic, 'Well Being,' Rees lists several bullet points of items that are critical to the health and well being of a player. The first point, aimed to prevent mental fatigue is, "Rest and time away from the instrument..." The idea is that every individual should identify when he or she are at a mental limit and could use a break. Perhaps the time away from the horn could happen for a week or a month during the summer. The second point is, "Get plenty of Sleep." Sleep helps to keep the mind clear during performance. An interesting note about food is made in the third point. Rees writes that turkey and bananas contain tryptophan, which is found in beta-blockers. He provides his suggestion for performance. Rees writes, "I eat a banana one hour before a performance and a second one five minutes before taking the stage. (The first banana has a calming effect for the first half of the recital, and the effect of the second carries that effect into the post-intermission portion of the program)." He continues with an interesting comment about dry mouth. Rees states, "...if the teeth are not cleaned after the second banana, the waxy film on the teeth will cause one to naturally salivate, thus eliminating 'dry mouth'."<sup>297</sup>

Ultimately Rees concludes that simplicity is the best approach to brass playing. Each individual will practice differently, and will need to modify their routine to fit their needs. He concludes, "I try to let the music govern my technique...technique should be developed with the sole intention of serving music." Music is the primary focus

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<sup>296</sup> Ibid.

<sup>297</sup> Ibid.

governing every other aspect in the musical process. This article demonstrates how time away from the instrument can also help in the musical process. Indeed Rees states that some of the musical improvements he has made were done away from the tuba.<sup>298</sup>

Most brass players, including tuba players, adhere to a daily practice routine. More specifically, the daily routine is a practice session that consists of a series of exercises, drills, and patterns. Raymond Nutaitis, in the article, “The Daily Routine – Do I Need It?” cleverly emphasizes the importance of the daily routine by relating it to a desirable outcome. Adhering to an intelligently constructed daily routine, a performer will improve consistency in performance. Nutaitis blatantly states, “...within a group of similar talents and abilities, the most consistent player will be the winner!”<sup>299</sup>

Nutaitis then outlines a possible daily scenario of practice sessions. He advises, “...schedule three or four well-spaced practice periods each day. The first session should be as early as possible, preferably at the same time each day, and the last session should be in the evening.” The sessions should last about an hour and be fulfilled in a thoughtful format. The most important session, the session that Nutaitis argues is the most advantageous to developing performance consistency, is the first morning session. This session is the daily routine. He writes, “A recommended sequence...involves deep breathing and long tones, slow slurs for embouchure and tone control, faster slurs for lip flexibility, ending with tonguing exercises and scale studies.” He writes that studies that extend range and dynamic abilities can be scheduled in later sessions.<sup>300</sup>

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<sup>298</sup> Ibid.

<sup>299</sup> Raymond Nutaitis, “The Daily Routine – Do I Need It?” *TUBA Journal* 8 (1981): 2.

<sup>300</sup> Ibid., 2-3.

Many musicians spend the majority of their time in the practice room. The time spent in performance is usually just a fraction of the time that is spent developing one's abilities in the practice room. For this reason it is critical to consider strategies to develop one's performance preparation inside the practice room. In the article, "Practice for Performance," John Stevens presents several key points to consider applying in the practice room to improve performance.

The earliest point that Stevens makes is that in the month or two before a solo performance, one must, "...not...neglect the warm-up routine. As the time for a recital or audition draws near, we have a tendency to pick up the horn and jump right into the material we are performing." The warm-up routine will ensure that the basic mechanisms involved in tuba performance will be in efficient working condition at the time of the solo performance. Stevens also cautions against excessively repeating the same passages over and over again in the practice room. Although this needs to be done to solidify difficult passages, the performer must also strive to return to playing materials that are in a different style or perhaps less taxing on the embouchure. Stevens writes, "If only one style of music is being played for hours...the facial muscles become stiff or brittle feeling. Flexibility disappears, followed closely by accuracy, and suddenly the pieces you've been working on for hours feel awful..."<sup>301</sup>

In the week or two before a solo performance, many performers will increase their practice time in an effort to achieve their best results. However, Stevens points out that during the week before a performance, it is the time away from the instrument that is important. He writes, "It is only natural that sudden changes in our practice routine

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<sup>301</sup> John Stevens, "Practice for Performance." *TUBA Journal* 10 (Summer 1982): 8.

should result in stiff, sore muscles...If you do over-practice and get a 'sore lip', the best medication, even right before a performance, is to take an entire day off." Stevens makes clear that practicing for a recital performance doesn't only involve learning the correct notes and rhythms of the pieces, but also learning to prepare for the total performance.<sup>302</sup>

The concept of learning to become a performing musician may seem vague or too broad to comprehend. There are certainly different approaches that a musician can take in an effort to become a performing musician. Scott Mendoker provides an outline of the ideas he teaches in a performance class at Rutgers University in an article called, "Thoughts on Becoming a Performing Musician." To emphasize the scope of this subject, he claims that although he provides useful ideas in this article, it is actually the search and not the answers that allow for growth toward becoming a performing musician.<sup>303</sup>

In dealing directly with musical practice, he divides daily practice into two components; part one is the warm-up, and part two is the rest of the day. In the warm-up he writes that stretching is the first important step. Mendoker states, "By stretching your body, you are enabling it to better handle the increased respiratory activity..." He continues with the next idea to vocalize away from the instrument. This helps to establish a strong sense of pitch and phrasing. Mendoker particularly advocates mouthpiece buzzing and justifies it with conviction. He writes, "...if it goes into the mouthpiece wrong, it's still going to be wrong when it comes out the bell! Buzzing

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<sup>302</sup> Ibid., 9

<sup>303</sup> Scott Mendoker, "Thoughts on Becoming a Performing Musician." *TUBA Journal* 24 (Winter 1996): 54.

refines the ear even more...it teaches you...to rely on the pitch in your head..."

Mouthpiece buzzing will result in a sound that has a greater core.<sup>304</sup>

In the second part of musical practice, Mendoker suggests dividing practice sets into 45-minute sets. This technique, he says, will maintain the highest efficiency of progress through every minute of practice. One simple point that Mendoker makes that perhaps oddly escapes many musicians in their quest to become performing musicians, is that it is critical to perform. In his final thoughts of the section dealing with musical practice, he writes simply, "Perform." If one doesn't have a performance that is approaching soon, than a recorder or a friend can serve as a substitute audience to gain performance experience.<sup>305</sup>

One of the barriers to successful performance can be an overly critical inner voice that serves to hinder performance outcomes. Performers can learn to make objective observations in their practice and performance without creating a self-degrading personal performance atmosphere. Charles McAdams writes a brief article, "Let it Happen," in which he suggests ideas to allow the performance capabilities of a player to be obtained in a relaxed, tension-free manner. He warns, "The more you draw attention to the difficult passage, the more tense you will become."<sup>306</sup>

He advises that performers could try to learn to separate their physical self (the part of the body that is used to play the instrument) from the mental critical self.

McAdams suggests the following, "Make observations such as, 'That pitch was flat,'

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<sup>304</sup> Ibid.

<sup>305</sup> Ibid.

<sup>306</sup> Charles McAdams, "Let it Happen." *TUBA Journal* 12 (May 1985): 9.

‘Those eighth notes were rushed’ ... When you can simply observe your errors without criticizing or degrading yourself, your body is free to make appropriate adjustments to alleviate the problems.” The goal, he concludes, should be to gain maximum efficiency and achieve desired results through a genuinely relaxed effort.<sup>307</sup>

Charles McAdams follows up a brief article on performance strategies with a lengthy discussion of ideas that pertain to all instrumentalists. McAdams attempts to create a greater appeal to tubists by mentioning the specific benefits to tubists, however the article, “Performance Attitude: A Psychological Approach,” has a broad range of recommendations that are intended at the very least for all brass performers.

In the article, McAdams outlines a number of proposals to help the performer transition from the practice room to the performance hall. These techniques are based on the ‘Inner Game’ techniques presented in Timothy Gallwey’s books and also the ‘Alexander Technique’ presented in Alexander’s “The Resurrection of the Body.” McAdams first proposes to practice awareness, concentration, and relaxation away from the horn, and gradually incorporate these ideas into performance through playing fundamental materials. In this area, a performer should strive to relax during performance by focusing on how naturally capable they are of achieving the goals of arpeggios, and scales, without being too critical or conscious of the actions needed to achieve these goals. McAdams suggests this will reduce the need to verbally direct every bodily action of playing.<sup>308</sup>

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<sup>307</sup> Ibid.

<sup>308</sup> Charles McAdams, “Performance Attitude: A Psychological Approach.” *TUBA Journal* 13 (February 1986): 17.

Another proposal by McAdams focuses on specific performance application during practice. He suggests that performers should, "...focus our attention on one facet of our playing at a time, not a multitude of unrelated ideas." In breathing, one may focus on inhaling or exhaling. In articulation, one may choose to focus on the quality of specific syllables such as 'toe' or 'doe'.<sup>309</sup>

For tubists, the most specific directive that McAdams proposes is to try to emulate another great tubist. He admits the idea is not new, but it is essential to reemphasize. He justifies this by stating, "Pictorial and aural visualization are both needed for the musician."<sup>310</sup>

In another aspect that is arguably more important to tubists than any other brass instrumental performer, McAdams proposes that performers should be aware of the effect on air that anxiety creates. He states, "Shallowness of breath is one of the prime results of anxiety in performance." He outlines the specific negative effects of shallow breathing, "First, the lack of full breath support will effect our tone, articulation, and phrasing...Second, as our support wanes, we automatically use undue pressure to compensate for this lack of air. This added pressure creates a strain on the embouchure..." McAdams does not offer any solution that will eliminate this tension, but instead suggests that attention and awareness to this area of performance may help improve proper breathing.<sup>311</sup>

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<sup>309</sup> Ibid.

<sup>310</sup> Ibid., 18.

<sup>311</sup> Ibid.

Performers will confront obstacles to practice depending on their changing life circumstances. For education majors, this may be especially true during their teaching internship semester. For others, school projects, travel, and work may interfere with a well-established and consistent practice routine. In the article, “The Brief Practice Session,” Fritz Kaenzig convinces the reader that in the worst scenario, performers should strive for a fifteen to twenty minute practice session when there is no time to practice. His simple argument in favor of this logical belief is the following statement, “It is important to play daily and to be able to adapt to the necessities of a brief practice session when one’s life doesn’t allow more time to practice.”<sup>312</sup>

Kaenzig outlines the steps of a brief practice session for the tuba player. One should begin with some deep breaths and mouthpiece buzzing of one or two simple exercises. The next step should include middle range long tones, scales, and tongued arpeggios. Kaenzig reminds that musical consideration should be given the highest priority. He writes, “...the first note on the instrument should be anticipated by conceptualizing the sound in the head very distinctly.”

He then suggests study materials that target specific playing areas. Especially good are studies in the middle and lower register in a slow legato style. He emphasizes that the brief practice session must include attention to the low register. The low register, he says, is the first skill that is lost when ignored. Kaenzig recommends the following, “The first movement of the Prokofiev ‘Symphony #5’ tuba excerpt will do wonders for basic low range maintenance, as will any number of etudes played down an octave...” He

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<sup>312</sup> Fritz Kaenzig, “Tuba Pedagogy: The Brief Practice Session.” *TUBA Journal* 11 (Spring 1984) 11.



says that orchestral excerpts serve well in the brief practice session because they usually require large airflow. A few moments may be used to play in the high register, before returning to conclude the session with pedal tones.<sup>313</sup>

Arnold Jacobs has influenced a great number of musicians, including many of the authors of the articles included in this compendium. The two words most people associate with Jacobs are fundamental to his teaching concepts: Song and Wind. In the article, “Arnold Jacobs Master Class,” Jacobs offers several statements that relate to his emphasis on maintaining ‘song’ as a main musical objective.

In this instance, and in consideration of the great master’s influence on so many performers, it is determined best to include a handful of the statements from the article with minimum commentary. Jacobs writes, “We should focus the brain on the product and bypass consciously controlling tissues.” A tubist, he states, cannot expect positive results by attempting to control every muscle movement. He continues, “The habit of learning is so strong in all of us that when we find out what’s wrong, we try to do it correctly by controlling this or that muscle and think that everything will come out right because we are doing everything right. This doesn’t work in the human body; we have to order the product and get out of the way to allow the computer level of the brain to handle it.”<sup>314</sup>

He includes one more statement of advice to focus on ‘song’ in public performance as a means to reduce stage fright. Jacobs states, “When we are nervous, we

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<sup>313</sup> Ibid., 11-12.

<sup>314</sup> Arnold Jacobs, “Arnold Jacobs Master Class.” *The Instrumentalist* 45 (June 1991): 22.

should narrow down conceptual thoughts to what we want an audience to hear from us. Regardless of how frightened we are, we should still sing in our brain.”<sup>315</sup>

### ***Equipment Considerations***

Brass quintet performance calls for the tubist to make careful consideration with regard to instrument selection. Jack Tilbury in the article, “Choosing a Tuba for Brass Quintet,” discusses topics for tuba selection in brass quintet under several headings; balance, blend, intonation, technique, portability, ease of repair, weight, and key.<sup>316</sup>

Tilbury states that balance is the first consideration for choosing a tuba in brass quintet performance. He makes an obvious point with regard to balance that orchestra and brass quintet have the same number of tubas – one. He suggests that it may be wise to give prime consideration to a 4/4 or 3/4 sized tuba for quintet playing. The blend of a smaller tuba will sound brighter and more soloistic throughout the entire brass group, while a larger tuba will give the quintet more of an ensemble sound. Smaller tubas may have the advantage of helping other members of the quintet lock into the pitch of the tuba. This is because the smaller tuba poses advantages for technical clarity. Tilbury discusses rotor and piston valves under the Technique heading, but he offers no opinion of either, instead he advises that performers should keep both options available. However, Tilbury does warn that if a tuba requires emergency maintenance during a tour, the piston valve tuba will be simpler for most general technicians to repair with success.

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<sup>315</sup> Ibid., 23.

<sup>316</sup> Jack Tilbury, “Choosing a Tuba for Brass Quintet.” *TUBA Journal* 25 (Spring 1998): 38-39.

The weight of the instrument is merely an issue if the group plans to perform standing up.<sup>317</sup>

Tilbury concludes that the ideal key of the quintet tuba is not limited to just CC tubas. He states that current trends make it more feasible to consider using F or E-flat tubas as well. He writes, “Although I’ve always played C tuba in quintet, I might do it differently if I had it to do over. Today we have so many good F and E-flat tubas out there that I think it would be important to give the larger of those instruments a serious look.”<sup>318</sup>

William Rose, in the article, “How to Choose a Tuba Mouthpiece Wisely,” provides several helpful suggestions in the process of carefully selecting a suitable mouthpiece. He adds importance to his advice by cautioning that the wrong mouthpiece can be detrimental to a wide array of performance aspects. He writes, “...the wrong mouthpiece can hinder one’s playing in various ways: pinched high register, bad low register, inferior tone quality, using too much air, causing air to back up in loud passages, bad intonation, etc.”<sup>319</sup>

The first critical decision in selecting an appropriate mouthpiece is to ensure that it is comfortable. Rose writes, “It should have a rim that feels good and yet has enough bite on the inside to facilitate good tonguing and clear attacks.” He advises to inspect its tone quality throughout all three octaves. Rose states, “The tone quality should sound full and have the same timbre in all registers, with the high register not pinched and the

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<sup>317</sup> Ibid., 38-39.

<sup>318</sup> Ibid., 39.

<sup>319</sup> William Rose, “How to Choose a Tuba Mouthpiece Wisely.” *TUBA Journal* 26 (Winter 1998): 42.

low register full and responding easily.” Tonguing should feel clean and slurs should sound smooth when changing from one note to another.<sup>320</sup>

One of the final factors of the selection decision should include a test of the full dynamic spectrum from pianissimo to fortissimo. This should be followed by a careful check of intonation with a tuner. To conclude, Rose offers advice that the mouthpiece that is selected should be a good compromise at managing all critical performance aspects. He writes, “...try to find a ‘middle of the road’ mouthpiece that will be at 95-percent perfect overall and maybe 100 percent in some aspects – especially tuning.”<sup>321</sup>

### ***Recordings***

According to legendary tubist R. Winston Morris in a 1971 article, “...the tuba has been one of the least-recorded instruments...recently, however, many more good recordings have been made available for this instrument.” In “Tuba Recordings Might Make the Difference,” Morris lists a number of recordings by renowned artists to provide a starting point for the performer to consider recordings for the tuba.<sup>322</sup>

With the advent of the Internet and search engines, this article is now perhaps more valuable in recalling Morris’s views on the importance of recordings. For advanced players, Morris says that recordings can offer repertoire ideas as well as interpretation ideas. For beginner players, recordings are essential in conveying the proper sound of the tuba. For all performers, he writes, “A good record can even serve as a sort of ‘assistant teacher’...when contest/festival preparation time comes around.” The article contains

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<sup>320</sup> Ibid.

<sup>321</sup> Ibid.

<sup>322</sup> R. Winston Morris, “Tuba Recordings Might Make the Difference.” *The Instrumentalist* 25 (February 1971): 45.

additional comments directed to the band director's effective use of recordings as a recruiting and motivational tool.<sup>323</sup>

## **PRACTICAL APPLICATION STRATEGIES FOR TEACHERS**

### ***Ensemble Director, Private Teacher, and Parent Communication***

The ensemble director, private teacher, and parents play a critical role in a young tuba student's development. Each party, with regard to musical development, can assume different expectations for the student. The problem may arise however when there is no communication between the director, private teacher, and parents. David Porter, in the article, "Fact Time with the Boss!" states that the greatest struggle for some students is in attempting to please all three bosses, especially when their expectations are dissimilar.<sup>324</sup>

Porter advises that ensemble directors and private teachers should strive for the 'communication category' where they regularly discuss the student's needs. He writes, "Ideally, the ensemble director and private teacher would confer regularly about how to teach the student to play, discussing ways to do it, combining the ensemble music with lesson methods to achieve a congruent course of action." Parents should be included in these meetings as they are the best judges of the student's satisfaction. Porter adds a note of caution to ensemble directors and private instructors. To the directors he says, "...private teachers are indirectly trying to raise the students to a professional level."

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<sup>323</sup> Ibid., 45.

<sup>324</sup> David Porter, "Fact Time with the Boss!" *ITEA Journal* 32 (Fall 2004): 85-86.

Porter directs the private teacher to, "...realize that the primary reason for taking private lessons in grade school is to play the ensemble music better."<sup>325</sup>

### ***Practice Strategies***

Practicing is a recurring event where music skills are developed and perfected so they may be practically applied in performance. In this view, practicing can be further understood as an extension of practical application that maintains long-term musical purpose. Michael Fischer includes a lengthy discussion on practicing in his article, "Working with Incoming College Music Students."<sup>326</sup>

Fischer attempts to solve a problem that students have in practicing. He writes, "...most students struggle with setting up a regular practice routine along with knowing what and how to practice." Fischer devotes a lengthy passage to the strategy of setting up a practice schedule with a student. He states that the biggest obstacle to students is maintaining a consistent schedule.<sup>327</sup>

Fischer requires his students to follow a schedule with practice time requirements based on the degree level pursued. For instance he recommends that a Music Performance major practice three to four hours daily, and a Music Education major practice one and a half to two hours daily. He mentions that dividing a three-hour practice day into three sessions helps to prevent mental fatigue and embouchure stress.

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<sup>325</sup> Ibid.

<sup>326</sup> Michael Fischer, "Working with Incoming College Music Students." *ITEA Journal* 33 (Summer 2006): 86-89.

<sup>327</sup> Ibid.

In a direct effort to practically apply their skills, Fischer has his students perform in the fall during Octubafest recitals, and in the spring during recitals that he organizes.<sup>328</sup>

David Porter offers another article that stresses control and convenience to improve a student's practice habits. Porter addresses the article, "Con: Trol and Venience" to teachers and relates his experiences on this topic. The title is a play on the two words, control, and convenience.<sup>329</sup>

Porter states that he maintained unrealistic expectations as a young teacher, and that his views have changed in addressing student's practice habits. Instead he has expanded tuba lessons into life lessons, realizing that not all students will become music majors. With regard to practice habits, he lists direct and indirect factors that affect a student's practice sessions. Some of the direct factors include whether the student has a tuba at home, the home rules, and academic expectations. Indirect factors include the student's home life, and the home practice area.<sup>330</sup>

Porter argues that convenience is the greatest factor affecting a student's practice habits. He encourages teachers to establish a realistic practice goal with their students. He says, "Help the student recognize the challenges they cannot control and help them balance what they want with what they can achieve." Another challenge in increasing the convenience of practice is to minimize preparation and tear down time. The easiest solution for this is for the student to have a practice area in their home where they can

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<sup>328</sup> Ibid.

<sup>329</sup> David Porter, "Con: Trol and Venience" *ITEA Journal* 35 (Summer 2008): 78-79.

<sup>330</sup> Ibid.

leave their instrument, stand, and music set-up all the time. This is again made more possible if the student has a tuba at home that can stay at home.

George Palton focuses on providing strategies for learning new music in order to cultivate the natural skills in a performer. In “Strategies for Music Learning”, Palton addresses the types of materials that should be practiced and how they should be addressed. He proposes a three-step model for efficient practice: 1. The Basics: Pitches and Rhythm, 2. Survival: Time and Air, 3. Music Making: Expressive Devices, Terminology, and Style.<sup>331</sup>

In the first step, The Basics, He stresses that slow practice is necessary. He also advises drawing lines above the strong beats. In order to find the pitches, he advises first playing them on a piano. In the second step, Survival: Time and Air, Palton encourages the use of a metronome. He gives two reasons why all breaths should be planned and marked. The first reason he says is to, “...survive the phrase...” The second reason is so that the breath is “...in a location that is musically tasteful.”<sup>332</sup>

Palton gives credit to his mentor, Skip Gray, for clearly articulating the third step, Music Making: Expressive Devices, Terminology, and Style. Palton explains three basic elements for expression on the tuba. These are, “...the modification of dynamics, time, and articulation.” He advises that the musician search for moments of tension and release in the music, and strive to exaggerate every gesture so that it is perceptible to the audience.<sup>333</sup>

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<sup>331</sup> George Palton, “Strategies for Music Learning.” *ITEA Journal* 36 (Winter 2009): 99-100.

<sup>332</sup> *Ibid.*

<sup>333</sup> *Ibid.*



One article explores the elements in practice sessions and attempts to convey better practice strategies that can be applied by each performer. Byrnes' article, "Making Your Dues Count More!" delves into his ideas for getting more results out of instrumental practice. He states, "Practice is really about achieving goals in the least amount of time." Instead of arbitrarily repeating the cliché 'practice makes perfect' he offers more insightful perspective for consideration. To this extent he states, "...when we practice, we are establishing habits and patterns of behavior that, if established well-enough, will carry over to our performance..."<sup>334</sup>

In reference to the statement that practice is about achieving goals, he emphasizes later in the article that each practice session should have reasonable, specific, and clear goals in order to increase the likelihood of fulfilling those goals. He recommends that practice happen when there is, "...greatest potential for engagement..." Class schedules, assignments, and rehearsals can easily burden a student's practice schedule if it is not thoughtfully considered.<sup>335</sup>

He encourages concluding each practice session with an evaluation. He states, "Evaluation is important in order to determine what was effective or ineffective." This evaluation can help determine the goals of the following practice session. He suggests to record practice sessions and to compare the recorded sound to professional recordings in order to create a mental model of sound. This strategy in turn should help to create clearer goals in subsequent practice sessions.<sup>336</sup>

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<sup>334</sup> Jason Byrnes, "Making Your Dues Count More!" *ITEA Journal* 34 (Spring 2007): 74-75.

<sup>335</sup> *Ibid.*

<sup>336</sup> *Ibid.*

### ***Choosing a Tuba***

To a tuba player, the tuba is the tool used to apply all the skills perfected in preparation. Without the right tool, all properly applied skills will fall short of winning an audition. The selection of the right tuba is part of the practical application in a tuba player's musical purpose. Alessandro Fossi, in the article, "Which One is the 'Right' Tuba?" exclaims that 'sound' is one of the most important considerations in selecting a tuba.<sup>337</sup>

Before explaining what he believes to be the number one consideration in tuba selection, he lists several important sound characteristics to look for. He writes, "Each tuba produces a different tone color and our goal is to find the one that will reproduce the sound we have imagined in our head..." The type of sound to ideally look for is rich and powerful, but still bright with strong projection capability. He advises to not necessarily be limited to selecting a CC or F tuba, although these are the most popular keys for professional orchestra players. He states, "Be open to every option!" He suggests recording yourself with a variety of models.<sup>338</sup>

The most important element to consider when choosing a tuba, according to Fossi, is the ergonomics of a tuba. This is basically how comfortable a tuba will be to a particular player. He lists three things to consider in the ergonomics of a tuba. The position of the mouthpiece and lead pipe is the first consideration. Secondly he lists the position of the machinery: the pistons or rotors, thus the hand position. Thirdly, the player needs to evaluate the, "...angle of the mouthpiece to our embouchure." Fossi

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<sup>337</sup> Alessandro Fossi, "Which One is the 'Right' Tuba?" *ITEA Journal* 34 (Winter 2007): 95-96.

<sup>338</sup> *Ibid.*

concludes that the ergonomics of the tuba hugely impact the performer's use of air. He writes, "A good posture promotes an easy, more efficient and effective breathing process, and this is the first goal."<sup>339</sup>

The choice of tuba selection extends beyond the initial purchasing decision. Advanced performers often perform on at least two types of tubas: the contrabass tuba, which can be the CC tuba or BB-flat tuba, and the bass tuba, which can be the E-flat tuba or F tuba. The performer usually must make the decision which tuba is most suitable for any given band or orchestral part.

One section of Gerald Meyer's article, "The Tuba Section," offers an idea on choosing the type of tuba to be used in a concert band ensemble. The BB-flat tuba was the most popular choice in the 1960's according to the author, but the E-flat was also an important consideration. Today's performers may increasingly also choose between a CC tuba and F tuba. Meyer states that the E-flat tuba should be considered in the tuba section of the concert band as an essential addition. He writes, "...the E-flat tuba has a higher range than the BB-flat, it is much easier for the E-flat to articulate clearly in this register. This one tuba playing an octave higher has a tendency to clear up and avoid the muddiness that often occurs in a section during the performance of passages lying in the low register of the BB-flat tuba."<sup>340</sup>

It is not unreasonable also to consider playing the bass tuba in the same register as the contrabass tuba. This choice may depend upon the extremity of the written register

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<sup>339</sup> Ibid.

<sup>340</sup> Gerald Meyer, "The Tuba Section" *The Instrumentalist* 15 (December 1960): 57.

and skill level of the player. The possibility for increased clarity of articulation in the tuba section demands that the performer and the director make these considerations.

Directed to teachers as well as to young tuba performers, Jerry Young writes an article that investigates tuba selection considerations for beginners, intermediates, and advanced players. In “Selecting a Student Tuba,” Young first outlines general thoughts and ideas that should be considered when purchasing a tuba.<sup>341</sup>

The instrument must have great intonation. He writes, “Only the player can provide perfect intonation, but the instrument should not be an impediment to that goal.” The tuba should provide good efficiency and resistance to allow for easy tone production. It should respond well and evenly throughout the entire register. For intermediate and advanced players, the instrument must have at least four valves.<sup>342</sup>

For beginners, instrument size is an obvious consideration and importance. With the instrument in position, Young writes, “...the lead-pipe should easily come to the student’s mouth. The student should not have to stretch the neck or torso to reach the instrument.” For intermediate performers, Young states that the 4/4-size tuba is desirable with a minimal .750 bore size. Because student performers may be experiencing rapid growth, Young suggests considering the use of a tuba stand that can adjust to the growing performer. The advanced student will ideally be considering the purchase of both a bass and contrabass tuba. The use of several mouthpieces may be helpful in establishing a large array of tonal color and character possibilities. Young notes that regional considerations may be necessary to consider, particularly at the advanced level. He

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<sup>341</sup> Jerry Young, “Selecting a Student Tuba.” *TUBA Journal* 25 (Spring 1998): 42-44.

<sup>342</sup> *Ibid.*, 42.

writes, “In Germany, for instance, the BB-flat tuba is the standard contrabass tuba used in most bands and orchestras...In England, fluency on both EE-flat and BB-flat tubas is a must.” Young concludes with comments regarding payment and financing options available to the student tubist. Some companies, he writes, have plans in place that allow the purchaser to pay the tuba off over time without having to deal with banks.<sup>343</sup>

### ***Motivating Young Tuba Players***

Tuba players understand the importance of their role as a supporting voice in ensemble music. For young players however, it may be discouraging if they believe their role to be simply supportive to the melody. In the article, “The Tuba Part is My Melody,” David Porter cautions directors to never imply to the tuba student that their part is merely supportive.<sup>344</sup>

In order for young players to gain full appreciation of the tuba part in the ensemble music, they need to view it with equal importance to the melody. Porter writes, “...they need to play their part with such confidence that it sounds like it is their melody.” Ensemble directors are encouraged to examine the score for significant areas where the melody is not only reinforced by, but it is completely intertwined with the melody. Porter says, “On the occasion the tubas do have the melody, please make a gigantic deal about the event.”<sup>345</sup>

Porter writes that the student needs to understand the real impact that the tuba part has on the dynamic impression of the ensemble to the audience. In this case, the tuba

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<sup>343</sup> Ibid. 42-44.

<sup>344</sup> David Porter, “The Tuba Part is My Melody.” *ITEA Journal* 32 (Winter 2005): 82-83.

<sup>345</sup> Ibid.

player has another major role. He explains, “The tuba dynamic directly affects the audience’s perception of the whole ensemble dynamic...Especially for musical direction through diminuendos and crescendos, the tuba or bass line has the most impact on the audience perception that this is happening.” The tuba has powerful potential for impact especially during climactic moments in the music, and a young player may be more excited to know that they have control of the ‘power’ knob of the ensemble. Porter says that appealing to the performer’s ego may generate the excitement needed to provide them with their own melody.<sup>346</sup>

Young players may get discouraged when they are told of a problem in their performance. The concern however is that instead of transforming a teacher’s honest critique into improved performance ability, the young tubist may instead develop a fear of the problem. Cherry Beauregard in the article, “Psychology in Pedagogy,” writes, “Fear is one of the greatest crippers and impeters of a student’s development.” He suggests that teachers should strive to develop a student’s talent by building self-confidence and trust.<sup>347</sup>

Problems in a student’s performance have to be corrected nonetheless. Beauregard suggests that these issues in a young player should be addressed by focusing on positive aspects in the student’s performance. This approach can directly correct a problem without the potential for the student developing a fear of a problem. Beauregard outlines this teaching strategy with further explanation, “...sometimes problems can be approached obliquely and overcome without the student becoming aware that the

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<sup>346</sup> Ibid.

<sup>347</sup> Cherry Beauregard, “Psychology in Pedagogy.” *TUBA Journal* 9 (Winter 1982): 18.

problem really existed. Here we concentrate on things that the student does well but which border on the problem at hand.” Some problems may be too significant to approach indirectly. In such cases, as long as the student believes that the problem is not unique to him or her, and that it is resolvable, than the experience can produce positive results.<sup>348</sup>

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<sup>348</sup> Ibid.

## **CHAPTER 9**

### **ARTICLE DATA RESULTS**

Data was collected during the compilation of the tuba pedagogical articles. The following information, explained in the preceding chapter, was assembled in an article information gathering database: Articles by Topic, Articles by Year, Articles by Author, Articles by Level, and Articles by Journal. The data is intended to add insight into possible trends and may be most useful to raise speculation, awareness, and interest for further research.

#### **ARTICLES BY TOPIC**

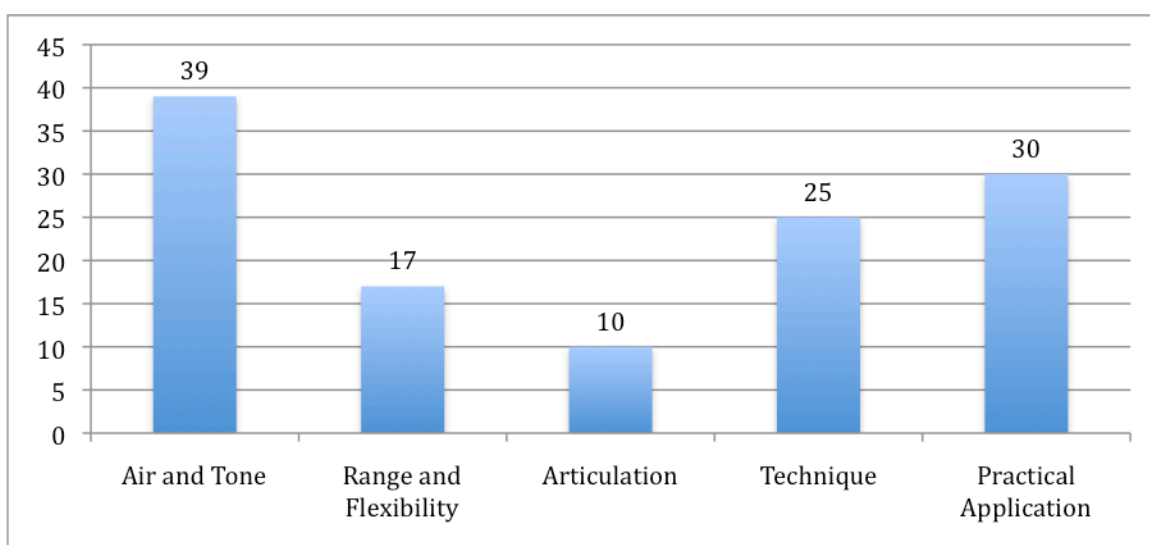
Articles were sorted in the preceding document according to five topics that were inspired by the DeWitt Brass Model. These five topics were: Air and Tone, Range and Flexibility, Articulation, Technique, and Practical Application. There were a total of one hundred articles included in the compendium and distributed in the five topic areas. Fifteen articles were assembled into more than one topic area as a result of their information focusing on more than one category. The remaining eighty-five articles belonged in just one of the five topic areas.

The largest number of articles belonged to the Air and Tone category. Thirty-nine articles (39.0 percent) dealt with issues surrounding air and tone. Thirty articles (30.0 percent) belonged in the broadest topic area of Practical Application. Twenty-five articles (25.0 percent) discussed Technique. Seventeen (17.0 percent) articles dealt with Range and Flexibility. Only ten (10.0 percent) articles focused on Articulation.



Figure 1 displays the article topic distribution information in chart form. The topics appear in the order that they were presented in the compendium. The numbers represent the percentage of articles assembled in each topic area. Because there were one hundred articles used in total, the numbers also equal the total amount of articles assembled in each category.

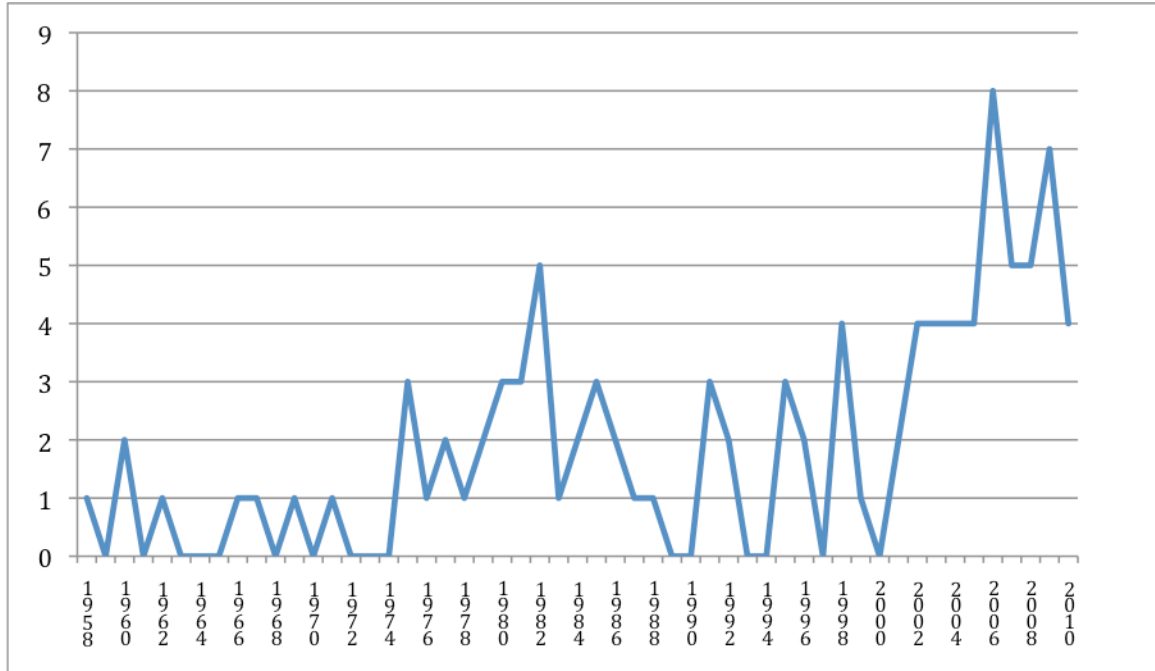
Figure 1. Articles By Topic.



## ARTICLES BY YEAR

As the articles were collected and incorporated in the document, the year of each article was tracked in the article information gathering database. No effort was made to include more articles from one year to another. Figure 2 displays the number of articles collected from each corresponding year. The earliest article that was used was dated from 1958. Articles were collected through the end of 2010.

Figure 2. Articles By Year.



## ARTICLES BY AUTHOR

The number of articles contributed by each author was tracked in the article information gathering database. David Porter, a regular pedagogical article contributor to the *ITEA Journal* for the past decade, authored thirty-one articles (31.0 percent), the most amount by any author included in this compendium.

There were a total of forty-seven authors included in this document. The average number of articles per author was 2.13. Excluding David Porter's articles, the average number of articles per author was 1.50.

The total number of authors who made moderate contributions of articles, more than one, was seventeen. This represents 36.17 percent of the authors. Seven authors made significant contributions of three or more articles. This represents 14.89 percent of

the authors. A total of thirty authors (63.83 percent) had only one article included in this document.

### **ARTICLES BY LEVEL**

Following the initial reading of each article, a determination was made regarding the approximate level of the article. Two practical categories emerged during the development and organization of this subjective measurement. Articles were classified as either Advanced Level or Beginner/Intermediate Level. Factors taken into consideration in determining the appropriate level of an article included; intended audience directly specified by author, tone of voice, and the complexity of coverage and treatment of topic.

Advanced articles included any topics that could likely surface as an issue for tubists from collegiate through professional level. Beginner/Intermediate articles included topics that mostly effect tuba players from beginners through high school level.

The results in this category should be interpreted as a subjective point of view by one author. Some articles may have had a simple tone of voice, but the complexity of the topic was determined to be too advanced for a beginning or intermediate level tubist. However, there may be several examples where another author may judge an article's level differently.

There were a total of fifty-three articles written for an advanced level tubist. Forty-seven articles were written for a beginner or intermediate level of audience. David Porter's articles were all directed to a beginner or intermediate level of player. Excluding Porter's contributions, only sixteen other articles were written for the Beginner/Intermediate level. Thirty-six out of forty-seven authors (76.60 percent) wrote at least one article for the advanced level.

Figure 3 displays the basic distribution of Advanced Level and Beginner/Intermediate Level articles. Figure 4 displays the distribution of Advanced Level and Beginner/Intermediate Level articles excluding the contributions by David Porter, all thirty-one of which were classified in the Beginner/Intermediate Level.

Figure 3. All Articles By Level.

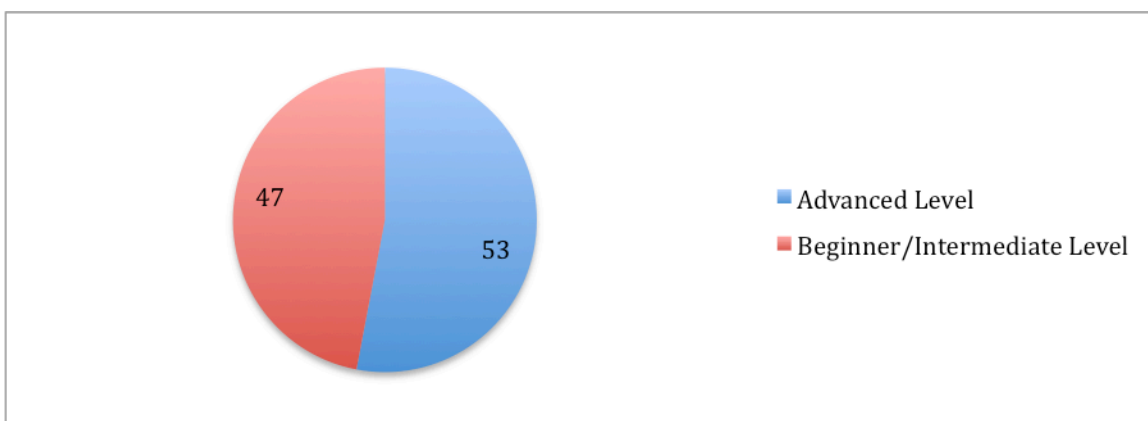
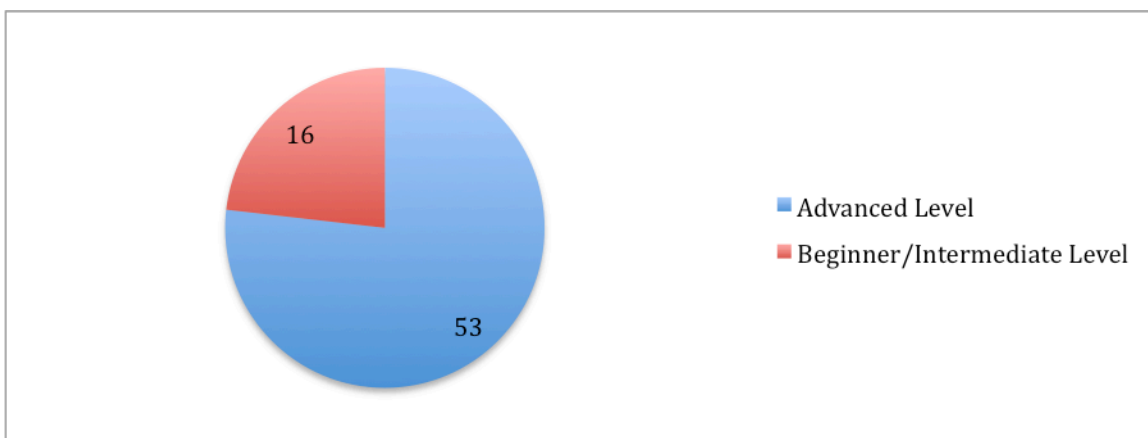


Figure 4. Articles By Level Excluding David Porter's Articles.



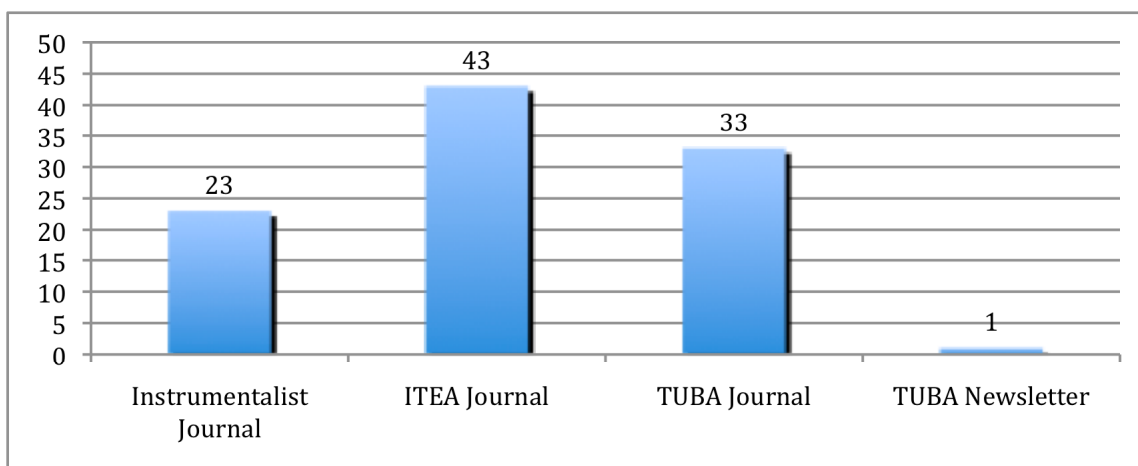
## ARTICLES BY JOURNAL

The journals to which each of the articles in the compendium belonged were tracked in the article information gathering database. Articles were collected from four journal sources: The Instrumentalist Journal, The International Tuba and Euphonium Association Journal (ITEA Journal), The Tubists Universal Brotherhood Association Journal (TUBA Journal), and the TUBA Newsletter.

The ITEA Journal evolved from the TUBA Journal and the Tuba Newsletter. The ITEA Journal began publication under the new name in the Fall of 2001, replacing the TUBA Journal that had been in publication from Fall 1976 through Summer 2001. The TUBA Newsletter, the earliest publication of the leading international tuba organization, appeared from 1973 to 1976. The Instrumentalist Journal has been in publication since 1946.

The following graph in Figure 5 displays the number of articles included in this compendium from each of the four journals.

Figure 5. Articles By Journal.



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## **APPENDIX 1**

### **BIOGRAPHY OF DR. TIMOTHY L. DEWITT**

The following biography of Dr. Timothy L. DeWitt is taken from Alderson-Broadus College's music faculty information page on the school's website. The biography contains several edits to update information. These edits were made in consultation with Dr. DeWitt to confirm their accuracy:

“Dr. Timothy L. DeWitt is in his twenty-eighth year at Alderson-Broadus College. As Professor of Music, he teaches high and low brass, music history and analysis, and serves as the department's recruitment coordinator. Under his direction, the Alderson-Broadus College Brass Choir has become regionally and nationally recognized, having toured primarily the Eastern United States and Canada, and completed its first European performance tour of Austria, Hungary, and the Czech Republic in the summer of 2003. DeWitt was named A-B's Outstanding Faculty of the Year at the College's 2006 commencement ceremonies.

A member of the West Virginia Symphony Orchestra, Charleston, from 1985 to 2002, DeWitt has also performed with the Maryland Symphony Orchestra, the Bedford Springs Festival Orchestra, the Garrett Lakes Arts Festival's Symphony at Deep Creek, the West Virginia Symphonette, and the Tower Brass Quintet. A former student of Charles Geyer, Edwin Betts, and Roger Sherman, DeWitt holds the Doctor of Musical Arts Degree in Performance and Literature (Trumpet) from the Eastman School of Music; a Master of Music Degree in Performance from Bowling Green State University, Ohio;

and a Bachelor of Music Degree in Applied Music from West Virginia University. His performance of piccolo trumpet works may be heard on the CD recording entitled “Passions of the Soul: Music of the Baroque for Trumpet and Organ.”

Current and former students from his studio have been named semi-finalists and winners in state, regional, and national solo and chamber music competitions (including MTNA, Yamaha Young Artists, Shenandoah Festival, WAMSO, the Kingsville Competitions, and the National Trumpet Competition) and have been accepted for graduate study at major schools of music throughout the country. Former students hold collegiate and public school teaching positions throughout the eastern United States and Canada, some having performed with such prestigious ensembles as the River City Brass Band, the United States Army Bands, the United States Navy Atlantic Fleet Band (Norfolk), Pacific Fleet Band (Hawaii), United States Air Force Band of Liberty (Boston), the Richmond Philharmonic Orchestra, the Pittsburgh Symphony Orchestra, and the Glenn Miller Orchestra.

Attending the Northeast Wind Conducting Symposium in the summer of 2007, DeWitt studied conducting under clinicians Stephen Peterson of Ithaca College, NY, and Mallory Thompson of Northwestern University. Dr. DeWitt attended the 2008 Teaching and Learning Institute of the Appalachian College Association, and has a long history of involvement with A-B’s planning and programs for the assessment of student learning. A Sabbatical leave in the Fall Semester of 2009 provided opportunity for continued research

and writing on the topic of brass pedagogy and brass ensemble rehearsing. DeWitt serves as an adjudicator for the National Trumpet Competition.”<sup>349</sup>

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<sup>349</sup> <http://www.ab.edu/academics/degrees/music/faculty/dewitt>, accessed January 7, 2011.

## APPENDIX 2

### BRASS DAILY DRILL RECORD SPRING 2007-08

The following is the complete listing of the topic areas, subheadings, and exercises of the DeWitt Brass Model. This includes the main topic areas that are used to organize the preceding compilation as well as the subheadings in the original Brass Daily Drill Record, not all of which are incorporated in the compilation. When distributed to students in Dr. DeWitt's studio, the Brass Daily Drill Record serves as a practical checklist for students to record their weekly progress.

#### A. Recollection of Air and Tone

##### Establishing Response

- mouthpiece buzzing
- initial/isolated attack studies [Expanding Scales Study]
- repeated resonance attack (release) studies

##### Preparing Air Source / Freeing the Air Stream

- breathing exercises / breathing apparatus exercises
- long tone studies
- [Air Building Exercises]
- initial Schlossberg studies (fingered slurs / small interval slurs)

#### B. Expansion of Range and Flex / Focus on Resonance

##### Establishing the Flex

- [Flex Study]
- [Vincent Chicowicz Study]
- [Expanding Flex Study]

##### Establishing Greatest Resonance (Core of the Sound)

- [Lip Bending Study]
- long tone studies

##### Expanding the Flex and Range with Vibrancy

- [Expanding Flex Study]
- [Scale Vocalise Study]
- [Vincent Chicowicz Study]
- slurred scales, building one note at a time
- slurred scales, chromatically ascending tonics
- Clarke II studies



- [Clarke / DeWitt Pattern Scale Study (major and minor)]
- Flexibility Etudes: Schlossberg, Smith, Irons, Colin, Brophy, Remington, Little, Brass Gym, etc.
- Clarke Study III (alternating slurred and tongued measures)
- C. Confirmation of Clarity and Resonance in Articulation
  - Tonguing on the Air Stream
    - [Supertonic Scale Study (alternating slur and tongue)]
    - Clarke I study, alternating slur and tongue
    - [Tonguing on the Air Stream Study]
    - [Clarke / DeWitt Pattern Scale Study (incorporating articulation)]
    - multiple tongue, repeated pitch studies
  - Establishing Consistency of Attack
    - repeated pitch tongue patterns, in decreasing note values
    - [Tongue and Finger / Slide Clarity Study]
    - [DeWitt 5s Study (full scale)]
- D. Expansion of Technical Facility
  - Challenging Fingers or Slide, Maintaining Resonance and Clarity
    - [Lift and Press (Slide) Study]
    - [Clarke / DeWitt Scale Study (major and minor)]
    - [DeWitt 5s Study (chromatically ascending to the third)]
    - [After Begantz Study]
    - diatonic (modal) pattern scales (major and harmonic minor)
    - technical studies such as Clarke and Visutti
  - Challenging Facility
    - expanding interval studies
    - arpeggio studies, various articulations
    - increased interval flexibility studies and articulation studies
    - technical studies such as Kopprasch and Arbans
- E. Confirmation of Musical Purpose / Practical Application
  - Phrasing / Flow Studies
    - lyric studies such as Concone, Voxman, Rochut, Bordogni, Snedecor
    - improvised lyric drills, hymns, folk songs, ballads
  - Characteristic Studies
    - stylistic etudes such as Arbans Characteristic, Brandt, Hering, Pottag  
Clarke Characteristic, Tyrell, Voxman
  - Exercises Personally Derived / Composed from Current Repertoire<sup>350</sup>

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<sup>350</sup> Timothy DeWitt, "Brass Daily Drill Record: Spring 2007-08." Unpublished document and checklist that is distributed to students in Dr. DeWitt's brass studio.