# What Every Trombonist Needs to Know About the Body

David Vining

Forward by Denis Wick

What Every Trombonist Needs to Know About the Body David Vining MPM 13-045 \$34.95

© 2010 Mountain Peak Music

2700 Woodlands Village Blvd. #300-124 Flagstaff, Arizona 86001 www.mountainpeakmusic.com

All images used by permission. Copyrights are assigned to the illustrators as follows:

- © 2001 Benjamin Conable
- © 2001 Tim Phelps
- © 1981 David Gorman
- © 2003 GIA Publications

Photography by Jason Bullard

Book Design by pixidesign, www.pixidesign.net

This publication is protected by Copyright Law. Do not photocopy. All rights reserved.

ISBN 978-0-615-22410-7



### v

## **Table of Contents**

Lis	st of Images	vii
Acl	knowledgements	xi
For	rward by Denis Wick	xiii
1.	Introduction	1
2.	The Body Map and Kinesthesia	3
3.	Body Mapping	7
4.	Inclusive Awareness and Constructive Rest	10
	A Trombonist's Guide to Constructive Rest	12
5.	The Spine	17
	The Rules of the Spine	22
6.	Balance	24
	Basic Balance Principles	24
	Balance vs. Posture	
	The Places of Balance	
	The AO Joint	
	The Other Five Places of Balance	
	Standing to Play	
	Sitting to Play	
7.	Breathing	39
	The Mouth, Pharynx and Glottis	40
	The Trachea, Lungs and Bronchial Tree	
	The Ribs and Spine	46
	The Diaphragm	
	The Abdominal Cavity	
	Elastic Recoil and Exhalation	
	A Summary of the Movement of Breathing	

8.	The Embouchure	59
	What is an Embouchure?	59
	The Embouchure Team	60
	The Lips and the Facial Muscles	61
	The Lips as Vocal Cords	62
	<i>The Jaw</i>	64
	The Tongue	67
	Embouchure Equilibrium	
	A Summary of the Movement of the Embouchure	74
9.	The Arms	76
	The SC Joint	
	The Collarbone and Shoulder Blade	79
	The Upper Arm Joint	
	Support of the Arms	
	The Elbow and Forearm Rotation	89
	The Wrist	
	The Fingers	94
	How Shall I Hold the Trombone?	
	How Shall I Move the Slide?	
	A Summary of Holding the Trombone and Moving the Slide	102
10.	The Legs	104
11.	Explorations	111
	1. Constructive Rest and Long Tones	113
	2. Be a Bobblehead and Lip Slurs	114
	3. Balance and Low, Resonant Playing	116
	4. Circular Blowing	118
	5. Put Abdominal Expansion in its Place!	119
	6. The Lips as Vocal Cords	121
	7. The Movement of the Tongue	122
	8. Embouchure Equilibrium	125
	9. The SC Joint, the Shoulder Blade and Slide Movement	
	10. Slide Technique	128
Aft	erword	131
Sou	rces for Further Reading	133

# List of Images

Cha	pter 4 Inclusive Awareness and Constructive Rest	
4.1	Constructive rest position (photo)	12
Cha	pter 5 The Spine	
5.1 5.2 5.3 5.4 5.5 5.6	The spine with a plumb line  Close-up of four vertebrae  The ribs from the side  The spine from the front  Spinal excursion  Breathing on pillows (photo)	18 19 20 21
	•	
6.1	The places of balance	
6.2 6.3	The AO joint	28
6.4	Finding the AO joint (photo)	
6.5	Close-up of facets	
6.6	Bring the instrument to your face (photo)	
6.7	Never bring your face to the instrument (photo)	
6.8	Balance at the lumbar core (photo)	
6.9	Leaning back at the lumbar core (photo)	
6.10	Weight delivery through the pelvis	
6.11	The knee	
6.12	The three states of the knee	
6.13	Weight delivery through the foot	
6.14	Weight delivery through the skeleton while sitting	
6.15	The pelvis	36
6.16	Balance while sitting (in tune) (photo)	37
6.17	Sitting up too straight (sharp) (photo)	
6.18	Slumping while sitting (flat) (photo)	37
Cha	pter 7 Breathing	
7.1	The pharyngeal space	40
7.2	The lungs in context	
73	The traches and esophagus in context	

7.4	Front and back view of the ribs and spine	
7.5	The ribs from the side	
7.6	The ribs from the front showing the costal cartilage	
7.7	Rib movement	
7.8	The diaphragm in context	
7.9	Front and side views of the diaphragm and ribs in context	
7.10	The abdominal cavity	
7.11	The pelvic floor	
7.12	The movements of the diaphragm and the pelvic floor	
7.13	The diaphragm and ribs in context (side view)	57
Cha	pter 8 The Embouchure	
8.1	The lips and facial muscles	61
8.2	The right TMJ	
8.3	The jaw	
8.4	Neutral position of the jaw (photo)	
8.5	Dropping the jaw the right way (photo)	
8.6	Dropping the jaw the wrong way, by tilting the head back (photo)	
8.7	The tongue	
8.8	The tongue and hyoid bone	
0.0	The tongue and hyora bone	
Cha	pter 9 The Arms	
9.1	The SC joint	77
9.2	Moving the slide with awareness of the SC joint (photo from above)	78
9.3	Moving the slide without awareness of the SC joint (photo from above)	
9.4	The collarbones and shoulder blades from above	
9.5	The movements of the shoulder blades	
9.6	Moving the slide with adequate movement of the collarbone	
	and shoulder blade (photo from the side)	81
9.7	Moving the slide with inadequate movement of the collarbone	
	and shoulder blade (photo from the side)	81
9.8	Moving the slide with adequate movement of the collarbone	
	and shoulder blade (photo from the back)	82
9.9	Moving the slide with inadequate movement of the collarbone	
	and shoulder blade (photo from the back)	82
9.10	Moving the slide back to first position and allowing the shoulder blade	
	to come back (photo from the side)	82
9.11	Moving the slide back to first position and not allowing the shoulder	
,,,,	blade to come back (photo from the side)	82
9.12	The upper arm joint (two views)	
9.13	Suspension bridge	
9.14	Suspension bridge and torso	
9.15	Suspension bridge and torso (photo)	
9.16	The arm	
9.17	Forearm rotation	
9.18	Bringing the right hand to the slide while preserving neutrality (photo)	
9.19	Bringing the right hand to the slide in supine position (photo)	
9.20	Bringing the right hand to the slide in prone position (photo)	
9.21	A hand grabbing a bar	
9.22	The wrist	
9.23	The movements of the wrist	
1.4.1	1110 1110 TOLLIGITU OL 1110 TILIOL	//.

9.24	The fingers	94
9.25	The thumb	
9.26	A rest bar (photo)	
9.27	A counterweight (photo)	
9.28	Bring the instrument to your face (photo)	
9.29	Don't bring your face to the instrument (photo)	
9.30	Make sure you adjust your music stand to accommodate	
	your balance (photo)	99
9.31	Don't let the music stand adversely affect your balance (photo)	99
9.32	Holding the slide (photo)	
Chap	oter 10 The Legs	
10.1	The hip joint	105
10.2	Bowing and leaning back from the hip joints	
10.3	The pelvis and thigh bones	107
10.4	The knee in context	
10.5	The three states of the knee.	
10.6	Weight delivery at the ankle	
Chap	oter 11 Explorations	
11.1	Constructive rest position (photo)	113
11.2	The embouchure in relation to the AO joint	
11.3	Finding the AO joint (photo)	
11.4	The places of balance	
11.5	Weight delivery through the skeleton while sitting	
11.6	The pharyngeal space	
11.7	The abdominal cavity	
11.8	The diaphragm in context	120
11.9	The lips and facial muscles	
11.10	The tongue in relation to the AO joint	
11.11	The tongue	
11.12	Gently bring your lips together	
11.13	Don't squeeze your lips together	
11.14	The SC joint	126
11.15	The collarbones and shoulder blades from above	127
	The conarbones and shoulder blades from above	

### Acknowledgements

This book represents many things for me: it is the culmination of years of research and training; it contains the details of trombone technique which I have always known but have not been able to articulate until now; lastly, and most importantly, it contains concepts which were pivotal in my recovery from embouchure dystonia.

Also pivotal in my recovery from embouchure dystonia were the following people:

- **Barbara Conable,** founder of Andover Educators, Alexander Technique teacher and the first person to suggest to me that I could, in fact, recover from dystonia.
- **Jan Kagarice,** trombonist, educator and expert in the technique of retraining the body.
- **David Nesmith,** Andover Educator, Alexander Technique teacher and fellow brass player who first conveyed to me the principle of somatic awareness as it pertains to playing a brass instrument.
- **Donna Lilley,** a brilliant and compassionate Feldenkrais practitioner.

My thanks go to these people for playing important roles in my retraining. Because they each helped me recover from dystonia, they also played a role in writing this book.

Special thanks to **John and Lu Vining** for their support, financially and otherwise.

Thanks also to the **Northern Arizona University** College of Arts and Letters, School of Music, and the Charles H. & Donna M. Aurand Faculty Development Award.

Thanks to **GIA** for graciously sharing some images from Tom Mark's book *What Every Pianist Needs to Know About the Body.* 

Thanks also to **David Gorman** who generously allowed me to use images from his book *The Body Moveable*.

Further acknowledgement is given to **Tim Phelps** for many of the medical illustrations, to **pixidesign** for their expert handling of the graphic design and to **Jason Bullard** for the photos.

### Forward by Denis Wick

Only over the last decade or so has *Task Specific Focal Dystonia* become completely identified, although there have always been brass players who have mysteriously "lost their lip". David Vining's recovery and rehabilitation from this terrifying condition marks him out as one of the very fortunate few amongst the many trombonists who have otherwise had to abandon their often high-profile careers. David's research and increased self-awareness have resulted in his book "*What Every Trombonist Needs to Know About the Body.*" It is a remarkable volume which will be of tremendous use to future generations of trombone teachers and players. The great majority of trombonists (myself included) who never had to think very much about this can consider themselves lucky. David is to be congratulated upon his recovery and thanked for showing us so completely how the body works in trombone playing.

### 1. Introduction

"The lungs do not fill up like a pitcher filling with water from the bottom up. Air goes to all sections of the lungs at the same time."

> — page 40 of Also Sprach Arnold Jacobs by Arnold Jacobs, compiled by Bruce Nelson

Trombonists have a dizzying array of methods and texts from which to choose when seeking to develop their musical skills. There are also many teaching styles and ideas which have been handed down through generations of trombone teachers and students. Some of these ideas have become so ingrained over time that they are assumed to be effective and accurate and are therefore used without scrutiny. Indeed, phrases such as "breathe low" have become an implicit part of the trombonist's teaching and learning lexicon.

In some cases, a catch phrase or concept has come about as a knee-jerk reaction to a different problem. "Breathe low", for example, may have originated as a reaction to players who lift their shoulders in a contrived sort of way when breathing or who have, with tension, prevented natural abdominal wall movement. Be that as it may, the reality is that breathing involves many motions; low, medium and high. To "breathe low" is to breathe with a contrivance every bit as destructive as the more obvious unnatural raising of the shoulders. Perhaps phrases such as these were never intended to be applied literally. If so, what becomes of the trombonist who "didn't get the memo" that the instruction is not to be taken literally? Are there not those among us who are, by nature, literal?

To avoid misunderstandings it would be helpful to designate common ground in trombone teaching approaches. What Every Trombonist Needs to Know About the Body provides this common ground by applying anatomically accurate information to playing the trombone. By teaching from a position of anatomical accuracy, not only do we avoid misunderstandings, but we also provide ourselves with a secure somatic foundation upon which we can make music. Somatics is the study of the body in motion and a secure somatic foundation is provided when we teach with accurate knowledge of how the body is constructed and how it moves. Concepts which do not cooperate with the reality of how we are built endanger our somatic foundation and cause confusion.

When we play trombone based upon a secure somatic foundation, we are at less risk for injury and our movements are free of tension. The result is a beautiful tone, improved technique and minimum effort in our playing. What Every Trombonist Needs to Know About the Body is all about achieving these qualities and, ultimately, becoming better musicians.

Somatics is the study of the body in motion

"Music education belongs on a somatic foundation because musicians move for a living, like dancers and athletes, except that musicians' movement is even more refined, precise and rapid."

— page 4 of What every Musician Needs to Know about the Body by Barbara Conable

The idea for *What Every Trombonist Needs to Know About the Body* was first conceived by Barbara Conable, author of the parent book, *What Every Musician Needs to Know About the Body.* Barbara's vision is to provide specific and clear information to all musicians to prevent pain and injury and to promote excellence in practicing and performing.

What Every Trombonist Needs to Know About the Body is based upon Barbara Conable's book: What Every Musician Needs to Know About the Body. Someday, perhaps there will be a book for every instrument!

Writing What Every Musician Needs to Know About the Body was only Barbara Conable's first step toward realizing her vision of providing

clear and specific information to musicians in order to promote efficient and painfree music making. In 1997, she also formed a group of educators called Andover Educators who teach music based upon a secure somatic foundation. Each new member of Andover Educators undergoes a rigorous training program in order to become a certified member. Once certified, members of Andover Educators deliver courses based upon *What Every Musician Needs to Know About the Body* and teach others how to make music based upon a secure somatic foundation.

For more information about Andover Educators, visit: www.bodymap.org

### 2. The Body Map and Kinesthesia

The movements involved in trombone playing are complex and varied. To create the sound we want, we must move the air through the instrument in a certain way, the slide must be placed correctly at the right instant, the tongue must create the appropriate articulation at precisely the right moment and all of these

movements must be coordinated with the rhythm of the music. Furthermore, the motions must be infused with our own personal sense of phrasing, vibrato and musicianship and may need to be synchronized with a conductor and other musicians. There is no doubt that to play trombone is to *move*; to play trombone well is to *move well*.

The quality of our movements determines the quality of our trombone playing.

Consider a trombonist who has trouble tuning fifth position (many trombonists do!). When we move our arm to place the slide, the quality and refinement of that movement, along with our awareness of the pitch, determines the intonation. The movement must be developed right along side *and as part of* the musical awareness of the pitch.

# Movement Break: Consider how you move the trombone slide.

Play first position "f" to fifth position "g-flat" back and forth several times. As you do this, notice the quality of the motion you are using. Is the motion producing the intonation you want? Is the motion smooth and easy? Begin to regard the subtleties of your trombone motions with the same awareness that dancers might use to refine their movements. Dancers move to create their art and so do you! Try playing "f" to "g-flat" once again with more sensitivity to the quality of the motion and how the motion helps to determine the pitch.

How can we move well in order to play trombone well? The answer to this question lies in an extraordinary tool called the body map. The body map is a representation in the brain of how the body is constructed and how it is supposed

Our body maps must be accurate in order for our movements to be accurate. to move. The body map is the instruction manual for our movements and it dictates the motions of trombone playing. Trombonists with accurate body maps will move well; those with inaccurate body maps will not move well.

The body map contains information about our structure, function and size. Good body maps include adequate and accurate information about the entire body with appropriate detail for those parts integral to the task. A trombonist's body map must include information about the entire body with appropriate detail regarding breathing, the arms, the

An inaccurate body map is often the source of pain or tension and can lead to injury. This is not surprising when one considers the repetitive nature of the motions of trombone playing. Since these motions are repeated thousands of

The body map contains information about our structure, function and size.

embouchure and the tongue.

times, if they are dictated by a faulty body map, they put the trombonist at risk for injury. Sometimes these injuries seem to appear out of nowhere when, actually, they have come about due to a flaw in the body map.

# "The integrity of any movement depends upon the integrity of the body map that governs it."

— Barbara Conable

The good news is that we can check to see if our body map is accurate and, if there is a misrepresentation, we can change it. The first step toward doing this is to consider what you currently believe about your body through self-inquiry. Gain access to your body map by asking yourself questions such as: Where is the diaphragm? How does it move? What is its role in breathing? The precision, clarity and detail of your answers will tell you if your body map is accurate and adequate. If it is not, you can adjust your body map by studying images and reading descriptions of the areas in question. Correcting a faulty body map takes time and patience but the more you reinforce the truth the more the old erroneous version will fade.

One of the most important tools for Body Mapping is kinesthesia, the sensory mode which enables us to perceive our movements. Kinesthesia tells us about the size, shape and position of a body part, the quality of its motion and its interaction with other body parts. In this book, you will be encouraged to use your kinesthesia to observe the quality of your movements when playing

Kinesthesia is our movement sense. Kinesthesia tells us all about how we are moving our bodies.

trombone. Kinesthetic feedback is always available to us if we simply pay attention to our movements. The more sensitive we are to kinesthetic information, the

Kinesthesia is an important tool. It helps us refine our body maps.

more refined our movements can become. As you examine your trombone playing, kinesthesia makes self-inquiry possible, which, in turn, facilitates the refinement of your body map.

Trombonists with kinesthetic awareness have better technique than those who don't because they continually monitor and refine their movements, just like fine dancers do. When we are aware of the quality of our trombone movements it enables us to make subtle adjustments as we play in reaction to the changing situations of practice and performance. If you have been unaware with your kinesthesia when playing trombone, you can begin to use it immediately simply by noticing the quality of your slide movement. While there are many subtle trombone movements to explore, none is as obvious as moving the slide.

# Movement Break: Wake up your kinesthesia!

Once again, play first position "f" to fifth position "g-flat" back and forth several times. Now put down your trombone, close your eyes and move your right arm as though you were playing these notes. As you are doing this (with your eyes closed!), use your kinesthesia to determine if your slide placement would be accurate if you were playing. Now try playing the notes on your trombone again, still with your eyes closed. Continue to use your kinesthesia in addition to adding your aural pitch awareness in order to insure good intonation. Now play the notes once more, this time with your eyes open and with a continued kinesthetic awareness of how you are moving the slide.

The body map and kinesthesia are important tools for trombone playing and they are to be included with all the other tools we already use. Traditionally we play with an understanding of music theory and music history and with an awareness of the style we wish to achieve. When we add the body map and kinesthesia to these conventional tools, we enhance our experience

We move to play trombone. Our body map dictates our movements. We use kinesthesia to refine our body map.

and that of the listener. Our trombone playing becomes somatically informed in addition to being theoretically and historically informed. Trombonists who add somatic awareness and an accurate body map to their musical tool box stand to achieve great depths of organic music-making and will more easily fulfill their entire musical potential.

In order to insure a secure somatic foundation, an honest assessment of the accuracy of our body map and our kinesthetic awareness is needed. This book provides a means for evaluating our current condition and, if necessary, adjusting our maps and developing our kinesthesia. Just as there are trombonists who already possess an understanding of music theory and music history, there are also players who have accurate body maps and who naturally use kinesthesia in their playing. These trombonists can use this book to further refine their accurate body maps, to reinforce their sense of kinesthesia and to help their students.