

Dueling Philosophies:
Arnold Jacobs's Ideological Break with
Traditional Brass Pedagogy

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Abstract

When Arnold Jacobs, legendary tubist of the Chicago Symphony Orchestra, began teaching in the 1940s, his method was controversial in the brass community because it emphasized using mental concepts to achieve a desired sound. Until Jacobs's influence became prevalent, the long-accepted methods of brass pedagogy relied almost exclusively on physical elements of playing, such as embouchure formation, tongue placement, diaphragm movement, and mouthpiece pressure. While much has been written about Arnold Jacobs's pedagogical approach and the methods preceding his influence, no scholar has precisely identified the core philosophical difference between the two approaches. This study will prove that the opposing concepts of "existence precedes essence" and "essence precedes existence" -- as defined by Jean-Paul Sartre in his 1946 essay, "Existentialism is a Humanism" -- express the key underlying difference between the prevailing pedagogy of the early twentieth century and Arnold Jacobs's approach, respectively. It will show that by focusing on physical elements as a means to create a final musical idea, the earlier approach sustains the belief that you do, therefore you are; while Jacobs emphasized artistic vision as a means to correctly engage the body's complex mechanisms, implying that you are, therefore you do. This study will demonstrate this difference in philosophy by examining pedagogical texts on brass playing written in the early twentieth century and comparing their content with the fundamental elements of Jacobs's method as recorded by his many students and enthusiasts. Broadly, this will illuminate the heart of Arnold Jacobs's teachings and the foundation of his ideology.

Many prominent players and teachers have helped to shape the styles, techniques, and pedagogical approaches of American brass playing in the twentieth century. Each teacher had a different credo; some were based on entirely new ideas, while others synthesized concepts of previous pedagogues to help advance new theories on physically efficient and artistically satisfying brass playing. When Arnold Jacobs, Principal Tubist of the Chicago Symphony Orchestra, began teaching in the 1940s¹, he began a legacy that would challenge many of the long-accepted views common to brass pedagogy in the mid-twentieth century.² While teachers were constantly introducing new ideas to the brass field, Jacobs's theories were seen as especially controversial because they challenged the core philosophy upon which the prevailing pedagogy was based. By examining a sample of brass teachers who were prominent in the 1940s through the 1970s, it is apparent that their main focus was the physical mechanisms of brass playing³ as a means to achieve a desired result, while Jacobs emphasized mental concepts of sound and music above any mechanical concerns.⁴ This disparity in the focal point of the pedagogical approaches is analogous to a philosophical topic contested by philosophers for centuries, summed up by Jean-Paul Sartre in his pivotal 1946 essay, "Existentialism is a

¹ Gregory Boyd Irvine, "Arnold Jacobs' Pedagogical Approach: Context and Applications" (DMA diss., Northwestern University, 2001), 11.

² Ibid., iii.

³ Ibid., 11.

⁴ Brian Frederiksen, *Arnold Jacobs: Song and Wind*, ed. John Taylor (Windsong Press Limited, 1996), 94.

Humanism.” It is here that Sartre first states that “existence precedes essence.”⁵ This principle is inherent to the leading methods of teaching prior to Arnold Jacobs’s influence. Contrary to Sartre’s belief, Jacobs’s teaching illustrates the opposite notion that instead, “essence precedes existence,” a concept that dates back to the eleventh-century metaphysicist, Avicenna.⁶ By analyzing the meaning of these opposing philosophies as they pertain to brass playing, we can gain a greater understanding of the core difference Jacobs’s teachings bore to the commonly accepted pedagogical methods of his day.

The phrase “existence precedes essence” was coined by Jean-Paul Sartre in 1946, but evidence of this idea can be found as early as the twelfth-century in philosophical works by Averroes and in the seventeenth century by Mulla Sadra, both Islamic scholars; and in works by nineteenth-century Danish philosopher Søren Kierkegaard.⁷ In “Existentialism is a Humanism,” Sartre begins his discussion by describing the reverse concept, “essence precedes existence.” This idea was the prevailing Christian view of human creation and an established principle of metaphysics, dating back to Avicenna, a Persian philosopher of the eleventh century.⁸ The substance of this ancient claim was to validate the creation of man by a higher being, and ultimately explain the vast themes of human nature and free will. Despite its abstract

⁶ Peter van Inwagen, "Metaphysics," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, <http://plato.stanford.edu/archives/fall2008/entries/metaphysics/> (Accessed [01 Dec. 2009]); "Avicenna," *Encyclopedia Britannica Online*, <http://www.britannica.com/EBchecked/topic/45755/Avicenna> (Accessed [02 Dec. 2009]).

⁷ Steven Crowell, "Existentialism," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, <http://plato.stanford.edu/archives/win2009/entries/existentialism/> (Accessed [01 Dec. 2009]).

⁸ "Avicenna," *Encyclopedia Britannica Online*.

implications, this idea can be understood on a more basic level as describing the creation of any product. Sartre explains the idea in terms of creating an inanimate object; in this case, a paper knife:

If one considers an article of manufacture -- as, for example, a book or a paper-knife -- one sees that it has been made by an artisan who had a conception of it; and he has paid attention, equally, to the conception of a paper-knife and to the pre-existent technique of production which is a part of the conception and is, at bottom, a formula. Thus the paper-knife is at the same time an article producible in a certain manner and one which, on the other hand, serves a definite purpose, for one cannot suppose that a man would produce a paper-knife without knowing what it was for. Let us say, then, of the paper-knife that its essence -- that is to say the sum of the formulae and the qualities which made its production and its definition possible -- precedes its existence. The presence of such-and-such a paper-knife or book is thus determined before my eyes. Here, then, we are viewing the world from a technical standpoint, and we can say that production precedes existence.⁹

Here Sartre is saying that in order to create a product -- the paper-knife -- the artisan must have a clear idea in his mind of what he wishes to create and must understand all the qualities of the product before the paper-knife can be produced. Thus the essence -- or the idea of the object -- precedes its physical existence. Sartre then explains how this idea applies to the creation of man and of human nature. By this logic, God the Creator, or the “supernal artisan,” creates man as the artisan creates the paper-knife: knowing distinctly what he is creating before he creates it. Therefore, the nature of man has been pre-conceived by God. This substantiates the concept of human nature and weakens the case for free will.¹⁰ After he explains the commonly accepted Christian view, Sartre then states that he is an Atheist and thus by his logic, since God does not exist, this entire concept of “essence preceding existence” cannot apply to the creation of man.¹¹

⁹ Sartre, “Existentialism is a Humanism,” 122-123.

¹⁰ Ibid., 123.

¹¹ Ibid., 124.

For man is not, as he alludes, a paper-knife. Instead, Sartre believes that contrary to the idea that man's nature is pre-conceived by God, "man first of all exists, encounters himself, surges up in the world- and defines himself afterwards."¹² Thus, his idea that "existence precedes essence." He goes on to say that "If man as the existentialist sees himself as not definable, it is because to begin with he is nothing. He will not be anything until later, and then he will be what he makes of himself."¹³ One could then apply this idea back to the question of the paper-knife by saying that it is only when the object at hand is used to cut paper that it takes on its essential definition. Thus, what the object actively does defines its conceptual nature. When applied to the analysis of brass pedagogy, the human nature implications of these ideas are not important, but the dueling concepts Sartre presents of "essence precedes existence" versus "existence precedes essence" are paramount when understood in their most basic form.

These opposing philosophies relating "existence" and "essence" are applicable to many areas, from the philosophical questions of human nature and free will to the study of brass instruments. When considering the phrase "existence precedes essence" in relation to brass playing, it is important to understand how these terms are translated to the brass medium. Let us take the word "existence" to signify the mechanics taking place in the body that physically produce a note at the moment of its sounding. This would include components such as embouchure, tongue position, mouthpiece pressure, diaphragm movement, and so on and so forth. The term "essence" can be simply understood as the musical value of the sounding note. This includes characteristics such as tone color, articulation, dynamic, phrasing, and emotional

¹² Sartre, "Existentialism is a Humanism," 124.

¹³ Ibid.

power; and ultimately, the artistic qualities of the music. Thus “existence” is analogous with physical movement while “essence” signifies aural experience, whether actual or conceptual.

When examining the major brass teachers of the first half of the twentieth century and even into the 1970s, one can see that an overwhelming emphasis was placed on physical rather than conceptual components of playing.¹⁴ Prior to 1940, the three main topics addressed by trumpet teachers were embouchure, articulation, and respiration, with minimal attention given to musical goals or sound concepts.¹⁵ In his Master’s Thesis of 1954¹⁶, F. Earl Dunn discusses a key dispute of the time period concerning how one should form an embouchure. One idea was that the player should stretch the lips outwards into a slight smile before playing, and the other opinion was that one should instead firm the corners of the mouth and purse the lips into a more forward position.¹⁷ Arguments for the latter standpoint on this issue can be found in texts by Robert Getchell¹⁸ and Philip Farkas¹⁹, who were other prominent brass teachers of the period.²⁰ In his book *The Art of Brass Playing*, published in 1962, Farkas writes a substantial amount about mouthpiece placement on all the brass instruments, stating various top-to-bottom lip ratios

¹⁴ Irvine, “Arnold Jacobs’ Pedagogical Approach,” 11.

¹⁵ John Lawrence McCann, “A History of Trumpet and Cornet Pedagogy in the United States 1840-1942” (DMA diss., Northwestern University, 2001), 105.

¹⁶ F. Earl Dunn, “The Brass Instrument Class -- A Workbook-Text for the Teacher or Student of the Cornet, French Horn, and Trombone” (Master’s thesis, Iowa State Teacher’s College, 1954).

¹⁷ Dunn, “The Brass Instrument Class,” 27; Irvine, “Arnold Jacobs’ Pedagogical Approach,” 12.

¹⁸ Robert W. Getchell, *Teacher’s Guide to the Brass Instruments* (Toronto: Selmer Corporation, 1959).

¹⁹ Philip Farkas, *The Art of Brass Playing* (Rochester: Wind Music Inc., 1962).

²⁰ Irvine, “Arnold Jacobs’ Pedagogical Approach,” 12-13.

that he claims will optimize comfort and performance.²¹ There are also writings by brass teachers including Philip Farkas²², Claude Gordon²³, and Leslie Sweeney²⁴ -- published in 1962, 1965, and 1953, respectively -- that discuss how much pressure should be applied by the mouthpiece onto the lips to achieve optimal performance.²⁵ These references continue endlessly, with extensive writings on topics including playing on wet or dry lips; the role of the lower jaw in embouchure formation and creating a pivot system; placement of the tongue during articulation, slurs, and high register playing; diaphragm pressure; engagement of the glottis (larynx); and of course the vast topic of respiration.²⁶ A review of pedagogy in this time period reveals a near obsession with everything physical.

This physically oriented approach does not necessarily indicate that brass players at the time were unconcerned with musical qualities; many teachers who furthered this approach were respected members of leading orchestras and obviously played to a high musical standard. Instead it suggests a belief that the study of these physical elements would lead to the desired musical result. This pedagogical approach presupposes the belief that by engaging the body in a physically correct manner, the player will then produce a satisfying musical outcome. Thus the notion that “existence precedes essence.”

²¹ Irvine, “Arnold Jacobs’ Pedagogical Approach,” 14-15.

²² Farkas, *The Art of Brass Playing*.

²³ Claude Gordon, *Systematic Approach to Daily Practice for Trumpet* (New York: Carl Fischer Inc., 1965).

²⁴ Leslie Sweeney, *Teaching Techniques for the Brasses* (Rockville Centre, L.I., NY: Belwin Inc., 1953).

²⁵ Irvine, “Arnold Jacobs’ Pedagogical Approach,” 15.

²⁶ Ibid., 15-51.

When Arnold Jacobs began teaching in the 1940s, his pedagogical approach presented an entirely different view of cause and effect. Born in Philadelphia in 1915, Jacobs began his musical education by studying the trumpet and then the trombone.²⁷ When he took up the tuba, he became an immediate success, and was awarded a full scholarship to attend the Curtis Institute of Music at the age of fifteen.²⁸ After being offered positions with virtually every top orchestra in the United States, Jacobs joined the Chicago Symphony Orchestra as Principal Tubist in the fall of 1944 and remained in that position until his retirement in 1988.²⁹ Jacobs's vast pedagogical philosophy was significantly shaped by one of his earliest teachers at the Curtis Institute. As a teenager, Jacobs took an intensive phrasing class with Marcel Tabuteau, the Principal Oboist of the Philadelphia Orchestra.³⁰ Among many of his valuable lessons, Tabuteau taught his students to think vocally rather than mechanically.³¹ In other words, they should approach their instruments as naturally as they would the human voice, and not as a complex piece of machinery to be operated. "I always tell my students," Tabuteau said, "that if they think beautifully they will play beautifully. For it is what you have to say in music that determines the quality of your performance."³² Tabuteau made a tremendous impact on young Jacobs, and his insight planted the seed that would eventually form the foundation of Jacobs's teaching philosophy.

²⁷ Frederiksen, *Song and Wind*, 1-3.

²⁸ Ibid., 5.

²⁹ Ibid., 18-28.

³⁰ Irvine, "Arnold Jacobs' Pedagogical Approach," 54.

³¹ Ibid., 55.

³² Marcel Tabuteau as quoted in Frederiksen, *Song and Wind*, 10.

Jacobs had a natural interest in human anatomy, and in the 1940s began an intensive study of physiology that would play a huge role in his teaching.³³ By the 1960s, Jacobs's in-depth study of how the body works led him to wonder how the body is controlled, and he began to explore the newer psychology texts of the time.³⁴ By studying how the brain sends signals to the body, Jacobs could better understand how musicians could use their brains to play their instruments more masterfully. Jacobs learned that the brain communicates with the body using two kinds of nerves: those that control autonomic activities such as the heartbeat and normal breathing; and motor nerves, or effectors, that carry specific output from the brain.³⁵ Jacobs made a distinction between automatic anatomical function, which he called the "computer activity of the brain," and intelligence, which he called the "thinking part of the brain."³⁶ Jacobs likened control of the human body to controlling an automobile. A car functions by means of many complex systems such as the engine, cooling system, and brakes. Yet to drive a car, we go to the simple controls in the driver's seat, not the machinery under the hood.³⁷ Jacobs explains this idea in an interview with Jim Unrath on a Chicago radio station.

Whenever you build a machine, you must put in a set of controls. From the moment you have the controls in, you do not work the machine by its individual parts, but what you want the machine to accomplish. To do this, you communicate through the control system. Our controls are in the brain. We never play by segmented tissue, such as

³³ Brian Frederiksen, interview by author, by phone via Chicago, IL, November 16, 2009.

³⁴ Ibid.

³⁵ Irvine, "Arnold Jacobs' Pedagogical Approach," 56; Frederiksen, *Song and Wind*, 135.

³⁶ Frederiksen, *Song and Wind*, 108.

³⁷ Bruce Nelson, ed., *Also Sprach Arnold Jacobs: A Developmental Guide for Brass Wind Musicians* (Germany: Polymnia Press, 2006), 21; Frederiksen, *Song and Wind*, 108.

diaphragms and lips... We play by *song*. We use our motor activities based on the flow of *wind*, which is our fuel supply.³⁸

The long-accepted approaches to brass playing were based on trying to control individual segments of the body -- such as the tongue, lips, or diaphragm -- to achieve a desired musical product. Jacobs brought the focus instead to the brain's concept of sound and music -- the goal at hand -- as a way to coordinate those necessary physiological components indirectly. Jacobs further elaborates:

The structure of humans is extremely complex; we cannot control individual muscles... If you had to control all of the parts of the body individually, you wouldn't be able to do anything. The thinking part of the brain does not fire the muscles, but programs the body to accomplish what is needed. Machine function is complex; psychological control is simple... By ordering product from the brain, systems of muscles will function properly.³⁹

Jacobs would often make analogies to performing simple tasks, such as picking up a glass of water. One does not think of individually controlling each nerve, tendon, and muscle necessary to pick up the glass, or even so much as consider how the arm is moving when reaching for the water. One simply has the goal in his mind of picking up the glass of water, which motivates the "computer level of the brain" to take care of the details.⁴⁰

Once a student understood the way the brain controls the body, Jacobs would relate the information to a musical application. The goal of reaching the glass of water became the goal of playing a beautiful phrase. Just as the student's brain envisions picking up the glass of water and then engages the necessary mechanisms to do so, the mind imagines a beautiful sound on the student's particular instrument and, with the aid of muscle memory, sends the proper signals to

³⁸ Arnold Jacobs, as quoted in Frederiksen, *Song and Wind*, 108.

³⁹ Arnold Jacobs, as quoted in Nelson, *Also Sprach Arnold Jacobs*, 21-22.

⁴⁰ Irvine, "Arnold Jacobs' Pedagogical Approach," 56.

the body to bring the imagined sound into reality. Jacobs often described playing two tubas simultaneously: one in the head and one in the hand.⁴¹ Brian Frederiksen elaborates, “The tuba in his hand is the mirror image of his thought. It plays a split second after the proper signal is sent from the tuba in the mind- the brain.”⁴² Jacobs stressed the importance of conceptualizing sound before playing by relating the idea of a builder trying to construct a building without using architectural plans. Without a pre-conceived idea of the product -- in this case the building -- disastrous problems could occur, such as retaining walls not bearing the weight of floors above.⁴³ Many of Jacobs’s students would first come to him playing without a concept of the end result; they were playing the instrument in their hand but not the instrument in the mind, and many mistakes would occur.⁴⁴ One of Jacobs’s former students, Charles Lipp, describes the perils of the mechanical approach by relating his experience prior to working with Jacobs. “My blunder was to zero-in on individual body parts. I thought they were responsible for individual parts of music making. Instead of training my brain for musical thought, I practiced drills to gain strength and speed... I developed the habit of isometric tension (muscles contracting against muscles with no work being done.) I lost my music-making ability.”⁴⁵

The foremost idea of Arnold Jacobs’s teaching was to always possess a clear concept of sound in the imagination. This was not due to an ignorance of the complex mechanics involved in playing brass instruments; rather it was born from a complete understanding of them. Jacobs

⁴¹ Irvine, “Arnold Jacobs’ Pedagogical Approach,” 57.

⁴² Frederiksen, *Song and Wind*, 137.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Charles Lipp, as quoted in Frederiksen, *Song and Wind*, 136.

was well-versed in the physiology of brass playing; in addition to studying human anatomy and the complex mechanism of respiration, Jacobs performed scientific experiments at the University of Chicago in 1959 and 1960 to uncover the physiology behind elements related to brass playing such as air flow and air pressure.⁴⁶ In addition to his introduction of mental concepts into brass pedagogy, one of Jacobs's major contributions to the brass community was his insight into correctly engaging the respiratory mechanism from a physical standpoint.⁴⁷ While he would often share physiological information with his students and would even work persistently with them to normalize these functions in their bodies, he would always keep this work separate from playing the instrument.⁴⁸ Jacobs acknowledged the significant physical component to brass playing, but he recognized the need for a balance between properly engaging these mechanisms and thinking musically. By teaching his students to control the necessary physical aspects using mental concepts, he kept them from falling into the trap of what he called "paralysis by analysis."⁴⁹ This phrase describes the occurrence of scrutinizing physical movement to such an intense degree that the student becomes self-conscious and confused and is unable to perform even the simplest tasks. For this reason, Jacobs insisted that when it was time to play, thoughts concerning physical elements should fade into the background and concepts of sound and music should become paramount.⁵⁰ It is in this way that Jacobs's teaching philosophy represents the idea that "essence precedes existence." Jacobs believed that a strong mental concept of sound

⁴⁶ Frederiksen, *Song and Wind*, 120.

⁴⁷ Brian Frederiksen, interview by author.

⁴⁸ Frederiksen, *Song and Wind*, 91.

⁴⁹ Brian Frederiksen, interview by author.

⁵⁰ Frederiksen, *Song and Wind*, 91.

and music -- what has been defined as “essence” -- must be in place before the mechanics of producing the note in real time -- or “existence” -- can occur. This concept is most succinctly illustrated by his image of hearing the “tuba in the mind” a split second before playing the tuba in his hand. Jacobs recognized the mechanical components that were necessary to play a brass instrument, yet by keeping the focus on sound and music in the imagination -- or what he referred to as “Song” -- he sustained the belief that this strong mental concept would direct the body to engage the correct physical movements required to produce the sounding note.

When comparing Arnold Jacobs’s pedagogical approach to the ideas of his predecessors and contemporaries, the main difference lies in that other approaches concentrated on the method of playing to achieve a desired musical result, while Jacobs concerned himself with the musical result as a means to enable the correct physical method. Philosophically, Jacobs’s teachings represent the belief that you are, therefore you do; in other words, you possess a strong concept of the essence of the music, therefore you can physically enact it. The pedagogical approach that preceded Jacobs’s influence epitomized the idea that you do, therefore you are; that you perform physical actions that result in a musical definition. This philosophical divergence is indeed parallel to Sartre’s original musings about the nature of a paper-knife. There is no claim that Arnold Jacobs or any previous brass pedagogues purposefully pursued ideas characteristic of existentialist or metaphysical thought; there is no indication that any of them ever studied the works of Sartre, Avicenna, or any kind of philosophy in a direct way. Simply, understanding these conflicting philosophies of “existence precedes essence” versus “essence precedes existence” clearly identifies the fundamental rift that Jacobs created with the teaching approach

of the early twentieth century and serves to pinpoint the core difference in their methods. This better illuminates the heart of Arnold Jacobs's teachings and the foundation of his ideology.

Bibliography

"Avicenna," *Encyclopedia Britannica Online*, <http://www.britannica.com/EBchecked/topic/45755/Avicenna> (Accessed [02 December 2009]).

This reference article is a helpful overview of the Islamic philosopher whose works first represented the idea that "essence precedes existence." The article presents impartial information about the philosopher's life and works. The article is presented concisely and provides valuable details on Avicenna's life, writings, and influence. This article provides informative background information about the origins of one of the philosophies on which my study is based.

Chenette, Stephen. "Personal Recollections on Arnold Jacobs." In *Arnold Jacobs: The Legacy of a Master*, compiled and edited by M. Dee Stewart, 119-126. Northfield, Illinois: The Instrumentalist Publishing Company, 1987.

This article is an excellent summation of Jacobs's ideas on breathing and the use of the abdominal muscles in playing brass instruments. The author also touches upon some of Jacobs's mental concepts as relating to breathing and breath support. The author contends that the primary focus of brass players should be on the musical rather than physical aspects of playing. The article is well-presented, but could supply more detailed support of its arguments. I will use this source to supplement my research on Jacobs's ideas on the physical breathing apparatus.

Crowell, Steven. "Existentialism," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta. <http://plato.stanford.edu/entries/existentialism/> (Accessed [01 December 2009]).

This reference article provides a valuable review of existentialism and the Existentialist movement, with sections on the emergence of the question of existence, the "existence precedes essence" credo, freedom and value, the politics and history of existentialism, and the current Existentialist movement. The entry is in-depth and impartial. This source is very useful to my study because it provides background information on the Existentialist movement, of which Sartre considered himself a proponent. It gives a wider understanding of the movement on which a major section of my study is based.

Dunn, F. Earl. "The Brass Instrument Class -- A Workbook-Text for the Teacher or Student of the Cornet, French Horn, and Trombone." Master's thesis, Iowa State Teacher's College, 1954.

Erb, Richard H. "The Arnold Jacobs Legacy." In *Arnold Jacobs: The Legacy of a Master*, edited by M. Dee Stewart, 13-26. Northfield, Illinois: The Instrumentalist Publishing Company, 1987.

Farkas, Philip. *The Art of Brass Playing*. Rochester: Wind Music Inc., 1962.

Frederiksen, Brian. *Arnold Jacobs: Song and Wind*. Edited by John Taylor. Windsong Press Limited, 1996.

This book is a fine catalogue of many different areas of Arnold Jacobs's life, career, and pedagogy, with sections devoted to his upbringing and schooling, professional experience, orchestral colleagues as well as conductors, and significant writings on his physical and mental concepts on brass playing. As the author was Jacobs's assistant, there is no clear argument in the book; he objectively presents Jacobs's biography and sums up Jacobs's views on pedagogical topics. Information on his pedagogical approach is less detailed than provided by other sources, as the aim of the book is to present an overall picture of Jacobs's life and work. This book serves as excellent background information to support my argument.

Getchell, Robert W. *Teacher's Guide to the Brass Instruments*. Toronto: Selmer Corporation, 1959.

Gordon, Claude. *Systematic Approach to Daily Practice for Trumpet*. New York: Carl Fischer Inc., 1965.

Irvine, Gregory Boyd. "Arnold Jacobs' Pedagogical Approach: Context and Applications." DMA diss., Northwestern University, 2001.

This dissertation is an excellent source and was extremely useful to my research. The author's main argument is that Jacobs's pedagogical approach is applicable to all brass instruments without modification. The dissertation studies the pedagogical approaches of teachers of each brass instrument who are followers of Jacobs's ideas. It also examines the methods of pedagogues from the 1940s, 50s, and 60s, whose ideas Jacobs directly challenged. The study is very convincing and well-documented. This source provides ample background information, as well as evidence of the physically-backwards pedagogical approach that was widely accepted before Jacobs's influence permeated the national discourse.

Kelly, Kevin. "The Dynamics of Breathing." *The Instrumentalist* 53(5) (1998): 70-87.

This article is a detailed examination of the mechanisms of breathing, and was written by Kevin Kelly with the consultation of Arnold Jacobs and David Cugell, M.D., who is the head of the pulmonary function laboratory at Northwestern Memorial Hospital in Chicago and a faculty member at the Northwestern University Medical School. The article presents information on respiration, well-documented with graphs and diagrams, that directly applies to playing a brass instrument. The article also provides Jacobs's insight into using psychology to motivate the body to breathe correctly. This article is

useful to my study because it provides specific information regarding Jacobs's contribution to the brass community's knowledge of respiration as well as his mental concepts relating to breathing.

Kutz, David William. "Arnold Jacobs: Methods and Materials of Pedagogy." DMA diss., Northwestern University, 2002.

This dissertation is a massive review of Arnold Jacobs's pedagogical approach, with a specific emphasis on the methods and materials used in both his teaching and his personal study. The dissertation features sections on Jacobs's education, pedagogical method, the procedure used by the author to interview former students, a listing of études used by Jacobs, and étude examples as they were used in lessons. This is helpful because in addition to providing valuable information about Jacobs's pedagogical approach, it sheds light on the sources of his vast pedagogical knowledge.

Loubriel, Luis. "Vincent Cichowicz on Arnold Jacobs." *International Trumpet Guild Journal* 30, no. 2 (January 2006): 26-31.

This article consists of an interview of Vincent Cichowicz, a former trumpet player in the Chicago Symphony Orchestra and long-time colleague of Arnold Jacobs, as well as a major trumpet pedagogue of the second half of the twentieth century. Cichowicz discusses Jacobs's ideas on several brass-related topics such as breathing, but spends more time discussing several of Jacobs's mental concepts -- more specifically the behaviorist approach -- and how they influenced Cichowicz's own teaching style. This article supports my argument because Cichowicz specifically addresses the teaching approaches of the 1950s and 1960s, and how their analytical nature led to muscle tightness and confusion, and even a sort of psychologically-caused muscular paralysis.

-----, "William Scarlett on Arnold Jacobs." *International Trumpet Guild Journal* 30, no. 1 (October 2005): 43-47.

This article is an interview of William Scarlett, another former trumpet player in the Chicago Symphony Orchestra and colleague of Arnold Jacobs. Scarlett discusses the influence Jacobs had on his own playing as well as his teaching, and how his views on brass playing were forever changed after time spent playing and talking with Jacobs. Scarlett discusses the evolution of Jacobs's teaching and highlights a few of his concepts. This article is particularly useful in my study because Scarlett states that Jacobs's approach was much different from the overwhelmingly physical approach he had learned from his previous teacher, Renold Schilke, who was a major pedagogue in the early to mid-twentieth century.

McCann, John Lawrence. "A History of Trumpet and Cornet Pedagogy in the United States 1840-1942." DMA diss., Northwestern University, 2001.

Nelson, Bruce, ed. *Also Sprach Arnold Jacobs: A Developmental Guide for Brass Wind Musicians*. Germany: Polymnia Press, 2006.

This book was compiled by summarizing information passed on to students of Arnold Jacobs with six sections discussing concepts fundamental to development, mental controls, the vibrating embouchure, breathing, articulating, and practicing and performing. The book presents objective information and is deftly supported and well-presented. This book will be useful in my research because it provides detailed information on Jacobs's knowledge of the physical component to brass playing, and could be used as a counter argument to my thesis, as he did devote a significant amount of time to discussing how the body actually works. However, it is my aim to show that his teachings on mental concepts were paramount to his physiological research and that they were meant to override knowledge of the physical in both practice and performance.

Sartre, Jean-Paul. "Existentialism is a Humanism." In *The Age of Analysis*, edited by Morton White, 116-135. New York: The New American Library, 1955. Originally published as "*L'existentialisme est un humanisme*." Paris: Editions Nagel, 1946.

This essay is a key work of the Existentialist movement, and describes Sartre's beliefs on the topics of human nature and free will. In the essay, Sartre explains the concept that "existence precedes essence" and also devotes a section to explaining the opposite belief that "essence precedes existence." The essay is a philosophical work and presents Sartre's opinion, and therefore relates a highly subjective view. This work is essential to my thesis because it proposes the philosophical question on which my thesis is based.

Scarlett, William. "Arnold Jacobs- 'Breathe Like a Baby, Play Like an Angel.'" *International Trumpet Guild Journal* 23, no. 4 (May 1999): 17-23.

Sweeney, Leslie. *Teaching Techniques for the Brasses*. Rockville Centre, L.I., NY: Belwin Inc., 1953.

van Inwagen, Peter. "Metaphysics," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta. <http://plato.stanford.edu/archives/fall2008/entries/metaphysics/> (Accessed [01 December 2009]).

This reference article provides an effective review of the philosophical area of metaphysics, with sections on the origin of the word "metaphysics" and its concepts, questions associated with the "old" metaphysics, concerns of the "new" metaphysics, and the general nature of the movement. The article is an impartial summation of how the term "metaphysics" is applied to philosophical questions. The entry provides background information to my study of philosophy as it relates to brass playing, as the idea that "essence precedes existence" is attributed to the Metaphysical movement.