

PIPES OF THE PAST: REGISTRATION PRACTICES OF SELECTED COMPOSERS
FOR THE AMERICAN CENTENNIAL ERA ORGAN

By

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Abstract

American organ music prior to the twentieth century is a somewhat neglected area of organ study due to biases of early-twentieth-century academia. This lecture seeks to better familiarize the audience with a small section of that neglected study by examining the relationship between the organs, composers, and compositions of the Centennial era (ca. 1870–1900) through the lens of organ registration. This particular period of nineteenth-century American music became the era when American composers developed a quintessentially American culture around the organ—a culture which would provide the foundation for much of what came after it. By examining this period and its contributions, we gain a better understanding of later musical developments in the organ world and an appreciation for what came before.

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Table of Contents

Abstract	iii
Acknowledgements	iv
Introduction	1
A Brief History of American Organ Culture up to the Mid-Nineteenth Century	2
The American Centennial Era Organ	4
Registration According to the Manuals, Writings, and Compositions of the Selected Composers Dudley Buck, George E. Whiting, and Everett E. Truette	9
Conclusion	25
Bibliography	26

Introduction

One of the lesser explored areas of organ literature and design is that of the nineteenth-century United States. Organ culture in the United States developed differently than in Europe and Great Britain, as recitals, large instruments, and concert organists did not become common until the last quarter of the nineteenth century. Due to America's late entry into the world of organ performance, building, and composition, as well as its perceived lack of quality in those fields until the twentieth century, there has not been a great deal of detailed, focused work on the connections between organ building, composition, and registration technique in the late nineteenth century—the era when American composers began to develop a quintessentially American organ culture. As the United States was a nation of immigrants, American organ culture resulted from a synthesis of foreign ideas which were brought to the country through immigration, importation, and Americans who returned from traveling abroad. This lecture recital is intended to make a small contribution to the understanding of late-nineteenth-century American organ culture by examining the relationship between the organs of the Centennial era (ca. 1870–1900) and registration practices found in compositions and writings by selected composers of the period.

A number of American academics and musicians, including Barbara Owen, Rollin Smith, and Christopher Marks, have already done some research into nineteenth-century American organ music and written a number of journal articles and books on the topic. Several organizations such as the Organ Historical Society and related internet databases also abound with information about the organs themselves,¹ and a 1977 dissertation by Margaret Anderson examines the role that organ instruction books played in nineteenth-century American organ teaching.²

By examining the aforementioned sources along with primary source materials such as musical scores, books, and writings about organ playing by composers Dudley Buck, Everett E. Truette, and

¹ *OHS Pipe Organ Database*, Organ Historical Society, Accessed January 27, 2019. <<https://pipeorgandatabase.org/>>

² Margaret Sihler Anderson, "The Organ Without a Master: A Survey of Nineteenth-Century Organ Instruction Books in the United States," (Ph.D. diss: University of Minnesota, 1977).

George E. Whiting, this lecture will attempt to explore the presumed relationship between registration, composition, and organ design in the Centennial period

A Brief History of American Organ Culture up to the Mid-Nineteenth Century

Organ culture in the United States is a considerably newer and more independent phenomenon than its counterparts in Europe and Great Britain. The majority of the country's earliest instruments were imported from abroad, and the few early organs that did find homes in the US were generally in the Anglican churches of the major cities and in the Lutheran and Reformed churches of colonial Pennsylvania. These early organs were mostly small instruments with single manuals, divided stops, and limited compass, often with no pedal-board. By the mid-eighteenth century, America was importing larger instruments though there were organ builders in major cities such as Boston and New York. The imports were primarily from England, meaning that the English style of organ building had the greatest influence over American builders for the next hundred years. After the Embargo Act of 1807 and the War of 1812, subsequent tariffs such as the Tariff of 1816 limited the ability of foreign organ builders to export to the United States. Due to the tariffs and other economic protections, American organ builders became more independent and less influenced by the changing tastes of Britain and Europe. Most American organs built through the early-nineteenth century would have a similar specification to the English organs that were imported in earlier decades even as the English moved in a different direction in regard to organ building.

It is important to note, however, that by the early nineteenth century the basic three-manual design found on the medium to large English and American instruments began to become consolidated into a more compact two-manual design now common in most American churches, the two divisions are the Swell and the Great. The Choir division was primarily incorporated into the Swell division and therefore increased the Swell compass from roughly half-compass to a full compass of approximately 58 to 61 notes. Furthermore, the use of the pedal division in the nineteenth century became more common, though only the largest American organs featured more than a smattering of 16' and 8' flue stops in the pedal. This lack of pedal stops usually necessitated coupling from the other divisions. As the nineteenth

century progressed, different pipe scaling and new stop combinations gradually created a new American style of organ.³

Despite these changes, the music composed for the early American organs was limited at best. Colonial American organ music was primarily accompanimental in nature, as the organ's principal functions were either to lead congregational song or accompany choirs. There was little improvement in organ literature of the early nineteenth century in terms of quality or quantity, with a just a few variation sets and voluntaries by composers such as English immigrant Raynor Taylor, important hymn compiler Oliver Holden, and well-known teacher of keyboard and singing, Benjamin Carr. Like their English and continental European counterparts, American church organists routinely improvised all parts of the service that were not accompanimental.⁴ Secular uses of the organ were few and the music played on chamber organs was the same as for other domestic keyboard instruments like the harpsichord or piano. Organs were occasionally found in concert halls, but their function, too, was largely accompanimental. Not until the mid nineteenth century did anything resembling an organ recital come into being in America.

After the 1860s, a rise of professionalism in American music resulted in the growth of conservatory training. Foreign influences and new musical ideals then filtered into the organ world, demanding changes to the way American organs were built and to the music that was composed for them. American composers such as Dudley Buck, John Knowles Paine, and Whitney Eugene Thayer studied overseas in England, Germany, and or France and brought that knowledge home. These foreign exchanges stimulated the creation of more academic compositions such as organ sonatas, complex theme and variation sets, well-crafted preludes, postludes, and interludes for the church service, as well as fugues. The development of the American organ recital coincided with these developments in composition, and at a time when an increasing number of organs were being built in the United States.

³ Scaling is the ratio of an organ pipe's diameter to its length. The scaling of a pipe is a major influence on its timbre and generally speaking, the larger the diameter of a given pipe at a given pitch, the fuller and more fundamental the sound becomes.

⁴ Barbara Owen, Liner notes to *Nineteenth-century American concert organ music by Dudley Buck, W. Eugene Thayer, Horatio Parker, John Knowles Paine, and George E. Whiting*. (Richard Morris. New World Records 80280. CD, 1994).

The American Centennial Era Organ

In 1863, a monumental instrument was installed in the Boston Music Hall by the German organ builder Eberhard Frederick Walcker. This German organ was the largest instrument in the country at the time. It was built in the romantic, symphonic style becoming common in Germany at the time, which featured a large number of flue stops with varying timbres and a grand orchestral sound similar in effect, but not necessarily in tonal design, to the work of prestigious French organ builder Aristide Cavaillé-Coll. Aside from the obvious German design, the organ also featured English, and French influences at the behest of the president of the Boston Music Hall Association. American organ builders quickly took cues from the new Walcker organ as well as from other European models as they continued to develop their own designs. From the 1860s through the end of the century, American organs evolved in tonal, mechanical, and visual design, gradually taking on different characteristics in each decade.⁵ In large part, as a result of incorporating traits and elements from different building traditions throughout the Centennial period, American instruments became both more eclectic and more “American.”

While European influences resulted in the inclusion of new stops and stop names from abroad, American builders also developed their own stops and stop names. Furthermore, this combination of American ideas and European influences led to changes in the way American builders designed and constructed their own pipes. They began to emphasize the fundamental, particularly in the diapasons and flutes, initiating a trend in American organ building that would last until the beginning of the twentieth century. Wider scaling, increased wind pressures, and pipe nicking resulted in louder, more fundamental sounds from these pipes. The Hook & Hastings firm was among the more conservative builders in this regard during the Centennial era, as they retained traditional scales and voicing for a longer time than did many of their competitors, generating a bright sound that was similar to their instruments from earlier decades. Even though the basic chorus stops were moving in the direction of larger scales and a more fundamental sound, strings and reeds were built with other tonal goals in mind. String stops were

⁵ James H. Cook, “Hook and Hastings Organs after 1860,” *Birmingham-Southern College*. Accessed October 25, 2018. < <http://faculty.bsc.edu/jhcook/orghist/history/hist072.html> >

designed with smaller scales in an effort to produce a higher overtone to fundamental ratio, and thus generated more penetrating sounds based on the French *gambe* rather than the older, gentler German and English viols. American builders made a variety of string stops, most of which were meant to imitate more closely the sound of orchestral instruments. Reeds, too, were made to more closely imitate the sounds of their orchestral counterparts, and some of them were aptly named to reflect this imitation, such as the "Orchestral Oboe."⁶

A golden age of American organ building in the 19th century occurs in the 1870s. During this decade there is a balance in design between the more classical-oriented organ tone of previous decades and the orchestral model introduced by Europeans in the 1860s. The classical pipe scaling, featuring bright principal choruses, balanced mixtures, and warm chorus reeds was blended with ideas of the late 19th-century orchestral sound: for example, large-scaled principals and flutes, piercing strings, and boisterous reeds. This results in a stylistically American organ with an assertive sound that is incredibly versatile for both organ and choral repertoire. In addition, new technologies such as the water engine, the double-action combination pedal, and the crescendo pedal, as well as improvements to the pneumatic assist (Barker levers) made these organs increasingly easy to play. Unfortunately, this time of perfect synthesis between styles would not last long. However, it does provide an important lens through which we can examine the possibilities for registration that are inherent in this fleeting tonal ideal.

For the purpose of this discussion, I have selected two organs to use as exemplars. The first was constructed for the American Centennial Exposition of 1876 in Philadelphia by the undisputed leader in American organ building at the time, E. & G.G. Hook and Hastings. The exposition featured both the Hook and Hastings instrument as well as a large contribution by the Hilborne L. Roosevelt organ company (and smaller instruments by other builders), accompanied by recitals and technical demonstrations.⁷ The 1876 Hook and Hastings contribution, Opus 828, known as the "Centennial Organ"

⁶ Ibid.

⁷ This exhibition was similar to the 1878 World Exposition in Paris where renowned French organ builders such as Cavaillé-Coll would show off their instruments in venues such as the Trocadero Palace.

was, and still is, a large-instrument with three manuals and pedal originally featuring forty-seven stops. The organ was, in comparison to the Roosevelt, a more conservative instrument, containing little in the way of experimental technologies or surprising innovations (see Figure 1 below).

Figure 1:⁸
Specification of the E. & G.G. Hook and Hastings, Op. 828, 1876
Centennial Exposition

Great	Swell	Mechanicals
16' Open Diapason	16' Bourdon	Swell Tremulant
8' Open Diapason	8' Open Diapason	Great to Pedal Reversible
8' Doppel Flöte	8' Viola	Full Organ Crescendo
8' Gamba	8' Stopped	
6' Quinte	8' Quintadena	Couplers
4' Flute Harmonique	4' Flauto Traverso	Swell to Great
4' Octave	4' Violina	Choir to Great
2 ² / ₃ ' Twelfth	Cornet III	Solo to Great
2' Fifteenth	8' Cornopean	Swell to Choir
Cornet III	8' Oboe	Great to Pedal
Mixture IV	8' Vox Humana	Swell to Pedal
16' Trumpet		Choir to Pedal
8' Trumpet	Solo*	Solo to Pedal
4' Clarion	8' Stentorphon	Choir Sub Octaves
	8' Tuba Mirabilis	Solo Super Octaves
Choir	Pedal	Great Separation
8' Geigen Principal	32' Bourdon	Combination Pedals
8' Dulciana	16' Open Diapason	Great Forte
8' Melodia	16' Violone	Great Mezzo
8' Rohr Flöte	16' Bell Gamba	Great Piano
4' Flute d'Amour	16' Bourdon**	Swell Forte
4' Fugara	12' Quinte**	Swell Piano
2' Piccolo	8' Violoncello**	Choir Forte
8' Clarinet	8' Octave**	Choir Piano
8' Vox Angelica	4' Super Octave**	
	16' Trombone	
	8' Trumpet**	

*Solo division does not have its own manual and is located on its own high-pressure chest in front of the swell box.

**Stops mechanically derived from the basic five pedal stops

It did, however, employ unification of certain stops in the pedal division, likely to save space. Five pedal ranks yielded six additional stops by virtue of pneumatically operated motors that opened pallets on the

⁸ William T. Van Pelt, *The Hook Opus List (1829–1916), in Facsimile with a Compiled List of Organs (1916–1935) and Facsimiles of Promotional Publications*. (Richmond: Organ Historical Society, 1991), 158.

appropriate intervals above the foundation when a key was depressed. As far as tonal quality, the instrument featured the transitional style between bright, lyric transparency of the 1860s and earlier decades, and the dull solemnity of the 1880s, speaking with a somewhat French accent, in that the reeds and strings were voiced more like their French counterparts.⁹ After winning first prize, the instrument was purchased by St. Joseph's Cathedral in Buffalo, NY in 1877 for \$10,000. It has remained there ever since, although it has undergone several changes, including electrification, the construction of a new console, and minor tonal alterations. In the early 2000s, the Andover Organ Company completed a restoration of the instrument that included another new console, and the addition of a few stops, as well as restoration of older stops which were damaged by previous rebuilds. This organ is one of the best examples of a moderately large organ from the golden age of nineteenth-century American organ building.

While most of the selected composers for this lecture worked with larger, three-manual instruments of similar stature to the Hook and Hastings Centennial Organ, the second exemplar of organs of this era is considerably smaller than the large organs located in the centennial exposition or city music halls. The instrument found at Rainbow Mennonite Church in Kansas City, KS, the E. & G.G. Hook Op. 488, is a much better representative of the organs that the majority of American organists and American churches would have experienced during the Centennial era. It is a two-manual, sixteen-stop organ built in 1869, two years before Frank Hastings became a full partner with the Hooks. At the time, most churches did not have the space or resources for the large, expensive organs found in music halls, cathedrals, or at national expositions. Indeed, most churches had one or two-manual instruments with less than thirty stops. The Hook organ company had a number of standardized designs from which to choose, from small single-manual instruments with just a few stops up to medium-sized church organs such as Opus 488.¹⁰ These standardized designs were easier and quicker to construct but still featured the same quality workmanship which went into the larger instruments. This particular organ was originally built for

⁹ Barbara Owen, *The Organ in New England*. (Raleigh: Sunbury Press, 1979), 324-326.

¹⁰ Van Pelt, *The Hook Opus List*, 169-181.

Woodside Presbyterian Church in Troy, NY and served that congregation for over 100 years before it was rescued by Rainbow Mennonite Church. Its original specification can be found in Figure 2.

**Figure 2:
Specification of the E. & G.G. Hook, Op. 488, 1869**

Great	Swell	Pedal	Combination Pedals**
16' Bourdon	8' Open Diapason	16' Sub Bass	Great Forte
8' Open Diapason	8' Keraulophon	8' Flote	Great Piano
8' Dulciana (TC)	8' St. Diapason Bass		
8' St. Diapason Bass	8' St. Diapason (TC)	Couplers	Accessories
8' Melodia	4' Harmonic Flute	Swell to Pedal	Swell Tremulant
4' Octave	4' Violina	Great to Pedal	Ratchet Swell Pedal with
2' Fifteenth	8' Bassoon (Bass)	Swell to Great	hitch downs*
Mixture II	8' Oboe (TC)		Bellows Signal
8' Trumpet			

*Ratchet Swell Pedal replaced with Balanced Swell Pedal in 1967 by Andover Organ Co.

** Combination Pedals removed in 1967 with Ratchet Swell Pedal

In 1967, the Andover Organ Company removed the two presumably single-action combination pedals (though part of the mechanism remains inside the instrument) when it replaced the ratchet swell pedal with a balanced swell pedal.¹¹ When the Woodside church closed in 2003, ownership of the organ was transferred to the Albany Presbytery, who proceeded to sell it to Rainbow Mennonite in 2004.¹² Following its removal from Woodside Presbyterian, the organ underwent a restoration by Richard Hamar, an expert in mechanical-action instruments, with the assistance of Quimby Pipe Organs and the Rainbow Mennonite congregation.¹³ Aside from the aforementioned changes the organ has retained practically the same disposition and character that it had when it was first installed in 1869. Tonally, the instrument features the bright diapason chorus that one would expect from a Hook organ prior to the late 1870s, though in this instrument the scaling of the 4' and 2' is slightly smaller, resulting in more balanced upper work. The reeds are of excellent speaking quality and work well with accompanimental stop registrations. The organ is in excellent condition thanks to the care of Dr. Roseann Penner Kaufman and the Rainbow

¹¹ "OHS Database: Instrument Details - Woodside Presbyterian Church 1869," *OHS Pipe Organ Database*, Organ Historical Society, Accessed March 3, 2019. <<https://pipeorgandatabase.org/OrganDetails.php?OrganID=6646>>

¹² Ibid.

¹³ *Rainbow Mennonite Church. 1869 Hook Mechanical Action Organ.* (Kansas City, KS: Rainbow Mennonite Church, 2009).

Mennonite congregation. Hopefully, it will continue to provide music as well as a window into American Organ history for years to come.



Figure 3. Photo of the Centennial Organ, Op. 828



Figure 4. Photo of the Hook Op. 488

Registration According to the Manuals, Writings, and Compositions of the Selected Composers Dudley Buck, George E. Whiting, and Everett Truette

While America was fortunate to have a number of professional organists and composers, most organ playing was done by enthusiastic amateurs in small churches throughout the country. In order to facilitate the development of skills in American church music, specifically organ playing, professionals of varied expertise wrote a number of playing manuals and organ instruction books known as tutors to help amateurs teach themselves. A majority of these books were designed specifically for teaching technique at the reed organ as that instrument was more accessible for churches and private homes, particularly on

the western frontier.¹⁴ Despite the focus on the reed organ, a number of pipe organ instruction texts were written by important American composers such as John Zundel, Whitney Eugene Thayer, and our selected composers Dudley Buck, George E. Whiting, and Everett E. Truette.

General Principles of Registration

In the 1868 publication *The Organist*, George E. Whiting and Lucien H. Southard define registration as “the art of so using and combining the various qualities and timbres of organ-tone so as to give expression and variety of effects.”¹⁵ Dudley Buck and Everett Truette both describe it similarly in their own texts discussing registration, focusing on the combination of different stops to create different musical textures and dynamics. One of the first principles of registration that all of the selected composers seem to agree on (along with the aforementioned John Zundel) is the predominance of the 8-foot tone. In his 1877 *Illustrations in Choir Accompaniment with Hints in Registration*, Dudley Buck states:

We deduce as a fundamental principle, both in accompaniment and in the use of the organ as a solo-instrument, the predominance of the eight-foot-tone as being in unison with the voice. The violation of this principle more frequently leads to bad combinations...[and] the selection of unsuitable qualities of tone for a given piece. The stops of high pitch are comparatively valueless in accompaniment unless they rest upon the eight-foot tone as a foundation.¹⁶

In his 1887 *Organ Accompaniment and Extempore Playing*, Whiting, too, specifically states: “Pupils should remember that the 8 ft. tone should usually predominate over stops of any other pitch.”¹⁷

The second general principle builds directly on the foundation of the first: in combining stops, one must first begin with the softer and lower-pitched registers before proceeding to the louder and higher pitched stops, increasing the number and pitch of stops with the indicated dynamic markings. This seems to correspond to the nineteenth-century German style of registration, which is likely, given that many late-nineteenth-century American organists, including the selected composers, studied in Germany. In his

¹⁴ Anderson, “The Organ without a Master,” 5.

¹⁵ Lucien. H. Southard & George E. Whiting, *The Organist*. (Boston: Ditson & Co., 1868), 3.

¹⁶ Dudley Buck, *Illustrations in Choir Accompaniment with Hints in Registration*. (New York: G. Schirmer, 1880), 6.

¹⁷ George E. Whiting, *Organ Accompaniment and Extempore Playing*. (Boston: New England Conservatory of Music, 1887), 42.

Twenty Preludes, Postludes, Etc. for the Organ, Op. 27, Whiting describes specific stop combinations that result in dynamics from *ppp* to *fff* (see Figure 5 below).¹⁸

Figure 5. George E. Whiting, Introduction to *Twenty Preludes, Postludes, Etc. for the Organ*, Op. 27.

INTRODUCTION.

These pieces are intended to follow the work known to my students and others, as Whiting's 1st Studies; the *Pedal-part* in these new studies being much fuller, and consequently of more difficulty. The following registration should be used in performing these pieces, except where especial effects are indicated in the music:

Great Manual.

ppp The softest register in the manual—Dulciana, or Dulciana and 4 ft. Flute. (The stop^d Diap. should not be used for "chorus playing" that is, when both hands are on the lower part of the keyboard.)

p The Gemshorn or a very soft *open* Flute (Melodia, Clarabella, or Doppel Flute—the Höhl Flute should be classed with the stop^d Diap.)

mp The Gamba ("Bell Gamba") and stop^d Diap., or Gamba stop^d Diap. and 4 ft. Flute.

mf All the 8 feet stops except Gamba and Reeds.

f All the 8 and 4 ft. except Reeds— and perhaps to 12th & 15th when the organ is softly voiced.

ff The Full Gt. without Reeds, or in some cases the Full Gt. including Reeds without mixtures.

fff The Full Organ.

The 16 ft. manual stops (Bourdon, Double Diap., Double Trumpet &c.) are not to be used unless they are mentioned in the music, except in the *ff* or *fff* effects.

In the Pedal part 16 and 8 ft. stops are always intended to be used (the 8 ft. either by coupling to the manuals, or by an independent Ped. stop) except where marked "8 ft." or by the name of some 8 ft. Ped. register. The 16 ft. Ped. should usually be either a Bourdon or a Double Dulciana.

Swell Manual.

ppp The softest 8 ft. register—Viol d Gamba, (Dulciana) or Viol d Gamba and one soft 4 ft. stop (Violin or 4 ft. Flute.)

pp Open and stop^d Diaps., or Oboe (Hautboy) and 4 ft. Flute, or Oboe alone.

p The same as the last, with the Swell box slightly opened.

mp Cornopean (Trumpet) and stop^d Diap., or open Diap. and octave.

mf The "Full Swell." (closed.)

Note: In performing these pieces on Organs with but two manuals, the "Choir" effects will be produced on the Great manual; sometimes, however, on the Swell, in the latter case the swell box should be slightly opened.

The registration for the *Choir Manual*, is indicated in the music.

¹⁸ George E. Whiting, *Twenty Preludes, Postludes, etc. for the Organ*. Op. 27. Bk. 1., (Boston: Arthur P. Schmidt Co., 1877).

Truette explores this idea of stops matching dynamic markings most extensively in his book, aptly titled *Organ Registration*. Truette dedicates four pages to an “Explanation of the Most Common Registration Indications” which are often related to combination pedals on what, in his time, would have been older organs. Truette describes a vast array of dynamic levels and the associated combinations all the way from “Full Organ” down to the pianissimo swell.¹⁹

Dudley Buck discusses the addition and subtraction of stops as a means of creating dynamics by specifically describing the relationship of stops to a crescendo or diminuendo, when not simply using the swell pedal. He describes this effect as a “stop-crescendo” (or diminuendo) and outlines the addition (and/or subtraction) of stops in the following passage:

When, however, the problem proposed is to produce *as gradual* a crescendo or diminuendo as possible, and when this is to be accomplished without the aid of the Swell Organ, but by changes of registration, it is well to observe the following principles: If we begin with a *piano* or *pianissimo* of the Great Organ—say the Stopped Diapason and Dulciana—it will be found that the latter stop may be added to the former with a less radical change of power and quality than if the order be inverted. The Open Diapason, eight feet, should not be added next. It is too powerful and radical in quality. If there is another stop of eight-foot flute-tone it should enter here. Then the Gamba or Salicional, which assimilates naturally with the stops already drawn, while it lends new power and pungency to the combination. Next the Flute of four feet. By this time a *mezzo-forte* power has been obtained, and the Open Diapason, being now added, is partially covered, and the radical character which would otherwise mark its entrance blended into that of general crescendo. The pupil should test this principle carefully, carrying it up to the use of the Full Organ with the manuals coupled. He will therein ascertain that the most even crescendo is obtained by selection of stops from the different manuals at the outset, and not by gradually drawing all the stops of one manual and then proceeding to the next.²⁰

Buck does note, however, that smaller instruments may be unable to produce the effect as described, and that it may result in the more “radical” effects that he was attempting to avoid.

These first two principles of registration are exemplified by many of the selected composers’ organ compositions. With only a few exceptions, almost all of their works have registrations based on an 8-foot foundation as seen in Figures 6 and 7 (below).

¹⁹ Everett E. Truette, *Organ Registration*. (Boston: C.W. Thompson and Company, 1919), 110-113.

²⁰ Buck, *Illustrations in Choir*, 23-24.

Figure 6. Dudley Buck, *Sonata No. 2, Op. 77, First Movement, Opening Registration Markings.*²¹

SONATA. (N^o 2.)

DUDLEY BUCK. Op. 77.

I.

REGISTRATION. { **GREAT:** Full —(coupled to Swell *ad lib.*)
SWELL: 8 and 4ft. with Reeds 8ft.
CHOIR: 8 and 4ft. without Reeds.
PEDAL: *ff* coupled to Great and Swell.

The Registration throughout this work, is intended as suggestive rather than obligatory.

Figure 7. Everett E. Truette, "Adagio" from *Five Interludes*, Opening registration with single 8-foots in the manuals.²²

Adagio.

Sw. Viola 8 Ft.

Gt. (or Ch.) Melodia.

Ped. Bourdon 16 Ft.
Gt. to Ped.

Buck, Whiting, and Truette's works feature registration with a wide range of dynamics, from very soft to very loud, exemplifying the use of everything from quiet 8-foot stops to full registration with mixtures and reeds. Truette's interludes often begin with a single 8-foot stop as shown, and Whiting's Opus 53 *Postlude* begins at a *forte* registration involving the 8' and 4' stops on the Great and the full Swell ending with full organ. This corresponds to the introduction from his *Twenty Preludes, etc.* where he discusses the composition of stops to build a certain dynamic level. The second movement of Dudley Buck's second sonata, Opus 77, is also a fine example. It demonstrates the crescendo/diminuendo via the addition and subtraction of stops, as seen in Figure 8.

²¹ Dudley Buck, *Sonata No 2. Op. 77, 1st ed.* (New York: G. Schirmer, 1877, Facsimile reprint ed., Wayne Leupold Editions, Inc., 2004), 27.

²² Everett E. Truette, "Adagio (I)" in *Five Interludes*. (Boston: Everett E. Truette, 1893).

Figure 8. Dudley Buck, *Sonata No. 2, Op. 77, Second Movement, m. 38-42, Reduction to piano via Stop-Diminuendo.*²³



A third general principle of registration for these composers is the combination of flutes with stops of other qualities in order to reinforce and/or change the character of certain combinations. In *The Organist*, Whiting and Southard state “The tone which is considered next in importance [to that of the aforementioned diapason] is the Flute-tone.”²⁴ They go on to say: “The Bourdon should give the liquid, fluty tone, and is useful in aiding the fullness and richness of all loud combinations, besides being invaluable as assistant to solo reed stops, and to reinforce, without smothering, the Gamba- tone stops.”²⁵ Dudley Buck also mentions the idea of pairing the flutes with other qualities of stops, calling them “one of the most valuable subdivisions of the instrument” which can be used to soften the diapason (or a string) and or to increase the fullness of the overall tone, giving it a “velvety quality.”²⁶ Buck goes on to describe the common practice of adding a flute or stopped diapason to a reed to support it, though he remarks that modern reeds do not necessarily need it. Truette expands on this idea in the early twentieth century. He discusses the use of flutes with reeds in his book *Organ Registration* as follows:

Many of the old-style reed-tone stops are so coarse in tone-quality, and so uncertain in speech and pitch, that it is frequently necessary to use an 8 ft. Flute-tone stop with the

²³ Buck, *Sonata No. 2*, 36.

²⁴ Southard & Whiting, *The Organist*, 4.

²⁵ *Ibid.*

²⁶ Buck, *Illustrations in Choir*, 10-11.

reed-tone stop...Most modern reed-tone stops are practically free from these shortcomings, and do not require the assistance of 8 ft. Flute-tone stops.²⁷

Exactly what vintage of organ Truette is referencing when he speaks about “old-style” reeds is unclear but given Buck's similar description of newer reed stops in 1877, we can assume that he is referring to organs built before the 1870s. In chapter ten of his book, Truette further discusses numerous combinations of flute stops with other families of stops, commenting on everything from flute and string combinations to full chorus combinations.

Unlike the first two principles, the compositions of each of the aforementioned writers do not firmly match their written opinions regarding this flute combination principle. In Truette's case, it is interesting to find a registration marking specifically calling for a reed to be paired with a flute. This does not correspond to his comments that modern reeds do not require this pairing. In his 1896 *Offertoire*, Op. 19, there is a middle lyric section calling for the oboe to be combined with a stopped diapason and even a 4' flute (see Figure 9 below).

Figure 9. Everett E. Truette, *Offertoire*, Op. 19, Oboe/flutes combination.²⁸

The image shows a musical score for three staves. The top staff is labeled "Melodia in Ch" and "Meno mosso." It contains a melodic line with a slur over a group of notes. The middle staff is labeled "Sw. Oboe, St Diap. Flute 4 ft & Trem." and contains a melodic line with a slur. The bottom staff is labeled "(Coup.off)" and "16 ft p" and contains a melodic line with a slur. The score is in a key with three flats and a common time signature.

It is possible that at the time of the publication of the *Offertoire*, Op. 19, Truette was working with the earlier instrument at Eliot Congregational or that he had not fully developed his opinions yet. On the other hand, despite writing about pairing reeds with flutes, Whiting often calls for just a single reed to be used without an accompanying flute. For example, in his *24 Progressive Studies for the Organ*, the fourth

²⁷ Truette, *Organ Registration*, 96.

²⁸ Everett E. Truette, *Offertoire*, Op. 19. (Boston: J.B. Millet Company, 1896), 3.

study features the use of the Vox Humana by itself, unaccompanied by a stopped diapason.²⁹ Granted, most of the examples of singular reed use are at the end of the Centennial period, if not beyond its scope, so perhaps organists were adjusting to the “new-style” reeds. Even modern organists, however, still occasionally maintain the practice of pairing a flute stop with a reed, usually for reinforcement or tone color purposes.

The fourth principle of registration of the late nineteenth century seems to be the use of the swell pedal to provide the best variances in dynamic quality either beyond, or in conjunction with, the aforementioned stop crescendo or diminuendo. All three of the selected composers put great stock in the use of the swell for “expressive effect.” Dudley Buck devotes an entire chapter of his book to the Swell Organ, where he remarks that such effects are only attainable on other divisions through the addition or withdrawal of stops, which can result in “certain abruptness of effect,” as well as the necessity of removing a hand from the manual.³⁰ Buck argues that, essentially, the swell pedal allows an organist to change the voicing and volume of a stop or group of stops by opening or closing the swell shades and leaving them at a certain level. He notes that this is only the case with the newer ratchet and balanced swells, whereas in the older systems the shades were either all the way open or all the way shut unless the organist’s foot remained upon the pedal, a situation which Buck found to be intolerable, especially in light of the need for pedal playing. Buck pays considerable attention to how the swell can be used in combination with the drawing of stops. He describes the use of the swell to create a “balance in crescendo” whereby the organist slightly closes the box as additional stops are drawn and gradually opens the box over the period where a stop crescendo is created.³¹ Buck subsequently describes the reverse of this function in relation to the diminuendo and, later in the text, he further warns the pupil of possible misuse of the swell pedal, stating:

The expressive use of the Swell is liable to one very common abuse, which may best be expressed by the common term “sawing upon the Swell Pedal.” When inexperienced players find their right foot upon this pedal, something seems to prompt them to keep it

²⁹ George E. Whiting, *24 Progressives Studies for the Pipe Organ*. (Philadelphia: Theodore Presser, 1908), 11.

³⁰ *Ibid.*

³¹ Buck, *Illustrations in Choir*, 34.

constantly in motion. The result is, of course, a monotonous < > [crescendo/diminuendo mark] generally aggravated by a series of little jerks, wholly unrelated to the natural expression which the phrase may require.³²

George Whiting describes the swell pedal in his book as:

the most effective way to obtain crescendo and diminuendo on the organ...In fact this is the *only* perfect crescendo to be had on the organ, the so called crescendo made by drawing the registers not being gradual enough, (even with the German crescendo pedal) and too slow in operation to merit being called a real crescendo or diminuendo.³³

Whiting, like Buck, also discusses the older and newer types of swell pedals (the open/closed vs. the ratchet and balanced), going so far as to suggest that organists who are assigned to older organs where the swell can only be fully open or fully closed should have a carpenter construct a makeshift ratchet pedal. He devotes an entire paragraph to explaining how this can be done and notes near the end that, “the expense should not exceed one dollar.”³⁴ Everett Truette is considerably less verbose about the topic of the swell pedal, simply describing that it “must be operated judiciously in connection with [a] crescendo, to avoid the sudden increase of power when some louder stops are first added.”³⁵

The swell pedal is infrequently mentioned in the selected composers’ compositions; however, the use of the crescendo and diminuendo markings without the written addition or subtraction of stops seems to indicate that the opening and closing of the swell division would often be employed. For example, in Truette's “Andante (II)” from *Five Interludes*, there is a large multi-measure crescendo followed by a diminuendo which can only be performed using the swell pedal, since only two stops are drawn (see Figure 10 below). Whiting uses different lengths of dynamic changes as seen in his op. 53 *Postlude* in Figures 11 and 12.

³² Buck, *Illustrations in Choir*, 111.

³³ Whiting, *Organ Accompaniment*, 13.

³⁴ *Ibid*, 41.

³⁵ Truette, *Organ Registration*, 81.

Figure 10. Everett E. Truette, “Andante” from *Five Interludes*, Multi-measure crescendo-diminuendo.³⁶



Figure 11. George E. Whiting, *Postlude*, Op. 53, Crescendo in m. 58-59 to Full Organ.³⁷



Figure 12. Whiting *Postlude*, Multi-measure crescendo involving swell and likely stop-crescendo.³⁸



³⁶ Truette, “Andante (II),” in *Five Interludes*. (Boston: Everett E. Truette, 1893), 1.

³⁷ George E. Whiting, *Postlude*, Op. 53. (Boston: J.B. Millet Company, 1896), 3.

³⁸ Ibid, 5.

Despite the infrequency of mentioning whether or not the swell should be open or closed, Buck does call for the closed swell in his “Choral March” from *Four Tone Pictures* in measures 35-36,³⁹ and Whiting states either “swell closed” or “swell open” in several of his works, including the *Pastorale* from his *First Studies for the Organ* in measures 20 and 68.⁴⁰

“The Exceptional Use of Stops”

Aside from the general principles previously discussed, each of the selected composers has advice and opinions regarding what Dudley Buck termed “The Exceptional Use of Stops”: i.e., doing more than simply playing the notes as written and following the registration markings, but rather, recognizing there is inherent value in experimentation with the convention and methods of playing in order to facilitate the most artistic solutions to musical problems. At the beginning of his book *Illustrations in Choir Accompaniment*, Buck states: “It is the author's conviction that registration, in any complete or elaborate sense, can not [sic] be taught but that it may be learned.” He goes on to say that it may seem paradoxical, but that like in painting, a master may teach a student the basics of using color and shading but that, in order to create his own art, a student must apply general principles as part of the creative process.

Whiting is relatively quiet on the topic of experimentation, and indeed most of his writing seems to indicate that strict general principles are good enough for most students without encouraging them to think outside the box. On the other hand, Truette writes in an almost self-deprecating tone, stating in the preface to his book that his suggestions are an “expression of my personal taste” and that he does not imply they should be accepted without question.⁴¹ Later in his first chapter, Truette, like Buck, compares the organist to the painter, writing, “The young organist should aim to be eclectic in his taste for registration, and should develop some skill as a 'colorist'—one who treats the various tone-colors of the organ somewhat as a painter treats his colors in paint.”⁴² Truette elaborates further on the limits of strict rules for registration by offering that many different personal tastes abound, but that taste should be based

³⁹ Dudley Buck, “Choral March” in *Four Tone Pictures*. (New York: G. Schirmer, 1891), 4.

⁴⁰ George E. Whiting, “*Pastorale (XXIII)*”, in *First Studies for the Organ*, Vol. 2. (Boston: Arthur P. Schmidt Co., 1879), 21.

⁴¹ Truette, *Organ Registration*, v.

⁴² *Ibid.* 9.

on education and standards found within the field. In essence, Truette attempts to impart good practices of registration without creating overly specific rules that might offend a reader's sensibilities.

Aside from general encouragement of organists to experiment following the basic principles previously discussed, and pointing out that almost any stop can be used as a solo stop with the right accompaniment, Buck and Truette also discuss more specific ways to use the stops of the organ, as well as the manner of manipulating said stops to provide important effects which were not covered by their previous discussions on registration.⁴³ One of these “exceptional uses of stops” is transposition of a certain stop to either a higher or lower octave in order use its “‘best range’, where [its] quality is most individual, although [its] compass may extend throughout the keyboard.”⁴⁴ For example, an 8' Melodia can be used as a more powerful solo flute stop in its upper range with greater fullness and less shrillness than the comparable four foot flute stop, and that 4' flute can be used an octave lower to provide a tone of “less fullness but more of greater brightness which may better agree [with accompaniment].”⁴⁵ An excellent example of this principle of transposition is a section of Whiting's *Pastorale* from his *First Studies*. In measure 55 Whiting calls for the use of Great 8 and 4' flutes in the right hand (see Figure 13).⁴⁶ On the Hook Op. 488, there is no 4' flute on the Great and the Swell flute would not be of comparable quality to the Great melodia to perform the melody. One could use the 4' octave, but a second, perhaps more elegant way of solving this problem, is by octave transposition as advocated by Buck. By drawing the 16' bourdon with the 8' melodia and playing the right hand an octave higher, a warm, flute sound is achieved that mimics an 8 & 4' flute registration but lacks the more cutting, shrill quality of the 4' octave.

⁴³ Buck. *Illustrations in Choir*. 78.

⁴⁴ Ibid. 131.

⁴⁵ Ibid. 133.

⁴⁶ Whiting. *Pastorale*. 21.

Figure 13. George E. Whiting, *Pastorale* in *First Studies*, m. 55 Flute Registration.

The image shows a musical score for three staves. The top staff is for the flute, with the instruction "Gt. 8 & 4ft Flutes." and "a tempo." above it. The middle staff is for the organ, with the instruction "Sw Op Diap & Echo Cornet or Mixture" below it. The bottom staff is for the bass line. The music is in 3/4 time and features a melodic line in the flute and a supporting bass line. The registration is indicated by the organ instruction.

Truette, too, discusses the idea of transpositions, but as he was writing later, most of his discussion is in regard to the use of super and sub-couplers which were not as prevalent in the Centennial era. Aside from octave transpositions, Buck and Truette also describe gap registrations omitting the 8' between a 16' and 4' or omitting a 4' between an 8' and 2.' Buck describes the omissions as rare and used only "where a peculiar brilliance of effect is required."⁴⁷

Aside from "exceptional" combinations, the physical manipulation of the stops for the most artistic and efficient means was deemed important enough for each of the selected composers to comment. Buck describes the drawing and withdrawing of stops first by mentioning the use of the combination pedals, stating "Modern organs, even the smaller ones, are usually provided with more or less 'combination pedals' for bringing on and taking off the more powerful stops."⁴⁸ However, despite their convenience, Buck recognizes their limitations as he states they can only make fixed combination changes (at the time) and as such, if an organist wants to make more subtle registration changes for purposes of dynamics or tone color, "...the organist can not [sic] dispense with studies which teach him how to free hands alternately, if it be but for a moment, for the purpose of drawing on or pushing in a

⁴⁷ Buck, *Illustrations in Choir*, 136.

⁴⁸ *Ibid*, 20-21.

register.”⁴⁹ Buck further discusses the adding and subtracting of stops in a manner that does not detract from the music, specifically describing the addition of stops in the aforementioned “stop-crescendo.” He states that:

the whole secret of adding and withdrawing stops properly—namely, [is that] *the stops are added or withdrawn upon the exact rhythmic accent of the piece*. Thus the added tone (by means of the added register) reinforces this natural accent, and the “too much” or “too little,” which the character of the stop itself may produce, is not so keenly felt.⁵⁰

Buck addresses the subtraction of stops in the diminuendo in two ways. First, he states that one can subtract stops on rhythmic accents if the notes remain the same, but that it is permissible to subtract stops on unaccented notes so that weakened accents will receive weakened power. Buck, however, strictly restates that in adding stops the rhythmic accent rule is “invariable.”⁵¹

Truette warns his readers, “Stop changes, during the progress of the music, ought to be made quietly, quickly, easily, and without undue exhibition of effort. Otherwise, much of the beauty of the music is unheard or is forgotten, on account of the distraction caused by the mechanical part of the registration.”⁵² He also discusses the quiet use of the combination pedals, stating, “Old-fashioned combination pedals frequently are noisy, but the noise can generally be minimized by the exercise of a little extra care.”⁵³ Truette, like Buck, discusses the addition and subtraction of stops on important accents or during rests, but also suggests that slight ritardandos are permitted at certain points to facilitate stop changes so long as the player does not add a beat, prolonging the measure.⁵⁴ These guidelines provide the reader with the idea that registration should be as seamless as possible to facilitate not just the music, but also the appearance of facility on the behalf of the performer. Strangely enough, no mention is made to the use of registrants, possibly indicating that this was not a common practice of the period.

⁴⁹ Ibid.

⁵⁰ Buck, *Illustrations in Choir*, 23.

⁵¹ Ibid.

⁵² Truette, *Organ Registration*, 114.

⁵³ Ibid.

⁵⁴ Ibid.

Special Considerations for Centennial Era Instruments

One of the most important registrational aids of instruments from this period (in their original configuration) was the aforementioned combination pedals. Buck, Whiting, and Truette all mention them in some capacity in their writing, and their compositions cannot be played without the use of either registrants or combination pedals on historically configured Centennial era organs. Buck describes their effect as producing, “that of a fixed combination, and, especially in case of small or medium-sized instruments, [it] is decidedly radical in its character—that is, the relative power passes at once from *piano* or *mezzo-piano* to *fortissimo* and *vice versa*.”⁵⁵ Whiting only describes them briefly in his collaboration with Southard, calling them “shifting pedals.”⁵⁶ Truette is the most comprehensive in his examination of combination pedals, devoting chapter six in his book *Organ Registration* to “combination movements.”⁵⁷ He describes six different types in 1919, but makes specific note that only the first three are found in what he terms as “very old organs that have mechanical stop action.” The various types can be seen in Truette’s table in Figure 14.

Figure 14. Everett E. Truette, Table of Combination Pedals from *Organ Registration*.⁵⁸

- COMBINATION PEDALS**
- 1. Fixed combinations, movable, single-acting.**
 - 2. Fixed combinations, movable, double-acting.**
 - 3. Fixed combinations, non-movable, locking down.**
 - 4. Adjustable combinations, non-movable, locking down.**
 - 5. Adjustable combinations, non-movable, mutually-releasing.**
 - 6. Adjustable combinations, movable (double-acting).**

This table indicates the likely combination pedals in use during the Centennial era, and thereby identify how they were employed in registration. Dudley Buck’s second sonata specifically calls for the use of the Great *piano* combination pedal in the third movement in measure 139, reducing the forte dynamic as part of a combined stop and swell pedal diminuendo (See Figure 15 below). Buck also calls for the *piano*

⁵⁵ Buck, *Illustrations in Choir*, 21.

⁵⁶ Anderson, “The Organ Without A Master,” 139.

⁵⁷ Truette, *Organ Registration*, 76.

⁵⁸ *Ibid.*

combination pedal in the fifth variation of his *Variations on a Scotch Air*.⁵⁹ Whiting and Truette are not quite as obvious with their markings, rarely calling specifically for the use of the combination pedals, however, a number of their works feature rapid registration changes which would not be possible on Centennial era organs without the use of the combination pedals, registrants, or both.

Figure 15. Dudley Buck, *Sonata No. 2*, Op. 77, Third Movement, Use of Great Piano Combination Pedal.⁶⁰



Both composers have written numerous compositions, including Whiting's Op. 53 *Postlude* and Truette's Op. 19 *Offertoire*, which feature a rapid change from softer stops to Full Organ where the new dynamic is either marked *fff*, "Full," or "Full Organ." In order to make such a rapid change without an obvious break in the music the *forte* combination pedals would be one of the few options.

Another important consideration for Centennial era instruments is the gradual tonal change that occurred from the 1870s through the early twentieth century. As the tone quality of the organ became gradually fuller, duller, and less brilliant, earlier works demanded different registrations on later organs. Fortunately, modern instruments are generally built with a different, and generally brighter tonal architecture; however, this provides its own problems for rendering works of the Centennial era. In order to best mimic the sound of such instruments, an organist must find a blend of principals, flutes, and strings which match the general chorus combinations of Centennial instruments. Perhaps the best, if not

⁵⁹Dudley Buck, *Variations on a Scotch Air*, Op. 51., 1st ed. (New York: G. Schirmer, 1871. Facsimile reprint ed., Wayne Leupold Editions, Inc., 2004), 75.

⁶⁰Buck, *Sonata No. 2*, 45.

only, way of gaining an understanding of how to do this is to experience the instruments of the late nineteenth century in person and learn to apply the registration principles of that era to the modern age.

Conclusion

It is my hope that this lecture has illuminated an area of organ study which has been somewhat neglected over the years.⁶¹ While there has been some excellent work done in the area of American organ music of the nineteenth century, many scholars and indeed performers still shy away from this music, regarding it as of lesser quality and more parochial than American music of the twentieth century. It is conceivable that this area of organ literature and design of the late-nineteenth-century United States is more important to the development of American organ culture than has previously been considered and that any perceived lack of quality or artfulness of Centennial era American organ music is simply a misunderstanding founded on the idea that quality music cannot cross the gulf between what is popular and what is learned and academic. This examination of late nineteenth-century registration seeks to demonstrate that there was indeed serious thought and development in the music of late-nineteenth-century America, and that the practices of that time have created a foundation which still holds today. By investigating the composers' own words and their compositions, we gain an understanding of our own history and an important piece of development for twentieth and twenty-first century American organs, organ music, and modern registration practice. Furthermore, we can gain insight into how we may approach historical organ registration in the future. It is fitting to end with some words from Dudley Buck on the exploration of organ registration:

If the general principles which govern the matter [of registration] have been well mastered, the search for these...exceptional effects (of which comparatively few have been touched upon here) will bring [a student] suddenly, as it were, to that which so many blindly seek, and therefore do not find—to wit : a competent knowledge of the Art of Registration.⁶²

⁶¹ A more extensive examination of this lecture's subject may be found in Ian Classe's *Gilded Age Organ Music: An Examination of Selected Organs, Composers, and Registration of the American Centennial Era*, Google Docs. Accessed April 10, 2019.

<https://docs.google.com/document/d/16A1AuHqkOAyyYOnyMA0wRtKv6oexzs4us1S_R_KREg>

⁶² Buck, *Illustrations in Choir*, 139.

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