1. NAME OF PROPERTY

Historic Name: Davis-Ferris Organ

Other Name/Site Number: Round Lake Auditorium Organ

Designated a National Historic Landmark by the Secretary of the Interior December 23, 2016.

2. LOCATION

Street & Number: 2 Wesley Avenue Not for publication:

City/Town: Village of Round Lake Vicinity:

State: New York County: Saratoga Code: 091 Zip Code: 12151

3. CLASSIFICATION

Ownership of Property	Category of Property
Private:	Building(s): X
Public-Local: X	District:
Public-State:	Site:
Public-Federal:	Structure:
	Object: X

Number of Resources within Property

Contributing		Noncontributing	
buildings	1	buildings	0
sites	0	sites	0
structures	0	structures	0
objects	1	objects	0
Total	2	Total	0

Number of Contributing Resources Previously Listed in the National Register: _1_

Name of Related Multiple Property Listing:

4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria.

Signature of Certifying Official Date

State or Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

Signature of Commenting or Other Official Date

State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

___ Entered in the National Register
___ Determined eligible for the National Register
___ Determined not eligible for the National Register
___ Removed from the National Register
___ Other (explain): _____

Signature of Keeper Date of Action

6. FUNCTION OR USE

Historic:	Recreation and culture	Sub: auditorium music facility
Current:	Recreation and culture	Sub: auditorium music facility

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: Mid-nineteenth Century: Gothic Revival (organ case)
Late Victorian: Queen Anne/Stick Style (auditorium)

MATERIALS:
Foundation: concrete
Walls: wood, glass
Roof: asphalt
Other: wood, metal, other: leather, ivory (organ)

Describe Present and Historic Physical Appearance.

Constructed in 1847, but moved to the Village of Round Lake, New York in 1888, the Davis-Ferris Organ is located within the building known as the Auditorium on the grounds of the Round Lake Association. The Auditorium was originally built in 1885 as a permanent assembly space for Round Lake Association activities. The Annex was constructed in 1888 specifically to house a pipe organ as part of an expanded musical program at the Methodist Camp Meetings held in Round Lake. Although originally used at these camp meetings, the Davis-Ferris Organ ultimately played a role in the Round Lake Association's transition from an intensely religious purpose to a mostly secular one as it began to adopt the aspects of the Chautauqua Movement.

The Davis-Ferris tracker pipe organ is a large, essentially freestanding instrument measuring approximately twenty-four feet wide, sixteen feet deep and thirty-two feet tall. It consists of a networked set of wood and metal pipes, operated by a mechanical system of wooden trackers, stop levers and rollers, collectively the "action," which is operated from a playing desk at the front consisting of three keyboards, a pedal board and thirty-six manually-pulled stops. The organ is fed by a wind system consisting of an electric blower, located below the organ, and feeding two large wooden and leather bellows, or "reservoirs". The pipes, action, playing desk and wind system are housed in a decorative wooden outer case. The case is nearly free-standing, being only connected to the inner workings of the instrument at the front impost supporting the façade pipes and at isolated points inside to lend support to some of the largest interior pipes.

The Case

The case is executed in the Gothic Revival style. Strong circumstantial evidence suggests it was designed by James Renwick, architect of Calvary Church, located at 277 Park Avenue South, on the corner of East 21st Street in the Gramercy Park neighborhood of Manhattan, New York City, where the organ was originally installed in 1847. The façade clearly reflects the design of the front elevation of Calvary Church. It consists of a main façade that is highly ornamented with Gothic details, and two sides consisting of comparatively plain, solid, recessed paneling in two tiers, secured by a system of stiles and rails joined together with mortise-and-tenon joints. The case has no floor and is completely open on top.

The case is constructed of eastern white pine, which is faux-grained to resemble American black walnut. The graining consists of dark, reddish brown glazes applied over a tan-colored ground coat. The case is punctuated by various ornaments made from cast composition ornament and gilded, as discussed below. As part of the organ's installation in the Round Lake Auditorium in 1888 the entire case, including faux-grained and gilded surfaces, were over-coated with a thick oil varnish. This varnish remains intact today, and exhibits a semi-opaque craquelure from age, giving the organ its distinctive historic patina. The overall finish exhibits minor wear and tear, never having been significantly touched up or repaired.

The façade consists of a large wooden screen arranged in five bays; three main and two secondary, which rest atop a high surbase, and topped by openwork gablets. The façade is flanked on either side by octagonal columns with crenolated capitals, resting on square bases forming the outer corners of the organ case façade. The columns are visually divided into three tiers, each divided by a pointed-gable motif decorated with small crockets. These details are made from carved, gilded wood and cast composition ornament. The columns reduce slightly in diameter at about mid height. This reduction is marked by the second tier of carved and gilded ornament.

The upper portion of the façade, above the surbase and impost, is essentially a large wooden screen constructed from two layers of thick pine planks laminated together, to which decorative details are applied on the exterior. The eaves of the gablets are capped by finials consisting of rows of crockets made of cast and gilded composition ornament applied to wooden backing and pierced in their tympani with quatrefoils. The three

primary gabled bays consist of a primary, central gablet flanked by slightly smaller gablets, are divided by two secondary, much smaller Gothic openwork gablets, also decorated with finials consisting of rows of crockets made from and cast composition ornament pierced by smaller quatrefoils. The two secondary gablets are topped by tall finials consisting of spires decorated with crockets of glided cast composition. A series of six menacing marmosets, each placed upon foliated brackets at the spring of the lancet arches, are made from cast composition and gilded.

The façade is punctuated by five open bays taking the form of pointed-arch lancets. They are organized in three main bays with the largest lancet located at the center and corresponding to their respective gablets above. The three main bays are divided by two smaller bays, also following the secondary openwork gablets above. The lancets are supported by tall, slender, lathe-turned columns and topped by foliated capitals made from gilded cast composition. The arches of each main lancet contain carved and molded wooden tracery. The primary arrisses to the applied moldings forming the gablet eaves and framing the arches, and the carved edges of the fretwork tracery exhibit gilding, creating bright highlights that contrast with the dark faux graining around them. The spandrels within the tracery are decorated with gilded cast composition ornament. These five lancet openings create the openwork screen that frames the façade pipes. The façade pipes are made from zinc sheet metal, originally gilded and now over-painted with gold metallic paint. The pipes are decoratively arranged in symmetrical patterns with the tallest pipes being at the center of each lancet.

The high surbase upon which the system of arches and gables rests is punctuated at the center by the playing desk. The playing desk, containing three keyboards or manuals, the pedal board and pull-stops is recessed within a niche topped by a low, semi-elliptical arch. The spandrels of the arch are decorated with cast composition ornament, gilded and over-varnished. The feet of the arch are decorated with carved wooden tracery. The pull stops are arranged in a symmetrical pattern on either side of the keyboards, within a cruciform design framed by applied, carved ribbon moldings. The faces of the pull stops are finished in polished elephant ivory that is engraved with cursive lettering depicting each of the stop names. A small number of these ivory faces have been lost over the years and replaced with various informal substitutes including paper with hand-written labels. The niche in which the playing desk is recessed is closed when not in use by a pair of paneled doors that slide to each side, retracting behind the paneled façade of the surbase.

The surbase and the Gothic screen framing the façade pipes above are divided by a wide entablature. This entablature continues around the sides of the organ case, dividing the columns at the outer corners of the case between their shafts and plinths, and passing along the sides of the organ case, dividing the decoratively molded surbase of the case sides from their plain, undecorated system of upper panels. The entablature frieze is decorated above the tenia molding with a repeating pattern of grapevines executed in gilded cast composition ornament. The entablature below the tenia molding consists of applied, carved wooden fretwork in the form of demi-quatrefoils with cove-molded edges. The surbase on either side of the playing desk is of frame-and-panel construction. There are four bays of panels to the left and right of the playing desk. The surbase panels are rectangular, vertically oriented, with deeply molded frames, and are decorated at the top with applied fretwork in a tracery design. The surbase rests atop a wide plinth that is decorated along its top edge with a thick cyma molding. This plinth wraps around the corner column bases and continues along the case sides.

The paneled case sides consist of a system of two tiers of vertically-oriented wooden panels, divided by the entablature and resting upon the molded bottom plinth as discussed above. The lower on each side consist of three large, louvered panels. The center panel on the left or west side of the case is set on hinges and acts as a door accessing the organ's interior. The center louvered panel on the east or right side of the case has been replaced with a sheet of modern plywood. This panel was originally the location of the pump lever for the bellows, which passed through the right side of the case. Today, it serves as a second access point for the

interior of the organ. Both doors show evidence of use and repair over time and are currently secured with modern padlocks.

The panels above the entablature are comparatively plain, consisting of nine vertically-oriented, unmolded, flat panels on each side, set within a system of stiles and rails connected by mortise and tenon joints. The case sides are topped by a decorative cornice made from moldings and composition ornament carried through from the eaves of the front façade gablets. The rearmost corners of the cornice and uppermost corners of the rear panels were clearly cut away slightly when the organ was moved and reassembled in the Round Lake Auditorium Annex in order to fit below the roof rafters of the Annex.

Two upper panels, one at the forward end of either side of the case, were pierced at the time the organ was moved and reconstructed in the Auditorium Annex. This was done so that the main horizontal timber and the feet of the struts within the southernmost roof truss of the main auditorium space could pass through the organ case. Today, the main horizontal truss timber lends additional support to the organ's impost. However, settling of the auditorium structure over time has placed downward compression on the organ case. This has caused panels to deflect slightly and the front of the case to bow outward at the point where the entablature marks the division between the façade screen and surbase.

The back of the organ case was originally open, with only upper and lower horizontal support planks to stiffen the case. These planks were cut away when the organ was moved and reinstalled in the Round Lake Auditorium Annex in 1888. The rear wall of the Annex now forms the back of the organ case. Vestigial portions of the cut-away rear support planks remain visible inside the organ case at the rear corners.

The Mechanism (HAER NY-543-A: 35-57)[1]

The pipes in the instrument are arranged in four *divisions*—Great, Choir, Swell, and Pedal—each of which is directly controlled by one of the manuals. Each smaller group of similar-sounding pipes, i.e., each rank, rests on top of a wind chest that supports those pipes and routes air to them as the organist desires. All pipes are vertically oriented, and their feet are held in the wind chests by gravity alone. No fasteners or elastic seals are used at the feet, but many of the longer pipes are loosely secured to the frame with string, which does not dampen the pipes' vibrations but prevents them from falling over.

With a few exceptions, the wind chests and pipes are organized on three levels within the case. The lowest level is just above the floor and consists of a pair of large chests that support the largest pipes of the Pedal division. These chests sit approximately 2' inside the louvered east and west sides of the case. The Pedal pipes on these chests increase in length (decrease in pitch) from the front of the case to the back (north to south), with the longest pipes standing approximately 16' tall.

The middle level, approximately 8' above the floor, contains the chests and pipes of the Great and Choir divisions. The Great division is directly behind the center of the case façade, and its chest is split front to back with a walker board between the two halves. Considered as a whole, these pipes increase in length (height) toward each side with the shortest pipes in the center, an arrangement known as an M layout for its overall appearance. The visible speaking pipes in the case are the largest ones of the Great division. The split chest for them is mounted between the main great chest and the case.[2] Directly behind (south of) the Great pipes is a

[1]Historic American Engineering Record, "Round Lake Auditorium, Organ," October 2010. HAER NY-543-A. pp 31-57

[2] Except for the visible pipe chests whose locations dictate a split chest, it is not clear why the great wind chest was split. While splitting the chest provided excellent access to all of these pipes, it does not appear to be necessary when compared to the maintenance access, or lack of it, furnished for the choir and swell pipes, and no tonal advantage has been identified. Unfortunately, no records exist that identify the basis for Ferris' choice.

transverse walker board and a vertical frame known as a *roller board* for the swell division that allows vertical parts of the key action to be translated from the center of the instrument to both the east and west sides. (Roller boards are discussed in the key action section below.) Two additional roller boards for the Great and Choir divisions are located below the middle-lever walker boards. The organ's Choir division chest and pipes are mounted behind (south of) this roller board. This chest is in one piece. The Choir pipes have an N layout, which is similar to an M layout, except that the shortest pipes are located decidedly toward the west side, giving them an asymmetrical appearance. The largest Choir division pipes are mounted on a separate *toe board* behind the main choir chest, about 4' above the floor. Wind is supplied to the pipes sitting on this toe board through individual ducts known as *conductors* that run from the back of the choir chest down to the pipes. The height of these pipes, which extend up to about 12' above the floor, required this separate toe board arrangement.

The upper level of the frame, approximately 16' above the floor, supports the Swell division directly above the Choir division. Unlike the other divisions, the Swell division chest and pipes are fully contained within a three-ply, wooden Swell enclosure that has movable shutters called *shades* on its north side. These shades, which are hollow and rotate on horizontal axes, are opened, partially closed, or fully closed by the organist using a pedal on the right (west) side of the pedal board, giving him/her some dynamic control over the Swell pipes. The Swell enclosure originally held a second set of shades, but it was removed at some point and these shades are now stored in the blower room. Both sets of shades were once infinitely adjustable using a balanced pedal, but the current arrangement with one set of shades and a pedal having notches for the three positions was installed by the Andover Organ Company in 1997. Tightly fitting doors on the south and east sides of the Swell enclosure provide maintenance access. Within the enclosure, the Swell pipes have an A layout with the longest pipes in the center. The organ's 1867-68 conversion from G compass to C compass required the installation of four additional notes to the high-pitched end of most ranks, including all ranks of the Swell division, a change that necessitated the addition of an extension to the west side of the Swell enclosure. Since these added pipes are among the instrument's shortest, the addition extends only part way up the enclosure's side, and its top panel is hinged to provide access. Adhesive residue on the inside walls is evidence that the Swell enclosure had once been lined with fabric, a once common technique for acoustical insulation, but none is currently present.

Two more ranks of pipes are mounted at approximately this level, but these are Pedal-division pipes, and they are mounted in an A layout on a split chest located directly behind the upper portion of the case façade. The northern portion of a walker board along three sides of the Swell enclosure furnishes access to these pipes as well as the swell pipes.

Division of the Instrument

The physical arrangement of the Davis-Ferris Organ described above was largely determined by the musical organization of the instrument. An organ employs many different styles of pipes to produce its varied sounds, and the designer, Richard Ferris, with the assistance of his partner, William Davis, selected pipe styles for the ranks largely according to the English school of organ building. Like many organ builders, Ferris and Davis sought to achieve an identifiable sound by selecting a unique mix of pipe styles that, when played together, produced a pleasant, yet distinctive timbre.[3] No single rank covers the entire pitch range of the organ, and some ranks speak at different dynamic levels (volumes) than other ranks with similar timbres. All of these qualities

[3] Andover Organ Company files, print-out of email from Matthew Bellochio. June 4, 2004. Everyone altered this original timbre somewhat to suit their own tastes by removing certain ranks of pipes and replacing those ranks with different styles of pipes that spoke the range of pitches desired, but with different timbres. This is not unusual, but rather it was a common practice as tastes change over time.

have to be organized in a convenient and useful manner that allows an organist to combine them in a myriad of ways.[4]

An organ's various ranks are grouped into divisions, each of which is played using an individual manual. The four divisions of the Davis-Ferris Organ each play a certain selection of ranks, and each includes only a portion of the instrument's total pitch range. Except for a few ranks that are designed to sound harmonically, a specific key, say middle C, on any manual will sound only that note or an octave of it, in every selected rank, so the pitch will be uniform, though the combination of timbres can vary widely.[5] There are, however, devices called couplers that allow the keys of one manual to simultaneously actuate the equivalent keys of another division, giving the organist additional sound possibilities, and often simplifying how complex musical passages can be played.[6]

In general, and with no couplers engaged, the organ's lowest notes, i.e., those with the lowest frequency, or pitch, are in the Pedal division. The Great division, the organ's core division, has ranks with a higher range of pitches, while the Choir division consists of ranks with roughly the same pitches but different dynamics or timbres. The Swell division is generally pitched higher; however, all of these divisions overlap to a considerable extent, allowing an organist to play the same musical passage using different manuals to obtain different timbres or dynamic levels. Organists often use the Swell division as a solo voice in contrast to the richer ensemble sound of several ranks from the other divisions speaking together—sometimes through the use of couplers to enable one hand to play the Great and Choir manuals simultaneously while the other hand plays only the Swell manual. This organization of ranks and divisions gives the organist a very wide variety of possible sound combinations to choose from at any time. The Davis-Ferris Organ is somewhat unusual in that each division except the pedal includes ranks with enough variety of timbres that each can essentially be played as an independent instrument able to produce reasonably full, well-colored sounds. In most organs, this is true only for the great division. The other divisions usually furnish timbres and dynamics that augment the great division but cannot replace it to furnish the musical core.

An organist selects the ranks needed to produce a particular timbre and volume, collectively called a *registration,* by pulling out draw knobs known as stops—so named because each one stops the wind flow to a particular rank when pushed in—to route wind to the desired ranks. (Ranks are commonly called stops as well, even though the term is only partially accurate because some stops control more than one rank.) The logic of this terminology may seem backwards—pull a *stop* to *start* a flow—but it is nevertheless almost universally used. The organist can change registration as desired at any place in the music while he/she continues to play. The great variety of sounds an organ can produce is due to this feature, and no other non-electronic instrument can provide comparable variety.

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[4] Organ design and building is a highly specialized endeavor that is generally learned by an apprentice to an accomplished organ builder, and it takes many years of experience on a variety of instruments to master. Each custom-built organ, including this one, is a unique creation resulting from both objective and subjective choices by its designer. In spite of these individualities, a useful understanding of organ design can be gleaned from George Ashdown Audsley, *The Art of Organ-Building,* 2 vols. (Mineola, N.Y.: Dover Publications, 1965 reprint of 1905 first edition); Hans Klotz, *The Organ Handbook* (St. Louis, MO: Concordia Publishing House, 1969): and William Leslie Sumner, *The Organ: Its Evolution, Principles of Construction and Use* ,4 ed.(London: Macdonald & Co., Ltd., 1973).

[5] The Davis-Ferris Organ has two stops named Twelfth and Fifteenth in the Great division that intentionally add specific harmonic voices instead of an octave when selected. Five stops known as *mixtures* engage multiple pipes or ranks that speak in a chord whose fundamental pitch is the note being played.

[6] "Equivalent keys" may, or may not, mean the exact same notes. For example, with the Choir manual coupled to the Great manual, middle C played on the Great may sound middle C in the Choir as well, but when the Great is coupled to the Pedal board, middle C and the C an octave lower may speak. Other combinations are possible, depending on the couplers and stops selected.

The Davis-Ferris Organ currently features approximately 2,120 pipes arranged in forty-two ranks that are actuated as thirty-four stops. (The pipe total can vary slightly when pipes must be removed for maintenance, and the difference in rank and stop totals is due to five stops being mixtures that utilize two or three ranks each.) Its current arrangement of stops in each division, is known as its *stoplist*. Some of the stop names will bring a certain kind of sound to mind, but others will be unfamiliar, and some of them definitely do not mimic the sound of the modern instruments that share the names. Because of organ building's long history and the influence of design concepts from many eras and locales, there are few, if any, truly universal names for stops and divisions. The names initially used with the Davis-Ferris Organ reflect its period and the ideas of Ferris, which were strongly, but not completely, influenced by the English school of organ building. The names of some of the ranks that were added later reflect different schools. In addition to stop changes over the years, the Davis-Ferris Organ's *compass,* or overall range, was changed once as well in the late 1860s.

Wind System

While out of sight and, hopefully, not heard, the wind system is the heart of the instrument. Without a blower of some type, there is no energy to produce sound. From the blower, a system of reservoirs and wind trunks channels the wind to all of the organ's wind chests. Other components installed in the wind system control the volume, pressure, and stability of the wind flow to compensate for the varying requirements selected by the organist. For example, large pipes need more wind to speak than small pipes. Loud passages of music require more wind than soft passages. The greater the number of stops selected, the greater the volume of wind required. This system must also be quiet in operation, so as not to interfere with the music being played. The Davis-Ferris Organ's current wind system, the third generation for this instrument, automatically compensates as needed to satisfy all of these requirements.

The Davis-Ferris Organ currently employs an electrically-driven centrifugal blower to generate its wind, but this was not always the case. Manual effort originally furnished the wind when the organ was located at Calvary Church in New York. An assistant called a *pumper* moved a long lever up and down to work a bellows equipped with two leather flap valves, one of which admitted atmospheric air as the bellows expanded and a second that routed the air out to a reservoir on each downstroke. The original wooden handle for this instrument survives, though not connected to the organ, as does a slot for it in the west side of the organ case, but the bellows are no longer extant. The slot's location and the organ's location in Calvary Church suggest that the original bellows was probably located inside the case, adjacent to the reservoirs, which was a common arrangement at the time.

The pumper's job was a more sophisticated task than might be expected. The volume of wind had to vary with the needs of the instrument and music, increasing for loud passages and decreasing for soft ones, and this required the pumper to vary the frequency of his strokes. Since he could not see the organist or receive advice from him or her, the pumper had to know the music being played and its wind requirements. Any failure of the pumper to anticipate the need for significantly more or less wind could have detrimental effects on the performance.

When Giles Beach installed the organ in the Round Lake Auditorium, he replaced the manual pumping handle for the bellows with a water engine furnished by the Ross Valve Company of Troy, New York. Powered by gravity-induced flow from the camp's water tower, this water engine was a vertical, dual-acting, reciprocating device with a valve that automatically directed the water flow through the alternate ends of a single cylinder to move a piston. A vertical iron bar extended from the piston rod at the top of the engine up to a beam that moved one side of the bellows. A throttle valve in the water inlet pipe allowed the organist to control the speed of the engine and, thus, the volume of wind produced. This throttle valve was held closed by a weighted lever, and a rope attached to the end of this lever was routed to a manual control handle mounted in the playing desk above

the left-side stop knobs. By rotating the handle, the organist turned a cast worm behind the panel, which caused a follower to move fore or aft longitudinally along the worm's groove, depending on the direction the organist turned the handle. This motion either pulled on the rope to open the throttle valve or allowed the weight to close it to the degree desired.

Neither the water engine nor the bellows survived when they were replaced by the electric motor and blower now in service, but the control handle still exists, as do several metal fixtures still in place near the blower room under the upper stage floor. The location of these fixtures suggests that Beach mounted the bellows underneath the upper stage floor and installed a duct from it to the primary reservoir. After electric service arrived at Round Lake, probably during the late 1920s, a motor-driven Kinetic Organ Blower replaced the bellows and water engine. This blower, manufactured by the Kinetic Engineering Company of Philadelphia, Pennsylvania, is the company's style 2HYM.[7] Rotating at 1,150 RPM, it delivers up to approximately 500 cubic feet per minute (cfm) of air at a maximum pressure of 4" W.G. The Kinetic 2HYM Organ Blower consists of a horizontal shaft, upon which two backward-inclined-blade fans are mounted, and a rectangular body with internal baffles to separate the rotor wheels. The fans work in series, and the baffled walls of the case serve as the blower's scroll sheets. Appendix IV, Figure 5 shows the interior of a similar Kinetic Blower. The output from the second fan flows up through internal openings into a distribution chamber on top of the body, from which a 12"- diameter vertical duct fitted with a flexible joint extends through the ceiling and into the rear of the organ case above. Below the flexible joint, the duct is a thin-wall steel pipe, but conventional sheet-metal duct material extends from there to the main reservoir. A 1-horsepower Western Electric model 187085 induction motor powers the blower. Its badge plate shows a patent date of May 12, 1925, clearly indicating 1925 as the earliest possible year for its installation. The motor-to-blower shaft connection is a pair of specialized flanges that are connected by four strips of leather. The leather provides the necessary flexibility while isolating the blower from most motor vibrations. The blower case and coupling are painted Kinetic's standard green color, but the motor appears to be dark gray (under a thick coat of dust). The motor and blower remain in service and operate smoothly. Their bearings show evidence of regular lubrication, and the coupling's leather strips appear to have been replaced within the last few years.

The primary wind duct from the blower enters the back (south) side of the organ vertically for approximately 3' before it turns horizontal to reach the *main reservoir.* Two additional 90-degree elbows change its elevation and direction to reach the main reservoir's inlet connection port near the floor. The horizontal run shows deformations likely resulting from someone walking on it but is otherwise in good condition.

The main reservoir is a square, vertically-operating bellows with two intermediate frames between its top panel and bottom box. The panels and frames are made of wood, with dovetail joinery that has been sealed and painted to minimize leakage. Each of the three flexible sections is a single-fold leather bellows that extends around the perimeter of the reservoir. The bellows expand and contract as needed to accommodate short-term changes in wind usage, thus maintaining a uniform wind pressure to the pipes it serves. Pantographs at each corner ensure that the bellows expand and contract uniformly. Several blocks of stone that rest on the top panel maintain the reservoir's pressure. As the bellows expand or contract, these motions move a butterfly damper in the supply duct from the blower. A lightweight chain attached to the damper's control arm on one end and the top of the main reservoir on the other actuates the damper. As the top rises, indicating more wind supply than needed, it slackens the chain, allowing a counterweight on the control arm to close the damper and reduce the supply flow, and vice versa. The chain's route is simple, requiring just two small sheaves for 90-degree turns.

[7] The no-longer-extant Kinetic Engineering Company was a well-known supplier of blowers for organs during the first half of the twentieth century. Its distinctive design, first patented in England by Louis B. Cousans in 1887, was one of the earliest mechanical blowers for organs that could automatically deliver a stable flow of wind at a relatively constant pressure over the wide range of volume required by an organ and do so quietly. While the cubical body restricted efficiency, the additional volume it provided helped keep the fans well within their range of stable operation during changes in wind volume and back pressure.

Wind trunks from this reservoir supply wind to the large pipes of the pedal division and to the secondary reservoir.

The organ's *secondary reservoir* sits immediately north of the main reservoir, and its construction is virtually identical to it. Two short ducts convey wind from the main to the secondary, and each has a gate damper to control the flow. Except for reciprocating instead of rotary damper motion, these regulators operate like the main reservoir regulator. The secondary reservoir supplies wind to the Great, Choir, and Swell division pipes. Since these pipes use wind at a lower pressure than the Pedal pipes, the secondary reservoir has lighter stones resting on it than does the main reservoir.

Rectangular wooden wind trunks convey the wind from the reservoirs to the various chests. The two ducts that supply the great chests are each fitted with *percussion bellows.* This is a door that is hinged at the bottom with a leather bellows on the other three sides and a spring that tends to close it. A percussion bellows is actually an accumulator whose purpose is to minimize shocks in the wind when the organist suddenly changes the registration. Since sudden, large changes in wind demand can happen faster than the reservoir regulators can respond, the percussion bellows expand or collapse to briefly contain or supply the "extra" wind involved. The Choir, Swell, and Pedal divisions of the Davis-Ferris Organ do not have percussion bellows. The wind ducts branch as needed and terminate at the various *wind chests* throughout the instrument.

Pipes

Pipes, collectively referred to as *pipework,* are the devices that produce the characteristic sounds of the instrument. Each of the more than 2,100 pipes speaks with a single sound. Each has a specific fundamental frequency, or *pitch,* producing certain audible harmonic frequencies—always higher than the fundamental frequency—that define its *timbre,* and a specific amplitude, or volume, known as a *musical dynamic level,* or simply *dynamic.* While every element of a pipe affects its sound, pitch is predominantly a function of the pipe's length, with longer pipes producing sounds perceived as "lower" and shorter ones generating sounds perceived as "higher." High-pitched sounds have a higher frequency (cycles per second, or *Hertz)* than low-pitched sounds.[8]

These pitches, also known as *tones,* are not random. Over centuries, musicians developed standard sets of pitches that allowed music to be written down and musical instruments to be designed and built to produce those particular pitches. The standard generally used in the so-called Western world identifies each pitch, or *note,* with a letter (A through G for *natural* notes) that may be modified with a *sharp* or *flat* (often called a *half-tone* or a *semi-tone)* that respectively raises or lowers the pitch of certain natural notes. Eight consecutive notes, such as C-D-E-F-G-A-B-C, comprise an *octave.* Adding the allowable sharp (or flat) notes gives each octave twelve specific pitches.[9] As its baseline pitch, the Davis-Ferris Organ uses one A note with a frequency of 435 Hz., and all other notes are pitched in relation to it. Although many twentieth-century instruments use a slightly

[8] While physicists, engineers and organ builders often need to describe the mechanics of wave motion and vibrations in objective, measurable terms and mathematical functions, human perception of those vibrations (actually cyclical oscillations in air pressure) known as sound has a strong subjective component. Most humans "hear" the superposition of several simultaneous frequencies more as a single entity than as a collection of individual sounds. Thus, subjective terms like "bright" and "dark" convey more about the nature of sound, known as *timbre* that one hears than would an objective listing of the different harmonic frequencies. Similarly, "soft" and "loud" effectively indicate relative differences in volume (the amount of air pressure change per cycle, known as *amplitude)* better than specific terms like decibel, which would vary depending on one's location in the auditorium. Such terms will be used herein when needed to describe the audible perception of sound rather than the physical qualities and quantities of wave motion.

[9] The term "octave" can be misleading to non-musicians since the eighth pitch is the start of the next octave, rather than the end of the current one. The usage no doubt stems from the fact that two notes an octave (or eight pitches) apart blend together well, while two notes seven pitches apart sound harsh, or *dissonant,* when sounded together. Ironically, when the five allowable half-tones are included, the same octave is usually considered to have only twelve tones, not thirteen as one might expect.

higher frequency (A = 440 Hz.) as their baseline pitch, virtually all Western musical instruments are designed and built to generate these particular notes.

All of the Davis-Ferris Organ's pipes share some commonalities, including a lower portion with a hole through which wind enters the pipe, a device to induce steady vibrations into the wind, and an upper portion that determines the pitch and timbre of the sound. While there are numerous variations in the size, shape, proportion, and material of organ pipes, their sounds, i.e., vibrating air columns, originate in one of two ways, and pipes are referred to as *flue* or *reed* pipes to distinguish the technique employed.

This difference in how the sounds originate give the two types of pipes distinctly different timbres at a very basic level. The reed momentarily stops the airflow through the pipe once each cycle, and this produces sound with a decided "buzz" that is somewhat similar to that heard from a trumpet or tuba. In a flue pipe, the airflow oscillates across the upper lip, but it never actually stops moving. This gives the sound a "smoother" character more like that of a flute or recorder.

In a flue, or *labial,* pipe, wind entering the lower portion, or *foot,* encounters the *lingual,* a plate (metal) or block (wood) that obstructs the pipe except for a narrow gap called the *windway* along one side. (Cylindrical metal pipes have an indented, flattened area that allows for a straight outside edge of the windway.) Just above the windway is the *mouth,* an opening in the pipe with upper and lower edges called *lips.* The pipe's *body* extends above that. Many flue pipes are *open* at their top ends, but some are closed, or *stopped.* Others have *visors* that partially close the top opening to improve intonation or timbre. Flue pipes often feature projections on the sides and/or lower lip of their mouths called *ears* and *beards* that help steady the wind flow and sound quality, particularly as the sound first forms at the start of a note.

When a particular pipe is selected to sound, or *speak,* a thin sheet of wind flows up through the windway and out of the mouth at a near-vertical angle, where it passes just outside the sharp-edged upper lip. As per Bernoulli's principle, this flow produces a local region of low pressure adjacent to the mouth that induces some air to flow out from the lower portion of the body, thereby producing a region of lower pressure just above the languid.[10] The lower pressure causes air in the body to begin flowing downward, and simultaneously draws the sheet of wind inside the upper lip. Both actions raise the internal air pressure, which allows the sheet of wind to again flow through the mouth to the outside, and the cycle repeats continuously, until the wind flow stops.

Within the body, this repeating cycle causes a pulse of low-pressure air to begin moving up and down its length, reflecting back at each end (actually slightly outside an open end), with the frequency of these cycles determined by the pipe's length. The longer the body, the longer it takes the pressure pulse to move through the pipe; hence a lower frequency, or pitch. Wavelengths that exactly correspond to the pipe's length superpose and naturally amplify, while those that do not are rapidly attenuated and die out. The predominant wavelength that superposes, the strongest *resonant frequency,* is the *pipe's fundamental pitch,* and certain multiples of the fundamental pitch that also superpose are known as *harmonics.* These harmonics, which can only occur at multiples of 2, 3, 4, etc. of the fundamental pitch, give the pipe its timbre, and pipes are given a variety of body shapes and proportions that enhance or minimize different harmonics to create the various timbres. For example, a "thin" pipe will generate more harmonics and produce a "brighter" sound than a "fat" one of like type, and a longer pipe will generate more audible harmonics than a shorter one, but it will tend to sound "darker."

[10] Daniel Bernoulli (1700-1782) established the basic relationships between pressure, velocity, and density of a fluid, which he published in *Hydrodynamica* in 1738. What has become known as Bernoulli's principle states that the pressure in a fluid must decrease as its velocity increases, and *vice versa.* For additional information, see "Hydrodynamica," *Encyclopedia Britannica. Online,* Encyclopaedia Britannica, 2011, https://www.britannica.com/search?query=Hydrodynamica.

In an open flue pipe, the fundamental wavelength must be quadruple the length of the pipe's body, while it can be only twice the length of a stopped pipe. Thus, for otherwise similar pipes, stopped ones will have pitches one octave higher than open ones, but tend to be quieter. The Davis-Ferris Organ has examples of both types. The physics that define this are well-known and described in numerous physics and acoustics treatises, so they will not be repeated here.[11]

While the underlying physics of a reed pipe are the same as for a flue pipe, a reed pipe generates sound in a fundamentally different way. Where a flue pipe uses pressure differentials across the mouth to make the air induce vibration in itself, a reed pipe, as the name implies, uses a vibrating reed to put a column of air into oscillation. In place of a mouth, a reed pipe has a tube with an opening on one side called a *shallot* and a thin piece of metal (usually brass) called a *reed* held against the opening. The reed is curved slightly to form a narrow gap between it and the shallot's opening. Unlike a flue pipe's external mouth, the reed-and-shallot assembly is fully enclosed within a *boot,* which is analogous to a flue pipe's foot. When wind is admitted to the boot, it flows up through the gap and into the shallot, which opens into the *resonator,* as the upper portion of a reed pipe is called. The wind flowing through the gap generates a low-pressure region inside the shallot, which causes the reed to flex and close the gap, stopping the flow. This results in the shallot's internal pressure returning to normal, thus releasing the reed to flex back to its original position with the gap open to allow wind flow. Again, this cycle repeats until the wind flow ceases.

The low-pressure pulse flows up and down in the resonator just as it does in an open flue pipe to set the fundamental pitch of the air column. To better suit the reed type of sound, resonators have a variety of shapes that differ from the bodies of flue pipes. While the basic physics of how they achieve a given pitch and generate harmonics are the same, the different shapes strongly affect the harmonics that are enhanced and diminished. Since a reed pipe has no mouth opening to the outside, all wind flowing through it must exit via the resonator, so all reed pipes are open.[12]

Pipes are made of either wood or metal. Most of the smaller pipes in the Davis-Ferris Organ are metal while the larger ones are primarily wood. All of the reed pipes are metal. The wooden pipes have a square cross section with straight bodies, and their feet form truncated, inverted pyramids. The pieces are usually glued together but in larger pipes screws are also used. While wood can deteriorate from losing moisture during significant changes in humidity over time, it is generally stronger and more dimensionally stable than the soft metal alloys used for pipes. Consequently, Davis and Ferris elected to make most of the Davis-Ferris Organ's larger pipes, as well as some of the smaller pipes, out of wood. These wooden pipes are fabricated from softwood, probably a variety of fir or pine, and the builders took care to use only planks having the grain running almost perpendicular through the plank's thickness to minimize the likelihood of it warping over time.

Most of the organ's metal pipes are made from an alloy of tin and lead—sometimes called simply *tin*—that is blended in a molten state and cast into thin sheets.[13] Some pipes are made of other metals to obtain different timbres. All pipes comprising the Second Open Diapason rank of this organ's Great division were fabricated

[11] Readers interested in the physics of pipe organs can see Klotz, *The Organ Handbook*, 41-54, and Sumner, *The Organ*, 267-275, among other sources.

[12] There is a second style of reed-shallot arrangement known as a *free reed* where the reed vibrates inside the shallot opening without completely stopping the air at any time, but the Davis-Ferris Organ does not have any free-reed pipes, so they will not be discussed here.

[13] Sheet casting is done by moving a headbox filled with the molten alloy smoothly along a long, flat table. The molten metal flows out through a slot in the bottom of the headbox as two people move it along the table. The slot opening and movement speed determine the sheet's thickness. Done properly, the alloy flows out and solidifies into a uniform sheet that can be cut into the required shapes, then formed and soldered into pipes. Though most manufacturers had, or have, their own preferred recipe for tin, the alloy is typically between 50 and 66 percent tin by weight. More lead than that will be too soft and malleable for the pipe to hold its shape, and it will have a duller sound.

from zinc, as were the lowest notes in nine of the instrument's original ranks, which was a relatively new technique at the time as has been noted earlier in this report. Whether tin or zinc, the pieces for each pipe are cut from the cast-metal sheets, shaped by hand around various forms, and soldered together into a complete pipe.[14] A metal pipe weighs less than the same size wood pipe, but it is more fragile. The relatively soft, malleable alloy can be easily deformed to adjust its sound, but over time, large metal pipes, even those with a high percentage of tin, tend to collapse from their own weight, and it takes very little distortion to change a pipe's intonation or timbre.

This organ's larger pipes, both metal and wood, have projections known as *ears* on the sides of their mouths. These ears prevent wind from spreading out as it exits a large mouth, particularly when the pipe is just starting to speak, making the attack of the note crisp and clear. Ears on metal pipes can also be bent in or out a little during voicing and tuning, but this is not always done. If done repeatedly, fatigue can cause the ear to break off, which has occurred in this organ. Fortunately, they can be soldered back in place.

All pipes need to be both *voiced* and *tuned* after the instrument has been erected, and tuning will consist of periodic checks and adjustments. A pipe's voice is generally established during the organ's installation using a variety of tools to slightly alter those portions of the pipe that affect its timbre and how it starts to speak. Changes may include altering the upper lip, changing the angles of the ears, flaring the top of the pipe, installing a visor, and even cutting holes into a pipe's upper portion. Voicing is a complex process that affects not only how each pipe sounds, but also how different pipe timbres blend when played together. Though it may take considerable experimentation to achieve the desired voicing—a subjective sound quality that varies between organists, organ builders, and organ tuners— short of a major alteration or rebuilding of the instrument, voicing is rarely changed once established. The Davis-Ferris Organ was undoubtedly re-voiced when it was installed in its current location, as well as when its compass was changed.

Tuning, on the other hand, is typically done on a regular schedule. Several environmental parameters, including temperature and humidity, affect any instrument's *intonation,* the term for how accurately the various pipes sound unison or chordal notes together without small frequency errors that are heard as (usually) undesirable "beats" in the sound. Flue pipes can be tuned in several ways, including adjustments to ears and changes to flare or de-flare the pipe tops, as well as the adjustment of a sliding collar at the top of a pipe. These changes slightly change the pitch of the pipe up or down as needed. Though the first two methods may seem permanent, they are usually reversible, at least until fatigue causes a fracture or the tool impacts cause another part of the pipe, particularly the foot, to deform or fracture. The Davis-Ferris Organ exhibits examples of all these methods having been used at some point in its history. Reed pipes are tuned using a small wire held in place by a block between the shallot and resonator that has a handle formed at its top end and a bend at the bottom to form a bar that rests against the reed perpendicular to it. Moving this *tuning wire* vertically alters the natural frequency of the reed slightly, thus changing the pitch of the pipe. The tops of reed-pipe resonators can be altered as well, if necessary, and the Davis-Ferris Organ has evidence of this technique.

Wind Chests

Wind chests contain the organ's control valves that route wind to the particular pipes the performer has selected using the stops' draw knobs and the manuals' keys. A stop and a key valve must be opened for a pipe to speak.

[14] Solder is a lead-tin alloy with a relatively low melting point. A hot tool, the soldering iron, heats the sheet metal joint to melt a strand of solder so that it flows into the small gaps at the joint, bonds to both sides, and quickly cools to harden into a solid joint. The proportions of lead and tin in the solder are different than in the metal alloy such that the solder has the lower melting temperature. This yields a solid joint without damaging the sheet metal. Soldering zinc requires careful surface preparation, preheating, and a solder with zinc added to the tin and lead.

Closing either or both of these valves silences that pipe. Except for positioning the Swell division shades, every action an organist takes with this instrument actuates some of these valves in the wind chests.

Organ builders have developed a wide variety of wind chest designs over the years to achieve accurate, reliable performance within an even wider variety of installation constraints. Like many mechanical-action instruments, the Davis-Ferris Organ primarily employs what are known as *slider-pallet chests,* wherein strips of wood called *sliders* move back and forth horizontally to serve as the stop valves, and hinged doors called *pallets* open and close in response to key movements, causing specific pitches (notes) to sound.[15] They act in series, with the wind flowing first through pallets that route the wind to sound specific notes, and subsequently through holes in sliders that route that note's wind to the appropriate pipe in each selected rank. (A portion of the Pedal division utilizes a different type of wind chest, known as a *ventil chest,* which is described at the end of this section.)

As shown in Appendix IV, Figure 6, this routing of the wind is somewhat analogous to an x - *y* grid, with a "pipe" at every intersection of x and *y* (integers only). Any "pallet" (x) would then activate every *y* value for that value of x, and each "slider" (y) would activate every possible value of x for that value *ofy.* Out of perhaps hundreds of possible x—*y* intersections, only the pipe where this x value and this *y* value intersect would speak, since only it would have both x and y activated. If multiple values of x were activated simultaneously, every intersection of these x values with the given value of *y* would speak. The same would be true for multiple values of *y,* as well as for multiple values of both x and *y.*

To physically accomplish these logical operations, each slider-pallet chest is essentially a stack of air-tight chambers with valved openings. Appendix IV, Figure 7 shows how these chambers and valves are constructed and function. They are among the most precise assemblies in the instrument. Constructed of wood and assembled with screws and glue, the chests are fitted with internal panels that form the various chambers. The chest components must be precisely cut and planed to minimize leakage, while the moving parts—the sliders and pallets—must fit snugly enough to prevent leakage yet move with minimal resistance.

This is particularly true for the sliders, which slide in tracks covered in thin leather. This leather provides a little flexibility to serve as an adaptive seal, but the primary means of leakage control is a close tolerance between the sliders and the fixed pieces of the chest. Since this often results in a less-than-perfect seal, small V-grooves milled diagonally between the holes drilled for the pipes in the underside of the chest's top board route any slider leakage to the atmosphere so that it will not flow into an unintended pipe and create an undesired sound, known as a *cipher.* The door-like motion of each pallet allows it to be fitted with a piece of leather that functions effectively as a gasket when it is closed and a spring to ensure its closure.

Each division has its own chest that services all of its ranks. The Pedal and Great chests of the Davis-Ferris Organ are each physically split into two chests, but each function together as a single unit. These two divisions also have auxiliary chests located some distance from their main chests, all for reasons having to do with space allocation.

The bottom level of a slider-pallet chest is a single chamber that functions as a plenum. The pallet receives wind from a wind trunk and provides a volume that slows and stabilizes the wind. Its ceiling also forms the floor of the middle-level chambers—one chamber per pitch, separated by vertical baffles. Rectangular openings through the ceiling/floor board allow wind to flow into the middle-level chambers, and each opening is fitted with a hinged (pinned) pallet that is normally held closed by a spring. *A pull wire* attached to each pallet extends through a small hole in the floor of the plenum, where it connects to the key action. Pressing a key on that

[15] "Hinged" as used here must be considered in its broadest context, since these hinges are actually pins that pass perpendicularly through holes at one pallet edge. The holes are countersunk to provide the necessary freedom of motion, and springs maintain engagement. This design is simple, and it introduces very little friction.

division's manual causes one of these pallets to open downward against the spring, allowing wind to flow from the plenum to the chamber above. When the key is released, both the spring and air pressure act to close the pallet.

Each middle-level chamber supplies wind to the pipes of a specific pitch in all of the ranks mounted on that chest. For example, the Great division of this organ has 17 ranks. When the organist presses middle C, that pallet opens to furnish wind to the middle-C chamber that supplies wind to the middle-C pipes in all 17 ranks. The ceiling of this middle-C chamber has a hole drilled in it for each of these 17 pipes. Every other note has an identical arrangement, with these middle-level chambers separated by vertical baffles. The Great division chest has a 58-note range, thus 58 of these chambers.

The top-level chamber contains the division's sliders and their tracks, with a slider for each rank that simultaneously opens or stops every pipe in that rank. Fixed pieces of wood called *bearers* separate the sliders and help bear the weight of the overhead top board and pipes. The holes for the pipe feet in the top board are slightly countersunk to ensure a snug fit and minimal leakage, since the pipes are held in place by gravity and the joints have no elastomeric seals.

Unlike the other wind chests, those comprising the floor-level Open Diapason and Double Open Diapason ranks do not have sliders. These chests are larger than the others in volume, and they are split with their halves located at the far sides of the instrument. Sliders for these chests would be large, need to move a considerable distance, and require a substantial activation force, so Ferris used sliderless wind chests known as *ventil chests* for them. Four gate valves located in the relatively short trunks from the primary reservoir to their respective chests stop the wind to these chests. A pallet is located below each pipe inside the single- chamber chest.

Playing Desk

As noted earlier, the Davis-Ferris Organ's playing desk is located in a niche at the center of the case's front façade. While this location has been referred to by one critic as a "hole-in- the-wall position" and the "most objectionable" location for a playing desk, because of how it limits the sound an organist can hear, it was commonly employed for installations that had little room available in front of the case.[16] This location was, moreover, mechanically advantageous, as it allowed a shorter, simpler action than is needed in tracker organs with playing desks outside the case or those having pipes located in multiple cases.

This organ's three manuals for the hands are identical. Each has 58 keys—34 white keys for natural notes and 24 shorter, black keys for sharp (or flat) notes—for a range of 4.83 octaves. All of them are wooden, but the natural keys have ivory panels called *plating* covering their tops and visible ends. The sharp, or *comb,* keys are finished with a black wood, probably ebony, with no covering. The natural keys of the great manual are yellowing and a few are missing pieces of plating, which is evidence of having been played more than those of the other two manuals. The three manuals are arranged in a terrace, with the Choir manual at the lowest level. The Great manual is approximately 2" above the Choir manual and set behind it with about 1" of overlap. The Swell manual is similarly situated above the Great manual. All three manuals are level and straight, and the equivalent keys of each are directly above or below one another.

The pedal board consists of 30 pedals—18 natural and 12 comb—that are mounted in a rectangular frame that partially extends beyond the front of the case. The organ bench, though not attached, straddles the pedal board over its outside (north) end. While most modern organs have pedal boards that are curved both vertically and horizontally to form a concave arc that matches the natural motion of a performer's legs, all organs built in the United States before 1903, including this one, feature straight pedal boards, with all of the pedals level and

[16] Audsley, *The Art of Organ Building,* 68-69.

parallel.[17] While a curved pedal board is economically superior, the design and construction advantages of a straight pedal board are readily apparent, as it requires only two pedal designs, one for natural and one for comb, and all pedals of each type are the same length with similar, parallel connections to the subsequent action. The frame of a straight pedal board is also simpler to build than a curved one.

The stop and coupler *draw knobs* are located in vertical panels on both sides of the keyboards known as *jambs.* Uniquely at Round Lake, so far as known, these knobs are mounted in cruciform arrangements with decorative outline moldings. Stops for the Swell and Pedal divisions, along with the coupler knobs, occupy the left (east) jamb, while the right (west) jamb contains the Swell and Great stops, plus two knobs that engage and disengage all ranks simultaneously. The original labeling was engraved into an ivory inlay on the face of each knob. Most of these are in a Roman font, but eight feature an elegant script. Nine of the 42 knobs now exhibit name changes that were done in a free-hand manner at various times when pipes were changed from one style to another.

The non-functional water-engine control handle is above the draw knobs on the left jamb, and an electrical switch for the blower is mounted on a small shelf, also on the left side. The pedal that actuates the Swell shades is just above the right side of the pedal board. A wooden rack to hold the performer's music and a rectangular, sterling silver badge plate reading "RICHARD M. FERRIS, BUILDER, New York" are mounted on the vertical panel behind the three manuals. Interestingly, the badge plate does not display an opus number (serial number). The badge plate is often obscured by a removable, wood-framed mirror hanging in front of it that allows the organist to see an instrumental and/or choral ensemble conductor who would necessarily be behind his back. The mirror on the Davis-Ferris Organ, clearly not original, is non-symmetrical as hung, with one end that appears to originally have been intended to be its top, curved.

Stop Action

As noted above, stops allow the performer to select the ranks that speak in any given registration. On the Davis-Ferris Organ, a rank is selected by pulling a draw knob, often called a *stop knob,* horizontally out from the jamb approximately an inch. Pushing it back silences that rank.

Each stop knob is at the end of a long, wooden rod, known as a *trace,* or *tracer,* that extends through the jamb panel and southward horizontally for a distance that varies depending on where the remainder of the stop action is located. Guides called *registers* keep them aligned as necessary, and they have square cross sections sized to accommodate both tension (pulling) and compression (pushing) forces. Each trace has a small block attached to one side behind the console face that limits the distance each knob can be pulled out. The Davis-Ferris Organ's traces appear to be English walnut, a hardwood with good strength and dimensional stability. Many of these traces have splices made by gluing one or two additional pieces of wood across butt joints in the traces. A few tongue-and-groove joints also exist. Some of these joints may be repairs—evidenced by the use of a different wood—but most appear to have been done as adjustments during the organ's installation in New York or Round Lake.

The south end of each Great, Choir, and Swell trace is pinned to a horizontal, wrought-iron square. Each has a slotted end to accommodate one end of the square. A pin—typically a wire with a right-angle bend that serves as its head—passes through vertical holes to form a rotary joint with little lost motion. It is easily removed when needed for maintenance. The square's corner is pinned to a frame piece using a shouldered screw. Its other end is pinned to a second trace with another wire pin.

The second trace extends to a third square that changes the motion to vertical, or to the lower end of a *rocking lever,* a first-class lever that rotates about a horizontal axis. The Great, Choir, and auxiliary Pedal (behind the

[17] Ibid., 128.

front of the case) chests require their stop actions to be in a horizontal, east-west direction, so the set of second traces on the organ's east side transfer the motion eastward to locate the vertical traces on the east sides of their respective chests. Another set of traces, squares, and levers near the end of each chest transfer the vertical traces' motion to the ends of the sliders that penetrate the wind chests. One lever in each of these actions is fitted with a counter weight that balances the weight of the vertical components.

The stop actions for the Swell and Pedal (floor-level chests) divisions work essentially the same way, but certain details are different. The vertical portion of the Swell action uses long levers called *rocking levers* that are pinned to the frame near their mid points. They are located on the organ's west side, thus avoiding interference with the Great and Choir actions on the east side. Each of these rocking levers has its lower end pinned to one of the second traces, and its upper end engages a Swell rank slider. The lengths of these rocking levers had to be accurately computed, but the resulting action is smooth and durable. Ferris easily could have used an arrangement like that he employed for the Great and Choir divisions here, but the additional vertical length needed would have required more force to lift them or substantial counterbalancing weights or springs. Using rocking levers here avoided both problems, since the weight of each lever is born by its fulcrum pin.

The ventil chests comprising the floor-level Open Diapason and Open Double Diapason ranks do not have sliders. Four gate valves—two for each rank—stop the wind to these chests, and they are located in the relatively short trunks from the primary reservoir to their respective chests. The south ends of the Open Diapason and Open Double Diapason traces are connected to arms that extend about 3" from vertical roller bars called *trunions,* and each one rotates approximately 60 degrees when its stop knob is pulled out or pushed in. The arm of each trunion supports the end of the stop rod and the end of a short articulation rod using a common pin through the three pieces. The other end of the articulation rod is pinned to a third rod that extends in an east-west direction to squares near the gate valves for each side of the rank. In the stopped position, the articulation rod rests at an angle to the stop rod. When the stop is pulled to its open position, the motion causes the articulation rod to move to a position almost in line with the stop rod, which, in turn, moves the third rod to operate the wrought-iron squares at both ends. Each of these squares is connected to one of the vertically acting gate valves with a string, such that pulling it upward opens the rank. Coil springs balance the weight of the wooden gates to reduce the force needed to open these stops. Springs are also used where necessary at other locations throughout the stop action to ensure that the draw-knob force needed to activate all stops is approximately the same, regardless of its routing or construction, but most do not need them, an indication of the careful selection of machine elements and routing for each division by Ferris to obtain a consistent "feel" for all of the instrument's stop knobs.

The distance that any stop knob needs to move is not especially critical, but consistency is an asset for the performer. This organ's stop knobs move approximately 1", and they are always pulled or pushed their full distance, since the stops have only "on" and "off" settings. Because of friction resulting from their snug fit, certain sliders can benefit from some mechanical advantage in the action that yields greater force at the slider than the organist imparts to the stop knob.[18]

In other cases, particularly the Pedal division gate valves, each gate must travel farther than its stop knob, so the action's components are sized to increase distance between the knob and valve. The reduced force is acceptable

[18] As with any mechanism, an increase in force at its output is achieved by reducing the travel of the output component (slider) or increasing the travel of the input one (knob). Similarly, an increase in output travel is accompanied by a reduction in output force.

due to the relatively low friction in these valves, as well as springs that compensate for much of the gate's weight.[19]

The right-side draw-knob panel has two additional knobs, one of which is marked "Forte" while the other is unmarked. These knobs respectively engage and disengage what is generally *called full organ* by simultaneously opening or closing all of the stops. Full organ produces the maximum dynamic level, though it is quite literally a "power play" that exchanges finesse and sonic texture for volume. Accordingly, it is sparingly employed, but the ability to open and close all stops simultaneously makes it practical to do so. Handling all of the stops individually would take too much time if necessary in the middle of a performance. (While playing, an organist rarely changes more than two or three stops at a time, though he/she may well change more than that while not playing between pieces or movements.)

The full-organ action looks much like the stop action and uses similar components, but the motion of the single draw knob must be split into several traces that take different paths in order to reach a connection with each rank's stop action, and the full-organ engagement knob is only pulled. A separate disengagement knob is used to avoid compression forces on the long, complex engagement action that could cause a failure should any part bind. The disengagement knob is likewise pulled to cancel the full-organ registration. It actuates a separate set of linkages and a rotating paddle that acts on several stop squares simultaneously to disengage the action and retract the engagement knob. This disengagement knob can easily be pushed back in after use since it does not experience compressive forces.

This action must of necessity have some lost motion to avoid any interference with the stop action when it is disengaged, and its multiple links acting together result in more frictional resistance to movement. Consequently, the engage and disengage knobs must be pulled out approximately 6", and the force required is noticeably greater than needed for any single stop.

Key Action

The action between the manuals' keys and their respective pallets in the various wind chests is substantially different in both design and execution than that employed in the stop action.

This was necessary because the manner in which an organist uses keys is very different from the way he/she uses stops, and pallets function differently than sliders. During a performance, a stop is pulled out or pushed in only a few times to change registration, but any given key, along with its action, may experience hundreds of cycles, since it must function every time its specific note is played, regardless of the rank, or ranks, selected to speak. Additionally, the key action must respond very rapidly to open and close the pallets and require relatively little force to actuate (one needs only to hear a rapid run up a scale or a trill, i.e., a rapid cycling between two notes for some period of time, to appreciate how responsive the key action must be). This means that the action must have low inertia, and inertia is directly proportional to mass. Thus, the key action needs to be as lightweight as practical. A second requirement, reliability, favors heavier members to ensure that they can endure the cyclical stresses placed on them for a long time without failing. The key action that Ferris used had evolved over more than three centuries into an elegant system that was not only lightweight and durable, but adaptable to a wide variety of organ sizes and physical arrangements as well. The description that follows applies to the Great, Choir, and Swell divisions, even though there are differences in the lengths of certain

[19] The on-site inspection of the Davis-Ferris Organ revealed several locations where mechanical advantage may have been designed into the action, but no measurements were taken to confirm the presence or absence of mechanical advantage in the organ's stop action.

members and the location of specific components for the three divisions. The Pedal-division action functions in a similar manner, but its differences will be discussed in subsequent paragraphs.

Key action functions in a straightforward manner. In the Round Lake Auditorium Organ, each manual key is a first-order lever, thus depressing the front of any key causes its back end, or *tail,* to rise. These keys are pinned so that their fulcrums are at their centers, and their vertical movement is restrained to approximately 3/8" at each end. Ferris designed the remainder of the action to produce this same 3/8" movement at the pallet pull-down wires, so the various action components impart no mechanical advantage to the action, but only the direction changes required by the organ's physical layout.

The tail of each key pushes a short vertical member up, which causes the rotation of a wooden square. This square, which pivots about a transverse, horizontal axis, pulls on a long, horizontal strip of wood that terminates at a second transverse-axis square several feet south of the playing desk. (This distance is different for each division.) Key-action members that are pushed are called *stickers,* while those that are pulled are known as *trackers*—the term that gives mechanical-action organs their popular name. Since stickers must resist buckling, they have a larger cross section than trackers, and they are used only when necessary for short runs. Trackers, on the other hand, are not pushed and, therefore, have no tendency to buckle, so they can be quite long and thin, with many over 10' long. They are made from softwood to minimize their weight and inertia, and while they may appear to be excessively flexible and flimsy, they are actually quite stable and introduce very little lost motion. The alignments of longer trackers are maintained with guides known as *registers* where necessary, but their use is minimized to avoid unnecessary friction.

Both stickers and trackers have one end fitted with an adjustable connection to the adjacent part of the action, while the other end has a non-adjustable connection. Each adjustable connection consists of a threaded bronze wire that is secured to the tracker's end with whipping and shellac and a fitting that screws onto it while engaging the adjacent part. They must introduce a minimum of lost motion but have enough flexibility to accommodate the relative motion between the parts without binding. The non-adjustable connections vary in design to suit their locations and connecting parts, but they also must function reliably without lost motion or binding. Many trackers have holes that align with holes in an adjacent part to form a tang-and-clevis joint when a pin is inserted. Others employ a hook formed from bronze wire. Trackers that connect directly to pallet pull-down wires have small metal eyelets on their fixed ends. These eyelets, formed from wire, are also secured to the tracker with whipping and shellac. The bottom ends of the key stickers in this instrument fit into slots cut into the tails of the keys, while their top ends have threaded rods that fit through holes in the squares and accommodate an adjustment fitting.

The adjustment fittings are crucial to obtaining the desired amount of motion throughout the action while keeping lost motion to an absolute minimum. Lost motion, i.e., uncontrolled slack in the action, has two detrimental effects: poorer response to the performer's key strokes and noise resulting from parts impacting one another. The adjustment fittings address both problems by allowing the instrument's maintainer to keep all of the action's connections just snug enough to keep the action responsive and quiet, but just loose enough that the pallets fully close to seal their holes, and the manual's keys rest at a uniform level. When built, and throughout most of its life, the Davis-Ferris Organ used a centuries-old method where the adjustment nuts, sometimes referred to as *buttons,* were cut from leather thick enough that a hole through one would engage the threads on the bronze wires. A washer was often added between the button and the adjacent part to reduce wear. In recent years, the Andover Organ Company, who maintains this instrument, has replaced the original leather buttons with modern, metal-and-plastic fittings that are easier to adjust, maintain their adjustment better, and distort less over time than leather. However, no portions of the trackers, stickers, or rollers were altered, making this a fully reversible modification. This modern detail has significantly enhanced the reliability of the organ and reduced

maintenance costs. Since this organ is owned by a small village, these economies are crucial to it remaining in service, and the fittings are visible only when one is inside the case.

The previously noted second square changes the horizontal motion to vertical, and a second tracker extends up from the square. To this point in the action, the stickers, trackers and squares are all parallel and in east-west alignment with their respective keys, which also means that they are transversely arranged in note order. The diameter of most pipes, plus the space needed between them, makes each wind chest considerably wider than the manuals, so the action must have a precision means of spreading the trackers in an east-west direction to line up with the pallet pull-down wires. Additionally, many ranks in this organ have the pipes for their natural notes on one side of the chests and those for the sharp notes on the other to balance the weight of pipes bearing on the chests. Splaying the trackers like a fan would give each one a different length, and the unavoidable sideways force resulting from the angle would be different for each one. Both conditions are undesirable. Avoiding it requires the trackers to remain parallel, only farther apart than in the preceding portions of the action.

This is achieved with components called *rollers.* A roller is a horizontal, transverse, wooden rod having an oblate cross section supported on each end by wire pins that serve as journals in wooden bearing blocks and allow the roller to rotate freely about its long axis (the oblate cross section reduces weight, thus, each roller's moment of inertia, and one pin is removable to allow the roller to be removed from its bearings if necessary). Each tracker rising from the second square connects to a short arm mounted near one end of a roller and directly above that square. A similar arm on the other end is located directly below the pallet pull-down wire. Thus, the input vertical motion is transmitted transversely by the roller's rotation and converted back to an equivalent output vertical motion at the other end. The rollers for each division are mounted parallel and horizontal on a vertically-oriented *roller board.* The three roller boards, constructed with dimensional lumber, were designed to fit the various roller lengths and locate a solidly mounted wooden bearing block at each end of each roller. Since many rollers can be located end to end, particularly when natural and sharp pipes are mounted on opposite sides of the organ as was commonly done in this instrument, an intermediate diagonal frame member was installed to support the intermediate bearings.

Thus, the three roller boards have an irregular shape, but they are basically trapezoidal with only their top and bottom members parallel. Since each roller board supports up to 58 rollers that must hold their radial and axial positions to ensure a minimum of lost motion, the roller boards are solidly built and securely affixed to the instrument's frame. They are located at places in the instrument that provide the simplest, most-direct route between the manuals and wind chests, so each is physically unique even though they function alike. Particularly visible on the Swell roller board, but also present on the Great and Choir roller boards, is the addition of four rollers featuring different details from the others at the lower west corner of the roller board. These, along with the other associated action components, serve the pipes mounted in the Swell enclosure annex, and they likely were added when the instrument's compass was changed. While their fabrication details are different, these rollers function exactly the same way as the original ones.

The final link to the wind chest is a third tracker that rises vertically from a roller to connect to a pallet pull-down wire. The pull-down wire passes up through a small hole in the bottom board of the wind chest and connects to the free end of the pallet, pulling it open to admit wind to all pipes of the desired pitch in that division that have been opened via the stop action. Since air pressure and the pallet spring both act to close the pallet when the key is released, the pull-down wires and trackers remain under tension as the action returns to its closed state.

The Pedal division action uses similar components that individually function in the same manner, but the number, sequence, and physical layout of the pedal action is different to accommodate the location and movement of the pedals and the design and layout of the wind chests, which are mounted in three locations

around the instrument. Since all components of this division are larger and require more wind than those in the other divisions, the action must have correspondingly greater travel. With larger, heavier pallets to move and the greater force applied by the organist's feet, the pedal action's components are correspondingly heavier than those in the other divisions as well.

Each pedal is a third-class lever, meaning that its fulcrum is located at its northern end, below the performer's bench, while its output is at its south end and its input (foot pressure) is in between. When the organist's foot depresses a pedal at approximately its mid-point, the pedal's tail moves down as well, but it moves a greater distance, thus providing the greater travel needed throughout the action. Third-order levers are not always found in organs, but Ferris used them effectively in this instrument, partly to increase the action's travel and partly to enable efficient couplers to the manuals (couplers are discussed below).

A sticker below each pedal's tail presses down on one end of a wooden square that rotates about a north-south axis. The other end of the square is connected to a tracker that extends to the east or west side of the instrument. Like the other divisions, the pedal division chests are arranged with the natural notes on the east side and the sharp notes on the west. The 16' Open Diapason and Double Open Diapason ranks are located at the extreme east and west sides of the organ. Though the other Pedal-division ranks mounted behind the front of the case use non-split chests, their natural and sharp pipes are similarly arranged. Thus, the direction of the transverse trackers from these squares, which are located in line with the pedals and in note order, alternates between those routed east and those routed west.

The action from the pedal trackers to the split wind chests for the 16' Violincello and Bourdon ranks behind the case façade is essentially the same as described above, but with a different physical layout. A second set of squares located just above the floor connects to vertical trackers, and a third set of squares connects them to horizontal, transverse trackers that terminate at squares directly below the pallet pull-down wires. The connection details are similar to those described above. Because of their transverse routing just south of the case's front, the transverse trackers terminate under the pallets, and rollers are not required.

The Open Diapason and Double Open Diapason trackers extend farther east or west to reach their respective chests. As noted above, these four chests are quite large, and they extend almost the entire north-south dimension of the case. Each of these chests also has a four note addition that likely dates from the organ's compass change. Those for the Double Open Diapason extend horizontally and almost perpendicularly from the north end of the two chests. The Open Diapason additions consist of small, separate chests mounted above the floor parallel to the two main chests that are supplied with wind from the main chests through short metal trunks. As with the additions to the manual actions' roller boards, the action to these pallets have minor detail variations from the original action, but are otherwise similar. The trackers for the Open Diapason additions terminate at squares below the auxiliary chests.

Short wire trackers rise vertically from the squares to horizontal rollers under these chests that spread the action. Vertical wire trackers extend from the rollers to connect with pallet pull-down wires. The action to the additional Double Open Diapason pipes is virtually identical to the action that operates the pallets in the main Open Diapason and Double Open Diapason chests.

The trackers from the pedals to the four main Open Diapason and Double Open Diapason chests pass through openings in the chest support boards and connect to squares that change the motion to vertical. The fulcrums of these squares are mounted to the support boards of their respective chests. Most of these squares connect to a vertical wire tracker that rises to connect to the arm at one end of a roller. These rollers, which are mounted directly to the chest support boards, extend horizontally under the chests in a north-south direction, and their output ends are directly below their respective pallet pull-down wires. These rollers have a greater cross-section

and longer arms than those described earlier, but their shape, construction, and operation is otherwise identical. Vertical wires extend up to the pallet pull-down wires. Space constraints meant that a few of these rollers had to be located below the squares. These are similar to the other rollers, except that they have wooden stickers to press down on their roller arms.

Because of the great length of the trackers between the pedal squares and the squares under the chests, plus the greater travel of the action—approximately 1"—the pedal action exhibits more tracker flexibility, lost motion, and connection noise than the manual actions. These are more pronounced in the lower two-thirds of the pitch range because those notes are played more often than the higher third of the pedal range, resulting in more wear. While this may be noticed by the performer, it is undetectable to the audience seated in the auditorium.

Couplers

The Davis-Ferris Organ features six mechanisms called *couplers* that allow the performer to make the manual or pedal board for one division simultaneously actuate the manual of one or more other divisions. Pulling a coupler draw knob connects all equivalent keys of both manuals by simultaneously moving a link at every key. With a coupler engaged (knob pulled out), the entire action of the coupled division, including its keys, will move in unison with the action of the division actually being played. Like other aspects of this organ, its couplers can be engaged or disengaged at any time during a performance. The couplers do not engage stops, so the performer sets each division's registration independently just as when no couplers are engaged.

This organ uses three types of coupler mechanisms, *drumstick, sidecar block,* and *backfall and idler.* All three accomplish the same thing, but Ferris selected the type to use for each coupler based on the division couplings he wanted and the physical relationships of these divisions' actions. For example, coupling two adjacent manuals, such as Swell to Great, requires a different mechanism than coupling widely separated manuals like Great to Pedal.[20] As with the instrument's other systems, ease of operation and reliability are essential to facilitate playing and maintenance. The action that engages the couplers is generally similar to the stop action, though there are differences in routing and connections to the control elements.

The simplest of these couplers is the drumstick coupler, also known as the sliding-kidney coupler. Both names reflect the shape of a piece that fits between the tails of two adjacent keyboards. The drumstick coupler's sole application is for making the lower of two adjacent manuals actuate the upper one. It consists of a drumstick for each key, all of which are pinned to a horizontal *stock* that fits transversely between the two manuals such that the drumsticks are aligned between their respective keys. The tail of each lower-manual key has a ramp on its top side near its end. When the coupler is not engaged, the stock is positioned to hold the drumsticks away from the ramp so that movements of neither the upper nor lower keys transmit motion to the other. When the draw knob is pulled to engage the coupler, the action slides the stock horizontally to push the round part of each drumstick in between the lower key's ramp and the bottom of the upper key. Depressing a lower-manual key raises its tail, which pushes both the drumstick and upper-manual key's tail upward. Since depressing an upper-manual key moves its tail away from the drumstick, it has no effect on the lower-manual's key. On the Davis-Ferris Organ, the drumstick coupler is used only to couple the Swell manual to the Great manual. Key motion on the Great manual is repeated on the Swell manual, but key motion on the Swell manual is *not* repeated on the Great manual.

Manuals with other physical orientations are coupled using sidecar-block couplers, sometimes referred to as double-square-sliding couplers. Ferris used them in this instrument to couple the Choir manual to the Great manual, and the Swell manual to the Choir manual. These couplers are not located between key tails, but rather

[20] The name of each coupler, such as "Swell to Great" and "Great to Pedal," indicates that the first division listed will also speak when the second division's keys are depressed. In this organ, the couplers *do not* function in the reverse manner.

where the second squares change the action's movement from horizontal to vertical. Each coupler consists of an additional square with one slotted arm that straddles the horizontal tracker of the driving key, and its other arm connected to the output (vertical-motion) arm of the second square of the key to be driven. A small wooden block, the *sidecar block,* affixed to the horizontal tracker engages the coupler square when desired to transfer the tracker's motion to the coupler square and on to the second square of the driven action. There is, of course, a coupler square for each key.

The fulcrums of these coupler squares are mounted on a transverse stock that is positioned by a draw knob to engage or release the couplers simultaneously. With the knob pushed in, the stock is pulled away from the sidecar block on the tracker so that they cannot contact the coupler squares and thus not transfer motion from the driver manual to the driven manual. When the coupler is engaged by pulling the knob out, the stock slides horizontally into a position that allows the sidecar blocks to rotate the coupler squares and transmit motion from the driver to the driven manual. As with a drumstick coupler, a sidecar-block coupler operates in only one direction. For example, on the Davis-Ferris Organ, the Choir to Great coupler, when engaged, causes the Great manual to drive the Choir manual, but the Choir manual can be played independently without actuating the Great manual. The same is true for the Swell to Choir coupler.

Coupling the three manuals to the pedal board introduces additional challenges caused by the pedal board's distance from the manuals, its greater length of travel, and its different proportions, particularly the greater width of each key. Additionally, since the Pedal division has only thirty keys, only a portion of each fifty-eight-key manual division can be coupled to it. Ferris addressed all of these challenges with the backfall-and-idler coupler, a design commonly used in this application. The tail of each manual key is notched on the bottom such that the upper end of a vertical sticker can be moved in and out of the notch. When aligned with a notch, a sticker does not engage a key. Below each manual is a horizontal *stock* with mortises for the upper ends of that coupler's stickers. Pulling a draw knob for one of these couplers causes its stock to move the heads of all thirty of its stickers out of the notches to engage the key tails. Since the three manuals' keys are in line, the stickers for the Great and Swell manuals pass through mortises in the tails of the lower manuals' keys that are large enough to prevent interference.

For each note, the lower ends of these three stickers are pinned to one end of a horizontal arm whose other end is pinned to the frame. This arm, the *idler,* serves two purposes. First, it provides a stable foundation for the lower end of these three stickers. Second, it transfers the motion of any pedal key to all three stickers simultaneously. In addition to moving its own action, pressing a pedal key pulls down on a vertical tracker that extends up to one end of a first-class lever called a *backfall.* The opposite end of the backfall pushes up on a vertical sticker that pushes up on the idler and, thus, the three stickers. The backfalls are mounted in a horizontal fan arrangement that compensates for the different spacing of the pedal and manual keys. As with the couplers between manuals, these couplers function in only one direction, so that the manuals can be played independently while any of them are coupled to the pedal board. It is possible to engage manual-to-manual and manual-to-pedal board couplers simultaneously in any configuration desired, though accomplished organists tend to use couplers sparingly.

Organ Stop List- Original Specifications and Later Changes

Though Davis and Ferris initially proposed an instrument with 36 stops, the Calvary Church finally approved the instrument to be built with thirty-two. Of these, thirty remain essentially intact from 1847, being slightly altered with the loss of five notes at the bottom of the range and addition of five new notes at the top when the organ was changed from G-compass to C-compass in 1867. One stop was changed and another added by Levi Stuart in 1867. He added a second in 1878. Giles Beach installed a third additional stop beyond the organ's original specifications in 1888.

Original Stops	Later Changes
GREAT (GGG-f’’’, 59 notes)	CCC-a’’’, 59 notes (Levi Stuart, 1867)
1. First Open Diapason (organ metal)	
2. Second Open Diapason (zinc)	
3. Stopped Diapason	
4. First Principal	
5. Second Principal	- Changed to Salicisional or Gamba (Levi Stuart, 1867) - Changed to viol d’ Amour (Giles Beach, 1888) - Restored to Second Principal using salvaged rank from an 1858 Ferris and Stuart instrument (Andover Organ Company, 1976)
6. Night Horn	
7. Twelfth	
8. Fifteenth	
9. Sesquialtra III	
10. Mixture III	
11. Trumpet	
12. Clarion	
SWELL (C-f’’’, 42 notes)	CCC-a’’’, 59 notes (Levi Stuart, 1867)
13. Bourdon	
14. Open Diapason	
15. Stopped Diapason	
16. Dulciana	
17. Principal	
18. Sesqualtra III	
19. Cornet II	
20. Trumpet	
21. Hautboy	
22. Clarion	
	23a. Forte (Giles Beach, 1888)
CHOIR (GGG-f’’’, 59 notes)	CCC-a’’’, 59 notes (Levi Stuart, 1867)
23. Open Diapason	
24. Dulciana	
25. Stopped Diapason	
26. Principal	
27. Flute	
28. Piccolo	
29. Furniture II	
30. Cremona	
	30a. Cremona (Levi Stuart, 1878)
PEDAL (GGG-C, 18 notes)	CCC-, C, 25 notes (Levi Stuart, 1867) - Changed to CCC-F, 30 notes, Andover Organ Company, 1979)
31. Open Diapason, 24”	
32. Open Dulciano, 12’	
	32a. Bourdon 16’ (Levi Stuart, 1878)

Original Stops
COUPLERS and MECHANICALS

Great & Swell
Great & Swell Octaves
Great & Choir
Choir & Swell
Great & Pedal
Choir & Pedal
Bellows Alarm
Pedal Lock

Later Changes
-Functionally the same as original, but mechanicals changed in concert with compass change (Levi Stuart, 1867)

The Round Lake Auditorium and Annex

Though the Round Lake Auditorium in and of itself does not rise to National Historic Landmark status, it contributes to the historic significance of the organ. The main Auditorium was built in 1885 as a permanent assembly space for Round Lake Association activities and the Annex was added in 1888 specifically to house a pipe organ as part of an expanded musical program at the Round Lake Camp Meeting. Though designed and built for this purpose, it is not clear whether or not the Annex was designed specifically for the Davis-Ferris instrument. Though the organ fits tightly against the rear wall of the Annex and within the wall dormer that accommodates the upper, rear part of the case, the Annex had been designed and was well under construction before the organ was purchased for the space. Further, the organ underwent minor modifications in order to conform to the structural constraints of its new environment. It is possible that basic measurements of the available instrument were obtained prior to construction, suggesting the Round Lake Association was aware of it for a significant period of time prior to purchasing it. It is also possible that the wall dormer on the south wall of the Annex was a last-minute design modification to accommodate the organ, suggesting that the organ was discovered after construction of the Annex had already begun. In either case, the organ still did not fit precisely within the building, requiring the rear corners of the cornice to be cut away slightly.

Today, the Auditorium and the organ share a historical and cultural relationship related to the organ's second phase of existence as the focal point of activities related to the Methodist Chautauqua movement and later, the public music, theater and community activities the Auditorium has housed. However, they also share a structural relationship. The organ is placed on top of a stage built as part of the Annex addition, placed fairly high above the main Auditorium floor, and accessed by a system of long steps that doubly function as risers for singers and instrumentalists. As reconstructed the Organ was threaded around and through structural elements of the building. As such, their cultural and physical relationships are inseparable.

The Round Lake Auditorium replaced a large canvas tent that had served the same purpose from 1867 until 1885. The building began in 1885 as an open-air structure in the Queen Anne Stick-Style taste. Strong circumstantial evidence suggests that luminary nineteenth-century American architect Marcus F. Cummings designed at least the Annex addition as part of a greater building campaign at Round Lake in the late 1880s. The main Auditorium structure relates closely to industrial and exhibition structures of the mid to late nineteenth century, in which a series of prefabricated, mass-produced parts in the form of vertical posts and modified Fink trusses, formed units that can be repeated as many times as necessary to produce a building of any length, with a largely uninterrupted open interior. The trusses create a sense of the Stick Style on the interior by their overall design and repetition. The edges of the timbers forming the trusses were decoratively chamfered and the components painted in a polychrome scheme in the Queen Anne taste. These features inadvertently relate to similar expressions of structure as ornament in Gothic cathedrals. The polychrome paint scheme has mostly

been painted over, but portions of the original paint can be seen from inside the organ case on the southernmost truss, which was hidden from public view by the organ case façade in 1888.

The main form resembles a basilica, with a long nave and side aisles. The building is oriented essentially north-south. The nave is two stories with a gabled roof. The aisles are single-story structures with shed roofs attaching to the east and west elevations of the nave. A continuous clerestory on the east and west elevations of the nave, above the roof lines of the aisles, brings light and ventilation into the structure. When the semi-octagonal Annex was added to house an organ and performance area in 1888, it filled the role of a chancel. Importantly, though the Davis-Ferris organ was removed from Calvary Church in 1887-1888 because, being positioned at the rear of the church, it no longer functioned when changes in worship practices required the choir to be positioned at the front of the church, the organ when moved to the Auditorium was placed at the front of the building within the chancel-like Annex in keeping with these updated worship practices.

Originally the Auditorium was primarily an open-air structure, though it may always have been enclosed on the north end with the current board-and-batten siding in the Carpenter Gothic taste. Prior to the addition of the Annex, a single-story, open-timber, hip-roofed Preacher's Stand was positioned at the south end. This was demolished to make way for the Annex. The clerestory windows in the nave, consisting of continuous rows of glazed six-pane sashes that tilted inward to permit airflow using a system of chains and gears, were the only permanent enclosures. The openings between the structural posts forming the exterior walls of the aisles were closed in inclement weather with canvas curtains. The fixed, multi-pane glazed wooden windows now in place were installed in 1914 to secure the building more permanently from the elements. At this time the current concrete floor was added over a layer of asphaltum placed over the original sloping packed earth floor in 1888. The seats, wooden bottoms and backs set within cast metal frames bolted to the floor, were also added.

The exterior details are in the Queen Anne Stick-Style. The main Auditorium is fairly plain. It evolved more definitively into a Stick Style structure in 1888 with the addition of the Annex and bell tower. The two-story Annex is a semi-octagonal structure appended to the south end of the main Auditorium. Its eave line ties neatly into the Auditorium's nave eaves, creating the sense from the exterior that the entire structure was built in one episode. The eave line of the Annex, dictated by the eaves of the main building, resulted in a fixed design with inherent constraints, around which the organ case had to be modified in order to conform to the new space; the rear corners of the case cornice had to be cut away slightly in order to fit below the slope of the Annex rafters as discussed above. The first floor level of the Annex exterior walls are finished in wooden clapboards set between wooden strips that divide the surface into a geometric pattern. The second and third floor wall planes of the exterior walls and wall dormer are finished in wooden shingles cut in a fish scale pattern.

A gabled wall dormer rises at the south end of the Annex. The elevation of this dormer creates a three-story edifice on the south end of the Annex. The dormer features a pediment in the gable. The tympanum of the pediment is decoratively finished with square-butt wooden shingles. The second-floor wall plane is finished with a blind arch created from decorative woodwork components to resemble a granary door. The arch is divided into three parts with vertical wooden strips much like a Roman thermal window. The arch tops a set of twelve vertical panels designed to look like doors. It is a false opening, as this area of exterior wall forms the current back wall of the organ case. The eave line of the dormer is punctuated with decorative brackets. The Annex elevations are punctuated at second-floor level by six pairs of double windows. The windows consist of paired, multi-pane double-hung sashes divided by mullions and topped by transoms. At first-floor level, the largely solid wall planes are decorated with vertical and horizontal strips of wood dividing the clapboard siding into a distinct geometric design. There are paired double doors at first-floor level below the false arch on the south wall of the Annex. The purpose of these doors appears to have been for moving large pieces of theater equipment in and out.

The bell tower rises in a corner area created by the south end of the west aisle and the west elevation of the Annex. It features open-timber construction. The posts and diagonal braces are arranged aesthetically and are decoratively treated with chamfered edges known in the Queen Anne style as "stickwork". The tower is topped by a hipped roof that caps the bell housing. The four sides of the bell housing feature open Roman thermal-style arches. The areas of solid wall around the arches are finished with wooden shingles that create a textural contrast with the clapboard siding on the main exterior walls of the Annex. These arches are repeated in the arched false granary door detail on the south elevation of the Annex. The eaves to the bell tower roof are punctuated with decorative brackets, a motif repeated from the dormer on the south elevation.

The use of Roman thermal-style arches, whether open or false, commonly positioned below a pediment; decorative eaves brackets; trim boards dividing exterior wall surfaces into patterns; contrasting exterior materials (such as shingles, board and batten siding and clapboards); and structure expressed decoratively as "stickwork" are details seen on several other buildings in Round Lake built in the late 1880s that were designed by Marcus Cummings.

Repairs and Integrity of the Organ

A course of action over the past fifty years resulted in the Organ's survival with an unusually high degree of historical integrity. Notably, a relationship of stewardship and advocacy began between the Andover Organ Company of Methuen, Massachusetts and the stewards of the Davis-Ferris Organ that has continued for decades and resulted in not only in the organ's preservation, but its continued maintenance in playing condition. In an August 26, 1959 letter that began this relationship Helen Hirahara wrote, "We have started a fund to restore the organ, not [*sic*] rebuild it."[21] As such, the Organ continued to be tuned and minor repairs made to maintain it in playable condition. The Andover Organ Company submitted many proposals over the following five decades to execute a major restoration. Their proposals always offered many options for treatment ranging from basic triage to full restoration. The Association, and later the Village of Round Lake, never enacted any major restoration due to limited budgets or because of the philosophical approach began by Helen Hirahara in 1959.

In November of 1959, the Andover Organ Company issued a proposal for cleaning, repairs and restoration.[22] Their proposal included major changes, including converting the Viola stop to a 2' Flageolet, and providing a new three-rank mixture, which would have required replacing all pipes in the Great chest accordingly. Only basic repairs, replacement of missing pipes, cleaning and tuning were carried out, and the organ remained otherwise unaltered. At this point, the Andover Organ Company also evaluated the relationship between the instrument and the Auditorium structure for the first time. They noted that the building was settling on the instrument, as well as the presence of dampness, rodents and dirt, and recommended pest mitigation and climate control.[23]

The mid to late 1970s witnessed the most extensive repairs and restoration carried out on the organ since 1888, and not seen afterward. This era of interest in the instrument may coincide with the American Bicentennial and a period of heightened public interest in America's historical and cultural resources.

In 1974, a round of repairs beyond annual tuning and maintenance was proposed by the Andover Organ Company, intended to restore the instrument to "like new" condition.[24] Major repairs and restorations were proposed for all mechanical components such as re-leathering the reservoirs, re-gilding the façade pipes, restoring the "fake graining" of the outer case, refinishing the wood in the console area and providing

[21] Andover Organ Company files, Aug. 26, 1959 letter from Helen T. Hirahara.
[22] Andover Organ Company files, November 14, 1959 proposal to the Village of Round Lake.
[23] Undated letter, presumably 1959-1960, Andover Organ Company files.
[24] Andover Organ Company files, letter to the Village of Round Lake, July 31, 1974.

replacements for missing stop labels. They also proposed restoring the pedal Bourdon pipes, cut off when the instrument was moved to Round Lake in 1888, to their original 32' pitch and length. These items were not completed. The final scope of work included installing new nuts and bushings to quiet the action, bushing the roller boards, lubricating the action with graphite compound, and repairing cracks in the wind chests. The company also restored the Swell to Great 4' Coupler, which had been altered at an unknown date.

In 1977-1978 the Andover Organ Company installed a Trumpet stop salvaged from an 1855 E and G.G. Hook organ to replace the missing trumpet stop in the Swell.[25] In 1974 the company proposed a new pedal board. The current, 30-note pedal board was finally installed in 1979, replacing the 25-note 1867 pedal board that is now stored inside the organ case.[26] The current pedal board was salvaged from a nineteenth-century Hutchings instrument. Installation of the new pedal board allowed for greater range in the Pedal stops, making the instrument more functional for modern organists and usable for a wider body of musical literature. Installation of the pedal board required cutting away small portions of the decorative plinth to the organ case on either side of where the pedal board enters the instrument. These cuts remain visible today as a physical record of the Organ's adaptation over time. In 1976 the Andover Organ Company replaced missing pipes in the Second Principal stop of the Great Division with pipes salvaged from an 1858 Ferris and Stuart instrument in Saint Mary's Roman Catholic Church in Newark, New Jersey.[27] These replaced the non-original Viol d'Amour stop. They cleaned and repaired the Trumpet and Clarion in the Great Division, and repaired the wind regulators.

Again between 1983 and 1984 significant work was proposed and partially undertaken. The keyboards were removed and the pins bushed to eliminate lateral movement from wear. Many of the squares were re-glued, having come apart from wear. The horizontal trackers in the Swell were replaced, and the Choir trackers replaced with "add-ons" for the Choir to Great coupler.[28]

In 1986 the Village of Round Lake solicited a proposal from the Andover Organ Company for a major restoration. The scope of work included complete dismantling of the organ and removal to Methuen, Massachusetts for restoration.[29] The work was to take several years to complete, with the goal of reinstallation in time for the 1991 concert series. One option in this proposal was to restore the instrument to its original 1847 compass, which would have resulted in the loss of the current keyboards, added in 1867 when the Organ was still in place at Calvary Church. Their proposal also included recommendations to install a "smooth ceiling" over the Organ to improve acoustics and help mitigate dust and debris from falling into it. This work was never approved.

In May, 1993, the Village of Round Lake received specifications from the Andover Organ Company for a significant round of repairs.[30] This scope of work focused on the Swell box. Options included rebuilding the existing Swell box, redesigning the existing Swell Pedal mechanism to return it back to its original "hitch-down" mechanism, restoring the shades in the Swell Box, and doing various regulatory repairs. The Swell box had originally been designed with a double set of horizontal shades. At an unknown time, the inner set had been removed to increase volume in the Swell. These were not returned to the instrument, and the detached shades are currently stored in the blower room of the Round Lake Auditorium. The Andover Organ Company proposed replacing the remaining original horizontal shades with vertical shades to improve "sound egress." The final

[25] HAER Report, 7.

[26] Though accounts differ as to when the current pedal board was installed (as late as the mid-2000s, it appears in the 1986 photos take for Stephen Pinel's article in "The Tracker," and an approved proposal from July 12, 1974 marks the pedal board as "Replaced." This notation, written in pencil, was likely added to the 1974 proposal in 1979 after the work had been completed.

[27] Notes from Author's interview with Matthew Belloccio, Andover Organ Company, October 21, 2015.

[28] Andover Organ Company files, letter to the Village of Round Lake, August 15, 1984.

[29] Andover Organ Company files, proposal letter to the Village of Round Lake, November 21, 1986.

[30] Specifications for Round Lake Auditorium, Round Lake, New York, Andover Organ Company, May 19, 1993.

scope of work was agreed upon in August of 1996. The Andover Organ Company removed the Swell box and restored it essentially as-is, doing woodworking repairs to the structure and repairing only broken shades.[31]

In 1999 the Andover Organ Company voiced concerns about the effects of the structural settling of the Auditorium on the Organ. The weight of the Annex addition was pressing on the south end of the original Auditorium, which was also settling due to decay of the outer sills and was putting pressure on the instrument.[32] This settling caused the southernmost roof truss, originally the south end wall to the 1885 Auditorium building and subsequently the joint between the original structure and the 1888 Annex addition, to drop as much as two inches. The pressure the truss placed on the Organ split the frame-and-panel walls of the east and west case sides. Downward pressure of the truss may have also caused the front of the organ case, notably the horizontal impost supporting the façade pipes, to begin to bow outward. Today, this deflection can be seen in the joint between the key well console and the case, which exhibits spreading of the joint along the sides and top.

In 2001, the Andover Organ Company advised the Village of Round Lake against refinishing the outer case in an effort to improve its appearance.[33] The case, of grain-painted pine resembling walnut, could be damaged by a refinishing effort. They advised that only an expert in nineteenth-century decorative finishes should be consulted for cleaning and conserving the finish. The Village of Round Lake opted to avoid any treatment of the original finish on the exterior of the organ case.

In an email memo in 2004, Matthew Bellocchio of the Andover Organ Company again advised the Village of Round Lake about the problem of the Auditorium's roof truss bearing down on the Organ and causing damage.[34] Major structural work was completed on the Auditorium in 2005, including structural stabilization of the walls, exterior woodworking repairs, and interior stabilization of structural posts with concrete footers. In a May 10, 2005 letter to the Village of Round Lake, Michael Eaton of the Andover Organ Company indicated that the problematic roof truss was no longer bearing on the Organ structure.[35]

Also in 2004, the Andover Organ Company recommended major restoration of the instrument's wind system and Great keyboard.[36] This work was not completed until 2007, as part of a large-scale proposal for extensive restoration at a cost of over $228,000.[37] The proposed scope of work included extending the Pedal Coupler downward to 30 notes. It appears that the final scope of work focused on restoration of the reservoirs and typical, small repairs to the action. It was also proposed to restore the Wind system included re-leathering the bellows and rebuilding the Great wind chests and pipes. The Village agreed to have the bellows restored but not the wind chests. The Andover Organ Company removed the bellows and took them to Methuen, Massachusetts for restoration. This involved temporarily removing several Pedal Bourdon pipes in order to slide the bellows out at the sides of the case. The bellows were re-leathered with goatskin matching the original material. The wood was sealed with red paint resembling the red paint originally used for the same purpose. The wrought iron scissor mechanisms at each end of the bellows meant to control the even expanse and collapse of the bellows, were bushed with maple strips where they attach to the soft pine baffles. The original screw joints in these locations had stripped over time and the addition of the maple strips improved the longevity of these joints. The Pedal Coupler was not extended.

[31] Contractual Letter of Agreement from Brown, Brown and Peterson, Attorneys and Consultants at Law, Ballston Spa, NY August 14, 1996. Attorneys on behalf of the Village of Round Lake to the Andover Organ Company.
[32] Andover Organ Company files, letter to the Village of Round Lake, August 1, 1999.
[33] Andover Organ Company files. Letter from Davis-Ferris Organ Company to the Village of Round Lake, June 1, 2001.
[34] Andover Organ Company files, print-out of email from Matthew Bellochio. June 4, 2004.
[35] Andover Organ Company files, letter to the Village of Round Lake, May 10, 2005.
[36] Andover Organ Company files, letter to the Village of Round Lake, June 16, 2004.
[37] Andover Organ Company files, Proposal for Restoration, October 3, 2007.

In this scope of work, the Great keyboard was recommended for resurfacing. This work was not completed until January 2010. The original ivory key enamels were worn and warped, and several key heads were broken or missing. The entire Great keyboard was re-enameled with legal ivory matching the original material, consisting of ivory pre-dating the 1989 international ban on elephant ivory.[38] The scope of work also included re-attaching loose original ivories on the Swell and Choir keyboards.

Other work on the organ between 2006 and 2009 was largely maintenance typical for the 1960s and 1970s. The Andover Organ Company tuned and cleaned the instrument, repaired leaky seams in the Pedal Bourdon pipes, adjusted sticky keys, and polished and adjusted pipes in the reed stops. Work in 2006 was completed in time to have the organ "…sound the very best it can" for its inclusion in the program of the International Organ Society's 50th Anniversary Convention, the week of June 19 through 24th.[39] In 2009, separated joints in wooden pipes were cleaned and re-glued. New nuts were installed at the bottoms of many tracker rods in the Great and Swell. The sliding doors to the key well console were repaired so they would slide more easily.

In 2009, the Andover Organ Company submitted another proposal for major restoration, excluding the exterior case, similar to the one submitted in 2004 and at a similar price of over $228,000.[40] Again, though restoration of the Swell keyboard enamels took place in 2009, the remaining scope of work as completed was limited to minor repairs and adjustment of the action.

In 2011, there was damage to about six of the Choir manual tracker rods. The evidence suggested to Andover Organ Company technicians that perhaps a cat had chased a rodent through the case. The weight of the animals walking on the trackers had caused them to twist, break and disengage from their relative squares. The repairs were completed by July 2011.[41]

[38] The work was subcontracted by the Andover Organ Company to the Blackstone Valley Piano and Organ Company in Uxbridge, Massachusetts. Andover Organ Company files, printed email exchange between the Andover Organ Company and the Blackstone Valley Piano and Organ Company. January 15, 2010.

[39] Andover Organ Company files, letter to the Village of Round Lake, April 25, 2006.

[40] Andover Organ Company files, Organ Restoration Proposal, April 15, 2009.

[41] Andover Organ Company files, printed email correspondence between Matthew Bellocchio and the Village of Round Lake, July 26 2011.

8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:

Nationally: X_ Statewide: __ Locally: __

Applicable National Register Criteria: A X_ B__ C X_ D __

Criteria Considerations (Exceptions): A__ B__ C__ D__ E__ F__ G__

NHL Criteria: 1 and 4

NHL Criteria Exceptions: N/A

NHL Theme(s): II. Creating Social Institutions and Movements
3. Religious institutions
4. Recreational activities
III. Expressing Cultural Values
2. Visual and performing arts
5. Architecture, landscape architecture, and urban design
6. Popular and traditional culture

Areas of Significance: Architecture, Entertainment/Recreation, Performing Arts, Social History

Period(s) of Significance: 1847-1898

Significant Dates: 1847, 1885, 1888

Significant Person(s): N/A

Cultural Affiliation: N/A

Architect/Builder: Richard M. Ferris

Historic Contexts: XII. Business
B. Manufacturing
3. Machinery and Instruments
XXII. Music
I. Instruments (Use and Development)
J. Forums (Halls and Auditoriums)

State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.

Introduction

The Davis-Ferris tracker pipe organ ("the Organ" or the "Davis-Ferris Organ") is nationally significant under NHL Criterion 1 as an outstanding representation of nineteenth century American organs and the music they produce. Purpose-built for an urban Episcopal church and relocated, with no significant changes, to a Methodist camp meeting auditorium in a rural location, the Davis-Ferris tracker pipe organ is able to inform us about religious musical styles in the early nineteenth century and how changes in that genre are exemplified in church organs. It is also nationally significant under NHL Criterion 4 because it is a nearly intact example of the art and science of American organ building in its earliest years. It is the oldest large ("three-manual") organ to survive in a relatively intact condition with its original tonal and mechanical design.

The period of significance begins in 1847 with the building of the organ for Calvary Episcopal Church in New York City and ends in 1898 with the death of William D. Griffin, a trustee of the Round Lake Association for 30 years and the president for more than a decade. Griffin had been the guiding force behind the transition of Round Lake from a camp meeting to educational summer resort. Following his death, the incoming Association leadership seemed to be not only more prosaic in its governance, but also beset by difficulties which led to a decline in the Association and the end of the regular use of the Davis-Ferris Organ.

The Davis-Ferris Organ was built by Richard M. Ferris in New York City for Calvary Episcopal Church in 1847 and was one of the most celebrated instruments of its time. The Organ became obsolete in its original setting after forty years of use, notwithstanding that there was no diminution of its power. The form and style of the Episcopal services changed and in turn, the music required for the services changed. The Organ then found a new life in a new location in 1888 in the Auditorium on the grounds of the Round Lake Association in Upstate New York where it was used at the Methodist Camp meetings held in Round Lake. At this time, Round Lake was beginning to adopt aspects of the Chautauqua Movement to evolve from an intensely religious to a mostly secular orientation and the Organ was a key part of that transition. It is a large, complicated and expensive instrument that the people of Round Lake, at that time, were willing and even eager to acquire. After the waning of the Chautauqua Movement in the early twentieth century, the Organ remained virtually unaltered for fifty years before being rediscovered and piecemeal efforts to maintain and preserve the instrument began. It remains in this second home today and serves now as the focal point of musical and community activities in what is now the Village of Round Lake.[42]

The Davis-Ferris Organ represents changes in organ building and the engineering processes occurring in the 1840s made possible by newly developed materials. Its construction methods departed from the roots of eighteenth-century English organ building in ways that show the methods and the development of American manufacturing during the Industrial Revolution before the Civil War.

Because of increasing demand, mid-nineteenth century organ builders were building more and larger organs for new and larger urban church buildings. Organs of the Davis-Ferris size (3-manual) were in fact status symbols, both for their builders and the often significant churches that housed them. But they were also the first to be replaced, especially in the period following the Civil War, when major churches were renovating old buildings or erecting new and larger ones. Some of the very early organs do survive, but sometimes so significantly altered, enlarged, or rebuilt that their original tonal and mechanical character is lost. Some large 3-manual organs were simply broken up by rebuilders to provide material for smaller organs. So, the organs that do survive intact are generally smaller instruments of one or two manual divisions. Thus, much of what we have

[42] The Organ's significance was recognized in 2010 when it was documented in the Historic American Engineering Record.

learned about the construction of organs from the first half of the nineteenth century has come from these smaller examples.[43] The Davis-Ferris Organ can more thoroughly teach us about early American-made organs.

An organ's design and specifications reflect the culture and technology of the time it was built. Subsequent changes, upgrades, repairs, restoration, preservation, and conservation efforts are evidence of later cultural influences as well as developments in technology. The Davis-Ferris Organ was originally constructed for ecclesiastical uses and reflects the religious music and its role during that period. When The Organ became outdated as religious needs evolved, it was repurposed by a small rural community needing an instrument for its Methodist camp meetings. The Organ's role changed yet again when, following patterns of the time, the Round Lake camp meeting evolved into the more secular, educational, and entertaining Chautauqua Movement. The sounds the Organ produced over the years ranged from reverent to raucous. Where and how the Davis-Ferris Organ was used informs us about the people who played it and the audiences who heard its music and ultimately how and why those uses changed.

Music is an important element for understanding theology and religious practice, as "for most congregations, music is an important component of worship."[44] In 1847, the Davis-Ferris Organ was designed and created to be a critical component of the worship service at Calvary Church, a sophisticated and newly enlarged urban church of the Protestant Episcopal denomination. Aside from the utility of the music the Organ would eventually produce, the builder and the parish commissioning the instrument intended that the Organ match or exceed the finest organs in New York City. The Organ would serve not only as an advertisement for the skills of the builders and but also would contribute to the prestige of the new congregational home.[45] By all accounts the Organ did just this, but less than fifty years later, as a powerful 'reform' movement in Episcopal worship was realized at Calvary Church, the Organ was deemed obsolete for the purpose for which it was constructed; notwithstanding that there was no diminution in the Organ's capabilities. The church would ultimately sell the Organ to pay for a new organ that met the needs of the new fashion in Episcopal worship service and theology.

The Organ's next home, in a rural camp meeting site established by the Methodist Episcopal Church in upstate New York, marked a new life as anchor and accompaniment for an entirely different type of worship service. In Round Lake, the Organ was also an integral part of transforming Round Lake into a Chautauqua-type education resort featuring a summer music festival. Thus, the story of the Organ narrates two quite opposite trends in theology and liturgical and religious practices, mirroring the roles of religion in the developing American culture. The first thread is the emerging Anglican Church (the newly dubbed Protestant Episcopal Church) in America's most sophisticated city where the Organ anchored staid worship services, accompanying a quartet of professional singers, and was played in concerts and exhibitions to meet an urban audience's demand for music culture. The second thread is an element of a much newer religion, with an American character valuing spontaneity, conversion, Christian witness and of course, boisterous music. Each trend is revealing of American attitudes toward religion and spiritual practices that stemmed from the same source (the Church of England), but each is an American iteration. The Organ illustrates the story of popular culture at the end of the nineteenth century in America, as a participant and example of trends in educational and intellectual thought, popular culture and most obviously, musical tastes and performing arts.

Today, the Organ is a conduit for understanding the centrality of worship and the diversity of spiritual practice in the development of American culture. The Organ also demonstrates the diverse roles and the interplay of

[43] Barbara Owen, past President, Organ Historical Society, personal communication, June 2016. The NPS would like to thank Dr. Owen for the use of her comments in this nomination.

[44] Seven categories can serve as points of reference to describe and understand Protestant worship traditions: people, piety, time, place, prayer, preaching and music. White, *Protestant Worship,* 2.

[45] HAER NY-543-A (HAER Report), Historic American Engineering Record, 2011 Round Lake Auditorium, Organ, 2 Wesley Avenue, Round Lake, Saratoga County, NY 9.

cultural elements, both within and without particular religious practices, in the history of our country. The Organ tells the story of the malleability and relative value of religion and the elements of religious worship in forming American culture across the nineteenth century.[46]

The Davis-Ferris Organ survives with a substantial amount of its original components and with only minor changes. It is the oldest and largest pre-Civil War American pipe organ to survive in such near original condition, and the only surviving example with three manuals. Minor changes after 1888, including basic repairs and also subtle changes to make it playable to modern organists, kept it viable. The Organ remains largely in its original form because no need ever arose to alter it significantly, and funding for its later treatment was limited. After it was moved to the new setting at Round Lake in the 1880s, the Organ remained continuously active and useful for another thirty years. Between the 1920s and 1970s, a period of dwindling use and benign neglect occurred before the Organ became the focus of determined preservationists. Financial restraints actually preserved its integrity, as ambitious proposals for "restoration" were too costly for Round Lake Village in the second half of the twentieth century. However, the repairs and alterations that were made to the Davis-Ferris Organ over time remain visible to the trained eye today and stand as an important historic record of the instrument's modest adaptation for changing uses.

Christianity, The Organ and American Culture

Alexis de Tocqueville famously observed the influence of Christianity in the American spirit when he toured Canada and the United States in the early 1830s.[47] To the present day, the vast majority of Americans identify themselves as Christian. "[B]oth the immense variety of Christian thought and practice and the manifold, frequently surprising influences of Christianity in the broader sweep of American history are too easily overlooked."[48] Protestantism, a single subset of Christianity, had and continues to have diverse and changing sets of adherents, beliefs, and practices producing a spectrum of worship expressions, customs, and rituals.[49] The nineteenth century was a particularly fertile time for religion in America. Newer religions included Mormons, Pentecostals, "frontier" religions, various forms of Perfectionists, as well as Christian Scientists. More established religions, such as Methodism and even Anglicanism (in the form of the new Protestant Episcopal Church in the United States) took on momentum and were affected by the trends and tides of the developing American culture, most particularly, the social gospel movements (encompassing first abolitionists, then the temperance movement, and eventually cultural education as the century progressed) and the "restoration" movements when the culture looked back to the middle ages for inspiration and cultural context. As the American identity was forged during this period it was intertwined with the effect of religion on every component that could describe "culture" in America: "there is hardly a feature of American life including politics, foreign policy, literature, science, sexuality, gender, race, violence, pacifism, warfare, the media and capitalism that has not been influenced by some aspect of the Christian tradition." That identity is also affected

[46] In his essay The Musical Work and the Nineteenth-Century History, Jim Samson posits the value of examining the operatic voice, the violin and the piano as each instrument "generated a range of practices sufficiently broadly-based to dominate music's social history at particular times and particular places" and each evolved at least partly in response to the demands of "taste-publics". Looking at these instruments operates as tools for understanding music history by tracing and joining the threads that link music to the culture in which the music formed and to which music responded and developed. The author states that the history of nineteenth century music "is a history of works, composers and performers; of traditions, media and styles; of institutions, ideas and responses… above all, between text and context, between music and the world around it." *The Cambridge History of Nineteenth-Century Music* (Cambridge University Press, Cambridge, 2002) 3-28.

[47] Norman A. Graebner, Christianity and Democracy: Tocqueville's Views of Religion in America. *The Journal of Religion* 56 (3) (University of Chicago Press, 1976) 263–73. http://www.jstor.org/stable/1201932.

[48] Catherine A. Brekus and W. Clark Gilpin (editors), *American Christianities: A History of Dominance & Diversity* (University of North Carolina Press, Chapel Hill, 2011)1.

[49] James F. White, *Protestant Worship: Traditions in Transition* (Westminster John Knox Press, Louisville, KY, 1989).

by the fluidity and staggering variety of religious belief and practice in the United States, a uniquely American quality that continues to this day.[50]

Organs in America

The story of American organ building begins in the first decades of the nineteenth century. A small number of instruments were built in America in the late eighteenth century but were produced in isolated locations.[51] At this time organ building in America was usually a part time activity for craftsmen skilled as joiners, clockmakers or metal craftsmen using their tools, skills and technical knowledge for this purpose.[52] The majority of organs used in America were imported from England and organ-building was not a widely established industry in America. No surviving American instruments from the eighteenth century reach the scale of those produced by the leading builders of the mid-nineteenth century.[53]

The Davis-Ferris Organ represents a period of great expansion in domestic organ construction, and American industry generally. While the major centers of organ production in the early nineteenth century were located in America's largest cities, organ building soon would also flourish in smaller communities.[54] The organ builders in Boston and New York rose to national prominence.[55]

The great expansion of organ building in America resulted primarily from the War of 1812 and the associated Embargo Act of 1807. Because these events restricted trade with Britain, an explosion in domestic manufacturing of all kinds, including organs, was created with other countries. Not only did the demand for American-made organs increase the dependence on and influence of European, and particularly English building methods and components, perhaps most significantly, styles of tonal production were much reduced.[56] In addition, the United States experienced a large increase in population, especially in urban centers, which created both an emerging market of consumers that could regularly support organ production as well as a workforce that allowed for the division of labor in order to keep production costs down.[57]

This economic climate was vigorous enough to support multiple, competing organ building firms in any given city. After the embargo was lifted following the War of 1812, port cities such as New York and Boston brought in a regular supply of costly materials such as exotic hardwoods from Central America and elephant ivory from Africa, all of which were used in building organs and other keyboard instruments. Toward the middle of the nineteenth century, as part of a greater process of industrialization in America, advances in manufacturing also

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[50] Brekus and Gilpin, *American Christianities,* 1.

[51] Orpha Ochse, *The History of the Organ in the United States* (Indiana University Press, Bloomington, Indiana, 1975). In particular, German organ builders in Pennsylvania were relatively prolific before 1800.

[52] Ibid., 73.

[53] Ibid., 72.

[54] In upstate New York for example, there were skilled builders in Waterville, Utica, Buffalo, Troy, Albany, Gloversville, Elmira, Rochester, Syracuse, Binghamton and Geneva. Ochse, *The History of the Organ*, 169, 281.

[55] The Organ in America: An Historical Sketch, The Organ Historical Society http://www.organsociety.org/html/historic/america.html.

[56] Ochse, *The History of the Organ*, 101.

[57] The population of the United States grew from 7,239,000 in 1810 to 31,443,000 in 1840. http://www.census.gov/population/www/censusdata/files/table-4.pdf. Of this, in 1810, urban populations totaled 525,459, in 1860, the urban population was 6,216,518, an increase from barely 7% of the population living in urban areas to more than 17%. New York City was especially affected with an increase from 96,373 in 1810 to 813,669 by 1860. http://www.census.gov/history/www/through_the_decades/fast_facts/1810_fast_facts.html. The emerging pianoforte and organ-building firms often subcontracted the manufacture of many mechanical components, including action parts and even organ pipes.

affected organ building.[58] In Boston, organ building was dominated by E. and G.G. Hook. Henry Erben (1800-1884) had the largest organ manufacturing facility in New York City, but other organ builders, including Richard M. Ferris, also flourished in a competitive, and often overlapping marketplace.[59]

The majority of American-made organs sprang from English traditions in organ building that are traceable to the eighteenth century. Most notably, American organs from the antebellum period followed English precedent in their scale; the predominant use of the G-compass for the instruments' tonal range; use of organ metal (a lead-tin alloy) for the metal pipe ranks; and structural integration of the case, the interior, and mechanical components. Whereas the Boston builders of the antebellum period such as E. and G.G. Hook retained the use of organ metal and structural integration between case and works, New York builders began to depart from these traditions.

The expansion of organ-building in these urban centers followed long-established trends seen in other disciplines such as furniture and pianoforte manufacture in the first half of the nineteenth century. Since the mid-eighteenth century, cabinetmakers in cities such as Boston, Newport, and New York regularly made and shipped household furnishings to areas in the south and as far away as the Caribbean, supplying goods to places whose economies could not support local manufacture.[60] Likewise, Erben, Ferris, and other builders in New York, Boston and other northern cities produced organs for the local market but also regularly built and shipped them to destinations much further away. Ferris produced organs that went to Connecticut, Pennsylvania, New Jersey, Delaware, Virginia, Wisconsin, Michigan, Mississippi, and Texas.[61] During his short career, Ferris built and installed about sixty instruments, but this body of work included only two three-manual instruments, both of which were installed in churches in New York City.[62]

Richard M. Ferris

Richard M. Ferris (1818-1858) began as an apprentice in Henry Erben's shop in 1830 at the age of twelve. Ferris apparently had an acrimonious relationship with Erben and petitioned to terminate his apprenticeship in 1838 at the age of twenty, a year short of his contract.[63] Both had irascible temperaments. New York organist and contemporary of Ferris, Clare W. Beames, described Ferris as "…very nervous, precise, and exceedingly irritable."[64]

English-inspired characteristics employed by Ferris in the construction of the Organ may have come indirectly from English organist Edward Hodges (1796-1867). Hodges, a recent immigrant to New York in 1839, was organist at Trinity Church.[65] He actually drafted the designs for the organ Erben built for Trinity Church in 1846.[66] According to Stephen Pinel, these designs for the Trinity organ followed contemporary English

[58] Ibid., The "Factory Method" of organ production was well enough established so by the 1840s when an "organ manufactory" was destroyed by fire. Thirteen finished instruments were included in the losses. Also, organs were marketed using "catalogues" showing sample specifications and model numbers for far flung purchasers, Ochse, *The History of the Organ,*153.

[59] Ochse, *The History of the Organ,* 145-169.

[60] Barry A. Greenlaw, *New England Furniture at Williamsburg*, The Colonial Williamsburg Foundation (1974):5.

[61] Ibid.

[62] HAER Report, 4. The other was installed in All Souls Unitarian Church in 1856. It no longer survives.

[63] Ibid. Erben apparently had a formidable temper and was prone to rudeness and profanity. A December 14, 1846 letter from Trinity Church organist Edward Hodges to the Rector, Wardens and Vestry, describes Erben as "…strangely devoid of all urbane qualities… a manner so rude, so unjust, & [*sic*] altogether so abominable…" Letter from Edward Hodges to the Rector, Wardens and Vestry, December 14, 1846. Archives of Trinity Wall Street, Trinity Church, 75 Broadway, New York, 10006.

[64] Clare W. Beames, "Builders Richard M. Ferris, L. U. Stuart and their Organs," New York Weekly Review 21, no. 9 (July 16, 1870): 4-6.

[65] The organ at Trinity Church was probably the most famous organ of the day, as discussed below.

[66] Pinel, "A Documented History," 44-45.

trends.[67] Although Ferris left Erben's shop long before the Trinity Church organ was completed, he carefully studied the Trinity Church organ after its completion. The overall stop list, use of double Open Diapasons at unison pitch, and double shades in the Swell box were ideas conveyed directly from Hodges to Erben and were then employed by Ferris in the Calvary Church instrument.[68]

Soon after terminating his apprenticeship with Erben, Ferris rose to become Erben's greatest competitor. The competition between Ferris and Erben is clearly indicated by Ferris' proposals for construction of the organ for the just-constructed Calvary Church in 1846.

Ferris partnered with others including William H. Davis, at least briefly. Although both names appear in connection with the Davis-Ferris Organ, comparatively little is known about William H. Davis (1816-1888), including where he may have learned to build organs. He apparently had learned piano building in the shop of his father, Morgan Davis.[69] Later in life he claimed to have begun organ building in 1840.[70] He entered into partnership with Ferris in 1842 and by 1849 established his own organ-building firm. It remains a mystery why Davis, regarded today as the lesser of the two builders, had his name placed before Ferris on their 1846 proposal to Calvary Church for the construction of the organ. Perhaps it was Davis, rather than Ferris, who possessed the greater capital required to incorporate and establish a workshop. Equally mysterious, the sterling silver badge plate that appears on the Organ reading "RICHARD M. FERRIS, BUILDER, New York," identifies only Ferris as the builder. Surviving resources do not clarify these details of their partnership.

The Davis-Ferris Organ in New York City

The Episcopal Church in America was organized in 1789 and grew from the remains of the Church of England, which was well established in Colonial America. However, the "American Revolution left the Anglican parishes shattered, stripped of most of their financial support, weakened by the flight of many clergy and thousands of members, with a number of buildings destroyed and property lost."[71] The subsequent years were concentrated on organizing and building congregations. Denominations, including the Episcopal Church, expanded as old churches prospered and new churches were built at a fantastic rate. As a result, organ construction became a flourishing American endeavor.[72] An organ in a new church was deemed not just acceptable to accompany worship but essential to lend its prestige and gravitas to the new houses of worship.[73] The race was on, and as the instruments grew larger and more complex, adding stops and manuals, the role of the organ in the service grew as well.[74]

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[67] Ibid, 46.
[68] Ibid.
[69] Ibid.
[70] HAER Report, 3.
[71] Powell Mills Dawley, *Our Christian Heritage* (Morehouse-Barlow Co, Wilton, Connecticut 1959) 178.
[72] The War of 1812, and the associated embargos severely diminished the domination of the market in the United States by foreign built organs and created the opportunity and the demand for American organ builders to establish their craft. Orpha Ochse, *The History of the Organ*; William Joseph Beaseley, "The Organ in America as portrayed in *Dwight's Journal of Music*," (Unpublished Ph.D. dissertation, University of Southern California, 1971).
[73] Barbara Owens, *The Organ in New England: An Account of its use and manufacture to the End of the Nineteenth Century* (The Sunbury Press, Raleigh, North Carolina, 1979); Beaseley, "The Organ in America."
[74] Some thought there was too much growth: "Twenty or thirty years ago, when the theory and practice of music [in conjunction with a religious service] became a subject of interest in the country, … the use of the organ was recommended." Because early organ uses in churches were deemed too loud and distracting, organs in churches were initially small and "played lightly". However, the author notes "...this manner of suppressing, or keeping back, the tones and power of the organ, could not long satisfy the taste and ambition of organists; and those who had advocated the doctrine of soft playing were observed, either by accident or design, gradually to mark their performance with crescendo, from Sabbath to Sabbath. By and by all restraint was thrown aside, and the struggle was for the organ of the greatest power. The small organs were set aside to make room for thunder tones, still more and more powerful, till an

The history of Calvary Church in New York City reflected this growth. Calvary Church was founded in 1835 and incorporated in 1836 to establish an Episcopal parish in New York City's still largely undeveloped and sparsely settled east side above 14th Street. In 1837 the church consecrated a small frame building, but soon outgrew it. Five years later the structure was moved to another site and was expanded, and then enlarged twice more. In 1844, Henry Erben built an organ for the church for a cost of $725, minus a credit of $200 for the old organ, which he took in trade. By 1845 when another expansion was needed, the building could not be made any larger, and a brand new structure on a new site was consecrated in 1847.

The music committee invited bids for a new organ in early 1846 to replace the Erben organ, which was too small for the grand new space. At this time, Erben was engaged in building an organ for Trinity Church (the oldest, largest, and wealthiest Episcopal parish in New York), which attracted considerable attention, not least from Richard Ferris, as "[a]ll [organ] makers in New York and throughout the East were watching Erben as he completed this monumental commission."[75]

"In the early part of the eighteenth-century Trinity Church was the most powerful agency at work in New York for the advancement of music."[76] Henry Erben well knew the significance of the organ he was building for Trinity and sought to maximize his accomplishment. It was common practice at this time for organ builders to work with their clients to sponsor initial public recitals ("exhibitions") to show off recently completed organs. As the Trinity organ neared completion, a disagreement arose between Erben and Trinity's organist, Edward Hodges. George Templeton Strong recorded in his diary on September 28, 1846:

> Talking of Trinity church, the old feud between Erben and Hodges has ripened into a row which resulted in Hodges being tossed *vi et armis* out of the organ loft and left sitting on his hinder end in the lobby calling for the sexton and the rector. Erben wants to have an "exhibition" of that instrument (which is finished at last), but the spiritual authorities won't allow it.[77]

Erben eventually won out and on October 7th and 8th twenty-one organists took turns at the console. Although exhibitions were common practice, Erben's two day extravaganza was especially notable. The event attracted press coverage and a crowd of 17,939 people over the two-day event and fervent comments about the organ itself: "the glorious organ, that sublime achievement of genius."[78] Knowing of this, Ferris could not help but be impressed by the opportunity the Calvary commission presented to establish his own reputation (and to meet or exceed Erben's accomplishment).[79]

Davis and Ferris submitted their proposal on April 11, 1846 at a tantalizingly low price of $3000 (or alternatively $2,250 if the 1844 Erben organ were taken in trade).[80] He revealed his intention to build the organ at a financial loss in order to establish himself as a preeminent builder: "…we have some pride in the construction of the Instrument and would prefer having it a Monument to our fame, rather to our disgrace as we are both practical and seek for fame rather than emolument."[81] Undoubtedly adding to the sense of competition between Erben and Ferris was the fact that Calvary Church had commissioned an organ from Erben for their

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organ was *worthless* that would not make the granite walls of a church tremble, at times when used in full strength." Nathaniel Gould, *History of Church Music in America, its Peculiarities at Different Periods; Its Legitimate Use and Its Abuse; With Criticisms, Cursory Remarks and Notices (*Gould and Lincoln, Boston, 1853) 179.

[75] Stephen L. Pinel, "A Documented History of the Round Lake Auditorium Organ." *The Tracker* 30 1 (1986) 44-55; HAER Report 8-9.

[76] H. E. Krehbiel, "Surpliced Choirs in New York," *Harper's New Monthly Magazine*, 77, no. 457 (June 1888) 65.

[77] Vera Brodsky Lawrence, *Strong on Music: Resonances.* (Oxford University Press, New York 1988), 374.

[78] Oches, *The History of the Organ,*152 (citing an article in the *New York Express*).

[79] Ibid.

[80] HAER Report, 8.

[81] Pinel, "A Documented History," 45.

wood-framed church only two years earlier. Immediately upon completion the vestry complained that it was inadequate and solicited changes from Erben. By 1846 when the new Calvary Church was constructed at the present location, the 1844 Erben instrument in the older church was not under consideration for relocation to the new building.[82]

The firm of Hall & Labagh submitted a specification for a three-manual instrument. It is noted that Hall was in similar circumstances as "he had recently disassociated himself with Henry Erben. He too needed a major contract in a prominent location."[83] Hall specified an instrument very close in scale and appearance to the organ Ferris eventually built. It was to have a G-compass ranging from GGG to f, 59 notes. There would be three manuals, thirty-six stops, and a pedal of 25 notes. The case was to be of solid black walnut with gilt façade pipes, and the design of the case was to "…correspond with the architecture of the church."[84] The fact that this proposal was submitted sometime in March of 1846 and Davis and Ferris did not submit their bid until April 11 suggests that the Vestry may have had a very strong idea already of the scale and appearance of the organ they wanted. Thomas Hall submitted a price of $3,250, which included a credit of $700 for the 1844 Erben organ in trade. The difference of $1,000 between Hall's proposal and Davis and Ferris's was undoubtedly the reason Calvary Church accepted the Davis and Ferris proposal.[85] The notable resemblance of the proposed instrument to the organ Henry Erben was building at Trinity was probably not a coincidence.[86]

Completion and Payment

Few details of the progress of construction and installation of the Organ at Calvary survive. In late May 1847, the *Morning Courier and New-York Enquirer* reported that the Organ was nearly complete after a year's work, but that "a portion of it only, will be in readiness to use at the consecration of the Church." The article continued:

> It is the opinion of some of our most competent judges, that this Organ will be equal if not superior to anything of the kind in this country. Its power is intended to be about one third greater than the Organ at Trinity Church. For the ordinary purposes of Church worship, the Choir Organ, containing eight stops . . . will be voiced in a soft and agreeable manner. . . . The Pedal Organ (of two stops) will be very heavy; the large double Open Diapason being in scale, larger than any known of here.[87]

However, as described in the HAER Report:

> The Organ did feature in the church's consecration service on June 4, 1847. How much work remained to be completed at that point is unknown, but financial problems at the church appear to have led the builders to delay the finishing touches until they felt more secure that their compensation would be forthcoming. The purchase of the new building site and the construction of the new church plunged the Calvary corporation into deep financial difficulties. Funds ran short during construction, and the church fell behind on its debts. From 1847 through the fall of 1850, the vestry tried numerous strategies to raise capital with no real success. Although the

[82] HAER Report, 8-9.
[83] Pinel, "A Documented History" 46.
[84] Pinel, "A Documented History," 45.
[85] To put these prices in context, in 1851 when proposals were sought for the construction of an instrument at Trinity Chapel (a different entity than Trinity Church) that was to be almost negligibly larger than the Calvary Church instrument, five proposals were received. They ranged in cost from $4,000 to $7,000. Henry Erben came in as the lowest bidder. Richard Ferris bid $5,700 and Thomas Hall $5,200.
[86] HAER Report 10; Pinel, A Documented History 46.
[87] HAER Report 11.

> vestry made an initial payment to Davis & Ferris of $518.22 in January 1847 and tried to secure a mortgage to finance The Organ the following September, it could not settle the debt with the builders in a timely fashion and several years of financial insecurity and sporadic payments to Ferris followed. By 1850, a new rector was in the process of being called. A scheme to sell pews took place October 31, 1850 and raised enough money to settle the church's immediate obligations. Within days, the vestry began making installment payments to Ferris: $300 on November 6th and $200 on November twentieth. Regular payments to Ferris continued through 1851 until The Organ was paid IN FULL on November 17, 1851.[88]

On Friday evening July 23, 1852 the public exhibition of the Organ finally took place. While perhaps not on the scale of the Trinity exhibition, the organ was very well received:

> The Organ is a first class one.... we think the Instrument, altogether, very creditable, both to the taste of the church and to the Organ builder.[89]

Ferris advertised the performance under "Amusements" in New York papers.[90] Ferris was proud of his creation and he used the Organ as a demonstration piece for prospective clients following its completion.[91]

The Davis-Ferris Organ

The instrument Ferris constructed for Calvary Church resembled contemporary English and American organs in its outward appearance, its original use of G-compass tonal range, its variety of stops and use of double shades in the Swell box. However, it is most significant for the several ways it departed from prevailing fashions. First, the organ exhibits near-complete separation between the decorative case and the organ's inner workings. This may represent the influence of architectural innovations taking place in New York at the time the organ was built, in particular the development of architectural cast iron for use in building façades. James Bogardus, introduced the concept of a façade that was supported by the building it dressed, but was not structurally integrated.[92]

Separation between the case and the workings of the instrument it housed allowed for increased expedience in its manufacture and installation and offered the client greater choices in possible styles of the cases.[93] Various components could be made separately, assembled, tested and adjusted without the struggle of working within the confines of the case. Further, the Organ could be easily transported in smaller pieces when moved from the workshop and set up in the church. This design feature may have also contributed to the Organ's ultimate survival in near-complete original condition today, as it could be more easily disassembled and reassembled than one with a structurally integrated case. If the case had been more thoroughly integrated with the structure of the instrument, it would have almost certainly been disposed of when the organ was moved to Round Lake and a new case constructed to accommodate the physical installation in the Auditorium at Round Lake.

Though little written material survives indicating such, the construction of the Organ and its components clearly reflects the division of labor common in the quickly-industrializing antebellum New York. Though Davis and Ferris are the only personnel referred to in surviving records of the organ's construction, many other hands were

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[88] HAER Report 12-13.

[89] "A New Organ," *Musical World and the New York Musical Times*. August 1, 1852: 393.

[90] *The New York Herald* (NYH) July 2 1852:7.

[91] Pinel, "A Documented History" 50.

[92] Preservation Brief 27: The Maintenance and Repair of Architectural Cast Iron. John G. Waite, AIA, Historical Overview by Margaret Gayle. National Park Service, U.S. Department of the Interior, P 1-2.

[93] Matthew Belloccio, "Time, Taste and the Organ Case", *The Tracker: Journal of the Organ Historical Society, Vol*. 45 Nos. 3-4, 2001: 73.

clearly involved in its creation. Likely, Davis and Ferris designed the Organ's complicated apparatus and layout, and assembled components made by themselves, apprentices or journeymen, and/or subcontracted to other craftsmen.[94] The decorative case with its complex and elegant façade, was not built by Davis and Ferris and was also outsourced. Strong circumstantial evidence suggests it was designed by James Renwick, Jr., architect for Calvary Church, to reflect the main façade of the building. As mentioned earlier, the proposal from Hall suggests that the church vestry had a strong influence in the outer appearance of the Organ and Calvary Church records associated with the Organ suggest that a third party was responsible for construction of the case.[95] This detail also indicates the expediency of constructing an organ whose musical workings and case were separate from one another, and suggests that the instrument would be ready for use before the case was built and installed around it.

It is also unlikely that Davis and Ferris created the large body of cast composition ornament for the case, as this was very much a specialized trade at the time. Painting and gilding the case were likely done by yet another set of craftsmen. The instrument may have been left aesthetically unfinished until 1848 or later. In February of that year the vestry authorized funds to pay painter Benjamin Blonk to gild the façade pipes.[96] In 1859 they authorized additional funds for Richard Ferris and Company to do more, unspecified gilding.[97] This unspecified work was carried out after Ferris had died. No historic records survive explaining why, despite Hall's proposal to Calvary Church for building an organ constructed with a solid black walnut case, the case for the instrument constructed by Ferris was built from white pine and faux-grained to resemble walnut. Very likely this was a cost-saving measure on the part of Calvary Church, although the case was excluded from Ferris' proposal and contracted out to be built by someone else.

A well-documented example of organ works and cases built by separate craftsmen is the 1827 George G. Hook organ in the collection of the Peabody-Essex Museum.[98] The organ's works were built by Hook, but the decorative case was built by prominent Salem cabinetmaker Joseph True.

The Ferris organ is also important for its precedent-setting use of zinc sheet metal for many of the pipes. It is the earliest surviving example of an American organ that employs zinc pipes.[99] To this point in organ history, the metal pipes were made of "organ metal;" essentially pewter, a tin-lead alloy. This inexpensive material has the benefit of being easily malleable but has poor strength-to-weight ratio. This problem causes the largest, heaviest pipes to "cripple," or collapse under their own weight over time, and may be a reason why so few instruments of the era survive in a largely unaltered state. In contrast, zinc has a much greater strength-to-weight ratio, allowing large pipes to be made with thinner, lighter, stronger sheet metal that does not cripple over time. The Ferris instrument employs use of zinc for the large façade pipes, but also the entire Second Open Diapason rank in the Great division. This is the earliest use not only of zinc pipes, but also use of zinc for an entire rank.

The use of zinc in the Organ directly relates to and reflects wider developments in the production and use of metals in the Industrial era. Just as innovations in iron production allowed for precedent-setting use of cast iron in architecture and engineering, developments in manufacturing zinc as sheet metal affected not only architecture in its use as an ornamental metal as well as roofing material, it also permitted major developments in the construction of pipe organs. In the cases of both cast iron and zinc sheet metal, the viability of the

[94] Interview with Matthew Bellaroccio, Andover Organ Company, Methuen, Massachusetts. October 21, 2015. Bellaroccio believes it was common practice for items such as squares and pipes to be subcontracted to craftsmen specializing in these components.

[95] Pinel, "A Documented History," 45. Notably, Davis and Ferris' proposal mentions the organ would be "Finished for church service except for case."

[96] HAER Report, 5.

[97] Ibid.

[98] Collections of the Peabody-Essex Museum, Salem, Massachusetts. Catalog # 121452.A.

[99] HAER Report, 4.

products depended on the ability to be mass-produced reliably and inexpensively, which is the hallmark of industrialism.

The use of zinc as a sheet metal was a new development in the early nineteenth century. Until this point, zinc was primarily used in the production of brass. Though zinc is brittle at common temperatures, it can be rolled into sheet metal when heated to temperatures between 212-300 degrees Fahrenheit. Imported Belgian zinc sheet metal was in common use as a roofing material in New York City by the 1820s. Its use as a roofing material clearly indicates that zinc sheet metal was fairly inexpensive and easily obtained at the time Richard Ferris began making organ pipes out of it in the late 1840s.[100] In the proposal to Calvary Church in 1846, Ferris wrote "…there has been an entire revolution in the use of metal within the past few years."[101] This comment indicates that Ferris was an innovator in an age of innovation, and did not feel bound to centuries of tradition.

In proposing zinc for the pipes of the organ for Calvary Church, Ferris was aware of its structural superiority as well as the different tonal qualities it made possible: "the tone of Zinc is as pure as a bell and as durable as Iron…"[102] However, he did not entirely abandon the use of organ metal. Many pipe ranks in the instrument utilize this material, albeit typically for the smaller pipes. This specific use of metals for different purposes supports Ferris' awareness of the structural and tonal qualities of both.

Changes to the Organ at Calvary Church, 1867-1878

The Davis-Ferris organ remained in its original form from 1847 to 1867 with no changes other than repairs and tuning, though the façade pipes may not have been gilded until the summer of 1859.[103] In 1852, immediately after receiving the last of many delinquent payments for construction of the organ, Richard Ferris entered into another contract with the Church for unspecified work on it, amounting to the significant sum of $400. This seems to be related to repairs and maintenance rather than alteration. Ferris continued to service the instrument until his death in 1858 at the age of forty. Levi U. Stuart, Ferris's brother-in-law took over maintenance of the organ after Ferris' death. He had been paid in July of 1862 to clean the organ, and was contracted by Calvary Church in 1867 for its first major alteration, at a cost of $2,000. The scope of work included alteration of thee tonal range from the traditional English G-compass to a C-Organ. He also expanded the pedals from 18 to 25 notes.[104]

These modifications reflect changes in music and performance practice in the mid nineteenth century. The C-compass organ was developed in England in the 1850s to accommodate the development of pedal stops that acted independently. Many earlier English organs lacked pedals altogether. The C-compass, lower by five notes than the G-compass, was able to accommodate these five low notes from the keyboard. However, by the mid nineteenth century, an increasing amount of organ music was being written that featured an independent part for the pedal. This required a change in the overall compass of the instruments.[105]

The changes in compass remain visible in the instrument today. The earlier keyboards, which had begun at GGG-f, at 59 notes, were removed and replaced with the current keyboards, which extend from CCC-e, shifting

[100] Margo Gayle and David W. Look, AIA. National Park Service, "Metals in Historic Buildings: Uses and Preservation Treatments," Part I, Historical Survey of Metals. (1992): 15.

[101] Davis and Ferris, Estimate for an Organ for Calvary Church, April 11, 1846, copy made from vestry records reproduced in Ambrosino, *Organ Atlas of the Capital District Region of New York State,* 16-18. Alternatively, Pinel.

[102] HAER, 9.

[103] Pinel, "A Documented History" 50 (citing notes from the Calvary Church vestry minutes, September 1, 1859).

[104] Ibid.

[105] Notes from Author's interview with Matthew Belloccio, Andover Organ Company. November 18, 2015.

the entire compass upward by five notes.[106] This involved removing the lowest five pipes in the wind chests and shifting the remaining pipes downward by four holes, leaving the lowest G-hole vacant. Subsequently, the upper four holes were filled with new extension-pipes to produce the new f#, g, g# and a notes.

The new keyboards exhibited beveled key fronts, an innovation of the 1860s. Earlier keyboards exhibited square key fronts, which were often finished with decorative moldings. This modification in key design was developed so the keyboards could overhang one another slightly, allowing the musician to more easily and quickly shift back and forth between keyboards.[107] The key desk was also altered with the installation of the new keyboards. It was fitted with new cheeks, made from varnished mahogany or walnut, which exhibited no decorative moldings and do not match the overall design and workmanship of the original instrument. The design of the cheeks suggests that they were created to fill in spaces on either side of the keyboard left when the original keyboards, and whatever their decorative moldings might have been, were removed.

The original pedal board, composed of 18 notes from GGG to C according to the specifications for the instrument when construction was completed, was replaced at this time as well.[108] The new pedal board installed in 1867 contained 25 notes, with the compass shifted upward and expanded with a new range of CCC to GGG. This pedal board was replaced in 1979 with the current pedal board, but the 1867 pedal board is preserved inside the organ case today, as discussed later.

The wind chests for the Pedal, Great, Choir, and Swell manuals exhibit evidence of changes made at this time. The original 1847 wind chests were retained in 1867 but moving the compass upward from a G-organ to a C-organ required abandoning five notes in the bass ends of the wind chests, and adding five notes to the top of each. This can be seen today in the form of abandoned holes in the wind chests from no-longer extant pipes at the bass ends of the Pedal, Great, Swell, and Choir.

In addition to the change in compass, Stuart replaced the 4' Second Principal stop in the Great Division with a new 8' stop, described as either a Gamba or Salicisional.[109]

A 23 December 1867 article in the *New York Weekly Review,* preserved in the *Organ Scrapbook,* regarding the Ferris instrument at Calvary Church, states "[i]t is considered a very fine instrument. The tone is large or full but not brilliant."[110] This is a significant contrast from the 1852 article in the *New York Musical Times* at the time the Organ was publicly debuted, which stated in part,

> The organ is the best we have heard for some time. The diapasons are remarkably full and not overpowered by [the] Sesquialtra, Mixture and fifteenth, as is the case with many organs in this city. …we think the instrument is altogether very creditable, both to the taste of the Church and the Organ Builder.[111]

Comparison of these two journalistic entries, written nearly twenty years apart, suggests changes in taste were happening in the third quarter of the nineteenth century. Whereas both articles mention the fullness of the sound, it is clear that after the Civil War brilliance of sound was becoming a priority. Though Calvary Church

[106] Use of capital and lower case letters referring to compass or range of notes on the organ indicates their relative positions above and below middle C. For example, "CCC" indicates a note three octaves including and below middle C. Conversely, "e" indicates a note two octaves above middle c.

[107] Notes from Author's interview with Matthew Belloccio, Andover Organ Company. November 18, 2015.

[108] Pinel, "A Documented History."

[109] The stop is named "Salicional" in Stuart, *Church and Parlor Organs,* n.p. [10], and named "Gamba" in "Organ in Calvary Episcopal Church," *New York Weekly Review* 21, no. 38 (Sept. 17, 1870): 6.

[110] Pinel, "A Documented History", end note 49, 55.

[111] "A New Organ" *Musical World and the New York Musical Times*, August 1, 1852:393.

invested $2,000 in 1867 to update the Organ to a C-compass to keep it functional by current standards, its overall sound may have been on the eve of becoming outmoded by that time.

The Organ was updated again in 1878. For a sum not to exceed $1,000, the Organ was cleaned and regulated and the keyboards were repaired. The scope of work included a new blowing apparatus, a new 8' Cremona stop in the choir, an additional 8-foot Violoncello stop, and an additional pedal stop 16-foot Bourdon. These changes were made by Levi Stuart, who continued to service the instrument until 1887. More than just the personal requirements of organists playing the instrument over time, these changes forecast that the Church may have been struggling to keep the Organ up to the demands of changes being made in the Episcopal Church, and/or the tastes of professional organists employed by the Church in the late nineteenth century.

Music at Calvary Church

Music at Calvary Church in the decades following the completion of the new building and the Organ within was consistent with musical trends in worship services across New York City at this time and equal to that of any other church's music program. At this time and place, music in worship services usually consisted of a quartet choir of soprano, alto, tenor and bass, accompanied by an organ. The performers and the organ console were at the rear of the church. The quality of the performers and the instruments varied according to the resources of the church and the talents of the choir, organists/choir director, and very often the taste of the pastor. In wealthier churches, the Sunday morning choir would likely be professional singers who likely also performed in concert halls in the city.[112] The organist in the better off churches would likely be foreign (ideally British) trained with talent and experience in performing, teaching and composing.

Notwithstanding this general uniformity, the musical journals of the time were rife with debates over the role and type of performance appropriate for worship services. Most debate revolved around the use of quartets versus congregational singing. Although quartets were prevalent, the advocates for congregational singing were "vocal."[113] Other debates concerned the style of popular music, such as opera, sea chanty or the like, adapted for church service, or psalmody; the strict use of religious texts; and the proper composition (number and types of singers) and siting (placement and role in the church service) of the church choir. "The 1830s and 1840s were full of worries about the nature of performance, the moral dangers of having secular or theatrical performers leading prayers from the choir loft, and the need to find a hymnody that was appropriate for sacred time."[114]

The music program at Calvary was reflective of the development of musical culture in New York City generally. Even the most sophisticated urban centers—Boston, New York, Philadelphia, and Charleston—were

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[112] HAER Report 12.

[113] It is difficult to overstate this controversy. The *New York Musical Review and Gazette* ran a series by Lowell Mason (also publisher) in no less than 26 lengthy installments on the topic of church choirs vs. 'congregational singing' ("Choirs. No. I-XXVI" 1858-1859). Running opposite the last of these installments, the advocacy of congregational singing was reinforced by correspondence intercepted between Satan and his minion. The devil compliments his minister on the success of quartets of select singers in church services as opposed to the "heavy artillery of congregational singing in the plain, rich song of the people, which is so repugnant to us, but so full of worship and adoration to our great and most powerful enemy". Satan elaborately observes that "a trained choir may so *operatize*, and *dramatize*, and *concertize* the closing hymn by their style of music, their appoggiaturas, slides, increasing and decreasing of time and tone, their die-aways and prolongations, as to divert the attention wholly from the hymn and send the congregation home talking about and proud of these loutish and scum ornamenting, in their choir or quartet singing." *New York Musical Review and Gazette*, January 8, 1859:4. At nearly the same time, *Dwight's Journal of Music* was running a volley of correspondence on the topic with the proponent of congregational singing citing the success of congregational singing at Plymouth Church in Brooklyn (where Henry Ward Beecher was the minister) and a spirited rebuff of this style describing the music at Plymouth as "little short of blasphemy." "Congregational Singing; Congregational Singing Again." March 6, 13, 20 and 28, 1858.

[114] E. Kilsdonk, "Scientific Church Music and the Making of the American Middle Class" in *The Middling Sorts: Explorations in the History of the American Middle Class* edited by Burton J. Bledstein and Robert D. Johnston, pp. 125-135 (Routledge, New York, 2001) 135.

scarcely the size of large towns today. A city such as New York at this time may have had many and varied musicians.[115] However, the culture was not mature enough, and a patronage system had not yet evolved that could consistently support musical institutions and categories of performance such as orchestras, operas, concerts and music schools.[116] Venues for performance at this time were likewise few and often tentative as theaters, concert halls and spaces devoted to a single purpose (such as opera halls) fell from use as the popularity of an art form flowed and ebbed. There was also a lingering disdain for theaters among some religious people. Sacred music, when performed by theater singers, would be performed in a church. Consequently, church music played nearly the same part in the cultural life of the city as theaters and concerts. Churches provided performance space, professional and practiced performers, first class organs, and perhaps most importantly, the subsidy and support of the congregations and the institutional church.[117] Church services and church music were subject to review and discussion on the same level as other music performances.[118] The purchase of a new organ was news in the musical journals, and the quality of the instruments freely discussed and judged.[119] Calvary gained a reputation for high-quality music and no less so the Organ. As described by a journalist of the time:

> Within a few blocks of Union Park rise the stone spires of a magnificent church. Its solemn aisles are weekly crowded with worshippers. Its huge organ responds to the fingers of a Greatorex; its caged choir displays the skillful warblings of Madame Wallace Bouchelle, with other paid and select vocalists. Its walls resound with the eloquence of one of the most eminent of American divines [referring to Rev. Francis Lister Hawks][120]

As for the Organ,

> In quality of tone and general mixture it compares favorably with a majority of our instruments. It has a prompt and noble pedal-bass, and some of its individual stops possess peculiar beauty. A judicious voicing of the whole diapason of this instrument would, undoubtedly, supply that evenness and brilliancy of tone which the ear so ardently longs for, during its performance.[121]

Through the 1800s, Calvary hired several successive organists and choir masters, each with a fine reputation and a record of musical accomplishment that advanced the music program at Calvary. In 1860, the vestry hired Joseph Mosenthal (1834-96) who served at Calvary for 27 years. Mosenthal was praised for his ability to attract "the services of some of the best known church singers of their day."[122] A correspondent for Dwight's Journal of Music wrote in 1861:

> The music is rendered with as much taste and genuine artistic thoroughness of execution here, as at any other church in the city. The repertoire is extensive and varied, comprising adaptations

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[115] In 1852 it was estimated that there were 2,685 men and women in New York City "that live by their musical labors. Some teach vocal music; some teach instrumental music; some sing; some play the piano; some fiddle; some give concerts; some sing in church; some sing in opera; some sing in both church and opera; some play the bugle, flute, haughtboy, French horn, cornet a piston, opheiclide, banjo, bass drum, kettle drum, tenor drum, triangle, cymbals, fife, violoncello, clarionet, flageolet, guitar, melodeon, organ, tambourine, trombone, or other noisy instrument; and all of them blow their own trumpets." DJM May 22, 1852:52.

[116] John Warthen Struble, *The History of American Classical Music, MacDowell Through Minimalism.* (Facts on File, Inc., New York 1995).

[117] Lawrence, *Strong on Music.*

[118] Theaters and concert venues at this time also seemed to burn with alarming frequency.

[119] Beaseley, "The Organ in America."

[120] HAER report15 (quoting from "Occasional Sketches. Calvary Church, New York," *Journal of Fine Arts* 3, no. 9 (Jan 1, 1851): 148).

[121] Ibid.

[122] "Chat in the Choir Loft", *New York Herald*, May 3, 1891:10.

> from the masses, selections from the collections of Greatorex, King, etc., with original compositions of the organist...The organ is a very good one.[123]

The reviewer continued after describing the vespers service at the church: "The valuable musical resources and facilities of this choir give them every possible advantage for carrying such a service to a high state of perfection." Seventeen years later another critic noted that "those who are familiar with it through the playing of Mr. Joseph Mosenthal, must concede it to rank among the best organs in America."[124]

"By the early 1880s, the professional quartet was assisted on Sundays by an amateur chorus of about twenty mixed voices, while a week-day choir of women (led by the rector) and a parish choir of women, children, and retired men ... provided music at the church's smaller services."[125]

Reform Movements in the Episcopal Church

In January 1887, the vestry at Calvary decided to replace the Sunday quartet and four-voice chorus with a vested boys choir that would perform in front of the congregation near the altar instead of in the gallery behind. Mosenthal objected to this change and resigned. In his place, the music committee hired 38-year-old Arthur Edmonds Crook, a Cambridge University-trained native of Bristol, England, who had served for five years as organist and choirmaster of St. Paul's Church, Baltimore, a prominent parish that had employed a vested boys choir since 1872.[126]

This change in the music program was not simply a reflection of changing tastes, it reflected a change in orthodoxy and religious culture. Theological movements known variously as the Catholic Revival, the Oxford movement or Tractarianism (and which for convenience, if not complete accuracy hereinafter "the Revival"), began in England and initially affected the theology and worship within the Church of England.[127] In 1833 the first in a series of *Tracts for the Times* discussing changes in the Church of England was published anonymously. Publication of tracts continued until 1841 and totaled about 90. The tracts generally urged a return to the "Primitive Church" in matters including the length and frequency of church services, and criticized the Church's drifting away from biblical lessons in services. These movements are also known as the Anglican Revival, Puseyism, and Ritualism. While these movements differed in the details and the emphasis, in very broad terms the core idea was a turn back to the early, pre-reformation Church, to the "correct" doctrines of the church, made manifest in the elements of practice: the sacraments, especially the Eucharist, celebration of feasts and the expressions of these practices through symbolism, ritual, worship services, the accoutrements of worship, and eventually on the house of worship itself.

A coincident movement, known as Ecclesiology,[128] with the Cambridge Camden Society as its chief proponents, focused entirely on the structure of churches, linking the credibility of the church with fidelity to the same pre-Reformation mode. The search for an "ideal age" where "[t]he architectural and ritual provisions

[123] "Church Music in New York", *Dwight's Journal of Music,* March 1861:396.
[124] HAER Report:18(footnote 52 citing "An Important Invention for Organs," *American Art Journal* 29, nos. 14-15, Aug. 10, 1878, 184).
[125] HAER report:18 (footnote 53 citing the *Year Book of Calvary Church, New York City* (New York: Bedell & Brother 1881-86, 1888).
[126] HAER Report:18.
[127] James F. White, *The Cambridge Movement: The Ecclesiologists and the Gothic Revival* (Cambridge University Press, Cambridge, 1962).
[128] "Ecclesiology" now means theological doctrine relating to the church, but originally the word meant the science of church building.

for Christian worship should have reached its point of perfection" led to the Middle Ages."[129] While the theologically oriented Catholic Revivalists had little to say about Medievalism or the buildings where religion was practiced, and the Cambridge Camden Society specifically eschewed theology, the two movements ended up in much the same position of decrying the languished state of religion (the Theorists) and of religious buildings (the Ecclesiologists) and holding the practices of the same earlier time up as an ideal. The combined impact of these simultaneous impulses on the ideology and the physical surrounding of the church had such a profound effect on the church building itself that, for most of us, the image that comes to mind when we think of the structure of a church is the direct result of this movement.[130]

The uses and interior arrangement of churches in England following the Reformation in the sixteenth century typically adapted existing structures for the practicalities of serving parishes. As the centuries passed, portions of the church were partitioned off and used for non-worship purposes or neglected entirely, and frequently were in extreme disrepair. The same could be said of the state of piety in the Church of England in the first half of the nineteenth century. Medieval churches most often were built with a chancel, a space behind the pulpit where clergy or other groups of the religious affiliated with a particular church (such as monks) would worship. With few, if any, churches affiliated with institutions with resident clergy after the reformation, chancels were partitioned off from the worship space and used for other purposes, including storage, converted for use as schools, or for special seating for dignitaries. Post-reformation worship space was designed in large part around the congregation hearing the proceedings, and the chancel hindered this goal. Therefore, new churches were designed without chancels or with a very shallow space behind the pulpit.[131]

As the Ecclesiologists became increasingly committed and deferential to the Medieval church as a model for correct worship space, the disregard for the chancel space seemed problematic, as a chancel simply didn't seem necessary in the modern worship service. However, soon enough a solution was offered, which became an integral component of Ecclesiological correctness: every church should have a choir, and the choir should be placed in the chancel. Formerly those churches that had choirs generally placed them in the galleries, usually at the rear of the church, however, this practice and the galleries themselves, were initially condemned by the revivalists. Organs were likewise condemned as "a showy but hollow secularity without a particle of solemnity or devotion" and music should be exclusively vocal as proclaimed by the primary publication of the Ecclesiologists.[132] However, while not stated, it seems that parishes with organs were not inclined to dispose of them and the Ecclesiologists almost grudging acknowledge that if a church must have an organ, the best place was in the front of the church, under the chancel arch, which became a common arrangement.

These ideas came to America over several decades and eventually had a profound effect on Episcopal churches. By the time the impact of these movements were felt in America, American culture had moved in a direction that coincided with these ideas. Social concerns such as abolition, poverty, education and temperance movements came with the explosion of urban populations, a wrenching civil war, the rise of industry and the industrial revolution. The Revivalist movements recalled simpler times, before the divisions that seemed to be evident in every sphere, and when beautiful things were made by hand. Churches in America to this point were "two-story houses of a most barnlike character for divine services, or at best structures that took for their model debased examples of Sir Christopher Wren, or Grecian temples." "Not a single example of the Augustan age of Church Architecture of the 14th century, laid out on the primitive lines of worship in the third and fourth

[129] White, *The Cambridge Movement,* 29. White relates that notes from the Report of the Cambridge Camden Society for MDCCCXLII state the belief that in the Middle Ages men were "more spiritually-minded and less worldly-minded" than the nineteenth century.
[130] Ibid., 21.
[131] Ibid., 4.
[132] Ibid., 97-98.

centuries, could be found anywhere in these United States."[133] The rationalism of Jacksonian democracy gave way to Romanticism. Post-Civil War society seemed to also look for color, decoration, gilt, embroidery, and decoration of every surface and plane, all laden with symbolism and romantic references to the natural world.[134]

The Episcopal churches in America, particularly urban churches, embraced the traditions of the early church, largely ignoring the influences of frontier churches and other American religious movements. Most Episcopal churches, in keeping with the Tracts, moved toward a "sacramental theology" that emphasized the role of sacraments in worship and the rituals that accompanied them.[135] The churches themselves were redesigned from a generally utilitarian structure to a structure that was evocative of medieval sanctuaries. Worship was nurtured and accompanied by an emphasis on the sensory experience and churches were filled with decorative symbols and were constructed or re-designed to make worship "visually glorious."[136] The vestments and tools of the clergy likewise resumed importance. Choirs, to this point often small, professional groups typically tucked away in the galleries in the back of the church, were replaced with larger choral groups, often boy choirs, wearing vestments and positioned at the newly important chancel for all to see and experience. Indeed, the old style choirs were characterized as a deterrent to proper worship.[137]

The capabilities of an organ, no matter how grand, were not suited to the placement of the choir in the front of a sanctuary when the instrument remained in the rear of a sanctuary, and frequently, as with the Davis-Ferris Organ, high in a loft. At about this time the technological innovation of tubular-pneumatic action, using tubing to operate the organ valves, rather than the tracker system of The Davis-Ferris Organ and most others of its era, allowed the placement of an organ's console to be some distance from the pipes. Thus, an organ could be placed at the front of the chancel with the choir as dictated by the preferences of the Revivalists and the Ecclesiologists.

Innovations moved through the churches in New York City. In the 1840s boy choirs and chancel choirs appeared more and more frequently. At Trinity Church, still the most prominent Episcopal Church in New York City, Edward Hodges, trained in the English cathedral choral tradition, introduced an ancillary boys choir which performed in the rear gallery, but retained female soloists. When Henry Stephen Cutler replaced Hodges at Trinity in 1858, he moved the music program further. Female singers were dismissed, the choir was split to emulate the antiphonal singing of a cathedral and was eventually moved to the chancel, where a new organ was placed to accommodate the change. When the Prince of Wales visited the city in 1860 and accepted an invitation to attend Sunday service at Trinity, Cutler's efforts to dress the choir in vestments, which had been hitherto resisted as too close to Roman Catholic practice, succeeded at last.[138]

At Calvary Church, the music program under Joseph Mosenthal continued the solo-quartet choir, and the quality of Mosenthal's part writing for mixed quartet choirs is credited with contributing to the reluctance of

[133] Walker Gwynne, "The Beginnings of Church Architecture in America." Paper read before The American Ecclesiological Society, New York City, January 19, 1917, *The New American Church Monthly*, August 17:12-25.

[134] James F. White, *Protestant Worship: Traditions in Transition* (Westminster John Knox Press, Louisville, KY, 1989).

[135] *Tract 34* provides that rites and ordinances, far from being unmeaning, are in their nature capable of impressing our memories and imaginations with the great revealed verities; far from being superstitious, are expressly sanctioned in Scripture as to their principle, and delivered to the Church in their form by tradition.

[136] White, *The Cambridge Movement*, 111.

[137] HAER Report 21.

[138] In fact, the vestments had already been purchased and were waiting for the opportunity to overcome resistance from the vestry. The Prince of Wales' attendance presented that opportunity as the "spectacle of a lot of boys in round abouts [a type of jacket] and neck gear of assorted styles and colors sitting in the chancel would be disturbing to the Prince's sense of propriety." H. E. Krehbiel, "Surpliced Choirs in New York". *Harper's New Monthly Magazine* 77, no. 457 June 1888:65-73.

other churches in the city to make the change to boy choirs from quartets.[139] Mosenthal himself defended the practice by dismissing the suitability of boy choirs in America stating:

> Here where our churches are smaller and our pastor and choir are both well known by the worshippers, the strictly ecclesiastic form of music necessary in the cathedral service should, I think, give way to a more poetic form of music- one that will express the more intimate relations between the clergy and people.[140]

Notwithstanding his popularity, Mosenthal eventually lost the battle. In 1882 the church hired a new pastor with high church leanings who called for a restructured sanctuary, a new organ and a vested chancel choir.[141] So it came to pass that although Calvary Church was a bit late to the party, the vestry determined in 1887 that the Organ was no longer sufficient to meet the needs of the congregation as it adopted the elements and trends of the Catholic Revival.[142] In 1887 the members of Calvary Church decided unanimously in favor of such a change. This required removal of the Davis-Ferris organ and replacing it with a larger, more contemporary instrument. A new organ was commissioned from Frank Roosevelt for the sum of $10,500.[143]

Methodism

Methodism also derived from the Anglican church and came into being in the early eighteenth century from an impulse similar to that which created the Catholic Revival a century later. Anglican practices at this time gave little regard to sacramental worship in an "atmosphere that … completely dissociate the physical and visible from the inward and spiritual." Anglican worship subverted the sacraments and "anything supernatural, based on special revelation, or founded in personal providence became repugnant, and divine intervention in history seemed unthinkable." To the extent sacraments such as baptism or the Eucharist were present in the worship service these "were reduced to social propriety with little thought that [they] might be divine intrusions into this well-ordered universe."[144]

The movement that became Methodism originated at Oxford with the brothers John and Charles Wesley and several other students and dons as a counterculture movement with a "methodical emphasis on sacraments and daily prayer" that gave the movement its name.[145] A key component to the new movement was reaching the poor, often the urban poor, who existed beyond the Anglican parish system. Meetings and missions to these populations relied in large part on "enthusiasm" that propelled and defined this outreach and eventually Methodism itself, included singing and shouting with uninhibited joy, or as detractors described "those sudden Agonies, Roarings and Screamings, Tremblings, Dropping-down, Ravings and Madnesses; into which their Hearers have been cast."[146] Early practitioners and preachers raised the participation in these forums by encouraging people to "sing with fervor, give personal testimonies, and pray spontaneously in class

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[139] Ibid.

[140] "Chat in the Choir Loft."

[141] Frederick Quinn, *A House of Prayer for all People: A History of Washington National Cathedral.* (Morehouse Publishing, New York, 2014). Henry Yates Saterlee spent 11 years at Calvary Church before being appointed Bishop of Washington DC. In Washington, he oversaw the design of what came to be the National Cathedral. His decision was to design the cathedral in the Gothic style, what he called "God's style".

[142] The New York Ecclesiological Society was founded in 1848 when "American Churchmen were just getting a little awake to the fact that there was something else in religious expression than an appeal to the ear from the pulpit…" Gwynne, "The beginnings of Church Architecture," 17.

[143] Pinel, "*A Documented History."*

[144] White, *Protestant Worship*, 107, 52.

[145] Ibid., 152.

[146] Edmund Gibson, *Observations Upon the Conduct and Behavior of a Certain Sect Usually Distinguished by the Name of Methodist*. (London, 1744)10; David Hempton, *Methodism: Empire of the Spirit* (Yale University Press, New Haven, 2005).

meetings."[147] As the movement grew the "Christian conference" and "class meetings" became a defining concept of Methodism. These meetings were organized as "support groups" for recent converts. Class meetings "provided a place for examination of conscience, spiritual direction, testimony to one's religious growth, and prayer together" often on a weekly basis in addition to Sunday morning services. The meetings and preaching occurred in parish houses, but also in fields and "preaching houses" built solely for this purpose. Hymnody was a large factor in Methodist meetings and practice, with Charles Wesley contributing over six thousand hymns incorporating Methodist theology and allowing even wider participation in the worship services. Choirs and choral anthems were disapproved of, as "they cannot be properly called joint worship."[148]

Methodism arrived and flourished in America, but Methodism also changed in America. The framework of the Anglican Church came with British settlers and was in place in the colonies following the parish model. The pragmatic aspects of Methodism, however, fit with the American physical and cultural landscape and the temperament of Methodism fit with the developing American character. "Methodism offered a more enthusiastic religion for Anglicans in an environment unsuitable to liturgical and moralistic refinement. Methodism 'substituted seriousness for frivolity, cooperation for competition, compassion for brutality and egalitarianism for deference.'"[149] The emphasis sought by John Wesley on traditional Anglicism, piety and the sacraments diminished.

Unlike Anglicanism, Methodism survived the American Revolution and grew stronger. This is so in part because the aspects of Methodism that differed from Anglicanism were American characteristics: independence from the hierarchy, ad hoc worship, emphasis on the individual's experience and relationship with God. The Methodist circuit riders covered the American frontier bringing religion to widespread populations without a church. Prayer books were of little use to an often illiterate congregation but hymns and simple songs containing messages of theology were. The unstructured sites for worship and meetings, which often took place in a clearing or a temporary structure, encouraged and fostered the unstructured practices and participation of the worship itself, with shouts, exclamations, physical movements and enthusiastic song with the ultimate and unyielding goal of saving souls. Itinerant Methodist preachers sought black souls as well as white, leading to the formation of the African Methodist Episcopal Church established in 1816. Methodism eventually was pressed into service for social causes such as abolition, temperance and women's rights. The "class meetings" of Wesley's time also found favor on American soil as houses of worship were even less available, but the focus of meetings shifted from worship and preaching to spontaneous prayer and witness, with a big dose of hymns interspersed.[150]

Round Lake Camp Meetings

Camp meetings existed in several American faiths, but they became part of the superstructure of Methodism. This is attributable to the confluence of the impact of visiting itinerant preachers, the class meetings concepts, and a church year centered less on the feasts and festivals of the Christian calendar and more around the harvest seasons. Later camp meetings had a homecoming atmosphere. Whatever the catalyst or wherever the location, the key components, enthusiasm, preaching, conversion, prayers and spiritual renewal were defining characteristics of Methodism, and singing was a defining characteristic of a Methodist camp meeting.[151]

[147] White, *Protestant Worship,* 153.
[148] Ibid., 152, 154-156.
[149] Hempton, *Empire of the Spirit,* (internal quotation not attributed in original) 18.
[150] White, *Protestant Worship*; Hempton, *Empire of the Spirit,* "It has long been recognized that the most distinctive, characteristic and ubiquitous feature of the Methodist message, indeed of the entire Methodist revival, was its transmission by means of hymns and hymn singing" 68.
[151] Ellen Jane Lorenz, *Glory, Hallelujah! The Story of the Campmeeting Spiritual* (Abingdon Press: Nashville, Tennessee, 1978).

Camp meetings sprang up across the country in the first half of the nineteenth century, and upstate New York was a hotbed of revivalist activities of all kinds. In 1858, a "wave of powerful revivals" constituted the Third Great Awakening.[152] Yet another wave of enthusiasm for camp meetings followed the Civil War with the "Holiness Revival assuming institutional form with the founding of the National Camp Meeting Association for the Promotion of Holiness" in 1867. "The Methodist camp meetings did not simply react to the modern world - they helped shape it."[153]

In 1858, Joseph Hillman, a prominent businessperson in Troy, New York, formed the Troy praying band, a group of men who were credited with drawing up to 80,000 people into active church life. The Troy Conference of the Methodist Episcopal Church, with which Hillman was affiliated, had held camp meetings in areas around Troy annually beginning in 1805. In 1867, after visiting Oak Bluffs, a well-established camp meeting on Martha's Vineyard, Mr. Hillman decided a more permanent site was required for the meetings within the Troy conference. He and a group of laymen sought an appropriate area near railway transport from Troy. They found a partially wooded site with adequate drinking water on the shores of a lake suitable for recreational activities in a sylvan setting between the Rensselaer and Saratoga Railroad line and the western shores of Round Lake. About 40 acres of land was purchased in the spring of 1868 and the Round Lake Camp-Meeting Association was incorporated by the New York Legislature a month later.[154]

Work began immediately on the site to prepare it for the first meeting to be held September 1-10, 1868. About 8,000 people attended that first meeting, many staying in 200 tents pitched around the grounds. Subsequent meetings were equally or more successful. The participants initially gathered under large tents for prayer, and when the sound of the rain drowned out the prayers, the crowd "gave themselves up to singing." With success came organization and infrastructure. The tents gave way to platforms and cottages for families and a single canvas canopy erected on a framework in 1876 sheltered the speakers' platform and worshipers. Round Lake opened the grounds to use for residents during the summer months in 1872. A number of national meetings of great importance were held on the grounds, including the National Holiness Convention in 1869 and fraternal camp meetings in 1874, 75 and 76 which drew bishops, ministers and laymen of the ten different branches of the church in North America (including representatives from the Methodist Church North and South; Canadian Methodists, and bishops of the African Methodist and African Methodist Episcopal Zion Church). A very famous preacher of the day, Sam Jones, drew crowds for several years. In 1874, President Ulysses S. Grant, one of the most famous people in the world at the time, appeared on the grounds.[155] Singing was very much a part of these camp meetings.[156]

Chautauqua Assembly

The Chautauqua Assembly originated from the Methodist tradition and took place on the grounds of a camp meeting but was not a camp meeting.[157] Although Chautauqua had its origins in training Sunday school teachers

[152] Ibid., Kathryn Long, "The Power of Interpretation: The Revival of 1857-58 and the Historiography of Revivalism in America." *Religion and American Culture: A Journal of Interpretation*. 4(1) (University of California Press, Winter 1994)77-105.

[153] Andrew C. Rieser, *The Chautauqua Moment.* (Columbia University Press, New York, 2003) 32-33; Round Lake hosted a Holiness convention in 1869.

[154]Arthur James Weise, *History of Round Lake, Saratoga County, NY (*Douglas Taylor, New York, 1887).

[155] Ibid., Mary Hesson, David J. Rogowski, and Marianne Comfort, *Round Lake: Little Village in the Grove.* (Round Lake Publications, Round Lake, New York, 1998).

[156]A disdainful correspondent critiquing the prayer meeting reported of one less than enthusiastic speaker "[t]here was a continual intermingling of snatches of hymns appropriate to the sentiments expressed, and it seemed to me that it was almost better to be a good singer than an intelligent divine." "Worshipping in Tents. The Methodist Camp-Meeting at Round Lake." *The New York Times,* July 13, 1874. Retrieved from http://www.nytimes.com.

[157] One of the two founders of Chautauqua, Dr. John Heyl Vincent "did not take kindly to the thought of holding his training classes and their accompaniments in any relationship to a camp meeting or even upon a camp ground. He was not in sympathy with the type of religious life manifested and promoted at these gatherings. The fact that they dwelt too deeply in the realm of emotion and

(it was officially named "The Sunday-school Teachers' Assembly on Chautauqua Lake" upon organization in 1874) it was oriented to education from the start. However, that education was broader than religious studies and techniques for managing a Sunday school classroom and became more eclectic with each season.[158] "In the late nineteenth century, before an effective system of public schools had been established, and before child labor laws were put into effect, Sunday schools (in session on the only day factories were closed) were initially intended to teach basic reading skills to poor working children, although children from all classes attended."[159] By 1886, Chautauqua offered more than twenty "associations" addressing aspects of education and learning.[160]

The rapid popularity of Chautauqua has been attributed to many currents in American culture at the end of the 1800s. Theories include the rise of the middle class with time and money to spend on leisure and tourism, the desire of this middle class to better themselves as a result of "a uniquely American trait, a legacy of the acquisitive individualism of the hardy Yankee and pioneer spirit of the western settler," the absence of educational options for rural people, a nostalgia for a romantic imagined countryside of a pre-industrial era, and even the boredom of ex-urban Americans. "Leisure was encouraged, so long as it was self-improving and productive."[161] Certainly there was an element of the enduring American entrepreneurial spirit in the development of Chautauquas (and to some extent the survival of camp meeting sites). The establishment of a Chautauqua community meant an infusion of money and business opportunities that gave rise to real estate speculations and boosterism. With a Chautauqua community as a destination, the railroads saw the opportunity to develop the middle class tourism market and sponsored communities in remote locations at the end of newly laid tracks. Methodist elders working with concessionaires and railroads to "convert the camp meeting into a Chautauqua and let the trains bring crowds all weekend; immerse them in the best that the culture industry can offer, the most ennobling thoughts, the most praiseful entertainment; remain vigilant against immorality" and notes this "seemingly schizophrenic in its ability to house ideals of Protestant uplift and the coarse real estate motives under the same roof, reveals much about the changing cultural experience of the middle class."[162] Teasing out the influences that wove together to establish Chautauqua's popularity (which was appropriated by Round Lake) is less important to this story than the statement attributed to Theodore Roosevelt that Chautauqua is "the most American thing in America."

Round Lake Association

The origin and purpose of the Round Lake Camp-Meeting Association was indisputably religious, but in time the purely religious undertaking took on an educational component. Although starting out as cultural outsiders, Methodists "remorselessly moved to the cultural center."[163] After the Civil War, camp meetings were increasingly held at permanent facilities, with regulations curbing the structure of meetings. Higher culture concerns, such as education, healthy pursuits and wholesome recreation as well as better-educated ministry led to questions about the use and even the need for camp meetings. Although camp meetings were still "vital to the

excitement, that they stirred the feelings to the neglect of the reasoning and thinking faculties, that the crowd called together on a camp-meeting ground would not represent the sober, sane, thoughtful element of church life—all these repelled Dr. Vincent from the camp meeting. Hurlburt, *The Story of Chautauqua,*23. Chautauqua was not a camp meeting: "Although held upon a camp ground and inheriting some of the camp-meeting opportunities, the gathering was planned to be unlike a camp meeting in its essential features, and to reach a constituency outside that of the camp ground. Its name was a new one, 'The Assembly,' and its sphere was announced to be that of the Sunday School. There was to be a definite and carefully prepared program of a distinctly educational cast, with no opening for spontaneous, go-as-you-please meetings to be started at any moment." Ibid 28-29; The campground that became the Chautauqua Assembly was inspired by, and portions were modeled on Round Lake. Reiser, *The Chautauqua Moment* 35.

[158] Reiser, *The Chautauqua Moment* 37.

[159] Catherine Kleiner, "Chautauqua and Women: Ladies, Learners and Leaders 1874-1920" *Center for the Study of Philanthropy and Volunteerism, Institute of Policy Sciences and Public Affairs* (Duke University. Durham, North Carolina, 1989) 8.

[160] John Heyl Vincent, *The Chautauqua Movement* (Chautauqua Press, Boston 1886) 21.

[161] Hurlbut, *The Story of Chautauqua* 49; Rieser, *The Chautauqua Moment* 146.

[162] Rieser, *The Chautauqua Moment* 146-147.

[163] Hempton, *Empire of the Spirit*, 31.

economy of Methodism" there were different views about whether the meetings would be "a weapon/implement, subduing the spiritual and moral wilderness? Or would it be a refuge, a garden of spiritual and cultural renaissance to replenish depleted souls and refit them for modern society?" Methodists opted for the most part "to modernize the camp meeting and to portray with it a self-confident Methodism taking its rightful place in an increasingly genteel Victorian America."[164] In addition to these concerns, in Round Lake the move toward the cultural center may well have been a practical recognition of the waning viability of camp meetings as more and more of them proliferated in upstate New York. For example: "In the late 1880's town boosters built a camp meeting to attract population and commerce to the Catskills town of Hunter, New York. They developed the site with public funds, expecting a summer population of eight thousand." This venture failed, at least in part due to the glut of camp-meeting sites by the 1880s.[165]

Notably, no meeting was held at Round Lake in 1883, as the association found itself in financial difficulty, "embarrassed by unremunerative improvements."[166] The association got back on its feet by the following year. But after this brush with insolvency it seems that the Round Lake Association took steps to avoid this again. As early as 1878 Round Lake had an association with the very popular Chautauqua Institution.[167] Round Lake addressed the cash flow problems at least in part by redoubling the emulation of the Chautauqua model. In these years even Chautauqua came to the realization that it needed to be flexible enough to meet the needs of different sorts of attendees in order to remain financially viable.[168]

The Round Lake Camp Meeting Association trustees were well aware of the wild popularity of the Chautauqua movement and took steps to emulate that assembly.[169] Elements imported from the Chautauqua movement transformed Round Lake from a place exclusively devoted to a roughhewn religion to a community of

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[164] Roger Robins, Vernacular American Landscape: Methodists, Camp Meeting and Social Respectability. *Religion and American Culture: A Journal of Interpretation*, 4.2 (Summer 1994) 165-191, 174-176.

[165] Steven D. Cooley, "Manna and the Manual: Sacramental and Instrumental Constructions of the Victorian Methodist Camp Meeting during the Mid-Nineteenth Century." *"Religion and American Culture: A Journal of Interpretation*, 6 (2) (University of California Press, 1996) 131–59.

[166] Weise, *History of Round Lake*, 50.

[167] Andrew C. Rieser, *The Chautauqua Moment* (Columbia University Press, New York, 2003); An intersection of Round Lake and Chautauqua are related in this anecdote in Jesse Lyman Hurlbut's *The Story of Chautauqua* (G.P. Putnam's Sons, New York, 1921):

A widely known Methodist came, bringing with him a box of revival song-books, compiled by himself. He was a leader of a "praying band," and accustomed to hold meetings where the enthusiasm was pumped up to a high pitch. One Sunday at a certain hour he noticed that the Auditorium in the grove was unoccupied; and gathering a group of friends with warm hearts and strong voices, he mounted the platform and in stentorian tones began a song from his own book. The sound brought people from all the tents and cottages around, and soon his meeting was in full blast, with increasing numbers responding to his ardent appeals. Word came to Dr. Vincent who speedily marched into the arena. He walked upon the platform, held up his hand in a gesture compelling silence, and calling upon the self-appointed leader by name, said:

"This meeting is not on the program, nor appointed by the authorities, and it cannot be held."

"What?" spoke up the praying-band commander. "Do you mean to say that we can't have a service of song and prayer on these grounds?"

"Yes," replied Dr. Vincent, "I do mean it. No meeting of any kind can be held without the order of the authorities. You should have come to me for permission to hold this service."

The man was highly offended, gathered up his books, and left the grounds on the next day. He would have departed at once, but it was Sunday, and the gates were closed. Let it be said, however, that six months later, when he had thought it over, he wrote to Dr. Vincent an ample apology for his conduct and said that he had not realized the difference between a camp meeting and a Sunday School Assembly. He ended by an urgent request that Dr. Vincent should come to the campground at Round Lake, of which he was president, should organize and conduct an assembly to be an exact copy of Chautauqua in its program and speakers, with all the resources of Round Lake at his command. His invitation was accepted. In due time, with this man's loyal support, Dr. Vincent organized and set in motion the Round Lake Assembly, upon the Chautauqua pattern, which continues to this day, true to the ideals of the founder.

[168] Rieser, *The Chautauqua Moment 47*; Hurlbut, *The Story of Chautauqua* 44-45.

[169] Weise, *History of Round Lake*, 42.

refinement and culture, drawing visitors for the "entertainments" at least as much for the religion. The first "Sunday-School Assembly" was held in Round Lake in 1877 and became an annual gathering that preceded the camp meetings. The camp meeting associations welcomed the Sunday school movement as "kindred spirits". However "Sunday school teacher's assembly infiltrated the camp grounds subtly, seductively, . . .'as almost to escape observation till the work was done.'"[170]

Following the financial crises of 1883, the trustees expressed the intent to broaden the appeal of Round Lake, albeit still in the language of Methodist conversion, to "win and hold to the bible and cross not only those who sojourn here, but the casual visitor."[171] A proposal was made in 1884 to change the name to eliminate the words "Camp Meeting" and to become the "Round Lake Association" (this was finally accomplished in 1887).[172]

Plans for 1884 were made that included an anniversary commemoration, an illumination night, and a "soldiers' coronation." The trustees of the association also began plans for an Auditorium in the "grove-temple" to replace the canvas tent erected just 8 years earlier, with attention paid to acoustics.[173] An open sided structure that could seat 2,000 was dedicated in 1885.

> The Auditorium was constructed as a simple, clerestoried, frame building with low wings.... The sides were open, and the ends were partially finished, making it appear like a large solid tent of iron rods and wood, instead of ropes and canvas. Canvas curtains set in between the wood load-bearing piers on the sides and ends helped to make it weathertight during the winter months. During the summer months, the curtains were raised to allow cross ventilation.[174]

With the election of Rev. William Griffin to the presidency of the Association in 1886, his resources and leadership resulted in a flurry of activity and several significant improvements were realized. The Trustees built on the success of the Sunday School Assembly with the establishment of a Summer School in order to seek more diverse attendees and curriculum: "It is desirable to encourage the catholicity and elasticity which will invite all *scientists, moralists, philanthropists* and *Christians* to radiate these grounds, influences that will illuminate, bless and save."[175] Infrastructure was upgraded significantly with the installation of a water and sewer system and the grounds were graded and groomed. In his address to the annual meeting that year Griffin announced the name change and assured the assembly that the shortened name didn't reflect a reduction in mission saying "we shorten our name because we are broadening our work" and cited the Sunday School Assembly and the Summer School with an ecumenical focus, no longer strictly Methodists.[176] An all-out campaign to advertise the Association was evident in 1887. A plan to publish a history of Round Lake by Arthur James Weise was approved by the Trustees and, notwithstanding the meticulous detail, this book reads in parts like a travel brochure.[177] The Trustees that year also authorized printing of 10,000 copies of "pictorial advertising" and 10,000 copies of the Round Lake Journal, authorized placing advertisements in national religious periodicals, and provided engravings for Weise's book.[178] The Trustees paid close attention to the "privileges" granted to operate various retail establishments on the grounds, and were eagerly exploring other

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[170] Reiser, *The Chautauqua Moment,* quoting Homer H. Moore, a Methodist minister who had visited Round Lake before starting Fair Point, the location that would become Chautauqua. 34-37.

[171] Round Lake Association Minutes (RLA), 7 May 1884:31.

[172] RLA 5 November 1884:43.

[173] RLA 3 November 1885:85.

[174] John G. Waite, Robert N. Pierpoint, John L. Hopkins "Round Lake Auditorium: A Historic Structure Report" Mendel, Mesick, Cohen Architects, The Preservation/Design Group, Albany, New York, 1978:
10-11.

[175] RLA 6 May 1885:48.

[176] RLA 11 May 1887:110.

[177] RLA 6 March 1887:103.

[178] RLA 4 June 1887:116.

sources of revenue, including bottling water from a mineral spring on the grounds and "realizing the possibilities of the lake."[179] In 1887 the structures that became the Round Lake Summer Institute were completed with classrooms and lecture rooms. The George West Museum of Art and Archaeology was also built that year, which included studios for use of artists and students. Finally, Garnsey Hall, a dormitory for the young women attending the summer schools was also erected in the summer of 1887 (another structure, Kennedy Hall, housed young men, but it is uncertain when exactly this was erected). The opening ceremony at the Auditorium that year was attended by 2,000 people and was marked by music, speeches, a poem written in honor of the day, the dedication of the new buildings and was capped by fireworks.[180] The trustees' goal to develop the site in order to "seize the opportunity for securing the greater prosperity of [the Round Lake Association]" was bearing fruit.[181]

Music continued to be a focus of meetings of all kinds held in Round Lake.[182] Music merited mention in descriptions of nearly every kind of meeting held from spontaneous singing on the successful drilling of a mineral water well, to mention of "a quintet from New York City, two men and three women of African descent, sang very attractively many Sunday-School hymns and songs" during the sessions of the Assembly. A concert, in which "about a thousand persons and Holding's Cornet Band of Ballston Spa took part, terminated the exercises on Friday afternoon July 27th at the inaugural Sunday school assembly" in 1887. "An enjoyable event of the summer of 1882 was the presentation of the oratorio of 'Joseph' on Thursday evening August 10th in the auditorium."[183]

Round Lake Acquires the Organ

It is not clear which came first: establishing a music festival, making improvements to the Auditorium, or purchasing a pipe organ, but they all came together in 1888 as the trustees of the Association sought to broaden the appeal of the summer programs at Round Lake. Music festivals were gaining popularity nationally and seemed a natural addition to the attractions of Round Lake.[184] Acquiring a large and impressive pipe organ would instantly lend credibility and demonstrate the Association's commitment to the endeavor. At the same time, an organ in the Auditorium would also support and enhance worship and perhaps allay the concerns of the religious who were worried about the transition to a more secular program. In January 1888, the Executive

[179] RLA 11 May 1887:110. Privileges included: operation of hotel, barn, store, bakery, a boating concession on the lake, a meat market, ice vendor, ice cream, bookstore, barbershop and even a jewelry store.

[180] It seems that not everything went as planned. A report to the Association Board by a "committee of one" appointed to raise funds and arrange for the fireworks display puts the best possible spin on events in his report to the Board that the fundraising was successful "but as you know the display was interrupted by the burning of the straw barn, near the R.R. for which those having charge, and the Association was not responsible. It is of advantage to the Association to have the barn removed, And is probably fortunate that it burned as it did. We attempted to finish our display after this fire. But owing to the fact that many persons were quite nervous over the fire we were unable to do so."

[181] RLA 11 September 1886:89.

[182] "Round Lake people delight to sing and to laugh, and they do both vigorously. There are no meetings like the praise meetings where throngs gather in and crowd around the amphitheater and sing over and over again the fine old hymns which have lived because of their real music and spirit and sentiment. And when these people thus gather they sing till the roof trembles and the music echoes far beyond the high fences which mark the outer boundaries of the encampment. They are singing all the time. Families sing nightly in their cottages, children sing when they gather under the trees or by the lake side in the evening, boating parties float upon the lake at dusk or by moonlight and sing. As you wander through the groves at night, the sound of singing from more than one religious meeting always attends you, and everywhere harmonies from little gatherings in home and grove greet your ear." "The Round Lake Assembly. Chautauqua Repeated Under the Adirondacks. A Lakeside Gathering of the People for the Pursuit of Knowledge and for Growth in Religious Faith - Like Chautauqua in Spirit, but Different in Many Ways - The Simple Life Under Trees." *The Sun*, August 2, 1891:23.

[183] Weise, *History of Round Lake*. 33, 37-39, 48-54.

[184] Lawrence W. Levine, *Highbrow/Lowbrow: The Emergence of Cultural Hierarchy in America* (Harvard University Press, 1988) 109-115. The author discusses the use of spectacle and extravaganzas, including masses of musicians performing together, in order to make "good music popular". 115.

Committee of the Association board considered correspondence from a "Professor Meitzke of Rutland, Vermont [who] stated at length a plan for a music festival to be held at Round Lake in August."[185] At a meeting one week later, the board ordered that the music festival be organized and Daniel Klock (of Troy) was elected president of the Round Lake Music Festival Association.[186] The next month the minutes of the Executive Committee show that Klock was to meet with Carl Zerrahn (a very well-known and highly regarded choral conductor from Boston) "to obtain the opinion of Mr. Zerrahn upon the plans for the proposed addition to the Auditorium."[187] In March, a committee of the board was appointed to negotiate "with George G. Saxe and others in reference to the purchase of a pipe organ for the Round Lake Association." At the same meeting, it was noted that proposals for constructing an addition to the auditorium would be invited when the plans for the addition were amended, according to Zerrahn's suggestions.[188] The meetings of the Executive Committee in the months through the spring note "progress" in preparing for the music festival, including Auditorium improvements and the purchase of the Organ with maddeningly little detail.

The centennial publication, *A History of the Round Lake Association*, (1968) stated that the instrument had been transported to Round Lake from New York by freight car and canal boat and arrived on March 3, 1888. However, this date is suspect as the meeting notes from this date indicate that the Board only authorizes a committee to negotiate for the purchase "of a pipe organ."[189] Likewise, the specifics of the transaction between the Calvary Church and the Methodists of Round Lake are unknown. The March 31, 1887 contract between Calvary Church and Roosevelt stipulated that the new organ be completed by mid-September of 1887.[190] Calvary Church sold the Ferris organ, not to the Round Lake Association, but to an unnamed third party about six months before the first mention of procuring an organ appears in the Round Lake Association's Trustees' minutes.[191] By April 19, 1888 the Round Lake Association had purchased the Organ.[192]

Acquiring a pre-existing organ designed for another structure required alterations to the Auditorium at Round Lake to accommodate it. Moving the Organ also required alterations to the instrument itself. These included reducing the longest pipes in order for them to be transported and so they would fit below the roofline of the new space, and also altering the outer case of the instrument to conform to the architectural constraints of its new home.

Giles Beach of Gloversville, New York undertook the tasks of moving the Organ to Round Lake and reassembling it. Giles Beach was a highly respected organ builder and technician in the Mohawk Valley region from the 1850s until his death in 1906. Of all his accomplishments, he is best remembered today for his involvement with moving and reassembling the Davis-Ferris Organ.[193] His competence as an organ builder and technician, solving complex problems in fitting the Organ into its new space, assembling it properly, and making minor changes to adapt it to the tastes of the Round Lake Association, are a contributing factor in the instrument's survival until today. Beach was born in Johnstown, New York, and entered an apprenticeship with organ builder Augustus Backus of Troy, Gloversville, New York in 1844. After returning to Johnstown, he established the American Church Organ Works, housed in a four-story factory and employing about fifteen

[185] RLA 14 January 1888:155.
[186] RLA 21 January 1888:157. The Music Festival Association at some point is spun off as an entity separate from (but still reporting to) the Association board. However, "[t]he custody of the organ was discussed and placed absolutely in the hands of the Superintendent [of the Association" (RLA 21 June 1890).
[187] RLA 18 February 1888:162.
[188] RLA 3 March 1888:164.
[189] Ibid.
[190] Samuel M. Shoemaker, *Calvary Church: Yesterday and Today* (New York: F. H. Revell Co., 1936) 67.
[191] RLA 3 March 1888:164.
[192] RLA 19 April 1888:176.
[193] The Organ: an Encyclopedia. Douglas E. Bush and Richard Kassel, ed. "Giles Beach,", Stephen L. Pinel. Routledge, Taylor and Francis Group, New York, London, 2006: 58.

men. His factory only lasted about six years before burning to the ground in 1876. After this catastrophe he seems to have ceased large-scale organ building and focused instead on repairs and tuning. It is unknown whether Beach himself disassembled the Organ or whether it had already been removed from Calvary Church by Frank Roosevelt (the builder of the new organ at Calvary).[194]

The disassembled organ arrived at Round Lake via the railroad, its components "completely filling four freight cars."[195] Some accounts include transport via canal boat for at least part of the journey. The railroad was a well-established means of transportation in and out of Round Lake by the 1880s. In 1874 the Delaware and Hudson Canal Company had built a spacious passenger station at the west entrance to the Village grounds. The company had entered the railroad business in 1864, recognizing that railroads were quickly outpacing the canals.

The various pieces of the Organ had to be fit into boxcars to protect them from the elements during transit. This is the most logical explanation for the most significant change made to the instrument when moved from Calvary Church to Round Lake: the 32-foot-pitch pedal pipes were cut down to their current, 16-foot-pitch lengths at the time of the move, most likely so they would fit into a box car. These consist of large, square-shank pipes constructed from planks of clear eastern white pine. Though the dimensions of railroad boxcars were not standardized until later, in the 1880s they ranged from 36 to 40 feet long and seven feet wide, with doors placed centrally on the sides. Though the longest pipes could theoretically fit inside the typical boxcar, loading them in and out through doors located at the midpoint of the car's sides would present a geometrical problem, requiring them to be shortened. Several of the pipes as reinstalled were lengthened at their top ends with the cut-off remains left when the longest pipes were shortened. This was done to re-establish the correct pitches for the shortened pipes. The extensions to the wooden pipes were attached with machine-cut nails and hide glue and the joints further sealed with strips of white goatskin leather.

As part of moving and reassembling the Organ, Giles Beach made several other changes to the instrument. These included increasing the compasses of the Great, Choir and Swell divisions from 54 to 58 notes with the addition of treble pipes fff-aaa to each of the ranks. In most cases, these pipes were simply placed into the toe board holes left empty by the compass changes made by Levi Stuart in 1868. However, in the Swell, this required addition of a supplemental wind chest located on the west side of the Swell box to feed the new pipes. Beach may have added the Viola d' Amour stop to the Great division in place of the Gamba or Salicional stop added by Stuart in 1878 and may have added the present Forte stop.[196]

The construction of an addition to house the Organ appears to have been underway at the time the Organ was purchased but was not yet complete. This work enclosed the south end of the original structure, leaving the side wings open, covered only by the canvas curtains creating an annex on one end of the Auditorium. The addition provided a sense of completion to the entire Auditorium. It transformed a slightly ornamented, flat wall into a polygonal-apse of distinctive character, with a campanile-like bell tower. The dais of the Annex was arranged

[194] In the notes of the Executive Committee meeting on May 19, 1888, a check in the amount of $200 was ordered to be sent to Giles Beach, an organ builder based in Gloversville, NY, "on account of his services in removing the organ from New York to Round Lake." LA 19 May 1888:176.

[195] Pinel, "Documented History," 51; RLA 7 April 1888: 169; RLA 19 May 1888: 176; "Pebbles from Round Lake Shore," *Schenectady Daily Union,* July 16, 1888, 3.

[196] "Ferris' 1847 organ at Round Lake, New York will be featured in '67 convention," *The Tracker* 11, no. 2 (Winter 1967): 2. It is also possible that the Forte stop was added before 1888. No record of the addition of the Viola d'Amour has been found, but it was in place when restoration work began on the organ in the 1950s. The most likely explanations are that Beach installed it in 1888 or that the Gamba/Salicional installed in 1868 was actually this Viol d'Amour.

for both theatrical and musical activities. The whole rises from the floor of the Auditorium and acts as a massive base for the organ above.[197]

The case of the Organ was also slightly altered to accommodate its intended place in the expanded Auditorium at Round Lake. The new addition at the south end of the structure was an apse-like configuration with a three-faceted sloping roof and a gabled wall dormer. The dimensions and construction details of the wall dormer suggest it may have been a design modification made during construction of the Annex, specifically to accommodate the Organ. The Annex replaced an open, single-story gazebo-like structure known as the Preaching Stand and largely filled the role of a chancel. Initial measurements taken may have been slightly inaccurate, as small portions of the organ case cornice had to be cut away to fit below the sloping roof of the addition. Cuts were made at the current east and west sides of the original case to accommodate the roof truss at the south end of the 1885 portion of the Auditorium, its original south end wall. When reassembled, the Organ components were threaded around this truss. The impost housing the façade pipes was supported immediately behind by the main horizontal timber of the truss. At the rear of the organ assembly, the support beams originally connecting the two sides of the case, forming an open frame constituting the back wall of the organ case, were cut off and discontinued, as can be seen today. Importantly, few of these alterations would have been possible if the Organ had not been built with the outer, decorative, case separate from the mechanical components, a progressive idea in 1847. Because the system of wind chests, pipes, keyboards, and trackers is not structurally dependent on the outer case, the instrument could be easily taken apart for transport, and the case altered to fit within its new space without harm to the mechanical or musical aspects of the instrument.

Physical evidence suggests that the Organ's exterior was refreshed with a new coat of varnish at the time it was reinstalled. While the Village of Round Lake's files include later proposals for re-varnishing or refinishing at various points from 1959 through 2001, there is no documentary evidence that either was ever done. Further, the existing over-varnish is very old and exhibits the characteristic thick film of late nineteenth-century oil varnish as well as extensive craquelure from age.

When reinstalled in the Round Lake Auditorium, the Organ was fitted with a Ross Water Motor to supply the air to the reservoirs.[198] This replaced the earlier system of levers requiring hand-pumping. These levers passed through the right side of the organ case, as one faces the instrument today. This system was replaced by an electric motor in the 1920s, installed below the Auditorium stage in a small room at the southwest corner of the 1888 addition. The switch controlling the water motor is still in place on the treble side of the Organ console. Any changes made in 1878 to the wind apparatus are unknown and did not survive relocation to Round Lake.

The annual meeting of the Trustees on May 9 noted that "the gratifying success of the year in all departments has fully justified the judgment that devised large and liberal things" and reported that "[t]he annex to our Auditorium, which when completed, will constitute one of the most useful and ornamental buildings on our grounds, is contracted at a cost of $3,000 when completed and is to be furnished with a magnificent organ which has already been purchased and will be set up as soon as the building is ready for it."[199]

Finally, the Organ arrived in Round Lake and was installed in the newly created annex. The *Round Lake Journal* for July 1888 described the newly installed instrument and the new setting for it:

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[197] Waite, "Round Lake Auditorium: A Historic Structure Report." Approximately pages 15-16 (pages in this report are not numbered).

[198] In June 1888 the board authorized the purchase of a "water motor" for pumping the organ. RLA 23 June 1888:183.

[199] RLA 9 May 1888:173. There is no further information about how the organ was purchased, but in meeting notes for the Executive Committee of the Board of Trustees, September 20, 1890, there is a note directing the financial secretary to communicate "with subscribers to the fund for building an annex to the auditorium and for the purchase of the organ and report back" to the committee. However, there are no previous references to a fundraising campaign, nor any subsequent reference to these subscribers.

> There it stands on the new and grand platform. Large, commanding and powerful in tone. It seems as naturally there as if it grew there, and so it did: It grew by thought and plan and work and money. So do things grow in this world. It came to us from Calvary Episcopal Church, Cor. 21st and 4th Ave., New York City. It was originally built by Richard M. Ferris and costs over $8,000. It has 1,980 pipes; has 3 manuals, and 36 speaking stops. It stands 24 feet wide, 16 feet deep, and 34 feet high. It has twenty-three large pipes in front, a foot in diameter ranging from 15 or 20 feet in length. Some of its pipes are huge enough for a workman to crawl through, and some of its pipes are small enough for a baby plaything. Its tone is rich and resonant and powerful. Mr. Giles Beach of Gloversville has had the work of removal and revoicing. He is a master of organ work.[200]

The first Round Lake Music Festival was held that year, also in July (Appendix) and was a success. The Organ in Round Lake anchored and perhaps inspired the Festival that first year. The Trustees noted thanks and appreciation to George Meitzke who "by his indefatigable efforts, Round Lake has had one of its rarest treats. An occasion, which by its (illegible) success gives a guarantee of permanency."[201] Plans were made to set up an annual membership for the festival, as was a plan for "closing organ for winter." The Organ and the Auditorium were insured for $1,000 and $2,000 respectively.[202]

The plan to install the Organ in the renovated Auditorium was successful in attracting attention and visitors to Round Lake and transforming the site of a rustic camp meeting into a sophisticated place of learning and leisure. The decision to purchase and place the Organ as a centerpiece and the symbol of the status of the music festival was almost inevitable, as the Trustees strove to establish the Association as a place of education, culture and refinement.[203]

The Organ in Round Lake

The Music Festival continued for at least the next ten years, gaining a national reputation and drawing large crowds to Round Lake. The Organ was also put to work in the Round Lake Summer Institute, the cultural and educational summer school that began in the busy summer of 1888. Following the success of that initial season, the Board wasted no time in setting a course for the future. In October 1888 the Board made a plan to apply for a charter from the Board of Regents for the Round Lake Summer Institute (soon to be a separate entity from the Association) with the list of buildings comprising the institute including those recently constructed (Griffin Institute, West Museum, Garnsey and Kennedy Halls and Alumni Hall).[204] A provisional charter was issued in January 1889 and made absolute a year later.[205] The Institute included a music school which was staffed by well known "vocal art instructors" giving training and preparing the chorus for participation in the Music Festival. The "singing school" employing the Organ for both rehearsals and recitals, was one of the last remaining pieces of the Summer Institute, continuing well into the 1930s, when most of the attractions of Round Lake had fallen

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[200] John Ogasapian, *The Organ in New York City* (The Organ Literature Foundation, Braintree, Massachusetts, 1977) 101-102.

[201] RLA 4 August 1888:192.

[202] RLA 8 September 1889:201.

[203] Beasley, "The Organ in America", Organs were a status symbol of this time for churches and public spaces at this time. Newer, larger instruments conferred status and prestige but also "a certain cultural maturity or completeness." 20-21.

[204] RLA 16 October 1888:214; 15 December 1888:215-216.

[205] *Matter of Griffin*, 167 NY 71(1901) 75-76. This case decided by the New York State Court of Appeals (the highest court in the state) pertained to the terms of William Griffin's will. Griffin left the residuary of his estate to the Round Lake Association for the support of the Round Lake Summer Institute. The facts set forth in the opinion discuss the progression of events between the time the will was drafted (1889) and the time it was probated after Griffin's death in 1898, determining that the Summer Institute had been turned over to a separate and distinct corporation, and the rule against perpetuities would prohibit this bequest.

victim to changing times and trends. Finally, the Organ was also used in worship services in the Auditorium for decades, as Round Lake continued to host religious assemblies, camp meetings, and preacher training.

The Round Lake Music Festival

Plans for the summer of 1889 included discussions and arrangements for another Music Festival. Notes of Executive Committee March 23, April 13 and 20, 1889 discuss the appointment of a committee "to take immediate action" in regard to the Music Festival and a plan for reduced railway fare for the Music Festival. Minutes of the June 26, 1889 meeting show that Daniel Klock (president of the Round Lake Music Festival) was present by invitation of the Board to address arrangements for the next festival.[206] The Music Festival in 1889 garnered an anticipatory mention in the New York Times with a particular mention of the Organ: "On Thursday last the rehearsals for the music festival began, and residents are looking forward with eagerness to the opening of concern week… The large pipe organ will be presided over by Christian A. Stein of Troy."[207] The Festival that year was also deemed a success. The Organ and the Music Festival proved to be an important component of the effort to carry Round Lake beyond the camp meeting. As noted in the New York Times in an article about the addition of a "ministers' institute" in 1892:

> "The association with this liberal extension on theological and educational lines, is also providing for an extension of the privileges of Round Lake as purely a Summer resort for pleasure, health, and recreation. Fishing in the best bass waters in the State, boating, tennis, croquet, picnics, evening entertainments with magic, stereopticon views, Recitations, &c., and, above all, the great annual musical assembly, which has now become almost a national affair, are all encouraged in the widest way, and these wise fathers of the association cherish the idea of making Round Lake a truly fashionable and lively Summer resort, freed by religious and educational influences from the rough and tough elements that pervade some *resorts*."[208]

The Music Festival drew crowds and favorable newspaper accounts of the festivities through the end of the century. Articles claimed five or six thousand attendees and choruses in excess of 300 members.[209] In 1894 the New-York Tribune reported:

> [F]ully 5,000 crammed every nook and crevice of the huge building on the closing night, even though the canvas sides were triced [*sic*, probably "tied"] back to give ten yards additional room. The 25 Reserved seats were all taken and more demanded, and it is now estimated that every seat in the building could have been sold at that price had the management cared only for the moneymaking. The rooms at all the hotels and boarding-houses and at every hall kept by the association for lodgers and every cottage where lodgers could be accommodated at all, were placed in the various public halls that are generally used only for entertainments.[210]

Notwithstanding the popular success of the Festival, financial success evidently did not follow. The New York Times noted in 1893 "last year there was a slight surplus in the treasury after the week's entertainment, but for the previous ventures for four years there was a deficit. It is to be hoped that the success of last year will be

[206] RLA 23 March; 13 April; 20 April; 26 June 1889: 220-221, 230, 233-234, 235.

[207] "Oriental Week at Round Lake. The New Missionary Home Opened- The George West Museum." *The New York Times,* July 22, 1889: 2. Retrieved from http://www.nytimes.com.

[208] "The Ministers' Institute. An Important Feature of the Summer at Round Lake." *The New York Times,* July 13, 1892:3. Retrieved from http://www.nytimes.com.

[209] "Festival at Round Lake a Success. *"New York Times*, July 29, 1894:2. Retrieved from http://www.nytimes.com.

[210] "Music a Success at Round Lake" *New-York Tribune*, July 29, 1894:22.

repeated, and there is every probability of it."[211] The following year the same paper reported: "Financially the festival, for the second time in eight years, was a success."[212] In fact, the Festival was not financially successful either year. At the annual meeting in 1895 it was noted of the Music Festival (as a separate concern from the Association) that attendees "sharply criticised its failure to report the financial condition, and its having a board of directors and holding meetings without notifying said directors."[213] Dr. Griffin was able to make "explanatory remarks" that mollified the detractors, however the question of financing the Music Festival continued. In July of 1895, a statement of the Music Festival fund for the past 5 years was read to the Executive Committee of the Board as the report of the Music Committee, but the report does not appear in the minutes.[214] Nonetheless, the show did go on that year, and was another well attended event, with glowing coverage by the newspapers: "Indications point to the most successful festival ever held by the association."[215] The minutes show a profit that year of $24.95 (about $675 in 2015 dollars).[216] However, a subsequent report showed a loss of $33.95 (about $920 in 2015 dollars) for the year 1895.[217]

The trustees were perhaps less concerned with the financial success of the Music Festival than with the crowds that it drew to Round Lake. After another popular success, but financial shortfall in 1896, the organizer of the Festival that year asked the Board to assume the losses incurred and "a discussion followed. The weight of the argument was that the Round Lake Association should open the season with a Music Festival, even if it did not pay expenses."[218]

A festival was held in Round Lake in 1897 and 1898, but the Festival continued to run a deficit. Notwithstanding the Board's apparent reservations following the losses of the 1897 season, it resolved to continue the Music Festival, but attempted to limit the losses the Association incurred by capping them at $200.00 for the following year.[219] Despite this, the report of the managers of the Music Festival for 1898 showed a deficit of $219.72.[220] Again in 1899 the festival came up short.

Meeting minutes and newspapers for the years after 1900 note arrangements for "musicales in the Auditorium" "getting band to furnish music for some evenings during the summer" and specific musical acts (such as the Lotus Glee Club, a popular touring group) as well as various choruses and recitals in connection with the summer program at Round Lake. However, the year 1899 marked a change in the way the Association was operated. Although music continued in Round Lake and in the Auditorium, this seems to be the last large scale Music Festival.[221]

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[211] "Attractions at Round Lake. An Elaborate Programme for the Musical Festival. *"New York Times*, July 16, 1893:12. Retrieved from http://www.nytimes.com.

[212] "Festival at Round Lake a Success." July 29, 1894:2. Retrieved from http://www.nytimes.com.

[213] RLA 8 May 1895: 470.

[214] RLA 26 July 1895:474.

[215] "Life at Round Lake. Musical and Educational Attractions of This Charming Resort." *The Brooklyn Daily Eagle*, 14 July 1895:14.

[216] RLA February 1, 1896:19.

[217] RLA 1896:56 (the report is not associated with any meeting date).

[218] RLA 8 August 1996:36.

[219] (RLA III 15 November 1898:121).

[220] (RLA III 1 January 1899:125).

[221] (RLA III 5 May 1900:159; 2 May 1903:293). References to a Music Festival in Round Lake appear in newspapers in 1913 (referencing a three day music festival with five programmes, "Spross at Round Lake" *Poughkeepsie Eagle News(PEN)* August 6, 1913:5; "Miss Gunn at Round Lake. Brooklyn Violinist Appears at Three Days Music Festival" *Brooklyn Daily Eagle (BDE*, 17 August 1913:32); and in 1915 (*BDE*, August 29, 1915:46) and in 1921 ("Spross in Recital at Round Lake*" PEN,* July 12, 1921:26).

Round Lake Singing School

By 1893, a school of music at Round Lake under the direction of Edward F. Myer was established. The contract provided that Myer would "organize a choir and make them as attractive and acceptable as possible" and "arrange and train a chorus in the music selected for the Festival … and will give them some instruction in singing." Myer would also arrange and conduct a concert every Saturday evening. Myer also agreed to provide an organist who would play for rehearsals, concerts and services.[222] In 1894, the Board discussed Myer running a "complete school of music the coming season" and corresponded with Meyer to make arrangements "as will be pleasing to Mr. Myers but not to be of material expense to the Association."[223] The Board appointed a committee to "secure a competent leader for music outside of the Music Festival and also someone to play the big organ outside of Festival week." It seems that person was Myer.[224] In 1895, there was something of a falling out with the Association and Myer.[225]

It is not clear who, if anyone, trained a chorus for the music festivals after 1896. It is known that Meyer, who became a well-known instructor and author of many books on vocal technique, apparently returned to establish the Round Lake Summer School of Music in 1904 and conducted the same through at least 1907.[226] A.Y. Cornell took over the school in 1910.[227] Cornell's school continued through 1937, with some apparent interruptions and/or substitutions.[228] The Round Lake Summer School of Music under Cornell was well known, or at least well promoted. Six members of "the operatic summer school of A.Y. Cornell, situation in Round Lake N.Y." appeared at a benefit concert in Massachusetts in 1933.[229] The school and accompanist travelled to Schenectady for a very early live radio performance in 1922.[230] Cornell used the Organ in connection with his singing schools, sometimes accompanying his students in recitals.[231] Helen Hirahara, who eventually became one of the saviors of the Organ, accompanied Cornell's voice students at church services and concerts in the 1920s.[232]

Round Lake Association in Decline

In March of 1898, William D. Griffin died. He was a trustee of the Association for 30 years and the president for more than a decade. He was the guiding force behind the move from camp meeting to educational summer resort. Following his death, the incoming Association leadership seemed to be not only more prosaic in its governance, but also beset by difficulties. In particular, the lot owners and the Association were afflicted with a very high tax assessment from the mostly rural town in which Round Lake was situated (the first time an assessment is mentioned in the minutes); difficulty in collecting rents and assessments from lot owners; lot owners demanding changes to the Association's constitution affecting membership and voting rights; the many

[222] RLA April 1 1893:402.
[223] RLA 3 February 1894:425.
[224] "Round Lake Association's Plans. A Programme that Embraces Religion and Intellectuality" *New York Times,* July 1, 1894:8. Retrieved from http://www.nytimes.com.
[225] RLA 24 August 1895:475.
[226] RLA 20August 1906:32;6 September 1907:94.
[227] Interestingly, Cornell's advertisements cite Myer as one of the sources of his teaching methods. Advertisement for Mr. Alfred Y. Cornell, Teacher of Singing, *BDE* October 1, 1916:36.
[228] "Round Lake" *The Saratogian,* August 28 1940:3.
[229] "Boy Scout Camp Fund to Benefit From Pop Concert at Pittsfield Sunday Night" *The North Adams Transcript*, July 21, 1933:3.
[230] "Radio Fans Hear Spross. Local Composer and Group of Summer School Artists Perform at Schenectady Station." *PEN*, July 22, 1922:6.
[231] "Round Lake. Summer School of Missions Will Convene Sunday "*The Saratogian,* July 16, 1928:3.
[232] Marion Williams, "Famous Old Church Organ Discovered in Round Lake." *The Times Record*, June 4,1959:12.

infrastructure problems that arise when buildings and facilities approach their second decade of life; and the many details that arise in running a small city for several months a year.

In 1900 a bill introduced in both houses of the New York State legislature revealed the turmoil within the Association. Proxy votes of lot owners (really lot lessees, as the Association continued to own the property and leased same for yearly rents on 99 year leases) had resulted in the aggregation of votes allowing "a small clique of persons who, by the loose methods of voting described, have managed to control matters here since the death of President Griffin, who was the largest property owner and lot owner of Round Lake." The legislation proposed that voting by proxy be disallowed, and each owner be allowed one vote, regardless of the number of lots owned, and was "favored by the Executive Committee and a number of Trustees." The gambit resulted in changes to the Board and the way the Board conducted business. At the annual meeting that year the president of the Association, Charles D. Hammond,[233] and the long time Superintendent of the Association, John D. Rogers submitted their resignations. Rogers stated in the record "I hope to allay the strange spirit of unrest on which has in these latter days obtained in our midst."[234] Rogers, an indispensable figure, was immediately rehired (he served as Superintendent for over 40 years), and the Association retained control of Round Lake with new leadership. However, the problem with the Association's governance was succinctly stated in a New-York Tribune article:

> The difficulties from which some of the lot owners of Round Lake seek relief are due to changed conditions since the charter was granted to the association in 1868. It was organized as a private corporation, and, except in specified particulars, the franchise is substantially the same as in other business corporations, each lot representing one share and having one vote. The purpose of the association was the establishment of a camp meeting ground, with facilities for temporary summer houses. There has since grown up a settlement of permanent residents, who seek the sovereign rights enjoyed by the people of municipalities; but the original purposes of the association have not been relinquished, and the expenses and onerous duties assumed by it in the sale of its lots are still binding.[235]

This issue would arise again and again as Round Lake began to resemble a municipality more than a resort. The new Board was much more business-like. The books were audited, and payments were audited and posted in the meeting minutes. An inventory of assets included "1 Auditorium, large organ and fixtures - $5,000".[236] Yearly financial reports were printed and posted in the minutes of the annual meeting. A budgeting process and double entry accounting were instituted. The Board embraced the minutiae of its ministerial duties and the lofty ambitions of the Griffin years were left behind.[237] The Organ's new home, in what was then an open-air auditorium, had an adverse impact on its condition. As an asset of the Association, was cared for accordingly, at least at first, with a substantial line item of $975 for unspecified repairs in 1905 and a budget line item for repairs and maintenance of $25 yearly for at least several years.[238]

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[233] Legend has it (verified to the extent of the internet's veracity) that Mr. Hammond, a Superintendent with D&H Railroad, was responsible for and on board the "special train" that met Theodore Roosevelt in North Creek in the Adirondacks where he received the news of President William McKinley's death and Roosevelt's ascension to the office of President.

[234] RLA 25 May 1900:167.

[235] "Round Lake Chapter Amendment" *The New-York Tribune.*

[236] RLA 6 June 1903:181.

[237] The Board concerned itself with such details as considering the number and type of bells cats must wear to protect the birds and squirrels of Round Lake. "Mr. Mann moved that the larger of the bells submitted be adopted for cats and at least two bells be put on each cat." RLA 13 June 1906:15.

[238] RLA 22 March 1905:354; 12 September 1906:35. The 1905 repair would be over $25,000 in 2015 dollars and the yearly maintenance about $675 in 2015 dollars.

The Association also continued the school of music. As noted above, the music program in the Auditorium and the singing school continued in some form for at least another thirty years and, albeit in a much reduced form, survived the Institute's literal demise when the Institute itself was razed in the 1940s.

The long slow decline of the Association through the twentieth century is consistent with the experience of Chautauquas nationwide. "Circuit Chautauquas" ("chautauquas"), a sort of Chautauqua franchise built upon the success of the original Chautauqua, did not rely on an established site or infrastructure, but traveled from town to town offering educational lectures and diversions to localities that would provide facilities for a week or so, and would then move on to the next engagement, repeating the program in the next town. Promoters put together packages of talent and made the arrangements for the performances with the localities. It has been argued that these chautauquas "can be seen as one of the first attempts to deliver a truly national culture to the masses—a culture linking rural and urban, east and west, north and south."[239] Over time, chautauquas filled the market and became more entertaining than educational. The migration may have been the result of a short term commitment (it would be difficult to explore a topic in depth over one week, as opposed to the longer programs of the independent Chautauquas) or the nature of the demand. In any event, Round Lake, with its established Summer Institute and associated infrastructure, did not stray far from its educational purpose. Nonetheless, the factors that contributed to the demise of the chautauquas also contributed to Round Lake's decline as a place of culture and education. These include 1) the growth of university extension services; 2) increased book and magazine production (for example, The Reader's Digest began in 1922); 3) the expansion and improvement of paved roads, automobiles, and country clubs; 4) the rise and popularity of professional athletics; and 5) a literal change of pace: "a sense emerged that life moved at a faster pace after World War I."[240] Most significantly and most obviously, radio provided unprecedented access to news, education and entertainment without requiring a trip beyond one's own home and movie theaters appeared in even the smallest towns.

Round Lake was able to reposition itself as a resort and continued to hold religious meetings and lectures, albeit on a much smaller schedule. Advertisement and promotional booklets show an emphasis on recreation (basketball, billiards, croquet, pool, dancing, the casino, seaplanes, baseball, tennis, golf and boating, bathing and fishing in the lake) and health—clean water and fresh air.[241] The proximity of Round Lake to the Adirondacks and Saratoga is also mentioned in advertisements.[242] The only remaining attractions were the quiet relaxation, the singing school and the occasional concert or lecture at the Auditorium. Those present in Round Lake during the summer were far more likely to be the families of working men who took the train to work and returning in the evenings than those on a quest for education and enlightenment.[243]

By the 1920s, the number of year-round residents had grown to approximately 500.[244] The Summer Institute had largely stopped operations, although the Round Lake Academy, originally under the auspices of the Institute, continued to educate the children of Round Lake, and eventually became the Round Lake High

[239] Russell L. Johnson, "'Dancing Mothers' the Chautauqua Movement in Twentieth-Century American Popular Culture" *American Studies Internationa*l 39 (2) (Mid-America American Studies Association 2001)53–70. http://www.jstor.org/stable/41279808.

[240] Ibid., 58-59.

[241] Advertisement, *BDE* June 6, 1915:45. A promotional pamphlet from 1940 states: "If health is the greatest wealth, then the environment in which you live is of the utmost importance and the air you breathe constantly is vital. For invigorating, soothing and healthful effects from the air we breathe no environment equal that of the Pine Tree Forest. The aroma from pine pitch is a tonic. It soothes nervousness and counteracts the tendency to sleepless night that wear persons down to listlessness."

[242] *BDE* June 1,1913:48 (advertisement); "Vacations in Central and West New York; Rapid and Comfortable Transportation Has Made Lake George and Saratoga Almost Seem Like Suburbs of the Metropolis, and Yet They Lead You Into a Wilderness of Mountain, stream and Forest Solitude, Casting Aside all Thought of City Cares" *BDE,* July 19 1914:24; *BDE* June 3 1917:46 (advertisement).

[243] Hesson, *Little Village in the Grove.* 56.

[244] Ibid 76.

School. Attempts to revive the Institute in the 1920s failed and the Institute was left with debt and large and aged buildings.[245] In 1920, the now public school moved to the former George West Museum building and the school maintained offices in the Alumni House. The Griffin Institute building was razed in 1946. The funds belonging to the Institute were turned over to Drew University, but not before the Association attempted to retain and use for Association purposes the funds from Dr. Griffin's will.[246] By 1954, all students in the Round Lake School were transferred to a new central school.[247] The last remaining and longest lasting element of the cultural and educational mecca was the Round Lake Singing School, which operated until 1939, and for the last two years was conducted by Nils A. Nelson of New York, who had been A.Y. Cornell's accompanist for eight years.[248]

Throughout the first four decades of the twentieth century the Auditorium was used for lectures, concerts, recitals and theatricals. However, it is difficult to determine the extent to which the Organ was used in connection with any of these activities. The concert series that took place in the Auditorium sponsored by the A.Y. Cornell Memorial Fund, to continue Mr. Cornell's legacy, were discontinued due to World War II. After the war, the Board made halfhearted attempts to revive the singing school and even went so far as to place advertisements in a musical publication, but there seems to have been no interest.[249]

The summer programs, especially during the war years of the 1940s, were reduced to little beyond Sunday services in the Auditorium. The Association continued to publish pamphlets. Advertised attractions included the playgrounds, activities such as boating and fishing on the lake, and a prominent mention of the "Youth Center", a room in the upstairs of the community building. Notwithstanding the dutiful publication of a promotional pamphlet each year, Round Lake had become primarily a year-round residence. Concerts were held at the Auditorium on a much-reduced scale. In 1946 the Association staged three concerts, the first since World War II. This was an effort to "once more [make] Round Lake one of the music centers for this section of the state" but these apparently did not feature the Organ.[250] There were five concerts in 1948.[251] The meeting notes of the Board mention plans for "tuning the organ" in connection with several programs, but there is no evidence this was actually done.[252]

The big draw at the Auditorium was movies, shown throughout the summers. Most of the maintenance that occurred at the Auditorium was in connection with this function, including the purchase of new screens and an apparently long overdue wiring upgrade.[253] At the annual meeting "attention was called to the need of repairs to the Auditorium in order to save the building" in connection with plans for the coming year. During this golden age of film, the Organ was literally eclipsed by the movies, as the movie screens hung directly in front of the Organ's massive console.

During these decades, the Association limped along without really adjusting to the fact that the summer resort had become an entity with year round municipal obligations. The yearly rents on lots were never raised above $3 (for unimproved lots) and $5 (for improved lots), the same as those set at the turn of the century. Although there was a separate charge for water, the water and sewer required almost constant repair and maintenance. The Association was also providing all manner of services, from trash pick-up to road maintenance to

[245] "Temperance Groups Met at Round Lake" October 26, 1954:18.
[246] RLA 25 October 1946:29.
[247] Hesson, *Little Village in the Grove*, 24.
[248] "Round Lake." August 28, 1940:3.
[249] RLA 23 September 1946:26.
[250] "Concert Series at Round Lake To End Friday" *The Troy Record,* August 14, 1946:4.
[251] RLA 1948:95. This report is not attached to a particular date.
[252] The expenditures at this time are meticulously noted. While there is a note that 26 cents was spent on a "Special Del[ivery] stamp (letter about organ tuning)" there is no corresponding charge for the actual tuning (RLA 9 April 1948:85).
[253] RLA10 August 1948:122.

sustaining the fire department with little or no income. The conditions of the Association leases included obtaining permission from the Board for the transfer of any interest in the lease, and this alone took up a large amount of the Board's attention. During the Great Depression in the 1930s, many homes were divided and renters were taken in.

The housing shortage following World War II continued and encouraged these arrangements. The homes themselves were generally in a condition of deterioration. While the lessees owned the buildings in which they lived, they did not own the land on which they were built and were generally unable to obtain financing from banks or other lending institutions for improvements. The Association likewise had no funds for maintenance, nor, as a private entity rather than a recognized municipal government, was the Association eligible for grants or state funding. Most of the significant structures that were part of Dr. Griffin's vision were demolished between 1945 and 1965 as the Association was unable to maintain them.[254]

In 1949 a trustee questioned whether religious services should be held in the Auditorium in the coming year, but was told the "Association is obliged to do so."[255] Perhaps this obligation, combined with inertia and other priorities, preserved the Auditorium and the Organ through the 1950s. Even so, a proposal by a member of the Board in 1948 "to cover up the rotten boards in the Auditorium to give it a better appearance" sums up the Board's approach to its many responsibilities during these years.[256] By the 1950s, even the movies were not enough, as the opening of a drive-in theater nearby reduced the audiences at the Auditorium.[257]

Rediscovering the Organ

Thanks to Mrs. Helen Hirahara, the fortunes of the Organ changed in 1954. Mrs. Hirahara was raised in Round Lake and she served as an accompanist on the Organ to A.Y. Cornell's singing school in the 1920s.[258] She returned to Round Lake after her second marriage. At this time "the organ was a wreck. Pipes were smashed, pedals missing and broken parts were hanging all over it."[259] In 1954, Mrs. Hirahara was the first woman elected to the Association Board of Trustees, and by this time she had already undertaken the repair and restoration of the Organ, working with her son, John F. Lewis.[260] The pair was also assisted by others, including Stanley Saxton, a professor and organist at Skidmore College. When she began this project, the Organ "could still be played" however, most who played it disagreed, and a great deal of work was required to put the Organ in a condition to be generally used.[261] The Organ's location in a largely unsecured building that now had windows (albeit mostly broken) and doors (rather than canvas flaps) but was still subject to extreme temperature variations, vandalism by local mischief makers, and incursions by animals in addition to no substantive efforts to protect, maintain or repair it for many years presented a formidable challenge.

There were no funds available from the Association so Mrs. Hirahara used her own, her husband's and her son's money.[262] Although an experienced and accomplished organist, Mrs. Hirahara was not known to have any particular expertise in organ construction, and it is likely that early efforts focused mostly on replicating the

[254] These buildings were razed: Griffin Institute (1946), The Orient (1956), Garnsey Hall (1956), Kennedy Hall (1962), the George West Museum (1965). Other losses during this time include elaborate street lamps, a three tiered fountain near the Auditorium, and a gazebo. A massive fire destroyed the Arcade and 16 cottages in 1921 and fire also destroyed the Hotel Wentworth in 1933.
[255] RLA 11 March 1949:114.
[256] RLA 9 July 1949:97.
[257] Hesson, *Little Village in the Grove*, 34.
[258] Marion Williams, "Famous Old Church Organ Discovered in Round Lake." *The Times Record*, June 4,1959:12.
[259] Bill Blando, "Mother-Son Team Revive Historic Organ." *The Knickerbocker News*, August 18, 1967:48.
[260] "Round Lake Names Woman As Trustee." *The Troy Record,* July 12 1954:4.
[261] "Famous Old Church Organ Discovered in Round Lake."
[262] Hesson, *Little Village in the Grove,* 35; RLA 9 July 1954:205; 13 August 1954:208; 10 August 1955:225.

broken parts as much as possible, with no attempts to update or upgrade the instrument or any of its parts. Residents recall her taking all of the pipes out and laying them on the Auditorium stage.[263]

By July of 1954 a "hymn sing" featuring the Organ was noted as "the first time in years" that it was used.[264] The Organ was played at the annual meeting of the Association in August and another hymn sing was staged in September.[265] Also that summer enough repairs had been completed to permit a concert featuring Stanley Saxton playing the Organ.[266] More repairs were undertaken over the years in an extremely piecemeal manner, and more recitals scheduled as the Organ's presence and significance became known. In 1956 E. Power Biggs, a nationally known organist and expert on organs, and Barbara Owens of the recently established Organ Historical Society, visited Round Lake to play and record the Organ as they gathered material for a record of historic organs called *Organs for America.* This group was impressed to learn of the existence of the Organ, complemented Mrs. Hirahara on her efforts thus far, and encouraged her to continue. However, the condition of the Organ was still too poor to produce an acceptable recording.[267] Over the ensuing years, famous musicians from all over the country donated their talents to fundraising[268] and the Organ Historical Society included the Organ on its annual convention tour in 1967, and again, on the fiftieth anniversary convention tour in 2006.

The second guardian angel of the Organ was Edna VanDuzee Walter, another longtime resident of Round Lake. A former music teacher and professional singer, Ms. VanDuzee (as she is most commonly known, despite her marriage to Norman Walter, who joined the fight to save the Organ) began focusing on the Auditorium and the Organ in the mid-1960s. At that time the increasingly uncomfortable arrangement with the Association was finally resolved after many years with Round Lake becoming an incorporated village in 1969. The new village government was faced with myriad problems and issues, and residents, taxed as property owners for the first time, were balky about expenditures. There were discussions about "finding a new home" for the Organ and razing the Auditorium to resolve the ever-present parking issues.[269] VanDuzee succeeded Hirahara at this time, and proved to be a tireless (some say relentless) advocate for the Organ, eventually becoming the "Keeper of the Keys" of the Auditorium and repairs to the Organ were "designated" to her.[270]

Helen Hirahara and Edna VanDuzee must both be credited with not only turning back the Organ's deterioration but saving it from destruction entirely. To accomplish this they took on not only the salvation of the Organ, but also the Auditorium. One of VanDuzee's notable efforts was raising funds to replace 178 broken windows in the Auditorium before the Bicentennial celebration in 1976. She correlated this date with the centennial of the construction of the Auditorium and commenced fundraising and planning on that basis.[271] VanDuzee devoted her efforts to the Organ for more than 40 years. During that time, and in large part due to her efforts, the Village was listed in the National Register of Historic Places, won many significant grants to shore up the Auditorium, and attracted the attention of some of the best-known organists to play the Organ. VanDuzee was always fundraising as money was always short, and consequently repairs were generally just enough to maintain the

[263] Interview with Bill Ryan, lifelong resident of Round Lake, former mayor and Round Lake Village Historian.
[264] *Troy Record,* 31 July 1954:4.
[265] RLA 10 August 1954; "Musical Program Given At Round Lake," *Troy Record*, September 4,1954:17.
[266] "Round Lake Concerts to Resume" *The Times Record,* August 21,1954:4;(Program).
[267] Steven Pinel, "Organs of the OHS Fiftieth Anniversary: Round Lake Auditorium and its Organ. Davis & Ferris (1847), Round Lake, NY." *The American Organist*, April:81-83, 82; "Davis-Ferris Organ Wins Attention" The Troy Record, July 11, 1956: 31.
[268] Appendix of programs.
[269] Interview with Bill Ryan.
[270] Lauren Carpenter, "Bill Hubert" *The Saratogian.* August 25, 2010. Saratoga Springs, New York. Accessed online: https://www.saratogian.com/2010/08/25/5w-bill-hubert/; RLV 15 September 1975:37.
[271] RLV 18 June 1973:15; Letter to the Village Board dated March 17, 1975 from Edna VanDuzee seeking official designation for the "Bi-Centennial Committee for Round Lake Village" and naming herself chair.

ability of the Organ to be played.[272] Concerts and recitals raised awareness as well as funds. Her efforts to preserve and protect the Organ were all-encompassing.[273]

Davis-Ferris Organ and other Nineteenth-Century Organs

Comparison of Ferris's Calvary Church organ with other surviving instruments built in other cities by other prominent builders demonstrates its forward-thinking design. The organs built by E. and G.G. Hook in Boston throughout the first half of the nineteenth century retain the practice of structural integration of the case and mechanism.[274] The 1848 E. and G.G. Hook organ in the collection of the Athol Historical Society, Athol, Massachusetts, survives in unaltered condition and exhibits such structural integration.[275] A large, two-manual instrument, built by Hook and Hastings in 1876 and retrofitted with a salvaged 1848 case and currently at First Presbyterian Church in Caledonia, New York, is similarly constructed. The last organ built by prominent Washington, D.C. builder Jacob Hilbus in 1841, also exhibits integrated case and works. This instrument is currently in the collection of Strawbery Banke Museum, Portsmouth, New Hampshire.[276]

Though several important nineteenth-century American organs survive today, the Davis-Ferris organ is the sole remaining example of its type. No other three-manual organs made in America's antebellum period remain in near-original condition, and it is the only three-manual organ that remains intact from any of the three primary schools of organ design. The large, three-manual organ produced by Erben for Trinity Church immediately prior to Ferris' construction of the Calvary Church instrument was virtually identical in scale when constructed. However, this instrument exists today in a state too expanded and altered to remain comparable. Such is the case for most organs that remain in service in church settings for long periods of time.

As characterized by Dr. Barbara Owen, past President, Organ Historical Society: "What this means, however, is that much of what we have learnt about the construction, pipemaking and voicing details of organs from the first half of the nineteenth century has come from the smaller examples of them, organs of one or two manuals. Almost no pre-1850 organs of any size from the Philadelphia school now survive, since so many (some quite large) were built for urban churches in that rapidly growing city during that period. But all that we can now learn about them is found only in church records and newspaper accounts, which tell us but little beyond the list of their stops, even when an archival photo is known. The oldest surviving organs in the state are small ones by the German builders centered [in and near] Berks County, almost all of which are of only one manual.

Several organs of three manuals were built in Boston before 1850 by builders such as Hook and Appleton, and while we are fortunate that some early Boston organs of one or two manuals still survive intact and in use, the larger ones again fell victim to fashion and growth. Today the oldest surviving and relatively unaltered 3-manual Boston-built organ is the 1854 E. & G. G. Hook organ in the Unitarian Church of Boston's Jamaica Plain district. This organ has told us a number of things about Hook's work in this period that the smaller ones do not. Nineteenth century builders seem to have incorporated more new or even experimental ideas into their larger organs than in their smaller ones.

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[272] "Bill Hubert". In this newspaper interview in 2010, Bill Hubert, a local organist, noted participating in a series of organ concerts every summer and says he "never got through a single one without having to go fix something—sometimes I had to live inside the organ to keep it running."

[273] Diane Marchand, a long time Village resident, recalls a gathering of community volunteers to "clean" organ pipes, under the strict direction of Edna VanDuzee in the early 1970s in the Auditorium that involved vacuuming out pipes, possibly even washing some of the smaller pipes under VanDuzee's meticulous organization and oversight.

[274] James H. Hook, "Organ History: E. and G.G. Hook Organs Before 1860" https://organhistoricalsociety.org/OrganHistory/history/hist071.html (2001).

[275] Collections of the Athol Historical Society, 1307 Main Street, Athol Massachusetts. (No catalog number given).

[276] Collections of Strawbery Banke Museum, Portsmouth, New Hampshire. Catalog # 1973.15.

The survival of the Ferris organ in near-original condition is largely because it was removed from a church setting. This is where the Davis-Ferris organ is unique, although its initial scenario is not. Removed from the gallery of an Episcopal Church when changes to a more 'high church' liturgy required that a purpose-built new organ, and the choir, be located in the chancel, its size would have made it more difficult to relocate to a smaller building, and it would more likely have been destroyed or broken up for parts. The unique twist of fate here was those Methodists in rural Round Lake, with their large Tabernacle, well-attended revival services and musical events—and probably a low budget. Indeed, the continuing low budget, especially after the decline of the use of the camp meeting grounds and tabernacle later on in the twentieth century actually contributed to the preservation of this organ in virtually original state."

The Davis-Ferris Organ "represents the thriving early New York school at an important period, and while smaller early organs exist from builders such as Ferris, Erben or Hall, it dates from 1847 and is thus not only the only extant 3-manual organ from the early period, but seven years older than the previously mentioned 1854 Boston example. It is much older than the next extant 3-manual New York organ in age, the 1868 Henry Erben instrument in Old St. Patrick's Cathedral. Some mention was made of the large 1846 organ once in Trinity Church, but after several later rebuildings the only part of that organ which now remains is the decorative casework; all of the interior work (presently in storage) is from the twentieth century. However, as some historians have suggested, some of the innovations in the Trinity organ may have influenced some tonal aspects of the Round Lake organ. The influence of Dr. Hodges, who brought some current ideas from England, would appear to have been of interest to various New York organ builders, and a closer look at the Round Lake organ in this regard, especially the tonal aspect, would be a worthwhile scholarly exercise."[277]

As it always has, the Organ remains a reflection of its time. The present citizens of the Village of Round Lake are an eclectic mix of longtime residents and "new" people, drawn to the authenticity of Round Lake's story and structures. Old houses have been meticulously restored and maintained by new owners. Round Lake is now in the midst of a very typical suburban sprawl stretching from Albany northward, but the narrow streets, quirky ways, lack of parking and abundant public space appeal to a new generation. The Organ is now a cherished part of the small community. In addition to concerts, the Organ continues to be used for community events including accompanying classic silent movies, weddings for Village residents, the celebration of "Illumination Night" every June, and to provide the ambiance for the near legendary Halloween celebrations in the Auditorium.

A recent article in *The New Yorker* magazine on the tenth anniversary of the massive pipe organ built for the Walt Disney Concert Hall in Los Angeles notes a new appreciation for the instrument. New organs are being built, old organs are being refurbished, there is an exciting generation of new organists, and the author notes "a mini-trend in organ and orchestra programming."[278] The Davis-Ferris Organ is the forbearer of all this. As Ross noted in the conclusion of his article, organs to this day are "one of humanity's grander creations, and also one of its more durable technologies." This Organ is uniquely able to reach across two centuries to tell the story of the past in a language immediately understandable in the present.[279]

The Davis-Ferris Organ uniquely provides an aural connection to the 169 years of its existence as a continuous record of American music-making that bridges sacred and secular genres. In addition to its physical integrity,

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[277] Barbara Owen, past President, Organ Historical Society, personal communication, June 2016. See footnote 43.

[278] Alex Ross, "Wall of Sound: A resurgence of organ music in the concert hall." *The New Yorker*, November 15, 2014 66-68.

[279] "[O]rgans have stories to tell about the times in which they were built that go far beyond the music that was played on them." Kerala J. Snyder, Kerala J. (editor) *The Organ As a Mirror of Its Time: North European Reflections, 1610-2000* (Oxford University Press, Inc., New York, 2002); "The organ in America, whether considered as a complex mechanism, as a tonal scheme of pipework timbres, as a pleasing vehicle for aural perception, as capable of proper reflection of its literature, or as an architectural adjunct to a building, is not a phenomenon from the past. It is representative of a continuum …it is a present as well as a former musical medium..." Beaseley, "The Organ in America."

the Davis-Ferris Organ preserves an aural element of America's past that cannot be experienced by other means. The Organ's sound has remained much the same over its varied life and would be as familiar to persons attending church in 1847 New York, to those attending a Methodist camp meeting in the 1880s, to those seeking education and enlightenment at the turn of the twentieth century and to the many organists and music-lovers over the years up to the present.

Through the twentieth century and into the twenty first, the Davis-Ferris Organ continues to serve at the center of the municipality that both literally and figuratively was built around it. Unlike many witnesses to history, the Organ still speaks in a commanding voice after all this time, able to tell us this story through mechanisms that were innovative at its creation in the nineteenth century and are preserved for us today.

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Notes of the Round Lake Association Volumes II, III, IV, V

Notes of meetings of the Round Lake Village Board of Trustees

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Previous documentation on file (NPS):

__ Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
_X_ Previously Listed in the National Register.
__ Previously Determined Eligible by the National Register.
__ Designated a National Historic Landmark.
__ Recorded by Historic American Buildings Survey: #
_X_ Recorded by Historic American Engineering Record: #HAER NY-543-A

Primary Location of Additional Data:

__ State Historic Preservation Office
__ Other State Agency
__ Federal Agency
_X_ Local Government
__ University
_X_ Other (Specify Repository): Andover Organ Company files, 560 Broadway, Methuen, MA 01844

10. GEOGRAPHICAL DATA

Acreage of Property: less than 1 acre

Latitude/Longitude: 42.936687, -73.793897

Verbal Boundary Description: The boundary for the Davis-Ferris Organ and the Round Lake Auditorium which contains the historic organ, is 10 feet out from the footprint of the Auditorium building located in Round Lake, New York.

Boundary Justification: The boundary includes the historic Round Lake Auditorium building that contains the historic Davis-Ferris Organ, both of which maintain integrity to the period of significance.

11. FORM PREPARED BY

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Edited by: Patty Henry
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Photo 1. Round Lake Auditorium, Southwest elevation.
Village of Round Lake, New York
The Davis-Ferris Organ is located in the addition to the right, behind the bell tower.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)

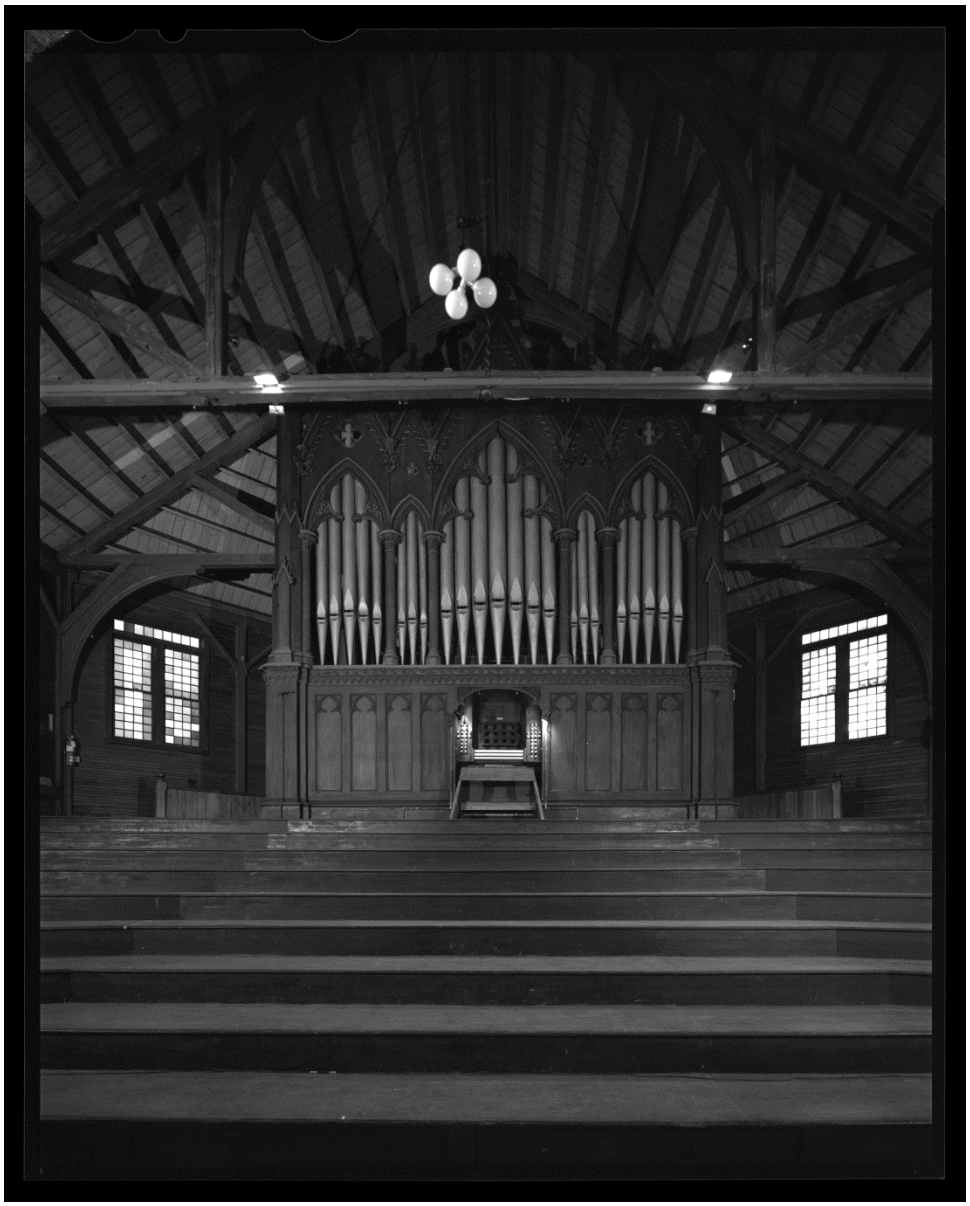


Photo 2. Davis-Ferris Organ, view from the front of the stage.
Village of Round Lake, New York
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 3. Davis-Ferris Organ, Playing Desk.
Village of Round Lake, New York
Desk includes (from top to bottom) the Swell manual, Great manual, Choir manual, and Pedal Board
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 4. Davis-Ferris Organ, east side of organ case.
Village of Round Lake, New York
Showing louvers for sound propagation, central access door, and Gothic Revival ornamentation details.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 5. Davis-Ferris Organ, Great division pipes, Organ's middle level (8ft. above floor)
Village of Round Lake, New York
Pipes for natural notes at right and sharp notes at left. Both circular metal and square wooden pipes can be seen.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 6. Davis-Ferris Organ, Great division natural note pipes.
Village of Round Lake, New York
Each row of increasingly larger pipes is a rank, or stop, with distinct timbre.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 7. Davis-Ferris Organ, looking toward rear of organ on the middle level.
Village of Round Lake, New York
Approximately one-half of the Choir division pipes. Note different styles of pipes in various ranks.
Background panel is Auditorium's south wall.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 8. Davis-Ferris Organ, bottom end of two Pedal division Open Double Diapason pipes.
Village of Round Lake, New York
Upper lips of the mouths are slightly curved, but with different curvatures, done when the pipes were voiced.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)

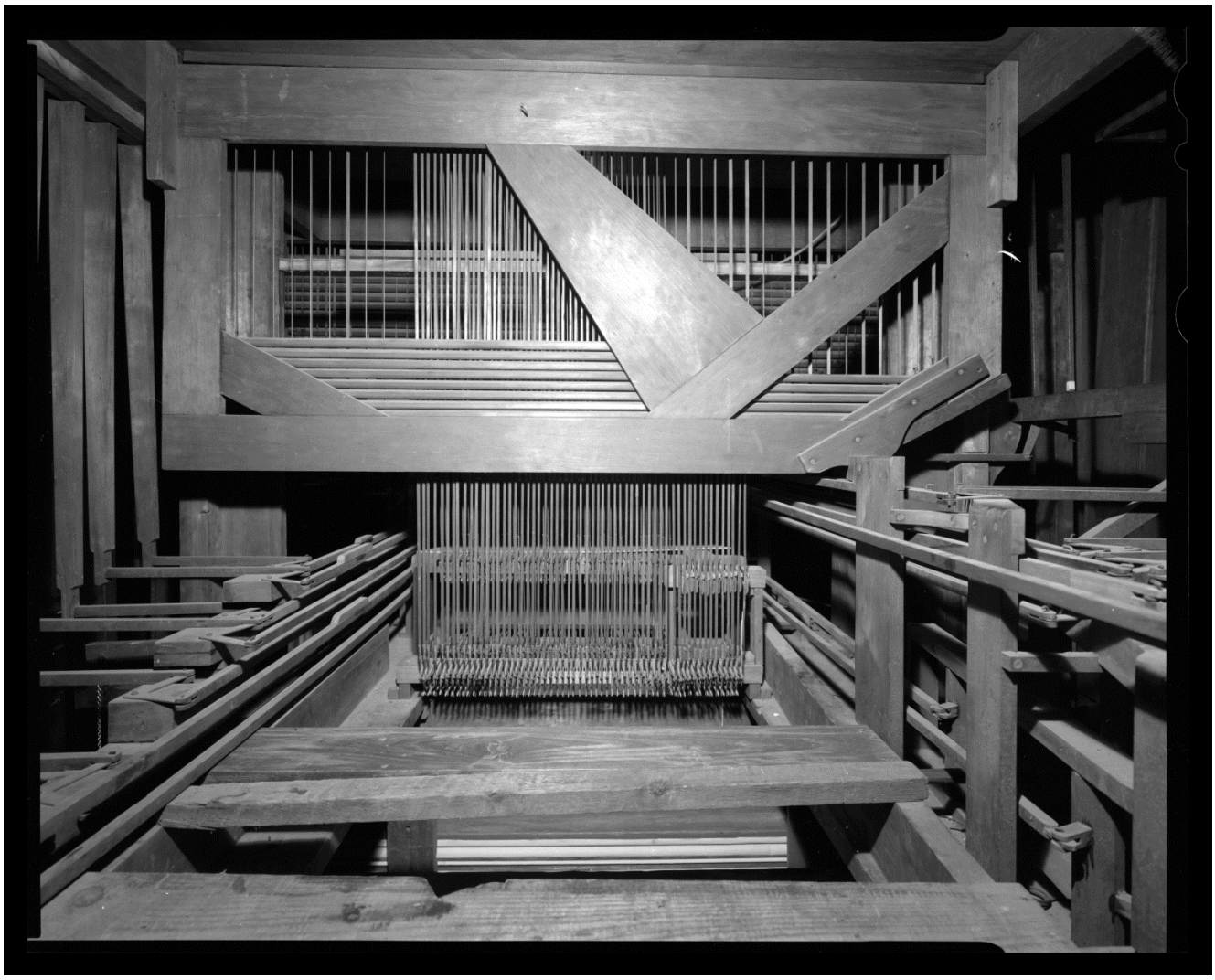


Photo 9. Davis-Ferris Organ, looking from rear of organ to front.
Village of Round Lake, New York
Choir division roller board frame on top with vertical trackers and squares below.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 10. Davis-Ferris Organ, Swell division roller board located on the middle level.
Village of Round Lake, New York
The Great and Choir divisions both have similar roller boards.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 11. Davis-Ferris Organ, detail of adjustable connections of the Swell rollers to vertical trackers.
Village of Round Lake, New York
Connections show minimal friction and lost motion. Great and Choir roller boards have identical connections.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)



Photo 12. Davis-Ferris Organ, pumping handle and pedal board assembly.
Village of Round Lake, New York
Pumping handle originally used to work a bellows that generated wind for the instrument.
Pedal board assembly was replaced by new duplicate in 1979.
These and other obsolete components, including removed pipes, are preserved with the organ.
Photo by Renee Bieretz, October 2010 (HAER NY-543-A)