

Steere and Turner organ, 1875

Tonal and electrical renovation, 2014

Grandall and Engen LLC

Introduction to the organ

We first saw the 1875 Steere and Turner organ at First Baptist Church in downtown St. Paul, Minnesota in 2003. There were dead notes, some pipes were leaning and about to fall over, the pedal wiring included a number of jumper cables as well as dead notes, and the stoplist was somewhat bewildering. The combination action was slow and made a lot of noise. We began some research into the organ's history, and it turned out to be full of twists and turns driven by technology resulting in an organ significantly smaller and less versatile than the original design. Steere and Turner had built this tracker organ in Springfield, Massachusetts, yet here was an organ on electric pitman chests, with a Moller console, behind the original 16' façade.

Most bewildering was the presence of the bottom half of a splendid 16' Open Wood Diapason which did not play. It was looming back in the shadows, difficult to see. The entire top octave and a half was missing. In the Great we found a 3-rank mixture on a 4-rank toeboard. The Swell mixture was missing entirely. The Choir was based on an 8' Koppelflute, which was obviously not part of the original 1875 design, and it was paired unsuccessfully with a wood harmonic Melodia as a celeste.

As we dug further we located some documentation that outlined the gradual shrinkage it had experienced over time. The original 41 rank organ from 1875, dedicated by Clarence Eddy to a full house on May 26 and 27, 1875, had shrunk to 31 ranks by 2003. The treble half of the 16' Open Wood, along with its windchest, was found in the basement near the blower. Next to the pile of pipes was a water-logged box containing much of the original Great Mixture IV, with many spurious pipes that clearly were not part of the original. Some treble harmonic flutes (tapered) in the swell had been cut in half at the hole; the Swell 4' Principal had been moved to 2' and played from the 4' drawknob; the bottom five pipes of the Celeste were missing. The Dulciana and Unda Maris had been switched at tenor C. We found Great Diapasons in the Swell and Swell Diapasons in the Great! There was an octave of a 4' diapason pipes nested and lying on the floor under the Great, along with a rat's nest of unit pedal wiring that included several clip leads.

What had happened here? Did someone try and turn this organ into something it was never designed to be? And why did it shrink? The entire original mechanism was gone. Besides the original stoplist, how could we tell what Steere and Turner had originally built?

A "sister" organ

Just 100 miles away, in the motherhouse chapel of the School Sisters of Notre Dame in Mankato, Minnesota, is the 54 rank William Johnson organ built in Westfield, Massachusetts in 1877. John Wesley Steere (1824-1900) was a protégé of William A. Johnson. It would be reasonable to suspect that these

two organs share some amount of common DNA and perhaps were even under construction at the same time, just a few miles apart. Indeed, the Clarinets in each organ are both flared, and there are other similarities in pipe construction and stoplist.

The Johnson was originally installed at St. Mary of the Sacred Heart in Boston. It was a tracker action organ, but W. W. Laws added electro-pneumatic pull-downs in 1922, allowing for a detached console. In 1975 the organ was moved from Boston to Mankato, and in 1995 the Dobson Organ Company of Lake City, Iowa, did extensive restorative work. They took it back to the 1922 state by removing non-original ranks, restoring the wind system with two large weighted reservoirs, and adding a new console built in the style of 1922.

The Johnson has undergone fewer changes than has the Steere and Turner, so the Johnson can inform us about the original layout of the First Baptist organ. The Johnson Great is immediately behind the 16' Great Diapason façade, with the unenclosed Solo behind the Great. The huge Swell is above, with the diatonic pedal split on each side. It remains on its original slider wind chests from 1877. The 16' façade consists of zinc pipes for the Great. There is a large 16' Open Wood Diapason against the back wall, along with a 16' wood string.

A history of shrinkage

Like the Johnson, the Steere was electrified, but not until 1939. Arthur Fellows added pull-downs on the tracker chests along with a new Reisner electric console. This of course retained the original slider windchests and the original specification, but with electric action it must have been much easier to play. Just 19 years later, in 1958, the entire mechanism of the original organ was discarded. New chambers were built behind the façade with walls made of 2'x4's, some sheetrock, and a great deal of ¼" Masonite. New Durst pitman windchests replaced the originals, and the entire layout was changed. Reservoirs were added for each division. Work was done by J. R. Gould of St. Paul. All divisions were enclosed, with Great and Choir (changed from a presumably unenclosed "Solo") side by side behind the façade impost, with the Swell above. The Pedal became a unit affair, with its pipes spread on both sides. It was at this time that the original stenciling was most likely painted over with gold. The sound of the original organ was modified to adhere to the ideals of the late 1950's. Dedication was played November 1, 1959 by Frank Steinhauser, organist of the church.

In 1962, the 23-year old 1939 Reisner console was replaced with a large pneumatic Moller console made of walnut, funded through memorial gifts from the Brandenburg family. The Reisner console had been at the side of the loft, but the Moller console was placed at the middle of the loft, where it remains today, approximately where the tracker keydesk had been but a few feet in front of the facade. It had a full complement of 16' and 4' couplers which, of course, had not been in the original tracker.

In 2000, Steve Lethert made further modifications. Perhaps of most benefit was new leather on some of the reservoirs and addition of lighting throughout. The Swell Mixture III was removed from the Swell, which converted the Mixture toeboard into a walkboard to allow for tuning access, previously almost impossible. The Great Mixture IV was placed in a box in the basement and the higher pitched Swell

Mixture was moved to the Great. The 16' Open Wood was disconnected and its treble chest and pipes were moved to the basement where we found them. The organ continued to shrink.

The 8' Strings in the Swell had been re-scaled. The original 8' Salicional was rescaled by 4 notes, with extra pipes fitted in at tenor C. The bottom octave remains the original Steere and Turner scale. The Voix Celeste, which was evidently added in 1958 (the pipes are clearly not original) was enlarged by 5 notes, and the chest holes for tenor C through tenor E were plugged so the celeste started at tenor F. We found the original Choir Dulciana had been exchanged with the Choir Unda Maris (added in 1958?) from tenor C to the top. Again, the pipes of these two ranks date from different periods.

Historic preservation grant

In 2013-2014 we undertook mechanical and tonal renovation, funded through a grant from the State of Minnesota for historic preservation. Our overriding philosophy was to attempt to return the organ as much as possible to its original specification within the restrictions of the 1958 electric wind chests. The primary tasks were to (1) restore the 16' Open Wood diapason to the pedal, (2) restore the Mixture IV to the Great, and (3) restore the Mixture III to the Swell. In addition, we returned pipes back to their original locations, replaced missing pipes, and replaced with replicas any pipes that had been cut off or otherwise damaged. The 1875 organ had 58-note keyboards and a 27-note pedal. All original ranks thus have mongrel pipes to fill out the range to 61/32. Our unending thanks go to A. R. Schopp's Sons for making the replica pipes. We also accomplished more mundane activities, such as replacing packing leather on wood pipes, cleaning, adding tuning slides to damaged pipes, repairing and painting the plaster on the chamber back walls, and regulating all of the pipes.

When we opened the box of pipes for the Mixture IV we found a combination of original pipes along with other pipes with grossly mismatched scale and construction. It was, in fact, impossible to reconstitute what was there without discarding the extra pipes and starting from scratch to define the original composition. This was difficult since all pipe labels were inscribed by hand with an extremely florid script that was very difficult to read. Through a process of elimination we figured out what was missing and needed to be reproduced. One curiosity in the original scaling is that all of the quint ranks are scaled much smaller than the unisons. In fact, each quint is approximately the same diameter as the next smaller unison on the same note. The resulting Mixture IV works perfectly with its chorus on the Great, giving rise to the question of why this stop was modified and then discarded. Steere and Turner clearly knew what they were doing!

In the Swell we found that the pipes of the 8' Open Diapason from tenor C to the top were actually the pipes for the 4' Octave on the Great, and the Great 4' Octave formed the upper part of the Swell Diapason. The pipes on the floor under the Great wind chests were found to be the bottom octave of the Swell 4' Geigen Octave, which in turn had been moved to 2' in the absence of the Mixture. We built a new 3-stop chest for the Swell to hold the 8' Vox Humana, the 2' Flautino (which we moved here from the Choir) and the Mixture III, moved back to its original home from the Great. The 4' Harmonic Flute has a stopped wood bottom octave, a few notes of open wood Melodia pipes, and then the pipes are tapered double-length lead. (These are original, yet the original stoplist describes them as wood.) The pipes for the top several octaves had been shortened from harmonic to natural length, so these were

replicated by Schopp and we now have the full harmonic flute running to the top. It is one of the most charming voices in the organ.

The top end of the wood 8' Stopped Diapason had a few original tapered lead pipes mixed with a group of miscellaneous diapasons. Again, Schopp replicated the pipes so this rank is now contiguous. It has a progressive scale such that the treble wood pipes are of very narrow scale, giving the stop a bit of a Coke-bottle sound. The basses are of standard scale for a manual 16'.

The Choir also presented some challenges. Clearly the 8' Koppelflute had to go since this was not a voice used in the 19th Century American organs. Its tone was completely out of character with the rest of the organ. We acquired a Moller wood stopped diapason, which has proven to be the perfect foundation for the Choir. The Flute Celeste was marked 8' Melodia (although it's not shown in any original stoplist), with harmonic wood trebles. This may have been the original 8' Flauto Traverso, but there was no room for it at 8' and the bottom octave was missing. We used it as the 2' Flageolet with new harmonic metal trebles from Schopp.

The Dulciana and Unda Maris had been exchanged from tenor C to the top. We switched them back so the original Steere and Turner pipes can again be heard from bottom to top as a lovely Dulciana, with 1958 pipes as the Unda Maris. There are two tenor C stops on this chest – used for the Unda Maris and the Flute Celeste. With the Flute Celeste pipes moved to the 2' position, we had a tenor C stop available. We do not know what this was in the 1958 rebuild, so we took the opportunity to add a Cornet II, which was not on the original organ but is a useful solo voice.

The original Great Trumpet, Swell Cornopean and pedal Fagotto are long gone, and there is no room for them. We “restored” the Great Trumpet electrically by making the Swell Trumpet available on the Great. Should the church ever wish to restore this trumpet, there is room to add the pipes and the stop knob can easily be rewired to play it.

The console was gutted and new electric components replaced the pneumatic. It now has Syndyne draw knobs, relay and a combination action with multiple memory levels and a transposer. Swell motors were replaced with new Peterson motors, and instead of 45 degrees the shutters now open a full 90 degrees.

In returning much of the organ back to the (almost) original tonal design, we also opted to restore the original stop names and remove the sub and super couplers that were never part of the original concept. The idea for the 10-2/3' Quinte in the pedal was borrowed from the Mankato Johnson.

ORIGINAL (41 ranks)	2000 (30 ranks)	2014 (38 ranks)
GREAT (Manual 1)	GREAT (Manual 2)	GREAT (Manual 2)
16' Open Diapason	16' Open Diapason	16' Open Diapason
8' Open Diapason	8' Diapason	8' Open Diapason
8' Viola da Gamba	8' Viola da Gamba	8' Viola da Gamba
8' Doppel Flote	8' Doppel Flute	8' Doppel Flote
4' Octave	4' Octave	4' Octave
2-2/3' Twelfth	2-2/3' Twelfth	2-2/3' Twelfth
2' Fifteenth	2' Fifteenth	2' Fifteenth
Mixture IV	Mixture III	Mixture IV (restored)
8' Trumpet		8' Trumpet (from swell)
SWELL (Manual 2, enclosed)	SWELL (Manual 3, enclosed)	SWELL (Manual 3, enclosed)
16' Lieblich Gedacht	16' Bourdon (ext)	16' Lieblich Gedacht (ext)
8' Open Diapason	8' Open Diapason	8' Open Diapason
8' Salicional	8' Salicional	8' Salicional
	8' Vox Celeste (1958)	8' Voix Celeste (1958)
8' Dolce	8' Dolce	8' Dolce
8' Quintadena		
8' Stopped Diapason	8' Stopped Diapason	8' Stopped Diapason
4' Flute Harmonique	4' Flute Harmonique	4' Flute Harmonique (restored)
4' Violina	4' Violina	4' Violina
		4' Geigen Octave
2' Flautino	2' Principal (4' in console)	2' Flautino
Mixture III		Mixture III
	16' Trombone (ext)	16' Trombone (ext)
8' Cornopean	8' Trumpet	8' Trumpet
8' Oboe & Bassoon	8' Oboe	8' Oboe & Bassoon
	4' Clarion (ext)	
8' Vox Humana	8' Vox Humana	8' Vox Humana
Tremulo to Swell	Tremolo	Tremulo
SOLO (Manual 3)	CHOIR (Manual 1, enclosed)	CHOIR (Manual 1, enclosed)
8' Geigen Principal		16' Dulciana (ext)
8' Stopped Diapason	8' Koppelflute	8' Stopped Diapason (Moller)
8' Dulciana	8' Dulciana (1958)	8' Dulciana (original)
	8' Unda Maris (original Dulciana)	8' Unda Maris (1958)
8' Flauto Traverso		
4' Flute d'Amour	4' Flute d'Amour	4' Flute d'Amour
4' Fugara	4' Geigen Principal	4' Fugara
	4' Dulciana	
	2-2/3' Dulciana	Cornet II (new)
2' Flageolet	2' Harmonic Piccolo (not harmonic)	2' Flageolet (harmonic)
	2' Dulcet	
8' Clarionet	8' Clarinet	8' Clarionet

Tremulo to Solo	Tremolo	Tremulo
PEDALE	PEDAL	PEDAL
	32' Resultant	
16' Open Diapason (Wood)	16' Open Diapason (Gt)	16' Open Diapason (Wood)
16' Bourdon	16' Bourdon	16' Bourdon
16' Contra Gamba	16' Contra Gamba	16' Contra Gamba (Cone)
	16' Lieblich Gedeckt (Sw)	16' Lieblich Gedacht (Sw)
		10-2/3' Quinte (Sw)
8' Violoncello		
	8' Principal (Gt)	8' Octave (Gt)
	8' Flute (ext)	8' Flute (ext)
4' Flote	4' Choralbass (Gt)	4' Fifteenth (Gt)
	16' Trombone (Sw)	16' Trombone (Sw)
8' Fagotto		8' Trumpet (Sw)

Aftermath

This project took a long time. We attempted to keep the organ partially playable as we focused on one division at a time. A number of components took longer to deliver than we'd anticipated, and holiday tuning season interrupted construction. Most of the funding came from a State of Minnesota historic preservation grant, and there was a 2014 completion requirement.

Returning the stoplist (mostly) to the original design has been a revelation. The organ today is vastly more versatile than it was before we started. The net increase of 8 ranks, of course, played a large part. Restoration of the Great Mixture, at its lower pitch, has given the division more gravitas. In hindsight I wish we had removed the Masonite walls to give its chamber better reflection into the room. Removal of the swell shades improved egress, and nobody has missed them.

In the room, the organ is far from loud although the sound is very full and robust. In looking around the room we can see that the ceiling is not covered with wood. It appears to be some sort of absorbent material, probably invented and added after the original construction to reduce reverberation which the original organ might have enjoyed.

Another question is wind pressure. Today the entire organ is on 4", but we found a number of pipes coughing and belching, especially in the pedal. This leads us to suspect that the original pressure was less than 4". A higher pressure was probably a concession to the pitman chests and the new reservoirs in 1958. Were the pipes revoiced for a higher pressure? There is no evidence of cutup changes, but many toes were badly damaged. In some cases they barely sat in the chest holes. A few of the 8' zinc pipes needed new lead toes. We may never know for sure what happened with the pressure.

The Choir now has a lovely minor chorus and some delightful flute colors. The Dulciana and Unda Maris combination, with shutters that now close and open completely, is appropriately ethereal. The Clarionet, with its flared resonators, is one of the best clarinet voices we've ever heard.

Whereas the Swell was overly heavy with 8' stops in relation to upperwork before we started, restoration of the 4's and the 2' along with the mixture has made this division bloom and given it great versatility. The 4' Violina has the effect of a super coupler to the strings, but is more successful. The original oboe/bassoon is a lovely and dark voice without being too soft – a perfect foil to the Clarinet. The 1958 trumpet is out of character with the other voices. The restored 4' Harmonic Flute, with its tapered pipes, is one of the most beautiful stops in the organ. The mixture sits nicely on top of the restored 8' and 4' diapasons.

The restored 16' Open Wood Diapason needed to be regulated softer than it was when we “turned it on” again – the original pipes are cut fairly low and they were coughing. At a softer level they produce a fairly dull purr with a power that you can hear through the walls and down the hallway. Likewise, the 16' Bell Gamba was pushed too hard, and at a softer level it has a lovely and fast speech that imparts a slight stringiness in the bass. Though its pipes are zinc and have the compound conical shape of the bell gamba, in effect it is very much like the wood violone on the Mankato Johnson. We lament the loss of the pedal 8' Fagotto in the 1958 rebuild, along with the Great Trumpet and the Swell Cornopean.

In many ways the final result has been surprising. The organ is far more versatile and holds some really lovely combinations and solo voices, yet the room does not help it very much. It is now evident that the introduction of current technology over its life degraded the organ tonally while making it physically easier to play. Even though First Baptist sits at the confluence of several freeways and the blower draws in polluted air, the 56-year old leather in the wind chests is still in good condition. The “resurrected” organ should serve this church and the Twin Cities community well for many decades to come.

- David Engen