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The Joe R. Engle Organ

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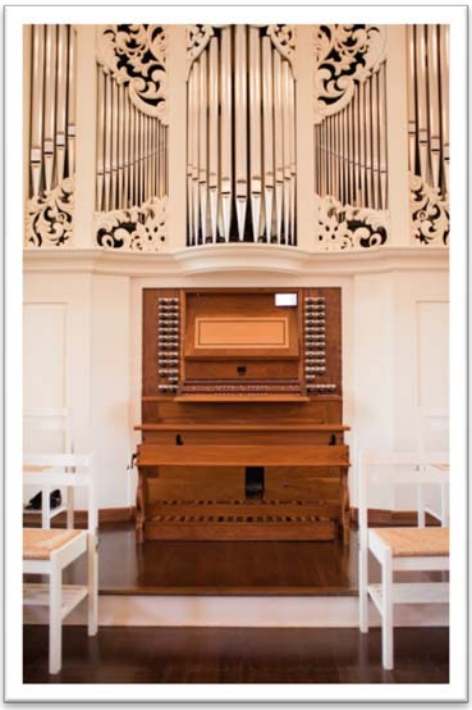
> *Joyfully, heartily resounding, let every instrument and voice*
> *Peal out the praise of grace abounding, calling the whole world to rejoice.*
> *Trumpets and organs, set in motion such sounds as make the heavens ring;*
> *All things that live in earth and ocean, sound forth the song, your praises bring.*[1]
>
> Erik Routley, 1972

So sang the Princeton Theological Seminary community at the dedication of the Joe R. Engle Organ. Erik Routley's versification of the ancient psalm reminds us of the long-standing identity of the organ as the instrument associated with the western church. Despite the church's hostility toward instruments, the organ was accepted into the worship space long before any other instruments, perhaps as early as the tenth century.[2] The organ entered not so much as the musical instrument we think of today, but rather as a symbol of the church and as an embodiment of the music of the spheres. Even today we should not overlook the import of this powerful symbol of unity and harmony, such a sound as makes the heavens ring.



But in the long evolution of the organ in the church, particularly its development through the Protestant traditions, it has become organic to our worship as the instrument which incites all to peal forth in praise. As the air is set in motion through the wood and metal of the organ, the very stuff of the earth, in a profoundly spiritual, God-breathed way the whole world is called to rejoice. This is the heritage of the organ that we claim for now and the future.

This paper is a retrospective documentary of the roads that led us to the dedication of the Joe R. Engle Organ in Miller Chapel. Although it may seem to those who arrived for the dedication of the Organ that it appeared rather abruptly, thousands of hours went into the preparation of this instrument. While most of these hours were contributed by the builders, Paul Fritts and six of his associates, many others were involved in the enormous process of preparing for this instrument. These people included committee members who studied what the role of the organ at Princeton Seminary should be and then sought out the craftsperson to accomplish the task, architects and construction workers who prepared the site, a generous donor who funded the project, and the Seminary community that sang daily with the organ while the builder voiced the instrument to blend with their voices. It is hoped that this document may serve the church as an example of how one community reflected on the role of the organ in its worship life and then endeavored to build an exemplary organ, which would for generations set in motion the praises of God.

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[1] "New Songs of Celebration Render," stanza two, a versification of Psalm 98 by Erik Routley as it appears in *Presbyterian Hymnal: Hymns, Psalms and Spiritual Songs* (Louisville: Westminster/John Knox, 1990), 218.

[2] For further reading, see Quentin Faulkner "The History of the Organ in the Christian Church," in *The Complete Library of Christian Worship,* vol. 4, *Music and the Arts in Christian Worship,* book 1, ed. Robert E. Webber (Nashville: Star Song, 1994), 397-404.

I. A Brief History of Organs in Miller Chapel

Little is known about the first two organs in Miller Chapel. In the minutes of the Board of Trustees dated 19 October 1873 it was noted that the faculty of the Seminary recommended the purchase of an "instrument of music" for Miller Chapel. Though the faculty evidently could not bring themselves to specify what this instrument should be, one can safely assume that the euphemism refers to an organ. A local newspaper mentions an organ given to the Seminary in October 1874. Photographs taken after the 1874 renovation and in an engraving of the Chapel interior from 1879 further document the organ. In all likelihood there was no organ in Miller Chapel prior to 1874. John Calvin did not approve of the use of instruments in the worship service. The Presbyterians of Scottish descent in particular held fast to this Calvinist stricture against instruments right through the nineteenth century (and in some circles to this day). The First and Second Presbyterian Churches in Princeton did not acquire organs until the 1860s. It is doubtful that the Seminary would have preempted these churches in the installation of an instrument.

The second documented organ in Miller Chapel was a small, freestanding, two-manual mechanical action organ installed in March of 1909 by C. S. Haskell of Philadelphia. In 1919 it was rebuilt by the same company. The organ was on the left side of an apse of the Victorian-furnished Chapel. No photos of this organ appear to be extant.

The 1933 renovation of Miller Chapel saw the most curious organ installation in its history. The large, four-manual Gottlieb instrument was installed in six rooms in the basement of the Chapel. As described in the dedication program of October 10, 1933: "The tone produced by the organ pipes, after coming from the various chambers, passes through the master expression louvers into the tone well and on up into the auditorium of the chapel." According to Joan Lippincott, who would occasionally play for services in Miller Chapel, the immense organ was reduced to an underground hum. She recalled that when accompanying the boisterous singing of the Seminary community, she could have shut the organ down in the middle of a hymn and no one would have known the difference.

In 1964 the apse at the front of the Chapel was enlarged to house the pipes of a replacement organ built by the Möller Organ Company, opus 9885. The organ spoke through a small screened opening high in the back wall of the chancel. Eventually panels were removed from the lower wall of the chancel to allow for more egress of sound. Nevertheless, the narrow chancel, with its flanking vestry and sacristy and overhead proscenium, aurally cut off both choir and organ from the "nave" where the congregation was assembled.

In the renovation just completed we have eased the organ out of its "closet" into the same room as the assembled singers. Though many who remember Miller Chapel prior to this renovation may think the new Joe R. Engle Organ to be larger than the previous one, such is not the case. It is in fact smaller than the previous two instruments, occupying well under half the space. The difference is that the organ is now visible whereas before it had to make itself heard from remote chambers. Because the organ is now free-standing and in the room it can lead with less volume and in a more relaxed way.

II. The Organ Committee

On February 18, 1997 the Miller Chapel Renovation Committee met to consider the feasibility of restoring the Möller electro-pneumatic pipe organ. When it was ascertained that the costs for restoring and refurbishing the Möller organ far surpassed its estimated value, a decision was made to purchase a new instrument. To that end an organ committee was formed which consisted of trustee Rosemary Hall Evans, architect James Gatsch, James Kay (chair), alumnus Joel Mattison, and Martin Tel. The committee made several site visits to organs and organ building companies. After interviewing three leading North American organ builders, the committee awarded a contract to Paul Fritts and Company, Organ Builders of Tacoma, Washington. Soon after the contract was signed, Mr. Joe R. Engle of New York City agreed to fund the organ building project. In gratitude for this gift, the Organ has been named in honor of its generous donor.

In the years of planning and sixteen months of building, the committee with the builder persistently wrestled with the task of giving honest form to the function of this instrument. What follows are some reflections on the form of the organ in the light of its intended function in a Reformed context.

III. The Function of the Organ in a Reformed Context

Form follows function: For the Miller Chapel project it was essential that this be more than a maxim. The function of an organ in the worship life of the Seminary should he faithfully fleshed out in its construction. The three functions delineated below are by no means equal, but are presented here in order of importance according to a Reformed understanding of worship.

Congregational Singing. The organ must first and foremost undergird and support congregational singing. The most important musical event in a Reformed understanding of worship (originally the only acceptable musical event) is that which involves the entire gathered community. Congregational hymn singing and psalm singing have been the musical backbone of daily worship in Miller Chapel. While it should be obvious that this should be the most determinant factor in the design of a chapel organ, such was not always the case with the Seminary's previous instruments.

Choral Singing. Although a Reformed understanding of worship places choral singing second to congregational singing, this is hardly a close second! Choral singing is not a distinctive characteristic of Reformed worship and should never be allowed to usurp the singing of the gathered community. However, the development of fine choirs that offer both leadership to congregational singing and anthems of prayer and praise on behalf of the congregation should be encouraged and supported in the design of an organ.

Organ Literature. The vast majority of instrumental music composed for the service of the church is scored for the organ. Again, much of this music, particularly in the Lutheran and Reformed traditions, relates directly to the function of congregational singing in the form of hymn or psalm preludes. However, rather than designing an organ to be able to play literature from all eras and regions, we rather opted for more modest attempts at eclecticism and never to the detriment of the primary function of the organ. The operating conviction was that if all due attention is given to the first two functions, this third function will fall into place. The greatest traditions of building church organs (i.e., organs disciplined to the liturgical requirements) have inspired great organ literature. The opposite is not true.

IV. From Function to Form

The form of the organ follows the principles of function as delineated above. The form of the Joe R. Engle Organ falls into eight categories.

Placement of the Organ. The placement of the Organ was determined by its dominant function, that of supporting congregational singing. For acoustical reasons the Organ speaks the length of the room. An ideal location for an organ would be up in the rear gallery of the Chapel both for acoustical reasons (placing it in close proximity to the hard surface of the ceiling) as well as the liturgical sense of organ (and choir) supporting the congregation in prayer and praise. Since height restrictions would not allow for a rear gallery placement in Miller Chapel, the Organ necessarily found its appropriate place at the apse. Fortunately the renovation of the front of the Chapel allowed for placement of the Organ in closer proximity to the singing congregation. Such a placement, coupled with the fine acoustics of Miller Chapel, will allow the organ tones to envelope the singers without any need to force the sound.

Facade. Having decided to place the Organ into the same room as the assembled worshipers, the committee's attention turned to the visual details of the Organ. The committee was concerned that a traditional placement of the Organ (i.e., as a freestanding piece of furniture), coupled with a traditional facade, would be a major change for those accustomed to a "closeted" organ. Much time went into researching historical precedents and possibilities for an organ façade. While taking steps to minimize the discontinuity with the "organ-less" appearance of the 1933 and 1964 renovations, the committee also demonstrated a concern for the future. The quality of the Organ will ensure a very long life. The facade should reflect the best of the tradition and be able to sustain interest over generations of changing taste.

One of the guidelines of the larger renovation project stated that the renovation should not be considered a "repristination." Unlike other aspects of the renovation, we could not ask the question of what the organ looked like in Miller Chapel in 1834 since Presbyterianism of the period frowned upon

instruments in worship. So the better question was: If an organ would have found its place in the original Steadman meeting house, what might it have looked like?

The question thus posed offered rich possibilities. While today many might suppose the answer to be a "Greek revival organ," such was not necessarily the case in early nineteenth-century America, particularly in the Philadelphia region. The classical period of musical composition in many ways represented a fallow season for both organ building and organ music.[3] Thus, the earlier baroque tradition of organ building continued well into the nineteenth century. This penchant of conservative organ builders for instruments that represented baroque or rococo features was not thought to be at odds with the architecture of the eighteenth and early nineteenth century as many Lutheran, Moravian, German, and Dutch Reformed meeting houses of the colonial era attest.[4] Even at this period there appears to have been openness to some eclecticism in ecclesial architecture.

The carvings on the Joe R. Engle Organ were designed and crafted by Judy Fritts, sister of the organ builder. The design is not a replica of any organ but does draw inspiration from period instruments of the mid-Atlantic region (particularly those of David Tannenberg), as well as from the carvings mounted on the screen behind the 1933 chancel, the Steadman carvings on the stairwells and gallery, and the interior Corinthian columns preserved from the 1933 renovation. The carvings represent a chaste expression within the tradition. The pipe shades were painted to match the organ case. It is noteworthy that they avoid any depictions of humans or other images.

The matter of the facade extends beyond visual aspects; the pipe shades themselves have several functions. They hide the gaps between the facade pipe fields and the case moldings. The ratio of solid wood to openings is carefully calculated to ensure both blending of sounds within the encased Organ and to allow enough egress of sound so that the Organ can speak in a natural, unforced way. Finally, the carvings do provide a visual beauty which must be understood in relation to the sounds produced. People do not take music in with their ears only; the visual aspect of the instrument plays an essential role in the aural experience.

Divisions and Disposition. The number of divisions was appropriately designed for the size of Miller Chapel and for the desired functions of the Organ. For Miller Chapel a two-manual organ with pedal is sufficient. One of the divisions is enclosed behind louvers which can be opened or closed with an expression pedal. This division, usually called a "Swell," allows for gradual crescendos and decrescendos, which are required in much of the choral and organ literature.

In determining the disposition (see appendix) of all three divisions the interest was focused on the principal chorus. The principal stops are those which are native to the organ. They are not imitative of any other instrument, but when combined together into a principal chorus they ideally should sound in a way that blends with the singing voice of the congregation. It was proposed that an 8' principal be present on both manuals, as this is the pitch that matches the human voice. The full organ sound should lead with clarity. This had particular consequences for the design of the mixture stops.[5]

The demands of choral accompaniment and organ literature do move us beyond the principal chorus. There must be a variety of softer or lighter stops which will not overpower the choir as well as some colorful reed stops that are called for in the organ literature. Such stops are not unrelated to the principal chorus as they often serve in the preludes and introductions to the hymn or psalm to be sung. These stops were chosen and voiced in a way so as to accentuate their relationship to the principal chorus.

Mechanical Action. Mechanical action (or tracker action) refers to the mechanism by which the organist allows air into the pipes. Though discussions about mechanical action often relate this type of action to a particular sound or tonal quality (e.g., a bright, unwavering, "intellectual" quality), the action

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[3] The logical antecedent-consequent style of composing that is a hallmark of the classical style was ill-suited to the organ. As the music of Mozart, Haydn, and Beethoven flourished, organ literature and organ building fell into neglect and decadence.

[4] This is perhaps best exemplified in the work of the acclaimed organ builder David Tannenberg, who at the turn of the century was building instruments for Moravian, Reformed, and Lutheran churches in eastern Pennsylvania. The intricate and often boisterous facades of these organs can be seen as contrast and complement to the simple structures that housed them.

[5] Mixtures are multi-rank, high-pitched stops that accentuate the overtones of the fundamental pitches. The design of the mixture stop can be a gauge of the perceived function of an organ. Contrapuntal literature (e.g., a Bach fugue) makes different demands of the mixture from homophonic playing (e.g., an accompaniment to a boisterous hymn). Often the tendency is to lean toward the demands of established organ literature rather than the demands of supporting congregational singing. In the final design of the Joe R. Engle Organ, the *Scharff* represents the mixture particularly suited to congregational accompaniment.

of the organ does not dictate either a certain disposition or tonal quality.[6] The mechanical action organ allows for a more natural relationship between the organist and the instrument. Through the keyboard and tracker mechanism the organist is afforded a direct link to the valves whereby the wind is released to the pipes. Where such an intimate relationship exists between the player and instrument (which is the norm for all other acoustical instruments), there is potential for greater musicality. Also, a well-built mechanical action is more reliable than the alternative actions.

One perceived drawback of the mechanical action organ is that there is, by its mechanical nature, a limitation on the size of the instrument. (For an electric action organ there is virtually no limit to its size.) Traditional organ builders, however, are demonstrating how this limitation is in many ways an advantage. The mechanical action organ demands discipline of both builder and organist Each rank of pipes must make an essential contribution to the whole of the organ. Judicious decisions must be made. Such an instrument will not burgeon into something superhuman. Indeed, the organ remains human in its scale.[7]

Another perceived drawback of the mechanical action organ is that the console must be in a fixed position, most often attached to the front of the instrument. This will prove to be problematic should an instance arise when an ensemble must be conducted from the console. It is the custom at Miller Chapel to have a choral assistant who either accompanies or conducts the choir. It was deemed better to work around this challenge rather than to compromise on the integrity of the organ design.

Temperament. It was only in the nineteenth century that equal temperament became the standard in the tuning of organs. The movement toward equal-tempered organs in churches was driven neither by theological nor liturgical concerns but rather seems to have stemmed from a pragmatism that would allow equal access to all the diatonic key areas. What is gained in equal temperament is that all the keys sound the same. There are no consequences for playing in obscure keys. But this gain is also a drawback inasmuch as all keys are thus equally out of tune and indistinct. Some of the organ and choral literature favors such equal temperament. Nevertheless, the vast majority of psalms and hymns are in common key signatures that sound better (more in tune) and follow more naturally the inclination of the congregational voice in a well-tempered (unequal) system. Thus, the instrument is tuned in a well-tempered system that allows for distinctiveness of key areas but is modest enough to permit the use of the more obscure key areas.

Winding System. Decisions regarding the wind supply system for the Organ also took into account the primary function of the instrument. The basic desire is that the wind support a natural singing quality mirroring in a fashion the natural flux in the syllables of the psalm or hymn as sung by the congregation. The demands for a stable wind supply must be tempered by the need for flexibility. To this end, the Joe R. Engle Organ is winded by two wedge-shaped bellows. A wind stabilizer stop can be engaged when the music requires a more steady wind supply.

One of the organs visited by the organ committee had a winding system which allowed for manual pumping of the instrument. ("Manual pumping" is accomplished by a "pumper" who steps on pedals which lift the bellows which then feed air through a series of wind trunks and chests to the pipes. In the absence of a "pumper," the bellows are fed by an electric blower.) A member of the committee was invited to pump the organ while the organist played. The nonorganist's experience of cooperating in the venture of music making demonstrated the humanness of the organ as a "breathing" reality. Such a manual-pumping possibility is a feature of the new Organ. While the manual-pumping feature may not be used regularly, it will serve as a reminder that the organ is not a modern contrivance easily brought down by technological failure. Like all other wind instruments, it simply responds to a human being setting air into motion.

Electronic Assist Mechanisms. The virtues of adding electronic components to the mechanical action organ are questionable when one considers the comparably short life span of such technology. The

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[6] Because twentieth-century experimentation in building mechanical action organs tended to be linked with a "neo-baroque" sound, many have made an unwarranted connection between mechanical action and tonal quality.

[7] In his lecture at the twenty-third annual St. John's Liturgical Music Conference in Collegeville, MN (June 2000), Kevin Vogt delivered an address entitled "The Awesome Organ." Vogt remarked on the symbolism inherent in the mechanical action organ, comparing it to the church: "Insofar as the organ case houses the choir of musical bodies forged out of the elements of the earth, and inspired by wind, and arranged according to the acoustical laws of the universe to bear witness to the divine *Logos,* such an organ is both a symbol of the *ekklesia,* the Church, and of Jerusalem, 'built as a city, strongly compact, at unity with itself.'"

guiding principle on this matter was that electronic components would not be utilized in any way that could disable the instrument should there be a failure in the technology. Thus, neither the key action nor the stop action are electric.

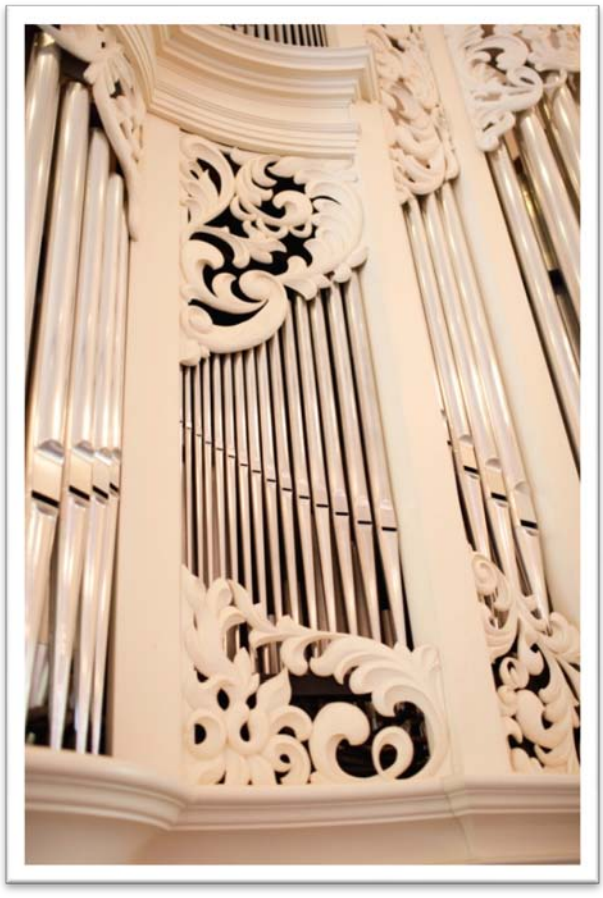
However, there is the matter of the preset system. Much of the organ literature as well as choral accompaniments require quick registration changes. While these quick changes could be made by assistants appointed to operate the organ stops, this is not always practical. For this reason a preset mechanism has been employed, but in a way that does not compromise the mechanical stop action. This technological feature is an assisting mechanism only. The function of the organ (or organist) is not dependent upon it.

Stewardship. The handiwork required to build the finest organ according to the demands as delineated above comes at considerable cost. Of all the alternatives for constructing organs, the mechanical action organ is the most expensive. But the purchase of such an instrument must also be understood as an investment. Mechanical action organs built by the finest craftspeople endure for centuries and require minimal maintenance. Other modes of organ building require regular and expensive maintenance and, in some cases, replacement. Such has been the Seminary's experience with past instruments.

V. Conclusion

The proposal for a new organ and its eventual realization in the Joe R. Engle Organ represents an attempt to build upon the strengths of a developing and living Reformed tradition. It is an endeavor to build on the native strengths of the pipe organ as a liturgical instrument in a thoroughly modern and enlivening way. Once the instrument is in place it will be the calling of generations of organists to discern when this instrument is the most appropriate means for leading the people's songs of prayer and praise. In such a context the Joe R. Engle Organ can be seen as a landmark instrument in the progression toward responsible organ building.

Will Princeton Theological Seminary still be preparing students for the ministry of the church in the twenty-second century? Will Miller Chapel resound with songs of prayer and praise in the year of our Lord 2100? While we cannot give definitive answers to such questions, we do give evidence of this hope and vision in the Joe R. Engle Organ built in exemplary fashion by Paul Fritts and Company, Organ Builders. When future generations come to Miller Chapel, may they say and sing with us and our forbears: *Soli Deo Gloria!* To God alone be the glory!



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