

Technology and the Future of Congregational Song¹

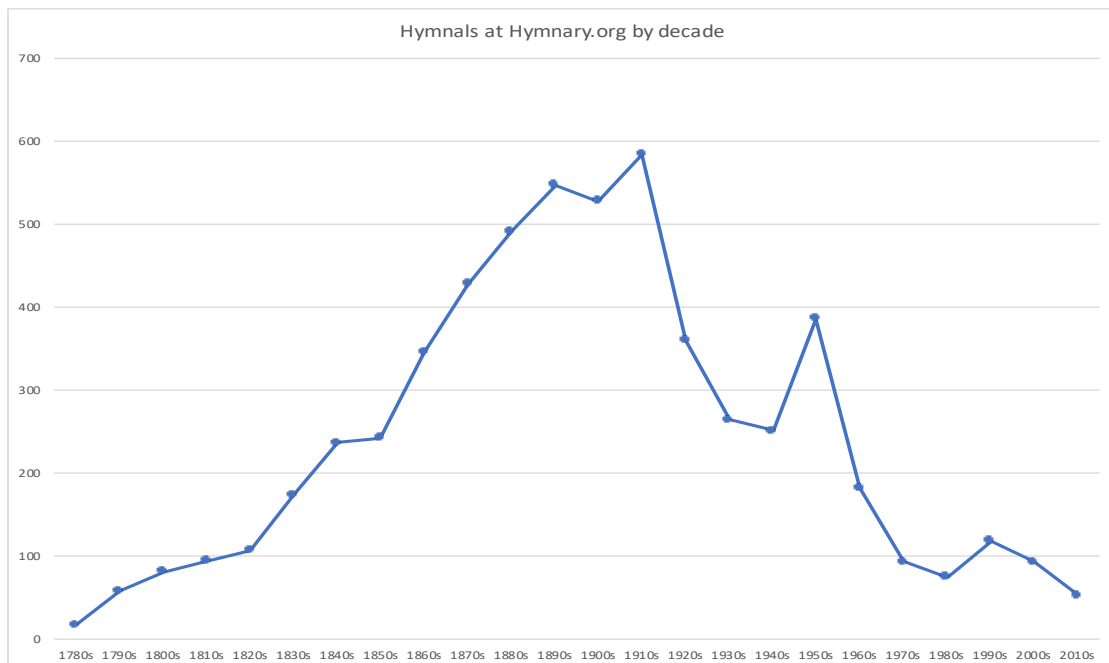
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Over the next couple of years Hymnary.org will be undergoing a new strategic planning process, and to prepare we have been thinking about the future of congregational song. What are the long-term trends? Where will we be in ten years? As one way of approaching these questions, we looked at trends in hymnal publishing. Hymnary.org indexes nearly 6,000 hymnals that have been published in the United States and Canada. It's not a complete index—we estimate it may have only a quarter to a third of the hymnals actually published—but it's a decent proxy for the actual number of hymnals published.

Hymnary.org has seventeen hymnals that were published in the 1780s and 58 that were published in the 1790s. The number per decade increases to the 1910s, peaking at nearly 600. The number then starts a long decline, temporarily reversing after WWII and



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after the 1980s outbreak of new song (as shown in the chart below). But the trend generally continues downward, and the number of new hymnals indexed at Hymnary.org from the 2010s may be the smallest since the late 1700s. We wondered whether perhaps the number of hymnals indexed at Hymnary.org was not indicative of the number of hymnals published, so we performed a search at FirstSearch of the number of books published containing the word “hymnal” or “psalter” in the title by decade. That graph shows a similar shape, suggesting that the numbers are representative. It is therefore possible that the number of hymnals actually published in the U.S. and Canada this decade may be the smallest since the 1790s; at any rate, it is clear that the number being published has been declining for the last century.

Of course, other kinds of publishing are contracting, with many magazines and newspapers folding, book publishing hard hit, music recordings declining, and the like. New media such as the web could be a factor. However, they can't account for a decline starting in the 1920s. It may be that the cost of publishing a new hymnal has risen high enough that the number of different hymnals is declining while the total number of copies printed is not. New copyright licensing requirements add to the difficulty of publishing a hymnal. It also appears that the number of hymnals published for uses other than worship services, such as for clubs or societies or schools, has declined greatly. In fact, it seems that there is much less communal singing outside of places of worship. Still, the decline in the number of hymnals being published is dramatic.

Congregational singing is ancient—as ancient as the *Psalms*, at least—and no doubt it will continue into the future. But even as congregational song may wax and wane, experiencing fads and fashions, the means or technology of congregational song also changes. An obvious question is the extent to which such a change is occurring now—a change from printed hymnals to projection, from an approved collection of songs to a top-100 chart on the web, from congregational singing to performance by leaders. And to what extent are these changes beneficial or harmful to worship?

Theology of congregational song

Augustine generally approved of the use of singing in the church, though his opinion was not unmixed. He believed that the beauty of music could overpower reason and lead to error. Nevertheless, Augustine concluded that singing in the church is so moving that the benefits outweigh the risks when used appropriately:

However, when I call to mind the tears I shed at the songs of thy Church at the outset of my recovered faith, and how even now I am moved, not by the singing but by what is sung (when they are sung with a clear and skillfully modulated voice), I then come to acknowledge the great utility of this custom . . . by the delights of the ear the weaker minds may be stimulated to a devotional mood. Yet when it happens that I am more moved by the singing than by what is

*sung, I confess myself to have sinned wickedly, and then I would rather not have heard the singing.*²

For Augustine, then, music must be in service of the text, enhancing what is sung and promoting a devotional mood. When the music is more in focus than the words being sung, it is harmful rather than helpful.

Calvin presses the point a bit further:

*And certainly if singing is tempered to a gravity befitting the presence of God and angels, it both gives dignity and grace to sacred actions, and has a very powerful tendency to stir up the mind to true zeal and ardour in prayer. We must, however, carefully beware, lest our ears be more intent on the music than our minds on the spiritual meaning of the words . . . If this moderation is used there cannot be a doubt that the practice is most sacred and salutary. On the other hand, songs composed merely to tickle and delight the ear are unbecoming the majesty of the Church, and cannot but be most displeasing to God.*³

For Calvin, congregational singing adds grace and dignity to sacred actions and stirs up ardor. Yet he also warns of the risk that the music itself can distract from the prayer. In addition, Calvin's strict focus on the word and his particular interpretation of the principle *Sola Scriptura* led him to advocate unison singing of Psalms and a few other scripture passages only, without adornment that may distract.

Luther was a musician, author, composer, and lover of music. He believed that

*The riches of music are so excellent and so precious that words fail me whenever I attempt to discuss and describe them. . . . In summa, next to the Word of God, the noble art of music is the greatest treasure in the world. It controls our thoughts, minds, hearts, and spirits. . . . Our dear fathers and prophets did not desire without reason that music be always used in the churches. Hence we have so many songs and psalms.*⁴

For both Luther and Calvin, "stress on congregational participation in worship became a lynchpin of the Reformation."⁵ Yet while Calvin advocated unadorned unison singing of Psalms, Luther advocated the use of hymns as well as Psalms, with harmony and instrumental accompaniment.⁶

² *Confessions of Saint Augustine*, tr. Albert C. Outler, Book X, Ch. XXXIII, <http://www.ccel.org/ccel/augustine/confessions.xiii.html>

³ Calvin, *Institutes of the Christian Religion* III.20 (<http://www.ccel.org/ccel/calvin/institutes.v.xxi.html>)

⁴ Luther, *Forward to Georg Rhau's Symphoniae* (<http://www.eldrbarry.net/mous/saint/luthmusc.htm>).

⁵ Fromm, "New Song: the sound of spiritual awakening," Oxford & Reading Research Conference, 1983, as quoted in Barber, "Luther and Calvin on Music and Worship," *Reformed Perspectives Magazine* 8:26, 2006, p. 1.

⁶ Barber, p. 7.

John Wesley also promoted congregational singing as an expression of corporate prayer. He included a short list of seven “directions for singing” in his collection of hymns for Methodists, *Select Hymns: with Tunes Annexed* (1761).⁷ In it, congregants are encouraged to “join with the congregation,” “sing lustily and with good courage,” and “attend strictly to the sense of what you sing.”

In the Catholic Church, music is understood to play a “ministerial” role in the liturgy, “helping the assembly to rejoice, to weep, to be of one mind, to be converted, to pray.”⁸ While the music may at times be performed by musicians, Vatican II also placed an emphasis on congregational participation, stating that

*bishops and other pastors of souls must be at pains to ensure that whenever the sacred action is to be celebrated with song, the whole body of the faithful may be able to contribute that active participation that is so rightly theirs.*⁹

Congregational song therefore fulfills a number of roles and provides a number of advantages over spoken prayer in worship gatherings:

- Music helps express the affective content of a prayer
- Music helps some toward a “devotional mind”
- In singing together, a congregation prays in unity
- A musical setting makes a text more memorable
- The beauty and affect of music can be attractive

The primary risk is that the music or musicians draw attention away from the prayer being sung rather than enhancing it. To that extent it is harmful. Music that draws attention to itself or its performers is harmful. Loud instruments that prevent us from hearing each other sing detract from the experience of praying in unity. Light shows or images or video or other elements that don’t serve to draw attention to the text and the affect of the prayer are harmful and even “wickedly sinful,” according to Augustine’s way of thinking. On the other hand, when these elements are used to stimulate a devotional mood of the communal prayer, they may be a valuable aid to worship.

Technology of congregational song

The particular manner in which congregational song is accomplished, that is, the *technology* of congregational song, has varied much over time, place, and tradition. Groups have sung Psalms only, or also new songs and hymns. Singing has been in unison or harmony, accompanied or *a capella*, led by an instrumentalist or a cantor or a team of musicians, learned by rote or read from printed words and/or musical notation.

⁷ <https://www.umcdiscipleship.org/resources/wesleys-directions-for-singing>

⁸ *Liturgical Music Today: Guidelines for The Catholic Church Liturgical Musician* (http://www.ccwatershed.org/media/pdfs/13/12/17/11-52-27_0.pdf)

⁹ Constitution on the Sacred Liturgy, *Sacrosanctum Concilium* (http://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19631204_sacrosanctum-concilium_en.html)

Congregations may use a printed hymnal, printed liturgies or orders of worship, a published pamphlet of songs for a season, or songs projected onto screens that all may view with heads held up. What are the implications of these theological considerations to the questions of hymnals, liturgies, and projected words or music? Based on the discussion above, I propose a few principles for consideration:

- The use of any particular technology—for example, hymnal, liturgy, or projection—should be assessed according to its ability to promote shared corporate prayer
- Factors that help bring about a “devotional mind” are helpful
- Factors that help congregants see and hear each other praying in unity are helpful
- Factors that distract and draw attention away from the prayer are harmful
- Any factors that lead congregants to view the music as a performance, or just listen rather than joining in the song, are harmful
- A technology for presenting songs to a congregation should be easy to use, with minimal distraction. There should be no intimidation factor or learning curve, even for visitors

Assessing current technologies

Hymnals

The primary technology for congregational song of the past couple of centuries is the printed hymnal. Traditionally, churches have had hymnals in the pews. These provide a number of benefits:

- Convenient access to text and musical notation
- A broad collection of songs that is thoughtfully curated
- An opportunity for congregants to page through the hymnal, seeing songs that address a broad range of topics and issues, providing convenient access to songs and prayers for a variety of situations
- A shared practice of worship for all users of the hymnal
- An opportunity to have a hymnal at home for devotional purposes, to sing or play on an instrument
- An easy and inexpensive way to address copyright licensing. Legally, no further copyright or performance permission is needed to view the hymns or sing them privately or in a worship service
- An easy to use worship planning resource
- Hymnals may also have creedal, confessional, or liturgical elements associated with a denomination or with a particular song

Hymnals may have a few drawbacks, especially for new users:

- Congregants must know how to find songs and be able to look them up, sometimes in multiple books
- Even if they are not musicians, congregants must know how to navigate through musical notation, verses, refrains, codas, descants, etc.
- Hymnals don't accommodate user preferences or needs such as seeing or not seeing large print, four-part harmony or keyboard accompaniment notation, guitar chords, or translations into other languages
- It is difficult to update the collection of songs to accommodate particular congregational needs or interests or changing style preferences
- Congregants unfamiliar with a song must look down into the hymnal, rather than up at each other, so the sense of communal prayer may be diminished

Printed liturgy

Some congregations try to simplify the use of printed songs for a service by printing a liturgy or bulletin that contains the words and music for songs as well as other elements of worship. This approach has a few advantages compared to printed hymnals:

- It is easier for congregants and especially visitors to navigate
- Congregations can more easily include songs that are not in a printed hymnal
- Musical notation can be customized for the particular use, for example by removing unsung verses
- It is possible to create custom liturgies with large print or addressing other needs or preferences

There are also drawbacks:

- The added difficulty and expense of preparing and duplicating a large custom liturgy each week
- Congregants lose the ability to page through a hymnal or use it for worship planning or other purposes

Projection

Many congregations project songs onto a screen or wall for use in worship services. The projected songs usually do not have musical notation, but sometimes they do, whether melody only or four-part harmony. Sometimes the slides have background images or video intended to enhance the communal prayer.

This technology has advantages:

- Congregants do not need to navigate through or hold hymnals or liturgies

- Congregants look up, so they see each other singing, at least peripherally, enhancing the sense of corporate prayer
- It's easy to sing songs not included in a particular hymnal, responding to congregational tastes or new musical style preferences
- It is possible to present songs using multiple media, including images or video

There may also be disadvantages:

- Quite often screens are too narrow for comfortable reading at a distance, resulting in either small words and musical notation or only a few words per line, with much paging through the slides
- Advancing the slide at the right time can be difficult, and having the words on the screen change in a way that is not under a congregant's control can be disorienting
- Control of singing is taken away from congregants and given to leaders, resulting in a more clericalized worship service
- Projected screens may have elements such as images, video, or animation that are distracting

Recommendations

In all cases, it would be good to accommodate different needs when possible. For example, a large print liturgy or handout could supplement hymnals, liturgies, or projection.

Recommendations for projection:

- Since the focus of singing ought to be on the song, adding images, video, decorations, copyright notices, church name, or other elements to projected words is generally undesirable. It is possible that appropriate images may help convey the affect of the text, though whether they do so in a way that is more helpful than distracting should be considered
- Motion on individual slides should be used with extreme caution. We are not used to motion when reading from a printed page, and such motion is extremely effective at drawing attention and distracting. Perhaps an appropriate kind of motion would be subtle highlighting of the current word, which could help some congregants keep place
- A simple animation between slides may be helpful to indicate visually that the slide has advanced
- In order to make reading easier, projected songs should be shown at least a line at a time, not just a couple of words. For hymns, this means that the screen should be wide enough to display at least seven to ten words in a line, at a size large enough to match the visual field of comfortable reading from a book or

computer screen. A novel-sized book may have a three-inch column width and be held twelve inches from the eyes. My computer screen is twenty inches from my eyes, and a comfortable column width is five to seven inches. To match this visual field width, a projection surface twenty feet from a viewer would need to be five feet wide. A screen 100 feet away would need to be 25 feet wide

- In order to draw no more attention than necessary, the projected image should be bright enough to be easily legible but not so bright that it stands out in the church environment. White text on a dark background may help minimize the “huge white glowing rectangle obscuring the cross” effect. The projection surface should blend into the church environment architecturally and aesthetically
- Churches may wish to address some of the other advantages of printed hymnals, for example by offering a printed book of songs and liturgical resources—or access to a similar resource on the web

Mobile devices in worship

At Hymnary.org, we have found (to our surprise) that the weekly peak of usage is at the 10:00 AM hour on Sunday mornings. People are using Hymnary.org in worship services. Anecdotally, we’ve heard of three primary reasons—to look up a hymn number, to view songs with larger print, and to see music notation when only the words are projected (or to see four-part notation when only the melody is projected).

Since congregants are already using mobile devices in worship, to say nothing of the use of computers to control projection and other aspects of worship services, I believe that it would be good to think about how mobile devices and computers can and ought to be used in worship. Perhaps we can identify new opportunities or pitfalls to be avoided.

At one time I believed that cell phones and other mobile devices are too distracting to use in worship services. When my cell phone is visible to me, I may feel an urge to check my email, check social media, or look at my calendar. These are just the sorts of distractions that should be avoided in worship. However, after years of watching the introduction and assimilation of new technologies into society, I now believe that as society becomes more used to mobile devices and the constant availability of such media, we will learn to adapt, using them appropriately. Someday the technology of mobile devices may be no more distracting than the technology of print is today. But whether or not that adaptation takes place, people are already using these devices in worship. Perhaps we can take advantage of the strengths of mobile technology and minimize the drawbacks.

Mobile devices excel at providing access to information, including text and musical notation, in a way that accommodates user preferences—hiding or showing different parts of music notation, adjusting print size, showing only the verses being sung, and more. One of the drawbacks of printed hymnals is the need to look up hymns. An app for a mobile device could automatically load a liturgy or order of worship with

customized songs when a congregant enters the church, improving ease of use. Another drawback is that the collection of songs in a printed hymnal is fixed, but with mobile apps the collection could be updated as desired.

Electronic publication technology may be able to maintain and improve on printed hymnals in other respects as well. A broader range of vetted hymns could be offered, and the collection could be updated continuously. Access could be offered at home. Worship planning tools could be offered. Creedal, confessional, or liturgical elements could also be offered as desired.

A current drawback of mobile devices for this purpose is that screens are usually quite a bit smaller than printed hymnals. This drawback may be addressed with a combination of approaches. The congregation could use printed hymns or project songs as well, leaving the choice to use a mobile device with congregants. Those who prefer to use individual mobile devices would have the option of seeing the liturgy without musical notation, or with melody only. Reducing the amount of information on the screen can make such screens adequate. Churches could lend tablets with bigger screens to visitors, those who need large print, and the like. And the problem of small screens is likely to diminish over time as mobile devices evolve to support comfortable use. For example, folding mobile phones are just coming on the market as this is written.

Another drawback of the use of mobile devices is the cost, especially if a church must provide many of them. However, these costs are declining and will likely continue to decline until they are cheaper than printed hymnals. In fact, inexpensive (and low-quality) tablets can already be purchased for U.S. \$35, at which price they are already cheaper than some print hymnals.

This strategy of combining projection with mobile devices has an advantage over projection alone in that it offers customized liturgies with, for example, large print. It also gives congregants more control and the ability to bring the songs home. A well-designed system could also ease the difficulty of creating a custom liturgy for each service and the expense of printing it.

Dynamic presentation technology

Drawbacks of current projection technology that have been mentioned include sometimes-poor legibility and aesthetics and disorientation and loss of control when the projected slide is advanced (especially if the timing is inaccurate). The slides for projected songs must sometimes be prepared by hand, usually with text only. A person must run the presentation, turning from one slide to the next at appropriate times.

There is considerable room here for the use of information technology to improve the experience, both for congregants and for worship leaders. For a start, the projection system should prepare slides customized for the congregation's preferences, screen size, verses to be sung, languages to be displayed, and the like. It should listen to the congregational singing and advance or scroll the slide automatically.

Music notation can be distracting to those who don't read music, and fitting music notation onto a small projection screen may exacerbate other problems, but a dynamic presentation system would be able to make the best of the circumstances by showing just what is needed. It could adjust text size accounting for the width of the screen and the distance of the viewers.

Such a system could even show simplified musical notation that anyone can understand, giving a visual indication of the relative pitch and duration of each note. This could be designed to take up less space on a screen and less mental energy to interpret. Those who prefer standard musical notation could use a mobile device.¹⁰



Worship planning

When worship leaders plan the songs for a service, they may take many factors into consideration. The songs may be selected to be relevant to the scripture passage or theme of the sermon or to the season of the year. A congregation may prefer familiar songs and tolerate only occasional unfamiliar ones, so worship leaders may wish to repeat songs weekly for a season or sing them every few weeks so that the congregation is familiar with them but doesn't tire of them. There may be congregational favorites (or disfavorites). For unfamiliar songs, the difficulty of the tune may be a consideration. Some congregations maintain a list of commonly used songs and record dates of usage. Some licensing organizations require reporting on song usage each week, which can also take some time. Worship leaders may meet together or communicate via email to collaborate on selecting songs. When songs have been selected, there may be a time-consuming process of selecting and contacting musicians, collecting or duplicating music, and getting it to the musicians in advance of the service.

The challenge is greater in small congregations, of which there are many. The median size of a congregation in the U.S. is under 75, and in some denominations it is below 25. Such congregations are unlikely to have a trained worship leader, and worship planning may be an additional task of a bivocational pastor.

Much of the process could be assisted via automation. Planning.Center is a popular tool among larger churches that use a contemporary style of worship, and it has a multi-user worship planning module, a facility for storing recordings and scores for songs

¹⁰ For a prototype demo see <https://rh.hymnary.org/history/v0.1.html>

commonly used in worship, and a way to automatically invite musicians to participate and distribute media to them via email. However, Planning.Center doesn't assist in all of the ways suggested above, nor does it appear to have made significant inroads into small congregations or those that use hymns and hymnals.

A software system for worship planning could perhaps address congregations that use hymns and hymnals and perform some of these other tasks. It could, for example, allow worship planners to enter a scripture passage or topic for a sermon. It could suggest seasonally-appropriate songs for the service that have been approved by a denomination or other body, taking account of the sermon, the congregation's favorite songs and willingness to learn new songs, musical style preferences, how recently songs have been sung, popularity of songs in similar congregations, and the like. The worship leader would be able to select from the suggestions or choose other songs. The system could then track usage and report to licensing agencies as needed. It could store media and scores and deliver them to musicians. It could automatically project the songs and/or engrave them as needed for electronic or paper distribution.

The future: hymnals and apps

The long-term change in the use of hymnals over the last few decades has been a marked increase in projection and decline in the use of printed hymnals—a few decades ago, *no* congregations projected and nearly *every* congregation used printed hymnals. We don't know how long practice will follow that trajectory—it could even reverse. There are a few congregations moving toward the elimination of new technology in worship. Still, it appears likely that that technology will continue to make inroads and to be used in new ways. We should at least be thinking about and planning for and developing that future, as it is already appearing in many congregations.

For example, we might imagine a future technology of congregational song where the songs are selected by a denominational committee for beauty, affect, theology, and breadth in a continuing process that accommodates different styles and keeps the collection up to date. All engraving and publishing proceed automatically from a rich digital representation. Songs may be printed or automatically projected on screens, and an app is also available that downloads the liturgy onto mobile devices as the congregant enters the sanctuary. Tablets that can only be used for this purpose are made available for those who would like to borrow one. The app supports user preferences such as type size and music notation style, and it offers search, browsing, and worship planning capabilities, confessional and liturgical elements, and perhaps other congregational information. Hymnals can also be printed on demand. Would such an approach to the technology of congregational song be worth trying?

At Hymnary.org, we seek to serve the church and meet user needs. That means continuing to support printed hymnals, as they won't be disappearing in the upcoming decades. It also means further developing technology for electronic publication of songs and hymns, digital media, and digital distribution. It currently appears that some major areas Hymnary.org should address are support for the use of mobile devices in worship,

technology for electronic publication for songs, and technology for computer-assisted worship planning and leading, including the use of machine learning.

The next ten to twenty years are likely to see a continuation of the current situation, in which congregations (and individuals within congregations) vary in the technology they use—printed hymnals, projection, printed liturgies, and whatever new technologies are on the horizon. Hymnary.org must continue to support and develop them all. In that way we can help the church to pray in unison—or, at least, in harmony.

Thanks to the many people who read a draft of this paper and made helpful suggestions.

What do you think the future holds for congregational song, in terms of technology, theology, style, or practical aspects? Do you have data about worship practices? Ideas about future trends? Join the conversation at the Hymnary.org discussion forum, <http://www.hymnary.org/forum/86>