Rethinking the Role of Digital Displays in Worship

An empirical and philosophical analysis of the large-format digital display with an argument against its suitability for leading the congregation in liturgy and song.

by Rev. Caleb R. Bassett

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About the Work

This text is adapted from an internal white paper that I prepared in 2015 for the Executive Committee of the WELS Hymnal Project. The purpose of the effort was to generate discussion among the committee as it worked toward an approach on the role that the large-format digital display would play in the philosophy of worship expressed in the new hymnal. The material was generally well-received and later became the foundation of a presentation I gave at the 2017 WELS National Worship Conference called, "Screens in Worship: Dos and don'ts—but mostly don'ts." In fact, the Executive Committee had wanted my subcommittee to facilitate a much larger project of public dialogue on this subject, but such an effort was never really feasible given the other, more pressing needs of the overall hymnal project. The dialogue never took place.

This version of the original text, revised and edited in May 2022, seeks to satisfy a more modest mandate. Bryan Gerlach, Director for the WELS *Commission on Worship,* suggested that the material from the original white paper could be useful to foster discussion on the subject among congregational leaders, especially when congregations are making plans for building or renovating a worship space.

Admittedly, such an audience for these ideas may be just as small as the original audience of about 15 people. I have, however, prepared what follows with an eye toward all sorts of ministerial colleagues who may be interested in considering what I will argue is a better approach to digital technology within the context of Lutheran worship.

Abstract

The visual communication of text and musical notation to lead the congregation in liturgy and song is a detailed task hindered by the physical limitations of large-format digital displays. The physical limitations of the medium are responsible for the most unappealing drawbacks in the liturgical use of presentation technology, including poor visual and aesthetic appearance and awkward semantic divisions. Well-intentioned efforts to compensate for such disadvantages often lead to poor results and only exacerbate the inherent philosophical conflict between the nature of projection as a medium and the role of artistic expression in the liturgical life of the Christian. Therefore, there are better ways to do the job of leading the congregation in liturgy and song. Effort is best spent at improving what congregations put into the worshipers hands, not on what is displayed overhead.

Colophon

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Prologue

> *I have never heard anyone speak seriously and comprehensively about the disadvantages of computer technology, which strikes me as odd, and makes me wonder if the profession is hiding something important.*
>
> *— Neil Postman*

Why Wouldn't We?

The question may sound radical to most denizens of a scientific-technological society like the United States of the 21st century. "Should we perhaps *not* use this technology?"

Prevailing cultural momentum usually prevents us from pausing long enough to ask the question, and if someone does manage to get the issue on the table the exasperated answer comes often in the form of another question, "But, why wouldn't we?"

This is often the answer when it comes to the use of large-format digital displays in worship. Already in 2015, survey data revealed that almost one out of every five congregations of the Wisconsin Evangelical Lutheran Synod (WELS) made use of large-format digital display technology to lead the congregation in liturgy and song. There is an often-unspoken but influential assumption that if a church is looking for progress, then that progress will include increased usage of digital technology, including digital displays in worship.

The assumption is backed by anecdotes intended to illustrate the claim that digital displays help key demographic groups, like the elderly, young families, and people with diminished attention spans. Those who regularly use digital displays in worship seem confident that their decision to do so is justified on these grounds alone.

Thus the common sentiment is simply, "Why *wouldn't* we do this?"

But that's precisely the question we should answer clearly. What reasons might we have to deliberately set aside a particular use of a particular technology for the sake of a greater value? Indeed, are we capable of articulating what those greater values might be?

In this text I will seek to make the discussion more nuanced by presenting a line of thinking that demonstrates a different approach to integrating digital technology in worship, one that sets aside commercial interests and technological logic and relies instead on the values that arise from Christian emphases on community, embodiment, and transcendence.

What follows is an empirical and philosophical examination of the large-format digital display as a medium for leading the congregation in liturgy and song. The work will center on three questions.

1. Do we have good reason to conclude that projection is a *best practice* for leading the congregation in liturgy and song?
2. Do we therefore want to *encourage* this practice of leading the congregation in liturgy and song, or should we *discourage* this practice in our setting?
3. Do we have concrete plans to articulate and embody our values on this subject within our congregational setting?

The Scope of This Paper

The question of what role digital technology should play in our lives is a rich field of inquiry and one that has rightly (and recently) captured the attention of people of various vocations, from parents to lawmakers to educators and just about everyone in between. The so-called *techlash* has become a topic of national conversation. Indeed, Neil

Postman's suspicion that the industry was hiding something was more warranted than anyone might have imagined. The industry *has* been hiding quite a lot from us. Industry insiders have emerged to warn us against what they have built. It appears there is some kind of reckoning on the way.

This text certainly anticipated the now-current debate and could be said to fit into the broader conversation, but it is vital to note the limited scope of this presentation. The matter of using large-format digital displays in preaching and Bible class is not covered here, nor is the even bigger question of what role post-pandemic online worship should play. I also bracket the question of whether to foster the use of handheld electronic devices in worship. These are important conversations, but the question at hand here is specifically the practice of using large-format digital display technology to *lead the congregation in liturgy and song*.

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On Technique

> *This is the prevailing vision in Silicon Valley. The world is just one big hot mess, an accident of history. Nothing is done as efficiently or cleverly as it could be if it were designed from scratch by California programmers. The world is a crufty legacy system crying out to be optimized.*
>
> *— Maciej Ceglowski*

The Best or Just New?

Perhaps your involvement in the debate over digital displays in worship started during a new building project. Maybe the pastor suggested adding screens to an existing worship space as part of a renovation. Or someone merely suggested that now is the time to install a pair of large digital displays in the sanctuary.

Advocates for the move argue that digital displays will bring practical benefits. "Young people today prefer visual communication," they might say. Or, "People will pay better attention to the service." There may also be an assumption that digital displays will be more convenient, a replacement for the crufty, legacy system of printed paper.

Some feel uncomfortable installing such devices in the sanctuary, but they often feel unsure of how to verbalize their discomfort without sounding contrarian or old-fashioned. Such people are easily

labeled Luddites for standing in the way of what is assumed to be the inevitable march of progress.

Finally, someone administered the *coup de grace*, "This will be really helpful for the moms wrestling with their toddlers." The debate was over. What kind of monster would argue against the good of women and children?

What you'll notice is that most conversations on the subject of technology center almost exclusively on the matter of practical benefits. This subject is no different. Pragmatic thinking is extremely powerful, especially when it intersects with the wholesome desire to communicate the gospel. I see no reason to question the motive behind any attempt to better assist the congregation as they speak to one another with psalms, hymns, and songs from the Spirit. We should, however, test seriously the relationship between our noble ends and our chosen means.

American culture is heavily influenced by the economic and cultural hegemony of Silicon Valley, where *technique* is seen as the solution to human problems. To illustrate the phenomenon quickly (but bluntly), consider where the ideology finds its purest expression: transhumanism. The transhumanist dream embodies the underlying ideology of Silicon Valley. The goal is to enhance and optimize *human life itself* that we reach a point where we can gladly set aside our embodiment in favor of an eternal life of uploaded consciousness.

This ideology has metastasized to other areas of society. They shape the way in which we govern, the way in which we structure our businesses, and, I would argue, the way many approach Christian ministry. The general sense that human beings need to somehow transcend their limits and that technology will provide the means to such transcendence is everywhere. We look for technique to optimize messy human existence toward clean, clear goals and outcomes.

There are reasons to resist the kind of thinking, some of which I touch on later in this text. But for now let's look at the subject on its home field. Is digital display technology actually the *best* technique to lead the congregation in liturgy and song? Will it accomplish what we assume it will accomplish? Is it the best, or is it just new?

Visibility

Any medium that we employ to lead the congregation in liturgy and song must, of course, be *visible* to the worshiper. Unless worshipers can see the words and music of the liturgy, they cannot meaningfully participate unless they have memorized the liturgy and hymns. But memorization is uncommon and unlikely.

Factors that impact the visibility of digital displays include environmental constraints such as the lighting within the worship space and the physical placement of the displays. We can usually control such factors with good architectural design. However, problems may remain. For example, a space with ample natural lighting, which is a commonly desired trait in good architectural design, may result in direct sunshine that renders the digital display invisible for all practical purposes.

Furthermore, there are factors that affect the visibility of digital displays that are *not* under our control. Poor eyesight may prevent a worshiper from seeing what's on the screen or a distracting environment may keep the worshiper from paying close enough attention.

Digital displays usually meet the visibility criteria through sheer size and by prominent placement. Even then the screen may be eclipsed by physical barriers such as the person sitting in front of the worshiper or, as is often the case in older structures, architectural features like supporting beams, balconies, or sight lines designed without the large-format digital display in mind. It is probably more likely than we want to admit that the digital displays we install in our worship spaces deliver compromised visibility. Congregations may not enjoy the optimized experience they initially sought. This is not to say that it is impossible to solve these problems, but it is to say that congregations must not employ a form of magical thinking that ignores the actual, physical reality of whether the medium is adequately and reliably visible or not. It's not a best practice to shoehorn a display into a space and call it done.

Legibility

Legibility is built upon the foundation of visibility. For something to be legible it must first be visible, but not everything that is visible is legible. Legibility is the next test of whether a large-format digital display is a best practice for leading the congregation in liturgy and song.

There is little margin for error when it comes to the display of text and musical notation. Unlike, say, a photograph or illustration projected during a sermon, there is no way to *verbally paraphrase* a hymn or prayer. The pastor can describe a photograph on display for those who can't quite *see* it, but the presiding minister cannot describe the hymn for those who can't quite *read* it. There is no intermediary in a musical or textual interaction. The people read and sing directly and immediately. Therefore the medium employed to support this task must deliver bulletproof legibility.

Achieving superior legibility on digital displays is more difficult than achieving superior visibility. While it is relatively simple to position a screen where it is clearly visible, the pursuit of superior legibility in digitally displayed text and musical notation is compromised by the actual, physical constraints of the display itself.

I need to go into some technical detail on the topic of display resolution to make this point clear. Even those who eagerly seek the use of digital displays to lead the congregation in liturgy and song frequently complain about how elusive solutions seem to be when it comes to legibility. Solutions are elusive because of the physical constraints of the medium, specifically the relatively low resolution of the displays. To wonder why solutions don't come easily for the many shortcomings of digital displays is akin to wondering why water doesn't flow uphill.

The display resolution of a digital television or monitor is the number of distinct pixels in each dimension, usually quoted as width × height. But talk of width and height in terms of display resolution is not a measure of the *physical* size of the display. It refers instead to the *quantity of pixels*, or dots, in each dimension of the display's surface

area. Thus it is possible for two digital displays to have the same display resolution but different physical sizes.

For a long time most digital projection systems, regardless of physical size, offered low display resolution. Some of the projectors still in use in classrooms and churches today may offer a resolution as low as 1024 × 768 pixels, but these are becoming less and less common with each passing year. The advent of high definition television (HDTV) and the subsequent 4K format have made higher resolution displays more economical over time.

Newer displays with increased display resolution certainly mitigate some of the worst problems inherent to digital displays. For example, when Apple effectively doubled the number of pixels within the same physical space on their iPhone displays the so-called Retina Display became a mass-market reality. But there remains a stubborn limitation even in displays with densely packed pixels: their physical size. This is why it is common to see iPhone users change settings in the operating system to increase the physical size of the letters on their screens. Yes the letters are sharper, but they still need to be bigger in order to be legible. Even if the *display resolution* (measured in pure number of pixels) of a display is very dense, the *practical resolution* (measured in terms of how much material you can reasonably put on the screen) does not always see a corresponding increase.

This is at the root of the legibility problem. The main way to increase legibility is to increase the physical size of the letters, but this leaves less room for text and musical notation on the screen. Therefore, even high resolution displays offer low practical resolution when it comes to information density. But leading the congregation in liturgy and song is a job that requires serious information density and top-notch legibility. Large-format digital displays often fail to provide the practical resolution required to be the best way to do the job.

Reliability

Reliability also suffers from the side-effects of low practical resolution. A system for leading the congregation in liturgy and song should be both lightning fast and extremely consistent. To repeat an earlier point, the act of singing and praying together requires a unique immediacy with the text and musical notation. Any system that upsets, surprises, or in some way drops the ball is hardly the best tool for the job.

Reliability in digital presentation systems requires a significant level of advance planning and technical skill. Large format display systems have been notoriously flaky. The scene is so familiar that it has become a running joke. We see the display go blue as the input source is changed. We hear the presenter apologize that the slides aren't advancing. We patiently wait if the wrong slide is on screen. But these are problems inherent to the nature of the medium. Any system that requires an array of electronic connections will be all the more prone to awkward failures. And when the practical resolution of the display is so low, content must be split up over the space of several slides. Consider, for example, that singing three stanzas of "What Child Is This" from the projection edition of a typical hymnal requires four slides per stanza. That comes to a total of 12 technical actions in a short hymn. Each of those 12 technical actions introduces an opportunity for either technical failure (e.g. delayed hardware or software response) or human error (e.g. the operator not advancing the slides at the right moment). Furthermore, the limited practical resolution means liturgical texts and hymns are often broken up into awkward semantic divisions to satisfy the constraints of low practical resolution.

A system that necessarily introduces more volatility into the actual moment of worship should not be considered a best practice for leading the congregation in liturgy and song.

Accessibility

Finally there is the matter of accessibility. While it is certainly the case that a congregation could install extremely large screens with very high display resolution to open up more practical resolution for the content they wish to display, there still remains the problem of what could be called *apparent resolution*. Apparent resolution is the subjective resolution that worshipers experience where they sit. In other words, congregations must consider how the physical distance between the screen and the viewer impacts overall legibility.

To understand this phenomenon, consider how the Sun, which is approximately 1 million kilometers wide, appears in the sky as roughly the same apparent size as a small aircraft. The sun is orders of magnitude larger than a Cessna, but it's also 150 million kilometers further from the viewer than the aircraft. This is why watching a video on a small, handheld device has roughly the same apparent size as a much larger HDTV across the room. This is why people sitting farther away from digital displays need the letters and musical notation to be physically larger. This is necessary so that what's on screen appears at a normal size from greater distances.

What often happens, then, is that the first several rows of seating suffer a degraded viewing experience. Like sitting in the front rows of a movie theater, the image appears too large and the angles are odd. The sweet spot includes only the middle portion of the seating area. Ironically, especially as it relates to the claim that display technology uniquely benefits mothers with small children, it is the rear of the church where the viewing experience is usually the worst. But it's also where we put up signs that say "Reserved for families with small children."

Conclusion

Large-format digital displays are not necessarily as effective as pitched. It is usually the case that seemingly straightforward justifications like, "This will be good for young mothers" are not entirely

accurate. Congregations must consider the issues of visibility, legibility, reliability, and accessibility as they make plans for how best to lead the congregation in liturgy and song. Such conversations must contend honestly with the inherent physical limitations of the medium that make digital displays less than ideal for the clear, legible, reliable, and accessible communication of liturgy and song. There are empirical reasons behind our most common frustrations with the medium. You're not a Luddite if such issues frustrate you, too. And there's certainly nothing wrong with deciding against introducing the medium into the worship space.

3

On Taste

De gustibus non est disputandum.

– Latin Maxim

No Disputing Taste

There's no disputing matters of taste, or so the saying goes. But we can at least address the topic. The pursuit and conservation of beauty has been a longstanding emphasis among Christians. There is also a practical side to beauty: taste is important to how a congregation projects itself (sometimes quite literally) to its members and visitors, especially if the large-format digital display becomes a defining feature of a congregation's worship space.

In the previous section I argued that the visual communication of text and musical notation to lead the congregation in liturgy and song is a detailed task hindered by the most common physical limitations of large-format digital displays. I have demonstrated how these physical limitations are responsible for the most unappealing drawbacks in the liturgical use of digital displays.

In this section I will continue to demonstrate how the nature of the medium is responsible for other unappealing drawbacks in the liturgical use of display technology, notably poor visual and aesthetic

appearance. Well-intentioned efforts to compensate for these disadvantages often lead to results in bad taste.

The Medium Demands Dominance

I once visited the home of someone who had just remodeled his living room and had installed a new home theater system. I was impressed by the new 4K display on the wall. "This is great," I said. But I didn't say so because the room had a huge, black rectangle on the wall. The screen was awesome not because it had any inherent appeal in itself, but because I could imagine my favorite movies and TV shows displayed on its surface.

Large-format digital displays are ugly without content. This is why the display of new TVs at my local Costco always involves some kind of engaging, colorful, and moving content. Many congregations implicitly admit that displays are ugly by installing *retractable* systems. Not all screens are retractable, though. Many congregations have installed large flat-screen TVs. There's no hiding them; congregations can only mitigate their ugly appearance, usually by ensuring that there is always something on display.

Such is the nature of the medium. Since digital displays lack visual appeal on their own we must always display some kind of content on their surfaces. But the aesthetic and practical value of the same content is simultaneously diminished by the low practical resolution of the large-format display. To honor the kind of content we want to put on display it usually becomes necessary to install larger screens. It seems there is no middle ground with the medium. The ideal form of the screen is the movie theater; a space in which the display has complete and total dominance. Indeed, in many churches where an entertainment model of ministry is the common practice, huge, floor-to-ceiling screens are not uncommon. In a Lutheran liturgical worship space there will always be tension when the screen doesn't have central status and everyone's full attention. The medium demands architectural dominance, and the results are not always in good taste.

The Medium Demands Movement

Every medium has certain characteristics that shape the way we use it. Watercolors are different than oil paints. Canvas requires different techniques than wood. The same is true in digital content. The digital medium has a certain way it wants to be treated. The screen, as a medium, doesn't care what is displayed except that what is displayed be dynamic in some way or another. The screen demands movement, change, or what we can call *flux*.

Many digital designers lean into what the display wants. This is why screen presentation software includes dozens of built-in animations and transitions. This is why more and more websites launch with slideshows and animated elements. This is why the titles for your favorite news network are aggressively animated.

Flux is easy to create, but tasteful flux is an elusive achievement. For example, well-designed mobile applications have delightful animations that can actually aid in the usability of the product. Titles and animations on well-produced television shows add a touch of satisfying flux to the programming we watch. There is a new frontier of animations design that will influence how we display and communicate information on screens in the future. But I don't think the task of leading the congregation in liturgy and song rightly belongs on that frontier.

Consider the nature of a hymn displayed digitally. In such a case we are giving the screen something it can't adequately fit (because of the low practical resolution) in a form that it doesn't really want (static text and notation). There is tension.

Some have tried to address the tension by adapting the form of the content to match what the digital display wants. Well-meaning people superimpose the text of a hymn over colored, photographic backgrounds. The background images are often self-conscious and literal. A hymn like "Peace Came to Earth" is set over an image of Earth from space. The first reading is superimposed on a photograph of a Bible.

Sometimes superfluous animations are even integrated into the presentation. But why? Do these efforts aid in visibility, legibility, reliability, or accessibility? No. They exist to justify themselves. And, more importantly, they give the screen what it wants—color, movement, flux.

Most pastors and laypeople don't know the meaning of words like keyframe and interstitial, let alone how to apply such concepts of animation design to effective visual communication. This is not a pronunciation of artistic snobbery but a plain recognition that with display technologies many well-meaning people find themselves working with a medium that requires a great deal of artistic and technical skill to use tastefully. The text and musical notation of liturgy and song go against the grain of what the screen demands. The results are usually in bad taste.

4

On Aura

> *In even the most perfect reproduction, one thing is lacking: the here and now of the work of art—its unique existence in a particular place.*
>
> *— Walter Benjamin*

Introduction

So far I've been focusing on the question, "Do we have good reason to conclude that projection is a *best practice* for leading the congregation in liturgy and song?" I've argued that the visual communication of text and musical notation to lead the congregation in liturgy and song is a detailed task hindered by the physical limitations of large format digital displays. I have demonstrated how these physical limitations are responsible for the most unappealing drawbacks of the liturgical use of projection, including poor visual and aesthetic appearance as well as awkward semantic divisions. I have shown how well-intentioned efforts to compensate for the limitations of digital displays often lead to poor results by failing to give the medium what it demands.

Now I will turn to the second question I posed in the prologue of this text. "Do we want to *encourage* this practice of leading the congregation in liturgy and song, or should we *discourage* this practice in our setting?"

To explore this question I will comment on some of the philosophical conflicts between the nature of the digital display and the role of artistic expressions in the worship life of the church.

Why Do We Care?

There must be some reason why putting a big TV in church feels so different than putting a big TV in the living room. What is it about change in worship, particularly rapid change, that touches such a nerve? Why do we care? I think the claim that the phenomenon boils down to aversion to change is inadequate. The issue runs deeper. I suggest that philosophers of art and media have insights that may help us find answers.

Meet Walter Benjamin, a German, Jewish, Marxist philosopher and cultural critic who lived from 1892 to 1940. One of his most influential works was a 1936 essay called "The Work of Art in the Age of Its Technological Reproducibility." While his essay focuses primarily on the role of art in politics, it contains several important observations about media and technology that are relevant for the subject at hand.

Benjamin observes that for most of human history any work of art had a singular location and setting. For example, the Greeks did not have technology to mass produce art, so their art tended to be durable, like marble sculpture. Art was local, too. You can't easily take a huge marble statue on tour. The same was true of paintings. Viewing a painting was an activity reserved for a relatively small number of people at a particular place and time.

Benjamin calls the result of an artwork's singular location in time and space the work's *aura*. Anyone who has visited monuments marking historical sites or who has viewed historic artwork can intuitively sense what Benjamin is describing. Aura happens when art "bears the mark of history"—whether it's our own history or the history of another.

Benjamin also notes that the sense of aura tends to be amplified through the ritual use of art. Ritual use causes art to intersect with our own history to create an even greater sense of aura. According to Benjamin, aura leads to authenticity, and authenticity enables a work of art to embed itself into our heart and mind. Consider how a beloved hymn carries immense emotional weight when it has found long use in family funerals and you have an example of Benjamin's theory of aura at work.

But Benjamin points out that there is no way to reproduce aura with technical means. No photograph of a sunset on the beach can reproduce *being* on the beach at sunset. No Instagram photo of your delicious dinner can capture the aura of *eating* good food with good friends. Aura and authenticity matter, and in an age where our interactions with such things is increasingly mediated by the camera-equipped digital displays in our pockets, we are feeling the effects of what Benjamin said would happen when we try to reproduce something with aura. We destroy it.

Benjamin explains how the technical reproduction of art redefines the very nature of the art. Some forms of art were invented in the age of technological reproducibility. Thus photography and film are still art, but they are not art that anyone encounters ritually. They are exhibitory art. Benjamin actually applauds this reverse in polarity. In his thinking the ritual use of art is parasitic and deserves to be supplanted. He bemoaned the way art was often hidden inside a temple or within some private gallery. Benjamin was glad to see the cultural move to exhibitory art because such art tends to unsettle, agitate, and disorient people and cultures. He saw this as a means of achieving his radical political goals by disrupting traditional political structures. Destroy aura and you destabilize the cohesion of the community. This is why we care about installing TVs where we worship but don't care about doing such a thing where we watch Netflix.

Aura and Authenticity in Christain Worship

Marxist art theory isn't the first place you'd expect to find insights about technology in worship, but you don't have to agree with Benjamin's politics to sense that his philosophy of media has explanatory power. I suggest that we can apply Benjamin's theory of aura to the question of whether to encourage the use of digital displays to lead the congregation in liturgy and song.

We must acknowledge, first of all, that hymns are not a visual art form. They are poetry and music most frequently employed in group singing. It is impossible to experience the "original" work the way we might if we visited Michelangelo's *David* in person. In a sense, hymns are actually meant to be reproduced in some way or another—but not in the sense of being reprinted. Hymns are reproduced *in their singing*. Thus the concept of aura and its connection to ritual is relevant. Hymns sung in community achieve an unmistakable aura by their ritual use at certain times and in certain places. Over time and by frequent use, hymns, as well as liturgical texts, begin to bear the mark of personal, family, and congregational history. Even the architecture where we sing these texts achieves a sense of aura and authenticity.

So when hymns and liturgical texts are presented in an exhibitory medium whose natural flux disrupts and disturbs, we should not be surprised that this change in mode actually does what Benjamin says it does, that is, erodes the sense of aura and authenticity that touches worshipers at a deep level. We should at least acknowledge that large-format display technology introduces a sense of the unknown and unexpected in precisely the place and in precisely the moment where people enjoy and desire aura and authenticity.

Large-format digital displays already dismember the stanza into a series of builds in a slide deck, but the nature of the technology also invites an unsettling and agitating sense that the authenticity of our hymnody and liturgical texts is made ephemeral in countless transitions, seemingly random animations, and apparently arbitrary colors and backgrounds. The kind of rapid change inherent to the large format display—the flashing, the blinking, the changes in color—

communicate the idea that the art we are employing in liturgical worship is equally as ephemeral, temporary, and fleeting.

Congregational leaders must carefully consider to what degree they agree with Walter Benjamin that the disruptive and unsettling effects of exhibitory media is something worth introducing into a community. Does the congregation's worshiping culture understand these perhaps unintended and unexpected side effects? Do these concerns share equal footing with the practical concerns of technique? Do we need to be more cautious? How best can we communicate eternal values in an era where the nature of our art and media communicates the opposite?

I don't claim to have the best answers to all these questions, but I do claim that responsible leaders must address them.

5

On Media Ecology

> *We become what we behold. We shape our tools and thereafter our tools shape us.*
>
> *— Marshall McLuhan*

Introduction

New modes of media technology always bring with them cultural, political, and societal change. The examination of this phenomenon is known as *media ecology*. The fundamental insight of media ecology is that the invention of a new medium does not merely *add* something, it *changes everything*.

Students of the Reformation are aware of a frequently-cited example of media ecology in practice. After the invention of the printing press there was not the old Europe with the *addition* of the printing press, there was an *entirely different Europe*. Indeed, scholars point to the world-historical change brought on by the invention of the printing press as a critical factor in the success of the Reformation.

I have so far introduced a pair of concepts that fit within the realm of media ecology. First was the observation that a digital display can naturally require a certain kind of content or a certain form of presentation. Second was the idea that media can create or destroy a

sense of ritual aura and authenticity. In both cases the main emphasis was that new media enact not just *additive* change but *fundamental* change.

In this section I will continue to explore the second question I asked in the prologue of this paper, "Do we want to *encourage* this practice of leading the congregation in liturgy and song, or should we *discourage* this practice in our setting?" To do this I will analyze the natural tension between the nature of the digital display and the role of liturgy and song in the worship life of the Christian.

Digital Displays Demands Compliance

Earlier I observed that large-format display systems create an environment in which certain seating locations within the worship space provide good viewing experiences while other seating locations, particularly the frontmost and rearmost rows, provide degraded viewing experiences. It might seem like a small thing to let the screen decide where you will sit in worship, but it reveals the fact that, as a medium, large-format display systems do not accommodate to us, we must accommodate to them. The large-format display demands compliance.

I suspect this is the primary reason why the survey work we did on this subject for the WELS Hymnal Project revealed that in almost every situation where congregations used digital displays to lead the congregation in liturgy and song there were also printed resources available. Congregational leaders sense that it is generally undesirable to rely on a medium that offers inconsistency of experience as the *only* way in which to participate in liturgy and song.

Digital Displays Demand Attention

My church once had a flickering light bulb in the sanctuary. With each flicker almost every person in the church glanced at the blinking light.

Worshipers immediately sensed that the flashing light was a detriment to focus and attention. We replaced the bulb the same day.

Digital displays are similar. As a medium, digital displays are pure light. Every change on the screen is literally a blink or a flash. And as I demonstrated earlier, the low practical resolution of digital display technology means that even short hymns and texts must be broken up over several slides in order to also maintain legibility. The result is that a typical congregation will see at least dozens and perhaps hundreds of blinking events in the course of a single service. A large-format blinking light demands attention not only from those who voluntarily choose to follow the liturgy and hymns on the digital display, but it also claims the attention of those who are trying to focus elsewhere.

Consider the perspective of Prof. Clay Shirkey, who teaches new media at New York University. In 2014, well into the days when educators uncritically considered the addition of laptops in the classroom to be an unalloyed good, Shirkey made headlines when he began to require his students to keep their laptops closed during class. His justification was a study that reached the provocative conclusion that "laptop multitasking hinders classroom learning for both users and nearby peers." What made the study remarkable was not that researchers demonstrated that laptop multitasking hinders learning *for laptop users*. People have long observed that our digital devices are usually hostile to the habits of focus. No, the remarkable finding was that laptop use actually hinders learning *for nearby peers who aren't using a laptop*.

Shirkey compared the problem of distraction to that of second-hand smoke. You don't have to be the one with the cigarette in your mouth to suffer the harmful effects of cigarette smoke. Shirkey described how we are largely incapable of ignoring surprising new stimuli that appear in our visual field, especially if the new visual cue is slightly above and beside our area of focus.

I wonder to what degree this insight has factored into the decision-making at congregations who decided to install large blinking lights in the area slightly above and beside the central focal point of their church architecture. In most cases the digital display is installed at

precisely the point where it will demand the most attention. It is about as easy to ignore the display's demand for attention as it is to avoid cigarette smoke on the floor of a Las Vegas casino. Congregations that introduce the ever-changing flux of the screen are, perhaps unwittingly, introducing a powerful and disruptive distraction into the visual field of their worshipers.

I don't think it is a surprise that there has been a growing chorus of voices lamenting the ubiquitous presence of large-format screens in our common areas. Try to focus on your spouse while out for dinner with a TV in view. It is nearly impossible. Try to think calmly with cable news graphics flashing across the screen. You can't. Try gathering your thoughts before a service with a series of flashing announcements to the right and left to the chancel. The only way is to close your eyes entirely. Whether it's the airport, the lobby, the restaurant, or, ironically, the sanctuary, there is no escaping the digital display's demand for our attention.

Digital Displays Demand Usage

When I began work as the chairman of the Technology Committee of the WELS Hymnal Project, I wrote an introductory blog post in which I introduced Abraham Maslow's law of the instrument. Maslow said, "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." I suggest that there's a corollary to his law that might go like this, "If you wear a hammer on your belt everywhere you go, people will begin to wonder why you aren't using it."

If a congregation installs a large-format digital display system they will expect to see it in use. Otherwise they may wonder why they went to the expense or disrupted the aesthetic appeal of their sanctuary for something the pastor isn't going to use. Over time, even immediately, an expectation forms that every service should make use of the digital display. The pressure may soon come to bear on preaching as well. Then, once the use of digital displays becomes established

practice, it becomes difficult to modify or cease its use. There doesn't seem to be a very good roadmap for decoupling from such a pervasive medium. We grow less and less capable of deciding whether the tool is worth using for the purpose at hand. As McLuhan said, "Our tools shape us."

Congregations should understand that even the mere installation of large-format displays is a powerful endorsement of the practice and will, absent serious effort otherwise, naturally lead to increased or perpetual use of the medium in every circumstance. Digital displays demand usage.

Something Entirely New

The analytical tools of media ecology help us to see and understand that the introduction of any new medium does not merely add something, it creates something entirely new. I suspect that at least some of the continued difficulty in addressing the topic of digital displays in worship comes from the flawed assumption that the medium will be merely supplemental.

There is no such thing as a supplemental use of this technology. One does not have "worship plus screens," one has an entirely new environment of worship. I would prefer that advocates for the practice of leading the congregation in liturgy and song with digital display technology accurately assess the nature of the new thing, describe it honestly, and make the case why what's new is worth trading what will be lost from what came before it.

I believe it is possible for a congregation to examine the topic in its entirety and confidently decide *against* the use of digital displays in leading the congregation and liturgy and song. Such a decision is far from regressive, indeed, it represents meaningful progress toward a church in which humane core values can stand up to the cultural pressure of a scientific-technological society.

I am largely convinced that a congregation without screens in worship won't miss out on anything all that important. There's a

reason that the most exclusive and enjoyable spaces in our society are free of large-format digital displays. The premium lounge at the airport does not usually have CNN blaring like the rest of the concourse. The best restaurants don't dare disrupt their meals with blinking screens. And those who have attended the Masters golf tournament in Augusta, Georgia recall the utter delight of being in a place where no one is allowed a phone or camera and all the scores are manually posted on analog boards. That these spaces not only exist but are so desirable is a testimony to how attenuating our common practices have otherwise become.

The current economic model called the attention economy has become pervasive. Congregations who protect their worship spaces from the influence of such commercial pressures are more likely to preserve a sense of authenticity and relevance that other congregations have traded away. Worship may not only take place in a sanctuary, it may actually be a sanctuary.

6

A Better Approach

> *The best institutions will neither embrace nor eschew the electronic technologies that commercial forces wish to prevail, rather they will assess each one, in light of both its assets and its liabilities, employing those that are superior to other tools, while not employing those that are not.*
>
> *— T. David Gordon*

Introduction

I have argued that the visual communication of text and musical notation to lead the congregation in liturgy and song is a detailed task hindered by the physical limitations of large-format digital displays. I have demonstrated how the physical limitations of the medium are responsible for the most unappealing drawbacks of the liturgical use of digital displays. I have shown how well-intentioned efforts to compensate for such disadvantages do not satisfy the nature and demands of the medium.

I also have explained the inherent tension between the nature and demands of the medium and the role of artistic expression in the liturgical life of the church. I've also offered some further observations of the nature and influence of digital displays as a medium. These empirical and philosophical observations have led me to be pessimistic about the value and utility of large-format digital displays

in worship. I believe there is a better approach, which I will briefly summarize below.

Paper Still Works Best

We already enjoy the most practical medium for leading the congregation in liturgy and song. The most visible, legible, reliable, and accessible medium is quite literally in front of us already. The printed page does the job extremely well.

Printed paper excels in all the areas where large-format digital displays either fail or manifestly struggle to be a truly best practice for leading the congregation in liturgy and song. Despite years of claims to the contrary, the printed page is still alive and well. Indeed, the prospects for analog media have only increased in recent years. Virtually every WELS congregations still uses the printed page as part of their plan to lead the congregation in liturgy and song.

Consider the ways in which paper passes the tests of a medium's ability to lead the congregation in liturgy and song.

Visibility

The printed page excels at visibility so well that we take it for granted. Because the printed page is handheld it achieves visibility by simple and direct proximity to the worshiper. The printed page suffers, of course, in poor lighting conditions. But it seems obvious that congregations with poor lighting will want to correct the issue in any case. On the contrary, bright natural lighting, often a desirable feature of well-designed church architecture, only improves the visibility of the printed page. Furthermore, it is virtually impossible for the body of another worshiper to block your view of the service folder or hymnal.

Legibility

The printed page achieves superior legibility because of its natural capability to offer high practical resolution. Text and musical notation printed with a moderate- to high-quality printer achieves at least 600 points per inch (PPI). A hymnal-sized printed page yields an apparent resolution far exceeding that of a 4K display. It would require a digital display of 600 PPI stretching from floor to ceiling in the typical church to achieve the same practical resolution of a handheld piece of standard paper. And with more practical resolution comes more room to employ the practices of good typography and design to further enhance the legibility of the medium leading the congregation in liturgy and song.

Reliability

The printed page offers bulletproof reliability. Once printed and bound, printed pages do not usually suffer technical difficulties, or at least not immediate ones. Hymnals can, of course, wear out over time. But they do not suddenly fail. There is no need to change input modes, nor can printed pages become disconnected from the source of their content. The printed page is immediate and instant. It connects directly to the worshiper.

Accessibility

The printed page offers near universal accessibility. For one thing, a printed hymnal or worship folder accommodates easily to the worshiper. Because the printed page is handheld, the worshiper may adjust the viewing angle and apparent size by moving the paper closer to the face or further away. Such a thing does not require worshipers to physically move their bodies to a different part of the church to achieve the same result.

For another thing, the means of using printed resources are known to all. Even the smallest children learn how to handle a book. I do not find the argument convincing that guests, children, and the uninitiated find it too difficult to follow along with a paginated and enumerated hymnal or worship booklet. People do this all the time in every walk of life without much fanfare.

With the large-format digital display there is but one version of the medium, but with printed pages it is possible to generate multiple resources to meet the needs of different people. For example, with *Christian Worship: Service Builder* it is now possible to generate a large-print worship folder from the same worship plan. The application of different style specifications means a congregation can plan and design the service once, but easily print it in multiple formats without much extra effort.

Taste

The printed page offers better opportunities to achieve tasteful results. If a congregation uses the printed hymnal to lead the congregation in liturgy and song they take advantage of an expertly designed product that is both tasteful and functional. If a congregation develops its own worship folders it is, of course, possible to produce results in bad taste. Nevertheless, the printed page does not demand flux, movement, and other attempts to capture attention. The work of making a tasteful printed page is less complex and more approachable to the typical congregation with typical means.

Discretion

The printed page excels at discretion. The printed page does not demand attention from worshipers to the degree that the large-format digital display does. If you set aside the printed page it stays set aside. The printed page does not blink, flash, or require numerous

builds and transitions to communicate its content. It is quiet and humble, a medium that serves more than it demands.

Context

The printed page offers context. The unparalleled practical resolution of the printed page gives worshipers the opportunity to see an entire creed, an entire prayer, or an entire hymn as a unified work. There is no need to split the material over several slides or numerous rapid-fire builds. In the case of an entire hymnal, worshipers may see with their own eyes the rich degree of context that surrounds their life of worship. I do not discount the benefit of having such a book in the hands of people, especially children, whose minds may well wander during a too-long sermon. Instead of trying to hold attention captive for 60 straight minutes, perhaps it is better to put something in front of people that gives them a beneficial place to wander. Do not discount the importance of broader context in the worship life of a congregation.

Conclusion

The printed page continues to offer numerous and distinct advantages. The visual communication of text and musical notation to lead the congregation in liturgy and song is a detailed task hindered by the physical limitations of large-format digital displays. These physical limitations are responsible for the most unappealing drawbacks in the liturgical use of presentation technology, including poor visual and aesthetic appearance and awkward semantic divisions. Well-intentioned efforts to compensate for such disadvantages often lead to poor results and only exacerbate the inherent philosophical conflict between the nature of projection as a medium and the role of artistic expression in the liturgical life of the Christian.

I conclude, therefore, that it is best to set aside the use of large-format digital displays in leading the congregation in liturgy and song. The tradeoffs do not seem compelling enough to me, especially when there are other, less disruptive and equally effective ways to assist those we most want to assist with large-format digital displays. I advocate for a practice that emphasizes using printed resources for their utility and excellence. I suggest that congregations invest resources not in producing material for digital displays in worship but for other digital efforts in the congregation, like a broader, public digital communication strategy, for example. Better, I say, to put the talents of digitally savvy people to use not in formatting PowerPoint presentations but in the kind of creative digital communication that more closely aligns with the ethos and values of a congregation's digital front door.

Worship is important and unique in the ministry of a congregation. Any space where ritual, context, and embodiment is important is one that is best spared from the effects of digital mediation. Congregations will not regret the effort of preserving the analog character of worship.

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Appendices

I offer the following appendices for further consideration. Each appendix is a practical resource to help congregations dig deeper into the conversation that my work is designed to spark.

Contents

Annotated Reading Recommendations

I suggest the following two resources for further reading on the subject of large-format digital displays in worship.

High-Tech Worship by Quentin Schultze

This book-length work on the subject of technology in worship is more thorough and probably more practical than the work I have presented here—and predates it by about a decade. My work on the subject was to spark discussion in committee, Schultze's book strikes me as a very practical guide that lays out a range of well-thought-out principles to help a congregation and its leaders answer important questions about the role of digital technology in worship.

> Schultze, Quentin J. *High-Tech Worship*. Baker Books, 2004.

The Cognitive Style of PowerPoint by Edward Tufte

This chapter from a larger book called "Beautiful Evidence" is published as a separate booklet. A seminal work by renowned communication expert Edward Tufte, the brief but compelling essay frankly and clearly analyzes the cognitive style of communication inherent to slide decks. The booklet was once readily available for about $7.00 but has since become more costly to acquire. It may be more economical to purchase the larger work from which the essay is excerpted, "Beautiful Evidence" by Edward Tufte.

> Tufte, Edward R. *The Cognitive Style of Powerpoint: Pitching Out Corrupts Within*. 2006.

Against the Any Benefit Approach

In his 2016 book, *Deep Work*, author Cal Newport made the case for cultivating a personal ethos of focus and attention. While the book is written primarily for an audience of professionals in the class of so-called knowledge workers, the book presents a number of applications of media philosophy that benefit other areas of life.

One of the most important insights Newport offered in the book is his identification and analysis of what he called "any-benefit thinking." He applied the phenomenon to how professionals decide whether to use a social network tool. His definition is as follows:

> The Any-Benefit Approach to Network Tool Selection: You're justified in using a network tool if you can identify *any* possible benefit to its use, or *anything* you might possibly miss out on if you don't use it.

Newport asks readers to consider whether they have become so captivated by the logic our most popular media that they have become incapable of saying no to them. He makes the case that it is not enough to have just *any* benefit, a tool must provide manifest and compelling benefits that align with a person's or organization's core values and key goals.

I consider my argument against the use of large-format digital displays to lead the congregation in liturgy and song to be a form of argument against the any-benefit approach technological decision-making. It is wise for congregational leaders to ask themselves, "Are we employing any-benefit thinking on this subject?"

> Newport, Cal. *Deep Work*. Grand Central Publishing, 2016.

Principles for Digital Displays in Architecture

A fellow member of the Executive Committee of the WELS Hymnal Project, Rev. Jonathan Bauer, interacted with the material in this text as part of a church building project in Mt. Horeb, WI. He developed a set of proposed design requirements that could serve as a list of requirements to challenge a church architect to design the principles of my argument into the physical design of the worship space. It may be impossible to fully manifest this list, but it is worth challenging church designers to work toward these values.

I present the list of below with Bauer's permission along with some minor editing of my own.

1. *First, the digital display must have the ability to not be used.* The architectural space shall be designed in such a way that things look balanced and appealing even if the large-format digital display is not in use. This would probably rule out large LCD displays and reflective screens.
2. *Second, the digital display must have the ability to be permanently removed if it is no longer needed or wanted.* The architectural space shall be designed in such a way that no one would ever know a large-format digital display system had been there unless someone told them.
3. *Third, at its best, the digital display is a tool that benefits people with very specific needs.* For most people the digital display does not solve a genuine problem. It also cannot be designed in such a way that everyone benefits from it equally. Therefore the digital display shall be treated like a hearing loop or American Sign Language translator and placed into the architecture as unobtrusively as possible. Practically speaking, this may mean using digital displays to lead not the congregation in liturgy and song, but perhaps only the back third of the worship space, or only the nursery where mothers with small children sit.

Questions for Technology by L.M. Sacasas

Writer L.M. Sacasas prepared a list of 41 questions concerning technology designed to "help us draw out the moral or ethical implications of our tools." The questions are of significant importance for anyone seeking to align the use of tools and technology with their core moral convictions. I consider these questions useful for congregational reflection as well. After all, Christians have serious moral convictions rooted in the ethical consideration of what it means to love God and neighbor.

For the purpose of this appendix, however, I have refined the list into a set of questions for congregational leaders considering the decision of whether or not to introduce a new, digitally-mediated worship environment into the life of their congregation.

1. What sort of congregation will the use of this technology make of us?
2. What worship habits will the use of this technology instill?
3. How will the use of this technology affect how I relate to the worshipers around me?
4. What worship practices will the use of this technology cultivate?
5. What worship practices will the use of this technology displace?
6. What will the use of this technology encourage me to notice?
7. What will the use of this technology encourage me to ignore?
8. What is required of my fellow worshipers so that I might be able to use this technology?
9. Does the new thing introduced by this technology give us joy?
10. Does the new thing introduced by this technology arouse anxiety?
11. Could the resources used to acquire and use this technology be better deployed elsewhere?

12. Does this technology erode any desirable habits of worship in young people?
13. Does this technology erode any desirable habits of worship in old people?
14. What does the use of this technology say about our posture toward worship, the Word of God, and the sacraments?
15. What assumptions about the world does the use of this technology encourage or endorse, even tacitly?
16. Does the use of this technology require me to think more or less?
17. What does the use of this technology require of others? Have they consented or agreed?
18. Can the use of this technology be undone? If so, how would we undo a decision?
19. Does the use of this technology make it easier to approach worship as if I had no responsibilities toward my fellow worshiper?
20. Can we be held responsible for the effects which this technology brings?

Adapted from: Sacasas, L.M. "The Questions Concerning Technology." (2021): Accessed May 23, 2022. https://theconvivialsociety.substack.com/p/the-questions-concerning-technology

Theses on Technology by Alan Jacobs

Alan Jacobs is professor of humanities at Baylor University and a noted author and essayist. He brings a literary and Christian perspective to many topics, including the topic of media, technology, and the role these play in human life. In 2015 he published a lively set of 79 theses for disputation on the subject of technology. I have found the first dozen or so of the theses important for the way they frame the question of technology choices in terms of *attention*. Thinking of worship in terms of where a worshiper's attention is paid helps congregations to open new and fruitful avenues of discussion about the practices they have either intentionally or unintentionally cultivated in their use of digital technology.

The first 14 theses from Alan Jacobs are presented below.

1. Everything begins with attention.
2. It is vital to ask, "What must I pay attention to?"
3. It is vital to ask, "What may I pay attention to?"
4. It is vital to ask, "What must I refuse attention to?"
5. To "pay" attention is not a metaphor: Attending to something is an economic exercise, an exchange with uncertain returns.
6. Attention is not an infinitely renewable resource; but it is partially renewable, if well-invested and properly cared for.
7. We should evaluate our investments of attention at least as carefully and critically as our investments of money.
8. Sir Francis Bacon provides a narrow and stringent model for what counts as attentiveness: "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested: that is, some books are to be read only in parts, others to be read, but not curiously, and some few to be read wholly, and with diligence and attention."
9. An essential question is, "What form of attention does this phenomenon require? That of reading or seeing? That of writing also? Or silence?"

10. Attentiveness must never be confused with the desire to mark or announce attentiveness.
11. "Mindfulness" seems to many a valid response to the perils of incessant connectivity because it confines its recommendation to the cultivation of a mental stance without objects.
12. That is, mindfulness reduces mental health to a single, simple technique that delivers its user from the obligation to ask any awkward questions about what his or her mind is and is not attending to.
13. The only mindfulness worth cultivating will be teleological through and through.
14. Such mindfulness, and all other healthy forms of attention—healthy for oneself and for others—can only happen with the creation of and care for an attentional commons.

Jacobs, Alan. "79 Theses on Technology. For Disputation." (2105): Accessed May 23, 2022. https://hedgehogreview.com/web-features/infernal-machine/posts/79-theses-on-technology-for-disputation.