

THE NECESSARY, RELEVANT, & PRACTICAL DIGITAL MEDIA FOR THE DEVELOPMENT  
AND DISSEMINATION OF A WORSHIP COMPENDIUM IN THE 21<sup>ST</sup> CENTURY:  
A HYMNAL REBUILD FROM THE CLOUD DOWN

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### **Abstract**

The advent of digital technology, both for storing and displaying information, provides Christians at worship with new tools for facilitating worship, in both formal and informal settings. By taking a broad historical look at Christianity's hymnals and discerning their chief purposes, as well as highlighting the migration of most reference resources from print to screen, this paper explains how technology, when used wisely, can accomplish the work of the hymnal as well as or better than a codex-based product. A plan is then offered, suggesting how a digitally based worship compendium might be designed.

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## Introduction

Is there anything of which one can say, “Look! This is something new?”  
It was here already, long ago; it was here before our time.  
Ecclesiastes 1:10

Technological progress both enables and requires that hymn-compendium-development projects / liturgical-worship-resources – hymnals – be viewed in new ways. The displaying and cataloguing options that are available today make it more possible than it has ever been to accomplish what past hymnals have tried to accomplish in new ways that are easier to navigate, maintain, and develop than those media historically employed. Furthermore, those very media options which enable us to accomplish so much are also making it *necessary* for the church to rethink that which has long been accepted as a “hymnal” from the ground up.

The result of this rethinking can be, at least in the mind of this essayist, a high-quality, exceptionally relevant, easy-to-use worship resource that will both lead and equip Christians at worship in the 21<sup>st</sup> century, as well as preserve the historical practices of Christians at worship so that no Christian who uses this product will be forced by lack of resources to worship in ignorance or in a vacuum. Worshipers and worship leaders alike can be better equipped to follow the flow of the worship event, learn and sing the music of worship, and plan and create worship events.

Of course, if worship events were not considered an essential part of Christian life in America today this would not be a topic worth pursuing. If God had not given worship as a gift for the edification and encouragement of his disciples this might be a dead end. However, from the tabernacle to the cathedral, from the temple to the house church, God’s people have joined together. They have used hymns, Scripture readings, revelations, liturgies, tongues, and sermons for the strengthening of the Church. God wants this. Therefore a tool that will remove barriers for the benefit of those who are gathered to worship, and will remove those barriers in a realistic and not unattainably idealistic way, ought to be considered, pursued, and accomplished.

It should be noted that this is not a discussion of individual hymns or their content, style, and setting. This is a discussion of worship compendiums, their dissemination, and the use of worship resources in the 21<sup>st</sup> century. This paper takes a close look at hymnals through history and brings them all into today’s context in order to show that new media options will allow the church to rebuild and redefine the hymnal and in doing so create a sustainable and practical worship resource that can be used by the great majority of her members.

## Glossary

A number of terms have surfaced in the development of this paper which the author has attempted to use consistently for the sake of clarity. These terms are defined below and will be important throughout the remainder of this paper. These are not meant to be revolutionary or force new terms into use. The words of Richard Lanham come to mind: “It is always an...awkward task to introduce ideas using notions from which one intends to be set free. Such are the reference points acknowledged by everybody, and one surely needs after all to make oneself understood.”<sup>1</sup>

*Christians at Worship* - Those Christians, alone or together, actively engaged in direct and stated worship, be it public or private.

*Codex Hymnal* - A printed, bound worship resource. *Christian Worship: A Lutheran Hymnal* and *Christian Worship: Supplement* are examples of codex hymnals.

*Development Committee* – Those, either a group or an individual, who compile and create the resources of a worship compendium.

*Worship Compendium* – The published product of the development committee’s work. This term is used instead of “hymnal” to represent the whole, coordinated output of a development committee and to avoid confusion with the personal worship reference book alone. For the purposes of this particular thesis, this is the term that matters most.

*Worship Coordinator* – Either an individual (i.e. pastor, teacher, staff minister, organist) or a committee, those who make decisions about the flow and content of a worship event.

*Worship Event* – A context in which one or more Christians intentionally set aside time for direct, stated worship.

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<sup>1</sup> Richard Lanham, *The Electronic Word*. (Chicago: University of Chicago Press, 1993), 21.

## Literature Review

Two paths of research converge at this paper. One represents the history of hymnals in Christianity, and the other the development and potential of digital media as it is understood today. Both of these paths reach back to about the 1400s, when the printing press and the Reformation, hand in hand in certain respects, started crucial revolutions that spread around the globe.

A great deal of cataloging and preserving of hymnals published since the Reformation has been done. The excellent scholarly work of Carl Schalk in the pamphlet “The Roots of Hymnody in the Lutheran Church – Missouri Synod” and his book *Source Documents in American Lutheran Hymnody* proved invaluable in my overview of worship compendiums and their purposes. Many compendiums in the past have also included articles and books on the history and practice of Christians at worship, such as *Christian Worship: Manual*, produced by the Wisconsin Evangelical Lutheran Synod (WELS) Commission on Worship in conjunction with the 1993 hymnal, *Christian Worship: A Lutheran Hymnal*; and *Lutheran Worship: History and Practice*, produced by the Lutheran Church – Missouri Synod (LCMS) Commission on Worship in conjunction with the 1982 hymnal *Lutheran Worship*. Luther D. Reed’s classic, *The Lutheran Liturgy*, published as an interpretation of the Lutheran liturgy and music as set forth in the *Common Service Book* of the United Lutheran Church, offered insight into the purpose and function of Lutheran worship, which hymnals serve and therefore must be aligned with.

The massive archival work done by Mary Louise VanDyke with the *Dictionary of North American Hymnology* and its subsequent incarnation led by Harry Plantinga, [hymnary.org](http://hymnary.org), is putting a world’s worth of hymnals at anyone’s fingertips. Their work is meant to be primarily archival, attempting to provide researchers with a tool by which they might trace the worship paths of their church bodies and their hymns. *Worship Wars in Early Lutheranism* featured a very helpful section on the earliest hymnals and the motivation of their creators. The Kurt J. Eggert memorial collection housed in the Wisconsin Lutheran Seminary library provided numerous hymnals, both old and new, for perusal, which is an enlightening task for anyone who attempts to understand hymnal formatting.

On the more theoretical side of the history of the hymnal, much less has been written. *The Printing Press as an Agent of Change*, the work of Elizabeth Eisenstein, which was invaluable for researching the development of digital media, included many applications to hymnals, as did *Understanding Media* by Marshall McLuhan. More recent works, *Flickering Pixels* and *The Hidden Power of Electronic Culture* by Shane Hipps, heavily influenced by McLuhanesque thinking, speak rather strongly but intelligently about the effects of electronic media on the church. These resources are somewhat brief and rather pessimistic, but not worthless.

The New Media Project by the faculty at Union Theological Seminary has begun to research and discuss applications of digital technology in the Church. The case studies published on their website, [newmediaprojectatunion.org](http://newmediaprojectatunion.org), give some perspective to just how media-savvy churches can be. The perspectives in the blog associated with the Project are well-written but poorly documented.

The *Hymnal Revision Feasibility Study* produced for the Standing Committee on Liturgy and Worship in the Episcopal Church directly addressed the idea of offering a multimedia hymnal. The research was thorough and well documented, but the implications drawn seemed occasionally stretched and perhaps biased. Nonetheless, the research and fundamental purpose of this study have considerable implications when considering the suggestions in this thesis.

In the realm of the development of digital media and digital databases, resources are abundant. 2013 sits in the center of digital progress, and therefore new information is produced constantly. (And in a more accessible way than ever, thanks to digital databases.) The rapid rise of computers, the internet, and e-reading has given birth to a wealth of resources concerning the availability, effects, and use of these technologies. McLuhan's prophecy in *Understanding Media* has influenced almost all thinking and writing on this subject, but works like *The Gutenberg Elegies*, *The Electronic Word* and *Media Manifestos* have tempered and conceptualized McLuhan's observations with fascinating implications. Basically all writing on the long term effects of electronic media on Western culture is theoretical. These effects will only be clearly seen in hindsight. As mentioned earlier, *The Printing Press as an Agent of Change* by Elizabeth Eisenstein is a very complete and fair study of the early impact of the printing press on culture.

As digital technology develops, researchers on the cutting edge are regularly publishing articles describing their findings and the implications of those findings. The *Society for Information Display* publishes a monthly journal and hosts a yearly expo that chronicles scientific advancements in digital display. Most companies whose R&D departments are producing screen-based technology supply details and summaries of their research. Kent Displays, Inc. is one example of a company whose website features dozens of papers detailing their research so that potential clients will be able to use the results in their products.

Copyright wars and the development of online encyclopedias have given birth to several articles in online journals such as *First Monday*. *First Monday* is an "openly accessible, peer reviewed online journal devoted to the internet."<sup>2</sup> Like the electronic medium it represents, this is an experiment in many

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<sup>2</sup> *First Monday*. <http://www.firstmonday.org> (accessed October 02, 2012).

ways. The articles are well documented and written by individuals with experience and authority in their fields. Library journals have also given extensive thought to the implications of e-books. Many of the issues involving copyright, however, are still in development, and it is important to keep in mind that copyright laws are not meant to limit legal use of a product. Various online databases, such as *Wikipedia*, have done good, needed research on what it truly means to function within copyright laws. These principles are crucial to the execution and potential of a suggestion like that made by this thesis.

Finally, the concept of storing data on the Web and linking that data together is altogether new and imminently practical to this paper. “The best practices for publishing and connecting structured data...have been adopted by an increasing number of data providers over the last three years.”<sup>3</sup> As the volume of information available on the internet increases, the potential uses for users (i.e. worship coordinators) increases exponentially. Linked data, which will be defined below, is happening right now. For this reason, broad research is scarce, but case-studies and theories abound. As developers of a worship compendium or worship database consider their methods and their means, they *must* understand the world of Linked data.

### **An Historical Perspective**

Since the invention of the printing press, there have been many hundred worship compendiums produced by Lutherans, thousands produced in Christianity in general, by nearly every major church body. Examining these projects shows the concerns and priorities of Christians at worship through the last five centuries and reveals how their decisions played out. This, in turn, assists Christians today, whose decisions have not yet played out, in identifying what their priorities and choices ought to be. In order to create a context in which to examine these worship compendiums and to identify several key issues allow a brief historical overview.

With the Gutenberg era’s “shift from script to print”<sup>4</sup> there came a revolution in information storage. It was not the only revolution in information storage that has ever occurred, but it had significant impact on hymnals. Mechanical movable type took publishing and book reproduction out of the hand of the scribe, changing not only the speed at which material was produced but the entire industry that produced it. From artists to authors to editors to printers, Gutenberg’s invention meant a new world. “The use of typography for texts led to that of xylography for illustration, sealing the fate of illuminator along

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<sup>3</sup> Christian Bizer, et al. “Linked Data – The Story so Far,” *International Journal on Semantic Web and Information Systems* 5 no. 3 (2009): 1.

<sup>4</sup> Eisenstein, Elizabeth. *The Printing Press as an Agent of Change*. (Cambridge: Cambridge University Press, 1980), 21.

with that of the scribe... That the printed book made possible new forms of interplay between these diverse elements is perhaps even more significant than the change undergone by picture, number or letter alone... The preparation of copy and illustrative material for printed editions led to a rearrangement of all bookmaking arts and routines.”<sup>5</sup> A changed industry meant new ways for writers, compilers, and artists to use the industry. When Marshall McLuhan prophesied that medium changes lead to media changes<sup>6</sup>, he was right, but he was late.

Since more printed resources were available, it became natural for someone interested in a given topic to gather up a library on said topic. He or she could then research and compare what other authors were saying and discovering and draw conclusions based on a broader scope of research than possible to an individual alone. This “gathering information” idea was very important to the production of reference material. Whereas in AD 1450 it was nearly impossible to find or produce two identical copies of a reference work containing any intricate and in-depth material because of the inconsistencies of scribes, by AD 1500 an estimated eight million books<sup>7</sup> had been printed representing works of every kind, particularly textbooks and reference books.

Hymnals are reference books, and hymnal production was a natural part of the printing explosion. While Lutherans were not the first to use the printing press to disseminate reformed thinking<sup>8</sup>, the Lutheran Reformation is commonly connected to the rise in popularity of the printing press. The Reformation resulted not only in a printed German Bible and catechisms, but also in a plethora of new hymnals, particularly in the German language. “Between 1524 and 1570 at least 288 German language hymnals were published. This number excludes broadsheets and pamphlets, hymn collections published in partbooks for choir, and agendas containing scattered hymns. Of these 288 hymnals, 209 were intended for Lutherans, 24 for the Bohemian Brethren, 13 for the Reformed, 7 for Catholics, and 35 for ‘Evangelicals.’”<sup>9</sup> This torrent of hymnals makes the Reformation era the clear beginning of hymnals as they are known today.

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<sup>5</sup> Eisenstein, *The Printing Press as an Agent of Change*, 45-46.

<sup>6</sup> Marshall McLuhan, *Understanding Media*. (New York: Mentor, 1964), 33.

<sup>7</sup> Elizabeth Eisenstein, *The Printing Revolution in Early Modern Europe*, (Cambridge: Cambridge University Press, 1993), 13.

<sup>8</sup> “The evangelical impulse which powered early presses had the most rapid spectacular consequences and provoked mass participation of new kinds. But this should not divert attention from more subtle yet equally irreversible transformations which altered the world view of Latin reading elites... Earlier attitudes exhibited by Lollards, Waldensians, Hussites, and the Brethren of the Common Life were being newly implemented by printing before full-fledged Protestant doctrines were born.” Eisenstein, *The Printing Press as an Agent of Change*, 692.

<sup>9</sup> Joseph Herl. *Worship Wars in Early Lutheranism*. (New York: Oxford University Press, 2004), 88.

While this outpouring of printed works is often inferred to be the result of Gutenberg's invention, it did not occur simply because the printing press had been invented. It was not a *tool* that made this possible. A robust printing *industry* and *infrastructure* had to develop, and in those first 100 years after Gutenberg, it did. "Printer" became a legitimate vocation in every major city. Eisenstein highlights these new entrepreneurs as the capitalistic force behind the massive output of material for publishing in the early years of the printing press.<sup>10</sup> This uptick in printers naturally led to a desire to universalize formatting and text styles. It led to a desire for more resources to be produced to keep the printers in business. Most importantly, however, it meant that there was an environment where "new" and "mass-produced" could flourish.

Of course, at the same time as the print revolution changed publishing, the protestant Reformation changed worship. Hymns were being translated into and composed in the vernacular at an astonishing rate. The vocabulary of the worship service was no longer for the tongues of priests and cantors alone. Luther's *Deutsche Messe* and other vernacular services were designed to emphasize that worship events were localized and particular to the worshiper. Instead of a broad standard law for the sake of universalism, the worship philosophy of the Reformation, combined with printed resources for the congregation, created a new worship environment.<sup>11</sup> In this environment, people were beginning to participate, and like a new cast member in a play, they needed ways to learn their lines.

Much of this learning was done by rote in schools or in church, but by 1501 the Bohemian Brethren had published a hymn book. By the 1520s there is record of hymn texts being sold in the streets on broadsheets and in pamphlets.<sup>12</sup> In 1524, the first Lutheran hymn book was produced in Nuremberg, known as the *Achtliederbuch*. It contained eight songs. In 1525, the Nuremberg edition of the *Enchiridion* appeared. This quick production "supports the idea that the primary market was consumers purchasing them for use outside the church."<sup>13</sup> Since printers were interested in finding publications that would be mass-consumed, and church leaders were interested in making publications that would teach their people, it is no surprise that new hymnals were being produced in every major city by the 1560s.<sup>14</sup>

These new environments for worship and printing pushed the evolution of the hymnal. Early on, the songbook was simply songs. The metrical versions of the Ordinary were included, but there were not

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<sup>10</sup> Eisenstein, *The Printing Press as an Agent of Change*, 22.

<sup>11</sup> Luther D. Reed, *The Lutheran Liturgy*. (Philadelphia: Fortress Press, 1947), 78.

<sup>12</sup> Herl, 89. A broadsheet, or broadside, was a single sheet of paper printed on one side. They were as large as 18" by 24" and would contain the text of one or two hymns.

<sup>13</sup> Herl, 90.

<sup>14</sup> Herl, 91.

typically “service orders” as there are today. In the 1530s hymnals began being published with Psalters and with service books. It was not until the seventeenth century, however, that intentionally designed congregational hymnals became standard in most churches in Germany. This change, which was a change from hymnbook-mostly-in-the-home to hymnbook-also-in-the-church-building, took place for predominantly practical reasons. It was generally realized that people’s hymn repertoire increased substantially when they had a hymnal at hand. This seems obvious, but it was not immediately acknowledged in the church, and therefore, when it was, it was a big step. An early preface to a hymnal in Ulm gives a rather blunt summary of this: “If you don’t know the psalms and don’t have a hymnal, buy one and learn them: it doesn’t cost that much, and that is why we have hymnals, so people can bring them to the church with them if they don’t have the hymns memorized.”<sup>15</sup>

Another practical reason to publish hymnals and endorse them in churches (both local and regional) was standardization. Even into the early 1800s, people would come to church with different hymnals and therefore variant texts and melodies. This was not orderly. Therefore, in order to help the people participate in unity, hymnbooks and service-books were published and endorsed. Standardization seems to have been the driving force behind most of the hymnals published in the second half of the seventeenth century.

Pietism and Rationalism’s growth in the seventeenth and eighteenth centuries may have changed many worshipers’ thoughts on what ought and ought not to be sung, but it did not discourage hymnal production. The flagship pietistic hymnal was produced by Johann Anastasius Freylingshausen in 1741.<sup>16</sup> Pietism inspired an outpouring of new hymns; books had to be published to disseminate them. The rationalists, in turn, wrote fewer new texts but revised many, particularly those of Luther and the early reformers, to the point that it is said, “The old hymns were subjected to a kind of transmigration of soul by which their spirits, after having lost their own personality, entered into other bodies.”<sup>17</sup> During this period, the essential goal of hymnal publication was marketing. New ideas were being proposed, new movements were taking place and their voices needed to be heard. The hymnal sang their tune.

As Christians arrived in America, those pietistic and rationalistic hymnals were brought along. The earliest Lutherans in America, all the way through Walther and his contemporaries, carried them. As

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<sup>15</sup> Herl, 105.

<sup>16</sup> Johann Anastasius Freylingshausen, *Geistreiches Gesangbuch*. (Halle, in *Verlegung des Waisenhauses* 1741), a3. This compendium was the result of Freylingshausen’s first two books, produced in 1704 and 1714, being combined. This book is free to peruse [via Google Books](#).

<sup>17</sup> Ernest Edwin Ryden, *The Story of Our Hymns*, (Project Gutenberg Ebook, 2010), Section: Hymnody in the Age of Rationalism, paragraph 4.

it became clear that a new hymnal would be needed to unite the churches and to promote thorough orthodoxy instead of watered-down rationalism, and as American Lutherans settled into a predominantly English speaking land, the American hymnal began to develop. The hymnals published during the first two centuries of settlement were largely published by individuals who saw a need and tried to help Christians who were spread throughout the country. As synods and conferences formed, hymnals became joint efforts, feasible with the combined resources of multiple congregations and church bodies and designed to promote unity.

This leads to the present day. The hymnal publishing situation is admittedly different from that of the *Achtliederbuch*. Walther and his contemporaries succeeded in publishing hymnals as the Lutheran church culturally adapted to America, but the current printing environment is much different. Today, the vast majority of American denominations publish multiple worship resources designed for use in churches in fellowship with the publishing church body. All of the books have essentially the same formatting and size, many of the same supplemental resources and materials. There is widespread acceptance of these worship compendiums within each denomination. The publishers of the compendiums are almost always owned by or affiliated with the church body that is publishing. The competitive edge that was found in the early days of printing has faded somewhat, though it would be a false, misleading claim to suggest that lack of competition has led to lowered standards or decreased quality of output. Whether it has affected innovation is another question.

Keeping in mind this brief historical overview, one is more prepared to answer the question, “Why?” Why publish all of these worship resources? What has moved Christians to research and collect and categorize and publish all of this worship data? In some cases, the compilers answer this question themselves. What follows is a synthesis of the stated purposes of Christian, particularly Lutheran, hymnals of history. Taken largely from the forwards of published works, it is offered so that the “ideals” for which most of the hymnals published thus far in history might be identified. Understanding these ideals will be very helpful in showing what features are necessary in developing and disseminating a relevant, worthwhile worship compendium today. Without knowing the issues and solutions faced historically, the modern hymnal is bound to repeat mistakes that have already been dealt with.

The hymnal from which a purpose statement or issue is taken is cited, but this by no means indicates that *only* the cited hymnal tried to deal with a particular issue.

A hymnal is a tool...

- To let Christ be seen and heard.<sup>18</sup>
- To teach and feature those hymns considered most essential to the faith.<sup>19</sup>
- To give an “equitable balance among hymns of the various Lutheran language traditions.”<sup>20</sup>
- To cut away the filth that has invaded previous hymnals and return to the *Kernlieder*.<sup>21</sup>
- To have a published, standard set of tunes and texts.<sup>22</sup>
- To set a standard core of songs to be sung so that pastors and worship coordinators are not simply doing as they see fit.<sup>23</sup>
- To encourage a higher standard for the arts used in Christian worship.<sup>24</sup>
- To make corrections when other hymnals have erred.<sup>25</sup>
- To increase the percentage of worshipping souls edified by music in worship...
  - by teaching singing.<sup>26</sup>
  - by changing the language of hymns.<sup>27</sup>
  - by enhancing the visual arrangement of resources.<sup>28</sup>
  - by simplifying hymns (according to length, melody, vocabulary, or arrangement.)<sup>29</sup>
- To increase the amount of time per service spent singing by the congregation.<sup>30</sup>
- To synthesize past hymnals and new materials. To update.<sup>31</sup>

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<sup>18</sup> All of them, but *Christian Worship: A Lutheran Hymnal* says it quite beautifully.

<sup>19</sup> Carl Schalk. *Source Documents in American Hymnody*. (St. Louis: Concordia Publishing House, 1996), 12.

<sup>20</sup> Rev. Dr. Eugene Brand, ed., *Lutheran Book of Worship*. (Minneapolis: Augsburg Fortress, 1978), 15

<sup>21</sup> Friedrich Layritz, *Choralbuch*. (St. Louis: Concordia Publishing House, 1902), iii.

<sup>22</sup> Schalk, *Source Documents in American Hymnody*, 13.

<sup>23</sup> Layritz, iv.

<sup>24</sup> Schalk, *Source Documents in American Hymnody*, 14.

<sup>25</sup> Collection of Evangelical Hymns, Schalk, *Source Documents*, 35.

<sup>26</sup> *Koralbog*, Schalk, *Source Documents in American Hymnody*, 101.

<sup>27</sup> Luther's *Achtliederbuch*, for example.

<sup>28</sup> Smith, Henry. *Hymnal for American Youth*. (New York: The Century Co., 1919) vii.

<sup>29</sup> Smith, vii.

<sup>30</sup> *Choral-Buch fur die Erbauliche Liedersammlung*. Schalk, *Source Documents in American Hymnody*, 18.

- To deliver new liturgical material.<sup>32</sup>
- To feature a new style.<sup>33</sup>
- To replace a previous, out of print hymnal.<sup>34</sup>
- To remind the church that the use of hymns and hymnals is important.<sup>35</sup>
- To fill a void. This can apply from either a worship or a marketing standpoint.
- To give families a devotional resource in the home.<sup>36</sup>
- To provide a convenient book for Christians to have with them wherever they go.<sup>37</sup>
- To show unity between church bodies.<sup>38</sup>
- To help recover from a split between church bodies.
- To experiment for the betterment of future worship.
- To create a worship resource that is accessible and appealing to the “spirit of the age.”
- To expose the next generation to the benefits of owning and knowing a hymnal.<sup>39</sup>
- To “espouse nothing peculiar but follow in the footsteps of our believing forefathers and the entire pure Lutheran Church, as is proper according to God’s Word, Hebrews 13:7.”<sup>40</sup>

Several observations can be made based on this set of principles which speak to the topic at hand.

Some hymnals attempt to be universal; others are clearly niched. The Norwegian hymnals, for example, tend to feature new Scandinavian hymns and hymn-writers. *A New Hymnal for Colleges and Schools* produced by Yale University and the *Hymnal for American Youth* each have rather specific audiences. Some hymnals have a particular historical trigger. For example, when the second edition of

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<sup>31</sup> Freylinghausen, a2.

<sup>32</sup> *Choralbuch mit Liturgie und Chorgesungen*. Schalk, *Source Documents in American Hymnody*, 75.

<sup>33</sup> *Church Book*. Schalk, *Source Documents*, 99.

<sup>34</sup> *A Choice Selection of Evangelical Hymns*. Schalk, *Source Documents*, 38.

<sup>35</sup> *Das Neu Eingerichtete Gesangbuch*. Schalk, *Source Documents*, 41.

<sup>36</sup> *A Collection of Hymns and Liturgy*. Schalk, *Source Documents*, 47.

<sup>37</sup> *Hymns, Selected and Original, for Public and Private Worship*. Schalk, *Source Documents*, 55.

<sup>38</sup> *Das Gemeinschaftliche Gesangbuch*. Schalk, *Source Documents*, 49.

<sup>39</sup> *Das Neue eingerichtete Gesangbuch*. Schalk, *Source Documents*, 41.

<sup>40</sup> *Evangelisch Lutherisches Kirchengesangbuch*. Schalk, *Source Documents*, 67.

Friedrich Layritz's *Kern des deutschen Kirchengesangs* went out of print, the LCMS swiftly produced two major *Choralbücher* to keep the Layritz resources available. On the other hand, in the more grand and idealistic (and often compromising) worship compendiums, such as *Das Gemeinschaftliche Gesangbuch* produced for the 300<sup>th</sup> anniversary of the Reformation, the goal is broad.<sup>41</sup>

Sometimes hymnals are published based on a conservative agenda; other times they usher in change. This is illustrated nowhere more clearly than in Luther's *Achtliederbuch* and Walther's *Kirchengesangbuch für Evangelisch-Lutherische Gemeinden ungeänderter Augsburgischer Confession*. Both of these were departures from the status quo. On the other hand, Henry Melchior Muhlenberg's *Erbauliche Liedersammlung* was simply an attempt to take what was being produced in Europe and produce something similar in America.

Some hymnals are produced to be particularly handy in worship; others are made with household use in mind. Even beyond the very early hymnals which, as mentioned above, were intended for ownership and use primarily by individuals, worship compendiums like J. G. Schmucker's *Evangelische Liedersammlung*, as well as many if not all Methodist hymnals, are designed to be marketed to young people and leaders in the home. *Christian Worship*, while not without usefulness in the home, is clearly designed to aid the worship coordinator, particularly as one examines the supplemental material that was published as part of the worship compendium.

Some hymnals are made with a public and private use in mind; others are exclusive to one or the other. Pocket sized hymnals and enlarged altar books are examples of the extremes in this regard. The fact is everyone agrees that the hymnal should be used both publically and privately. Everyone hopes that a body of hymns will be available to whomever in whatever situation they find themselves. Not every hymnal has been successful at being usable in its designed context, but all of them have tried.

Some hymnals are "high church," that is, they emphasize formality and resist modernization. Others are not. Some development committees attempt to promulgate those standards which they consider most fitting for Christians at worship. Other hymnals simply attempt to represent the whole picture of art which has been produced prior to their publication. A hymnal published by WELS might be an example of the former, a hymnal published by Yale University might be an example of the latter. Neither of these two very different philosophies is necessarily superior to the other, but they certainly yield very different results.

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<sup>41</sup> "At the same time this book has the purpose of breaking down the wall of partition between Lutherans and Reformed, which is based only on prejudice, and to spread abroad the true spirit of tolerance and brotherhood, and to unite one Christian with another ever more fervently." Schalk, *Source Documents*, 49.

Diversity is important; consistency is important. As churches have merged and morphed into international organizations, departing from the segmented geographically limited bodies of early America or post 30 Years' War Germany, the group a worship compendium typically serves has diversified. Of course, this means that the resources the development committee draws from have also diversified. The challenges that come with this transition can be illustrated by the relationship of *Christian Worship* and its un-supplement, *Let All the People Praise You*<sup>42</sup>.

No hymnal attempts to be the last hymnal ever produced. Every generation takes what they are acquainted with for granted and hymnals are no exception<sup>43</sup>. Hymnals published for renewal of aged material and simply for renewing interest in the use of the book itself will be necessary as long as the church believes hymnals are necessary. Add to that the new songs and liturgical material produced each year and it becomes undeniable that new and updated publication will remain necessary. "Of what further gifts might we deprive future generations were we to insist that 'no more new hymns' be permitted after, say, a denominational hymnal published in 1990?"<sup>44</sup>

All hymnals have a message. For all worship material collections, the triune God of grace is the center of this message. Beyond that foundation, however, development committee leaders generally acknowledge that the meaning of worship resources in a vacuum is altered when those resources are collected into a compendium. For example, consider the songbook *Let All the People Praise You*. This was a supplement to *Christian Worship: A Lutheran Hymnal* and is perceived to preach a variety of messages, particularly diversity. The *Achtliederbuch*'s message was "sing the vernacular."

All hymnals are made for reference. While there is no rule regarding the arrangement of the resources in a hymnal (some hymnals are arranged according to the *ordo salutis*,<sup>45</sup> some alphabetical, some by seasons of the church year, some by Sundays of the church year) no collection of hymns that

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<sup>42</sup> This quotation from Victor Prange's introduction to *Let All the People Praise You* sums up this tension excellently. "A hymnal unites a church body as a worshiping community and allows its many congregations and members to confirm their confessional unity by means of hymns and songs they share and sing together. The hymnal is wisely the preeminent and primary resource in the worship life of every congregation. *Let all the People Praise You* will be useful where leaders and people feel a need in their specialized ministries for more of the kind of songs and hymns that the hymnal offers only in limited quantity."

<sup>43</sup> The worship folders which are popular in WELS are probably not an exception, either. In fact, new members in churches that use worship folders and/or screens exclusively are increasingly unaware of codex hymnals. The flood of re-tuned (colon intentional) hymns in Calvinist and Evangelical circles and the common use of "page 15" to refer to *The Lutheran Hymnal*'s worship service are examples of how the standardized worship compendium has become, for some, a novelty

<sup>44</sup> Mary Louise Bringle, *No More New Hymns*. (Louisville: Presbyterian Publishing Corporation, 2011), 1.

<sup>45</sup> "A technical term of Protestant dogmatics to designate the consecutive steps in the work of the Holy Spirit in the appropriation of salvation." Philip Schaff, *The New Schaff-Herzog Encyclopedia of Religious Knowledge, vol. VIII*. (Grand Rapids: Baker Publishing), 264.

would be called a hymnal has been published in a narrative or even purely artistic style. Most include multiple indexes and a variety of built-in worship planning resources.

All hymnals are essentially practical. As the committees or individual compilers worked to select music and format, the practical has almost always trumped the artistic. It has to. From Yale's *A New Hymnal for Colleges and Schools*, which is clearly designed to give a broad overview of worship music, to *Let All the People Praise You*, every hymnal exists to answer a need.<sup>46</sup> How well a given hymnal fulfills the need is always up to history.

There are arguably many more implications that can be made based on the list of hymnal purposes given above, especially when the specific content of the hymnal is taken into consideration, but these speak most directly to the formatting of the hymnal. The opportunities presented by digital media have relatively little bearing on the content of a hymnal.

### **The New Frame of Reference**

It was noted above that the hymnal is a reference book. By following the beckoning byway of the uses, old and new, of other reference material, considerable light can be shed on exactly how to accomplish a relevant hymnal in the 21<sup>st</sup> century. But, as that byway is explored, the reader will do well to keep in mind the other features and functions inherent in a hymnal, especially because the reference function is not the only one that matters. Nevertheless, objectivity is valuable when considering change, and approaching the beloved hymnal like one might approach a dictionary or encyclopedia, that is, as a vehicle of information transmission, can be helpful.

Remember that the hymnal, as it is in 2013, was able to be developed, and in some respects simply *was* developed, because there became a way and an environment to create it consistently, thanks largely to the printing press. The publishing industry reconfigured the horizon for reference materials, songbooks included. While it is often noted that the printing press made for “more abundantly stocked bookshelves”<sup>47</sup> the printing press did not just mean that books, which had been expensive and difficult to acquire, would be available to more people. It also meant that people had a new way to store knowledge that would be reproducible and would therefore last for a long time. Increased “information longevity” meant that artists and thinkers could reach further and understand more deeply than before, increasing the quality and the quantity of their work.

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<sup>46</sup> “Many colleges and school chaplains and musicians have expressed their desire for a new hymnal which would be both scholarly in its standards and useful in its range of contents.” Jeffery Rowthorn and Russell Schulz-Widmar, *A New Hymnal for Colleges and Schools*. (London: Yale University Press, 1956), 1.

<sup>47</sup> Eisenstein, *The Printing Press as an Agent of Change*, 74.

All of this led to a Renaissance era boom in encyclopedias, and in the midst of this boom an environment in which the reference book could be experimented on and evolve was developed. Printers and compilers<sup>48</sup> of these new, printed reference materials had to make decisions about arrangement and presentation of the data in their works, and they had to do it better than their competition. Their ideas were simple, profound, and had significant results. Among these results were standardization of alphabetical order,<sup>49</sup> significant progress in lexicography, the development of sophisticated, systematic indexes, and even tabs on pages.<sup>50</sup> Reference materials were literally re-formed.

This kind of reforming is happening again; in fact, it has already taken place. The advent of online database systems and easy accessibility via internet-based applications has adjusted the way people categorize and view information. The *Encyclopedia Britannica* and the *MacMillan Dictionary* have stopped producing print copies of their publications in order to pursue online and app-based products exclusively. Three of the top five most visited websites in the world are search engines, with the open-source encyclopedia project *Wikipedia* sixth. A Gutenbergian shift, a revolution in the way information is stored, accessed, and displayed, is taking place.<sup>51</sup>

This shift came about by relatively similar means as the shift from script to print. It began in the 1990s when CD based encyclopedias like Microsoft's ill-fated *Encarta* hit the scene, included as default software on many home computers. As more people began investing in computers, "the money that people used to spend on encyclopedias [was] spent on personal computers - which often came bundled with a multimedia encyclopedia."<sup>52</sup> As it happened in the 1500s, capitalist publishers were simply pursuing that avenue which yielded the most profit,<sup>53</sup> while educators and reference compilers were

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<sup>48</sup> This may be a false dichotomy. During the printing explosion, "early printers were responsible not only for publishing innovative reference guides but also for compiling some of them." Eisenstein, *The Printing Press as an Agent of Change*, 87.

<sup>49</sup> "Amo comes before *bibo* because 'a' is the first letter of the former and 'b' is the first letter of the latter and 'a' comes before 'b' ... by the grace of God working in me, I have devised this order." This quote from a 13th century Genoese compiler shows how uncommon alphabetical order was. Eisenstein, *The Printing Press as an Agent of Change*, 89.

<sup>50</sup> Eisenstein, *The Printing Press as an Agent of Change*, 89-93.

<sup>51</sup> "What McLuhan wrote about the Gutenberg revolution is equally apt with regard to the digital revolution: it is no more an addition to print culture than the motorcar was an addition to the horse." Timothy Beal, *The Rise and Fall of the Bible*. (Boston: Houghton Mifflin Harcourt, 2011), 79.

<sup>52</sup> Alex Soojung-Kim Pang, "The Work of the Encyclopedia in the Age of Electronic Reproduction," *First Monday* 3 no.7 (Fall 1998), <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/615/536> (accessed October 10, 2012), 2.

<sup>53</sup> "The development of the electronic, multimedia encyclopedia, and dramatic changes in the pricing of encyclopedic content, has transformed the market and the world in which encyclopedia companies conduct business." Pang, 2.

interested in that format which enabled the most people to do the most good with their product. When developing a hymnal, no church should make profit its main goal in a worship compendium, instead, of course, the goal should be to connect as many people as possible to the gospel in the most beneficial, practical, and user-friendly way. This is almost a commandment when it comes to worship in general. Nonetheless, advancements that are made in the name of capitalism are not necessarily evil. They often help keep the ideals of data developers under control and they give space and direction to work in.

In this space, as the internet gained popularity and accessibility and as online databases were expanded and became easier to manipulate, projects like *Wikipedia*, the online, open-source encyclopedia, and search engines, most notably Google, became the primary stop for information seekers. In order to compete and to stay relevant, reference materials that had been exclusively printed for hundreds of years migrated onto the internet as well. This migration has special implications when applied to hymnals. When the World Wide Web was first being promoted, there were many authors and articles that predicted the death of printed books, magazines, and newspapers. In his paper *The Work of the Encyclopedia in the Age of Electronic Reproduction*, Alex Soojun-Kim Pang, former deputy-editor of the *Encyclopedia Britannica*, describes what has actually happened.

After several years of electronic books, online magazines, and newspaper Web sites, it appears that predictions that electronic versions of printed publications would kill their printed counterparts were premature. Instead, it appears that electronic publications are generally either read by different people than those who read printed works, or are used by them differently. The National Academy of Sciences Press, for example, put its new monographs online, and saw printed sales rise 17% in the same year.

Apparently prospective buyers browsed through the online versions while deciding to buy, much as they would read a few pages of a book in a bookstore. In general, it seems that readers tend to treat printed and electronic versions of the same work - be it a newspaper or book - as different or complementary, but not as competitors.

The important exception is encyclopedias. The development of the electronic, multimedia encyclopedia, and dramatic changes in the pricing of encyclopedic content, has transformed the market and the world in which encyclopedia companies conduct business. Printed encyclopedias, no matter the publisher, have declined greatly in popularity.<sup>54</sup>

Pang, and other authors who have considered why encyclopedias have been forced over the digital cliff, suggest numerous impetuses. Pricing is key. Encyclopedias are not novels. People do not read them from cover to cover; instead, they use them as a tool. Generally speaking, people are more

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<sup>54</sup> Pang, 2.

willing to pay a yearly or monthly subscription fee for a tool that will stay useful over time. The Encyclopedia Britannica found this out when they decided to publish a digital resource. In 1990, *Britannica* sold 120,000 copies. The first digital edition was made available in 1994, and in 1996 print edition sales were down to 40,000. As the online and software based offerings became more available and more robust, printed sales continued to drop until in 2009 only 8,000 were sold. This suggests that at the moment, digital is preferred. Even if a new medium were to emerge and replace the internet and updatable software, users could simply stop paying the subscription fee and lose \$39.95 for one year of irrelevancy instead of \$1,500 for a wall full of doorstops and booster seats.

Another undeniable user advantage that comes with digital encyclopedias is interactivity. Multimedia features and clickable links make the encyclopedia a much more manipulable tool. Gone are the days of paging around in topics one assumes might be related while trying to find pertinent information. Clickable links and related articles have simplified this process immensely. Multimedia options such as video and audio embedded in an article allow encyclopedias to communicate their information more clearly to diverse learners.

“That depends on the kind of question it is, and where I am standing at the time.” In an interview about encyclopedias in classrooms, Janet Claassen, a high school library media teacher, gave this answer when asked if she prefers a print or digital encyclopedia in the classroom. Her common-sense answer might seem obvious, but it is arguably the most significant factor in the rise of digital encyclopedias among the general populace. For many people, a portal to the internet is never far away, often as close as a pocket, meaning an accessible, searchable, inexpensive, up to date, multimedia encyclopedia is only two button-presses away.

This migration to digital media has taken place with most reference materials. Dictionary apps abound. Google feeds users a data-based answer when they ask for a definition. Doctors and pharmacies are increasingly frustrated by WebMD (an app for mobile platforms and accessible via the internet) informed patients. Many pastors have noticed their parishioners pulling out tablets and smartphones in classes and using Bible apps. Norway’s public education system has adopted a long term plan to move to digitally based textbooks and to include computer technology in every aspect of learning. The codex hymnal works, in many ways, just like these materials which have made the transition. One key area in which the codex hymnal is different is in the need for staves and notes.

The digital world still depends heavily on the written word, and as that word migrates onto screens it is taking many forms. The two key digital display formats that are most readily available today are e-ink and LED. Each of these screen types offers different advantages. For a description of the

technology involved in these display formats, see Appendix 1. As they pertain to the hymnal, neither piece of technology was developed with displaying music in mind, but both of them are versatile enough and formable enough to be shaped to fit music.

Digital displaying of musical notation is still surprisingly unexplored. Certainly, there are a variety of methods being employed, but there is not uniformity or a clear winner in the field. Because of this, many musicians do not instinctively consider digital resources as viable options for their work. In the present market, there is no one product that has risen above others as the ideal piece of equipment for those looking for digital sheet music. The chief issue here is screen size. The iPad and many other digital, LED readers have 9.7” screens that are generally considered too small to be practical for any instrumentalists who hold their music at any distance (for pianists or for vocalists, 9.7” is sufficient.<sup>55</sup> A violinist or a trumpet player, on the other hand, struggles to see his music from a few feet back when it is on such a small screen.) There have been tablet style products released specifically for musicians, the best of these being the Freehand Systems MusicPad Pro Plus which has its own stand and a footswitch for turning pages. When it was released, the MusicPad was over \$1,100. Today, slightly outdated and not commonly used, it sells for around \$500.

The advent and popularity of the iPad has increased the use of digital scores. Footswitches for turning pages are not uncommon and can be purchased at reasonable prices. Beyond tablets, there have been some interesting experiments in music notation display. One such experiment focused specifically on projection technology and the best ways to transfer choral scores to a screen so that an entire choir would be able to see. While many of the researchers’ suggestions were adequate, none of them was particularly aesthetically pleasing. This does, however, help to identify another important aspect of information display that has changed in the recent past and might have a long lasting effect on hymnals: projection.

Before discussing projection, there is one more opportunity in personal music display that is slowly progressing toward availability. Described more fully in Appendix A, e-paper is a sort of screen. The same e-ink technology that is used in Amazon’s Kindle (not to be confused the Amazon LED reader, Kindle Fire) is being developed in a thin, flexible product called e-paper. Ideally, e-paper could be programmed with a worship folder, have buttons for paging forward and backward, and be a reasonably priced way to employ digital resources.

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<sup>55</sup> Rik Farlie, “Music on the iPad,” *New York Times*, June 25, 2010, final edition.

As the American family became reoriented around the television, a new mentality was born. The idea of experiencing media together, being informed at the same time from the same source, appealed to a new sense of community. “For good or ill, the TV image has exerted a unifying synesthetic force on the sense-life of intensely literate populations, such as they have lacked for centuries.”<sup>56</sup> This sense is echoed in stadiums and movie theaters. It has been brought into the classroom and the office with the projector screen. In both the worship and business worlds, the projector has become a standard tool for information display. For many, it has become more common and natural to be in a group that looks at a screen than to be in a similar group in which everyone is focused on personal documents. It is undeniable that projection is a practical way to communicate to a group, and with the implementation of moving imagery and the rising popularity of kinetic typography,<sup>57</sup> projected communication is becoming a language all its own.

For the worship coordinator seeking to incorporate arts and beauty into the worship experience, these developing projection forms are appealing. For those who are looking to create visually stunning, practical worship resources, these forms are a must. Most of all, as can be seen by videos on YouTube with 1,000,000 views as a result of their aesthetic appeal, audiences are responding positively to artistic word display.

As the issues surrounding the ideal device for viewing digital worship continue to be identified, researched, and solved, there will be numerous offerings of all shapes and sizes. Whether or not there is a perfect device, however, there is every indication that R&D departments are working to find the best means of display. They respond to need and demand. The options continue to grow for energy efficient screens that are bright and clear. The prices have shown a steady decline for most products that access digital information. It is not risky or out-there to suggest that there is a future in this technology and that audiences expect and are comfortable beholding information through these frames.

Moreover, the shift from print to screen is more than simply a platform reformation. *Wikipedia* and *Wolfram|Alpha*'s<sup>58</sup> success in the reference business are evidence of this. While *Britannica*, *Oxford*,

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<sup>56</sup> McLuhan, *Understanding Media*, 315.

<sup>57</sup> Kinetic typography is text that uses movement or other temporal change.

<sup>58</sup> *Wolfram|Alpha* is similar to *Wikipedia* in that it is a collection of data. It differs from *Wikipedia* in that instead of a collection of “pages” or interlinked and categorized documents, *Wolfram|Alpha* has created a framework in which all of the diverse data contained in the *Wolfram|Alpha* system can be stored, labeled, represented, and implemented. *Wolfram|Alpha* then uses several built-in algorithms to access the data based on search inquiries. More information can be found at <http://www.wolframalpha.com/about.html>. What follows is a brief description of *Wolfram|Alpha*'s purpose from that page: “*Wolfram|Alpha*'s long-term goal is to make all systematic knowledge immediately computable and accessible to everyone. We aim to collect and curate all objective data;

and *Webster* are, for the most part, simply changing the medium by which people access the information they previously offered in print, these online, mostly open-source, constantly updated encyclopedias are changing the perception of how and why information is brought together. As mentioned above, constant updating is appealing to all users. The fact that a product is open-source, on the other hand, has created a rift between users. Those against open-source are concerned about accuracy and quality of information. Those for open-source are more concerned with knowledge collection and would like to remove all barriers to the gathering of all knowledge. One might say that the conservative is pro-professional and anti-open-source, while the other side is really pro-both.

Today, there is a third party. Researchers are beginning to perceive that since open-source has become a household term, largely from educators warning all students about the inherent risks of *Wikipedia*, the younger generations have examined resources such as *Wikipedia* and *Wolfram/Alpha*. They have determined that the risks are legitimate, but the potential benefits outweigh the risk. For *Wikipedia*, the benefit is a consistent tertiary source. For *Wolfram/Alpha* and other semi-controlled information projects, they have become acceptable, standard sources. To some extent, there is also evidence that collaboration has become a standard. If a large number of people are not endorsing and seeing and working on a project, it loses its legitimacy. Some have gone so far as to say that in this digital revolution “value is created not simply by individual authors but collaboratively by communities of reading writers and writing readers.”<sup>59</sup>

Pang also writes, “Multimedia development cannot proceed on the assembly-line model of print. Because it’s much more fluid and dynamic, with nothing fixed at the outset, it requires people of varied backgrounds and interests to work closely together so as to better understand the consequences of decisions and respond in time to unexpected challenges.”<sup>60</sup> This means that not only do people expect collaboration because it is possible, but maintaining a truly digital reference work (recall that he was an editor for *Britannica*) cannot be done without collaboration. The model has changed.

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implement every known model, method, and algorithm; and make it possible to compute whatever can be computed about anything. Our goal is to build on the achievements of science and other systematizations of knowledge to provide a single source that can be relied on by everyone for definitive answers to factual queries. *Wolfram/Alpha* aims to bring expert-level knowledge and capabilities to the broadest possible range of people—spanning all professions and education levels. Our goal is to accept completely free-form input, and to serve as a knowledge engine that generates powerful results and presents them with maximum clarity. *Wolfram/Alpha* is an ambitious, long-term intellectual endeavor that we intend will deliver increasing capabilities over the years and decades to come. With a world-class team and participation from top outside experts in countless fields, our goal is to create something that will stand as a major milestone of 21st century intellectual achievement.”

<sup>59</sup> Beal, 79.

<sup>60</sup> Pang, 4.

The social media generation is programmed to value interconnectivity and cooperation and is inherently suspicious of locked doors and independent experts. A development committee needs to take into consideration that this new way of approaching and evaluating reference materials goes deeper than just “new media options.” It speaks to the ways people perceive and evaluate products.

As digital technology develops, people are continually exploring and expecting it. They will make judgments based on practicality, beauty, and especially convenience. To delve even more deeply into this issue, it must be noted that the reference world is evolving because data is evolving. To understand this change in data, or at least in data priorities, it helps to be familiar with linked data. Linked data can, to a certain extent, be described as half of that which makes up the World Wide Web. The other half could be called linked documents, or pages. The reason it is called a Web is because all of this data is interconnected. The idea of total connected-ness of data is relatively new to the world. As was mentioned above, with the arrival of the printing press came the ability to archive and categorize and build on older ideas. The internet has ramped this idea way up. Now, raw, categorized data can be linked. It is no longer a matter of finding papers or articles generally on the same topic and looking for the connections. It is a matter of being able to search for the connections directly.

Why does linked data matter to worship compendium work? Because linked data is a better way to build a reference tool. Principles of linked data as it is being implemented by the internet’s developers are going to be useful to reference workers. They are helpful in creating the most useful product. They are part of the new frame of reference that has been constructed in the digital age.

### **Media Induced Cultural Evolution**

The effects of digitization on present culture are actually much more far-reaching than simple platform changes. Along with this shift in reference medium has come a cultural shift in the people who make use of these reference works. McLuhan, as he discussed the effect of the digital revolution on the printed word, relates a quotation from a West African Prince named Modoupe concerning West African modes of thought regarding print: “The one crowded space in Father Perry’s house was his bookshelves. I gradually came to understand that the marks on the pages were *trapped words*. Anyone could learn to decipher the symbols and turn the trapped words loose again into speech. The ink of the print trapped the thoughts; they could no more get away than a *doomboo* could get out of a pit.”<sup>61</sup> This fascinating mentality is brought up to show that cultures perceive technology in different ways, and people’s perception of the technology affects the ways and reasons they will use it.

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<sup>61</sup> McLuhan, 81.

While all arguments about print vs. digital literature come to the conclusion that digital will never fully eclipse print, more and more research is suggesting that the impact of the screen on Western culture is only beginning to be felt. There are many who argue that technological advancements are the root cause of the postmodern move away from the church.

...we will see how the telegraph brought about the death of “absolute truth” and the rise of relativism, thereby undermining the notion that the Bible is an unshakable foundation of “Truth.” We will see how radio reversed the individualism of print, bringing about a new tribalism in the church. Finally, we will devote most of our attention to the effects of the “Graphic Revolution,” – the unprecedented production and dissemination of photography and images to the masses. We will see how the flood of images in our culture is leading Western churches to adopt characteristics of the Eastern Orthodox Church, how it retrieves the medieval Catholic emphasis on communion over preaching, and how it is changing our concept of conversion from a single binary event to an ongoing process of transformation.<sup>62</sup>

Author Shane Higgs comes down rather strongly on the effects of technology on culture. Whether or not he is entirely correct is impossible to know. However, before these massive shifts and revolutions cause the Church to run and hide, it is good to remember Solomon’s advice. There is nothing that has not been seen, and there is nothing that has not been done. Most of all, there is nothing that is going to destroy the church, certainly not a piece of equipment designed to bear the word.

Nonetheless, there are going to be ramifications of the digital age, even on the church. Creating a worship compendium like that which will be described below will affect the ways Christians view worship and the resources for it in more ways than just making the liturgy backlit. Congregational members may desire more input on the service. They may have stronger opinions about old music or new music. They may grow to vehemently dislike some of the resources offered via this wide ranging digital compendium.

The digital revolution is also changing the way learners expect information. There are opportunities with color and size and variety and video that were not available in 1993. There are going to be requests and there are going to be insights that allow pastors to communicate with their people through

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<sup>62</sup> Shane Higgs, *The Hidden Power of Electronic Culture*. (Grand Rapids: Zondervan, 2005), 66.

the digital word. As was mentioned in connection with kinetic typography, modern, internet based culture is appreciating the power of moving and emphasizing texts.

But even this is nothing new. Some today are asking why it is good to be so consistent with fonts as though it is novel, but it has long been a trick of printers.<sup>63</sup> FreyIngshausen's pietistic hymnal's preface has major words highlighted by size all over the place. Even the recent rise in the use of italics and boldness attests to our culture's readiness for this.

Television's emphasis on images is shifting Western culture into an image-oriented society, moving from a philosophical, analytic culture to an oral rhetorical culture. How would this affect worship, which still relies heavily on words? Oral rhetorical culture – *oral rhetorical writing!* This is made much more possible through digital media but this example is only a glimpse at just *how different* the possibilities are with digital media. Digital media is a new, different thing from print media. "What McLuhan said about the Gutenberg revolution is equally apt with regard to the digital revolution: it is no more an addition to print culture than the motorcar was an addition to the horse."<sup>64</sup>

### **The New Options in Analogy to the Codex**

Considering how the effects of the adjustment from page to screen have significantly affected modern culture and knowing that the goal of a worship compendium is to compile a reference source of service orders and music that points the worshiper in that culture to God, a thorough analysis of the means or media tools available to deliver those materials is necessary. The most apt tools should be chosen for the job. If technologically adjusted worshipers are the audience (not the whole audience, but in general at least significant and growing part of it), what previously unavailable resources may be used to assist them in worship?

Databases may not be the best starting point to answer the above question, but they should be the foundation for hymnals in the digital age. A database is a collection of organized data. The organization of the data makes it searchable and manageable through a database management system, or DBMS. A relational database management system makes it possible to access data through a variety of searches by allowing the user to come at the data from different angles, almost re-sorting the data with every search. It would be as though a closet would show all the clothes that match black slacks, are short sleeved, and

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<sup>63</sup>Lanham, 88.

<sup>64</sup> Beal, 79.

have been ironed in the last month, and then show them in the order you bought them, and then show them in the order they fit best...there are numerous ways to sort the data.

When it comes to choosing a database type, there are a variety of options. It seems, however, that in order to ensure long-term viability, security, and flexibility, as well as to guarantee a highly capable staff to monitor the database and its structure, a worship compendium should make use of a third-party's "database as a service offering," such as Google's App Platform or Microsoft's Azure, among others. These kinds of services are cloud based, so that all the data is stored on server computers provided by the service company instead of being stored on servers owned and maintained by whoever owns the data itself. They are designed to be user-friendly, though they require a savvy user.

The role a database would play in a worship compendium could be similar to that of the plates used in printing. Once the plates are cast, the data on the plates can be accessed over and over again for individual codex hymnals. In the same way, once the data in the database is structured, it can be accessed over and over again by various users through applications. A database is superior to a plated printing system because it affords the user more freedom in accessing and using the data. It allows data to be edited after it has been placed in the database. It allows the data to be easily reorganized and restructured. It is controlled and backed up; it will not be lost or stolen. Most of all, it can be accessed through any number of applications instead of one, set, permanently manuscripted codex.

Developing the database would be the same kind of task as selecting and formatting the corpus of hymns for printing in a codex hymnal. Texts, tunes, and settings would have to be filtered and selected. Research would have to be done on the sources and history. Arrangement decisions would have to be made. In the database, however, many of the more difficult decisions development committees make would be alleviated because there is no longer a limited number of pages on which to print. The verses which were cut from many longer hymns could be returned, and if an editor was concerned that congregations might not use the hymn because it was too long a number of suggestions could be included as to how a hymn might be trimmed for use in a worship setting. These trimmed-down versions could even be featured as almost "separate" hymns under the right search parameters.<sup>65</sup>

A note is warranted on the changed role of the editor in a database development process as opposed to a codex-based project. As companies like MacMillan and Britannica have transitioned into

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<sup>65</sup> For instance, some advent hymns have one verse that applies to each of the gospel readings in advent. The smarter searching features of an online database could feed a user "Songs of Thankfulness and Praise" vs. 1, 3, and 5 as an option for the second Sunday in advent.

digital systems, they have come to realize that the work of organizing the page, while still a factor, is simplified. The editor is able to use digital parameters that automatically affect the format of the majority of data and eliminates some of the editor's busy work.

The editor also becomes an administrator who works to coordinate all the participants who are creating the multimedia experience of the database. As was quoted above, "Multimedia development cannot proceed on the assembly-line model of print."<sup>66</sup> From the programmer to the content developer and everyone in between, the editor becomes the overseer of the entire life of a unit of digital data from birth to publication.

In a digital template, the database is the codex equivalent of the words in a book. The paper, the physical page, is something else entirely. Once the database is created, applications with which one accesses and views the data have to be developed. The applications that access the data can be as numerous as the data points themselves, but for a worship compendium looking to accomplish the same goals as those of compendia gone before there are two basic functions for which apps<sup>67</sup> would need to be developed. There could be an app that simply displayed the data on a variety of platforms. This app (and others) would perform, in many ways, like a codex hymnal does *when it is in the hands of a worshiper*.

Consider the uses during worship, at home, and in the classroom. At this point in history for many Christians and certainly for WELS members, having a codex hymnal close at hand is not a foreign idea. It is useful for devotions, for finding prayers and quotes, for memorization, for learning to sing and play instruments, and for general singing in worship. These are the primary uses of the codex hymnal in the hands of worshipers, so the primary worship compendium app would need to help accomplish these things. This app could do all that the codex hymnal, the worship folder, and the projector screen do – display information. Outside of the church walls it could supplement private worship, connecting devotions to hymns and enabling congregation members to learn to enjoy the music of the church during the week while driving or working out. It would be simple, searchable, and still highly functional. It might also have extra multimedia features. More direct propositions about this app will be discussed below.

Data = the words, apps = the pages, but the book itself, the piece of equipment that holds the pages, is harder to describe in the digital age. It is too early in this technology's history to suggest a digital reader in every pew. There is also almost no cry for a product like this. At present, tablets and e-

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<sup>66</sup> Pang, 5.

<sup>67</sup> Apps are any software application of a database. They can be housed in a number of vehicles, such as internet browsers, desktop operating systems, or mobile platforms.

readers are too unwieldy, unpredictable, and costly to realistically provide every worshiper with one, and at the same time it is unrealistic to expect every worshiper to have their own device. Of course, there is also no preexisting database from which such a digital product might draw. Resources like Concordia Publishing House's *Lutheran Service Builder* might someday be able to be outfitted to offer material for tablet use, but at this point the interface and general set up are not designed for mobile users. Nonetheless, if a database were developed in such a way that it would be open to this type of accessibility, its usability would be almost immediate, especially when one takes into account how quickly technology progresses.

Until then (and probably even once then is now), a codex format is also a part of this equation. It needs to be, because there are some settings in which a digital product will never be more useful than a codex book. There will, for instance, always be places without consistent sources of electricity. Nonetheless, the codex hymnal in a databased system could change. The book is no longer the pinnacle product at the center of the project. Digital technology makes it possible for even the codex offering of a worship compendium to become a highly customizable application of the database. A "home edition" and "small church edition" and "contemporary edition" could all be developed with relative ease. These options will be described in further detail below. Whether or not this kind of customization is wise is a topic for another paper. Suffice it to say that the availability *could* prove useful.

Not only are there new options for the pages, binding, editing, storing content, but the digital age has also changed the printing press itself. In fact, it has changed to such an extent that the production of various editions of a worship compendium would not be as tedious as it would have been just 20 years ago. Many printing companies now offer simpler, customized printing, requiring as little as a PDF file and a cover design, at a reasonable price.<sup>68</sup> While copyright issues would make submitting a project like this to a 3<sup>rd</sup> party publisher impossible, the technology exists to do this.

Compared to the world of the codex, the advent of digital media has made copyright law more complicated to navigate. Reproduction is instant with digital products; copy\paste puts a manipulable artifact in people's hands. Governments worldwide have inconsistencies as they protect copyright holders. Nevertheless, companies like Christian Copyright Licensing International (CCLI) and OneLicense.net are models of working within copyright law and working with publishers and artists to consolidate resources and deliver them to a broad audience.

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<sup>68</sup> A simple search at diggypod.com for a 700 page black and white book with 6"x9" pages comes to \$14.67 a copy plus \$116.45 shipping and handling, for a total of \$1583 if 100 copies are ordered. *Christian Worship* retails at \$2315.81 for the same number of copies. It should be noted that the physical product provided by NPH will be higher quality than diggypod.com's. When requested, diggypod.com did send a sample copy of their work. It was durable and the printing is very clear. They offer a variety of paper types and colors.

There is a set of material typically included in the worship compendium which has not been addressed. The manual, history, and rationale, the altar book and the prayers are all products which have been parts of worship compendiums past that are directed at planning. All of these could be replaced with a single app. While the compendium *in the hands of the worshiper* was considered for the first app, the compendium *in the hands of the worship coordinator* should be considered for the second.

The compendium in the hands of the worship coordinator is a tool for planning. The arrangement of a service, the selection of hymns, even the changing of colors for the various seasons of the church year are tasks assisted by the current codex hymnal. There are several services currently available<sup>69</sup> online that accomplish this function to one extent or the other, but none of them are based on a single, controlled database. To a confessional church body concerned with the subtleties of doctrine, having a product which draws from a controlled database seems invaluable. Is there concrete evidence that confessional Lutherans want a controlled database? Certainly. *Christian Worship* was used in 90% of WELS churches already only one year after its release.<sup>70</sup>

A planning application should enable the worship coordinator to choose and customize the flow of the worship service and subsequently plug in the appropriate readings, hymns, prayers, and rites. Several of the planning applications available today offer this functionality but not as part of package product based on a single database. As mentioned before, an editable worship folder, in Microsoft Word or another word processing format, should be able to be produced with a simple click. As far as an analogy to codex resources, this is somewhat different. A codex cannot facilitate this on its own.

Several of the other media newly available in the digital age are directly connected to the planning application. Projection hardware is becoming common in many churches. The planning application should be able to automatically create a projector ready presentation based on the choices made by the worship coordinator regarding the service. Graphics, backgrounds, and prepared hymn slides could all be integrated into the database and automatically paired up through the planning app. This would ensure consistency and a generally higher standard of quality in the use of presentation software than is practiced today.<sup>71</sup> It also takes into account an oft overlooked fact about the codex hymnal. To some, it is not accessible. It is too complex or threatening. Richard Lanham, in writing about people's hesitance to delve into great works of fiction, said, "Codex books limit the wisdom of Great

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<sup>69</sup> Liturgies.com, planningcenteronline.com, and worshippingplanning.com are all examples.

<sup>70</sup> Schalk, *Source Documents*, 162.

<sup>71</sup> Quentin Schultze, *High Tech Worship?* (Grand Rapids: Baker Books 2004), 21.

Books to Great Readers.”<sup>72</sup> It would be best if the hymnal, sometimes referred to as the layperson’s bible, be *unlimited*.

### **The Proposal**

If a church body or a private party was seeking to create a worship compendium today and the development committee decided that their *only* priority was to make a compendium that serves their audience, they would have to make a different book for every individual. This, however, would be unrealistic and unordered. However, combining certain technologies with which the modern church has been blessed can lead to a more culturally intelligible product for all. Many studies have been done by libraries and publishers trying to determine the impact of electronic books on their craft. There is even research to this end regarding worship compendiums.<sup>73</sup> It is less common, however, to hear people, be they librarians or worship coordinators, make propositions that proactively take advantage of new technologies in order to benefit their craft. The following proposal builds a worship compendium “from the cloud down” and seeks to use the tools available to envision a worship compendium that benefits the worshipping church.

The foundation for this 21st century worship compendium is a single digital database. One of the primary tasks of a development committee is to wade through an ocean of resources which have been created for public worship and decide which are worth offering to God's people and which are best left unseen. If the resources chosen for dissemination by this selection process, which are for our purposes raw data, were placed in a single digital database and organized by a database management system, the worshiper and the worship coordinator would be able to use this data much more flexibly than if it is stored in a codex book. There are thousands of databases and database management systems in existence today, and contracting companies who will take data and manage and organize it. This is not technological wizardry by any means, it is very common.

Once raw data is compiled and put into a database, a database management system (DBMS) is employed. There are a variety of systems that can be used for a project such as this. As a hymnal committee works with database management professionals the best system can be selected. A DBMS is a set of programs that access the data that has been organized in the database. These programs work together to filter information, facilitating searches and allowing various apps to access the database.

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<sup>72</sup> Lanham, 105.

<sup>73</sup> Hymnal Revision Feasibility Study. This study was conducted by the Standing Commission on Liturgy and Worship of the Episcopal Church.

At this point, two pieces of this worship compendium have been described. The data itself and the database. The data would be compiled and developed by a development committee. The database would be organized and the servers would be owned by a privately contracted company. The development committee and the contracted company would then work together on creating and developing the next step.

Once this data is organized, that is, once the hymns and service orders and reference materials of the worship compendium are put into a database, they would be accessible through applications (apps). Apps are pieces of software designed to run on certain operating systems. Multiple apps can access a single database and retrieve and display information from that database in whatever way the software is designed to work.

One of these apps would be like the typical codex hymnal. The user, via smartphone, computer, tablet or any other internet portal yet to be developed, could access all the material that would typically be found in a pew hymnal. One of the main differences between this app and a codex hymnal would be search functionality. A user could search for specific words and phrases, authors and melody lines. In the home and in the classroom, this would be a useful feature. Imagine being a parent leading a home devotion (perhaps via an email from wels.net) and at the end of the email a clickable link would lead that parent into the worship compendium app, showing a scrollable, zoom able four-part arrangement of the hymn. Then imagine that the app could *play the hymn* so the family could sing along. It would open up a number of songs for families without instrumentalists. Another significant advantage of this app over a codex hymnal is the ability to edit and update the app and the data viewed through the app instantly, so that a user would not have to purchase a whole new product.

Either within the basic access app or as an app all its own, this technology would also allow local churches to provide worshipers with the worship outline or worship folder. By providing a QR code<sup>74</sup> in the entry way or on the screen before the service as the announcements cycled, it would be easy to make sure all worshipers were aware of the app and could use it (provided they had a suitable device.) This kind of app might work well for worship folders for special events, too, such as conventions, conferences, or workshops.

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<sup>74</sup> A QR code is a barcode. Many devices have apps and cameras that allow them to scan QR codes. For example:



Because of the flexibility offered by a digital database, a service planning app could also be created. This would most likely need to be an app run through an internet browser, and it could have the option of desktop software. Through this application, a worship coordinator could access the data and arrange a worship event. For instance, they could choose a liturgical order, the readings, the hymns, and insert other pertinent information (sermon theme, communion announcement, etc.) and from that app publish a digital or printable worship folder, a PowerPoint or other flash based presentation, or an outline for those involved in that particular worship event.

At its most basic, the planning app is clearly a very useful tool. The potential is compounded, however, by the fact that an app is customizable and adaptable. The development committee could make adjustments to the app. The Commission on Worship could use the app to feature a special, “Walking Together” service that all WELS congregations might use. The app could allow for statistical readouts, showing how many churches are using what hymns and songs. There could also be mobile versions of the app, allowing worship coordinators to access their service plans at any time and allowing others involved in worship to keep track of schedules and resources for a given service.

From a copyright standpoint, the planning app would also help churches stay on top of their reporting to publishers and copyright owners. The app itself would be able to keep up with what songs were chosen by a given congregation and could be reported immediately to the licensing companies. There would also be opportunities for extra promotion and special featuring of new works.

Other apps that would be both possible and beneficial in this system might be a daily devotional app, an app specifically for church musicians, and a pastor’s companion app for use on shut-in calls and the like. There are also many possibilities for education, from music instruction to simply allowing local churches to publish the songs coming up in worship and giving congregation members the opportunity to listen to the songs during the week.

Can all of the opportunities listed above ever replace a well-bound codex hymnal? For many, this is a possibility, but at this point in history it probably is not a realistic or, necessarily, worthwhile goal. When the power is out or an internet connection is not functioning, having a print edition handy can be helpful. A missionary in the bush or on the street might find a print edition useful to give away. Fortunately, digital options are providing an excellent way to take data and create fully customizable print editions.

In 1999 Jason Epstein, long time editorial director for Random House and co-founder of *The New York Review of Books*, envisioned a machine that could print and bind books simply by printing from a

digital format, such as a PDF file. He offered this as a simple solution for book stores who were out of stock. When a customer wanted an out of stock book, he or she could simply print it and have it bound in paperback. Mr. Epstein's vision has become a reality today in products like the Espresso Book Machine (EBM). The first EBM was installed in the New York Library in 2007. It allows readers to print out of print and out of stock books very quickly.

The progression of technology makes it conceivable and quite feasible not only to print a stored, preformatted PDF, but to create an application with which a customer could fully customize a printed book. This yields some interesting scenarios. For instance, if the development committee did the good, important work of selecting songs, services, and other standard data, and that data was then organized into a database, the Commission on Worship could then offer various "print packages" for congregations who were interested in codex hymnals. Each package could include several standard features, such as orders of service, prayers, reference materials, and the predefined *Kernlieder*. The congregation could then select from the database other orders, reference materials, and sung selections, creating a codex hymnal that both connected them to the Wisconsin Synod at large and was created specifically for that group of people in that place.

In reality, this is already being done to some extent. Every congregation has songs and resources found in CW which they use and others which they do not use. Some material is culturally intelligible to one group, other material to another. Flexible printing options like the EBM coupled with the tremendous power of a well-developed customization application and a carefully selected and maintained online database could make a codex hymnal available for every language, worship style, and special need (i.e. large print) imaginable.

If congregations were interested in viewing the worship folders (or the compendium in general) on personal devices, there are two obvious choices. A bring-your-own-device system in which paper copies or a presentation version of the service would also be employed, or an "iPad-in-every-pew" plan. Neither of these is perfect. Not everyone owns a portable internet portal, and few churches would be able to afford an iPad in every pew. However, the latter option may not always be unrealistic. In 2013 a number of new e-readers will hit the market whose manufacturing costs are less than \$60. *Christian Worship* is \$21.75, and it holds just over 600 hymns. How much is a hymnal that holds 5,000 worth? How quickly will prices continue to drop? Will a viable e-paper<sup>75</sup> option be developed, so that it would only cost \$20 each for a customizable handout that churches can give out and collect every service?

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<sup>75</sup> See Appendix A.

All of that being said, in an attempt to make the entire plan simple, clear, and actionable it can be put like this: this design works *for* the worship coordinator, *with* the worshiper, and *on behalf of* the artist. It brings all of the participants of a worship event closer together, and at the same time it is able to serve a more diverse group. All of this is done by viewing the hymnal differently, through the lens of the 21st century.

### **Gentle Answers**

This section is intended to discuss arguments that might be posed against the idea suggested above and answer them. Obviously, the above proposal is significant. In an email conversation with an employee at OneLicense.net, his response was, “What you’re looking at is ambitious, to say *the least*.” As these ideas digest, there are certainly a number of pros and cons that come to mind.

One issue that must be dealt with is the fact that with a huge database, users might fall into the attitude of compromise (though this exists already.) For example, overwhelmed with the prospect of 349 settings of Psalm 4, the worship coordinator will simply find one “that will do” and plug it in, in effect hindering artistic expression in the church instead of helping it grow. This problem can, thankfully, be overcome with relative ease thanks to the powerful search processes made possible on digital databases. Typing Psalm 4 is a little on the broad side; try typing Psalm 4 and filtering by “piano” “guitar” “trending” “SATB” and “under 5 minutes.” Now the list is manageable; now the list is ideal.

There may be concerns about general execution of the project, particularly with the complications that working within copyright laws can bring. However, Appendix B is designated to describing how a company such as OneLicense.net works within copyright law. The key point is that copyright laws exist not to stop works from being used, but to keep consumers and publishers from taking advantage of creators. This project would have to be designed to align with this ideal.

Some may be apprehensive about offering multiple print editions, since unity is one of the most appreciated qualities of WELS churches. It is not uncommon to hear people say that they like “knowing what I’m going to get” when they go to a WELS church far from home. The world is a big place, though, and people’s tastes in art and music are too broad for a one-size-fits-all approach to worship, especially in a culture as individualized as American culture is today. If the argument is going to be made that well-done worship is a major part of outreach, then confessional resources have to be developed for people of every tribe, race, language, and artistic preference.

Another reason to be apprehensive about offering multiple print editions, and the digital editions factor into this as well, is organization. For many years, the chief method of organizing a codex hymnal,

especially pertaining to the hymns and songs, has been a number system. This customizable codex model would not be able to rely on standard hymn numbers. It would not be orderly to have multiple editions with multiple numbering systems. There are considerable ramifications to this. Hymn boards would have to be used differently. In a congregation that continues to use a printed edition, the hymn board would need to display *page* numbers instead of hymn numbers. The hymns themselves would be best organized alphabetically by title (first line when the title and the first line are the same), because all other indexes would be easy to create using the book creating app engine. The single greatest benefit of this is categorization. Hymns could be in more than one topical section. Another important result of this system would be memory. Congregation members would remember hymns by their titles instead of their numbers. This serves the work of the hymn writer better and would help people learn the concept or theme of hymns first and foremost.

To the concern that having an app that can play the hymns would discourage musicianship, there is some truth to this. However, it would also expose more families to singing in the home and give them the opportunity to get used to seeing how the music on a staff translates into sound. The app could be particularly useful for instrument instruction as well, with easy printing. In fact, the development committee might eventually choose to develop educational apps that include simplified versions of worship songs for students, exposing them to the melodies of the church while helping them increase their skill.

On the other side of the spectrum, some may shy away from offering *digital* applications for fear that the long standing tradition of codex hymnals might be destroyed. In his introduction to the collection of essays called *The Future of the Book*, Geoffrey Nunberg offers this wisdom to those who would suggest that bibliophiles and technophiles cannot live in the same world, “They assume not just that the future of discourse hinges entirely on the artifacts that mediate it, but that artifacts and hence cultural epochs can only supersede one another...In the story the visionaries tell, that is, the computer has to kill the book, rather than merely maim it or nudge it aside a bit. And because the partisans of the old order implicitly accept this point, they feel obliged not just to defend the book, but also to disparage the technology that is supposed to replace it.”<sup>76</sup> Codex style books and electronic media are not adversaries; rather, they are blessings from God by which he has given his Church even more means to proclaim good news to all the earth.

If a compendium like this were to continually grow, it could easily feature tens of thousands of resources. When the pile gets that large, there is a risk that some of the gems might be buried at the

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<sup>76</sup> Nunberg, Geoffrey. *The Future of the Book*. (Los Angeles: University of California Press, 1996), 9.

bottom of the pile and fall from use. There are ways that an app-based accessibility system would be able to fight that tendency. A digital app also allows easy communication of the rationale for including a hymn. It also allows the proprietors of the app to feature and encourage particular resources which are being underused.

While on the topic of continual growth, where does this end? This instantly updatable design could open up an overwhelming and frankly unwise tidal wave of new resources to congregations and leave their worship scattered and unorganized as they try to keep up with new materials. Certainly, wisdom would be necessary here. Whoever is charged with overseeing and maintaining this worship compendium would need to plan and advertise the new features intelligently. This problem does not need to be an issue.

This is a new concept, and it is put forth in this paper so it can be discussed and, perhaps, implemented. If this plan is adopted, there are certainly going to be changes and adjustments. People much wiser and more experienced than this essayist will offer invaluable input and do the hard work involved with making this product a reality.

### **Conclusion**

What has been will be again, what has been done will be done again;  
there is nothing new under the sun.  
Ecclesiastes 1:9

There is a quote that reads, “We shape our tools and thereafter our tools shape us.”<sup>77</sup> The worship compendium conceptualized above is a fulfillment of this from both sides. Culture has shaped media which are pushing contemporary culture into reliance on screen based literature and digitally based data storage. Media is shaping us. As a result, the opportunity has arisen for worship leaders to create a new worship compendium that can work in ways previous projects could not, and in doing so a new media, a new hymnal, and a new way to put worship into the lives of worshipers will be developed.

Until this point, that which is perhaps the single most significant feature of adopting an online databased worship compendium has not been directly mentioned. As this thesis is being written, WELS has begun the process of developing a new hymnal, slotted for release in 2024. 2024 is 31 years after

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<sup>77</sup> John Culkin actually originated this quote in a 1967 article called “McCluhan: Hot and Cold.” It perfectly sums up McLuhans thoughts in chapter four of *Understanding Media*. Others have said similar things. Henry David Thoreau’s *Walden* contains the line “But lo! Men have become the tools of their tools.” Winston Churchill, when speaking in 1943 on the need to rebuild the parliament building, said, “We shape our buildings and then our buildings shape us.”

*Christian Worship* was released, and *Christian Worship* was released 52 years after its predecessor. It is time for that pattern to end. While some congregations have active worship coordinators and are less surprised by these new books, the church body has not been so fortunate. But church bodies do not need to be jerked into the future every 30-50 years, dealing with the complaints about how the old was better or the new is needed. The world is more connected than it has ever been. Information is more fluid than it has ever been. It is easier to distribute and consume information for the benefit of all parties involved than it has ever been.

For this reason, pursuing digital media is necessary. To use the word necessary in the title of this thesis is to be strongly worded. But digital means are necessary for a 21<sup>st</sup> century worship compendium. While the typical worshiper may not need to interact with worship resources digitally, those who wish to develop and disseminate worship resources cannot afford to dismiss or avoid digital venues. The church has indeed been wise to heed the words of poet Sara Groves, trying not to “set machines in motion just to set machines in motion; just to watch them roll.”<sup>78</sup> But the potential uses of digital technology in the realm of the worship compendium are not mysterious. Pursuing the creation of a digital database of worship material is not a shot in the dark. In the modern paradigm, the codex hymnal is not good enough anymore. A high standard for worship and a deep desire to serve should motivate us to develop an exceptional product and, therein, to deliver the gospel in the most accessible means possible.

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<sup>78</sup> Sara Groves, *Invisible Empires*, ©2011 by Fair Trade Services, compact disc.

## Appendix A

### *Display Technology*

This appendix is designed to offer a brief overview of display technologies and the worship compendium related opportunities each display technology might offer. There are certainly more complete descriptions of each available in other places;<sup>79</sup> this is meant only to offer those who are skeptical of “what’s really out there” the chance to see.

Display technology research is a large and rapidly expanding field. There are certainly major players in the game, but it is a volatile enough market that startups with good ideas and thorough research can become influential very quickly. The field is also such that it is difficult to predict exactly what the information display world will look like even 18 months from now because of rapid progress and experimentation.

In 2013, the reigning information display technologies are liquid crystal displays (LCD) and electrophoretic ink displays (EPD). An iPad or a laptop typically has an LCD. EPD is more common in e-readers such as the Amazon Kindle. There are a few other products which are becoming more and more common as they are integrated into consumer devices such Qualcomm, Inc.’s mirasol.

Display technology is important to the worship event for obvious reasons. Showing information is a large part of what happens at worship. Communication is the chief priority of worship. Intelligible communication is what the preacher, the choir, and the architect strive for as they perform the ministerial function of Gospel proclamation. The Word certainly does not need a clearer screen or louder voice to work miracles on its audience. The audience, however, is well served by a clearer, more intelligible setting for the message. Therefore, as more electronic display options become available and easily accessible, the church must consider their use.

### **LCD**

LCD is the most common display technology and has existed for 33 years.<sup>80</sup> Televisions, computers, smartphones, and tablets frequently make use of LCD technology. It is able to provide vibrant colors and smooth movement in video or kinetic typography. LCD displays do not emit their own light. This means that LCD requires an outside source of light. It is becoming somewhat common and has

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<sup>79</sup> Particularly through the Society for Information Display. [www.sid.org](http://www.sid.org)

<sup>80</sup> Gregory P. Crawford, “Flexible Flat Panel Display Technology,” John Wiley & Sons, Ltd, 2005.

proven beneficial to use light emitting diodes (LEDs) in conjunction with LCD as the source of backlighting. Some LCD displays rely on reflective light, but most are backlit.

LCD's age does not necessarily mean it is on the way out. Researchers are showing promising progress at making the screens larger, clearer, and lighter. The rising popularity of 3D in the film industry is pushing television producers to find new ways to bring 3D into the home. It does not seem likely that 3D technology will have a place in worship event any time soon, but more surprising things have happened. In addition, the research that is done in an effort to harness 3D technology could very well lead to other beneficial breakthroughs in LCD display.

LCD does have certain faults. As was mentioned above, LCD requires outside lighting. Because of the lighting factor and the constant refreshing needed when displaying any moving picture, LCD is not energy efficient. In fact, the use of high-consumption LCD devices actually negates the common claim that going digital, or "paperless," is going "green." "The growing energy demands of consumer electronic devices, desktop computers, cellular networks, Internet servers and data centers are contributed to the destruction of more than 500 mountains and over 600 square miles of forest. The Southern Appalachian forest region of the U.S. is responsible for 23% of all coal production in the United States and 57% of the electricity generated in the U.S. comes from coal..."<sup>81</sup> This is a significant fact and will have to be considered as decisions are made regarding the selection of display technologies. LCD is a good product, but there may be others that are developed in the near future that do all LCD can do while also being considerably more energy efficient.

As far as uses of LCD that would be part of the worship compendium, there are several. LCD computer monitors will obviously continue to be around for some time. Some churches use LCD screens to display song lyrics and other service notes. Since LCD technology has yielded screens as large as 70 inches and it is possible to combine screens and essentially double the display size, it is not unrealistic to use these screens in worship. The most popular tablet computers currently use LCD screens and therefore many of the apps that would access the database would be likely be viewed on LCD screens.

### **EPD and E-paper**

E-paper is not a specific product, technically. The term refers to any of a myriad of products that use electronic display methods to create an experience very similar to that of using regular printed paper. The field of e-paper products is rapidly changing and expanding; each year offers new commercialized products and new players entering the game. At this point, the most common form of e-paper is found in

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<sup>81</sup> Don Carli, "Print vs. Digital Media: False Dilemmas and Forced Choices," *Sustainable Communication* (2010).

Amazon's Kindle line. The Kindle uses electrophoretic display technology developed by the E Ink Corporation. In the current market, many digital reading devices use technology developed by the E Ink Corporation, largely because E Ink holds a veritable monopoly on the technology and will continue to hold the market for the time being.

E-paper has certain advantages over an LCD/LED display. It uses considerably less power to operate. It is easier on the eyes over a long period of reading. It has potential to be physically flexible. It would take considerable technological progress, but it is not impossible to imagine an e-paper screen that could be stored rolled up like a projector screen today. E-paper is also capable, like an LED or LCD display, of very high pixel ratings, allowing for smooth images.

As for its disadvantages, e-paper is not independently luminous. All e-paper screens require some outside form of lighting. Some small, handheld e-paper readers have integrated lights. E-paper also is not currently capable of vibrant color or of video. The rates of screen refreshing are still too slow to allow for smooth video, though this technology is coming.

Although e-paper is still infantile in development, the potential impact of e-paper on worship events is considerable. E-paper products are being developed in small and large formats - from watch faces to posters. There have been many flexible e-paper models developed (though not yet made available for commercial use) which have a similar look and feel as paper but are a refreshable screen capable of displaying an entire newspaper or book. As this technology becomes commercialized and easier to produce, and as competitors vie for market share, it is possible that e-paper could become a relatively cheap product which a congregation might be able to purchase in bulk and hand out at a worship event. It is also a product that many households might come to own and could bring with them provided they were provided with the service material.

In large formats, e-paper offers advantages over LCD. While neither technology is independently lit, e-paper responds more pleasantly when reflecting light. LCD becomes dim, e-paper shows brightly. This is why many prefer the Amazon Kindle's electrophoretic ink display still - they can see it better in sunlight.

For e-paper, size, clarity, color, and refresh rates are the issues research and development departments are working on. E-paper offers the possibility of products that display video clearly and beautifully and remain energy efficient. The size of e-paper displays is also variable in ways that LCD cannot, at this point in history, duplicate.

All things considered, there are many exciting facets to display technology. At the writing of this paper, Google has begun shipping “Google Glasses,” a wearable product that displays information on the glass in front of the eye. There is also research that would lead to the use of lasers and light projected directly onto the retina, eliminating screens altogether.<sup>82</sup> It will be fascinating to see the progress in all of these display technologies as time goes by. Thankfully, no matter which way technology progresses, God will make sure the Church has all that is needed for communicating his truth to all people.

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<sup>82</sup> Nicholas L. Silverman, “Engineering a Retinal Scanning Laser Display with Integrated Accommodative Depth Cues,” *Society for Information Display Digest*, (2003).

## Appendix B

### *Copyright Law*

The history of copyright has been covered by numerous authors. While it is somewhat important to understand, it will be treated exceedingly briefly in this appendix and resources by which one might continue to understand this history will be provided. The following history will also be taken in reverse chronological order, because it simply does not make sense to spend a lot of time on the earlier laws when the most modern laws are the ones that affect this paper.

The most recent, large-scale, significant legislation in the United States in the realm of copyright law was the Digital Millennium Copyright Act (DMCA). This legislation was passed in response to and cooperation with the World Intellectual Property Organization's (WIPO) treaty regarding copyright which had been passed in 1996. The DMCA was the result of copyright wars incited over the use of technology to reproduce and distribute material. Websites, perhaps most infamously Napster.com, had become incredibly popular means for any user to download files, typically music files, essentially for free. These sites were able to be supported by investors and advertisements on the site, and the sites were lucrative because of their tremendous popularity. With the DMCA, publishers "sought to prevent individual infringement by securing a tough anticircumvention law."<sup>83</sup> Unfortunately, the DMCA has turned out to be short-sighted. The publishers who went after these sites failed to respond to the enactment of the DMCA with a suitable replacement product, and since 1998 the digital world has changed completely several times over. What is more, the DMCA was not a total overhaul in copyright law. It was simply an addition to the 1976 revision of the US Copyright Act.

The 1976 revision of the US Copyright Act was a substantial restructuring and retooling of copyright law that brought the United States up to speed with international laws and with technological advancements at the time. Among the changes, the 1976 revision adjusted the temporal terms of copyright. The basic results were as follows.

- Works published between 1923 and 1963 could have at least 28 and at most 95 years of copyright assuming they get renewed.
- Works published between 1964 and 1977 have a guaranteed 95 years of copyright.
- Works published after 1977 are under copyright for the life of the author plus 70 years.

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<sup>83</sup> Litman, Jessica. *Digital Copyright*. (Amherst: Prometheus Books, 2001), 167.

- Works published before 1923 are in the Public Domain.

The 1976 revision and the DMCA are the two essentially standing copyright standards in the United States today. They replaced the major revision of 1909, which had been the final expansion and revision of the US Copyright Act of 1790. With the exception of 1790, the US has generally remained a few years behind the international standards.<sup>84</sup>

To some extent, the ideas proposed in the thesis above rely on a few assumptions about the way that copyright law has been interpreted, adjusted, and applied to new technology in the past. Foundationally, copyright exists not to limit the use of creative works, but to promote their use and their distribution. It is assumed that those who create do so with the hope that others will use their product. They create in order that their creation will prove useful, valuable, and necessary to the user. In order to give the creator the credit they are due for their creative work and thereby encourage them to create more, copyright law secures for the creator the ability to make copies of and use their original product. “In one of his reports to Congress, the Register of Copyrights wrote that ‘the basic legislative problem is to insure that the copyright law provides the necessary monetary incentive to write, produce, publish and disseminate creative works, while at the same time guarding against the danger that these works will not be disseminated and used as fully as they should because of copyright restrictions.’”<sup>85</sup>

For numerous reasons, the laws enacted to protect creators and promote usage of their product have not been able to remain simple and clear or to be applicable to every situation, and the single most significant complicator of copyright is technological advancement. Technological advancement complicates copyright mostly because it changes the interpretation of copyright law. There is language typically used in Title 17 of the United States Code that is designed to deal with technological advancements. It normally reads something like “any tangible means of expression, *now known or later developed*.”<sup>86</sup> In spite of this language, there are still complications from a practical standpoint. For instance, the existence of a newsstand for disseminating magazines and newspapers has been found to be within copyright restrictions on the grounds that it is not practically feasible to reproduce and sell whole newspapers or magazines. *Internet* newsstands, on the other hand, make it incredibly simple to reproduce copyrighted material and distribute it, changing the practicality of the interpreted law while leaving the majority of the terms and even the actions involved the same.

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<sup>84</sup> <http://www.arl.org/pp/ppcopyright/copyresources/copytimeline.shtml> The Association of Research Libraries offers a brief but complete overview of copyright history at this website.

<sup>85</sup> Althouse, Jay. *Copyright: The Complete Guide for Music Educators*. (Van Nuys: Alfred Publishing Co., 1997), 27.

<sup>86</sup> 17 U. S. C. 102. (Title 17 of the United States Code, paragraph 102)

Essentially, there is a new paradigm in which copyright must function. In the old system, reproduction was mostly a business venture. It was unrealistic and unwieldy for individuals to make copies regardless of those copies being authorized or illegal. The printing press was expensive and the copier was a nonexistent until the baby boom. In a digital age, however, anyone and everyone can make copies without lifting a piece of paper, and the quality of the copy, be it an image or an audio file, can be equal to the original. Author Jessica Litman describes the issue of copying in another light.

“The right to make copies, though, is not fundamental to copyright in any sense other than the historical one. When the old copyright laws fixed on reproduction as the compensable (or actionable) unit, it was not because there is something fundamentally invasive of an author’s rights about making a copy of something. Rather, it was because, at the time, copies were easy to find and easy to count, so they were a useful benchmark for deciding when a copyright owner’s rights had been unlawfully invaded. Unauthorized reproductions could be prohibited without curtailing the public’s opportunities to purchase, read, view, hear, or use copyrighted works. They are less useful measures today. Unauthorized copies have become difficult to find and difficult to count. In addition, now that copyright owners’ opportunities to exploit their works are as often as not unconnected with the number of reproductions, finding and counting illicit copies is a poor approximation of the copyright owners’ injury.”<sup>87</sup>

In many ways, the digital paradigm has shifted the ways in which copyright ought to be dealt, and according to the quote above, the trademark act of copyright infringement, that of making copies of a protected work, does not necessarily technically violate the essence of copyright. Of course, making 1,000 copies of someone’s work and selling or distributing or using those copies without gaining proper permission is still infringement of copyright, but it is not wrong *just because the copies were made*. The use and even, arguably, the intent of the use of the copy is the key.

These thoughts impact the worship compendium ideas above in a few ways. It is possible for a digital database, in which copyrighted works reside, to be abused. It is possible for ethically dubious workarounds and hacks to be applied to that database in such a way that the hacker would unlawfully gain access to copies of the material in the database. However, assuming that proper precautions for security had been taken, the simple fact that that copy existed for someone to steal is not an infringement of copyright. Naturally, if the creators of the database sold or distributed copies of a copyrighted work stored in the database which they had not secured permission to distribute, they would be guilty of copyright infringement. But if they did not distribute it or use it, rather they stored it for potential use once permission from the copyright holder had been gained; they would not be guilty of infringement.

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<sup>87</sup> Litman, 177.

Similarly, if the work was stolen by a hacker of some kind, the party controlling and operating the database would not be at fault assuming proper precautions for security had been taken.

When churches seek to find and use material in their services, the current paradigm involves several parties and looks something like this: First, the artist creates the work. The work is protected under copyright either by the artist or the artist's commissioner/employer. (Even in cases where the artist chooses to make the work available free of charge, they technically own the copyright.) The copyright owner then typically works with a publisher as well as what Title 17 calls a "performing rights society," also known as a "performing rights organization." The three major performing rights organizations in North America are Broadcast Music, Inc. (BMI), the American Society of Composers, Authors and Publishers (ASCAP), and the Society of European Stage Authors and Composers (SESAC). A copyright holder contracts with a performing rights organization so that the performing rights organization will assist the copyright holder in collecting royalties and finding opportunities to showcase the product to which he or she has exclusive rights. A copyright holder contracts with a publisher so that the publisher will help with distributing copies of the work. As part of their effort to promote their contracted artists, the performing rights organizations and publishers work with CCLI (or OneLicense or LiSing), allowing CCLI considerable power as the easiest and most logical distributor of the license to use their copyrighted works. CCLI's power enables it to give a considerably better price to churches for access to these works. That is the current system. It functions very much within the parameters of copyright law.

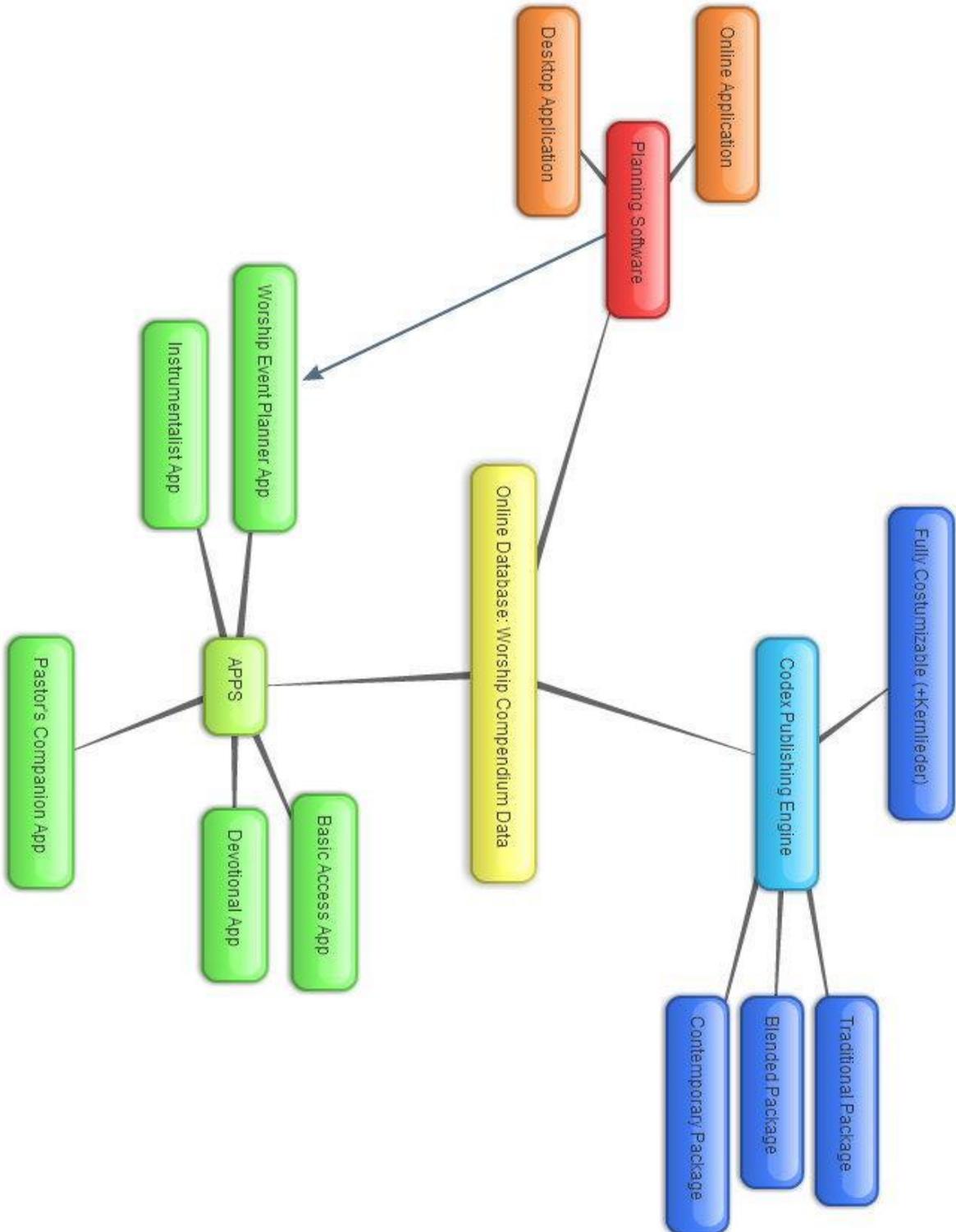
Employing the system suggested in the thesis would, ideally, require some changes to this paradigm. The database in many ways attempts to replace the licensing agency, such as CCLI. It also attempts to exceed the services of the licensing agency in that it would provide not only the permission to use the songs but also, in many cases, the material that would be copied by the contracting congregation. This would mean that a development committee or their controlling body would need to work with publishers and performing rights organizations, creating a contract with those organizations that would allow them to distribute the works those organizations represent. This is daunting and sounds costly.

It is important to note, however, that replacing the licensing agencies is an ideal. The potential success of this database system does not actually depend on securing contracts with the copyright holders. The database would provide somewhat different information if these contracts could not be obtained, but it would still be one of a kind in usability and broad-spectrum unity. It may also be possible for the development committee to get special permission to develop and distribute derivative works so that a certain standardized type of arrangement could be provided through the database, and any other variation or arrangement would need to be purchased through a third party.

The primary point to remember is that any development committee who seeks to create a database has the same essential goal as the artist who holds the copyright – that Christ is preached. Second to that point is the fundamental purpose of copyright law – to promote creativity without limiting the distribution and use of the creation through copyright limitations. Certainly, copyright issues are not small, but the compendium proposed above is not small, either. A well run and well received subscription based service can have the kind of buying power necessary to make this proposal, or something similar, possible.

## Appendix C

### *A Visual Model of the Proposed Compendium*



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