The invention of Psalmodikon, and its role in Scandinavian folk and church music traditions.

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Scandinavian history is rich with folk music tradition. The traditional folk instruments of the Viking age are experiencing major revival, and nowadays are often used by modern Neo-folk musicians. The instrument that became an inspiration for this research does not exclusively belong in the category of folk instruments, nor it is old, despite its ancient roots. It is called a psalmodikon, and it takes its beginnings at the onset of the nineteenth century. Three Nordic countries share the origins of this instrument, with three great educators of the time standing behind its development: Jens Bruun in Denmark, Johannes Dillner in Sweden, and Lars Roverud in Norway.

The history of the development of psalmodikon took quite a few detours, creating many myths, and leaving many mysteries to solve for future generations of folk music enthusiasts. It enjoyed over 40 years of wild popularity in Sweden and Norway in 1800s, while leading a short and barely noticeable existence in its country of origin, Denmark. Although reproached by many for its “dullness” and limitations psalmodikon nonetheless became one of the best tools to teach and accompany singing at schools, churches, and homes of Norway and Sweden during the religious revival movement of 1800s. This paper will trace the somewhat complex journey of this instrument’s development and use, and its role in the history of Scandinavian music.

Psalmodikon, in its design, belongs to the family of monochord instruments that originated in antiquity. One of the first written mentions of the monochordium - a one-stringed instrument - was found in the book of the Danish scholar and priest Johannes Michaelis Corvinus called *Heptachordum Danikum* written in 1646. Another mention came from a scholar from Sweden, G. Stiernhielm, who wrote that even in the poorest households one could find some sort of a musical instrument, be it a monochord, a lute, or a lyre.[1]

By the time psalmodikon emerged in Denmark, various monochord instruments were already in use in other European countries. There was *langeleik* in Norway, *scheitholt* in Germany, *hummel* in Sweden, *mollpill* in Estonia, and *epinettes des vosges* in France. All these instruments share the design with psalmodikon in one way or another, though the psalmodikon seems like the most simplified version of them all. Just like the others, it is classified a zither, or a box zither. It presents a simple long hollow box of spruce or fir with a single gut string stretched across its length[2]. The instrument is supposed to be placed horizontally on a table or on a musician's lap, in order to be played with a bow or simply by plucking the string.

[1] Georg, Stiernhielm, *De hyperboreis dissertatio brevis.* (Holmiæ, sumptibus & typis H. Keysers, 1685). Cited in John Horton, *Scandinavian Music: A Short History.* London: Faber and Faber, 24 Russell Square, 1963, 95.

[2] There are some minor differences in materials psalmodikons are made with today and the ones made earlier. Traditionally the string used on a psalmodikon was a gut string, which produces warmer and richer sound. Modern versions often use steel or nylon strings.

Below are the examples of various monochord instruments that show distinct similarities with a psalmodikon.

Figure 1.1: Scheitholt made in Germany ca. 1900. Stamped on the back F. Oberthier.[3]

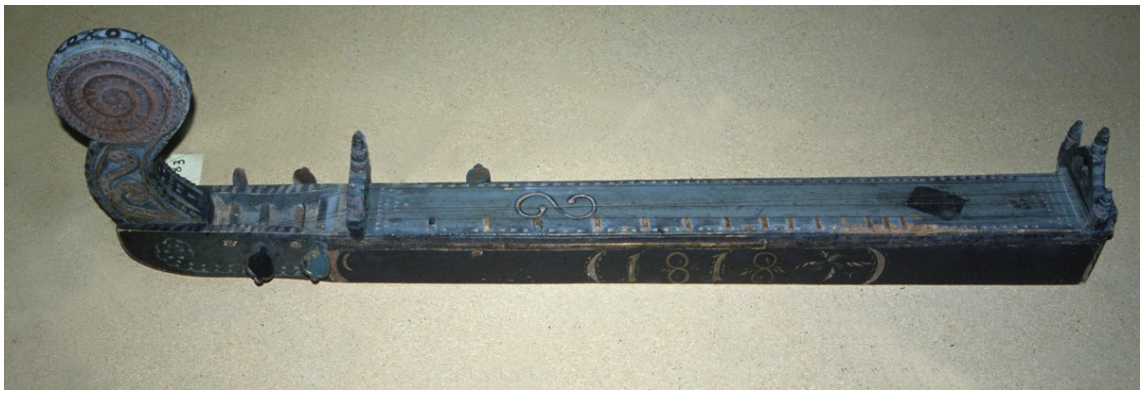

Figure 1.2: Langeleik from Heddal, Telemark County, Norway. 1818[4]

[3] F. Oberthier, "Zither (Scheitholt)". Museum of Fine Arts, Boston. William Lindsey Fund. https://www.mfa.org/collections/object/zither-scheitholt-50855

[4] Kjell Bitustøyl, *Langeleik,* Heddal, Norway, 1818, https://snl.no/langeleik

Figure 1.3: L'epinette des Vosges[5]

Figure 1.4: Psalmodikon[6]

[5] Philippe Poix, *Epinette des Vosges built by Christophe Toussaint in 1989*, France, 2007. http://www.bruyeres-vosges.fr/article-6080967.html

[6] Knut Brukar. *Psalmodikon from the farm on the island Skorpa in Helgeland,* Norway, 2002, https://en.wikipedia.org/wiki/File:Salmodikon_og_boge.JPG

The psalmodikon in Denmark

The alleged "invention" of a psalmodikon and its ultimate application coincides with two interesting and important periods in Scandinavian history: education reforms and Christian religious revival. Particularly in Denmark, where the psalmodikon originated, the School Law of 1814 - a series of educational reforms and introduction of educational requirements (curriculum) - led to the establishment of the Educational Society. It took some years before any noticeable effects were seen: by 1820 the schools were still in deplorable condition, with lack of good teachers and good materials, serious lack of space, and many children still out of school.

The Educational Society saw its ultimate goal to improve school conditions and teacher training, and to eventually standardize educational practice. In order to do that, they put much effort into creating a monthly print edition that could be distributed country-wide. Another step toward the standardization of the school curriculum was the idea to create committees of teachers responsible for different school disciplines. At the beginning only four committees were established: an Arithmetic, a Writing, a Geography, and a Singing Committee, the latter of which was the last out of the four to be founded in 1822. At first the establishment of the Singing Committee was seen as something odd; with generally lousy condition of education in the country and the lack of teachers for main disciplines, why would singing be set as an isolated subject? The short answer to this question would be that the Educational Society believed that singing was a way to achieve an important social goal - a good society.[7]

[7] Kirsten Ostenfeld, "Psalmodikon - et dans musicpædagogisk eksperiment," *Særtryk af Musik og Forskning* 4 (1978): 133.

Similar problems were seen in Denmark's neighboring countries: in Sweden and Norway school singing was not looked at seriously, and to correct this, compulsory singing classes were introduced.

Back in Denmark very active efforts to promote singing at schools were being made by one of the organizers of the Educational Society's Song Committee, a school teacher Jens W. Bruun. Along with another teacher he proposed to use cypher notation system (also knows as Siffernotskrift, Sifferskrift or Ziffersystem), as a better tool for both teachers and students to learn the tunes. It was based on a numeric notation system developed by a French philosopher and an accomplished musician Jean-Jacques Rousseau, which he described in his work *Dissertation sur la Musique Moderne*, published in Paris in 1743. At the time Rousseau presented his work to the French Royal Academy, it was not received with much enthusiasm, and it was never spread in Europe.[8]

J.W. Bruun saw the numeric notation as an opportunity to improve the singing education at schools. And for him, the psalmodikon was the perfect instrument to aid in singing and learning of the numeric notation, based on the instrument's simple structure, its general availability, and affordability. In the Educational Society's monthly periodical that he edited, he wrote "It's so simple, that any carpenter could make it, and the price could go below one rigsdaler."[9] He also points out that it's extremely easy to pick up and start playing right away, and "even the teacher who has no voice and a bad ear can teach those with better musical

[8] Norman Schmidt, "Rousseau Melody Notation." 2011-2014, http://normanschmidt.net/rousseaumusicpad/ (Accessed February 20, 2018)

[9] Rigsdaler was the currency used in Denmark before 1875.

capabilities."[10] J.W. Bruun himself had no musical background, but was described by others as very curious, skilled, and technically inclined, and would often come up with inventions.

J.W. Bruun mentioned psalmodikon for the first time in 1823 in the above mentioned monthly periodical that he was editing. There he also writes about a similar instrument used in Germany by a school teacher at about the same time (in 1822). It is not certain whether the instrument was newly invented or had been in use for some time.

This leads to another theory originally proposed by Gunnar Fredelius, a multi-instrumentalist from Sweden who plays a variety of Nordic folk instruments, and has dedicated a lot of time researching the history of these instruments. As cited in Peter Ellertsen's blogpost, G. Fredelius suggests that it's possible that J.W. Bruun modeled his psalmodikon after the German scheitholt that has been around since at least sixteenth century.[11] It is unknown whether the German instrument Bruun mentioned in his article was indeed a scheitholt, or its newly developed modification, and neither it is evident that Bruun has gotten his idea of creating the psalmodikon after learning about the German teacher's monochord.

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[10] Kirsten Ostenfeld, "Psalmodikon - et dans musicpædagogisk eksperiment," *Særtryk af Musik og Forskning* 4 (1978): 135.

[11] Peter Ellertsen. "Gunnar Fredelius - notes on psalmodikon history". Hogfiddle, https://hogfiddle.wordpress.com/2016/12/04/gunnar-fredelius-notes-on-psalmodikon-history/ (accessed March 4, 2018).

Figure 2: One of the very first artistic representations of a scheitholt on the church ceiling in Rynkeby, Denmark, that dates from 1560. [12]

J.W. Bruun was very committed to establishing proper singing education at schools, and made every effort to promote the use of psalmodikon for that exact purpose. In the years following his presentation of the psalmodikon for the judgement of the educational authorities, he worked as a teacher in a boys orphanage, where he didn't only teach singing, but also encouraged the boys to build their own psalmodikons. He published multiple books of psalm tunes notated in Sifferskrift for use at schools, as well as a detailed methodical plan of teaching the singing with the use of a psalmodikon. He also wrote instructions on how to build and tune a psalmodikon.

[12] Wilfried Ulrich, "Erste bildhafte Darstellung eines "Scheitholtes" in der Kirche von Rynkeby auf Fünen in Dänemark 1560," Die Hummel - ein Volks-Musikinstrument. http://s642275850.website-start.de/die-hummel/ (accessed March 4, 2018)

The technical details of Bruun's psalmodikon

Bruun's psalmodikon was about the length of a violin bow, three to four inches in width, and about two inches in height. The end peg is used both to tighten the string, and to raise it. The raise of the string did not have to be high, because the "fretboard" is outlined directly onto the instrument's body. The divisions represent a chromatic scale, three octaves in range. The lowest note (open string), G3, is approximately the lowest note children and women can sing. Various transposition sticks were used to indicate the notes within the given key. Thus every key requires a separate transition stick. Numbers are used to indicate the notes of a diatonic scale instead of letters, starting with "1" as a tonic.

Bruun also proposed to install more than one string, and up to four strings on a single instrument, although mentioning that it is not necessary. To accommodate that, bridges of different heights had to be installed.

Despite all his efforts J. W. Bruun never managed to spread the psalmodikon in Denmark, an there was a specific reason for that. His instrument was, in fact, difficult to play, due to the design of its fretboard, or rather the lack of it. In order to get pure sound one had to have a good ear to begin with, and to intonate on the string without the help of frets. But Bruun was insisting on omitting the fretboard, because he saw it as more cost effective. Eventually, he realized that his instrument is not gaining popularity with other educators, and started moving on to other projects. At some point through experimentation he developed what is now called a *tangentpsalmodikon*[13] - a psalmodikon with keys.

[13] *Tangent* is a Swedish word for "key".

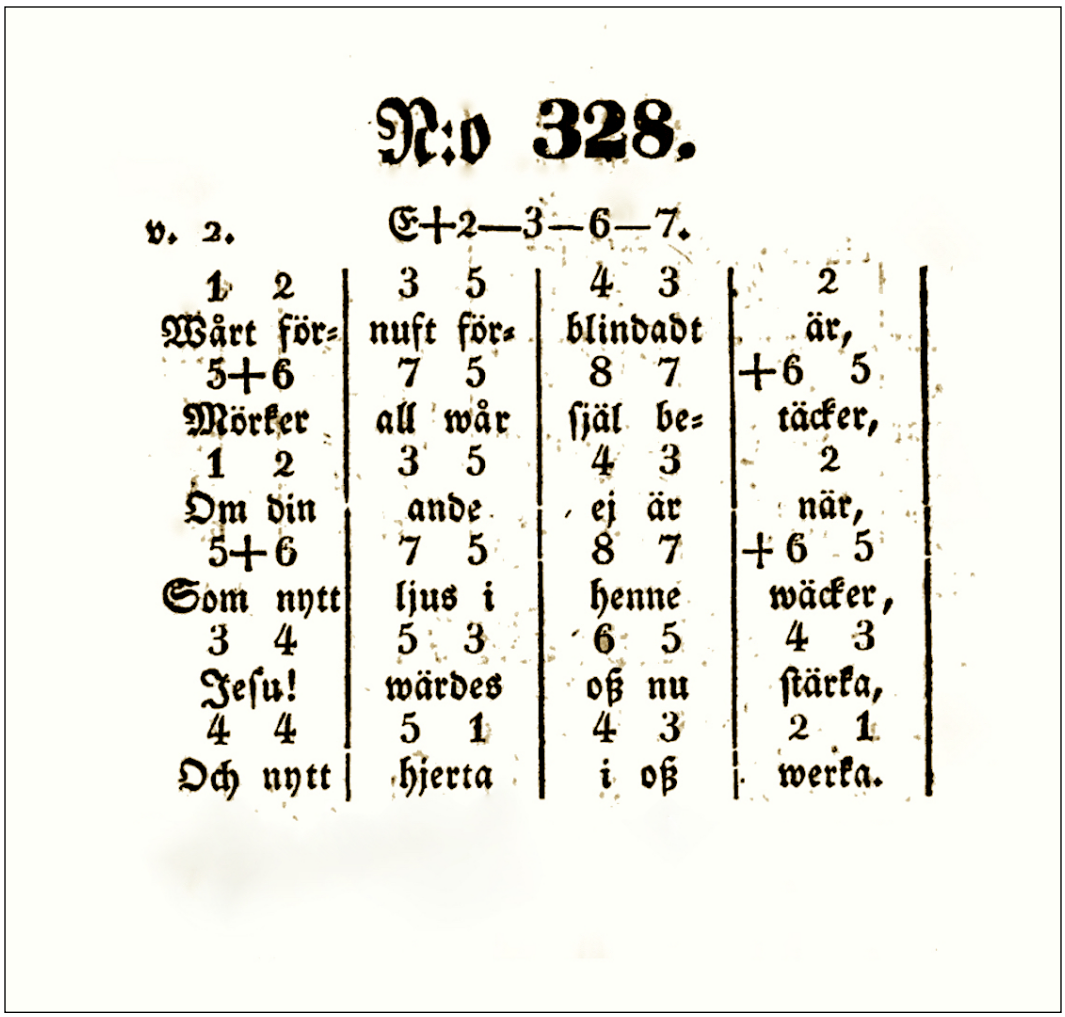
The dissemination of psalmodikon outside Denmark

Both Sweden and Norway were also in the midst of religious revival of the 1800s. Religious educators were constantly looking for ways to promote and improve congregational singing. For instance, Johannes Dillner - a pastor and music educator in Sweden saw it as his life's goal to create better and more uniform psalm singing practice in churches. And he found a psalmodikon ideal to assist in the teaching of choral singing. He is often contributed with the invention of the psalmodikon, and though he did not truly invent it, he realized several changes to Bruun's instrument and notation, that made the instrument more approachable for people with no prior musical background. For example, he introduced a stair-like shaped fretboard, which made it much easier to play accurate tones.

Another improvement that Dillner has introduced was his method of notation and tuning. He proposed to tune the instrument in the key that better accommodated the range of the song, as opposed to adjusting the song with a transposition stick earlier proposed by Bruun. In 1830 he published a book called *Melodierna till Swenska Kyrkans Psalmer: Noterade med Ziffror, för Skolor och Menigheten*[14], that contained extensive instructions on how to build and tune the psalmodikon, interpret the notation, as well as five hundred of psalm songs notated in Sifferskrift.

[14] Johannes W. Dillner, *The Melodies of the Psalms of the Church of Sweden: Notated with Numbers for Schools and the Church.*

This is an example of a psalm song notated in Sifferskrift, printed in the book by J. Dillner mentioned above. This particular hymn was quite popular among Lutheran immigrants in the States, and is occasionally used to this day. [15]



№ 328.

v. 2. E+2—3—6—7.

1 2	3 5	4 3	2
Wårt för-	nuft för-	blindadt	är,
5+6	7 5	8 7	+6 5
Mörker	all wår	ſjäl be-	täcker,
1 2	3 5	4 3	2
Om din	ande	ej är	när,
5+6	7 5	8 7	+6 5
Som nytt	ljus i	henne	wäcker,
3 4	5 3	6 5	4 3
Jeſu!	wärdes	oß nu	ſtärka,
4 4	5 1	4 3	2 1
Och nytt	hjerta	i oß	werka.

Hymn No. 328[16]

[15] Peter Ellertsen. "Pastor Esbjorn's Singing School: Notes for a Workshop on the 155th Anniversary of the Augustana Lutheran Synod." Presentation at Augustana Lutheran Church, Andover, IL, April 25, 2015, 4.

[16] Johannes W. Dillner, *Melodierna till Swenska Kyrkans Psalmer: Noterade med Ziffror, för Skolor och Menigheten* (Stockholm, 1830), 146.

Because Sifferskrift notation does not clearly indicate the key in which the melody it is written, it is more approachable to someone with no musical background. The first thing to look at when reading Dillner's notation would be the top line, where he indicate the note to which the psalmodikon has to be tuned; as well as specific scale degrees to be used. In the example on the previous page, the top line reads "C+2-3-6-7," which indicates that the instrument must be tuned to C4; and the scale degrees to be used are 2nd, lowered 3rd, lowered 6th, and lowered 7th.[17] In conventional music theory this pattern indicates a natural minor. Dillner indicated the 2nd degree as natural (not lowered) because older hymn melodies were based on church modes, where the 2nd scale degree is variable, and is sometimes lowered, such as in Locrian and Phrygian modes.

In this particular score, all of the 6th scale degrees (except for one instance in the fifth line) are reversed to natural, which is notated with the accidental "+" before "6". This can indicate that the melody was composed in Dorian mode, but notated as natural minor. Another evidence that supports this presents itself in the fifth line, where the melodic phrase starts on a lowered 3rd scale degree while the 6th is also lowered, which can be interpreted as a brief modulation from C minor key to its relative major - E-Flat, before going back to C minor in the sixth line.

In some hymns there can also be lines marked above or below the number, which indicates whether the note has to be played below or above the middle C accordingly.

[17] Peter Ellertsen, online conversation, April 25, 2018.

The development of psalmodikon in Norway moved in parallel with its cultivation in Denmark and Sweden. As it was previously mentioned, Norway experienced similar issues with school education. It was Lars Roverud, Norwegian musician and music pedagogue, who took it upon himself to introduce psalmodikon to Norwegian schools. In the article that was published in Oslo in 1815, he writes in frustration that because most churches and schools do not have organs and properly trained music teachers, people have nowhere to learn singing from; they sing out of tune, and the higher and louder one sings, the better.[18]

Roverud discovered psalmodikon around 1825, after making some trips outside of Norway in order to explore teaching models used in surrounding countries. He saw great potential in the original Danish psalmodikon invented by J. W. Bruun that he acquired from a store in 1825[19], and decided to add his own modifications to it. Just like Dillner, he saw the need for a fretboard, which he installed using metal frets. Roverud's psalmodikon was well accepted in Norway, which secured him much needed funding that he used to further spread the psalmodikon in his country. By 1835 Roverud's psalmodikon was mass produced in Norway, and widely used at schools and churches. It was the psalmodikon of Roverud's design that Scandinavian immigrants brought with them to the United States, which to this day remains the standard version used by many psalmodikon enthusiasts in the US.

[18] Göran Carlström, "Lars Roverud," Nordiska Psalmodikonforbundet, http://npsalmodikonforbundet.se/lars%20roverud.html (Accessed April 2, 2018).

[19] Gunnar Fredelius, online conversation, May 6, 2018.

Much of the information presented in this paper was based on Kristen Ostenfeld's monograph called *Psalmodikon - et dansk musicpædagogisk eksperiment,* which translates into English as *Psalmodikon - a Danish music experiment.* In the final paragraph she calls Bruun's instrument a 'failed pedagogical experiment'. And while Bruun's educational ideas did not prove successful in Denmark, his instrument was anything but a failure. It inspired others to continue what he has started, and to improve his psalmodikon, so that it became even more than what Bruun initially had in mind. With the help of other great pedagogues it successfully spread in Scandinavian countries; it became a useful educational tool at schools and churches, as well as a household instrument in many Scandinavian homes. It gave access to music to people without music education, and to those who could not afford more expensive instruments, such as an organ or a fiddle.

Psalmodikon presents an unusual alternative to traditional playing and music notation, awakening the interest of many people in the countries of European continent and North America; and, rightfully, it plays an important role in the folk music revival of today.

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Unknown composer. “Psalmodikon Folklig visa.” Performed by Gunnar Fredelius, 1:47 min., YouTube. https://www.youtube.com/watch?v=xCDngiobbQg (Accessed March 2, 2018)