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Gdańsk carillon tablatures

ABSTRACT: The music collections of Gdańsk State Archive include music written for the automatic carillon of Gdańsk Main Town Hall. These are four tablatures with a unique notation system that appears only in Gdańsk sources. The oldest tablature (consisting of four volumes) was produced in the years 1769–1775; two others (one volume each) were copied in 1775 and 1776; the fourth was compiled in the years 1808–1812. The tablatures contain a total of 653 chorale settings. Their author was Theodor Friedrich Gülich, who programmed the Town Hall carillon from 1764 to 1776.

The Main Town Hall carillon played the chorales every hour. Two different chorales could be programmed on the carillon drum simultaneously. A longer chorale signalled the passing of an even-numbered hour and a shorter chorale an odd-numbered hour. The chorales were changed every Saturday. The four-volume tablature contains chorale settings for the whole year, settings of funeral hymns and instructions for changing the chorales on the carillon drum and programming chorales for special occasions (such as the arrival of the king, the death of a prominent figure, such as the monarch, the mayor, a city councillor or a councillor's wife, and elections to the City Council, as well as the opening and closing of St Dominic's Fair). One of the single-volume tablatures includes Old Lutheran Church songs, another has Reformed Evangelical Church songs, and the fourth tablature contains chorales arranged for successive weeks of the year.

This article presents the Gdańsk carillon tablatures and explains the principles behind their musical notation.

KEYWORDS: carillon, Gdańsk historical carillons, Gdańsk Main Town Hall carillon, musical notation, tablature, Protestant chorale.

Although the history of the carillon in Europe dates back over 500 years, the historical musical repertoire for automatic carillons and concert carillons is not very large. In this respect, the musical repertoire in Gdańsk is quite impressive. Though not the oldest, in terms of the number of compositions, Gdańsk's eighteenth-century musical sources could easily compete with the musical repertoire of the Netherlands.[1] From a period spanning almost a hundred years, from 1769 to 1861, a total of 920 compositions have been preserved in six manuscripts:

– 260 in a manuscript for the carillon at St Catherine's church,[2]

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[1] Frank Deleu, 'Johann Ephraim Eggert: Choral Lieder for the St.-Catharina carillon in Gdansk', in *XV World Carillon Congress Gdańsk 16th-20th July 2006. Carillon – the historical instrument for the future* [Gdańsk, 2007].

[2] Johann Ephraim Eggert, *Choral-Lieder zu dem Glocken-Spiel der Altstädtschen Ober--Pfarr-Kirche zu St. Catharinen ausgesetzt mit Variationes Danzig 1784*, facsimile, ed. Danuta Popinigis and Dariusz Kaczor (Gdańsk, 2006).

– 660 in five manuscripts for the automatic carillon in the Main Town Hall.[3]

Four of the five manuscripts for the Town Hall automatic carillon are tablatures, and these will be discussed here.[4]

Table 1. Gdańsk carillon tablatures

No.	Title	Year*	No. of volumes	Repository and shelf-mark
1	*Auf hohe Verordnung Ihro Magnificens des Hochaedelgebohrn: Vest: u. Gestrengen Herrn Hrn Carl Groddek gegenwaertig Praesidirendem Aeltesten Hrn Bürgermeistern, Protoscholarch u. Administr: des Stübl: Werders. zum Gebrauch des Reschtst: Glokkenspiels ausgefertigte Thurm-Buecher nebst Vermehrung derer Sterbe-Lieder von Theodor Fridr: Gülich. Rath-Uhr Glokstllr. Anno 1769*	1769	4	APG** 300, R/Pp, q 9

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[3] The Gdańsk Main Town Hall carillon was built in 1561. It comprised fourteen bells cast by Johannes Moer in s-Hertogenbosch. As an automatic instrument, it played Protestant chorales every hour. In March 1945, it was destroyed. For more on the Gdańsk Main Town Hall carillon, see Andrzej Januszajtis, 'Muzyka gdańskich dzwonów' [The music of the Gdańsk bells], in Janusz Krassowski (ed.), *Muzyka w Gdańsku wczoraj i dziś I* [Music in Gdańsk past and present, 1] [Kultura muzyczna północnych ziem Polski, 3] (Gdańsk, 1988), 7–24; Januszajtis, 'Beiträge zur Musikgeschichte Danzigs', in Ekkehard Ochs, Nico Schüler and Lutz Winkler (eds.), *Musica Baltica. Interregionale musikkulturelle Beziehungen im Ostseeraum* [Deutsche Musik im Osten, 8] (Sankt Augustin, 1996), 315–319; Januszajtis, 'Gdańskie gry dzwonów – rys historyczny / Bell-playing in Gdańsk – a historical outline', in Joanna Zimińska (ed.), *Gdańskie carillony. Przeszłość i teraźniejszość / The Gdańsk Carillons. Past and Present* (Gdańsk, 2003), 41–53; Monika Kaźmierczak, 'Co grały i grają gdańskie carillony / What the Gdańsk carillons played and play', in Zimińska (ed.), *Gdańskie carillony*, 71–77; Januszajtis, *Gdańskie zegary, dzwony i karyliony* [Clocks, bells and carillons of Gdańsk] (Pelplin, 2003); Danuta Popinigis, 'W swoim stylu – melodie z wież Ratusza Głównego Miasta i kościoła św. Katarzyny w Gdańsku' [A characteristic style – melodies from the towers of the Main Town Hall and the Church of St Catherine in Gdańsk], *Forum Muzykologiczne* (2005), 122–131; Popinigis, 'Carillons and carillon music in Old Gdansk', in *XV World Carillon Congress*; Popinigis 'Einige terminologische Bemerkungen über das Danziger Singwerk und das Glockenspiel, über die Glockensteller und die Glockenisten', in Jolanta Woźniak (ed.), *Musica Baltica. The Music Culture of Baltic Cities in Modern Times* [Prace specjalne, 80] (Gdańsk, 2010), 281–287; Popinigis, 'Die Danziger Glockenspiele als Komponente der städtischen Musiktradition. Forschungsprobleme und –perspektiven', in Helmut Loos (ed.), *Musik – Stadt. Traditionen und Perspektiven urbaner Musikkulturen. Bd. 1. Traditionen städtischer Musikgeschichte in Mittel – und Osteuropa* (Leipzig, 2011), 110–116.

[4] The fifth manuscript, dated 1861, is not a tablature, but it contains seven chorale settings. The compositions are written in standard, five-line staff notation. The manuscript is currently held at the Polish Academy of Sciences Library in Gdańsk (Polska Akademia Nauk Biblioteka Gdańska, hereafter PAN BG), shelf-mark Ms 1093 IV: *Beschreibung des Glockenspiels auf dem Turme des Rathauses zu Danzig nebst Verzeichnis der Melodien, welches dasselbe spielt. Verfaßt von Carl Anton Kaschlinsky* [...].

No.	Title	Year*	No. of volumes	Repository and shelf-mark
2	*Choral Buch. Nach denen Evangelisch Luther-schen Kirchengesaengen in Dantzig zum Ge-brauch des Rechtst: Glokkenspiels ausgefer-tiget von Theodor Fridr: Gülich E. Hochedl. Hochweis. Raths: Uhr Glokkensteller. 1775*	1775	1	APG 300, R/Pp, q 10
3	*Choral Buch Nach denen Evangelisch Re-formirten Kirchengesaengen in Dantzig zum Gebrauch des Rechtst: Glokkenspiels ausgefertiget von Theodor Fridr: Gülich E. Hochedl. Hochweis. Raths Uhr Glokkenstel-ler. 1775*	1775	1	APG 300, R/Pp, q 10a
4	*Choral-Buch vom rechtstaedschen Glocken-spiel. der Stadt Danzig*	1808–1812	1	APG 300, R/ Uu,q9

* Approximate date. See further comments in the text.

** APG = Archiwum Państwowe w Gdańsku [State Archive in Gdańsk].

Gdańsk Carillon Tablature No. 1

The oldest extant Gdańsk carillon tablature comprises four volumes. The first bears an elaborate title, informing the reader that it was compiled in 1769 at the request of the First Mayor of Gdańsk, Carl Groddeck.[5] Elections to the City Council held on 14 March 1769 saw Carl Groddeck replaced as First Mayor by Heinrich Zerneck, and so we may assume that work on the tablature began prior to the elections. In the last volume, we find several annotations, the last of which is dated 23 January 1775,[6] and so work on the four volumes lasted for six years, from 1769 to 1775.

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[5] In the years 1458–1792, Gdańsk City Council comprised fourteen councillors and four mayors, who took it in turns to hold the post of First Mayor (i.e. most senior). Carl Groddeck (1699–1774) became Fourth Mayor in 1758 and held the post of First Mayor in 1759, 1765, 1768 and 1772. Joachim Zdrenka, *Rats – und Gerichtspatriziat der Rechten Stadt Danzig. Teil II, 1526–1792* [Sonderschriften des Vereins für Familienforschung in Ost – und Westpreußen e.V. Nr. 63] (Hamburg 1989), 126–139, 208–209. For more on Gdańsk City Council, see Joachim Zdrenka, 'Ratusz Głównego Miasta w Gdańsku i jego użytkownicy w okresie od XIV do XIX wieku' [The Main Town Hall in Gdańsk and its users from the fourteenth to the nineteenth century], in Stanisław Latour (ed.), *Ratusz w miastach północnej Europy* [The town hall in cities of Northern Europe] (Gdańsk, 1997), 91–100.

[6] APG 300,R/Pp,q 9, vol. IV, 291.

The four volumes contain a total of 221 chorale settings. Their author, as well as the person who, on account of his knowledge of the musical notation system, probably wrote them down, was Theodor Friedrich Gülich. From 1764 to 1776, he was the Town Hall carillon programmer[7] and held the official title of Town Hall Clock-setter (*Raths-Uhr Glockensteller*).[8]

The contents of these volumes are very diverse. In the first two volumes, Gülich wrote chorales to be set in the successive weeks and holidays of the year.

The order in which the chorales appear is in accordance with the liturgical calendar. We also know that for every week and holiday two different chorales were programmed, a longer one for even-numbered hours and a shorter one for odd-numbered hours. The names of the weeks and holidays were entered by Gülich, but he did not always provide the notation for both chorales. The key for correctly setting the compositions is an annual register found at the end of the second volume. Here Gülich sets out the order of the chorales over subsequent weeks and holidays and states which are to be played on even-numbered hours and which are to be played on odd-numbered hours: 'Register der jaehrl: Lieder: Mit der Cantzeley-Schrift wird die gerade und mit der Lateinischen die Ungerade Stunde angedeutt.'[9]

After having completed the annual register of chorales, Gülich included, as a separate group, four chorales entitled 'Fest-Lieder'.

Table 2. 'Fest-Lieder' chorales

Holiday	Chorale title
Mariae (B.V.) Purificatio (Mariä Reinigung)	*Mit Fried' und Freud'*
Joannis Baptistae	*Christ unser Herr zum Jordan*
Mariae (B.V.) Visitatio (Mariä Heimsuchung)	*Meine Seele erhebet den Herrn*
Michaelis Archangeli	*Wer in dem Schutz des Höchsten ist*

Next, he set down instructions on how to change the chorale melodies on the carillon drum: 'Die Veränderung derer Lieder auf der Waltze...'.[10] From these instructions, we know that the carillon was set every Saturday. In the spring-summer season, that is, from Easter to Michaelmas, the carillon started playing at 8 a.m.; from Michaelmas to Easter, it started at 10 a.m. The instructions also cover holidays when the playing began at different times.

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[7] PAN BG Uph. o. 4847, PAN BG Uph. o. 4848: *Das itzt-lebende Danzig*, 1764–1776.

[8] Popinigis 'Einige terminologische Bemerkungen', 281–287.

[9] APG 300,R/Pp,q 9, vol. II, 177–184.

[10] APG 300,R/Pp,q 9, vol. II, 171.

Table 3. Holidays when the carillon started playing at different times

Holiday	Time carillon started playing
Nativitas Domini	8 p.m. on eve of holiday
Pascha	8 p.m. on eve of holiday
Mariae (B.V.) Purificatio (Mariä Reinigung)	10 a.m. on eve of holiday
Michaelis Archangeli	10 a.m. on eve of holiday
Feria 6 in Parasceve (Karfreitag)	7 a.m. on day of holiday
Mariae (B.V.) Visitatio (Mariä Heimsuchung)	7 a.m. on day of holiday
Ascensio Domini (Christi Himmelfahrt)	6 a.m. on day of holiday
Joannis Baptistae	8 a.m. on day of holiday

Gülich ended the second volume with registers of songs: the alphabetically ordered 'Zweytes Register derer jährl: Lieder nach dem Alphabeth'[11], 'Fest-Lieder'[12] for holidays, and the aforementioned register of chorales in the order they were to be played over the year.[13]

In total, Gülich set down 128 chorales in the first two volumes. Many were given two, three or even four times, and the chorale *Wenn wir in höchsten Noten sein* as many as seven times. These are either straight repetitions or marginally differing settings. When writing down two compositions in immediate succession, more often than not Gülich added the term *Alio modo*. In all, excluding the repetitions and variants, the annual register comprised 83 chorales.

In the third tablature volume, entitled 'B. Sterbe-Lieder', Gülich included 75 chorale settings of 55 funeral hymns. Next there are four psalms: *Bewahr mich Herr* (Psalm 16), *Ich war bei mir entschloßen und* (Psalm 39), *Du bist der auf den wir* (Psalm 90) and *Da Zion durch* (Psalm 126). The third volume is supplemented with a list of funeral hymns, 'Register derer Sterbe-Lieder u. Psalm'[14], to which Gülich added instructions on programming the hymns and passing this information on to the funeral home: 'Diese Sterbe Lieder werden Tag um Tag aufgesetzt, einmahl die gerade, das andere mahl die ungerade Stunde, und zwar dasjenige welches von einem Hochedl. Sterbe-Hauß verlangt wird'.[15]

The fourth tablature volume, entitled 'Begraebniß-L: nebst Verordnung', includes 18 compositions:
– 11 settings of seven funeral hymns:
   O Welt ich muß dich lasßen (4 settings),
   Mit Fried' und Freud' (2 settings),

[11] APG 300,R/Pp,q 9, vol. II, 172–174.
[12] APG 300,R/Pp,q 9, vol. II, 176.
[13] See above, n.9.
[14] APG 300,R/Pp,q 9, vol. III, 185–189.
[15] APG 300,R/Pp,q 9, vol. III, 189.

Mitten wir im Leben sind (1 setting),
Gott der Vater wohn' uns bei (1 setting),
Durch Adam Fall ist ganz verderbt (1 setting),
Nun laßt uns den Leib begraben (1 setting),
Hört auf mit Trauern und Klagen (1 setting),
    – two settings of the *Komm heiliger Geist Herre Gott* chorale for the elections to the City Council,
    – four chorales for St Dominic's Fair,
    – a *Te Deum* translation as *Herr Gott dich loben wir*, which was programmed and played on special occasions such as the election of a new king or his arrival in Gdańsk.

Table 4. Chorales programmed to be played on the Main Town Hall carillon during St Dominic's Fair

Title	Purpose	Hours played*
Es woll' uns Gott genädig sein	'Intonatio. Dominic-Ein-laut' – for the commence-ment of the fair	11.00, 11.30 and 12.00
Zwei Ding' o Herr bitt' ich	For the closing of the fair	13.00
Lobet den Herren	'Dominic-Auslaut' – for the ending of the fair	11.00, 11.30 and 12.00
Nun laßt uns Gott den Herrn	For the closing of the fair	13.00

    * Instructions ('Verordnung') concerning the hours the carillon was to play are found in the fourth tablature volume: APG 300,R/Pp,q 9, vol. IV, 287

A large part of the fourth tablature volume is devoted to instructions, 'Verord-nung', specifying the songs which were programmed on the Town Hall carillon for particular occasions (e.g. the arrival of the king, the king's death, elections to the City Council and the opening and closing of St Dominic's Fair).[16] This volume also includes a loose sheet, entitled 'Fortsezzung derer Sterbe Lieder', on which Gülich recorded some titles of funeral hymns and the dates '30 January' and '5 February', but unfortunately without stating the year.

Gdańsk Carillon Tablatures Nos. 2 and 3

Theodor Friedrich Gülich was also the author of chorale settings found in the subsequent two Gdańsk carillon tablatures. Apart from the author's name, the title pages of both state that the tablatures were written in 1775, though not

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[16] APG 300,R/Pp,q9, 277–291.

before 30 July that year. One contains Old Lutheran Church songs,[17] and the other songs of the Reformed Evangelical Church.[18]

Identical in terms of graphic design, the first pages of the two tablatures are framed in plant ornamentations. Drawn in the centre of each branch of these frames are black and white coats of arms: Gdańsk at the bottom, the Conradi family at the top, the Weickhmann family on the left and the Wolff family on the right.[19] These coats of arms belonged to the families of the highest authorities in Gdańsk: Mayor Edward Friedrich Conradi and his deputy mayors Samuel Wolff and Gottlieb Gabriel Weickhmann.[20] This raises the question as to why the coat of arms of the fourth mayor was not included at the bottom of the title page instead of the coat of arms of Gdańsk. Now we know that the fourth mayor, Heinrich Zernecke, died on 30 July 1775, and the post remained vacant until elections in March 1776.[21] The fact that Heinrich Zernecke's coat of arms is missing on the title pages means that work on the two tablatures did not begin until after his death.

Unlike the previous four-volume tablature, the 1775 tablatures were not written in their entirety by Theodor Friedrich Gülich. The tablatures of Old Lutheran chorales and those of the Reformed Evangelical Church were written by two people. Gülich wrote down the actual music and gave the chorales their titles, but someone else compiled the register of chorales, wrote the instructions for programming them on the carillon drum and eleven pages in the Old Lutheran tablature with the names of the Gdańsk City councillors, and also wrote out Gülich's letter of dedication. This other person could have been a professional copyist, as the handwriting is exceptionally neat.

The letter of dedication in the Old Lutheran tablature reveals a lot of details concerning Gülich's work. For instance, we learn that he had been in charge of the carillon for twelve years, that the technical state of the chimes left a lot to be desired, that he had supplemented a previously modest repertoire of funeral songs and that he was writing this tablature for practical reasons, namely to provide future carillon programmers with a more extensive repertoire and thus a greater choice of music for particular events. The letter is dated 1 January 1776 and bears Theodor Friedrich Gülich's name.[22]

In accordance with what Theodor Friedrich Gülich wrote in the dedication letter, the Old Lutheran tablature[23] was to be a chorale book for the carillon ('Cho-

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[17] APG 300,R/Pp,q10.

[18] APG 300,R/Pp,q10a.

[19] Mariusz Gizowski, *Herby patrycjatu gdańskiego. Wappenschilder des Danziger Patriziats* (Gdańsk, 1999/2000), 124–133, 656–659, 695.

[20] Zdrenka, *Rats – und Gerichtspatriziat der Rechten Stadt*, 140.

[21] Ibid.

[22] APG 300,R/Pp,q10, 17–21.

[23] APG 300,R/Pp,q10.

ral-Buch für das Glockenspiel')[24] corresponding to the *Danziger Gesangbuch* –
a hymnbook published in Gdańsk in 1764[25]. Gülich was fairly scrupulous in realising
this goal. The order in which the compositions were entered was essentially based
on the 1764 *Danziger Gesangbuch*, which included as many as 1,126 chorale texts
and was the most extensive of all Gdańsk hymnbooks.[26] Naturally, the number
of melodies was much smaller, usually one for several texts.[27] In Gülich's collec-
tion, there are 176. At the end of the tablature, there is a register of all the 1,126
chorale titles, with the number of each composition in the tablature: 'Register der
Lieder auf die Zahl der Nummern gerichtet. Die mit rother Schrifft, sind aus dem
gewoehnl. Jahrgange'.[28]

Five titles are given in the register in red ink:

Ecce Domine
Erstanden ist der heil'ge Christ
Gott hat das Evangelium
Surrexit Christus hodie
Weltlich' Her' und zeitlich' Gut

These songs had belonged to an earlier canon but were no longer present in
the newer *Danziger Gesangbuch*.[29] Regardless of the contemporary version of the
hymnbook, Gülich included these songs in the tablature, because, in accordance
with the register, they were part of the ordinary year ('gewoehnlicher Jahrgang');
that is to say, these chorales had been programmed on the carillon previously, as
is testified in the four-volume 1769 tablature.

In entering the chorales, Gülich made sure that future users would be certain
that the two compositions they selected (one for even hours and one for odd hours)
could be set on the Town Hall carillon; that is, that both of them would fit on the
drum. For this purpose, he added the number '1', '2' or '0' next to each chorale
title, indicating the possibilities for combining two melodies. The meaning of the

[24] APG 300,R/Pp,q10, 18.
[25] *Danziger Gesangbuch, welches auf E. Hochedlen Raths Verordnung zum allgemeinen Ge-
brauch der Kirchen und Haus Andachten von Em. Ehrwuerdigen Ministerio der ungeaenderten
Augsp. Conf. allhier aufs Neue vermehrt und nebst einem Anhange von Gebeten herausgegeben
worden ist* (Danzig, 1764).
[26] This was a very popular hymnbook, as is testified by its many subsequent reprints, up to
1810, when a new version was published. See Franz Kessler, *Danziger Gesangbücher 1586–1793*
[Einzelschriften der Historischen Kommission für ost – und westpreußische Landesforschung,
15], ed. Udo von Arnold (Lüneburg, 1998), 82–85.
[27] For more on Gdańsk hymnbooks, see Woźniak, 'Gdańskie kancjonały ewangelickie z XIX
wieku' [Gdańsk evangelical hymnbooks from the nineteenth century], in Elżbieta Wojnowska,
Ludwik Bielawski and J. Katarzyna Dadak-Kozicka (eds.), *Europejski repertuar muzyczny na
ziemiach Polski* [European musical repertoire in Polish lands] (Warszawa, 2003), 147–158.
[28] APG 300,R/Pp,q10, 215–249.
[29] The previous official Gdańsk hymnbook was published in 1719.

numerals and how chorales with particular numerals could be combined are explained in the foreword ('Vorbericht'):

> Da die Walze des Sing-Werks also beschaffen ist, daß das Maaß derselben nach Beschaffenheit des Liedes eingerichtet werden muß, wenn zwey Lieder Wechselsweise spielen sollen, als habe durch Ziffern es angedeutet, welch Lieder zusammen gesetzet werde koennen. Als:
>> Eine rothe Ziffer 1 und eine schwarze 1.
>> Eine rothe Ziffer 2 und eine schwarze 2.
> Wo aber eine runde Ziffer O vorhanden, selbiges Lied nim[m]t die ganze Walze alleine ein.
> Wo keine Ziffer beysteht _ da koen[n]en ohne Unterschied zwey davon auf der Walze gesezt werden. [30]

In his letter of dedication to the City Council that he wrote in the Old Lutheran tablature, Theodor Friedrich Gülich states that 'the wonderful psalms of David' would also be suitable for playing on the carillon.[31] And, indeed, in the next *Choral Buch* he prepared 125 psalms and added to them eleven songs from the Calvinist repertoire.[32] The psalm titles indicate that Gülich was referring to translations by Ambrosius Lobwasser, which were very popular among German-speaking Calvinists, as well as the inhabitants of Gdańsk.[33] The titles of the remaining eleven songs originate from the first Gdańsk Reformed Evangelical Church hymnbook, published in 1744. That comprised two parts: the first contained psalms with the texts translated by Ambrosius Lobwasser and melodies by Goudimel,[34] whereas the second part contained the texts of 300 songs without music, as well as catechism and prayers[35]. Gülich prepared the following songs for the carillon:

> *O Gott du unser Vater bist*
> *Sieh hie bin ich Ehren-König*
> *Eitelkeit was wir hier sehen*

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[30] APG 300,R/Pp,q10, 22.

[31] APG 300,R/Pp,q10, 19.

[32] APG 300,R/Pp,q10a.

[33] Maria Przywecka-Samecka, *Drukarstwo muzyczne w Polsce do końca XVIII wieku* [Music printing in Poland up to the end of the eighteenth century] (Kraków, 1969), 118–122, 185–187.

[34] *Kirchen – Gesang-Buch Der Evangelisch-Reformirten Gemeinde in Dantzig: Worinn, nebst denen CL. Psalmen Davids, in deutsche Reimen gebracht, befindlich CCC. auserlesene, geistreich – und erbauliche Lieder, ueber allerley, beym oeffentlichen Gottesdienst vorkommende Materien in eine bequeme Ordnung zusammen getragen. Ephes. V. v. 19. Redet untereinander, von Psalmen und Lobgesaengen und geistlichen Liedern, singet und spielet dem Herrn in eurem Hertzen* (Danzig, 1744).

[35] *Des Kirchen – Gesang – Buchs Anderer Theil: Worinn, mit denen geistreichen Liedern Hrn. Doct. Martin Luthers und anderer Gottesgelehrten Maenner, vorkommen,Viele auserlesene und erweckliche Lieder, als ein zulaenglicher Vorrath ueber allerley bey oeffentlichen Gottesdienst vorkommende Materien: nebst dem Catechismo* (Danzig, 1744).

Wilst du wahre Probe sehn
Ich trau auf Gott
Der Mensch der Gott gelassen bleibt
Wohl dem Menschen der von Herzen
Mein Wallfahrt ich vollendet hab
Einen guten Kampf hab ich auf
Es wird schier der letzte Tag kommen
Jammer hat mich ganz umgeben

In order to find the settings of the remaining songs from the hymnbook, one needs to follow the rules set out in the chorale register on the final pages of the tablature:

> Register der Lieder Wo eine schwarze Ziffer steht, da zeigt sie Paginam in diesem Buche; wo aber eine rothe Ziffer befindlich, dieselbe zeiget die Num[m]er der Melodie im anderen Buche an.[36]

If the page number next to a song title is written in red ink, its setting appears in the same book; that is, it is a psalm or one of the eleven other songs found in the Reformed Evangelical Church tablature. If the page number is written in black ink, the song can be found in the Old Lutheran tablature.

As in the Old Lutheran tablature, Gülich added to the musical notations of the psalms and other songs in the Reformed Evangelical tablature the numerals '1', '2' or '0', in either red or black ink. The numeral or its lack indicated, in accordance with an explanation provided in the foreword ('Vorbericht') of the Old Lutheran tablature, how to combine compositions so that both fit on the Town Hall carillon drum.[37]

Gdańsk Carillon Tablature No. 4

The last of the extant tablatures[38] was written in the years 1808–1812 by Paul Friedrich Knaack – a civic clockmaker and carillon programmer.[39] These facts are known to us thanks to a note written by Carl Anton Kaschlinsky, Knaack's assistant and successor,[40] on the second page of the manuscript:

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[36] APG 300,R/Pp,q10a, 161–170.

[37] See footnote 30.

[38] APG 300,R/Uu,q9.

[39] Januszajtis, 'Beiträge zur Musikgeschichte Danzigs', 318; Januszajtis, *Gdańskie zegary, dzwony i karyliony,* 149.

[40] Carl Anton Kaschlinsky was the programmer of the Town Hall carillon in the years 1847–1882. See Januszajtis, *Gdańskie zegary,* 116, 149; Jerzy Marian Michalak, 'Organista i dyrygent chórów Julius Wilhelm Frühling w życiu muzycznym Gdańsk 1847–1884' [The organist and choirmaster Julius Wilhelm Frühling in the musical life of Gdańsk 1847–1884], in Krassowski (ed.), *Od Förstera do Frühlinga. Przyczynki do dziejów życia muzycznego i teatralnego daw-*

Diese Kopie ist von dem Raths-Uhrmacher Knaack, in den Jahren 1808–12, nach dem Original genommen. C. A. Kaschlinsky. Raths-Uhrmacher.

This relatively compact tablature (24 x 10 cm) has an ordinary blue paper cover bearing the practical title *Choral-Buch vom rechtstaedschen Glockenspiel. der Stadt Danzig.*

The tablature presents the 120 chorale settings in the order of successive weeks and holidays of the liturgical year. Knaack carefully described every single setting, giving the week or holiday on which it was to be played, the chorale title and the hours it was to be set for (even-numbered or odd-numbered). He did not repeat the musical notation if the same piece was to be repeated the next week, but simply wrote 'Bleibt stehen' or 'Wird nicht geändert'; however, for the second week of Advent he entered an incorrect (too long) chorale.[41] When a piece needed to be set at a different hour than usual, he added appropriate comments, such as 'Ein Kindelein so löbelich. Am heiligen Christ-Tage auf der geraden Stunde. um 8 Uhr des Abends vorhero'.[42] Since the order in which the chorales were to be played was clearly stated, at the end of the tablature they were listed in alphabetical order only.[43]

From the note added to this *Choral-Buch* by Kaschlinsky, we know that it does not include any original works by Paul Friedrich Knaack, only copies. In seeking the originals, we need only turn to the first two volumes of the four-volume tablature by Theodor Friedrich Gülich[44] bearing the chorales for successive weeks and holidays of the liturgical year. When these compositions are compared with those in the 1808–1812 tablature, there can be no doubt that Paul Friedrich Knaack had copied the music from Theodor Friedrich Gülich.[45] In most cases, the compositions are identical. The only differences appear when certain harmonies or chords are avoided, or when there are slight changes in rhythm, due to the use of alternative pins. In a few cases, Knaack transposes Gülich's settings. Knaack made use not only of the four-volume tablature, but also of the carillon tablature that corresponded to the 1764 *Danziger Gesangbuch*.[46] Originating from there are the chorale settings *Meine Seele erhebe den Herren* and *Wo soll ich fliehen hin*. Thus Gülich's wish for his tablatures to benefit his carillon programming successors was fulfilled.

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nego Gdańska [From Förster to Frühling. Contributions to the history of musical and theatrical life in Old Gdańsk] [Kultura muzyczna północnych ziem Polski, 12] (Gdańsk, 2009), 260–261.

[41] See APG 300,R/Uu,q9, 5–6.

[42] APG 300,R/Uu,q9, 11.

[43] APG 300,R/Uu,q9, 133–136.

[44] APG 300,R/Pp,q 9.

[45] In the light of this comparative analysis and the presented interpretation, attributing the chorale adaptations to Paul Friedrich Knaack does not seem justified and requires revision. See Woźniak et al., *Music Collections from Gdańsk*, vol. iii: *Thematic Catalogue of Music in Manuscript in the State Archive in Gdańsk* (Kraków and Gdańsk, 2008).

[46] APG 300,R/Pp,q 10.

Successive town hall programmers (R.L. Liebendey, J.G. Borowski and David Krieger)[47] used Gülich's tablatures for approximately the next forty years. They treated these manuscripts with great care, thanks to which they are still in very good condition today. In 1808, Paul Friedrich Knaack was awarded the position of master clockmaker by the clockmakers guild,[48] and that was probably when he was also made clockmaker to the City Council and put in charge of the Town Hall clock, as well as the carillon. Life was hard in the Free City of Danzig [Gdańsk], which was established by Napoleon in 1807. The dramatic siege of that year and the resulting financial misery diametrically altered living conditions for the city's inhabitants, as well as certain customs. In the new political situation, the extensive instructions in Gülich's four-volume tablature on such things as how to set the carillon for the king's arrival, the king's return to health or the death of a mayor or a city councillor no longer seemed necessary. Knaack only selected for the carillon the chorales which were indispensable for the liturgical year. But what about the originals? It is most likely that Knaack handed over Gülich's tablatures to the City of Gdańsk Archive for safekeeping, where they have survived to this day.[49]

The Notation of the Gdańsk Carillon Tablatures

The chorale settings in the Gdańsk carillon tablatures were recorded using a unique method of musical notation. In other extant European sources, music for automatic carillons is written in the standard one – or two-staff musical notation. That is the case with the oldest extant manuscript for automatic carillons, from 1648, by Theodorus de Sany (1599–1658),[50] the 1681 manuscript by Philippus Wyckaert [Wijckaert] (1620–1694)[51] and the treatise by Joannes de Gruytters

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[47] Januszajtis, *Gdańskie zegary*, 149.

[48] Zuzanna Prószyńska, 'Słownik gdańskich zegarmistrzów i gnomoników' [Dictionary of Gdańsk clockmakers and gnomonists], in Prószyńska et al. (eds.), *Zegary gdańskie* [Gdańsk clocks] (Gdańsk, 2005), 148.

[49] The State Archive in Gdańsk, where Gülich's tablatures and Kaschlinsky's copies are now kept, has inherited the stores of the City of Gdańsk Archive. When the Königliche Staatsarchiv für Westpreußen in Danzig was founded in 1901, the City of Gdańsk Archive was transferred to the new building. In 1921 the name Königliche Staatsarchiv für Westpreußen in Danzig was changed to Staatsarchiv für Freie Stadt Danzig, and in 1940 to Reichsàrchiv Danzig (1940–1945). In 1945 the Archiwum Państwowe w Gdańsku (State Archive in Gdańsk) was founded, and though in the years 1951–1983 it was actually called Wojewódzkie Archiwum Państwowe w Gdańsku, in that last year the first post-war name was restored.

[50] Jan Jaap Haspels, *Automatic Musical Instruments, their Mechanics and their Music 1580–1820* [Utrecht 1987], 169–171, 247.

[51] Ibid, 171–173, 247.

(1709–1772) on the principles of programming music on the carillon.[52] Already in 1988, Andrzej Januszajtis observed the uniqueness of the Gdańsk carillon tablatures.[53] He noted the way in which pitch was notated, but did not present any rules regarding rhythm. It was not until 2000 that the principles for transcribing these Gdańsk sources were published by Małgorzata Fiebig-Drzewiecka, Janusz Grabowski and Grzegorz Szychliński.[54] They called the Gdańsk tablature method of musical notation 'pin' ('kołkowy') or 'drum' ('bębnowy') notation, in reference to elements of the automatic carillon mechanism. They describe the rules of this notation system as follows:

1. The tablature compositions were set out in the form of diagrams comprising criss-crossing horizontal and vertical lines representing a fragment of the carillon drum and the programmed composition.

2. Every diagram comprises fourteen horizontal lines corresponding to the notes (tonal axis) of the fourteen carillon bells, which are arranged in accordance with the pitch scale: f¹ g¹ a¹ b flat¹ c² d² e² e flat² f² g² a² b flat² c³ d³. Uncertainty as to which lines represent the highest and lowest notes may be easily resolved by tracing the course of the composition's melody and comparing it with the melody of a universally known chorale. Moreover, these diagrams give indications as to the direction in which they should be read. The composition always ends with the number of strips needed for its programming. This number is written either on top of the diagram or below it, next to the last vertical line and near the most extended horizontal line; this horizontal line actually represents the sound of the highest chime.

3. The vertical lines represent the strips on the drum and the time axis. Added on their left and right are symbols, or graphs as the authors call them. These do not denote rhythmic values, as in other musical notation systems, but represent the pins used for programming the compositions on the drum, depicting how the pins are to be attached. In order to read the rhythm, one has to visualise the carillon drum in motion. The hammer striking the bell is connected by a wire to a lever situated near the rotating drum. The drum is covered with strips, onto which the programmer inserts the pins. As the drum rotates, the pins raise the lever and the wire pulls the hammer away from the bell. Once the lever is released, the hammer strikes the bell, thus emitting a note. The chiming of one bell will continue until another is struck. Therefore the pin symbol on the vertical line does not denote the duration of the note, but only its onset. The duration of a note can only be

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[52] Joannes de Gruytters, *Rules for Programming All Carillon Playing Drums. Regelement ofte maniere om alle trommels dienende tot beÿaert spelen te ver(steken)*, ed. Eddy Mariën and Margo Halsted (Michigan, 2004).

[53] Januszajtis, 'Muzyka gdańskich dzwonów', 13–14, 20–22.

[54] Małgorzata Fiebig-Drzewiecka, Janusz Grabowski and Grzegorz Szychliński, 'Notacja kołkowa bębna carillonu Ratusza Głównego Miasta w Gdańsku' [The pin notation for the drum of the carillon of the Main Town Hall in Gdańsk], *d'Oriana. Awiza biblioteczne* [5], 5–25.

determined with the onset of the next note. This observation is the key to under-standing the notation system of the Gdańsk carillon tablatures.

The authors concluded that the appearance of five symbols (graphs) corre-sponded to the five pins used to programme the drum:

Illustration 1. Basic types of symbol featured in the Gdańsk carillon tablatures

A circle is drawn wherever a horizontal line crosses a vertical one. The remain-ing four symbols are entered either to the left or to the right of the vertical line, like a mirror image. The authors concluded the following:
– the circle represents a straight pin inserted into a hole in the strip,
– the remaining four symbols refer to four bent pins of various lengths that were attached to the strips in two opposite directions.
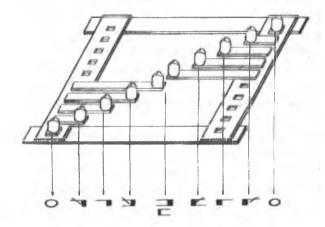

Illustration 2. Diagram of pins on carillon drum (Fiebig-Drzewiecka, Grabowski, Szychliński, 'Notacja kołkowa', 17)

In accordance with the image on the diagram, the longest pin divides the distance between the strips by half. The three remaining pins fill half the distance between the strips at regular intervals. The pins are arranged on one side of the strip in succession from the shortest to the longest, and on the other side they are arranged the other way around, dividing the distance between the strips into eight parts. A unit measuring the duration of a note is the multiplication of one eighth of the distance between two neighbouring pins; that is, a multiplication of an eighth part of the distance between strips. If we assume the distance between one strip and the next to be a whole note (semibreve), then one unit of the division will be an eighth (quaver).
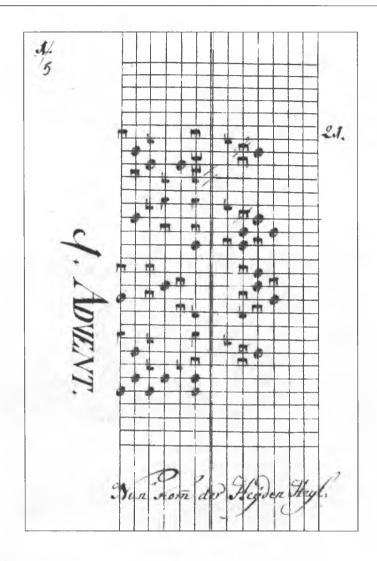
Illustration 3. Theodor Friedrich Gülich, *Nun komm der Heiden Heiland*
(a – original, b – transcription)

Illustration 4. Title page of tablature APG 300,R/Pp,q 9

Illustration 5. Title page of tablature APG 300,R/Pp,q 10

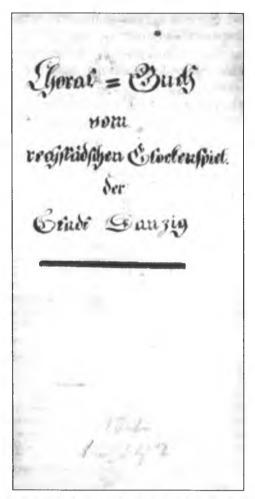Illustration 6. Title page of tablature APG 300,R/Pp,q 10a

Illustration 7. Title page of tablature APG 300,R/Uu,q9

The system described by the authors is logical, though they have not explained all the symbols appearing in the Gdańsk tablatures.[55] A flaw in this method is the fact that the notation cannot be matched to any measured course, and any transcription remains non-metric.[56] This naturally gives rise to objections, though in actual fact listening to music recorded in such a way is generally satisfactory. In

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[55] The unexplained symbols include ones that are scored twice, slanting lines placed beneath the most repeated notes and the symbol of a crossed-through circle. These symbols appear to relate to the mechanism and how the carillon worked, but we do not know exactly what they meant.

[56] Although the authors presented a coherent explanation of this system of musical notation, they failed to provide an example of music in accordance with the published method, and instead presented a version corresponding to a Johann Sebastian Bach chorale. See Fiebig-Drzewiecka, Grabowski and Szychliński, 'Notacja kolkowa', 21–22.

defence of this method, one may say that at the time of the earliest of the tablatures (1769), the carillon was already over 200 years old and was far from a perfect machine. The irregular rhythm most probably resulted from the faulty workings of the drum, and the unexplained symbols may have been indicators regarding its more effective operation.

The pins from the historical Main Town Hall carillon have not survived. There are also no extant descriptions of them. Assuming a different relationship between the symbols and the pin would, of course, give different transcription results. However, many attempts to adopt an alternative method of reading the tablatures have not produced any satisfactory results. That is why the method published in 2000 should be treated as binding.