# THE BELLS OF GDANSK AND THEIR MUSIC 

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Already the oldest churches in Gdansk must have had bells. A proof can be the word pulsant (sounding) in the description of the funeral of prince Swietopelk, who died in 1266. A so-called Epistle Bell, which till 1945 hang in the turret (not rebuilt till the present day) over the pulpit in St. Mary's Church could have come from the turn of the $13^{\text {th }}$ century. The bell from the turret in St. Catherine's Church, destroyed during the Second World War, could have come from the same time. They were both small (the diameter of the mouth - 46 and 52 cm ), oblong (the height to diameter ratio - about 0.9 ), with no decorations or inscriptions. The oldest written record about the bells from St. Mary's Church comes from 1347: the archbishop Stefan Armenus assigned 40 days of indulgence to everyone who at the time of the evening striking of the bell said the prayer Hail Mary. In 1363 we hear about the belfry and the bell-ringer who, as we know from later information, was also a teacher in the St. Mary's school existing since1350. Osanna bell comes from 1373. At present it is "banished" at St. Andrew's Church in Hildesheim. The date is given by the capital letters of the inscription "o ReX gLorIae ChrIste VenI CVM paCe" (o King of Glory, Christ come with peace). In 1632 the bell cracked and the bellfounder Ludwik Wichtendal cast it again, keeping its profile, repeating the inscription, and adding another one: Anno q Vo e Vita PatrIae Pater Ibat eoDeM prIstInae ego sClssae par noVa fVsa fVI (in the year in which the Father of the Fatherland left life, equal to the cracked one, I was cast again). According to an explanation coming from those times the Father of the Fatherland was Polish King Sigismond III, who died that year on the last day of April. The bell weighed 3110 kg . The next according to age bell Apostolica (Apostolic) weighed 3920 kg . The inscription Hilff Gott was ich beginne das ys en gutt ende gewinne (help me


Figure 1. Osanna bell from 1373/1632 since 1952 in Hildesheime


Figure 2. The Dominicalis bell from 1423 since 1954 in Lubeck

God, let whatever I begin end well) finished with the date 1383. The bell, which was recast twice (in 1683 and 1883), was confiscated by the army in 1917. A much smaller bell $(890 \mathrm{~kg})$ Sybilla, from about 1400 , with the inscription hylf got maria wer kans geramen (probably two words geraten amen), meaning Help God, Mary, whoever can help, was destroyed. The second of the preserved St. Mary's bells - Dominicalis (Sunday), weighing 2560 kg (at present in Lubeck) has an original date inscription (1423): $X$ bis $C$ quarter $M$ semel I ter formor ut essem contra dampna (=damna) gregis egiis magni tuba regis (in a year 10 times 2, 100 times 4, 1000 times 1, 1 time $3 I$ was created to be against the harm for society, a shield and the voice of the Great King). The next Ferialis bell (everyday), also called Viola, came from the $1^{\text {st }}$ half of the $15^{\text {th }}$ century, and weighed 1780 kg . Its inscription started with the words: ych dine den toden und leben. The biggest bell, Gratia Dei, was cast in 1453, between St. Martin's day and Christmas, and was hung in memorable 1454 year, in which the war with Crutched Knights begun. It weighted 6800 kg . The inscription was: "Gratia dei vocor (God's Grace is my name). The other inscriptions: O König der Ehren, Jesu Christe, kumb in den Frieden ( $O$, King of Glory, Jesus Christ, come in peace), and $O$ Jungfrau Maria bitte vor die Christenbeit (O, Virgin Mary, pray for Christianity) were accompanied by plaques with pictures of Resurrected Christ and of Mary on the throne. The claim repeated by many authors that the bell is the work of Gert Benning is based on a misunderstanding: this bell-founder working at the turn of $16^{\text {th }}$ and $17^{\text {th }}$ centuries only assessed the weight of the bell. The smallest bell (about 180 kg ) was hung at the top. It was called Country or Long one, and had the


Figure 3. After the Gratia Dei from 1453 only its clapper is left at the court of St. Mary's Church


Figure 4. The clock bell from 1543 form St. John's church, at present at the Town Hall
following inscription: Ave Maria gratie plena Dominus tecum LXII (1462). There were 7 bells altogether in the main tower. As it has been mentioned before, the bigger of the two clock bells in the central pinnacle probably came from 1389, and the smaller one from 1470 . Since half of the $19^{\text {th }}$ century the cracked Country bell was no longer used, and in 1917 the Apostolic was given to the army. In 1942 all the bells were to be melted down according to the decision of the Nazi authorities. Only Gratia Dei was left in the tower, yet during the fire in the church it fell down and was smashed to pieces. In 1970 a new Gratia Dei was made from the remains of the old one, yet with a different profile, without the labels or inscriptions. Also the sound of the bell leaves a lot to be desired. The other new bell - Ave Maria is much better. After the war two bells - Dominicalis (at present in Lubeck) and Osanna (in Hildesheime) were found, fortunately untouched, at the great cemetery of bells from all over Europe, at an ironworks near Hamburg. Their proper home should be Gdansk.

The St. Mary's Church bell set, whose marvelous and harmonious sound is known from a pre-war recording, belonged to the best ones in the world. It was a great certificate of the craftsmanship of the Gdansk bell-founders. Other churches were not far behind. St. John's church had 6 bells, from which only one survived in Gdansk. It is a bell clock, cast in 1543 by Andrzej Lange (at present it is in the Town Hall tower). The inscription says: gades vort bleft evglych,ven ander lude slapen so moyck vaken (God's word is eternal; when other people sleep, I have to be alert). From the rest of the bells two, which were not melted, were found in Hamburg. These are Tuba Domini from 1564 (by Herman Benning), recast in 1710,
and a so-called Little Bell with Masks from 1556 (recast in 1735), also called Susanna or Country Bell. These priceless recollections of the culture of our city are placed in Lubeck today.

The bells from St. Catherine's church are mentioned for the first time in 1394 in the privilege for St. Elisabeth's Hospital. The singing and prayers during holidays were to be finished when the bells at St. Catherine's strike for High Mass the second time. This may have concerned the already mentioned old bell from the roof turret. In 1494 on Monday before the Dominic's feast the huge bell at St. Catherine's was cast. It was called Osanna or Susanna. It cracked in 1669, and had to be recast. It weighed 4877 kg . The other bells were named: Catherine, Dominicalis (Sunday), Missalis (Mass), Elisabeth Mary - recast in 1769 by Karl Gotfried Anthony, and a so-called ave-bell. The old hour bell sold in 1741 bore the date 1530 .

A very precious set of 5 bells (including a clock one) was owned by St . Bartholomew's church. The biggest one "Ehre Gottes" (God's Glory) came from 1494. Among the 5 bells of St. Peter's church the biggest one was "Tuba Dei" (God's Tube) from 1642, ornamented with figures of St. Peter and Paul, the work of Gert Benning III. Also St. Nicolaus' church had 5 bells, St. Bridget's church - 4, St. Joseph's, Corpus Christi and the King's Chapel had three each, and so had St. Barbara's (plus a clock one). In all, with 15 bells of the Town Hall and 43 of St. Catherine's church, there were over 100 bells sounding in what is today the inner city. Almost nothing is left from that wealth.

Sets of bells started to appear in Europe at least since the $11^{\text {hh }}$ century. It was possible to play melodies on them with the use of hammers or clappers. It became possible only when the bell makers mastered the technology of making bells of a definite sound pitch. Also very early appeared the possibility of automatization of playing by joining sets of bells with a water or mechanical clock. First such clock with "cymbals" was owned in 1249 by St. Patrick's cathedral in Dublin. Today a set of clock bells playing melodies either before or after striking the hour is called a peal of bells or a carillon. In 1312 the St. Catherine's abbey in Rouen had a clock plying a fragment of Hymn to the Creator, which could be heard from 3 miles away! Judging from its description it could have been a tower carillon. The first information about striking quarters as well appear since 1378 in the Netherlands, and later also in other countrics. The tunes were simple ones - the number of bells in a carillon was between 2-4. It started growing only in the second half of the $15^{\text {th }}$ century. In 1460 on the Town Hall in Leyden a five-bell carillon was installed; in 1479 Geert van Wou cast 6 bells for the carillon of the Utrecht cathedral. In the same year the abbey of St. Parc in Heverlee near Leuven installed the first carillon, in which a drum with pins was used to play melodics. Later it became a very popular appliance. It works according to a very simple principle: after being released by the clock, the drum with pins starts rotating. The pins lift levers, whose other ends pull the wires and lift the hammers in bells. On further rotation the pins escape from under the levers and the hammers hit the bells in the order decided by the placement of the


Figure 5. The principle of work of the carillon mechanism
pins. The carillon in Heverlee was of great importance. Since then it was possible not only to play a few beginning notes, but also whole melodies, and since 1530 , thanks to the use of replaceable pins, it was possible to program the carillons.

The growing number of well - tuned bells evoked the willingness to play them by hand. In 1478 in Dunkirk a bell-ringer Jan van Beveren became famous because of playing various kinds of melodies, which had not been heard of before, nor possessed anywhere, and it was a great novelty in this world. He probably used wooden hammers, yet a special device simplifying the playing was soon invented. We have information coming from 1482, that in Antwerp, as well as in Aalst, they started playing bells by the help of bars and ropes. In 1510 in Oudenaarde a mechanic was paid for 9 clappers for the clock bells and a keyboard in the tower to play the bells. The keys looked like bars and were connected to the clappers by the pulling rods. To name this new device the name carillon was used, coming probably from old French quadrilloner - to play (on four) bells.

Other cities followed the example of Oudenaarde: in 1525 the first carillon players' competition was held in Leuven, and in 1541/2 Antwerp, in 1556 Mechelen joined the group. In 1530 the great number and richness of sound of the bells of the Netherlands became proverbial. It was said that they could play melodies of different kind, like a guitar. In 1600 in Holland only there were 62 playing towers, and in 1700 there were 93 of them. Just for comparison - in 1979 there were 164 "singing spires" in Holland, and 86 in Belgium. Between the years 1945 - 1987 only one Eijsbouts factory in Asten manufactured no fewer than 550 such instruments for different countries. Among them there are both small chimes of


Figure 7. The mechanism of the Town Hall carillon
a few bells, and also huge carillons of up to 68 bells.
Gdansk before the war had the oldest peal of bells, after the Netherlands, installed in 1561 on the tower of the Town Hall of the Right Town. The 14 bells (plus the clock one) were cast in Hertogenbosh a famous bell-maker Jan Moor (also spelled Moer). According to the order he adorned the bells with the coats of arms of Poland, Gdansk, and Prussia, and the inscription OMNIA TEMPUS HABET ET SVIS SPATIIS TRANSEVNT VNIVERSA SVB COELO (all time keeps, and in its space pass away the universes under the sky). The biggest bell weighed 500 kg , the smallest one 25 kg , and the whole instrument -2.4 t . The scale $\mathrm{f}^{1}-\mathrm{g}^{1}-\mathrm{a}^{1}$ - b flat ${ }^{1}-\mathrm{c}^{2}-\mathrm{d}^{2}-\mathrm{e}$ flat ${ }^{2}-\mathrm{e}^{2}-\mathrm{f}^{2}-\mathrm{g}^{2}-\mathrm{a}^{2}-\mathrm{b}$ flat ${ }^{2}-\mathrm{c}^{2}-\mathrm{d}^{3}$ made it possible to use F -major and B -major keys, and come church ones. In d -minor and g -minor there were no leading tones. The drum for setting the melodies, initially a wooden one, and later metal, had 79 slats in circumference, with holes for note spikes. Each slat had 14 holes (as many as the bells) of 1.1 cm on sides. From the 79 staves available, 54 were used to strike the full hour and 25 for every half-hour. The bells were hung around an open-work gloriette of the cupola, surrounding the hour bell from 1560 , of the c tone - the work of the same Jan Moor. The instrument worked till 1945.

Another, much bigger music of the bells was installed at St. Catherine's church. The striking mechanism was placed in the tower already in 1575. It seems that the term concerned small chimes for announcing hours and halves. In 1634 a beautiful spire with a clock were added. In 1738 a real carillon was founded with the money left in the last will by the councilor Andreas Stendel, and the income from the lottery.

It had 35 bells and 3 chromatic octaves from $c^{1}$ to $c^{4}$ (without $c$ sharp ${ }^{1}$ and d sharp ${ }^{1}$ ), weighing 4.5 t . The bells were brought from Hoorn by the Zuiderzee, and cast by Nicolaus Derck. The cast was not the best one: in May 173923 bells were sent back to the bell-maker! Since December 2 the instrument worked without problems. The first carillon player was Eltje Wolthers from Groningen. For his concerts he used the bar keyboard and a pedal made by the organ-maker Andreas Hildebrand. In 1741 a clock-maker Daniel Böttcher made a device for playing and installed it into the clock. The drum had 2.06 m in diameter, and was 1.4 long. It included 120 staves from which 75 were used for full hours, 35 for half-hours, and the rest were used for two quarter preludes, 5 staves each. The melodies were changed every week. Later, probably by the wish of the councilor Anton von Waasberghe, who died in 1776, even half the quarters were played, so that according to some opinions there was even too much of that melodious playing. Apart from that concerts were held every day. The carillon at St. Catherine's church was carefully maintained, regularly repaired and improved, and was the pride of the city until the unlucky day of $3^{\text {rd }}$ July 1905 , when it was destroyed. In the early hours of the day a thunderbolt hit the copper-covered spire of the tower causing fire. The mechanism had enough time to play the chorale Heart by heart in a trembling voice, and then red-hot bronze started dripping onto the pavement. The shock caused by the tragedy awoke initiative. Money collection was started immediately. The different phases of the fire were presented on postcards. The drops of bronze were sold as souvenirs. Till 1908 the tower was rebuilt, and on $1^{\text {st }}$ May 1910 new carillon was opened. It comprised 3 full chromatic octaves from $c^{1}$ to $c^{4}$. The 37 bells weighing from 2855 kg to 6 kg were made in 1908 by the Schilling bell-foundry in Apolda in Thuringen. At that time it was the heaviest carillon in the world - it weighed 16760.5 kg . The bells' profile was copied after the carillon in the Cloth Hall in Brugge, famous for its beautiful sound. The same company manufactured also the new set of church bells, of F - A flat - B flat - c - e flat key. The biggest one, weighing 10.5 t (more than "Sigismond" at the castle in Cracow!), was a copy of the 1497 "Gloriosa" bell from the Erfurt cathedral, considered to be the most beautifully sounding bell in the world.

The mechanism of the carillon was made by the clock-making Korfhage Company from Buhr near Osnabrück. The steel drum of the playing device was 2.20 m in diameter and the same in length. It was divided into 180 staves, and had 17100 holes. In each row there were 95 holes - 58 more than the bells. This was because all the bells had at least two hammers, and 21 biggest ones had even 3 each, which facilitated the repetition of sounds (the previous carillon had 25 bells with 2 hammers each, and rest had just 1). The note pins had movable crossbars, which allowed for various rhythmical divisions. The disadvantage was the fact that it was more difficult to set a melody, which took 5-6 hours each time. Finally an easier one - voice structure was decided, and the melodies were set every 2 weeks (up till 1925). The chance to use the instrument more efficiently were the regular concerts, which still take place.


Figure 8. St. Catherine's church tower before 1905


Figure 10. The bells in the Town
Hall spire (picture taken
before the war)


Figure 11. The placement of the bells in the gloriette of the Town Hall before 1945.


Figure 12. A bell from 1908, preserved in the porch of St. Catherine's church


Figure 13. One of the preserved bells of J. Moore's carillon

The war brought an end to the previous glory. Almost all the bells were given to military purposes. Only three bells from the Town Hall carillon survived. Two of them are at present placed in the Museum of the History of the City, the third was found in the Ethnographic Park in Wdzydze. This gives a good background for the reconstruction of the oldest (except the Netherlands) bell set in Europe. As for now there is a carillon consisting of 17 bells in the tower, from which 16 were brought from the youth hostel built in 1940 in Biskupia Gorka (Bishop Hill), which is now occupied by the police. The bells were cast in 1941 by the Gdansk Shipyard. Then a clock was installed at the hostel tower, in which at full hours appeared two warships from the Middle Ages, and led a faked battle, which commemorated the taking over of Memling's Final Judgement by Paul Beneke in 1473. The present Town Hall carillon has an electronic playing device and keyboard. In spite of the prizeworthy work of many people the instrument is still far from perfect.

Also the bells from St. Catherine's church were given over to the needs of the war in 1942. Most of them survived by miracle. They were found in the dump by the foundry near Hamburg. 28 of them are now in the new carillon, installed in 1954 in one of the towers of St. Mary's church in Lubeck. Because of their relatively small historical value Gdansk gave up their revindication. In 1983 Hans Eggebrecht from Hamburg (born in Gdansk) started the initiative of building a new carillon, which was opened 6 years later, in the $50^{\text {th }}$ anniversary of the outbreak of war. It is a top-class instrument, comprising at first 3 full chromatic octaves from $\mathrm{c}^{1}$ to $\mathrm{c}^{4}$ ( 37 bells). The biggest bell weighs 2390 kg , and the smallest - 18 kg , the whole instrument -


Figure 14. St. Catherine's bells meant to be melted (picture from 1942)


Figure 15. The pope is blessing the "Peace and Reconciliation"bell


Figure 16. The new bells at St. Catherine's tower

14106 kg . In 1998 the instrument was extended to 49 bells ( $\mathrm{c}^{1}$ to $\mathrm{c}^{5}$ ), with the total weight of 14270 kg (the smallest bell - 11 kg ). The carillon was built as a common Polish - German enterprise. The individual bells, made by an outstanding Dutch Company - Koninklijk Eisbouts, are devoted to different saints and blessed, people important in the history of the city, the victims of concentration camps and those who saved them. The inscription of the biggest bell, blessed by Pope in 1987 during his visit in Gdansk, proclaims Peace and Reconciliation. The founders were from Gdansk, Germany and the Netherlands, from among Catholics, Protestants, and one bell was also founded by the Jews. The 5 biggest bells are also used for liturgical purposes, by swinging. There is also a keyboard which makes it possible to organise concerts. At each hour of the day also an automatic play is working. Instead of a traditional drum an electromagnetic distribution has been used, which is controlled by a computer. A small microprocessor can contain 99 melodies! The are simply introduced by a keyboard instrument compatible with the structure. It is also possible to program the dynamics! The modern technology opened for the old instruments possibilities which had never been considered before.

The changes in customs and the development of technology have eclipsed the old methods of communication. To understand their language it is necessary to realise the fact that there are many methods of making bells sound. A swung bell has a different sound from a bell, which is hit by a clapper pulled by a rope, and still different when it is hit with a hammer. To this we should add the differences between the sounds of different bells, which can easily be heard. The sounds of the bells can be shaped rhythmically, and when there are more of them, also melodically. Having a carillon at one's disposition, it is possible to play them. All these possibilities were used in Gdansk. Let's take St. Mary's Church as an example. Each of its 10 bells had precise functions, with which their names were connected. The biggest one - Gratia Dei was sounded during the most important holidays, and was also used as Prayer Bell. Osanna, which could also be called Joy bell, was used, among others, for New Year, but also during storms. Apostolica (the Apostles' Bell) was first of all used during the holidays of the Apostles, Dominicalis (the Sunday Bell) was used on Sundays, Ferialiṣ (the Daily Bell) - on workdays. Sybilla was a signal bell, that is it was used to signal, for example funerals. The Country Bell sounded every day, the earliest (since 4 o'clock), and the longest, that is why it was called for joke the Long Bell. The oldest bell in the turret "Over the Pulpit", also called the Epistle Bell, or (the old) Prayer Bell, was no longer used at the end of the $15^{\text {th }}$ century. We have already discussed the clock bells in the tower over the nave intersection. The instruction from 1463 mentions three ways of bells' sounding:

1. simple (swinging);
2. striking;
3. rhythmical moving the clappers of several bells, called "beiern" (clappering).

The latter way survived till 1945 in the following churches: St. Mary's, St. John's, St. Bartholomew's (St. Catherine's till 1905). According to a description
from before the war, in the case of three bells - small (1), medium (2), and big (3), they were struck in the following order: $1-2,1-3|1-2,1-3|$, and so on. With 2 bells the scheme was, of course, simpler $1-2,1-2|1-2,1-2|$. In the $17^{\text {th }}$ century this was accompanied by a normal sounding (without swinging) of another bell. According to the instruction from 1612, if the Osanna, Apostolica, and Dominicalis are clappered, and this is accompanied by Gratia Dei, this is called clappering on the Great Bell. In a similar way, clappering on Dominicalis and Apostolica with Osanna sounding was called clappering on Osanna.


Figure 17. Instruction for the bell players from 1612

Another old custom was sounding the Prayer Bell - the remains of playing for the Angelus, introduced in 1905 by the pope Urban II, and observed still today in the Catholic church. The prayer Bell was usually the biggest one in the set. To facilitate the sounding sometimes a hammer was used, moved by pulling a rope. The strikes were counted in three scores, divided into dozens, and those into smaller units different in various churches. In the times of the Teutonic Knights at midday there was the division $3+3+6$ strikes, after which the believers were to say the Angelic Salutation. In 1478 the authorities of St. Mary's Church, in return for 7 Prussian fines of small money offered by some notable citizen, committed themselves to strike the Ave Maria Bell (Gratia Dei) when the clock strikes 12 noon, to commemorate our Lord Jesus Christ and His suffering, at which everyone should say 1 Our Father, 1 Hail Mary, I Credo, for which H. M. bishop Sbigneus (Olesnicki) granted 40 days of indulgence. As before the Prayer Bell was also sounded at 7 in the morning and at 5 p.m. The instruction from 1612 gives precise advice as to the way of striking: the bell-players' superior using a rope striks with the clappers against the edge of a bell, slowly 10 times, and finishes with 2 strikes quickly one after another. At St. Catherine's church already before the last war the Prayer Bell was struck in dozens, according to the scheme $4 \times 3$ strikes.


Figure 18. The pin setting scheme for melodies of the Town Hall carillon in the "Tower Book" from 1769. for the full hour on the $17{ }^{\mathrm{hh}}$ Sunday after St. Trinity

After such explanation it is easier to understand the details of the instruction of striking. In 1463 at St. Mary's Church the following advice was given: First, during the 4 main holidays and all totum duplex (the highest hierarchy of holidays) one should ring the Gratia Dei then strike the Osanna, and then clapper on the Apostolica. And at the Circumcision (New Year), St. Ann's (26 July) and the Holy Cross (24 September) one should equally ring the Osanna, than strike the Apostolica, and clapper on the Dominicalis. At duplex holidays (2nd category) of the Apostles, the Martyrs, The Believers and the Virgins, Apostolica should be rung, then Dominicalis and Ferialis struck, and Sybil clappered. On all


Figure 19. Musical inscription for the melody in Eggert's collection


Figure 20. The instruction for the person setting the carillon in the $19^{\text {th }}$ century
working days Ferialis should be pulled, and Sybil rung. At funerals the following scheme should be applied: at children's funerals - Sybil and Ferialis. When Apostolica is ringing Ferialis and Sybil should be rung as well. When Osanna rings for a funeral, Apostolica, Ferialis and Sybil should accompany her. When the big Gratia Dei is ringing, Apostolica, Ferialis, and Sybil should accompany. The same rules for combining the bells for funerals were working in the $17^{\text {ht }}$ century.

This is the timetable of playing on ordinary Sundays, according to the instruction from 1612: [...] in the morning after 4 o'clock is struck there should be a series rung on Dominicalis, a three score should be pulled or a bit longer, and shortly after the Long Bell should ring until 5 o'clock. Shortly after on Dominicalis and Ferialis two times three score should be pulled, later, after 6 is struck Osanna should be pulled - also two times three score - for the morning prayer. Next, at 11.30 Osanna should play for the afternoon prayer. In the afternoon, as far as there is no funeral with bells, at 1 one series should be rung on Dominicalis and shortly after the Long Bell should ring until 1.30, later Osanna should ring one series for vespers. Yet if there is a funeral with bells, then the Long Bell should not be rung, but after 1 is struck, one series on Dominicalis should be rung, and shortly after 1.30 Osanna should play one series for the vespers, and later again Sybil rings for the funeral, and when 2


Figure 21. Drawing of the bells placement at St. Catherine's church in 1738


Figure 22. The title page of the set of melodies for bells of St. Catherine's church from 1784
strikes - the third time, and later - at 2.30 only the bells ordered for the funeral should ring. The series which are mentioned (Puls in the original version) probably mean playing by swinging the bells, when the pulling of the rope was counted, although this was not a rule everywhere. In Lubeck, for example, hoaxing called for the prayers. If to this description we add sounding the Prayer Bell at 7 in the morning, 12 and 5 in the afternoon, and the striking of the clocks, we receive at least 4 hours of constant playing. To this was added hoaxing for different holidays, playing for funerals and other celebrations, for example to begin and end St. Dominic's fair, for the Council elections, as a warning during a storm. When heavy thunders and lightning strike, the blind (bell players) should quickly proceed to the tower, either during the day or at night, and according to an old custom ring the proper bells, which are: Osanna, Apostolica, Dominicalis together, until the storm ends, for which they should also be paid. In case of fire the bells of St. Mary's, St. Catherine's, St. John's, St. Bartholomew's and St. Peter's churches informed about its place. Series of 6 strikes meant the Right City, of 5 the Old City, of 4 - the Long Gardens and the Lower City, of 3 - the Old Suburbs, of 2 - the outer regions. A continuous sound meant fire on the Granary Island.

The mystery of the blind bell players was explained in the following way: This should also be mentioned about the Tower of the Parish Church, that at all times there are 12 poor blind kept there, who live there, because at the very top
there are real flats for them, with chimneys (in reality it was just one room with a tile stove). They have to step the bells, like the crane in the Big Crane, where they step in 2 big wheels. They are carefully chosen, not to get dizzy from this or from the steep stairs, they in return have a better orientation in the tower than most of those with two eyes. Of course the bell players had 49 healthy helpers, and they all were controlled by a church clerk, called a signator. The employment of the blind, which was a form of charity, was continued till the $19^{\text {th }}$ century.

There were separate laws regulating the bell playing for the elections for the city authorities, so called Kiera (from German Kühre), taking place always in March, on a Tuesday or Thursday alternately, in a week in which there was the $17^{\text {th }}$ day of the month (St. Gertrude's). On the appointed day when public persons are to be chosen for positions, after 6 in the morning the Big Bell should ring, and then the election service lasts from 7 to 8. After the service, from 8 to 9 Veni Sancte Spiritus is played on the organs and in the gallery. When this is finished the Noble Council goes to the Town Hall, and when the Kiera is started, the commander of the guards puts a flag on the Town Hall, which can be seen from the church tower. Seeing it they should start ring the Big Bell until the flag is taken down, which is observed by the signator, and then there should be a break in the ringing, until the flag is seen again. Shortly after that there is a reading of all the names of people in the Council. At any time when the Noble Council orders to ring the bells it should also pay for it.

This is how St. Dominic's Fair was announced: on the day of St. Dominic ( $5^{\text {th }}$ August) the bells on the Town Hall have to play, and shortly after that the clock strikes 11 o'clock, and when it finishes the bells are to ply again. When this is finished The Big Bell rings one series, and a similar procedure is repeated when 11.30 and 12 strike, yet after 12 is struck first the Prayer Bell should be pulled, and then the bells should play for the third time. On the say of St. Lawrence, which is on $10^{\text {th }}$ August, again the end of the Fair is announced. For this ringing the blinds get wages from the Council.

At the end let's have a look at what is most beautiful in the music of carillons. The preserved registers of melodies played by the Town Hall mechanism let us not only get acquainted with the repertoire of those times, but also with the corresponding system of pins. The latter ones are, for example, given in the tower books from the years 1769 and 1775, and are probably the only examples in the world! From the $19^{\text {th }}$ century we have the musical notations, which confirm the stability of the repertoire and the style of the reproduction. Most of the compositions were Huguenot psalms composed in the $16^{\text {th }}$ century by Claude Goudimel, and other old chorales sung in Gdansk churches. The melodies were changed every week, to suit the liturgical periods. Also the occasional pieces were strictly defined. During the entrances and exits of Polish kings Te Deum Laudamus was played, and during the visits nearly every day other nice melodies were played. During elections the chorale Come Holy Spirit God was played since 9 in the morning till the end of


Figure 23. George Edel by the bar keyboard
elections. At the beginning of St. Dominic's Fair on the Town Hall drum Let God Be Merciful For Us was set for the full hour, with the mode for 12 hours. Around 1 in the afternoon the mode is changed into In Two Matters I Ask You, for half an hour. At the end of St. Dominic's Glory to the Lord was set for the full hour, with 12 hours mode. About 1 o'clock the mode is changed into To God We Send Our 干hanks for half an hour. For the funeral of the mayor God, our Father, Stay with $u s$ was played, and the sounds were to keep Satan away. For the funeral of a councilor $I$ wish you good night was sounded.

The registered setting of the pins lets us see the way in which the pieces of music were arranged. As opposed to the today's setting of Nowowiejski's Rota practically the only song we can hear from the Town Hall tower - the melodies used to be monodic, with transition to two parts and sporadic chords at the end.

The setting of the melodies in the carillon was done by musicians. The first one was from the Netherlands - Franciscus de Rivulo, since 1560 the City Council's bandmaster. After his death in 1564 the duties were transferred onto a singer Philip Schönberg. He was working till 1586 , excluding the years $1576-1577$, when he had to give up his place to a "notary" Michael Colrep. Schönberg's successor was an organist Jacob Tetzius (Tetz), who was replaced in 1603 by Bartholomäus Byhan (Biehn), lutenist and vice-bandmaster at St. Mary's Church. Since 1609 the bills were written for an organist Franciscus Tetz, since 1612 - a guild musician Hans Neunaber, and since 1634 his son Andreas, later an organist at St. Catherine's. 'After Andreas died in 1663, his nephew Jacob took care of the carillon. In the years 1714 and 1715 the function was performed by Christian Biehn, and later by

Christoph Siewert. After 1734 the carillon was tended to by Peter Bewersdorff, since 1750 - by David Krüger. In the years 1773-1775 it was tended to by the author of the tower books Theodor Gülich, in the years 1776-1779 by R.L. Liebendey, and since 1780 -by J.G. Borowski. In the $19^{\text {th }}$ century the carillon was looked after by the clock-makers Paul Friedrich Knaack (1808-1847), and Carl Anton Kaschlinsky (since 1882), and after them - by the musicians from the Krieschen family. The technical side was taken care of at the end of the century was taken care of by an locksmith Paul Cloppat.

For the work the carillon setters received a small quarterly salary and additional circumstantial gratification. The permanent part of the salary was in 1567/77 46.5 marks, in 1614 - 120 marks, and since 1649 - 100 zloty, that is 150 marks a year. For setting the elections song they were paid 4 marks, and since 1683 - 4 marks, 10 grosz, which was 3 zloty, for St. Dominic's Fair - 6 zloty, for the funeral of a councilor or the mayor - 20 zloty, for that of an alderman or of somebody in the family of the councilors - 10 zloty. For the merry melodies which were played on the occasion of the election of the king Wladyslaw IV on the $15^{\text {h }}$ December 1632, the carillon player got 46 marks, 10 grosz (together with the music at the Arthurs's Court, and for the music on the coronation day $18^{\text {th }}$ February 1633 - 21 marks, 3 grosz. In 1677 the birth of Prince Alexander Sobieski was celebrated with the music of bells for 4 zloty; the same was paid for a similar setting of the anniversary of the Chocim victory. Apart from that the Town Hall carillon players got special service flats, and additional services for paying for heating and other materials, as was said in the following note from $16^{\text {th }}$ September 1628: for 14 ells of fustian for Hans Neunaber, who sets the bells' playing mechanism, 16 grosz for each ell, for the cover which he puts on top of his clothes when he works. A supplement of 35 grosz for copybooks and other materials -2 marks 15 grosz, which is together 15 marks 14 grosz.

St. Catherine's church had a repertoire similar to that of St. Mary's church. Yet because of far more developed possibilities of this instrument the set versions of the same melodies were much longer, and their texture was much richer. Unfortunately, the collection of 171 pieces, prepared in 1744 by Eltje Wolthers, disappeared. Judging from descriptions, their rhythms were very fast. The chorales for the full hours were set in such a way, that after a simple version of the melody there were figurative variations. The followers of Wolthers, who left Gdansk in 1750, were the organ players Daniel Rothländer (till 1766) and Carl Gottfried Busch (till 1798), and then Johann Ephraim Eggert (1766 - 1803) and his nephew Carl Friedrich Eggert (1798-1843). A valuable legacy after old Eggert and a certificate of his artistry is a collection, prepared by him, of 257 melodies for St. Catherine's carillon. It gives us a very good idea of the possibilities of the instrument. The elaboration is similar to the Wolthers' one - after a simple melody exposition it is repeated in the form of impressive variations.

In 1803 the carillon player had to set the bells every week, together with another carillon player, that is they were setting the songs to be played during
the week, and which had been decided by the old custom for each week of the year; also they had to play on the keyboard each day between 11 and 11.30. This is so all year long, and only in summer, from Easter till St. Michael's there is a change - on Sundays and holidays instead of playing in the morning they should play in the afternoon, from 5 to 6. For this work, in the Polish times, the musicians received 400 florins a year, to be divided between them (Wolthers alone took 600 !). Additional income could be obtained from playing during funerals paid by the families. A special person was employed to pull up the weights of the mechanism. He had to do it every 12 hours, between 7 and 8. On Saturday he additionally had to screw and unscrew the nuts of the pins while setting new melodies. In this he was guided by the carillon player.

After his uncle died, young Eggert worked alone. When he got old, an additional musician, F.W. Pfahl, was employed in 1836. After Eggert's death (in 1843), Pfahl took his position, and Carl Friedrich Müller became the second carillon player. He died in 1866, and Pfahl's son-in-law, Paul Krieschen, took his place. After the death of his father-in-law he took his place, and his son Paul became the second carillon player. After the father's death he took care of the instrument by himself. After a break in 1905-10, which was caused by fire, he came back to work. Since 1912 he was helped by his son - Gustav - a clock-maker, who took over his position in 1920. The after war recession made him give up this position in 1924. The last carillon player was a blind organ player from St. Barbara's church, Georg Edel. This is how his duties were described in the preserved agreement from $18^{\text {th }}$ Sept 1924:
a) Setting the songs on the carillon drum. Each time two chorales should be set, I longer two-part set for full hours, I shorter monodic for halfhours. The monodic chorale should end in a chord. The chorales should be changed every week. Exceptions have to be agreed to by the pastor. The setting of melodies is to be done on Saturdays, in the afternoon. The songs should be chosen together with the pastor of the parish.
b) The playing by hand should be performed on weekdays, usually from 11 to 11.30 every day, and chorales and popular church songs are to be played. The playing by hand on Sunday afternoons in the summer time is a matter of further discussions. On the night before the beginning of Advent, Christmas and New Year holiday chorales should be played at 8 , 9 or 10 o'clock. On the 2nd December (on Körner's death anniversary) bells should be sounded at midday from 12 till 1 o'clock.

The Körner mentioned above was a famous theologian from Leipzig. Apart from the duties mentioned above, the carillon player was also responsible for keeping the notes (pins), belonging to the carillon, and for taking care that no unauthorized people used the keys for the tower or the carillon. There were 5 keys. As we can read in an earlier instruction (from 1840) the pins for setting the melodies were kept in a locked case, and every three months the worn out ones were given back to the superiors, so that they could be replaced by ordering new
ones, and that the original number was not smaller. Apart from that the carillon players also had to take care that the wheels, ropes, and wires were in good and regular condition, and whenever they noticed any problems they could not deal with themselves, they were obliged to inform the superior about them immediately. They were charged with financial fines if there were any problems resulting from carelessness.

As we can see a carillon player's job was not an easy one. It was not a lucrative career, either. An annual salary of Carl Friedrich was in 1825 only 139 thalers. When a second musician was employed, only 100 thalers remained for him. All the other income was divided between the two of them. In 1895 Paul Krieschen got 274 marks a year, and also had a small business apartment by the church (Big Mills 4 Street). In 1920 the yearly salary was 600 marks, yet its real value was much lower. Since 1925 the carillon player was paid 100 guilders a month, which was the lowest salary of an unqualified worker. We should remember, however, that it was only the second, part time job.

Let's add some more information about the creators of the bells in Gdansk. The oldest ones, probably imported, ware anonymous. The first bell-founder, Hincze Klokenmaker, was noted in 1366, yet we don't know any bells made by him. In the years 1450-1470 Hans Karssow founded a huge bell for Szczecin. In 1468 the 10-ton bell for the Magdeburg cathedral was the work of another Gdansk master Henry. This is a proof that the bell-founders from Gdansk worked on a level that was known in the world. Since 1405 they were gathered in a guild of non- ferrous metals casters. In the years 1525-1550 Andreas Lange, mentioned before, was Guild's Senior. Since 1529 we have a full list of the bell-founders. Till 1805 it comprises 26 masters, which, together with the names mentioned above, gives a total of 38 names. This is more than in any other Polish city. A similar list for Torun has 8 names, for Elblag - 6. The products of the Gdansk bell-founders can be found all over Poland - even the symbol of Warsaw, the statue of Sigismond III on the Castle Square is the work of a Gdansk master Daniel Thiem. In a full list of bells produced in Gdansk for contractors all over Poland and abroad, there surely would be more than five hundred. It's a pity such a list has not been prepared till now. Before the partitions of Poland the highest level had the works of a casting Benning dynasty, which worked in the years 1539-1666, especially those of the second of them - Hermann (1560-1596), who adorned his bells with salvia leaves and salamanders. High quality bells were also cast by such masters as Ludwig Wichtendal (since 1625), Absalon, Michael and Benjamin Wittwercks (1664-1730), and Johann Gotfried and Karl Gotfried Anthony (1733-1800). Before the last war these traditions were continued by the foundry of Gdansk Shipyard.

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