

## THE BELL WHEEL: THE LEGACY OF A LITURGICAL OBJECT FROM MEDIEVAL MALLORCA

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### Resum

Aquest treball ofereix un recull dels instruments musicals denominats “roda de campanetes” que s’han conservat de l’època medieval a Mallorca. L’estudi, a més d’analitzar, de manera breu, les peces que s’han trobat aportant la seva localització així com l’estat de conservació, ofereix un primer apartat que les contextualitza a través dels textos escrits coetanis (consuetes i llibres de comptes) i amb obres gràfiques a les quals quedaren registrades les diverses tipologies d’aquestes peces.

**Palabras clave:** roda de campanes, consuetes, santa Eulàlia, Lluçmajor, Algaida, Petra, Pollença

### Abstract

This work presents a collection of musical instruments called “bell wheels” preserved from the medieval period in Mallorca. The study briefly analyses the pieces that have been found, providing information about their location and state of conservation. Moreover, it offers a first section that contextualises them through contemporary written sources (customaries and ledgers) and graphic works in which the various typologies of these pieces were depicted.

**Key Words:** bell wheel, customaries, santa Eulalia, Lluçmajor, Algaida, Petra, Pollença

## 1. Introduction

Bell wheels are still present in many of the temples on the island of Mallorca. These rather unknown instruments have so far only been considered individually, and this on very few occasions.<sup>1</sup> In this paper, we would like to pay special attention to extant medieval bell wheels, or at least to those that share the style and characteristics typical of medieval Mallorca. The compilation that we will present here is not comprehensive and, perhaps, other such instruments will be located by later research projects. It should be noted that this analysis is twice as difficult not only because our focus lies on medieval pieces, but also because these objects are usually placed in secondary places within churches, namely, inside chapels, behind the main altarpieces, and inside side rooms and sacristies.<sup>2</sup> Suffice it to note that, for example, they practically left no trace in the pastoral visitations that were gradually established from the sixteenth century onwards as a result of the Council of Trent. The place where they were usually installed is, as we have said, hidden or equivocal, in this respect. That is to say, since they were attached to the walls, they were not loose pieces to be inventoried and, at the same time, they did not belong to altarpieces, nor to the building itself. Thus, out of the few times they appear in church inventories, we have only located a record in two much later pastoral visitations (1724 and 1752) of the parish of Bunyola,<sup>3</sup> and another one we will analyse later in Lluçmajor, documented during the pastoral visitation to this village in 1724 when all the bells were inventoried, “Item un rolo de fust ab onze campanetes de bronso” [Item a wooden ring with eleven little brass bells].<sup>4</sup> Although their liturgical use was often left to the sole discretion of the clergymen in charge, it was abandoned after the Second Vatican Council (1962-1965).

These pieces had no official name, not even a popular one, and in most cases they are simply described using the words ‘wheel’, due to their form, and ‘bells’ indicating their components;

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<sup>1</sup> Two particular cases should be mentioned. First, Dr. Gabriel Llompart’s specific study which approached this type of piece from both a folkloric-ethnographic and a historical perspective (LLOMPART 2000). Secondly, the database of the Association of Bell Ringers of Valencia is a reference for this subject, as it records of all kinds of bells and bell towers in the region of Valencia, as well as in other nearby places (Catalonia, the Balearic Islands, etc.): [www.campaners.com](http://www.campaners.com) [2017/08/22].

<sup>2</sup> For example, we have located early modern pieces in a chapel of the church of Porreres (1701), a bell wheel featuring polychrome vegetable decoration in a chapel of the church of Inca, another one in the hallway that leads to the sacristy in the church of Bunyola, and so on. Some are found behind the main altarpiece, for example, in the church of Sant Miquel and the church of Sant Nicolau in Palma de Mallorca. It should be noted that thanks to the records in the catalogue of the Association of Bell Ringers of Valencia we have learned of two Gothic bell wheels. We had erroneously dated the first one, kept in the choir of the church of Sencelles, to the Early Modern period, but thanks to the photo on the record included in the catalogue, we understand that at least the supporting structure is medieval. The second one is from Pollença, only retains the central piece, and will be analysed below.

<sup>3</sup> The document in the Arxiu Diocesà de Mallorca (ADM), Arxiu Parroquials, Bunyola, no. reg. 169, fol. 32, inventories a bell wheel. ADM, Visites Pastorals, Bunyola, 1752, also records that this instrument was used during sung Masses.

<sup>4</sup> Arxiu Parroquial de Lluçmajor (APL), Visita Pastoral, 1724.

a definition that we can also find in Antoni Maria Alcover's renowned dictionary (ALCOVER-MOLL 1985, IX: 597).<sup>5</sup> This description merely refers to the aspect of these pieces, namely a simple mechanism based on a circular object made of wood or other materials,<sup>6</sup> featuring small bells on the outer edge. It spins by means of a pulley and a string that passes through the central axis of the wheel, thus producing sound. As for medieval terms, we can find it under the names *rogle* and *rotle*, and, in the case of the Cathedral of Valencia, it was sometimes called *torn de campanes* (MARTÍ, SERRA 2009, I: 282). However, these are not the only documented names for this instrument. In the Mallorcan town of Algaida, where, as we shall see, there is still an extant medieval piece, it seems that they were commonly known as *colissos*. This word is the plural of *colís*, which was the name of a little bell that was rung in the streets when the Viaticum was being carried to the dying (ALCOVER-MOLL 1985, III: 542). We understand that the use of this term may be due to the similarity between the instrument and the flower of the *Silene vulgaris*, a plant known as *colís* or *colitx* whence the musical instrument would take its name.<sup>7</sup>

This article is divided into two sections. First, we have gathered some medieval written and iconographic sources that feature these instruments in order to offer a brief overview of their contemporary context. In the second section, we have compiled six examples from Mallorca that fit the medieval typology. Only one of them still seems to be in its original location (the church of Santa Eulalia). The remaining extant examples almost certainly fell victim, to varying degrees, to the reconstructions carried out during early modern and modern times in the churches that housed them.

## 2. *Lo rogle* in Written and Iconographic Sources

The liturgical function of these medieval pieces was to be struck, especially, in great events or moments of the religious Office: Christmas, Easter, Corpus Christi, and during the introduction of the *Gloria* and the *Te Deum*.

Although the main temple on the island, the Cathedral of Palma of Mallorca, could have been a reference point for this type of instrument and the initial basis for this study, mostly because it is a medieval building, it has not been possible to clearly identify this instrument in connection to it either in texts or physically.<sup>8</sup> In the manuscripts of the time, we have only found general

<sup>5</sup> Alcover also includes the Valencian variant *rotlet* (ALCOVER-MOLL 1985, IX: 598). The instrument is also described in specialized Catholic encyclopedias, for instance *Cathopedia* and the *Thesaurus del corredo ecclesiastico di culto cattolico*, among others.

<sup>6</sup> The aforementioned Valencian catalogue contains a good number of these pieces with a wrought iron core. Apparently, however, they are more modern.

<sup>7</sup> The flower has a bell-like calyx with five two-lobed petals around it. Some variants of the term identifying military pieces also seem to derive from the similarity with this flower (ALCOVER-MOLL 1985, III: 270).

<sup>8</sup> The last monograph devoted to this temple dedicated a generic chapter to music (CARBONELL 1995). A compilation originally written three decades earlier by Bartolomé Nigorra refers to the ancient use of bells (NIGORRA 1995). This author regretted that bells were no longer rung in the traditional way, which meant that their use and ringing were reduced to a minimum. However, neither of these two works records the presence of bell wheels.

references to the use of other bells, especially those housed in the bell tower.<sup>9</sup> Therefore, we do not know if such a piece existed but we can deduce that, as this was the principal church on the island, it must have had at least one.

The documents we have consulted indirectly hint at its possible existence, but, because of the terms used to describe it and the context of such mentions, we believe that they indicate other types of objects, and not the bell wheels used for liturgical functions. A *rotle* is listed as furniture in the first *llibre de fàbrica* —a sort of ledger— of this temple (1327-1345). The word appears several times as part of the expression *rotle maior* (SASTRE 1994: 161), but these mentions do not include their use nor the instrumental complement necessary for a clear identification, that is, the bells. Thus, we believe that on these occasions it could refer to the main rose window or, more likely, a chandelier (SASTRE 1994: 45-46, 49).<sup>10</sup>

The fifteenth-century *Consueta de Tempore*, a later liturgical document from the cathedral, only mentions bells in general and those instances in which all of them or those in the bell tower had to be struck —sometimes referring to each bell by their name, Alou and n'Antònia, among others.<sup>11</sup> The same is true for the 1511 *Consueta de Sagristia* written by Father Joan Font i Roig (SEGÚI 2015).<sup>12</sup> We have not been able to locate the instrument nor its use inside the cathedral in this latter work. In contrast, it does include a large number of typologies and uses of other bells from this same period:

[...] tocharan les betallades[...]; [...] comensarà lo Te, Deum, ab tots los senys e N'Anthoni, e après tocharan les betallades[...]; [...] la missa de les betallades[...]; [...] l'esquella de Tèrcia [...] tocharan n'Aloy[...] doblaran les esquellas maiors[...] feran-los senyal per acabar ab la dite campane del cor; tocharan Ne Picabarayha per spay de mige hora; [...] ço és l'esquella de Prima e d'enseguonar, per bon spay [...]<sup>13</sup>

<sup>9</sup> This statements is based on the extant *consuetes*, which are the basic manuals that inform about liturgy, protocols and functions of the activities and cults that were carried out in the temples. One of the most recent works that provide information on the current state of the matter and, in general, an introduction to these texts is CARRERO SANTAMARIA 2014.

<sup>10</sup> This term is always related to an architectural space (lantern towers or chapels), not to a musical instrument, see fols. 17-17v and 19: “Item pagueli per pintar III files de les quals III ne foren posades sobre les capeles pintades a ops de les lantees e l' el cimbori veyl a ops del rotle maior/ Item costa corda de canem que compre a ops de les lantees de les dites capeles e del rotle maior con sagues a mudar e no bastas la corda que hi era/ Item costa una caxa a ops del rotle maior. Item costa corda de canem que compre a ops de les lantees de les dites capeles e del rotle maior con sagues a mudar e no bastas la corda que hi era; Item costa una caxa a ops del rotle maior/ Item costa canemas a ops de l' fanestra [...]” As for the definition, as we have already noted, it can be identified with a chandelier, which is one of the meanings also found in ALCOVER-MOLL 1985, IX: 597. Moreover, we believe that this is the meaning of the term in the index elaborated by the historian J. Sastre.

<sup>11</sup> Arxiu Capitular de Mallorca (ACM), Ms. 3412, *Consueta de Tempore*, fols. 74, 78v: “Et cum dominus primicherius inceperit dictum responsum cantemus pulsetur omnia cimbala et primicherius in choro incipiat ante letnum versum responsi et Gloria Patri et iteretur prosa./ ...Dominus Episopus cum aliis pstantibus reliquias flectant genua et dominus episcopus cum predicto prelato incipiat Te Deum Laudamus. Et pulsetur cimbalum maius quando cantabitur.” This *Consueta* was transcribed by Lorenzo Pérez Martínez (ACM, unpublished, pp. 175 and 184). It is worth mentioning that we have only looked into the entries of this codex that correspond to major religious feasts, such as Christmas, Easter, Corpus Christi, and so on, when this type of instrument was more likely to be used. In particular, the passages transcribed above refer to the liturgy of Holy Saturday and Pentecost.

<sup>12</sup> The edition referenced here is the one by Dr. Gabriel Seguí i Trobat.

<sup>13</sup> We will not list nor transcribe all the cases, but only a few examples of documented peals among the wide variety

Dr. Gabriel Llompart claimed to have located a bell wheel, which, according to another ledger, would have been placed in the choir of the cathedral (1498) “el rotlo del cor” (LLOMPART 2000: 260).<sup>14</sup> However, as in the case of the first ledger, the term was also used ambiguously and did not mention the bells. Therefore, we believe that this piece located by Llompart could be some other object and not a musical instrument. We maintain this because in another text of the period, the customary of Sant Joan of Perpignan (late fourteenth, early fifteenth century), this term describes a piece of furniture used to store and distribute liturgical books in the choir:

[...] e deu girar en los libres de la roda hon són notades totes les antífenes els respons qui-s duran.; Item lo cabiscol tota vegada que fa l’offici deu girar en los libres de la roda hon són notats los respons, entífenes [...]; [...] après que hauran tocat per matines, de obrir les tancadures de la roda del mig del cor d’aquells libres que hauran necessaris en aquell jorn e aquells tancar après que hauran servit.; [...] diacha és tengut de mudar los libres de la dita roda totes vegades que necessari serà (PUIG, MIRÓ, VILA 2008: 219, 232, 277).

Therefore, it is more likely that the object listed in the aforementioned ledger is this other piece of furniture whose function was to store and distribute books. This would resemble the meaning that Antoni Maria Alcover proposes for the *roda d’estudi*, in this case meant for the music books of a cathedral choir (ALCOVER-MOLL 1985, IX: 523). A specific example of this use in the Cathedral of Mallorca can be found in the customary of 1511, which can be clearly connected to these other functions: “[...] E lo setmaner dels lanterns és tingut astar a la rode mentre que lo roder sterà a l’altar maior per donar recapte a las missas[...].” (SEGUÍ 2015: 175).

Elsewhere on the island, these pieces can be more satisfactorily identified through documentation. In the parish of Marratxí, an uncle of the painter Miquel de Alcañiz left him money to commission an instrument of this type (circa 1461). The piece must not have differed much from those we will see later, that is to say, a polychrome instrument featuring bas-relief decorations on the edges and vegetal or figurative miniatures.<sup>15</sup> Another case is the example of the church of Pollença,

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available: Philomena, Pissan peal, and so on (SEGUÍ 2015: 51, 109-110, 113, 118, 123, et seq).

<sup>14</sup> It should be mentioned that Llompart’s study includes a photograph identified as the bell wheel of the Cathedral of Mallorca. We have not been able to locate it and, in fact, we believe that this is a misidentification, as the image shows the bell wheel of the church of Santa Eulalia, the first instrument that we will describe.

<sup>15</sup> We will not discuss the typology of the miniatures of the pieces presented in this paper in depth. Even so, with respect to the painter Alcañiz and, in general, the painting of this period on the island, see the seminal studies by Dr. Tina Sabater (SABATER 2002). We should also mention Dr. Gabriel Llompart’s work, which was the first to deal with this issue and offered the first compendium and modern analysis of Mallorcan Gothic painting (LLOMPART 1977-1980). Nevertheless, we can make a brief comparative selection of these models of miniatures and decorations and connect them to the paintings of the time, for example, the vegetal motifs and borders used in the paintings of Pere Marçol (altarpiece of the Annunciation and the Saints Johns, circa 1380-84), the background of the figure of Saint Lucy distributing her dowry among the poor by the Master of Montsió (first quarter of the fifteenth century), and the illuminated manuscripts of the female monastery of Saint Elisabeth in Palma, both of which are attributed to Valencian and Castilian workshops (end of the fifteenth century). In all these cases, the background of the painting shows a decorative style similar to the one we will see in bell wheels. Furthermore, these are common models that can also be found in other areas as in some of the decorations of the landscape of the martyrdom of Saint Lucy (1435-1440) and in the background of the Flagellation of Saint Eulalia (1435), both works by Bernat Martorell (MOLINA 2003).



in the north of the island. There, a similar instrument was documented between 1436 and 1440 (LLOMPART 2000: 259-261).<sup>16</sup> This piece, whose payment was in dispute, could be the one that has been preserved and that we will analyse at the end of this paper.

Fortunately, we have found richer medieval customaries that document the presence of these objects. One of the clearest cases is that of the Cathedral of Valencia. A first mention is made on the margin of one of these sources. The document refers to a period of interdict and provides the relative location of certain vestments: “[...] A levar Déu no·s toca [...] oració acostumada [...] nys hi à capa nota [...] capella que està al costat del dit rogle” (MARTÍ, SERRA 2009, II: 8, note 6). Although the musical element that would confirm that the object described is indeed the musical instrument is again absent in this case, this identification is confirmed, shortly afterwards, by the description of its use during the first week of Lent. On this occasion, as we mentioned above, the word *roda* was changed to *torn*: “Y, acabada missa, toquen lo torn o campanetes y comencen vespres ab ses capes y bordons [...]” (MARTÍ, SERRA 2009, II: 56).

During Easter, we find another indication that was added later on the margin of the original text prohibiting the use of the bell wheel: “A comensar tèrsia no se à de tocar lo rogle” (MARTÍ, SERRA 2009, II: 81, n. 267). On All Saints’ Day the bell wheel is mentioned in connection with the celebration of Second Vespers; after ringing the bells in the bell tower of the Cathedral, when the main Vespers were over, the bell wheel had to be struck three times: “Y, en haver acabat les vespres majors, fan tres tochs ab lo rotgle de les campanetes”. Finally, also in November, the bell wheel is mentioned regarding Matins: “Y, acabades matines, toquen tres vegades lo rotgle y comencen matines de defuncts molt solemnes, ab quatre capes y bordons de argent” (MARTÍ, SERRA 2009, II: 292-293).<sup>17</sup>

As for the depictions of this instrument, we will mention four examples. In the images that we will show, the bell wheel appears either as the main object or as one of the elements inside the building. As for their location with respect to the wall, the depictions show bell wheels on the wall but also hanging parallel or perpendicular to it.<sup>18</sup>

A first example is the woodcut featured in the *Lilium Musicae plane*, a book by Michael Keinspeck (circa 1451 to 1516), a German theorist from Nuremberg, that was published around 1470

<sup>16</sup> Dr. Llompart also lists two others from the same period, one in the church of Sant Antoni de Viana and another one in Santa Fe, but, if they are still extant, we have not been able to locate them.

<sup>17</sup> The use of these instruments remained the same for the next few centuries, so that they can also be found in early modern *consuetes*. In an eighteenth-century *consueta* from the church of Felanitx (Mallorca) a bell wheel is mentioned when the *Gloria* and the *Te Deum* were sung (BORDOY 2002: 39), and the 1769 *consueta* of Xàbea (Valencia) documents a less extraordinary use of bell wheels (SERRA, TORDERA 2005: 85, 160-164).

<sup>18</sup> In Mallorca, we find a bell wheel hanging perpendicular to the wall in the church of Sant Nicolau, although, as we have noted, we assume it is from a later period. It must be said that to place them in this manner they must be smaller in size. Moreover, as regards the format, material, and function, some of them were represented in stonework. The article by Dr. Llompart mentions one from a Renaissance house in Mallorca (LLOMPART 2000: 262). We do not know if there are any other examples, but in any case, in this study we have not looked into this other type.

(LLOMPART 2000: 262). This work was a manual of Gregorian chant for priests and students used by the University of Basel. It was later printed in various other editions: Ulm (1497), Augsburg (1498, 1500) and Strasbourg (1506).<sup>19</sup>

In this woodcut (Fig. 1) the bell wheel is flanked by two figures. The figure on the left is Pythagoras (circa 569-475 BC) who, as we know, was credited with discovering the laws of musical intervals and, therefore, the musical scale. A note scale is inscribed in the list he holds and with the other hand he wields a mallet to strike the notes. The second figure is an allegory of music that holds the bell wheel showing the philosopher the one he has to strike.

Another depiction of this kind of object can be found in an edition of a work by Enrique Amusco, *Compendium totius sacrae Scripture diuinum Apiarium* (1519).<sup>20</sup> The engraving represents the interior of the Cathedral of Toledo and the preacher Amusco, in the foreground, is heard by a crowd gathered at the foot of the pulpit and in the gallery (Fig. 2).

The instrument is depicted protruding from the right side of the central column in the background, and it shows an iron handle presumably used to turn it and a string attached to it. The wheel features simple spokes and is supported by two tapered beams. We do not know if this piece is still extant but, at present, the cathedral of Toledo has two instruments that match the object that appears in Amusco's *Compendium* and they also hang perpendicular to the columns on each side of the choir. The current pieces are made of metal, and, furthermore, they preserve the medieval aesthetic with the inclusion of Gothic elements (pinnacles and pointed arched shapes). Therefore, everything leads us to believe that they are the originals that were documented in the 1519 engraving.<sup>21</sup>

The case of Toledo has the particularity that it is the only example that we have been able to document using three different kinds of sources, namely the original physical piece, its depiction, and a contemporary text. This Toledan instrument, documented in 1531, was used for important festivals and during Matins at the start of hymns such as the *Te Deum laudamus* and the *Gloria*. Some decades later (1604 and 1611), Covarrubias and others recorded how it was played during the elevation of the Host and as part of some musical performance by a group of minstrels (ESTEVE 2016: 331-333).

<sup>19</sup> Currently, both the original and later editions are easily accessible online.

<sup>20</sup> There are many extant editions of this work available in digital repositories, such as the Old Repository of the Universidad Complutense and the Repository of the Floridablanca Library-Universidad de Murcia. More recently, its engravings have been included in modern editions (CARRETE, CHECA, BOZAL 1988: 63, Fig. 45). This last work analysed the engraving and found it to be one of the most advanced of its time in terms of distribution, perspective, and composition. Moreover, the image was also included in Pedro Catedra's study, a book that analysed the plate within the context of *cerimonials*, liturgical and theatrical functions of the time (CATEDRA 2006: 397-398, plate 16).

<sup>21</sup> See the entries for these pieces from Toledo in the database of the Association of Bell Ringers of Valencia: [www.campaners.com](http://www.campaners.com) [2017/08/22].

The third and fourth cases from this period that we will discuss here were depicted in a more modern work that documented two medieval instruments from the cathedrals of Manresa (Fig. 3) and Girona (Fig. 4). Unfortunately, the original piece from Manresa, which was the one that George Edmund Street sketched, was destroyed during the Spanish Civil War, although a replica was later made and placed in the same church. In contrast, at least in the 1990s, the one from Girona still conserved the lower half of the wooden case carved with tracery that covered the wheel. However, it had already lost the internal structure of the instrument (BORNGÄSSER 1999: 272).

These two pieces appeared in George Edmund Street's (1824-1881) publication, *Some account of Gothic architecture in Spain* (1865). This work is a collection of the most important Gothic buildings in Spain and includes engravings. As far as the Balearic Islands are concerned, Edmund did not describe any buildings, but he did transcribe two documents: first, the contract between the stonemason Jaume Fabr e and the sub-prior of the Convent of Sant Dom enec in Palma of Mallorca (1317) and, secondly, the contract by Guillem Sagrera to build the Llotja of the city (1426) (EDMUNT 1865: 345, 500, 514-516).<sup>22</sup>

As for the instrument from Manresa, it was inside an octagonal wooden openwork case with poly-lobed medallions that allowed part of the inner wheel to be seen. Besides its decorative function, the openings of the case fulfilled a more important role, that is, to carry sound better. No example has been found in Mallorca of this type of case, since all the examples identified from the Middle Ages or later have no concealing element. Furthermore, we believe that the Mallorcan medieval pieces that we will analyse below were never covered, as all of them are polychromed and feature carvings in their structural elements, such as the supporting beams. Therefore, they were made to be seen. The other instrument recorded by Edmund Street, the one from Girona, was only partially visible, because it had half an openwork case featuring pointed arched windows that only covered the lower half of the wheel. This instrument from Girona must have been one of the few to have a double wheel with its matching double row of bells.<sup>23</sup>

In the Catalan area, cases and hidden wheels seem to have been common. In addition to the examples mentioned above, we can add the one in the Cathedral of Barcelona, with an octagonal openwork case with four-lobed medallions. Finally, we should also mention the bell wheel of the

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<sup>22</sup> George Edmund was one of the English architects who contributed to the spread of British neo-Gothic. He also wrote *Brick and marble architecture of Italy*, designed Bristol Cathedral and the Royal Courts of Justice in London. Among other depictions of bell wheels, his work includes two early modern images that, due to their peculiarities, are worth mentioning. One is an engraving from Filippo Bonanni's work, *Gabinetto Armonico pieno d'Instrumenti* (circa 1722), where a clergyman kneels down and plays a bell wheel. Although this is an early modern image, the use of bell wheels has not changed over time, and neither has its mechanism. This musical and liturgical object can also be found in a drawing from a marriage register in the church of Tr ev ec (1763). These two visual examples have been compiled and published online at [www.campaners.com](http://www.campaners.com) [2017/08/22] (MASCIA 2016: 5, 14).

<sup>23</sup> A bell wheel with a double row of bells and, in some cases, with a triple row or even more rows, is not very common. More examples can be found in early modern and present-day wheels, however, these are usually made of metal and wrought iron.



Cathedral of Santa Tecla of Tarragona, which displays a modern case that must nonetheless have replaced the original one.<sup>24</sup>

### 3. Case Studies

At the moment, we have located six extant bell wheels on the island of Mallorca, all of which likely date back to the medieval period. One can be found in Palma de Mallorca and the other five in the so-called *Part Forana*, the territory of the island outside the capital. They can be classified into two groups, not in terms of their mechanism and general configuration, but in terms of decoration, polychromy, and carvings. The largest bell wheel is that of the church of Santa Eulàlia and only features traces of polychromy. It is placed on two beams, both of them tapered and carved on both ends in the same way as the rafters of the cantilevered ceilings of the period, and is supported by corbels. In contrast, the bell wheels of the *Part Forana*, although smaller, show profuse polychrome decorations in both the central piece and the supporting beams. Where the ends of these beams are preserved, they show a slight relief that gives way to the shape of an angel's head. With the only exception of the one in the church of Sencelles, these are one-piece beams that affix the whole set to the wall.

The first bell wheel we will discuss belongs to the church of Santa Eulàlia in Palma de Mallorca. This church was built between the thirteenth century and the sixteenth, when the roof was finally completed. It is one of the earliest churches on the island and in various moments it was where the kings and viceroys swore to uphold the Mallorcan *constitucions*. In 1308, worship was already being held there and, for instance, the Capbreu of Manresa documents several foundations of ecclesiastical benefices in the early fourteenth century —one in 1303 linked to the main altar and another in 1308 linked to the altar of Saint Luke (CALDENTY 1979: 9-15)— which indicates that it was fully active by then. The building has survived until the present day, although in the nineteenth century it was the object of one last major intervention with the construction of a new façade in the neo-Gothic style of Central Europe.<sup>25</sup> The medieval wheel is located on the left side of the ambulatory and is affixed to the wall between the columns of the side bay (Fig. 5). This is where the portal and the staircase that led to the old bell tower before the nineteenth-century reform are located. In 1903, the bells were moved from the bell tower to the modern façade (CALDENTY 1979: 89) but this did not affect the bell wheel.

<sup>24</sup> We are indebted to the photographic archive of the Institut Amatller of Barcelona for these last two pieces (Barcelona and Tarragona). Moreover, this same collection has a third covered wheel. However, we do not know when it was made, and according to the inscription on it, it belongs to the church of Encamp in Andorra. There must be several more following this same style, that is, with an openwork case featuring Gothic medallions. For example, we know that another one has been preserved in the parish of Sant Vicenç de Montferrer (MASCIA 2016: 20). We have also been told of one of these instruments that is allegedly kept in the parish of Montblanc, but we have not been able to ascertain its existence nor know the period to which it belongs.

<sup>25</sup> The plans of this renovation were published in SUREDA 2008.

The instrument is supported by two wooden beams that rest on wooden tapered corbels. As for polychrome decorations, only an in-depth study and perhaps a restoration would make it possible to examine the remaining traces. At first sight, only a few curved marks or shapes remain on the surface, similar to two C's placed back to back. The central piece was carved in openwork with lobed openings and irregular edges very similar to the painted forms.

As mentioned above, the style in which the ends of the beams are carved was very common in the exposed beams of this period and would last for centuries. Other examples can be seen in the current city archive (Archive of Can Bordils), which preserves several fragments of cantilever rafters of this type inside the courtyard. The preserved remains date from the sixteenth century and are some of the pieces that were retrieved during the rehabilitation and renovation of the houses of Can Oms, the house next to the archive, and the building where they are kept.<sup>26</sup>

We haven't located any more Gothic bell wheels in the capital. Conversely, there seem to be about half a dozen instruments from this period in the *Part Forana*. In the plains and the southern area of the island of Mallorca we have found four bell wheels and one more in the north. The typology we will see was in use during the sixteenth and seventeenth centuries and matches that of the bell wheels kept in the parishes of Binissalem and Inca, among others.<sup>27</sup>

The first bell wheel from the *Part Forana* that we will describe comes from the church of Algaida (Fig. 6). This example dates from the fifteenth century, specifically from the period between 1400 and 1420 at the earliest, when the current church was built. It was then that the parish title passed from the repopulation parish of Castelltix to this other one. The old church had been built right after the Catalan conquest in 1229; however, the new village, Algaida, is located a few kilometres away from the original building. The new church was built during the sixteenth and seventeenth centuries following the original Gothic style (CAPELLÀ 1999: 13-14).

The bell wheel of Algaida is placed next to the presbytery, in the chapel dedicated to Saint John the Baptist, which was one of the first chapels built in this temple. The instrument was fitted to the side window under the ribbed vault. The piece rests on two beams whose ends are carved with

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<sup>26</sup> Collection of the City Archive of Palma de Mallorca –Can Bordils. Inventory no. 60-61, 62-52. This typology was also recorded, both in photographs and drawings, by the well-known architect and art dealer Arthur Byne during his visit to the island (BYNE, STAPLEY 1999: fig.172-173). He dated it between the fifteenth and seventeenth centuries and we do not know if he ended up exporting any of these remains. Other examples can be found in coffered ceilings or in the now disappeared Casal de Can Bonapart (ALOMAR, ALOMAR 1994: 11, 48), as well as in the cantilever of the chapel of the Immaculate Conception and the coffered ceiling of the cloister of the convent of Sant Francesc, among others.

<sup>27</sup> We will not analyse the bell wheel of Binissalem in detail because, despite being of the same type, it seems to be somewhat more recent, or at least both Dr Llompart and the record of the centre that holds it date it to 1689. In any case, it must be said that, for unknown reasons, the piece was dismantled and the fragments were disassembled, or at least that was the case in 2012. It should also be mentioned that Dr. Llompart found an earlier example, from 1436, in the church of Rubines, a temple that also belonged to Binissalem.

the angels' heads characteristic of this type of objects in the *Part Forana*. These two beams also feature polychrome motifs, specifically the four bars of the royal emblem of Aragon, or at least the red bars, as only traces of the preparation layer remain of the gold ones. Its condition makes it difficult to grasp the original decoration. The front beam seems to bear two emblems on each side, which may correspond to heraldic motifs. Unfortunately, we have not been able to identify them. Its restoration could reveal whether these marks represent some iconographic symbol and also provide a possible, more accurate, dating and, perhaps, information about the sponsor. As for the wheel, it looks as if it has been restored or repainted, at least if we compare its condition with that of the other pieces in the set. Its polychrome decoration is marble-like with green and yellow tones. In any case, it retains its original openwork shape with elongated petals distributed radially.

There is another extant bell wheel in the parish of Lluçmajor. This is in fact one of the most interesting pieces, both in terms of polychromy and state of conservation, and shares the typology and shape of the bell wheel of Algaida. Unless it was moved from somewhere else, this musical instrument seems to have belonged to the medieval church, which was completed at the beginning of the fifteenth century. This building was in turn erected or reconstructed on top of an earlier one, probably a thirteenth-century repopulation church (FONT 1974: 450 et seq). The instrument is currently situated behind the top of the main altarpiece. However, like all those mentioned above, it was made to be placed in a visible spot inside the temple, hence its lavish decoration. In our opinion, this relocation and subsequent concealment of the piece also occurred in the case of the temple in Pollença, which we will see below: the construction of a new church in the eighteenth century led to the disappearance or sidelining of a large part of the furniture and the objects it contained.

Lluçmajor's bell wheel also rests on polychrome beams featuring four bars and finished with the typical anthropomorphic forms that we have highlighted above. However, as in most of the cases presented in this paper, some sections were mutilated or removed during the relocation. This piece is easier to see because it is possible to climb up to its level thanks to the wooden scaffolding structure behind the altarpiece. The beam ends (Fig. 7) have rounded outlines and are carved at the top simulating an undulating shape. The aim was to insinuate both a face and a mane. On the back, it features a vertical pictorial border following a decorative model typical of the coffered ceilings of the period.<sup>28</sup> We can find parallels between these endings and the gargoyles typically found in architecture, but the same model of support beam (decoration, polychromy and carving) is also present in a high chair that is preserved in the Diocesan Museum of Mallorca. The dating established for this object is the early fourteenth century, which helps us to situate these medieval ethnological pieces in their context. Some studies have established that this high chair could include reused elements, precisely the beams that support it. One of the hypotheses is that some

<sup>28</sup> On coffered ceilings from this period in Mallorca see the seminal compilation and classification in PALOU, PLANTALAMOR 1974.

fragments could be made of remains of coffered ceilings of the same period (GAITA 2010: 25). We believe that this point can be further developed using the example of the bell wheel. Moreover, in addition to pieces of coffered ceilings, the support beams of the high chair may have their origin in scattered pieces of these types of musical objects.<sup>29</sup>

Another of the distinguishing features of the Lluçmajor wheel is its polychrome ornamentation. While the example of Santa Eulalia only features limited decoration, and the one in Algaida is decorated with a marbled pattern—which we think was done at a later date—the one in Lluçmajor combines both plant and geometric decoration (Fig. 8). The outer perimeter of the wheel was painted with a red border with circular and spiral geometric elements. The inner perimeter in turn has a blue-green background and interlaced floral decoration. Therefore, this piece gives us an idea of the aesthetic appeal that these objects must have had in the medieval context. Furthermore, as we have just mentioned, they used some of the polychrome models present in coffered ceilings, but it is not difficult to see how there is also a connection with the patterns of the miniatures of illuminated manuscripts and parchments.

The next piece we have been able to locate is in the church of Petra. Like the others, this site in the centre of the island was founded in 1248 by Pope Innocent IV. The building was enlarged centuries later, especially from the end of the sixteenth century (1583) onwards, when the works were commissioned to Master Antoni Genovard. Although the construction works in the temple continued to use the same resources and to follow the same patterns as in the Middle Ages, both the works themselves and the manufacture of religious furniture continued into the new century (TORRENS 1982: 157).<sup>30</sup>

The piece from Petra is placed behind the main altarpiece on the right side of the presbytery (Fig. 9). The altarpiece is baroque and therefore was installed later than the bell wheel. It is important to know whether the instrument was always in this section of the church or was relocated during the various reforms or as a result of the incorporation of new elements. In any case, in the absence of documentation, and according to its state of conservation and what we can infer from other bell wheels, it seems clear that its current location is not the original one. Again, its characteristics suggest that it was originally placed in a visible spot inside the building.

The style of this object matches that of the others (polychrome decoration with anthropomorphic carvings on both ends). Red and other warm tones seem to predominate in the surviving paintwork,

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<sup>29</sup> There are other examples of medieval high chairs, for instance, the one in the aforementioned church of Santa Eulalia, another restored one in Sóller, and still another one kept in Inca (CALDENTY 1979: 90). However, it seems that only the one kept in the Diocesan Museum features this peculiar type of support. As for coffered ceilings that use corbels in the shape of human faces, either angel heads or grotesques, examples can also be found in other areas. For example, in Catalonia, one of them is preserved and was recently restored in the church of Sant Miquel de Montblanc (thirteenth century).

<sup>30</sup> Work on the chapels and the exterior finish of the building continued during the eighteenth century.

and this is also the only example with identifiable epigraphic elements. On each side of the external crossbeam there are two panels in blue bearing Christ's monogram, *IHS* (Fig. 10) written in Gothic script. The spokes are in general simpler, mere rectangular bars without any kind of refinement or complement. The angel heads carved on the ends have been preserved except for the one on the left of the lower beam. However, the entire pictorial decoration is considerably deteriorated.

Finally, the last bell wheel that matches the typology and period discussed here is the one preserved in the parish church of Pollença (Fig. 11). The piece—if it was actually made for this village—had to be part of the furniture of the earlier building, that is, a temple that was rebuilt during the eighteenth century.

At the end of the fourteenth century, the earlier church was already falling into disrepair and a first renovation and extension was planned, an endeavour that lasted throughout the following century. A century and a half later, at the beginning of the Age of Enlightenment, it was decided to build a new building. This temple, at that time, was run by the Order of Saint John of Malta. The main altarpiece was also adapted to the new location but ended up being replaced by the piece from the church of the Jesuits of this same village (ROTGER 1969: 25 et seq).

Since the bell wheel is placed behind this altarpiece of the Jesuits, which was installed during the nineteenth century, it is surely in this period that it was last relocated. Even so, as the building underwent various alterations, this was probably not the only time it happened. We have already mentioned that the temple had been rebuilt before; thus, the earlier altarpiece had to be adapted to the new presbytery and was lost after being replaced by the one currently there.

Therefore, this instrument is not visible to the public, nor from inside the nave. On this occasion, unfortunately, only the central piece of the bell wheel has been preserved and everything else—decorated, polychrome, carved beams, if there were any—is lost. In contrast, we have not located anywhere else on the island the type of openwork present between the wheel spokes. The openwork pattern outlines pointed arched windows with small oculi on top. We should recall here the wooden case that covers half of the aforementioned bell wheel of the Cathedral of Girona, which also features this openwork decoration, albeit in a much finer and more elaborate manner.

As in the previous cases, the bell wheel of Pollença was also made to be seen. Its polychrome vegetal forms resemble the decoration of the wheel of Lluçmajor, although they are far removed from the fine-brushstroke quality of this other example. The piece from Pollença could correspond to the one that, thanks to the problems that the expenses derived from its manufacture caused between the church and the village's councillors, Dr. Gabriel Llompart documented as produced around 1440 (LLOMPART 2000: 260).<sup>31</sup>

<sup>31</sup> "Franciscus Eximini [...] discreto vicario ecclesie Pollencie [...] Ad instanciam laurencii Marsol, paratoris Maioricarum, vobis decimus et mandamus quatenus moneatis semel [...] discretos operarios anni presentis dicte ecclesie, ut, infra decem dies, dent et solvant dicto Laurentio XXXVIII solidos, in quibus tenentur eidem pro resta



Finally, from a symbolic point of view, it is interesting to note that having a mystical figure with wavy hair on each side of the beams, as we have seen in most of our case studies, could refer to and visually represent the transmission of the musical sound of the bells, and therefore, the connection between the mundane/material world and the divine/spiritual sphere. Such use of human heads to identify sound or winds can also be found in some maps of this period, which, for instance, featured allegorical anthropomorphic depictions of the winds at the corners of maritime charts sometimes using faces with puffed-out cheeks. As an example we can mention the drawing included in the *False Decretals* of the Library of Reims (circa 1200). This image includes several figures, namely the Muses, Orpheus, Pythagoras, and Arion. It is a portrayal of medieval knowledge revealed through the air, a motif represented on each of the four sides by a winged head in an allegorical depiction of the wind to which it refers. Each wind is identifiable thanks to the name of the god to which it belonged according to classical mythology: Aquilo, god of the north wind; Auster, god of the south wind; Zephyrus, god of the west wind; and, Eurus or Vulturnus, god of the east wind (SEBASTIAN 1978: 109).<sup>32</sup> This depiction also appears, albeit in a much simpler form, in examples closer to Mallorca such as the wind representations found on Mediterranean nautical charts. One of them was made by Mateu Prunés (1561) and is preserved in the Bartolomé March Foundation. Prunés portrayed eight faces on the sides of the parchment representing the winds identified with the names of *Tramontana* (north wind), *Grech* (northeaster), *Levant* (east wind), *Migjorn* (south wind), *Llebeig* (southwester), *Ponent* (west wind), and *Mestral* (northwester) (GINARD BUJOSA 2002: 78-79).

#### 4. Conclusions

In this paper, we have been able to identify and present a series of medieval bell wheels. Most of them have been relocated several times, which has led to the loss of some of their parts and to greater wear and tear, especially for polychrome decorations. In this regard, the most drastic deterioration was that of the piece kept in the Sencelles parish church, which lost all its painted decoration. Conversely, the one in Pollença kept the central piece and its polychrome finish, but lost the whole supporting structure. The best preserved bell wheels (Llucmajor, Algaida, and Petra) give us an idea of what they must have originally looked like, hinting at a style that was similar to the aesthetics of coffered ceilings or, as we have pointed out, to the patterns of miniatures. All these factors present bell wheels as quite striking objects, and at the same time, as displays of a certain quality and richness. After all, as we have seen in most examples, in addition to woodworkers, painters and sculptors also had to take an active part in completing these pieces.

If the dating we have proposed is correct, it would be good to set aside some of these bell wheels and give them a well-deserved retirement, especially those that currently remain concealed by

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maioris quantitatis pecunie, ratione squillarum cuiusdam rotlo noviter constructo in dicta ecclesia, una cum expensis.”

<sup>32</sup> Sometimes the names of the deities transcribed on maps do not differentiate between Greek and Roman variants.

other elements (Llucmajor, Petra, and Pollença), which are precisely the ones featuring a richer polychrome decoration. If they are still in use, they should be replaced with new ones. These medieval bell wheels should indeed be restored, for they are first-class exhibition objects. There is no need to recall the scarcity of extant medieval artistic works, but besides their antiquity, they also have to commend them the fact that they are ambivalent pieces that have so far gone largely unnoticed and always considered somewhere between furniture and art, between musical instruments and daily-use objects, between ethnological, popular, and musical pieces. Therefore, they are invaluable and need to be preserved and exhibited publicly to contribute to the dissemination of the Middle Ages with all they have to offer.



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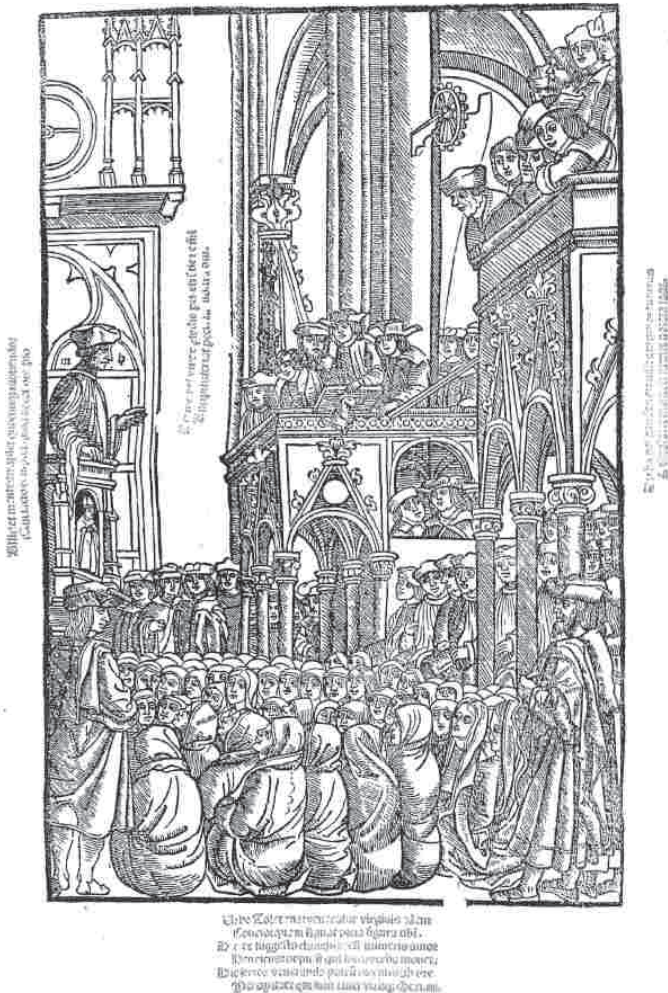
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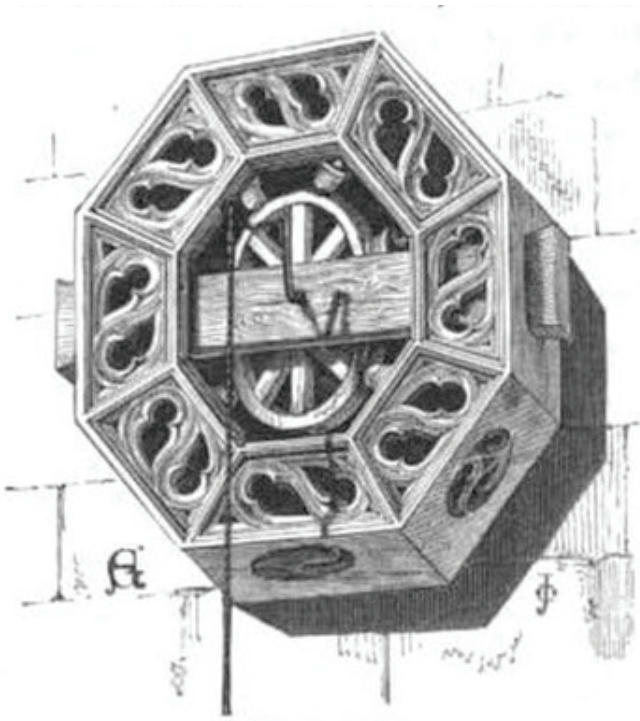
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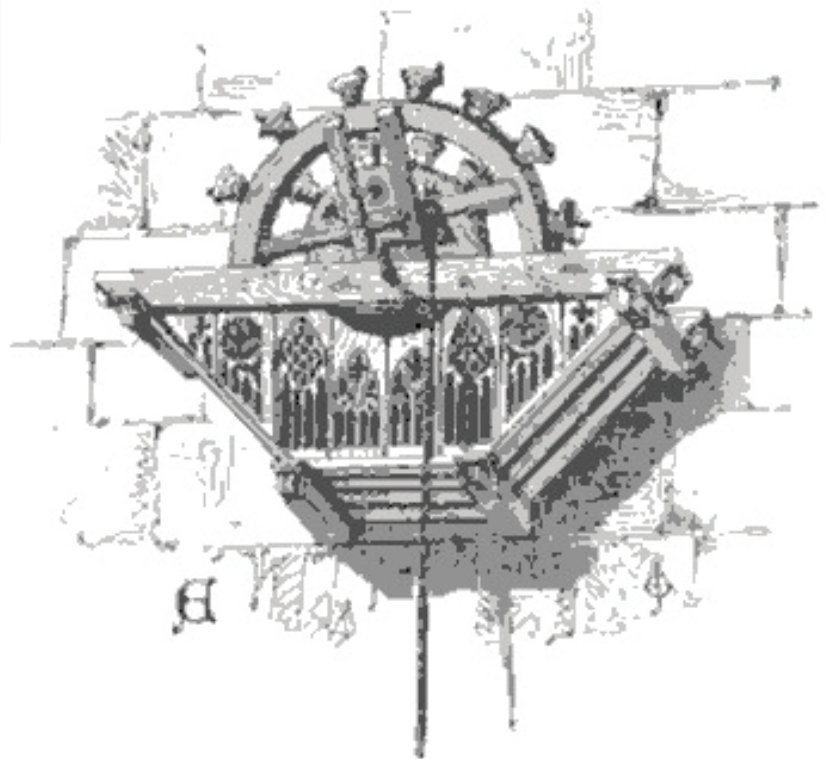
**Fig. 1** Woodcut from the *Lilium Musicae* plane (Ulm, 1497) depicting Pythagoras and an allegory of Music with a bell wheel. Image: Online digital archive ([www.musicologie.org/Biographies/k/keinspeck\\_michael.html](http://www.musicologie.org/Biographies/k/keinspeck_michael.html) [2018/04/20]).



**Fig. 2** Engraving from Enrique Amusco's *Compendium totius sacrae Scripture diuinum Apiarium* (1519) depicting the interior of the Cathedral of Toledo and the preacher Amusco in the foreground. The bell wheel is protruding from the right side of the central column in the background. Image: Online digital archive ([www.cervantesvirtual.com/buscador/?q=enrique+amusco](http://www.cervantesvirtual.com/buscador/?q=enrique+amusco) [2018/04/20]).

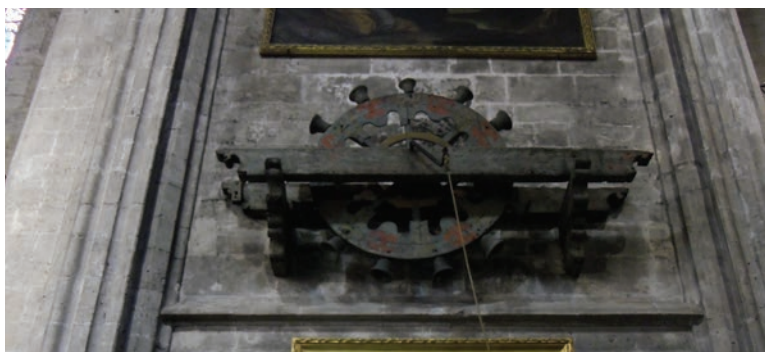


**Fig. 3** Bell wheel, Cathedral of Manresa. This instrument, covered by an openwork wooden case, exemplifies one of the characteristic typologies of Catalan bell wheels. Image: EDMUNT 1865: 345.



**Fig. 4** Bell wheel, Cathedral of Girona. This instrument is the only one located with a double row of bells and a wooden case that only covers half of the wheel. Image: EDMUNT 1865: 328.





**Fig. 5** Bell wheel, church of Saint Eulalia (Palma de Mallorca). The medieval wheel is located on the left side of the ambulatory and is affixed to the wall between the columns of the side bay. The ends of the supporting beams are carved in the style of the period. Photo by the author.

**Fig. 6** Bell wheel, church of Saints Peter and Paul (Algaida). As far as we know, this typology (polychrome decoration and openwork with beam ends carved into anthropomorphic shapes) was the most common in the *Part Forana* of the island of Mallorca. Photo by the author.



**Fig. 7** Detail of a carved angel's head on the ends of the instrument of the church of Sant Miquel (Llucmajor). Photo by the author.



**Fig. 8** Detail of the plant and geometric decoration of the example of Lluçmajor. The pieces that have preserved their polychrome decoration feature similar patterns as those used in illuminated manuscripts and coffered ceilings of the period. Photo by the author.

**Fig. 9** Bell wheel, church of Saint Peter (Petra). Like the bell wheel of Lluçmajor, this one is hidden behind the high altarpiece of the temple. Photo by the author.



**Fig. 10** Detail of one of the supporting beams of the bell wheel of Petra bearing the IHS monogram. This is the only instrument featuring extant inscriptions. Photo by the author.





**Fig. 11** Bell wheel, church of Our Lady of Angels (Pollença). Only the central piece of the bell wheel has been preserved and the wheel spokes feature and openwork pattern outlining pointed arched windows. Photo: Online digital archive ([www.campaners.com](http://www.campaners.com) [2018/04/20]). Association of Bell Ringers of Valencia. Author: Pep Aspas Peris.