In Search of Bell-Casters and Foundries in Spanish Colonial Philippines
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Introduction

The Philippines is a country blessed with a tropical environment whose breathtaking landscapes have lured travelers for centuries, but it is not hospitable to historians and history writing. The builders of houses, churches and forts eventually learned how best to take advantage of the indigenous resources. Coastlines provided coralline building blocks; lush forests yielded hardwood posts; even the volcanoes left behind boulders for sturdy masonry. Because of the rainy season, roofs developed a high pitch. As a response to the earthquakes, churches adapted the "earthquake baroque" look. That is, they were squatter more than they were taller, and their overly thick walls sprouted massive buttresses. Thick walls and high ceilings kept interiors cool, and windows that took most of the wall space ensured constant ventilation.

At the remote end of the South China Sea, the Philippines was not considered an important "business partner" in what could be referred to as the Mediterranean of East Asia. But in 1565 the Spanish Augustinian friar Andres de Urdaneta successfully guided an expedition from Mexico across the Pacific Ocean to the Philippines and back. This feat initiated the world's longest maritime venture, the Galleon Trade. Thereafter the Philippines, straddling the easternmost end of the China Sea and the westernmost end of the Pacific Ocean (the "Spanish Lake," as it came to be called) took its place among the world's great entrepots.

In countless cases, however, the architecture that had slowly evolved proved unequal to the unrelenting earthquakes, fires, and volcanoes. The forests, seas, rains, and heat quickly took back what evidence they had provided of their influence. The strategic location of the Philippines also laid it on the path of aggressors. Raids from all compass points, headed by flags from many nations, erased or took away what was left behind by nature. Today, in a particularly painful manner, much of the heritage that survived is defaced or neglected under those tasked with their care because of indifference and ignorance. Thus, the inhospitality of the Philippines to its own heritage and those who would study it.

As a researcher on churches built during the Spanish colonial era (1565-1898), I am often faced with a dearth of written records in the field, a dearth due largely to the inhospitable conditions cited above. I found that one way to partially alleviate this problem was to search for inscriptions on the church's bells. These inscriptions often consist of the bell's date of casting, its weight, the name of the saint to which it was dedicated, the name of the town for which it was commissioned, the name of the parish priest when it was cast, and even the name of the bell caster. Thus, I try as much as possible to check out the bell tower as part of a research visit to a church. The material for this paper, the offshoot of more than thirty years of on-and-off data-collecting, helps

us to come up with reasonable answers to these questions: who cast the bells in the Philippines, and where were they cast?

In terms of methodology, the data collecting for most of those thirty years was simple: copy the texts.[1] Eventually I noticed differences between earlier and later transcriptions of bells that I had returned to. I realized that I had to be more careful in copying the texts. This had to be letter by letter, observing whether these were in capitals or in lower case, and indicating where a line ended and a new one began. I also began to take pictures of the bells. Collating the textual data with the pictures revealed that bell silhouettes, letter fonts, even designs of the cross had changed over time. Thus, my later photographic documentation of bells included not only the entire bell, but also details such as the design of the cross and other artistic motifs, samples of the letters of the inscriptions, and its wooden counterweight, sometimes the clapper. I also indicated on a plan how the bells were disposed in a tower, to help me identify the photographs later on.

In the course of this study, at least 1,533 bells were encountered. Of these, 1,028 dated from before 1900; 415 dated after 1901; and 90 carried no dates or could not be dated. By 1900, there were 967 recorded parishes in the country.[2] If each parish had at least two or three bells, there would have been roughly between 1,934 and 2,901 bells in the country at that time. We then have covered roughly one half to one third of extant Spanish colonial period bells in the Philippines.

A brief overview of bell casting in the Philippines

Filipinos in the sixteenth century possessed a wide variety of gongs, which the early Spanish chroniclers referred to as "sus campanas" (their bells). Gongs and cannon of various sizes were both acquired through trade and cast in local foundries. There were a number of foundries turning out small firearms among the Islamic communities on the western shores of Luzon island. One of these, the settlement called Sapa, Namayan or Lamayan, now part of the district of Santa Ana in Manila, was chosen in the early 1570s to house the first recorded Spanish foundry in Manila (another was established in Cebu after the Spaniards' arrival there in 1565).[3] After operating for about twenty years, this establishment fell into disuse and was replaced in 1590 by another within the walled city, called Intramuros, in Manila. It seems this Herrería del Rey, the King's Ironworks, was located on or near the site of the pre-Hispanic foundry beside Fort Santiago. The oldest known bell in the country is the Santa Maria de Binalatoga bell in Camalaniugan, Cagayan, dated 1595. It seems logical that a bell bearing the name "Binalatoga" would have been commissioned and cast in the Philippines (it is not likely that bells brought in from elsewhere would have carried such specific place names). Other early bells date from 1608, 1681, 1690, and 1694. By way of comparison, here are known early extant bells in the region: Ternate, Indonesia, 1603; Malacca, Malaysia, 1608 (both bells were cast in Goa, India); and Macao, China, cast there in 1674.[4]

In 1611 news regarding the beatification of Ignatius of Loyola was received in Manila. This gave occasion for a great celebration, where the artillery ("which was many and good") in the forts where made to fire salvos. The ringing of the Angelus bell by the

Cathedral started off the continuous ringing or repiques of the bells in this and other churches. The ringing alternated with the playing of motets, villancicos and canzonetas on chirimías, clarines and the bells themselves. This interesting description leads us to believe that by this early stage Manila was sufficiently furnished with bells.[5] Most of the seventeenth century, however, was full of military activity, and bells were recast as cannon. Nevertheless, by the first decades of the eighteenth century, bell casting was clearly one of the trades practiced by Filipinos. Pedro Murillo Velarde, a Jesuit historian, wrote in 1738:

> The indios are exceedingly clever in every kind of handiwork, not for inventing, but for imitating what they see…. They make gunpowder, and cast mortars, cannon, and bells [italics mine]."[6]

In the early eighteenth century, the Herrería was complemented by the Real Fundición de Artillería, the Royal Artillery Foundry, on the southwestern corner of the walled city. Felipe Alonso, the master of this foundry, cast a bell for Manila Cathedral in 1782.

Some bells were cast under the direction of the friars, as we shall mention below. Bell-casting technology was improved with the printing of manuals that eventually were made available to Philippine-bound friars. A number of copies of Espectáculo de la Naturaleza, a 1773 Spanish translation of French treatise on bell casting, was found in the library of the Augustinian monastery in Valladolid; it was here where priests, friars, and seminarians prepared themselves for ministering to the Philippines.[7] Bells tolled such an important, if audible, part in late-eighteenth-century Manila society that the Archbishop was disturbed enough to issue a set of guidelines controlling their ringing.[8]

The Real Fundición closed down in 1805. The Herrería del Rey's activities were taken over by the Maestranza (armory, arsenal) at the latest by 1807. In this foundry, whose ruins were recently exposed in front of Fort Santiago, bells were cast by Ambrocio Casas and Jose Ybar. The 1830s or even earlier saw the steady expansion of bell-casting technology, with bells traced to foundries in the Manila districts of Quiapo, Binondo, San Miguel, and especially San Nicolas, which was closest the port area. By 1850, the economic historian Rafael Díaz Arenas could write: "The casting of bells must be an area of importance since there are so many and they are all produced in the country, except for a few which could have been brought from New Spain in earlier times." He also links bell-casters with naval hardware: "These founders who are known in the country as campaneros or latoneros also produce all the necessary fittings for a ship."[9]

In the 1850s we see the curious appearance of motifs strikingly similar to the art of the Maranao and Tausug of Mindanao and Sulu—naga snake/dragon forms and okir plant-like coiling lines—on the pedestals of the crosses that marked the faces of the bells. It is tempting to conclude that the Maestranza and other foundries had recourse to metalsmiths from these southern regions. Could they have been taken prisoner, especially after government successes against the Balangingi Samal in 1848 and Jolo in 1851?[10]

In 1863, we observe a basic change in the silhouette of the bell. Previous to this year, the hip—that area flaring out from the lower end of the waist or "trunk" of the bell—was visually linked to the lowest section (soundbow, or batidero) by a raised band (moulding wire, or cordon). The junction on the bell's profile was marked by a pronounced obtuse angle. From 1863 onward, this marked angle was replaced by a curve, whose smoothness was effected when the moulding wire moved slightly further up the waist. This may have been a technological change to improve the sound as the clapper (*badajo*) hit the soundbow.

Though we tend to think of bell foundries as operational only in large cities or towns, isolated pieces of evidence show that at least some bells were cast in close proximity to the churches that commissioned them. This corresponds to evidence in Spain about the existence of itinerant bellcasters. Evidence from Vigan (Ilocos Sur), San Luis (Pampanga), San Joaquin (Iloilo), and Pan-ay (Capiz) also give glimpses of itinerant bell casters. It remains to be seen if such bells were cast by masters working on their own, or by founders sent from an established company.

Some bell casters and their work

The following listing is classified according to bell casters from the religious orders, eighteenth-century bell casters with unlocated foundries, bell casters associated with military foundries in Manila, bell casters with their own foundries in the Manila area (Quiapo, Binondo, San Nicolas, and San Miguel), and itinerant bell casters and those outside Manila.[11]

Bell casters from the religious orders

* Fray Buenaventura de San Matias, O.A.R. (active c.1733-41).

Fray Buenaventura, born in 1708, was the son of a Barcelona metalsmith.[12] An Augustinian Recollect, he is known to have cast bells for the Manila Cathedral between his arrival in Manila in 1737 and his death in 1741. One of these bells may be the one in the Archdiocesan Museum of Manila bearing the arms of Juan Angel Rodriguez, Archbishop of Manila from 1733 to 1742.

* Fray Miguel Richart, O.F.M. (active 1842-47?).

The Franciscan historian Fray Felix Huerta tells us that his confrere, Fray Miguel Richart, directed the casting of a bell in 1842 for his parish church in Dilao, now called Paco, a district in Manila—it "was one of the most sonorous in the islands."[13] Richart was parish priest here from 1833 until his death in 1847. It is unclear where Fray Miguel, born in Spain in 1800, obtained his knowledge of bell casting. None of the bells in Paco at present date from Fray Richart's time. One wonders if a bell cast for the nearby town of San Miguel in 1847 could be attributed to him. Atypical features such as reverse casting of the inscriptions and a crudely done cross point to less than skilled work. Huerta's good-natured bragging to the contrary, could this bell have also been the product of Fray

Richart? Augmenting this guess would be the fact that San Miguel at this time was under the Franciscans.

Eighteenth-century bell casters with unlocated foundries

* Master of the Biglanaua cross (six bells, dated 1749-71).

This unknown master takes his name from a cross design with the three arms ending in fleur-de-lis on a 1749 bell dedicated to Nuestra Señora de Biglanaua. This design, with its corresponding lettering, is present in five other bells found in various parts of the country. Based on the dates of these bells, we have some evidence of a possible bell foundry in Manila that operated for a little more than twenty years, at least from 1749 to 1771.

* Master of the Pugo Cross (four bells, dated 1753-68).

The work of this unknown bell caster is characterized by a cross on a base with an irregularly shaped hole in the center. The base itself consists of a pair of splayed legs, recalling the bases of antique hat-racks or corner tables. The earliest is dated 1753 and is found in the small town of Pugo, La Union (hence the name of the "Master").
Bell casters associated with military foundries in Manila

* Felipe Alonso (two bells, from the 1780s).

A diagram from the General Archives of the Indies in Seville, Spain, dated January 30, 1782, presents a cut-away view of the campana mayor for Manila Cathedral. It was recast from the old, broken one by Felipe Alonso, described in the document as the "Maestro de la Real Casa de Fundicion."[14] Alonso's only known extant bell is one dated 1780 or 1788 in the cathedral of Basco, in the Batanes Islands.

* Ambrocio Casas (approximately twelve bells, dated 1809-46).

Though born in Binondo, Manila, perhaps around the last quarter of the eighteenth century, Ambrocio could trace his (paternal?) roots to a number of noble lineages in France and Spain. He joined a batallion composed of Chinese mestizos, and then gained renown for his metalworks projects at the Maestranza of Manila. In 1806 he was commissioned with the casting of the monument to King Charles IV from a mould sent from Mexico. The monument, completed in 1808, still stands today in front of Manila Cathedral. In 1815, a royal order awarded him the privileges of a caballero hidalgo; this meant that he, his sons, and first-born grandsons were exempted from tributes and personal services, as though they were European Spaniards. Casas' daughter Lucia married the famous painter Damian Domingo.[15]

The cross that Casas used to mark his bells from at least 1815 onward is distinct from that used by his contemporary Benito de los Reyes. In contrast to Benito's cross, Casas's has no rays of light emanating from the four corners of the center. The two opposing sides of

the triangular pedestal are composed of C- and S-forms, with the center of the baseline interrupted by what look like five curved plumes. Very similar "ancestors" of such a design appear on a number of bells, the earliest dated 1777, which lead us to suspect that the foundry producing such bells was eventually acquired by the Maestranza.

* Jose Ybar (eight bells, dated 1853-63).

Jose Ybar appears as a maestro mayor de armeros de la Compañía de obreros, Maestranza de Artilleria de Manila in the Guias de Forasteros from 1846 to 1857, in which year he is listed as having returned to Spain.[16]

Bell casters with their own foundries in the Manila area

Foundry locations unknown

*Benito de los Reyes (about thirty bells, dated 1808-41).

Benito de los Reyes' bells have been found as far north as Cagayan and as far south as Iloilo. In 1829, de los Reyes cast a bell for San Agustin church in Intramuros, which, at 3,400 kilos, is perhaps the second or third heaviest extant bell in the country. In 1831, he was appointed by the government to help in separating genuine from counterfeit copper coins.[17]

The bells of Benito de los Reyes are marked by a cross standing on a triangular pedestal, the slopes of which are composed of opposing C-scrolls (on a slope, one "C" facing outwards rests on another "C" facing inwards, and so on). This cross with the C-scroll pedestal is often associated with an inscription of the year in which the number "1" resembles a fish hook. The "Benito" cross appears on three bells cast between 1844 and 1846 by Leocadio de los Reyes, perhaps a relative. Looser interpretations of the cross were used on bells cast by two other fundidores: Macario de los Angeles, (active 1834 to 1847), and Saturnino Limcaco (active 1849-64).

* Saturnino Limcaco (perhaps ten bells, dated 1849-64).

Looser interpretations of both the "Benito" and "Casas" cross appear on Limcaco's bells, giving rise to many questions. Did Limcaco acquire the moulds from both these foundries? Did workers from these foundries also work for Limcaco, bringing with them their corresponding moulds? An 1864 bell reads "Limcaco é hijos", which means that his sons had joined the business by this time.

* M. Reyes (approximately nine bells, dated 1875-96).

Seven bells are known from the yet unlocated foundry of M. Reyes, which was active at least from 1875 to 1879; two others, dating from 1896 and 1902, could be "stragglers" when the company was possibly revived. The 1875 bell is marked "Fundida de M.

Reyes," where the connective de should properly be por; could this hint at Reyes's local, not Spanish, identity?

Foundry in Quiapo, Manila

* Macario de los Angeles (ten bells, dated 1834-47).

De los Angeles's bells carry loose interpretations of the "Benito" cross.

Foundries in Binondo, Manila

* Jose Reyna and his brother (two bells, dated 1862-69). Binondo, Manila.

The Reyna brothers operated a foundry and hardware shop (Fundicion de hierro y taller cerrajeria de los hermanos Reina) in Binondo, and maintained as well a facility to cut timber in Tutuban.[18]

* Manuel Ruiz (two bells dated 1854). Calle San Vicente, Binondo, Manila.

Manuel Ruiz operated a foundry of iron and other metals and a hardware store (Fundicion de hierro y otros metales, y cerrajeria) in the 1850s.[19]
Foundries in San Nicolas, Manila

* Hilario Sunico y Santos (176 bells, dated 1872-98; last known bell dated 1937). Calle Jaboneros no. 19 and 20 (no. 50, on bells dated 1891-98; no. 49, 1900-ca.1911; no. 503, 1924-34), San Nicolas, Manila.

Despite Hilario Sunico's fame as a metalsmith, there is still very little reliable information about him. Hilario Sunico y Santos was born around 1855, and seems to have married Sergia Litonjua when he was only around fifteen, or about 1870. By 1890, the couple had a fine residence at no. 3 Lara Street, a block away from Jaboneros Street, where the foundries of Sunico and other metalworkers stood. We do not know when Hilario Sunico died, but he was still alive when a congratulatory article about him was printed in 1907. He must have passed on to a better world by the early 1930s, when an almanac listed his son Tomas as manager of the Herederos de Hilario Sunico.

Hilario seems to have started working in a foundry when he was fourteen or fifteen; this may have been the establishment of Chan Uanco that he eventually took over. He began by casting little bells and metal accessories for the horse-drawn carriages or calesas, and the small but growing income helped support his family. He must have been quite industrious and adept, for by 1872 he had cast the first recorded bell that bears his own foundry's name: FUNDICION DE HILARIO SUNICO. In 1878 he was commissioned to cast the largest bell and recast two other bells in the church tower of Binondo, the country's richest enclave. From then on his name was to be inscribed on innumerable church bells all over the country, for a period that stretched to some sixty-five years (1872 to 1937). Hilario's brothers joined the business towards the very last years of the

nineteenth century, as indicated by the marking, "Fundicion de H. Sunico y Hos. [Hermanos]." Two of Hilario's assistants inscribed their names on bells: M. Velasco (1878) and Juan Cembrano (1879).

As was normal for a foundry shop, the Sunicos turned out other pieces of hardware apart from bells. In 1889, they crafted the elegant wrought-iron fence of the new Jesuit church, which had also commissioned them for four sonoras y elegantes campanas. The company manufactured electric chandeliers designed by Isabelo Tampinco, replacing those of oil first used in 1892 in the San Sebastian church in Quiapo. The Tutuban railway project for the Manila-Dagupan line procured a number of cast and worked metalwork from the foundry. Early in the first decade of American control, Sunico had already cast a statue of Rizal that was erected in Iloilo, and a bust of Hilario [Marcelo?] del Pilar that was mounted in Malolos.[20]

* F. Pujades (twenty-two bells, some marked "Fundicion F.P.", dated 1876-98). Calle Camba no. 9, San Nicolas, Manila.

With such an unusual surname, this fundidor must have been related to a Jayme Pujades y Tortella listed in the Guias de Forasteros, as an artilleryman (1849-59). There was also a Jose Pujades y Solá, listed in the same sources as an infantryman (1851-59). Could F. Pujades have learned metal casting from either of these two military men?

* Santos Supangco (at least twenty bells, dated 1877-87). Calle Camba no. 6, San Nicolas, Manila.

A huge 1880 bell in Binmaley, Pangasinan, bears his logo: Fundicion de Metales de Santos Supangco.

* F. Gonzales (approximately nine bells, mostly marked "F.G." and dated 1891-94). Calle Camba no. 16, San Nicolas, Manila.

* Altonaga (one bell, dated 1898). Calle Camba no. 9, San Nicolas, Manila.

The Altonaga name is closely associated with the Philippine clockwork industry that experienced a small boom in the late nineteenth and early twentieth centuries. A number of church towers throughout the country still carry clocks (or parts, such as clock faces or machinery) branded Altonaga.

Foundry in San Miguel, Manila

* Bartolome Antonio Barretto (1 bell dated 1871). Calle San Miguel, San Miguel, Manila.

The foundry owned by D. Bartolome Antonio Barretto and company was listed in the Guias of 1853 to 1865 as a Fundicion de hierro y cobre. It also had steam-operated machines to hull rice and cut timber. D. Barretto was vice president of the Sociedad

Española Minero Metalúrgico Cántabro-Filipina de Mancayan, founded in 1856. The only known bell from this foundry bears the raised inscription: FUNDICION DE D. B. A. BARRETTO.

Itinerant bell casters and those outside Manila

* Nicolas Roque (active c. 1789-91).

We know the name of this bell caster thanks to the survival of a receipt—the only one of its kind—signed by him and the parish priest of San Luis, Pampanga, Padre Gaspar Macalinao. The receipt is not dated, but it records the commissioning of a bell from Nicolas Roque, maestro fundidor, sometime between 1785 (when Macalinao, a Filipino priest, took over the parish from the Augustinians) and 1791 (when a second bell by Roque was commissioned). The first bell is surely the one dated 1789 still hanging in one of the three belfries of the church in San Luis. The data strongly suggest that both bells were cast somewhere near the church itself, and that Roque was an itinerant bell caster.[21]

* Juan Reyna (perhaps six bells, dated 1878-83).

It is tantalizing to wonder if Juan was the brother of Jose above, but there is no other shred of data on this. Juan Reyna is said to have established his foundry in 1868 on what is now J. M. Basa St., in Iloilo City. In 1878 he cast a bell in the vicinity of the church of Pan-ay, Capiz, which is now recognized as the country's largest bell.[22] The style of the cross, distinguished by its utter simplicity, and the lettering on the 1878 Panay bell are found on other bells without his name, and indicate that his foundry was active up to at least 1883.

* Chan Uanco e hijos (one bell, dated 1865).

An unverified source says that the Chan Uanco establishment closed down in 1869, and that it passed on to Hilario Sunico.23

* School of Molo (fifteen bells, dated 1811-91).

The basis for this very tentative classification is a characteristic cross design composed of parallel lines seen in the bells of Molo, Iloilo. The pedestals are of varying shapes, from circles to sinuous coils. All the examples are found in the Western Visayas, except for two on the western coast of Cebu. Most are located in the island of Panay, with bells from 1869, 1883, and 1891 in Molo, Iloilo. The 1891 bell is inscribed to the effect that it was cast in Molo, and so is the bell now in Barili, Cebu.

The names of Agapito Tongson, Santiago Layson, Victor de Amores, and Benedicto Mabaja appear as the casters of the largest bell in Molo, Iloilo. They most probably cast the four esquilas (rotating bells) in the same church. All five bells were cast in 1883, but in different months.

* Victor Aristosa (rueda or bell wheel, dated 1891)

Nothing else is known about this bell-caster, except that he may have learned his art from the "School of Molo." His descendants may have continued the trade, as a bell in Aniniy, Antique, was cast in 1986 by "P.C. Aristoza and Metal Craft" based in Cadiz City, Negros Occidental.

Conclusion

The dawn of the twentieth century and the onset of the American regime saw a slow but steady decline in commissions for church bells. In the 1920s, Sebastian Sunico, son of Hilario, complained, "The demand for bells has almost disappeared." By then the Sunico foundry had branched into a new line, producing spare parts for machines. As local foundries closed shop, new bells were ordered from France and the Netherlands. This paper has presented only aspects of what is obviously a tantalizing field of research. Clearly, there is still much ground to cover, and we leave it to others not only to document more bells, but also to explore bell measurements, bell tones, metal content, wooden counterweights, folkore, and so on. Oh, for a hundred lifetimes!

[1] Parts of this study were supported and promoted by Mr. W. Alain Miailhe de Burgh, whom I gratefully acknowledge here.

[2] Compañía de Jesus 1900, 1, 19.

[3] For a discussion on bell casting in Manila, see Jose 2006.

[4] Teixeira 1987, I, 495 and 1987, II, 391-93, 395-96.

[5] Summers 1997, 154.

[6] Murillo Velarde 1738, 285.

[7] Marcos Villan and Miguel Hernandez 1998, 15-16.

[8] Orbigo y Gallego 1796.

[9] Díaz Arenas 1850.

[10] The "derecho de campanas" in Spain and elsewhere authorized artillerymen of conquering armies to claim bells, mortars, and other bronze and copper objects as booty. See de la Vega 1992, 122; Marcos Villan and Miguel Hernández 1998, 13. Conversely, would captured *lantakas* have been recast into bells in the Philippine setting?

[11] For more information on these and other bell casters, see Jose 2007.

[12] Sadaba del Carmen 1906, 227-28.

[13] Huerta 1865, 55; Gómez Platero 1880, 659.

[14] Alonso 1782.

[15] Santiago 1990, 11.

[16] *Guia de Forasteros*, 1846 up to 1857.

[17] Boncan 1986, 525.

[18] *Guia de Forasteros*, 1863, 1865.

[19] *Guia de Forasteros*, 1853, 1854.

[20] Don Hilario Sunico y Santos; *Reseña histórica*…, 186-87; and Romanillos 1991, 71.

[21] Libro de Cargo y Data...[1785-1819], San Luis, Pampanga.

[22] Galende 1987, 423-424, citing Jose Romero, Memorias de un Kamagón, *Nuevo Heraldo*, 1911 August 22.

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