Tintinnabulation!

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Collection of Musical Instruments
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YALE UNIVERSITY COLLECTION OF MUSICAL INSTRUMENTS
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Front cover: “Freedom Bell” designed by Robyna Neilson Ketchum for the 1976 United States Bicentennial, acc. no. 1182
Back cover: Detail from “De Verheerlijking van Maria” (1490-95) by Netherlandish painter Geertgen tot Sint Jans (Museum Boijmans van Beuningen, Rotterdam)
The Yale University Collection of Musical Instruments presents

Tintinnabulation!
Multicultural highlights from the
Robyna Neilson Ketchum Collection of Bells

“Robyna soon became known to dealers as ‘The Bell Lady.’ I was just ‘The Bell Lady’s Husband’,” Alton Ketchum wrote wryly in Antiques Trader Weekly after the opening of his wife’s newly donated collection at Yale in 1975. Until then, the holdings of the Yale University Collection of Musical Instruments had encompassed limited examples from beyond the Western tradition. Her contribution expanded the Collection’s holdings to include an impressive array of idiophones— instruments that create sound by the vibration of the material of the instrument itself—from across Asia, South America, and Africa.

The carillon, according to the Articles of Incorporation of The Guild of Carillonneurs in North America, is a musical instrument of at least two octaves of carillon bells played from a keyboard. It represents the summit of the development of campanological art, allowing heights of musicality and expression that earlier bellringers could not have achieved. Why then, are non-carillon bells of interest to the serious musician or listener? Why should bells lacking the painstaking mutual tuning of a set of carillon bells, bells lacking the perfectly tuned haunting minor third, and bells alone or in such small sets that they cannot sound a melody or consonant chord merit our attention?
The study of campanology gives the reason why, for it begins in China with the Shang Dynasty (c. 1600-1027 BCE), when bronze bells first appeared in the archaeological record. Dutch campanologist André Lehr devotes several sections of *The Art of the Carillon in the Low Countries* (Lannoo 1991) to a discussion of the earliest bells in East Asia and the Near East. He reaches the core of the book only after laying that essential foundation beyond the geographic and chronological bounds of the carillon itself. So a carillonist’s understanding of the instrument rests on an understanding of the traditions that preceded its development. An exhibit of bells from varied periods and cultures moreover makes the campanological arts accessible to visitors from all backgrounds, many of whom have only heard bells from a distance and not had the chance to appreciate the visual beauty that often results from the creation of a bell usually intended to be heard rather than seen.

It was thus with great pleasure that I commenced a thorough cataloging of the Robyna Neilson Ketchum Collection of Bells and the design of an exhibition, embarking on a journey through campanology not only via books, but also by handling bells firsthand, measuring them, describing them, researching their purposes and origins, and sometimes even being baffled by them. Certain objects offered amusement as well as insight into the meaning of bells to their listeners and admirers: Forged (as in counterfeit) Hemony bells and a portable model of the world’s heaviest bell, the “Tsar Kolokol.” Others surprised me with their beauty: The low, swelling hum of a Buddhist resting bell (*dobachi*) and an exquisite Chinese dragon carrying a bell like a bearer of mythical summons. I have endeavored to display a selection from the Ketchum Collection that represents both a broad swath of cultures and a coherent timeline, and I hope visitors can share in the curiosity and delight I have found in the world bell tradition.

Tiffany Ng
Mechlin, Belgium
June 2006
Exhibit List

1 **Persian animal bell**, c. 1500-1400 BCE
   Lorestan (Persia), bronze, acc. no. 1096. Amidst the mountains, the semi-nomadic Lurs crafted bronzes from 1500 BCE to 700 BCE. Their bells, cast by the *cire perdue* (lost wax) method, often used iron clappers and decorated the collars and bridles of horses.

2 **Japanese rattles with reliefs**
   Japan, acc. nos. 1214, 1217. Inscription on 1217: Feng Hsueh Hua Yueh.
   A monster (*thao-thieh*) mask ornaments 1214. Object 1217 is formed from the likenesses of six large Chinese coins joined together to form a hexagon to which five crotals are attached. Each coin shows four Chinese characters on the obverse and four sexual positions on the reverse.

3 **Prong bells**
   India, acc. nos. 1072, 1073. The earliest Near Eastern bells may have been modeled after dried pomegranites with rattling pips. Prong bells, also known in Europe (see back cover illustration), may represent that developmental stage. Eventually, completely open bells were developed with attached clappers to simplify casting. 1073 rests in an unusual ornamented case.

4 **Model of a den sho**
   Japan, bronze, acc. no. 1042. Inscription: “All the winds of Sanskrit resound” and “Clepsydra without dreams.” The earliest large bells, called *sho* in Japan, were cast for Buddhist temples. Until the 7th century, they were imported from China and Korea. Ridges divide the flank into panels of inscriptions and bosses. Lotuses signify external strike points, and dragons form the crown.

5 **Table bell with pagoda handle**
   China, brass, acc. no. 1044
“Seven Gods of Fortune” shrine bell
Japan, bronze, acc. no. 1024. The Seven Gods of Fortune (shichi fukujin) are shown in relief below two sets of six bosses. Benzaiten, goddess of knowledge, words, eloquence, and music, stands upon a cloud holding a bell.

Dragon bearing small bell
China, brass, acc. no. 1035. This is a particularly fine example of a bell incorporated into sculpture. In contrast to Western mythology, the Chinese consider dragons a symbol of good fortune. A chop (stamped Chinese characters) on the base claims that this object was “Made at Mount Longevity”.

Chinese chime bell (zhong)
China, bronze, acc. no. 1039. Chime bells (zhong) of graduated sizes secured to an elaborate wooden stand form a complete chime played with mallets. From the 9th to the mid-4th century BCE, the technique of playing multiple chimes simultaneously reached its peak. Bellringers at the royal courts of the Zhou Dynasty (11th century - 256 BCE) were hereditary specialists, and twelve prestigious Masters of Bells played in the royal court orchestra. However, records also describe players being given away with their bells like slaves. As luxury items, bells were objects of conspicuous consumption, and the concepts of bellringer and chime were nearly interchangeable.

Temple bell with dragon crown
Japan, bronze, acc. no. 1025

Cloisonné bells
China, acc. nos. 1156, 1159, 1161, 1171, 1174. The handles of 1159 and 1161 represent Taoist Immortals, and the handles of 1171 and 1174 represent the button atop a traditional Mandarin hat.
11 **Buddhist pilgrim’s bells** (*ain*)
Japan, white brass, acc. nos. 1020, 1021, 1022. The handle of 1022 is encircled by stylized clouds and surmounted by a lotus and thunderbolt (*vajra*). Swastikas, known in Japanese as *manji*, ornament the flank. They represent Dharma, universal harmony, and the balance of opposites. 1022 bears only left-facing or *omote manji*, suggesting that it was produced after World War II, when right-facing swastikas became indelibly associated with Nazism.

12 **Tree of pellet bells** (*suzu*)
Japan, brass and wood, acc. no. 1223
*Suzu* are employed in Shinto dances.

13 **Table bell painted with chrysanthemums**
Japan, polychrome over bronze, acc. no. 1178

14 **Table bell with grotesque handle**
Japan, bronze, acc. no. 1023. Inscription: The pavilion of the dragon of the north.

15 **Vajra bell**
North India, bronze, acc. no. 1061. In Tibetan ritual, this bell is always paired with a *vajra* or thunderbolt (not on display). The handle represents the head of the goddess Prajnaparamita, who feeds bodhisattvas with the nectar of transcendental wisdom (*prajna*) and guides them to the other shore (*paramita*). Above her face is a four-pronged *vajra*. The shoulder of the bell is adorned by a lotus whose petals display eight mystical Tibetan symbols. On the interior, symbols are shown in relief, and a lotus surrounds the *vajra*-shaped clapper eye. Paired with the *vajra*, the bell represents wisdom.
16 **Handbell with handle in the form of a dragon on a turtle**
   Bali, brass, acc. no. 1057

17 **Engraved wooden bell with double clapper**
   Indonesia, wood, acc. no. 1051. The flank represents scenes of rural life, and the handle takes the form of a male figure.

18 **Dancer’s anklet of pellet bells (ghunghuru)**
   India, acc. no. 1221. A classical dancer wearing ghunghuru steps and stamps the feet to mark the rhythm, engaging in an improvisation with drummers within the structure of a fixed rhythm cycle (tala).

19 **Bell rattle**
   India, bronze and brass, acc. no. 1222. Each of the large crotals bear masks in relief.

20 **Mbonga (2)**
   Central Africa, iron, acc. nos. 1077, 1078. The mbonga is a clapperless instrument. Ten raised dots ornament each side of 1078.

21 **Witch doctor’s pellet bells**
   Africa, brass, acc. no. 1220

22 **Indian hemispheric temple bell**
   India, brass, acc. no. 1066

23 **Ayuthian hemispheric temple bell**
   Ayutthaya (Thailand), bronze, acc. no. 1067

24 **Bell rattles of crotals on llama hide**
   Peru, brass and llama hide, acc. no. 1228
25 Monastery bell showing the Crucifixion, 16th century
   Spain, bronze, acc. no. 1091
26 Convent bell showing the Virgin Mary, 17th century
   Italy, bronze, acc. no. 1084
27 Church bell showing a cross
   Italy, bronze, acc. no. 1085. The cross applied to the false bell
   before casting consists of nineteen small squares.
28 Tyrol vineyard bell, 17th century, Joseph Koch
   Tyrol (Austria), bronze, acc. no. 1082. Inscription:
   JOSEPH / KOCH / IN SCWATS GOS MICH.
29 Ship bell, c. 1700
   France, iron (severely corroded), acc. no. 1116. According to
   Ketchum’s records, this bell was long submerged off the coast of
   New Orleans, Louisiana. A set of eight bells were traditionally
   used to regulate sailor’s duty watches.
30 Ship bell, early 18th century
   Spain, acc. no. 1117. On July 24, 1715, a combined Spanish
   merchant fleet of eleven vessels sank during a hurricane off the
   coast of Florida. Spanish crews from Havana salvaged what they could from the wreckage, and
   this bell was purportedly amongst the spoils.
31 Bell held by wyvern, 19th century
   Spain, bronze and marble, acc. no. 1121. The ornamental purpose of this bell is underscored by
   the fact that the clapper ball may be removed to mute its sound.
32 Table bell, 16th century
   France, bronze, acc. no. 1095. The exterior is ornamented by three coats of arms, each
   supported by two female nudes.
33  **Table bell with handle in the form of an owl, 1840**
France, bronze, acc. no. 1109. Inscription: ANNO 1840.

The works of French writers such as Rousseau and Chateaubriand prompted a renewed vogue of Far Eastern and New World motifs, as shown by these fine sculptural desk bells.

34  **Table bell with seated Chinese figure, c. 1815**
France, bronze, acc. no. 1186

35  **Table bell with seated Native American warrior, c. 1815**
France, bronze, acc. no. 1187

36  **Table bell with seated Native American princess, c. 1815**
France, bronze, acc. no. 1188
The interior is stamped “C. LEBLANC A PARIS”
The princess may repesent Pocahontas or Atala.

37  **Green glass bell with devil handle, 19th century**
France, flint glass and bronze handle, acc. no. 1190

38  **Gilt table bell with alabaster flank, 19th century**
France, gilt brass and alabaster, acc. no. 1115

39  **Art Nouveau figural bell, c. 1900, H. Pernot**
Paris (France), acc. no. 1136. The flank shows notes on a treble staff, and the handle gracefully represents a boy with his hands cupped to his ears listening.
40 **Tap bell commemorating Austrian emperors**, 19th century
Austria, bronze, acc. no. 1151. The flank shows Frederick II (the Great) of Prussia and Holy Roman Emperor Joseph II.

41 **Tap bell commemorating German emperors**, 1889-1941
Germany, bronze, acc. no. 1150. Commemorates Wilhelm I, Friedrich III, and Wilhelm II, the last kaiser. Made after the latter’s reign began but before his death.

42 **Hemispheric table bell**, 19th century
Scotland, brass, acc. no. 1154. This little bell with four-pronged handle has a surprisingly prominent major tenth overtone.

43 **Table bell in the form of the god of the underworld**
Brass, acc. no. 1106

44 **Hand bell**, 17th century
Germany, patinated bronze, later clapper, acc. no. 1090

45 **Hemispheric silver table bell with fleur-de-lis**, 19th century
J.E. Caldwell & Co., England, sterling silver, acc. no. 1111

46 **Silver table bell with sugarloaf profile**, 19th century
England, sterling silver, acc. no. 1113

47 **Female figural bell holding a Bible**, 19th century
England, silver plate, acc. no. 1132

48 **Columnar table bell**, 19th century
England, silver, acc. no. 1114

49 **Cranberry red glass bell**, c. 1800
England, red Bristol or Nailsea glass, acc. no. 1141

50 **“Iron Maiden of Nuremburg” figural bell**
Europe, black paint over brass, acc. no. 1126
51 “Mother Hubbard nodder” figural bell, 19th century
England, bronze, acc. no. 1125. Based on Walter Crane’s illustration of Mother Hubbard with her dog and staff. Her head serves as the handle and swings to create a nodding effect.

52 “Queen Elizabeth” figural bell, 19th century
England, brass, acc. no. 1127

53 Female figural bell, 19th century
England, bronze, acc. no. 1133. The deep folds of the dress, thick rim, and heavy weight suggest this is an early figural bell.

54 “Edith Cavell” figural bell, 19th century
England or France, bronze, acc. no. 1135. Inscription: DEPOSE. Edith Cavell (1865-1915) was a British nurse trained blocks away from the Whitechapel Bellfoundry in London. In 1915, German authorities arrested her from assisting some 200 captured Allies soldiers from the Berkendael Medical Institute in Brussels to the Netherlands and executed her by firing squad. Her legacy is commemorated by a statue near Trafalgar Square in London.

55 Figural bell with boot-shaped clappers
Europe, bronze, acc. no. 1128
The actress depicted wears a dress with jester’s bells. Boot clappers indicate fine craftsmanship.

56 Armed knight figural bell, 19th century
England, bronze, acc. no. 1130

57 Napoleon table bell, 19th century
France, brass, acc. no. 1138. Inscriptions: “___ Bataille de Waterloo / Napoleon à Wagram.”

58 “Napoleon Bonaparte” table bell, 19th century
France, bronze, acc. no. 1139

65, 64 (facing page)
59 “St. Mark’s bell”, modern 
Europe, bronze, acc. no. 1099. Openwork showing reliefs of musicians in quatrefoil frames.

60 **Swinging monastery bell**, modern 
Europe, bronze, acc. no. 1180. Openwork with musicians framed in quatrefoils on flank and bell frame ornamented by griffins.

61 **Three sanctus bells in a frame in the form of a large hemispherical bell**, 20th century 
U.S.A., brass, acc. no. 1122

62 **Triple ecclesiastical bells ornamented by foliate filigree and crucifix**, 1811 
Spanish cathedral in Mexico City (Mexico), bronze, acc. no. 1088

63 **Model of “Tsar Kolokol” bell** 
Europe, acc. no. 1123. The “Tsar Kolokol” in Moscow, cast in 1733 by Mitchail Motorin, is the heaviest bell in the world at 222 tons, but has never sounded. When it fell from a provisional scaffold in 1737, an 11.5-ton fragment broke off. Its vast interior was formerly used as a chapel.

64 **Model of “Twelve Apostles” bell of St. Peter’s Basilica with sugarloaf profile** 
St. Peter's Basilica, Rome, brass, acc. no. 1124

65 **Table bell in the form of a man wearing a hat**, 20th century 
Europe, brass, acc. no. 1108. Inscription: F. HEMONY ME FECIT ANNO 1569. Anachronistically attributed to the great Amsterdam bellfounder François Hemony (1609-1667).

66 **Table bell falsely attributed to Johannes a Fine**, 20th century 
Europe, brass, acc. no. 1105. Inscription: VAN LOF/ME FECIT IOHANNES A FINE A° 1548. Falsely attributed to Mechelen (Belgium) bellfounder Jan van den Eynde (1515-1556). The inscription incorrectly reproduces the period table bell inscription “LOFT GOD VAN AL” as if it were a family name.

67 **Table bell in the form of the bust of a nun**, 20th century 
Europe, brass, acc. no. 1104. Inscription: F. HEMONY ME FECIT ANNO 1569. Anachronistically attributed to François Hemony.
68  **U.S. Army Calvary bell, c. 1860**  
U.S.A., bronze, acc. no. 1119. From a Civil War set numbering 2 small, 4 medium, and 3 large bells.

69  **Horse chime, 19th century**  
East Hampton, Connecticut, brass with plume of dyed horse hair, acc. no. 1152. Although called “Russian saddle chimes,” these bells were produced in America in the 19th century and became popular with Russian buyers.

70  **Freedom Bell, c. 1975**, designed by Robyna Neilson Ketchum and cast by Royal Eijsbouts, the Netherlands, bronze, acc. no. 1182. Inscription: RING OUT FOR FREEDOM AND UNDERSTANDING. Created for the 1976 United States Bicentennial.

71  **Buddhist resting bell (*dobachi*), 1775**  
Japan, brass, acc. no. 1026. Inscription in Japanese with name of benefactor and date.

72  **Temple bell**  
China, bronze, acc. no. 1031. The flank is ornamented by a flying peacock and dragon in high relief, and the crown comprises a double-headed dragon supporting and protecting the sacred imperial jewel.

73  **Buddhist resting bell (*dobachi*), 1739**  
Japan, bronze, acc. no. 1030. Inscription in translation: “shining treasure” followed by signature.

74  **Ayuthian clapperless temple bell**  
Ayutthaya (Thailand), bronze, acc. no. 1063

75  **Bedside bells on chain**  
India, brass, acc. no. 1225

76  **Cow bell (*Treichel*) on leather strap with applied metalwork, 1813**  
Switzerland, bronze and leather, acc. no. 1183
Bullock bell with double clapper
   Bali, wood, acc. no. 1184
Camel bells (6), the largest engraved with line drawings of animals
   North Africa, brass, acc. no. 1182
Bells (2) used to call elephants to their corrals
   Thailand, bronze, wood, leather, rope, acc. nos. 1053, 1054

Manuscript and Print Items

1 Vanderbilt Bible, Paris, s. XIII\textsuperscript{med} (Beinecke MS 433, f. 198r) (facsimile)
   Historiated initial for Psalm 80 depicting King David playing 4 bells (\textit{cymbala}) with 2 hammers.
2 Bible, France, s. XIV\textsuperscript{in} (Beinecke MS 83, f. 260v) (facsimile). Historiated initial for Psalm 80
   depicting King David playing three \textit{cymbala} with exaggerated clappers.
3 \textit{Recueil de planches, sur les sciences, les arts libéraux, et les arts mécaniques: avec leur explication}, 1762-1772 (LSF A +3, v. 5)
4 Biringuccio, Vannoccio. \textit{De la pirotechnia}, 1540 (Beinecke Una17 540b, ff. 110r-v) (facsimile)
5 Maggi, Girolamo. \textit{De tintinnabulis liber postumus}, 1689 (Beinecke DG89 G85, p. 95) (facsimile)
6 Kircher, Athanasius. \textit{Musurgia universalis}, 1650 (facsimile edition, SML MT 6 A2 K58+, illustrations facing pp. 334 and 336), (German translation, SML ML 159 K58 M92 1662a, pp. 122-123)
7 Ellacombe, H. T. \textit{Church Bells of Devon}, 1872 (YUCMI N.014)
8 Jones, William, et al. \textit{Clavis Campanalogia, or A Key to the Art of Ringing}, 1788 (YUCMI N.016)
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