EVOLUTION OF THE MODERN TRUMPET

A PRESENTATION OF THE STEARNS COLLECTION

FALL 2012

HILL AUDITORIUM LOWER LOBBY

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The following presents the instruments, the narrative descriptions, and the graphics that were displayed in the lower lobby of the University of Michigan’s Hill Auditorium from the fall of 2012 through the fall of 2014 in conjunction with celebrations of the 100th anniversary of Hill Auditorium celebrated during the 2012-2013 school year.

The exhibit, and the accompanying lifelong learning lecture February 27th 2013, were a joint production of the School of Music Theater and Dance, The Friends of the Stearns Collection, and the Stearns staff and volunteers.
Ancient peoples sounded alarms and celebrated holidays using improvised aerophones such as the ancient Hebrew shofar. Usually made of animal horn or shell, these were the first trumpets. Trumpets of this type abound in history and legend. The Greek god Triton is said to have stirred and calmed the waves by blowing a trumpet and Joshua’s trumpets were said to have leveled the walls of ancient Jericho. Moreover, trumpets appear to have evolved separately, but in parallel in cultures across the globe.

Name of Instrument: shofar
Maker / Brand: Stearns
Stearns Catalog #: 0773
Country of Origin: Palestine
Region of Origin: Middle East
Instrument Category: Aerophone
Date of Fabrication: Before 1921

Description: This Shofar—a ram's horn blown during Jewish rituals—appears to be steam-bent in Ashkenazi (North European Jewish) tradition. It does not have any carvings or fittings.
By Roman times, the military signaling uses of trumpets had become well known and essential to battlefield command and control. Roman signal horns—such as the cornu—began to resemble the modern bugle or post horn. These were made of metal, blown with a mouthpiece cup, and projected a characteristic brass trumpet sound from their flared bells. In imperial times, these instruments assumed ceremonial roles that are still filled by herald trumpets of similar dimensions and sound today.

*Shown above: Wikipedia image of a Roman Cornicen*
Name of Instrument: cornu in Eb
Maker / Brand: Giuseppe Pelitti
Stearns Catalog #: 0820
Country of Origin: Milan, Italy
Region of Origin: Europe
Instrument Category: Aerophone
Date of Fabrication: 1883

Description: This instrument falls under the category of "Fanciful Reproductions of Roman Instruments" by Giuseppe Pelitti completed from 1835 to 1893. This Cornu in E Flat (Keyed) is made of brass with a wooden transverse brace. It has two brass keys of modern cup type mounted in brass saddles with brass springs. It has spear head decoration on the brace.
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PRE-CURSORS: ANCIENT TIMES TO 1830

Prior to the invention of valved instruments in the 19th Century, the trumpet and horn parts of orchestral works were played primarily on natural trumpets and post horns. These produced a single overtone series, but talented players could bend pitches to introduce additional notes and lip trills.

Instrument images from the Stearns on-line database copyright University of Michigan, all rights reserved.

Name of Instrument: natural trumpet
Maker / Brand: Johann Carl Kodisch
Stearns Catalog #: 0824
Country of Origin: Nurnberg, Germany
Region of Origin: Europe
Instrument Category: Aerophone
Date of Fabrication: 1689

Description: The city of Nuremberg was a leading center of brass manufacturing from the 16th through the 18th Centuries. Many brass instruments from this time have survived including this 17th Century trumpet by Johann Carl Kodisch. Kodisch's instruments are characterized by a wider flare than his contemporaries permitting a larger canvas for decorative engraving. This example has elaborate floral patterns surrounding an image of a galloping horse--the maker's mark--and the initials ICK (Iohannes Carl Kodisch). At the base of the garland are embossed scallops; the rim resembles a braided cord.
Modern brass instruments evolved from saxhorns, named for Adolf Sax who was an early brass instrument inventor. Saxhorns represent a melding of the ancient hunting and signaling horns that played only a single overtone series with wind instruments that were chromatic by means of finger holes. The latter were usually made of reed or bored-out wood. Keyed bugles emerged in the second decade of the 19th century as the first form of a modern brass instrument.

Name of Instrument: keyed bugle in Eb
Maker / Brand: B. Mahillon, jeune
Stearns Catalog #: 0847
Country of Origin: Brussels, Belgium
Region of Origin: Europe
Instrument Category: Aerophone
Date of Fabrication: mid-19th C. (c. 1835)

Description: This Keyed Bugle in E Flat is made of brass with six brass keys of modern cup type mounted on pillars attached to diamond-shaped plates. Keys have steel leaf springs. It has a receiver l-slide with clamp; receiver is funnel-shaped. It has an open R4 key with ball and
E-flat Keyed Bugle Fingering Chart

Key numbers indicate the pad cup, not the lever touch. Cups are numbered by their distance from the bell, not the order of your fingers. "0" indicates that no key levers are depressed. These fingerings work very well on my instrument (shown below); you may have to experiment with alternate fingerings. B-flat keyed bugle fingerings will be similar but may also require some experimentation.
By 1850, many brass instrument makers around the world were producing the first families of cornets (in multiple keys), alto horns, tenor horns, baritones, tubas and basses. Returning veterans of the Civil War, having experienced bands in almost every Northern and one of every three Southern regiments, established local bands and fueled a rapid expansion in demand for brass instruments. Virtuoso performers began to emerge working the circuit of such local bands and drawing many new players to the cornet.

In Boston, Samuel Graves and Elbridge Wright each began firms that would, in 1869, merge to become the Boston Musical Instrument Company. Just down the street, David Hall began what would become Hall & Quinby, and later, Vega Standard. These early horns utilized Stölzel (bottom-fed piston) or rotary valves.
Name of Instrument: cornet in Bb
Maker / Brand: Stearns
Catalog #: 1559
Country of Origin: France (?)
Region of Origin: Europe
Instrument Category: Aerophone
Date of Fabrication: ca. 1850

Description: This Cornet in B Flat is made of brass with German silver fittings and Stoelzel piston valves. It has F, G, and A flat crooks; also B flat and A shanks. The second and third buttons are replaced. It has four mouthpieces.
Description: This cornet, which features three rotary valves bears the signature "Hall and Quinby, Boston," and was manufactured sometime between 1871 and 1876. Brass instruments with valves became popular in American brass bands in the mid-nineteenth century when the valved cornet was as widely used as the keyed bugle. By the 1870's however the piston valve had replaced the rotary valve on most cornets and trumpets manufactured in the United States. This example is made of German silver (shanks are missing).
Shown above: The full upright and over the shoulder lines of the Boston Musical Instrument Manufactory ranging from cornet to bass.
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VALVED HORNS & DESIGN INNOVATIONS: 1830 TO 1930
Through the American Civil War period into Reconstruction, piston valves gained increasing popularity and ultimately dominance. By the late 1870s, with a multitude of firms such as Col. Charles G. Conn’s new company that constructed primarily piston valve horns, the advocates of rotary valves in the United States began to fade away. Meanwhile, in Bohemia and Central Europe, advanced rotary valve horn designs emerged that continue to be made to this day.

*Shown above: Wikipedia image of cornet virtuoso Herbert L. Clarke and a late 19th century advertisement for the Boston 3-star cornet.*
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VALVED HORNS & DESIGN INNOVATIONS: 1830 TO 1930

Name of Instrument: cornet in Eb
Maker / Brand: Conn and Dupont
Stearns Catalog #: 0860
Country of Origin: Elkhart, Indiana, USA
Region of Origin: North America
Instrument Category: Aerophone
Date of Fabrication: 1876

Description: This Cornet in E flat is made of silver-plated brass with Périnet valves (top springs). It has a receiver I-slide with clamp; the main tube does not have a tuning slide. It has knobbed caps (the second was replaced). Its serial number is 471. The cartouche is signed, "Superior Class / MADE BY / CONN & DUPONT / ELKHART, IND."

Colonel C.G. Conn's first manufacturing venture was in the fabrication of mouthpieces, however, following his meeting of Gene Dupont circa 1875, he began making instruments. The Conn/Dupont partnership was dissolved in March of 1879. The serial number 471 identifies this instrument as having been built in 1876, making it one of the first Conn instruments ever built. Today, Conn-Selmer is now the owner of almost all US band instrument names, therefore, this instrument is a significant artifact both historically and musically.
Name of Instrument: trumpet in G  
Maker / Brand: Anton Holly  
Stearns Catalog #: 0865  
Country of Origin: Plzen, Bohemia  
Region of Origin: Europe  
Instrument Category: Aerophone  
Date of Fabrication: mid-19th C.  

Description: This cornet bears the inscription "Anton Holly, w Plzui." It has three disc valves and fittings of German silver. Disc valves were popular for cornets with certain instrument manufacturers during the middle nineteenth century, but were eventually dropped from production due to an inherent problem with maintaining an airtight seal. The instrument is made of brass with nickel-plated fittings, buttons, guard, and bell garland.
At the same time, trumpets were becoming far more common in orchestral use. The earliest mass-produced trumpets to resemble the modern piston valved form were made by Besson in France. By 1910, trumpet design had begun to influence cornet design and the short cornet gave way to the Holton New Model, the King Long Model from H.N. White, and many others. By the late teens, many firms were building quality trumpets loosely patterned on the early Bessons.

Name of Instrument: trumpet in Bb
Maker / Brand: E. Besson
Stearns Catalog #: 2179
Country of Origin: Paris, France
Region of Origin: Europe
Instrument Category: Aerophone
Date of Fabrication: 1907.

Description: This Trumpet in B Flat is made of brass with worn gold plating and three pistons; it is marked, "Besson Brevette SGDG 96 Rue Dangoul__ Grand Prix 1900, 04, 05, 10. Hors Concours". Its serial number is 86002. This instrument was donated by Armando Ghitalla.

Instrument images from the Stearns on-line database copyright University of Michigan, all rights reserved.
Name of Instrument: trumpet
Maker / Brand: J. W. York & Sons
Stearns Catalog #: 2246
Country of Origin: Grand Rapids, Michigan, USA
Region of Origin: North America
Instrument Category: Aerophone
Date of Fabrication: circa 1920
Description: This Trumpet was made in Grand Rapids, Michigan by J. W. York & Sons.

Patterned on a design by Couesnon, this is a trumpet in B-flat or A, which is selectable by the rotary valve behind the tuning slide.
In the early 1900s, H.N. White adapted a Besson cornet wrap in their famous, long model and large bore cornet, increasing its size and bore while augmenting the amount and degree of conical expansion. When others followed with more resonant, larger cornets, the tight wrap faded, however, King’s “Long” name stuck, though its wrap more closely resembled the “Large Bore Model”.

Shown above: A 1906 H.N. White “King” Famous Medium Bore Cornet [East Lake, Ohio, 1906]
Collection of Ron Berndt
King sold to bands as a primary market in the days before student lines and this band has 4 of 5 cornets playing King models, including Arnold Berndt, class of 25, holding a Long Model at age 8.

IMAGE PROVIDED BY BIRMINGHAM HISTORICAL MUSEUM
Ernst Albert Couturier was a virtuoso performer who toured briefly for Conn and then Holton before pursuing the manufacture of his own horns. He was obsessed with achieving a pure conical bore expansion—and he succeeded. Astonishingly, he even met his customers’ demands for moving slides with a unique technique for half-reversed slides utilizing variable tubing thickness.

Shown above: A Couturier cornet (with slides), Serial #3939
[LaPorte, Indiana, 1919]
Collection of Wm. Berndt
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VALVED HORNS & DESIGN INNOVATIONS: 1830 TO 1930
Foster Reynolds apprenticed at the York Instrument Company continuing a line of masters dating back to the early Boston craftsmen. As shop manager at H.N. White in the 1920s, he pioneered the sterling silver bell that—in both trumpets and cornets—creates a bright clear tone with rich overtones. Bach, Schilke, Reynolds’ apprentice Zig Kanstul, and many others still offer such bells today.

*Shown above: An H.N. White “King” Silvertone cornet*

*[East Lake, Ohio, 1941]*

*Collection of Ron Berndt*
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VALVED HORNS & DESIGN INNOVATIONS: 1830 TO 1930

THE HOME OF THE CELEBRATED CONN INSTRUMENTS

This latest illustration of the New Wonder factory shows where the best instruments in the world are manufactured. The factory employs 363 wage earners, of whom 259 are men and 53 are women. No boys or girls are employed. The men work nine hours per day and the women eight hours per day. The output of the factory averages about 800 instruments per month, not counting Bagpipes, Drums, and Musical Traps and Accessories.

The Conn instruments are used and recommended by all great musicians and they will improve the playing ability of any performer at least twenty-five percent.

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C. G. CONN'S BAND INSTRUMENT FACTORY.
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VALVED HORNS & DESIGN INNOVATIONS: 1830 TO 1930
Name of Instrument: trumpet in Bb
Maker / Brand: Martin
Stearns Catalog #: 2191
Country of Origin: Elkhart, Indiana
Region of Origin: North America
Instrument Category: Aerophone
Date of Fabrication: 1960-61

Description: This Trumpet in B Flat is the Martin Committee model; its serial number is 211171. The instrument has three piston valves; it is gold-plated with handsome engravings. This instrument was donated by U of M Professor and First Trumpet for the Boston Pops, Armando Ghitalla.
By the 1930s, American firms built trumpets such as the Martin Committee and Bach Stradivarius that are largely indistinguishable from the horns of the 21st century. While brass weights, bell materials, brass alloy in general and leadpipe designs have continued to evolve and increasingly specialize depending on the required tone and projection characteristics, the basic form of the modern trumpet was mature by the great depression.

Shown above: Vincent Bach (holding trumpet) in his factory
BACH STRADIVARIUS

Suggestions for Choosing and Customizing Your Bach Trumpet

Bells

Bach Stradivarius trumpets are famous for their fullness of sound and projection. This is achieved by the use of new-disk construction, allowing for unrestricted vibration of the bell. The shape of the tapered surface, or rate of bell flare, determines the characteristic sound of the instrument. Bells with fast tapers produce dark, warm sounds, while slow tapers yield bright tones. Bach offers many bell options. The number designation on a Bach bell refers to the maneras (rings) used to shape the taper number, not to any diameter or measurement (for example, all Bb trumpet bells have the same diameter).

The type and thickness of the bell material also affect the sound. Gold brass, softer and more red than the standard yellow brass, due to a higher copper content (55% as opposed to 70%), results in a warm tone. Sterling Plus bells (99.9% pure silver, seamless construction) create a full complement of partials (overtones) in the tonal spectrum, for a focused sound with great projection. Lightweight bells respond quickly for a lively sound. For situations involving high dynamic levels without distortion or dark qualities, choose a heavy-weight bell (in either yellow or gold brass).

Yellow brass is standard (pictured left). Gold brass (partially ringing), softer and more red due to a higher copper content, results in a warm sound. Sterling Plus (99.9% pure silver, pictured center) offers a focused sound with projection.

Each one-piece hand-hammered professional Bach bell is skillfully hand spun by experienced craftsmen resulting in unsurpassed performance.

Bells with fast tapers (solid line) produce dark, warm sounds. Slow tapers (dotted line) yield a bright tone.
EVOLUTION OF THE MODERN TRUMPET

CONSISTENCY & AFFORDABILITY: 1930 TO PRESENT DAY

Following World War I, Conn’s Carl Greenleaf started Pan American in 1924, and H.N. White (King) bought Cleveland in 1925 with the recognition that the school band market had expanded to include students purchasing their own horns. Later, Holton’s “Collegiate” model for students appeared in the 1930s. After WWII, Foster Reynolds, left King and his own company to join Olds. His Olds Ambassador, built to the same tolerances as the company’s professional horns, was released as a cheaper alternative in 1948. George Bundy added the Bundy line to Selmer in 1949 and Conn responded with the Director line in 1955, essentially a re-naming of the Pan-American following the earlier merger with Conn.

Shown above: A Pan American Trumpet that has been modified for a deep funnel cornet mouthpiece, probably for use in a 1930s club setting.

[Elkhart, Indiana, 1929]
Collection of Ron Berndt
As rapidly as school music programs appeared in new districts during the depression and grew in numbers there, they expanded again in the 1950s. By the 1960s, student instruments were the main market for manufacturers. This continues to the present day.

Shown above: A Bach TR300 student trumpet which is the student horn released by Conn-Selmer following the retirement of the Bundy name. As Vincent Bach designed the Bundy trumpet, it is fitting that the present day student horns bear his name.

Horn Exhibited: [Elkhart, Indiana, 1988]
Collection of Daniel Walter
EVOLUTION OF THE MODERN TRUMPET
CONSISTENCY & AFFORDABILITY: 1930 TO PRESENT DAY

BIRMINGHAM (MI) BALDWIN HIGH
1928-9 ABOVE AND LEFT
1940-41 BELOW

IMAGE FROM THE COLLECTION OF THE BIRMINGHAM HISTORICAL MUSEUM & PARK
As trumpets became more dominant and incorporated the advancements made by men such as Reynolds, the long cornet would survive, but in more limited use. The final form of the long cornet was achieved by firms such as Martin in the mid-20th Century.

Name of Instrument: cornet in Bb
Maker / Brand: Martin
Stearns Catalog #: 2190
Country of Origin: Elkhart, Indiana
Region of Origin: North America
Instrument Category: Aerophone
Date of Fabrication: 1960

Description: This Cornet in B Flat is a Martin Custom Committee with the Serial Number 209062. It is a lacquered brass instrument with three pistons and a gold brass bell. This instrument was donated by U of M Professor and First Trumpet for the Boston Pops, Armando Ghitalla.
In the late 20th Century, specialization offered the player both lightweight and heavyweight horns. The lightweight models are generally more flexible and responsive to the player while the heavyweight horns offer greater resistance to distortion at high dynamics. Further options include assorted tapers of leadpipe, which affect intonation and the ability to focus in on a pitch, as well as many choices of bell alloy. Inexpensive horns became available using a higher copper content in both leadpipes and bells thus making possible a thinner, more responsive brass body while preserving a solid core tone with rich overtones. By the 2010s a multitude of global manufacturers were producing trumpets in every price range and of every quality.

*Shown above: A Jupiter Advanced-Student JTR606-MRL trumpet with rose brass bell and lead pipe*

[Taiwan, 2010]

*Collection of Ron Berndt*
EVOLUTION OF THE MODERN TRUMPET

CONSISTENCY & AFFORDABILITY: 1930 TO PRESENT DAY

INEXPENSIVE STUDENT HORNS

Catalog Images from the Woodwind & Brasswind Winter 2012 Catalog.
EVOLUTION OF THE MODERN TRUMPET
CONSISTENCY & AFFORDABILITY: 1930 TO PRESENT DAY

STEP-UP INTERMEDIATE HORNS

Catalog Images from the Woodwind & Brasswind Winter 2012 Catalog.