

# Building a Natural Trumpet

a **C. Farrell Scholarship Creative Project**  
Sarah Martinson



# The Natural Trumpet

- Predecessor to modern trumpets with valves
- Single tubing with no valves
- Grounded to root key
- Used harmonic series to produce multiple tones

# The Harmonic Series

The image displays the harmonic series for the note C. It consists of two staves: a treble clef staff and a bass clef staff. The notes are numbered 1 through 16. The letter names for each harmonic are listed below the staves.

Harmonic Number	Letter Name
1	C
2	C
3	G
4	C
5	E
6	G
7	B(f)
8	C
9	D
10	E
11	F(s)
12	G
13	A
14	B
15	C
16	D(f)

# Why did development occur?

- J.S. Bach, Antonio Vivaldi, G.F. Handel, and G. P. Telemann – “Golden Age of Trumpet”
- Repertoire influences efficiency demands
- Baroque trumpet vs. Natural trumpet – use of intonation holes

# Modern Developments

- Invention of valves
- Bb trumpet
- Piccolo trumpet- used to mimic performance of the natural trumpet

# Day One – August 5, 2013



*The main workshop where my station was located*



*My toolbox, pre-cut brass, and workshop guide*



*The garage with multiple soldering stations*





*A long tube prepared for soldering*



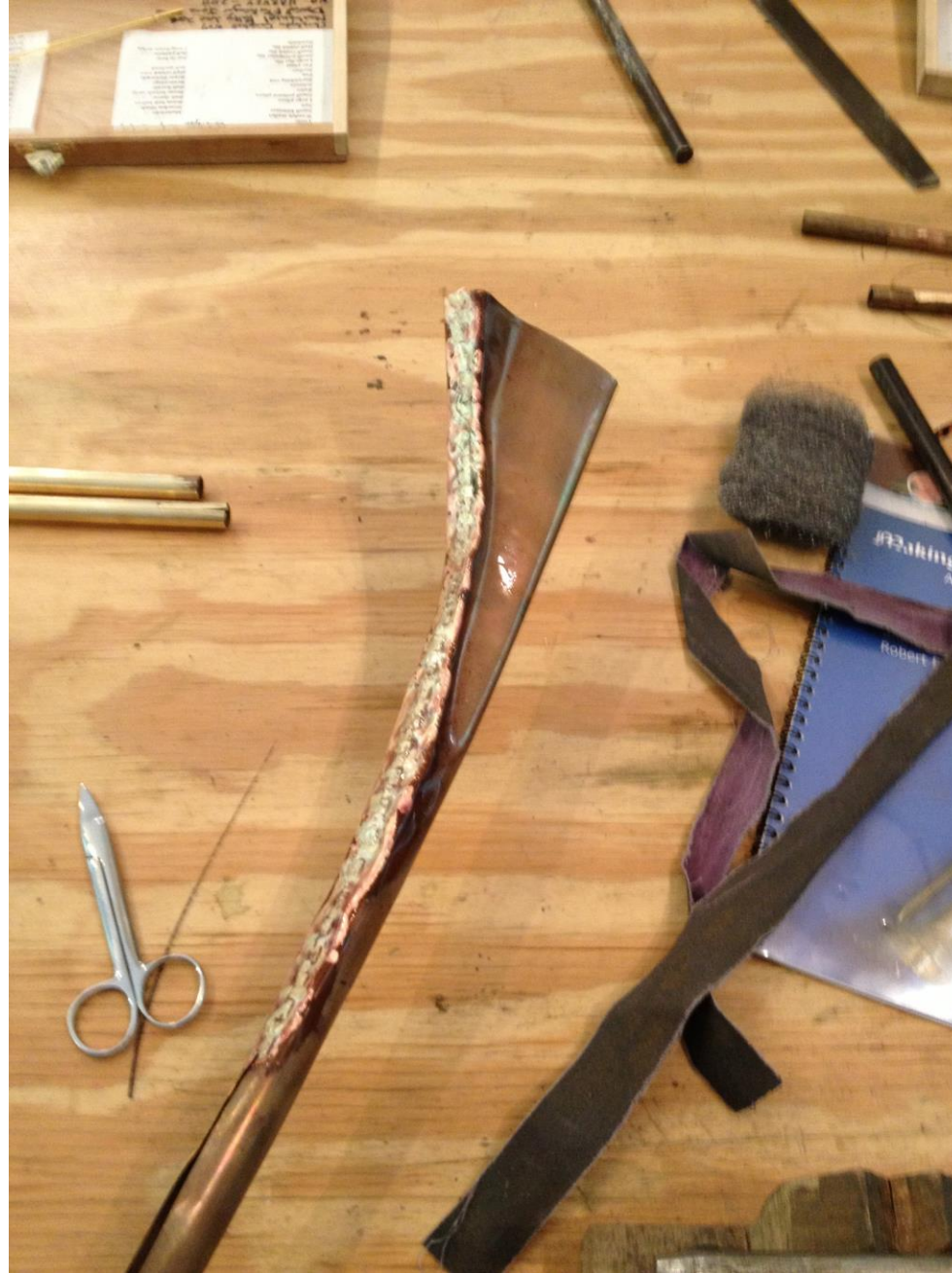
*A soldered tube on the mandrel, ready for burnishing and polishing*



*Two polished pipes (top) and one unpolished pipe (below)*



*Teeth cut and folded along one side of the bell piece*



*Bell soldered and folded shut*



*Work completed after day one: three polished pipes, one unpolished pipe, and a folded and soldered bell piece*

# Day Two - August 6, 2013



*Working at the anvil*



*After a few rounds of annealing and  
burnishing*





*Making progress on the bell shape*



*Working hard burnishing at the mandrel*



*My "torch" of a bell pipe*



*My bell after many rounds of polishing*



*Smoothing out my newly bent bows with a burnishing rod  
and bench vice*



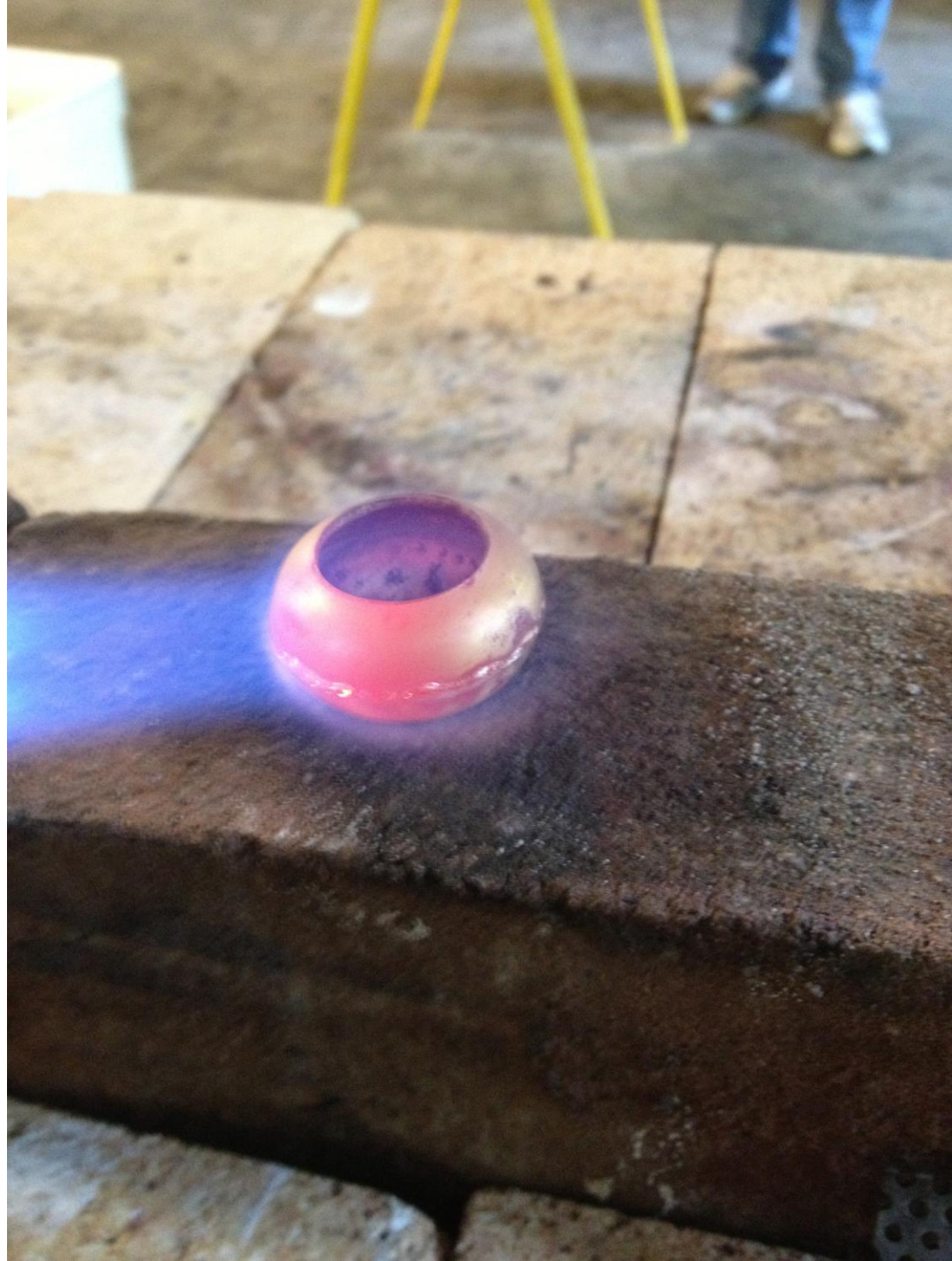
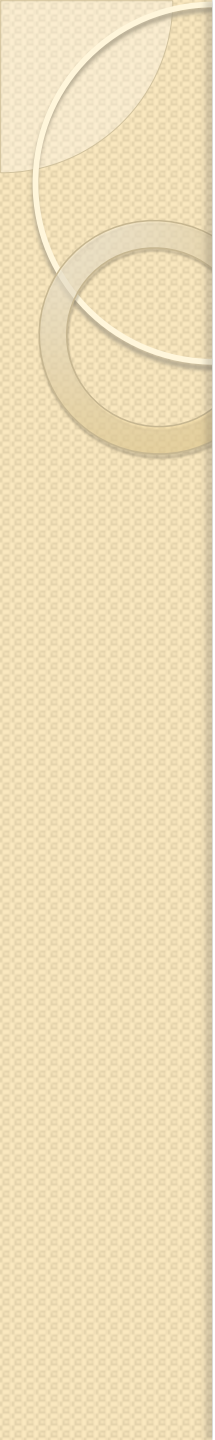
*Progress at the end of day two*

# Day Three - August 7, 2013





*Garland secured on the carving block and carving tool*







*Polished and finished bell at the end of day four- to show placement of ball decoration*

# Day Four – August 8, 2013



*The seams of the garland and bell are lined up and taped together before folding the rim of the bell*



*The inside of my bell before folding over the garland-note the bumpy appearance from hand-hammering*



*Small wire loop on the inside of a bow*



*End of day four: a completed trumpet without rope*

# Day Five – August 9, 2013





*My new mouthpiece with sleeves*



*Natural trumpet  
mouthpiece (left)  
with standard  
modern B-flat  
trumpet  
mouthpiece (right)*





*Comparing bore size of the natural trumpet mouthpiece (left) and a standard Bb trumpet mouthpiece (right)*

# Performing on the Natural Trumpet

- Performance is limited to certain settings & repertoire
- Limitations: intonation, key, chromaticism
- Example: Let the Bright Seraphim - Handel