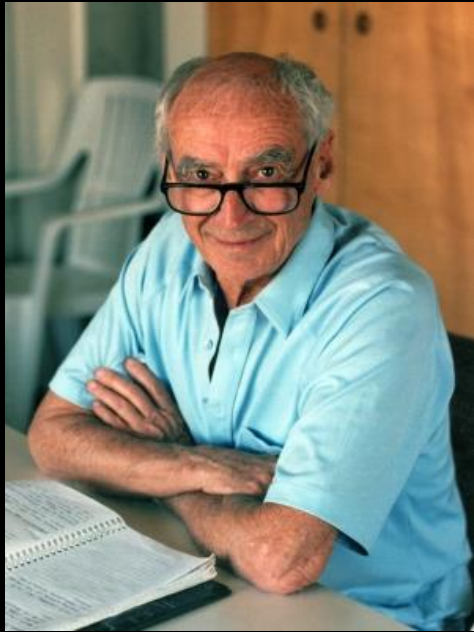


Paolo Soleri (1919-2013)



- Arcosanti and Cosanti
- Idea centered on a habitat with a high human population.
- Contain a variety of residential, commercial, and agricultural facilities and minimize individual human environmental impact.
- Created and sold ceramics and bells.
- Proceeds used for construction and to support theoretical work.



WIND BELLS



Foundry



Each flask consists of two pieces, between which a metal pattern is placed.

The flask gets packed with very fine sand and then agitated until the sand is compact.



The framework is then separated into two separate pieces, and the metal pattern is removed, leaving a positive impression on one part of the flask, and a negative one in the other.



The artisans then take the side of the flask that has the negative, and using simple tools, impress and carve designs directly into the sand.



Excess sand in the mold is then blown out.



Before reassembling the flask, the artisans use a hollow metal tube to perforate the top of the negative bell impression and then, using a spoon, they carve a small concave circle around the top of the bell.

This allows for a smoother pouring of the bronze into the mold.



Bronze melts at 1700F, this furnace heats the metal all the way to 2200F, enabling the bronze to maintain its liquid state long enough to do successive pours.



The furnace where the bronze is melted gets loaded up with unusable bells and other pieces of scrap bronze to be melted down and re-used.



The two sides of the flask are reassembled, the wooden flask is taken off and the molds are lined up on the ground.

A metal or plastic frame is then put around the sand mold. Ingots are then placed on the molds to prevent any possible movement.



Two artisans lift the crucible containing the molten bronze out of the furnace.



The molds are then left to cool for about an hour, or until the bronze is solidified.



Once the bronze has cooled, the plastic or metal framework is taken off the molds.



The molds are thrown into a pile, breaking the sand apart and allowing the bells to be reached.

Using hammers, the artisans shake out the excess sand from the interior of the bells and place the bells to the side.



The bells are then cleaned off of any remaining sand, and sanded down, extra bronze [flash] pieces are ground away.

A hole is drilled through the top, the clapper will hang from here.



Every part is made on site, here an artisan is cutting and wrapping the wire through the inside of the bell.



Once the bell is assembled, it is dipped in a vat of muriatic acid, which opens the pores of the bronze and prepares it for the aging process.



Project – Make a Bell