**List of Illustrations for AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCast**

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* Figs. 1a-1f: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig1a\_TuttleModel1.jpg - AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig1f\_TuttleModel6.jpg  
  Diagrams from Patricia Tuttle, “An investigation of the Renaissance Casting Techniques of Incuse-Reverse and Double-Sided Medals,” *Studies in the History of Art* 21 (1978), 209-210. These diagrams explain a tentative method proposed by Tuttle. “P” and “N” denote “Positive” and “Negative,”; the terms “male” and “female” may also be used, respectively, as in BnF Ms. Fr. 640. “S” is used for “Shim”; “M” for “Medal; “V” for “Vent”; and “C” for “Channel.”
* Fig. 2: [AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig2\_MsMethod\_Animation.mov](https://www.dropbox.com/s/tp61zzcuxktbzum/AnnotationFall2014_LandsmanRowen_One-SidedHollowCastMedals_Fig2_MsMethod_Animation.mov?dl=0)This animation shows the process, as we interpreted it, from BnF Ms. Fr. 640, fol. 92r.
* Fig. 3: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig3\_MixingSand.jpg  
  Mixing sand made from proportions of 100 parts sand to 10 of clay (bentonite) and 4 of water, by weight. This sand seemed very suitable at first but when it dried it turned out to by quite crumbly and did not pick up impressions well.
* Fig. 4: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig4\_TuttleMethod\_LevelingFemaleHalf.jpg  
  Every half of our box molds was leveled using a long steel implement to ensure that sand was packed evenly and densely.
* Fig. 5: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig5\_TuttleMethod\_MedalinSand.jpg  
  The medal was pressed into the “Female” side of the mold, leaving a negative impression. The side of the medal visible in this photograph, the reverse, was irrelevant for our experiments; the obverse facing downward, into the sand, would appear on both front and back of the cast medals.
* Fig. 6: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig6\_TuttleMethod\_ImpressioninBrittleSand.jpg  
  The grains of sand visible in this image are evidence of the texture of the sand; it did not bind as well as we hoped, and the impression was therefore not very clean or smooth.
* Fig. 7a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig7a\_TuttleMethod\_FemaleHalf.jpg  
  AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig. 7b: Fig7b\_TuttleMethod\_MaleHalf.jpg  
  These images show the “Female” or negative half from Fig. 5, and the “Male” or positive half of the mold, which was cast into the sand of the negative sand. A 1/16” balsa wood shim (visible in background of Fig. 11) would be inserted between the two halves before casting.
* Fig. 8: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig8\_TuttleMethod\_Casting.jpg]  
  Pouring molten pewter into the two halves of the mold from Figs. 7a & 7b.
* Fig. 9: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig9\_TuttleMethod\_ResultwithShim  
  The result of the pour from Fig. 8 immediately after the mold was taken apart, removing the balsa wood shim, with our cast medal in it.
* Fig. 10a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig10a\_TuttleMethod\_ResultObverse.jpg  
  Fig. 10b: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig10b\_TuttleMethod\_ResultReverse.jpg  
  The pewter result of the Tuttle method, when removed from the molds in Figs. 7a & 7b. We attribute the rough texture of the result to the type of casting sand used, as well as the fact that the metal did not reach the edges of cavity inside of the mold, but we concluded that the method would work in other circumstances.
* Fig. 11: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig11\_MsMethod\_PressedintoFemaleHalf.jpg  
  The “Female” or negative side of the mold that would be used according to the method found on BnF Ms. Fr. 640 fol. 92r. We coated this mold with soot, used as a release agent as well as protection for the medal.
* Fig. 12: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig12\_MsMethod\_PackingSand.jpg  
  After packing the negative side of the mold, in Fig. 11, we packed the positive side with the medal still in place, which ensured that the two sides would be perfectly aligned .
* Fig. 13: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig13\_MsMethod\_TwoHalvesBeforeTurned.jpg  
  The two mold halves from the experiment with the method from the manuscript, after sand was packed into both. This image shows the “Male” or positive side on top; before separating the two halves, we would flip the mold, which, upon opening, would leave the medal lying on top of the male half.
* Fig. 14: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig14\_MsMethod\_OpenwithMedalinMaleHalf.jpg  
  This image shows the two halves of the mold used for the manuscript method, after the medal was pressed slightly further into the male half to create a slim cavity into which the pewter could be poured. The two halves were coated with soot as a release agent.
* Fig. 15a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig15a\_MsMethod\_ImpressioninFemaleHalf.jpg; Fig. 15b: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig15b\_MsMethod\_MedalinMaleHalf.jpg  
  The two halves of the mold used for the manuscript method, before pouring, with the original medal left in the male half.
* Fig. 16: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig16\_MsMethod\_OpeningMoldafterCasting.jpg  
  Removing the “Female” or negative side of the mold soon after allowing the pewter to solidify (about thirty minutes).
* Fig. 17a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig17a\_MsMethod\_ResultObverse.jpg  
  Fig. 17b: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig17b\_MsMethod\_ResultReverse.jpg  
  The definition of the obverse (front) side of this cast was rough due to the texture of the sand, although the image of the eagle from the medal is visible, if vague. The reverse side of the cast is highly detailed, which is not surprising since it was cast directly onto the brass medal.
* Fig. 18: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig18\_MsMethod2\_BothHalvesOpen.jpg  
  The sand used for this trial, so-called Delft Clay, uses oil as a binder and is unauthentic in relation to the manuscript, but it allowed us to test the process that we interpreted from BnF Ms. Fr. 640 fol. 92r. The sand was packed into mason jar lids, and two halves of the mold were registered to one another using a key cut from balsa wood and super-glued to the sides of the lids, visible around the halves’ edges.
* Fig. 19: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig19\_MsMethod2\_ClosedVents.jpg  
  The Delft sand leveled off and with vents and a gate for pouring.
* Fig. 20a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig20a\_MsMethod2\_Pouring.jpg  
  Fig. 20b: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig20b\_MsMethod2\_PouringDone.jpg  
  Pouring pewter into the mold visible in Figs. 18 and 19. The metal could have been heated to a higher temperature, perhaps enhancing it to flow all the way into the mold. We were concerned that the pour might have been a total failure, since the recipe specifies that tin should be “cast very hot.”
* Fig. 21: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig21\_MsMethod2\_ResultingMold.jpg  
  The two halves of the mold taken apart, with the result visible.
* Fig. 22: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig22\_MsMethod2\_OutofMold.jpg  
  Since the cast was poured from the top rather than the side, the result had a large gate that required the mold to be destroyed in order to remove the result. This may be one of the most important reasons why pouring this way is not recommended; one benefit of pouring from the side is to allow a mold to remain intact and therefore enable a larger amount of reproductions.
* Fig. 23a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig23a\_MsMethod2\_ResultObverse.jpg  
  Fig. 23b: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig23b\_MsMethod2\_ResultReverse.jpg  
  The results of the experiment using Delft Clay for pouring. The cast came out with a high level of detail, but the pewter did not flow all the way into the mold. Nonetheless, we considered this to indicate the success of this process. Like the cast visible in Figs. 17a & 17b, the reverse is highly detailed because it was cast directly onto the brass medal that we used as a pattern.
* Fig. 24a: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig24a\_ResultsObverse.jpg  
  Fig. 24b: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig24b\_ResultsReverse  
  The brass medal we used as a pattern, along with our three trials.
* Fig. 25: AnnotationFall2014\_LandsmanRowen\_One-SidedHollowCastMedals\_Fig25\_fol153v\_HDdetail.jpg  
  The drawing from the margins of a recipe on BnF Ms. Fr. fol. 153v, showing the tool used to roll out a “paste” with a constant thickness, to be used similar to a shim between the two sides of a mold. Used like a rolling pin, the relative diameters of the long central cylinder and the circular pieces on its ends regulate the thickness of the paste.