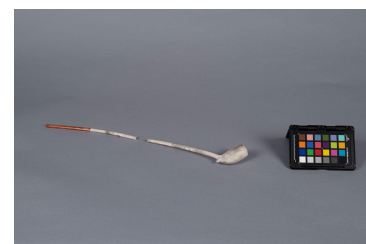




Winterthur/University of Delaware Program in Art Conservation

Conservation Examination Report and Treatment Proposal

Owner: Winterthur Museum, Garden & Library
Accession #: 1965.2058
Object: Clay Pipe
Artist/Maker: Zenith Plateelbakkerij en Pijpenfabriek (Zenith Delftware Pottery and Pipe Factory)
Object Date: 1934-1955
Materials: Earthenware
Dimensions: 16 ¾ x 1 ⅛ x 3 ¼ in. (l x w x h)



Distinguishing Marks: Fragment of manufacturer paper label on stem and “Zenith Holland” stamped inside bowl with black ink

Reason for Treatment: Re-establish structural integrity and aesthetic legibility.

Examined By: Daisy Diamond (Graduate Fellow, Winterthur/University of Delaware Program in Art Conservation [WUDPAC], Class of 2026)¹

Consulted: Lauren Fair (Conservator and Lab Head for Objects Conservation, Assistant Director of Conservation, Affiliated Associate Professor; WUDPAC)
 Leslie Grigsby (Senior Curator of Ceramics and Glass; Winterthur Museum, Garden & Library)
 Sarah Johnson (Assistant Registrar at Winterthur Museum, Garden & Library)

Proposal Date: November 4th, 2024

¹ A Conservation Report was completed in 2016 by Mina Porell, WUDPAC Class of 2018 as a first-year inorganic materials block documentation project (ARTC 657). Research and insights compiled by Kehoe were crucial to this report. Areas of text directly transferred from this report are indicated in italics and followed by (Porell 2016, page #).

Description

This earthenware pipe has a long, slender, slightly curved stem with a rounded bowl. The mouthpiece has an orange-brown smooth and slightly translucent glaze that fluoresces bright white under UV, indicative of a lead glaze. The remainder of the stem and bowl are unglazed. A small protruding spur is present on the underside of the bowl. Seams from the mold production process were partially smoothed, but are still prominent, especially near the spur. There is a small indentation on the smooth interior of the bowl which was left by the wire used to form the bore of the stem. “Zenith Holland” is stamped on the interior of the bowl with faint black ink (fig. 1). Remnants of a (likely original) manufacturer paper label are present approximately five inches down from the spur (fig. 2).



Figure 1. Manufacturer stamp, bowl interior.²



Figure 2. Paper band fragment, stem.

Significance and Cultural Context

Known as a “churchwarden” pipe in England (Gouwenaar in Dutch), this type of slender pipe was popular throughout Europe starting in the 17th century. This style was preferred over shorter ones due to the ability of the long slender stem and the porosity of the earthenware body to cool and dry the smoke before it reaches the smoker's mouth. Additionally, the clay does not impart any unwanted flavors to the tobacco smoke (Amsterdam Pipe Museum 2016).

Based on the paper band fragment found on the stem and the ink stamp 'Zenith, Holland' on the bowl interior, the pipe was identified as a product of the Zenith Delftware Pottery and Pipe Factory (fig. 3). The factory was founded in 1749 in Gouda by Pieter van der Want, the first of eight generations of pipemakers who would operate the company until 1984, when it was bought by De Porceleynse Fles, aka Royal Delft (Gouda Design 2016). In 1969, Scottish archaeologist and pipe historian Iain Walker visited the Zenith pipe factory in Gouda. In 1971 he published his observations, noting that the technology he witnessed was the same as that of the beginning of the 19th century (Walker 1971, 4 and Walker 1977). The proposed mid-20 century manufacture date of our pipe falls within this timeframe.



Figure 3. Paper band on a similar pipe showing the label “P.J. Van der Want, Zenith, Gouda, Holland (Worthpoint Antiques company, 2024).

² Figures 1-2 captured with an iPhone 15, ISO 40-64, 26mm, f.16, 1/120-1/120-1/198s.

The plain undecorated surface of the pipe, absence of maker's marks, and visible mold seams are consistent with mass production, yielding a cheaper product. By the 19th century, the original 17th century technology had been streamlined to maximize efficiency and reduce production cost. In the 20th century, Zenith pipes continued to be made by hand, surpassing other manufacturers in quality and outliving most other pipe factories (Walker 1971, 9). By the 1970s, Zenith was only one of two factories in Gouda still producing clay pipes (Walker 1977, vol. A, 270).

The pipe at hand was most likely acquired in the mid-20th century by Henry Francis du Pont as a period-appropriate prop rather than as a cherished item in its own right (Grigsby 2016). The Winterthur Museum owns a number of similar pipes, most of which are mass-produced 20th century objects. The practice of buying clay pipes for historic house "restorations" also has precedent based on collecting practices at Mystic Seaport and Williamsburg (Walker 1977, vol. A, 270). This hypothesis is supported by the fact that 1965.2058 has never been used before, yet its outer surface is marred by heavy accumulation of black particulates. Leslie Grigsby, Senior Curator of Glass and Ceramics, suggests that this discoloration is intentional (Grigsby 2016). Imitating the carbonaceous "patina" on a well-smoked pipe, or perhaps one that was lit from a twisted paper lighter, the sooty residue was meant to tone down the pipe's "newness" and impart to it signs of age (Porell 2016, 3-4).

Materials and Manufacture

The pipe was formed out of pipe clay, a white-body imported from Belgium or Germany. Originally referred to as porcelaine pipen in the 17th century, these pipes are actually earthenware. The reference to the highly desirable porcelain goods imported from China serves to underscore the pipes' fineness and value, rather than type of clay body (Goes 1993, 21).

To build a pipe, the raw clay was first formed into a roll (rollen) by lengthening it with both hands (Walker 1971, 5). The shaped blanks were then stacked in groups of 18 called roll-bunches (bosje rollen) on a paddle-shaped board (rollenplank) and allowed to dry. Next, the bore was formed by inserting a wire into the stem, using a small amount of oil as a lubricant, while the head of the roll was supported in a wooden trough (gootje). The wired roll was then placed in a cleaned and oiled bipartite brass mold (vorm) and pressed in it using a vice. At the same time, the interior of the bowl was also shaped by pressing a smooth oval-shaped metal piece (stopper) into the mouth of the pipe. The excess clay, called directie, was forced out of the mold for later trimming (Walker 1971, 6-7). The wire was then pushed all the way through to complete the bore into the bowl (Walker 1971, 9).

Once shaped, the pipe was taken out of the mold. The wire was carefully removed and the excess clay was scraped off the seams. After drying to leather-hard, the directie was trimmed and the mold seams were smoothed. The final step in forming the pipe was shaping the mouth of the bowl, using a wooden tool (botter). The pipes were then arranged on a zinc tray to finish drying before firing at 1000°C in an electric kiln (Walker 1971, 10-14; Porell 2016, 4). The colored glaze applied to the mouthpiece could have been completed in one firing, or finished in its own separate firing.

Condition

This pipe is structurally stable but in aesthetically poor condition: a break separates the pipe into two components of nearly equal length. These components realign evenly, but some original material has been lost around the friable break edge, with the largest loss on the underside of the stem. There is no "Change in Condition" report from when the damage occurred. A red stain is present on the underside of the stem near the bowl; this is likely old residue from removing an accession number applied without a barrier layer. This area surrounding this stain also appears cleaner than the rest of the pipe exterior. Small red marks are also present on and just below the paper fragment. The brown-orange glaze at the mouthpiece has approximately 20 pinhead-sized chips to the surface, but the overall glaze is stable and in good condition. There is moderate dark soiling on the exterior of the pipe, but the interior is clean. It is possible that black pigment was rubbed onto the pipe, as evidence of abrasion and rubbing is noted on the stem and at

the site of the manufacturer's label (Porell 2016, 4). The paper band is extremely abraded and most of the material is lost.

Two accession numbers are written in pencil: one is just below the glazed mouthpiece, and the other is on the underside of the stem near the bowl. The present housing enclosure accommodates the two broken components, but would not be long enough for the reconstructed pipe. A Conservation Examination Report and Treatment Proposal was conducted by Mina Porell in 2016 and a brief Object Survey Form was conducted by Adam Jenkins in 2000.

Purpose of Treatment

The purpose of this structural and aesthetic treatment is to reassemble the pipe and minimize the likelihood of repeated join failure. This will stabilize the object for future handling and display. Since the exterior soiling has historic significance, it should be preserved.

Treatment Proposal

1. Complete before treatment photo documentation (*est. 1 hour*).
2. Reduce loose surface soiling with gentle dry cleaning methods, such as a hake brush or cosmetic sponge (*est. 15 minutes*).
3. Reduce the red stain with minimal disruption to embedded dark soiling with a 4-5% agarose-acetone gel (*est. 2 hours*).
4. Degrease break edges with acetone (*est. 15 minutes*).
5. Maintain a degree of reversibility by applying an acrylic barrier layer to the break edges before rejoining with epoxy (*est. 30 minutes*).
6. Rejoin two components with conservation-grade epoxy (*est. 1 hour*).
7. Fill gaps at the break edge with Flügger and inpaint as necessary with matte conservation paints (*est. 2 hours*).
8. Construct a new housing enclosure for long-term storage (*est. 2 hours*).
9. Complete after treatment photodocumentation and treatment report (*est. 2 hours*).

Total est. time: 11 hrs

Daisy Diamond



Date: September 24th, 2024

Conservation Student, WUDPAC

Lauren Fair

Permission granted in email exchange.

Date: September 24th, 2024

Supervising Conservator, WUDPAC

Leslie Grigsby

Permission granted in email exchange.

Date: September 24th, 2024

Curator; Winterthur Museum, Garden & Library

References

Amsterdam Pipe Museum. 2016. "Zenith, firm P.J. van der Want Azn."

<http://www.pipenkabinet.nl/Smokiana/04-E%20Zenith.html> Last accessed February 25, 2016.

Dutch Pipe Smoker. 2014. "Dutch clay pipes." <https://dutchpipesmoker.wordpress.com/tag/goedewaagen/>

Goes, B. 1993. *The intriguing design of tobacco pipes*. Leiden, Netherlands: Pijpenkabinet.

Gouda-Design. 2016. "Zenith factory." <http://www.goudadesign.co.uk/zenith.html> Last accessed on February 25, 2016.

Walker, I. C. 1971. "The manufacture of Dutch clay tobacco-pipes." *Northeast historical archaeology*: 11 (1): 4-17. Available at: <http://digitalcommons.buffalostate.edu/nehavol1/iss1/2>

Walker, I. C. 1977. *Clay tobacco-pipes with particular reference to the Bristol industry*. Volumes A-D. Ottawa, Canada: National Historic Parks and Sites.

Appendix I: Before Treatment Photography

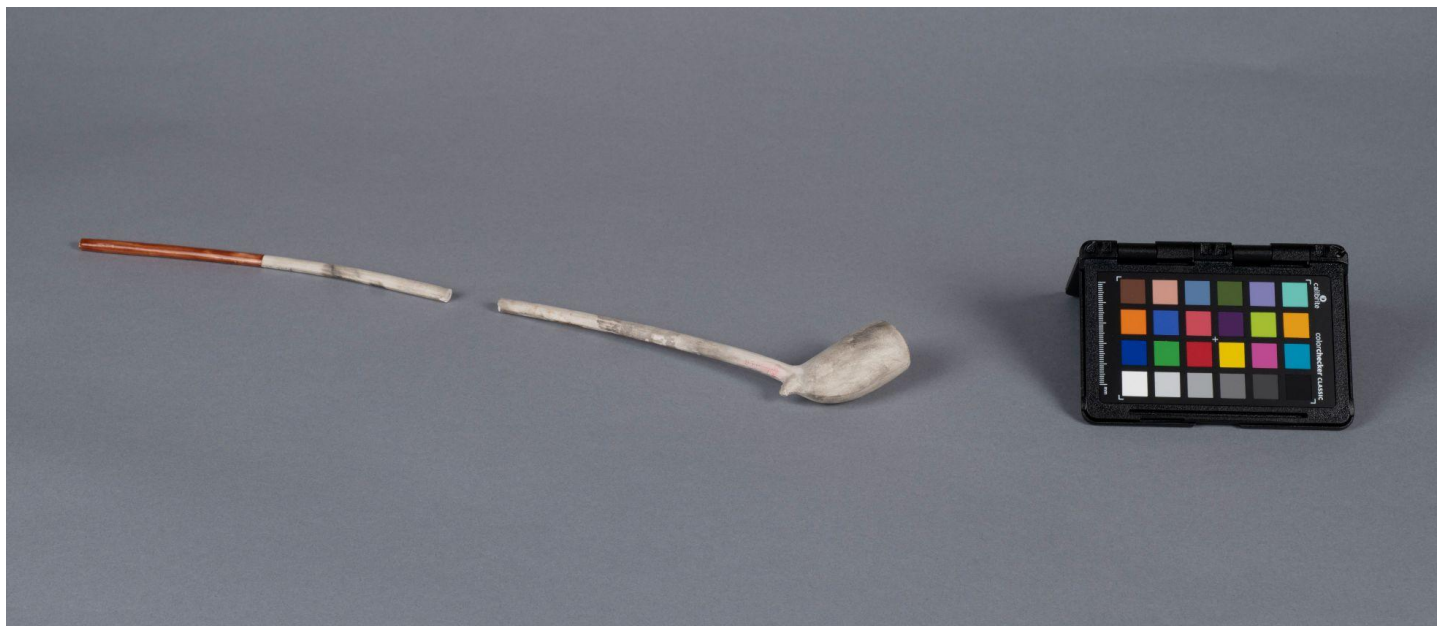


Figure 4. Overall before treatment, normal illumination.³



Figure 5. Overall before treatment, normal illumination.

³ Figures 4-5 documented with Nikon 850 device, Nikon D series 60 mm focal length, f/16, exposure 1/125. Post-processing included white balance adjustments and cropping.

Appendix II: After Treatment Photography



Figure 6. Overall after treatment, normal illumination.⁴



Figure 7. Overall after treatment, normal illumination.

⁴ Figures 6-7 documented with Nikon 850 device, Nikon D series 60 mm focal length, f/16, exposure 1/125. Post-processing included white balance adjustments, exposure -0.20, and cropping.

Conservation Treatment Report

Treatment Summary

The two components of the pipe were rejoined with epoxy. Remaining gaps were filled and aesthetic legibility was reestablished with inpainting. Red stains were reduced.

Treatment Steps

1. Completed before treatment photo documentation (est. 1 hour).
2. Reduced loose surface soiling with a hake brush followed by a cosmetic sponge. Barely any soiling was removed. The soot soiling is of historic value and did not warrant significant reduction (*15 minutes*).
3. Degreased break edges with acetone to prepare the substrate for an epoxy fill (*5 minutes*).
4. Applied a barrier layer with 8% (w/v) Paraloid B-72⁵ (Talas) in 1:1 acetone and ethanol (w/w) (*5 minutes*).
5. Rejoined two components with EPO-TEK 301-2 (MuseuM Services Corporation) epoxy resin⁶ bulked with hydrophilic fumed silica⁷ (Conservation Materials Ltd.) (*3 hours*).
6. Filled gaps at the break edge with Flügger (Talas).⁸ Inpainted with Winsor & Newton Watercolors⁹ followed by Royal Talens Van Gogh pencils to match the soot on the stem (figs. 8-10) (*3 hours*).

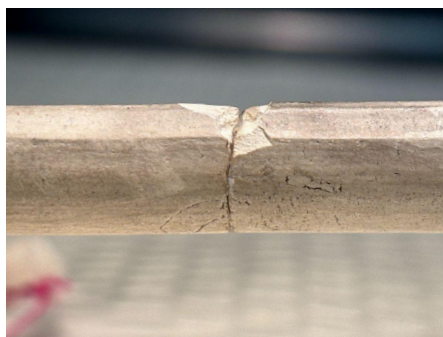


Figure 8. Before fill.

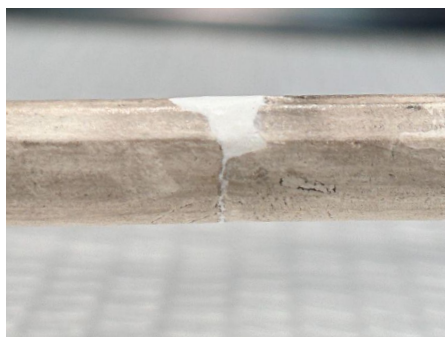


Figure 9. After Flügger fill.



Figure 10. After inpainting.

⁵ Clear colorless thermoplastic acrylic resin composed of an ethyl methacrylate (70%) and methyl acrylate (30%) copolymer. Previously manufactured by Rohm & Haas, now produced by The Dow Chemical Co. and available from conservation suppliers.

⁶ Low viscosity epoxy that bonds well to most glass, metals, and plastics. RI=1.538-1.540; sets in 4-8 hours and cures in 12-18 hours. Manufactured by Epoxy Technology.

⁷ Colloidal form of silica made by hydrogen-oxygen furnace combustion of silicon tetrachloride. This type is hydrophilic and is for instance used as a matting and bulking agent for epoxy colorfills. Available from Conservation Emporium.

⁸ Acrylic spackle composed of calcium carbonate in a butyl methacrylate binder. Manufactured by Flügger A/S, Denmark. Available from conservation suppliers.

⁹ Pan of watercolor paint consisting of pigments in a possibly gum arabic binder; manufactured by Winsor and Newton. Available at art stores.

7. Reduced the red stain (figs. 11-12) with an acetone poultice applied with Kay-dry tissue (Kimtech) followed by gentle mechanical action with an acetone-swab (*est. 30 minutes*).



Figure 11. Before stain reduction



Figure 12. After stain reduction.

8. The secondary pencil accession number applied near the stem was removed and the accession number near the bowl was left intact. The second pencil accession number was reduced with a carved Mars STAEDTLER eraser in deionized (DI) water. Eraser crumbs were removed with a hake brush. The base of the bowl is the standard place for accession labeling of pipes in the Winterthur collection, as established in consultation with Sarah Johnson, Assistant Registrar at Winterthur Museum, Garden & Library (*30 minutes*).
9. Updated an existing blueboard housing enclosure for long-term storage with Volara supports (fig. 13) (*15 minutes*).

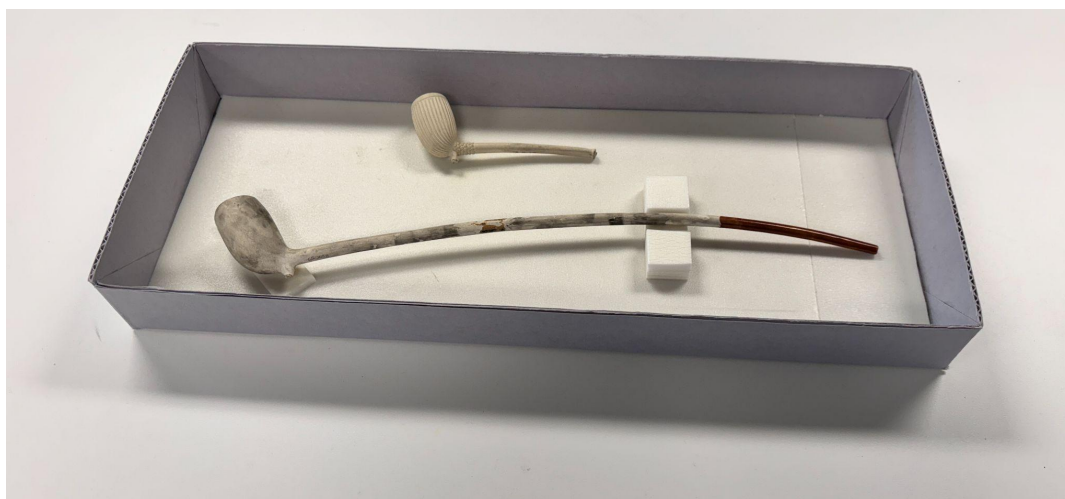


Figure 13. New housing enclosure which can fit additional pipes, as requested by Leslie Grigsby.

10. Completed after treatment photodocumentation and treatment report. (*2 hours*).

Total treatment time: 8.25 hours

Treated By: Daisy Diamond

Report Date: November 4th, 2024