



Science and Technology Group

Annual Report FY2014: Anya Dani

Anya Dani

Science and Technology Associate

1 Introduction

The goal of the Art Conservation Program at OIST is to contribute to the preservation and understanding of Okinawan material culture through collaborations with both the Yomitan Museum of History & Folklore and the Tsuboya Pottery Museum. Collaborations with other research units at OIST are also ongoing. In FY14 our work largely consisted of performing conservation treatments, documenting artifacts through condition survey, and researching Okinawan material culture.

2 Activities and Findings

Conservation Treatments of Yomitan Museum Artifacts (Completed)

- *Sanshin (string instrument), Okinawan, late 19th century, no Acc.#:* Conservation treatment included lacquer consolidation, textile stabilization, cleaning, and aesthetic compensation using appropriate, reversible, and stable materials.
- *Red-lacquer juubako (ceremonial box), Okinawan, early 20th century, Acc.# 5558:* Before treatment the artifact was covered in a delaminating synthetic coating and discolored restorations, which we reduced using acetone and aqueous solutions respectively. An acrylic resin mixed with powdered pigments was determined to be the best method of aesthetic compensation. (Figs. 1, 2)



Fig. 1. Juubako before treatment, with disfiguring previous restorations



Fig. 2. Juubako after Treatment

- *Red-lacquer & tsuikin-decorated bento box, Okinawan, early 20th century, Acc.# 3119:* Treatment

mostly involved aqueous cleaning. The following pigments were also identified on the artifact through X-ray spectroscopy: cinnabar red, brown ochre, orpiment yellow, and a bismuth containing luster pigment.

- *Archaeological ceramic lid, Ufugushiku, Yomitan, Gusuku Period, no Acc.#*: This broken object was newly discovered in museum storage during the course of our work. Treatment included cleaning and reconstruction.

Condition Survey

I completed a condition survey of 582 artifacts on view at the Yomitan Museum. The survey documents artifact provenance, past use, current condition, and past restorations. It also outlines treatment and exhibition recommendations. The survey is being used as an overall assessment, and to identify priority objects for treatment.

Ceramic Research

Our work with the Tsuboya Museum has focused on the characterization and provenance classification of 17th-18th century archaeological ceramics from significant kilns sites on both the Okinawa Main Island and Ishigaki Island. This is being done through the use of X-ray fluorescence spectroscopy (XRF) and X-ray diffraction. Quartz and mullite were identified, suggesting original firing temperatures of 1100-1250°C. Al, Si, K, Ti, Ca, Cr, Mn, Fe, Ni, Cu, Zn, As, Rb, Sr, Y, and Zr were identified in most samples. Ca content widely varied between different sites. We determined that variations in Sr/Y ratios were key to the differentiation of ceramics from Ishigaki vs. Okinawa (Fig. 3).

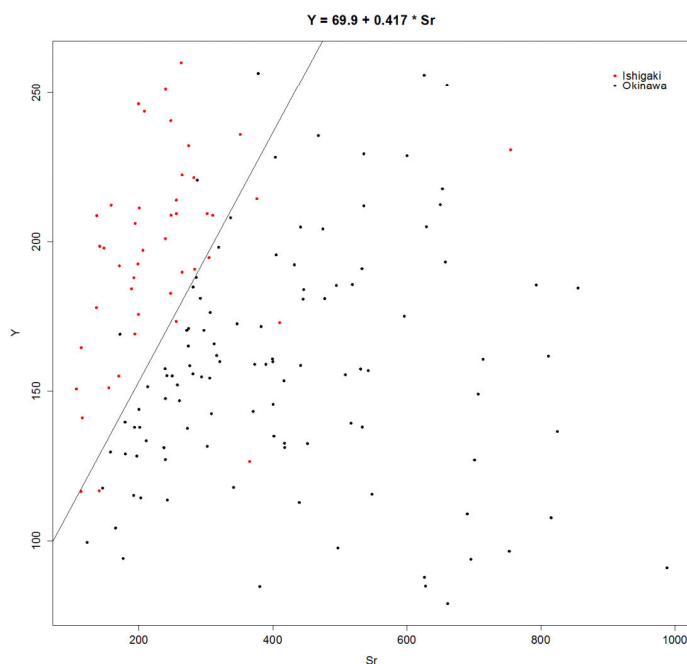


Fig. 3. Y/Sr plot of 40 kV 11.3µA XRF data, Okinawa & Ishigaki Ceramic Samples.

3 Visitors to the OIST Art Conservation Program

- **Amaris Sturm**, June-September, 2014, University of Delaware, research intern.
- **Melissa Carr**, Feb 2015, Masterwork Conservation, Massachusetts, USA.

4 Publications and other output

- Dani, A., J. L. Mass, and T. Kuranari, *Characterization and provenance of 17th and 18th century*

Okinawan ceramics using X-ray based analysis. An Unbroken History: Conserving East Asian Works of Art and Heritage. 2014 IIC Congress, Hong Kong, 2014.

- Dani, A., J. L. Mass, and T. Kuranari, *Studies in Conservation*, vol. 59, no. S1, pp. S207-S208, 2014.

Artifact Conservation Treatment Proposals & Final Reports

- Dani, A. "Shouchikubai Juubako: Artifact Examination and Treatment Proposal", No Acc.#, Yomitan Museum of History & Folklore, 2014.
- Dani, A. "Kakubon: Artifact Exam & Trmt Proposal", Acc.# 21298, Yomitan Museum, 2014.
- Dani, A. "Sanshin: Final Treatment Report", No Acc.#, Yomitan Museum, 2014.
- Sturm, A. "Bento Bako: Artifact Exam & Trmt Proposal", Acc.# 3119, Yomitan Museum, 2014.
- Dani, A. et al. "Bento Bako: Final Trmt Report", Acc.# 3119, Yomitan Museum, 2014.
- Sturm, A. "Ceramic Lid: Artifact Exam & Trmt Proposal" & "Ceramic Lid: Final Trmt Report", No Acc.#, Yomitan Museum, 2014.
- Sturm, A. "Juubako: Final Trmt Report", Acc.# 5558, Yomitan Museum, 2014.
- Dani, A. "Large Ceramic Jar: Artifact Exam & Trmt Proposal", No Acc.#, Yomitan Museum, 2014.
- Dani, A. "Bento Bako: Artifact Exam & Trmt Proposal", Acc.# 3120, Yomitan Museum, 2015.