Uncovering Jamaican slave villages through spatial survey: methods and results

1. The Problem

Caribbean slave villages provide some of the best clues to how enslaved people forged social and economic relationships over time and space to respond to and subvert their bondage. Unlike slaves in North American colonies, Caribbean slaves lived in large-scale villages comprised of 100s or even 1000s of enslaved people. Spread over many acres, these villages were often occupied for decades, housing multiple generations of enslaved people.

Recently, all archaeological research on Caribbean slave villages has focused on individual houses. Given the size of village sites and the large number they contain, a consistent focus means that only a small portion of a village’s extent can be investigated.

In 2007, The Digital Archaeological Archive of Comparative Slavery (DAACS) on the University of Virginia, 176 shovel-test pits (STPs) were excavated across a 7000-square-meter area that represents roughly 1/50th of the village.

2. The Site

In 2007, DAACS (www.daacs.org) initiated a shovel-test pit (STP) survey of the village and main house complex at Stone Castle, an eighteenth-century sugar plantation on the north coast of Jamaica.

3. STP Survey Methods

With the help of students from the University of the West Indies and the University of Virginia, 176 shovel-test pits (STPs) were excavated across a 7000-square-meter area that represents roughly 1/50th of the village.

- STPs were placed at a constant distance across the survey area.
- STPs were spaced at 10 meter intervals. All site units were excavated using 1/3 of its needs, Sediment trays and stratigraphy were recorded for each STP.
- Two 1 x 1 meter units were excavated to further explore observed temporal trends and to clarify stratigraphy.
- Retrospective artifacts were enlisted to DAACS (www.daacs.org) standards.

4. Smoothing the Data

The two goals of the STP survey were to isolate temporal trends and to identify areas that might represent individual house sites. Empirical-Bayesian smoothing functions were used to identify patterns that might reveal evidence of these sites. Two forms of Bayesian smoothing were used in succession to help identify occupation areas and chronological variation within the village, producing Poisson and beta-binomial models. Together these models provide unsmoothed, stable estimates of temporal frequency variation in individual STPs, allowing us to use observed patterns that may reflect different housing areas.

5. The Gamma-Poisson Model

The gamma-Poisson model works by smoothing counts of a single artifact type within an STP by using information about the counts of that artifact type in surrounding STPs.

For example, the number of artifacts found in STP 30 is likely to be similar to the number of artifacts found in pit within a certain distance from STP 30. The information contained in the neighborhood of a pit is combined with the actual number of artifacts from STP 30 to arrive at an estimate of artifact counts that are less influenced by sampling error (Runnegan et al. 2008).

6. The Beta Binomial Model and Correspondence Analysis

The Beta-binomial model facilitates the simultaneous count-data produced by the gamma-Poisson model to produce the relative frequency of usage of artifact types within each STP (Runnegan et al. 2008). We use correspondence analysis (CA) of the frequencies of ceramic ware-types to infer chronological and functional variation within the village.

The ceramic ware-type can be divided into three groups:

- Group 1: comprised of mid-18th century wares.
- Group 2: comprised of late 18th century wares.
- Group 3: comprised of utilitarian ceramics.

The ceramic ware-type can be divided into three groups: Group 1: comprised of mid-18th century wares; Group 2: comprised of late-18th century wares; and Group 3: comprised of utilitarian ceramics.

7. Stratiographic Evidence

Stratigraphic evidence is one way we can independently evaluate the idea that our spatial analysis has successfully recovered evidence of change. Until recently, all archaeological research on Caribbean slave villages has focused on individual houses. Given the size of village sites and the large number they contain, a consistent focus means that only a small portion of a village’s extent can be investigated.

Recent village-wide surveys on Jamaica (Zoilo 2007; 2008) and Neihauser 2009 used the Digital Archeological Archive of Comparative Slavery (DAACS) for, in these cases, addressing large-scale comparative questions about the social, economic, and subsistence strategies employed by slaves across an entire plantation.

8. Conclusions

The shovel-test pit survey and Bayesian smoothing methods are powerful tools for understanding both individual and comparative variation over large areas. Future field seasons will expand coverage in the Stone Castle village to corroborate these results while also testing spatial correlation between STPs for neighboring by tightening the distance between STPs.