

### INTRODUCTION

- Impact of the European arrival (1517) on the Maya people who inhabited Northern Yucatán (México) is not well understood. This is primarily because the socio-economic organization of their society preceding the conquest still eludes researchers.
- This study uses archaeological and technological analyses of pottery production and exchange across northern Yucatán in the last pre-Hispanic period (Late Postclassic, AD 1200-1546) to advance the debate on Maya socio-economic organization.
- Technology (the way people make things) reflects social context and can point to different traditions and social identities. Diversity in pottery technology can be used to detect social boundaries and identify pottery exchange across them.



Fig 1. Map of northern Yucatan showing (a) Late Postclassic sites and Western and Eastern ceramic spheres; and (b) Road N-S

- Mayapán was the main Maya center during the last pre-Hispanic period.
- Vessel styles and forms were very homogenous across the region (Fig 1) and similar to Mayapan's.
- The dominant pottery styles throughout Yucatán were red-slipped Red Mama in the west and Payil in the east (reflecting differences in paste texture and hardness), and un-slipped pottery.
- Research question: To what extent can pottery technologies in different areas of Yucatan be identified and reveal the wider socioeconomic conditions at the time of conquest?

### METHODOLOGY

- The analysis includes comparison of test cases, West and East:
  - West: Mayapán and sites along the N-S road (Figs 1a and b)
  - East: Muyil, Chak Mool, and Cobá (Fig 1a)
- Comparison of forms:
  - jars (Fig 2a)
  - ollas - unslipped open-mouth vessels probably for cooking (Fig 2b)
  - cajetes - deep dishes (Fig 2c)
- Characterization and provenance determination of pottery materials and clays using:
  - hand specimen
  - chemical and petrographic
  - X-ray diffraction techniques
- Inspection of the pottery surfaces and physical characteristics to study techniques of vessel forming, finishing and firing

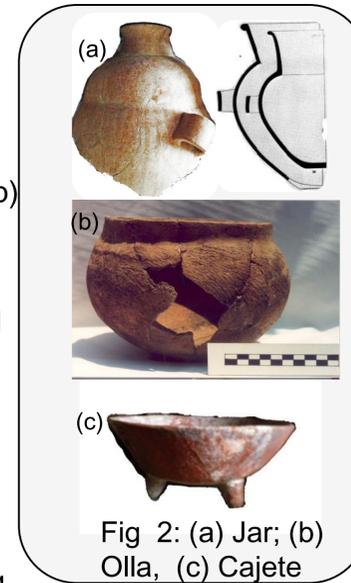


Fig 2: (a) Jar; (b) Olla, (c) Cajete

### PRELIMINARY RESULTS

- The results are based on hand-specimen analysis of three sites only: Mayapán, Telchaquillo, Tecoh (West, Fig 1b), and Culubá (West-East boundary) using:
  - hand-lens and binocular microscope
  - refiring of pottery at 950°C to eliminate color variations from the original firings and enable broad discrimination between the types of clay materials used.
- Different pastes are defined by textural variation in calcareous rocks, hardness of the sherd, frequencies and sizes of particles found in the pottery clay.

- The main pastes found are:



Fig 3. Paste A: Soft, frequent coarse gray micrite



Fig 4. Paste B: Soft, frequent coarse white micrite, few sparite



Fig 5. Paste C: Soft, abundant coarse sparite clusters

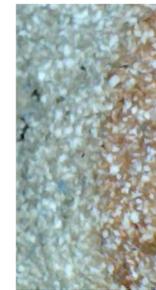


Fig 6. Paste D: Hard, abundant, fine colorless crystalline particles.

- At the West, vessel form and paste are associated.
  - Red-slipped Mama jars are associated with paste B (Fig 4) and some to A (Fig 3).
  - Ollas of the Yacman type (striated) are associated with paste C (Fig 5) and some to A (Fig 3).
  - Payil cajetes are associated with paste D (Fig 6).
- The color of refired pottery color unveiled three broad types of clay: white, pink, and red.
  - At the West, Mama jars refire to white, Yacman to white and pink, and Payil to red.
  - At the West-East border, Mama, Yacman, and Payil refire to red.
- Mayapán style Mama jars and Yacman ollas were imitated at Culubá using a variety of pastes, and Payil found at Mayapán was imported from the East.

### PRELIMINARY CONCLUSIONS

- Production Patterns**
  - The range of distinct pastes indicates multiple producers.
  - During the Late Postclassic, Maya potters may have specialized by form as suggested by different pastes associated with different vessel forms.
  - Taking all pastes together, there is less variation at and near the main center of Mayapán than at Culubá, located close to the West-East boundary.
  - Future work will examine differences in geology, standardization, and centralization of producers.
- Exchange**
  - East coast Payil pots traveled to Mayapán: Payil pottery found at Mayapán have pastes (Fig 6) similar to eastern pottery and refire to red.
  - The number of pots traveling from Mayapán may have been small: Mama (or Mayapán style) pottery found at Culubá is locally made and refire to red.
- Traditions**
  - Culubá production of Mama style pottery suggests that people across a wide area shared a common view of how pots of a given form should look.

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