Working Towards Meroitic Decipherment: A Computational Approach
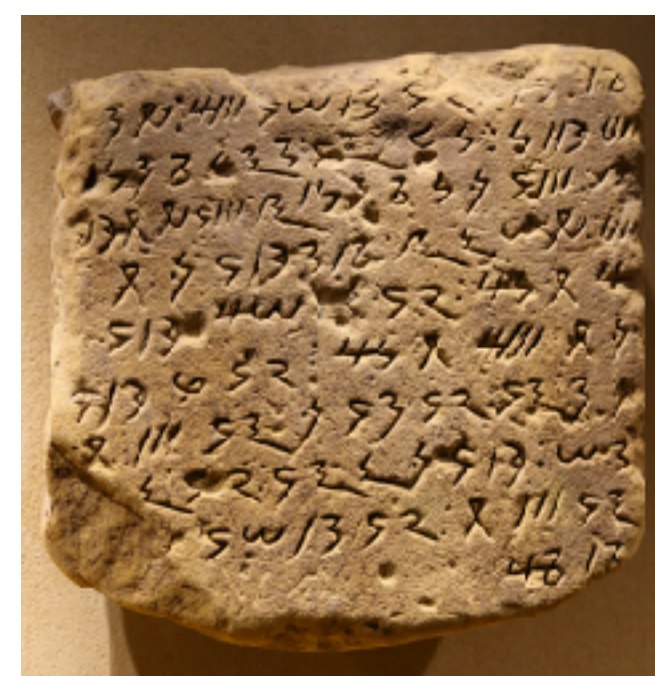
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What is Meroitic?

- Ancient language of Meroë, civilization in what is now Sudan
- ~ 600 BC - 400 AD
- One of the oldest African written languages

Problem:

Currently *undeciphered*!

What is known?
- Writing system
- Certain names and loanwords
- A few grammatical concepts, (e.g. genitival constructions)
- Formulaic funerary inscriptions
- Phylogeny (Nilo-Saharan NES)

Unknown:
- Most vocabulary
- Verbal grammar
- Long Royal Narratives

Goal: Learn vocabulary through cognate detection and nonparallel data analysis

Challenges:

- No bilingual texts for Meroitic
- Lack of related languages
- Limited Vocabulary knowledge
- Orthographic Variation
- Gaps of grammatical understanding

Possible Solutions:

Cognate Detection
- Word frequency and string matching
- Meroitic, Old Nubian, other?

Recognize orthographic variants
- Frequency/string matching
- Northern and southern texts, etc.

Utilize comparable texts
- Meroitic Long Royal Narratives
- Egyptian Campaigns

Figure 1

Current Setting

- A large text corpus (*over 1,200 docs!*)
- Writing system is alpha-syllabic
- Grammar is agglutinative
- Utilizes separator character
- Some vocabulary and grammar (mostly from funerary inscriptions) already known
- Data Digitization
    - Meroitic example phrases/ vocabulary
    - Nubian/Old Nubian Dictionaries