Wheat and barley were used to make bread and beer, the main staple in Egyptian diet. This typifies archaeological consideration of cereal-based diet in Egypt implicitly homogenizes the culture. Variation within the culture is often interpreted as a temporal difference, ignoring the inter-regional cultural variation. Different names of bread encountered in ancient texts are often interpreted by using approximate Western terms (e.g., biscuits, cake) which distance us more from the ancient concepts of a meal. This presentation introduces a multidisciplinary paleoethnobotanical approach of the Egyptian cereal based diet including molecular and nano-archaeological methods and imaging applied to archaeological remains of wheat from Egypt, with the goal of understanding the contribution of cereals on the chain of opératoire of producing a meal. These methods provide a lens onto the regional cultural variation in the ways that cereals have intersected with other food items such as fruits and dairy when integrated into what constitutes the concept of a meal at a regional level. Ethnoarchaeological data enrich the understanding of the textual and archaeological materials by revealing the diversity of ways in which a cereal based meal has served as a social agent in the formation of society, economy, culture and identity in a regionally distinct way (Hastorf 2016). A key conclusion is that the use of interdisciplinarity methods and technology is not only a source for expanding data, but also pose ontological questions to rethink the theoretical paradigm in Egyptology that has produced homogenizing terms for describing Egyptian society.

### Analysis and Results:

Archaeobotanical collections from Egypt are dominated by wheat and barley known collectively as anubet, in hieroglyphs, i.e. life marker. Accordingly, may assume that ancient Egyptian diet was regionally homogenous and similar, during a given time period. However critical look onto ancient texts, grain morphology, and ecology as well as ethnobotany reveals how wheat itself showed variation among the same species between Upper and Lower Egypt.

**A. Text:** Ancient Egyptian texts distinguish between *ji-tsw* and *ji-nH* using regional terms for Upper and Lower Egyptian grain respectively.

**B. Nano-archaeology:** To compare upper and lower Egyptian wheat morphologically, this projects developed a research method of taking the diagnostic features of wheat and mapping of the grain morphology using Keyence VHX-1000 digital microscope at the nano-archaeology Laboratory at UCLA. Samples from Upper Egypt found in the Bab el Gousinteins cache, 21t hydration, and wheat samples from ethnographic reference collections at the Charleston Museum (S.C.) presumably from lower Egypt. To compare upper and lower Egyptian wheat morphologically, this project developed a research method of taking the diagnostic features of wheat and mapping of the grain morphology using Keyence VHX-1000 digital microscope at the nano-archaeology Laboratory at UCLA. Samples from Upper Egypt found in the Bab el Gousinteins cache, 21t hydration, and wheat samples from ethnographic reference collections at the Charleston Museum (S.C.) presumably from lower Egypt.

**C. Ethnoarchaeology:** Although ancient nano-archaeology shows a preliminary result that requires further inter-regional comparison of well contextualized excavated materials, collecting ethnographic data from Mushi el Amr (Lower Egyptian) and Luxor (Upper Egypt), confirmed farmer’s awareness of these ecological differences of Upper and Lower Egyptian grain. Farmers explained understandings in regard to value as thinner and darker grain of Upper Egypt is ascribed to be of lesser quality and hence cheaper. This example invited Egyptologists interested in the economy question to consider this regionality aspect of value.

**Discussion and conclusion:**

Egyptology began within orientalist and colonialist paradigm (Siad, 1993). One ongoing aspect of this paradigm is the periodization of Egyptian history (kingdoms and intermediate periods) by which variation within the culture is only seen from the lens of continuity and change measured on a temporal scale. Even though some may argue that it is important to keep the dynamic system of Manetho, we should not forget the fact that Manetho himself emphasized the regional aspect of his system (Thinite, Thibeth, Memphite dynasties etc.). In conclusion, looking so closely into regional variation within the Egyptian culture is not simply a research method to consider but it is an enabling theoretical lens to transcend the colonial history of Egyptology and its ensuing homogenization of Egyptian culture.

### Acknowledgements:

An appreciation and gratitude for the substantial inputs by Renata Mures (Arun-archaeology lab, UCLA); Alan Lang (Nanoarchaeology and ancient agriculture lab, UCLA); Adina Aharoni, UK; and the spirit of collaboration by Cynthia Cotsen (collaboration for the samples by Campbell Price, Manchester Museum, Helen and Nigel Stewart/Egyptian Museum; Cambridge and Anu Geper, UCLA: ideas behind my interest to Susan Onestine, Patricia Podrabsky). US. for field data and sample from the the University of Memphis Art Museum). Special thanks to Wilhelm Wendrich and my colleagues Casey Krueger and Carrie Arfke for their feedback on the grinding experiments. I am also indebted to gratitude to three Capples, University of Greifswald, Netherlands for his hospitality and the productive summer internship and training on the critical use of paleoethnobotany in Egyptology.