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This thesis presents an expanded bioarchaeological perspective to the quantitative analyses of dental caries in the remains of 1842 ancient Egyptians and Nubians. The skeletal samples came from 17 Egyptian and 15 Nubian cemeteries, are represented by both sexes, and spanned a period from 14000 BCE-1450 CE. Considering that a skeletal collection of this size has never been previously evaluated for dental caries, this thesis can make a considerable contribution to better understanding variability in patterns of the lesions over time, especially in the bio/cultural/ecological context of the Nile Valley.

Dental caries are the decomposition of tooth enamel resulting from the breakdown of dietary carbohydrates by oral bacteria. In archaeological populations, increasing rates of dental caries have been positively correlated with consumption of agriculturally-based cereals such as wheat and barley. Dental caries rates thus provide a reliable indicator of human biocultural transitions to agriculture, as well as information on diet, general oral health, and social organization of the group. In the context of ancient Egypt and Nubia, caries frequencies have been previously used to evaluate regional variability in dietary practices, as well differential access to resources based on sex and social class/status.

This thesis reevaluates much of the above information using a larger and more statistically-representative sample. Quantitative analyses based on parametric statistical techniques were used to assess intra- and inter-sample differences in mean tooth caries, mean individual caries, and mean ante mortem tooth loss (AMTL). These variables were compared across samples by region, time period, economic organization, sex, and social status. Results for Egypt were in agreement with previous research showing overall low caries prevalence increasing through time. Significant regional and inter-cemetery differences existed between Lower Egypt and Upper Egypt, as well as between late Dynastic samples and earlier ones. In Nubia, significant differences according to region and sex were shown to exist in the prehistoric/preagricultural component of the study. In contrast with previous findings, Nubian dental caries were higher in the earlier phases and declined during the agriculturally-intensive periods of later history. The exception to this last finding was the Christian period when both dental caries and AMTL experienced considerable increases.