Bachelor of Philosophy Sample Thesis Prospectus
(Anthropology)

Title: A Global View of Skeletal Growth

Juvenile growth is an important indicator of population health, and skeletal growth is often used to age children when dental information is incomplete or absent. My study will be based on several collections across the world in order to develop an international perspective on juvenile growth. Environmental factors that may retard growth, such as chronic illness and malnutrition, will also be considered. My project therefore embraces two related questions: differences in growth between contemporaneous populations, and the effects of environmental stresses on the growth of children. The overarching goal of my study is to construct a comprehensive picture of subadult growth that can be used to age unknown specimens and to illuminate the nature of juvenile skeletal growth.

In order to answer these questions, diaphyseal lengths for the six major limb longbones of the body will be measured bilaterally for each individual. Diaphyseal growth occurs from early in fetal development until the cessation of post-pubertal development; diaphyseal lengths thus provide a long-term basis from which to estimate age from skeletal remains because the process is ongoing throughout juvenile life. Corporeal insults are more prone to affect diaphyses because their growth is protracted. Diaphyseal lengths will be regressed against age in order to produce a bone-specific skeletal growth profile for the population. In order to interpret the growth profiles, general health indicators will be noted for each specimen, including dental enamel hypoplasias and porotic hyperostosis in the forms of cribra crania and cribra orbitalia. Although dental enamel hypoplasias and porotic hyperostosis have variable and oft-debated etiologies, they are equally useful indicators of poor health and more specifically, of chronic disease or malnutrition. These skeletal deformations will be weighed in conjunction with records for the collections regarding cause of death, including hospital reports. In the case of the Hamann-Todd collection, autopsy photographs are available for many individuals, and will be described by me as either normal, malnourished, or severely malnourished.

 Debate clouds the study of juvenile growth. Most researchers agree that there are population differences, but proof of these differences in contemporaneous populations has not been proven. Sample size, inadequate material, and lack of known-age juvenile skeletal populations have hampered progress in the field of developmental juvenile osteology. This impediment, when combined with variable explanations of the effects of chronic disease and malnutrition of the skeletal growth of subadults, has effectively thwarted advances in the discipline. Without a comprehensive knowledge of juvenile growth, the use of diaphyseal lengths to determine age may incorrectly skew any forensic or archaeological interpretation.