Ph.D. Thesis: Morin, E. 2004./ Late Pleistocene population interaction in Western Europe and modern human origins: New insights based on the faunal remains from Saint-Césaire, southwestern France/. Unpublished Ph.D. Dissertation, University of Michigan, Ann Arbor.

The present analysis tests the "Neandertal Replacement model," and more specifically, seeks to reassess the assumption of a migration of early modern humans into Western Europe at the Middle to Upper Paleolithic boundary. Propositions are formulated about the consequences of a modern human incursion into Western Europe, and more specifically, in southwestern France during the Middle to Upper Paleolithic transition. It is argued that late Pleistocene populations were close to the carrying capacity of the environment in Western Europe and were vulnerable to fluctuations in resource abundance, in particular during the snow-covered season. If the hypothesis of a modern human incursion into Eurasia during the Middle to Upper Paleolithic is true, it can be suggested that this demographic growth increased local populations far beyond carrying capacity and led to chronic resource depression. Therefore, it is suggested that these stresses lead Neandertals and early modern humans to adapt in order to cope with resource scarcity. Several lines of evidence, all related to fauna, are used to verify these propositions. These are linked to maximization of carcass utilization, changes in frequencies of low and high utility parts, of high and low-ranked taxa, marrow exploitation of low utility parts, and the importance of scavenging. These archaeological expectations are tested on eight faunal assemblages from Saint-Césaire (Charente-Maritime), a site documenting the transition from the Middle to the Upper Paleolithic in southwestern France. Although food stress is evidenced at Saint-Césaire, it seems that fluctuations associated with resource exploitation were of similar amplitude throughout the sequences or, at least, that these fluctuations were not important enough to alter the equilibrium of the food procurement system and bring about changes in subsistence strategies. These results are not consistent with the implications derived from the replacement model. As a result, the hypothesis of a modern human migration causing the extinction of Neandertal populations appears to be refuted. Based on the data, it is suggested that an *in situ* model that focuses on changes in local human population densities, prey abundance, and genetic drift provides a more satisfactory explanation for the Middle to Upper Paleolithic transition than demic expansion scenarios.