Household archaeology is an area of research that is strongly influenced by anthropology, and it is quite well developed in North American scholarship, where it relies heavily on ethnographic analogies as a basis for archaeological interpretation. To date, archaeologists view households as systems of membership (Allison 1999a), thus the goals of household archaeology research as set forward by American anthropologists include the reconstruction of such things as architecture, activities, economy, human interrelationships, attitudes and traditions, household composition (e.g., number of occupants, ages, genders), status, changes in socioeconomic organization, relationship of the household to the environment (both ecological and social), production vs. consumption, and ritual/symbolism. Allison (1999a and references therein) demonstrates that, with the advent of ethnographic and ethnoarchaeological studies, came the realization of the complexity of households and their identification. Thus, Allison (1999a) rightly suggested that two steps of analysis should be conducted:

1. Households should be identified based on architectural parameters and the activities within them identified using material culture remains and pictorial and textual data.
2. All other goals of research (i.e., socioeconomic, symbolism, organization, etc.) might be inferred from studies conducted in step 1.
Clearly, these two steps point to a gap in our ability to reliably and confidently reconstruct households in antiquity, with the results of step 1 being more reliable as they are based on actual finds, and the results of step 2 being less reliable because they include more assumptions. However, even step 1 involves a number of assumptions and some degree of uncertainty. These assumptions start in the field with the excavator’s interpretation of features, their temporal associations, and the location of floors.

In order to study the material remains on a house floor, the floor itself first needs to be identified. In most Levantine sites, where building with mudbricks was common, floors are rarely paved or plastered, and unequivocal identification of dirt floors is an incredibly difficult task. Often only artifacts that are assumed to be associated with what is presumed to be a floor will be studied; this introduces one type of uncertainty into the process of stage 1 analysis. A second type of uncertainty introduced into the analysis is due to the fragmentary or selective nature of archaeological assemblages that is caused by natural differential preservation as well as by methods of excavation (e.g., hand-picked vs. sieved materials, pore size of sieves used in the field, and selection of indicative sherds over nonindicative ones). These two types of uncertainty, the identification of floors and the fragmentary/selective nature of assemblages, might therefore be regarded as leading to a cumulative analytical error.

As in every scientific method, analytical errors may be reduced through the use of new approaches. In order to help reduce them in household archaeology studies, the floors in the studied household must be identified unequivocally, and complete assemblages of artifacts and/or ecofacts should be studied. This can be carried out through the random and nonselective sampling of sediments and artifacts. Studying complete assemblages on the macroscopic and microscopic levels is not always practical due to the large numbers of finds from historic contexts. In this article I argue that the microscopic study of tell sediments helps to reduce the uncertainty of step 1 analysis in household archaeology research because whole sediment samples are studied without selection of materials based on size (i.e., no sieving) or shape (i.e., how indicative a material is). The sampling method is random, and bias is thus negligible. The number of samples should be relatively large with some overlap in sampling certain contexts, so the reproducibility of the method can be quantitatively evaluated. For example, Albert et al. (2008) conducted phytolith analyses at Tel Dor studying