In recent years there has been increasing interest in the nature of heritage language grammars. Heritage speakers are bilinguals who were exposed to a minority language at home (typically an immigrant language), either as the only language or together with the language of the wider speech community. It is common for heritage speakers to experience language shift during late childhood, such that by early adulthood their first language becomes their secondary and weaker language, while their second language is now their dominant primary language. Under these circumstances the heritage language is often incompletely acquired and/or undergoes attrition, most notably in morphosyntax, showing many structural characteristics that may differ from those of first generation immigrants on the one hand and certainly from those of native speakers in the host countries on the other. The wide range of linguistic proficiency attained by adult heritage speakers raise several fundamental questions about the stability of early bilingual acquisition and the role of input and use in the development and maintenance of a native language. Two other important questions are 1) what do different heritage languages have in common at the structural level? and 2) what language-internal and language-external factors contribute to the vulnerability of particular grammatical phenomenon in the heritage language? I will address these questions by discussing how differential object marking—the overt morphological marking of some direct objects—typically acquired during early syntax in monolingual children, is differentially affected in Spanish, Hindi and Romanian as heritage languages and across generations. These are the results of a recently completed transnational and transgenerational experimental investigation of Hindi, Spanish and Romanian as heritage languages in the United States funded by the National Science Foundation.