The history of species arrival during community assembly can be a major determinant of the structure and function of ecological communities over both ecological and evolutionary time. Such historical contingency, called priority effects, is often viewed as a nuisance that hinders progress in community ecology. In my talk, I will argue that this view is misguided and show how we can embrace historical contingency to better understand community structure and function. As an illustrative example, I will discuss some recent and ongoing work on microbial communities that develop in floral nectar. Our results indicate that the importance of history can be predicted from phylogenetic relatedness, niche components, environmental variability, as well as the extent of adaptive gene duplication in the genome of the species taking part in community assembly.