# 3.4: Predicting the Geometry of Organometallic Complexes

An important issue that we've glossed over until now concerns what organometallic complexes actually look like: what are their typical geometries? Can we use any of the "bookkeeping metrics" we've explored so far to reliably predict geometry? The answer to the latter questions is a refreshing but qualified "yes." In this post, we'll explore the possibilities for complex geometry and develop some general guidelines for predicting geometry. In the process we'll enlist the aid of a powerful theoretical ally, crystal field theory (CFT), which provides some intuitive explanations for geometry the geometry of organometallic complexes.