Linguistic cladistics operates on a simple principle: languages of a family are subgrouped together only if they exclusively share significant innovations which are not likely to have recurred in more than one line of descent (i.e. are probably homologous). Specific shortcomings of specific types of linguistic data can be overcome only with computational tools, but no new principles are involved.

But it is surprising that linguistic cladistics works so well so often. We know that the diversification of languages is seldom treelike in detail, yet in many cases a relatively clean family tree can be constructed. This paper will explore the reasons for that state of affairs and will discuss in detail a countercase in which we have enough information to reconstruct a non-treelike linguistic diversification.