

Aspects of a Metatheory of Language

Christian Wurm (Düsseldorf University)

With good reason, linguists are used to think that languages are infinite objects. With less good reason, they are also used to think that it is entirely clear what these infinite languages look like. But even if we take for granted that as speakers we implicitly know an infinite language, the part of it we explicitly know as linguists will always remain finite, as will all datasets we have. So for linguists there is a gap between finite languages they observe, and grammars for infinite languages they write. Usually, it is assumed that the procedure of projecting a finite language to the infinite is straightforward for the linguist; nonetheless, this step is rarely made precise. This is a serious problem, as virtually all formal arguments on natural language depend on this procedure of projection.

I will consider this projection problem from the perspective of mathematical linguistics: I will present some ideas how we can formalize projection. We will need functions from finite languages to languages, which I call pre-theories. We will look at how pre-theories can be reasonably defined, and which properties they have. The linguistic questions relating to the purely formal considerations are: what are the languages we can obtain as output of some pre-theory, and what properties do datasets need to satisfy in order to be projected to the infinite? As we will see, properties of languages resulting from projection are strongly determined by properties of pre-theories.