

## **Morphological complexity as a compromise between lexicon and grammar**

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There are different ways of understanding morphological complexity. Here we concentrate on a type of complexity that we term 'central system complexity'. This is at its highest when a system is neither consistently based on rules, nor consistently based on lexical stipulation. A key property of central system complexity is that it can be low when the type of complexity quantified by entropy measures is either high or low. Three idealised paradigm types can be used to illustrate how this is: cross-classifying systems, grid systems and hierarchical systems. Cross-classifying systems rely almost entirely on lexical listing, because implicative relations between paradigm cells are non-existent. (This means they are high in entropy.) In grid systems, for any cell of the paradigm each inflectional class has a form unique to it, and therefore the forms in one cell predict every other form of the lexeme. (This means that grid systems are low in entropy.) If one construes complexity in terms of entropy, cross-classifying systems and grid systems are completely opposed. However, from the perspective of central system complexity they are very similar, because they can be characterised simply: either there is a reliance solely on lexical listing (cross-classifying systems), or there is a reliance solely on the morphological grammar (grid systems). In both cases central system complexity is low. In contrast, it is at its highest when the contribution of lexical listing and implicative relations (the morphological grammar) is in balance. The third abstract paradigm type, the hierarchical system, is high in central system complexity, because it can only be characterised in terms of a compromise between lexical stipulation and rules based on implicative relations.