Frames and metonymy –
Shifting the center and refocusing the frame

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Frames in the sense of Barsalou (1992), and as developed further in Petersen (2007) and subsequent work, have proved a powerful tool for the analysis of lexical meaning. Frames of this definition are recursive attribute-value structures with functional attribute relations and various types of constraints that restrict and correlate the values of attributes. For a sortal concept such as cup_{noun} or $drink_{verb}$, all attributes are assigned to the central entity – the referent of the frame – or recursively to values of attributes of the central entity, and so on. We hypothesize that lexicalized sortal concepts have this structure; this type of concept includes the meanings of sortal nouns as well as verbal case frames. There are other types of concepts with a slightly different frame architecture (Petersen & Osswald 2014). Some of the values of the attributes may be unspecified, functioning as empty argument slots in the lexical frame, to be assigned values by the unification mechanisms of composition. A system of frames is associated with a type signature for the possible values of the entities of a frame. An entity qualifies for attributes that are applicable to its type; conversely, attributes select certain types of entities as their arguments. From an ontological point of view, there are two kinds of elements that figure in a frame: entities (objects), and attributes, i.e. functions that assign entities (values) to other entities (possessors). Frames can be represented either by directed graphs – nodes representing frame entities, and arcs, attributes. Alternatively, (some types of) frames can be represented by attribute-value matrices.

Independent of the way of representation, sortal frames can be characterized by three uniqueness conditions (Löbner 2014)

(UR) Unique referent: There is a unique frame entity such that all other frame entities are recursively connected to it.

(UV) Unique values: Attributes are partial functions that assign to every possible possessor exactly one value.

(UA) Unique attributes: All attributes assigned to a given frame entity are mutually different.

A recursive frame constitutes a network of different types of entities, connected by attribute relations. For example, an event entity of the type *drink* is connected to entities that are the values of attributes such as agent, theme, drinking vessel; these are in turn connected to the values of their attributes, and so on. Crucially, the connections within a frame are directed, since they are constituted by functional relations. Therefore, an entity in a frame is connected to the values of its attributes, but not necessarily reversely. There are certain attributes that constitute a bijective relationship, e.g. part-of-attributes such as head-of; these are bidirectional. Others, like color or origin, are unidirectional.

The talk focuses on frame mechanisms which involve a shift of the referent. These mechanisms include metonymy along with other 'metonymical' operations:

- Metonymy in the narrower sense:
  Russia has concentrated troops close to the East Ukrainian border

- Conversion of adjectives to nouns
  (_the_) _rich_

- Derivations of nouns from verbs
  employee, _driver_

- Derivations of verbs from nouns
  hammer, _oil_

- Mechanisms involved in certain types of compounding
  piano player, _coffee cup_

It will be demonstrated that such mechanisms allow for a straightforward analysis in terms of operations on lexical frames that shift the frame referent to a dependent frame entity. Resetting the referent of the frame may require refocussing the frame in order to make it fulfil the above-mentioned uniqueness conditions. As refocussing is only possible under certain circumstances, the uniqueness conditions restrict the application of certain mechanisms in a non-trivial way. In particular, these restrictions lead to a deeper understanding, and a more precise definition, of metonymy.
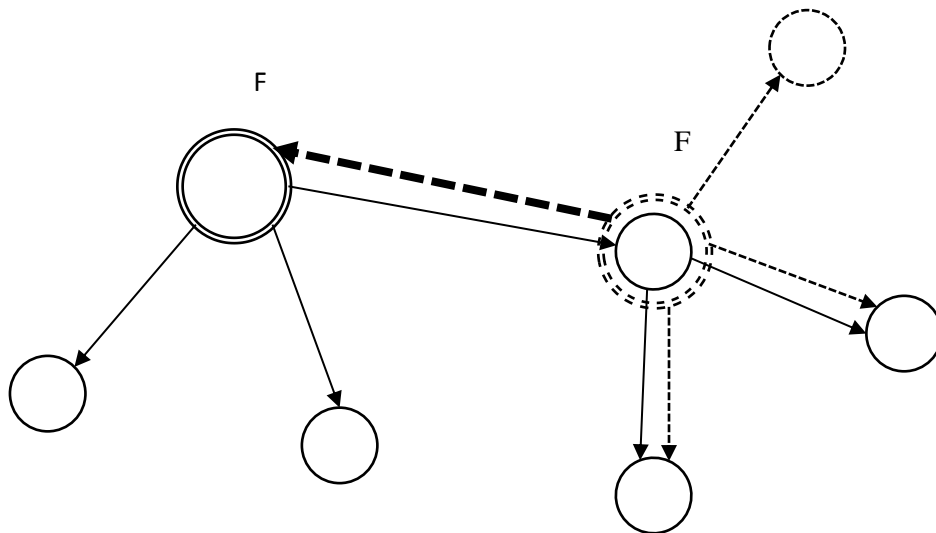
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