NPFL006 Introduction to Formal Linguistics - Homework 4

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1. What type of graphs are used to represent the meaning of sentences?

   UCCA uses directed acyclic graphs.

   AMR uses rooted, directed graphs.

2. What do nodes and edges of the graph represent / what do they correspond to?

   In UCCA, nodes are units which are either terminal or are several elements which represent a single entity with a semantic or cognitive consideration. The internal structure of a unit is represented by its outbound edges. Edges correspond to categories and represent the descendant unit's role in forming the semantics of the parent unit.

   AMR nodes represent entities, events, properties and states. Edges are relations that link entities.

3. What labels are used on nodes?

   No labels are used on nodes for UCCA, except for at the leaves of the DAG, where the terminals are words or multi-word chunks. Nodes can be identified by the labels on their outgoing edges.

   In AMR, there are also only labels on leaf nodes, which are labelled with concepts (e.g. "(b/boy)" refers to an instance of the concept boy).

4. What labels are used on edges?

   For UCCA, edges are labelled with category abbreviations. For example, an edge might be labelled with "A" to indicate a participant in a scene, or "H" to describe a scene linked to another scene (a scene describes some movement or action, or a temporally persistent state).

   AMR edges are labelled with their specific relations. These can be frame arguments, general semantic relations, relations for quantities, relations for date-entities, or relations for lists.