

Actions

Actions (or more fully, Action types) represent **individual semantically disambiguated verbs**. They are **lemma-meaning units**, i.e. one meaning of a specific lemma corresponds to one Action. Thus, we can have many Actions labelled "to see": one for "be able of sight, not blind", one for "perceive with sight", one for "go to meet somebody".

Three valencies: Entity type valency, grammatical valency, and semantic valency

Introduction

Actions acquire three kinds of valencies for any actant slot (subject, object 1, object 2; the data model is potentially extensible further, beyond trivalent verbs):

1. **entity type valency**, which defines which entity type (Person, Concept, etc.) is allowed in the given actant slot;
2. **morphosyntactic valency**, which is a free text field defining the **prepositions and grammatical cases**, but uses a formalized notation (grammatical cases are noted with numbers, prepositions are in quote marks "", alternative is marked with a pipe "|"); and
3. **semantic valency**, i.e. what kind of role the entity occupying the given actant slot has by implication (e.g., the subject of the Action "to travel" would have the semantic valency C "traveller").

The main benefits from valencies are that they:

1. guide users in their **choice of the correct Action** (or creating a new one if none among the existing fits the meaning and syntactic structure);
2. help users with **validity of data in actant slots**;
3. allow InkVisitor to deploy **data validation features**;
4. facilitate **machine understanding of text**, allowing semantic disambiguation of verbs based on their morphosyntactic valency (recognized by dependency parsing), and optionally, entity type valency (recognized e.g. through named entity recognition).

Morphosyntactic valency notation for Latin

In the field marking morphosyntactic valency, we use the following **abbreviations and signs**:

- **Numbers 1-6**: cases. E.g. "1" means nominative, "6" means ablative.
- **Pipe sign ("|")**: denotes the logical "OR", i.e. marks alternative morphosyntactic valencies.
- **Plus sign ("+")**: denotes concatenation, e.g. "de" + 6 means: "with preposition *de* and ablative case".

- **Words in quote marks ""**: denote the actual words used in this valency, e.g. prepositions in this valency.
- **inf**: infinitive.
- **4inf**: accusative with infinitive.

E.g., `4 | 4inf | "quod"` means that in this actant slot, this verb can only take either an accusative, or a sentence rendered as accusative with infinitive, or a clause starting with "quod".

Recommended standards for a finalized (**approved**) action

Before assigning an Action the **approved** status, it should meet the following standards:

- Its **meaning is described** in the **detail** field. (You will benefit from the use of printed or online dictionaries or LLMs.)
- It has the **Action/Event Equivalent relation filled in** with a Concept which has its meaning defined in its own "detail" field.
- It has **full information on the three valencies** for each actant slot (including the explicit declaration of **empty** in the entity type valency, if no entity is allowed in that slot).
- It has a **reference to an external lemma collection ID** (in DISSINET, we use the LiLa Lemma Collection).
- If you **have found a corresponding meaning among WordNet synsets**:
 - It has a **Reference to the corresponding WordNet synset**.
 - Its definition in the **detail** field **takes the WordNet definition into account**.
- If you **haven't found a corresponding meaning among WordNet synsets**:
 - You have **defined the meaning** yourself or based on dictionaries.
 - If there is any **synset in WordNet which is a superclass** of this (more specific) meaning, then **an Action corresponding to the WordNet meaning is created** (if Latin WordNet has it, then in Latin; if not, then in English), **described, has a Reference to the WordNet synset, and it forms the Superclass** of this more specific Action you are working on.
- There is **no remaining error message from InkVisitor validation**.
- All of this has been **checked**, i.e. it is not just a first draft of the Action that you still plan to come back to.

For something to be aligned with a synset definition in WordNet, it is *not* required that you accept its hypernyms or synonyms, just the definition needs to match.

Recommended linkage to external lemma and meaning banks

- **Link each Action through a Reference to at least one external lemma bank.** A major lemma bank is still **WordNet for the given language**. For Latin, we use the [LiLa Lemma Collection](#) in DISSINET.
- **Link each Action through a Reference to at least one external bank of meanings/senses.** A major meaning bank is still **WordNet synsets**.
- Such linkages are important for the **interoperability of your data**, and giving it meaning curated by bigger projects and infrastructures.

- **Reference** is a pair composed of a Resource entity representing the given resource, and its part (typically unique identifier).
 - If the lemma or meaning is **not found** in the lemma or meaning bank you are normally using, it is useful to know that you checked: in such a case, **add the Reference, but put Value "NA" as the Reference part**.
 - Also **DISSINET Database (DDB) and MedHate database (MDB) are providers of identifiers (UUIDs) that you can link to**. If upon its creation you request to have your CASTEMO database pre-populated with some entities from another deploy of InkVisitor, the UUIDs will be the same and the references will already be there.
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