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Annotating figurative language: Another perspective for digital Altertumswissenschaften

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The research questions

- How can we annotate elements that occur above and beyond the linguistic level of a language?
  - Focus on *metaphorical* language in ancient Egyptian, to in turn address the following:
- How are metaphors formed in Egyptian texts?
  - What POS? What syntax?
- How are metaphors used in Egyptian texts?
  - Role of cotext, context and intertext?
- What is the role of genre in metaphorical language use?
  - What kinds of metaphors in what genres?
  - Are particular types of metaphorical language genre-specific?

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Parameters and definitions

- A synchronic study: Egyptian Ramesside Period texts (ca. 1290–1070 BC)
- A qualitative analysis of selected texts from a range of genres, complemented by a quantitative analysis
- Focus on metaphorical language:
  - where a more abstract entity (the *tenor/topic*) is represented by a more concrete entity (the *vehicle*) (Richards 1936)
  - 'Juliet (vehicle) is the sun (tenor)'
- A metaphor can emerge in thought, in language and in communication (Steen 2008: 213, 221)
  - thought: novel or conventional?
  - language: metaphor, simile, something else?
  - communication: deliberate or not?

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The modus operandi

- Build a metaphor tool into the Projet Ramsès database (Liège)
  - Corpus of texts of the New Kingdom/Third Intermediate Period (ca. 1550–712 BC
  - 510.000+ tokens; 65 000+ hieroglyphic spellings; 10.000+ lemmata; 4.000+ texts
  - MYSQL database with Java interface
  - Annotations saved as XML files
- Texts, lemmatised, can be seen and searched in the GrammaticalEditor
- SyntaxEditor for annotation of texts
- Perfect for annotating semantic features: we are the first to test it
  - No interference with contents of the SQL database as annotations are built on top of texts

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The programming

- How to ‚tailor-make' annotation layers to fit other databases? (Workflow)

- How to make annotations that are flexible enough to be altered in the course of the annotation process? (Project design)

- Is there a way forward, away from manual entry?

    - This is still a manual procedure, as is often the case with studies of figurative language (see Kimmel 2012: 10)

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Overview Ramses Syntax Editor

- Powerful tool for annotating texts
- Layer and group based
- 1st Layer: actual textual data with translation and annotation on a word based level
- Other layers built on top can be defined by the researcher
- Formal grammars used to define an annotation structure

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Formal Grammar

- Consists of 3 parts
- 1) Formal Header – contains name so annotations are identifiable
- 2) Types – basically the variables and data types used for annotation
  - Built in String, Integer and Boolean, others to be defined as Enumerations
- 3) Groups
  - Mainly hierarchical structure – but relations can link without hierarchy
  - Those define the actual analysis

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Formal Grammar – Implementation

- 2) Definition of Types
  - Mainly free Texts
  - Enumeration Examples:
    - Metaphor Language can be implicit / indirect / direct / uncertain
    - Metaphor Cognition can be novel / conventional / uncertain
- 3) Groups
  - Solely hierarchical, no links
  - 3 main layers: Lexical Group / Conceptual Group / Intertextual Group
  - Built on top of each other

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Annotating

- Lexical level has its basis in the Metaphor Identification Procedure, VU University Amsterdam (Gerard Steen 2010)
    - Used so far for English, Dutch and Russian
    - Identifies metaphors at the lexical level: Analysis based on the *meaning in context* of lexical units, with reference to a corpus-based dictionary
        - Basic sense vs. contextual sense
    - Is the contextual sense in the dictionary or not?
        - If yes – conventional
        - If no – possibly novel
- For the conceptual level, *ad hoc* categories (see Kövecses 2002, 281–285)
- For the textual level, typology of Elena Semino (2008)

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151031_NW_Amenemope_CD.xm

| 3,13 | imi donner | Htp être satisfait | =w ils | <m> dans, en tant que, de | mhn coffre, abdomen | n de | X.t corps, ventre | =k tu | 3,14 | iry faire | =w ils | pna.t seuil |

MetaphorRelatedWord | Metonym
ConceptualGroup | ConceptualGroup
In...

proposition

Group
group
group ▶

ConceptualGroup
LexicalGroup
LexicalGroup ▶ MetaphorRelatedWord
IntertextualGroup SetExpression
ProperName
Personifier
MetaphorFlag
Metonym
Personified

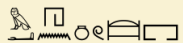| MetaphorLanguage | indirect |
MetaphorCognition	conventional
MetaphorCommunication	deliberate
BasicSense	box
ContextualSense	box as body
BasicSenseSrcVolume	II
BasicSenseSrcNumber	115.1
ContextualSenseSrcVolume	II
ContextualSenseSrcNumber	115.3
comment	TEST

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Standard View

mhn	n	X.t	=k	3,14	iry	=w	pna
coffre, abdomen	de	corps, ventre	tu		faire	ils	seu

MetaphorRelatedWord
ConceptualGroup
IntertextualGroup
sition

Group
group
group
  ConceptualGroup
  LexicalGroup
  LexicalGroup ▶ MetaphorRelatedWord
  IntertextualGroup   SetExpression
                      ProperName
                      Personifier
                      MetaphorFlag
                      Metonym
                      Personified

Metonym
ConceptualGroup

View ‚Toggle Details'

mhn	n	X.t
coffre, abdomen	de	corps, ventre

MetaphorRelatedWord
MetaphorLanguage: indirect
MetaphorCognition: conventional
MetaphorCommunication: deliberate
BasicSense: box
ContextualSense: box as body
BasicSenseSrcVolume: II
BasicSenseSrcNumber: 115.1
ContextualSenseSrcVolume: II
ContextualSenseSrcNumber: 115.3
comment: TEST

Metonym
comment: body (III 357.2); Panther&Radden 1999: 245)

ConceptualGroup
SourceDomain: VESSEL
TargetDomain: BODY
DomainSimilarity: uncertain

ConceptualGroup
Domain1: PART
Domain2: BODY

IntertextualGroup
IsRepetition: uncertain
IsRecurrence: uncertain
IsClustering: true
IsExtension: uncertain
IsMixing: uncertain
IsLiteralMetaphoricalOpposition: uncertain
IsSignalling: uncertain
IsIntertextuality: uncertain

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mhn	n	X.t	
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The next step

- Programming a search engine
- Need powerful indexing tool like Tiger to search XML grammar annotations
- Current problem: We can thus only search annotations within individual XML files, because we can't include annotations into the SQL itself
  - So: no tagging of individual items found in a pan-corpus search of SQL (like the metaphor flag *mj* ‚like' when used metaphorically in the corpus – following my analysis about 10 % of the total corpus), because the tags can't be retrieved.
- With future funding (watch this space!) – ability to build a more powerful search tool which could search the whole database

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Future applications

- What kind of potential do such layers have for integration with existing and future databases?

- Could our annotation schema (i.e the formal grammar) be something to apply to the *Thesaurus Linguae Aegyptiae* or other already existing corpora of ancient texts?
  - Does the TLA intend to build an annotation layer based on formal grammars?

- Such a step would allow a broader focus on the annotation of figurative language in diachronic and pan-cultural perspective

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Thank you!

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