A Nanosyntax Analysis of Idioms

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Outline

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Non-lexicalist approaches

• Distributed Morphology (Halle and Marantz 1993):
  • Syntax is fed by morphosyntactic features
  • Terminal nodes (sets of morphosyntactic features) are spelled out post-syntactically by Vocabulary Items, which specify a phonological form
  • Post-syntactic morphological operations (e.g. Morphological Merger, Fusion) can combine features to form complex terminal nodes
  • The Encyclopedia provides idiosyncratic semantic information
Non-lexicalist approaches

- Nanosyntax (Starke 2009):
  - Has Late Insertion, like DM
  - Only features can be terminal nodes (there are no post-syntactic morphological operations)
  - Lexical items spell out subtrees composed of features (Spell-Out is cyclic, taking place after each application of Merge)
  - Lexical items are like a combination of Vocabulary Items and the Encyclopedia: they include a phonological form, the subtree it spells out, and any unpredictable semantic information
Non-lexicalist approaches

• An extremely simple example:
  • Merge the features [N] and [plural] to make the tree [N plural]
  • We can spell out the root with any noun – say, *cat*
  • -s spells out the feature [plural]
  • We could try spelling out the tree with *goose* and -s
  • But we also have a lexical item *geese*, which spells out the tree [N plural]
  • If a tree can be spelled out by one lexical item instead of two, it must be
  • So *gooses* is ruled out
Why non-lexicalism?

- Stepping back from the differences between DM and Nanosyntax
- A brief summary of Marantz’s (1997) arguments against lexicalism
- Lexicalism says that words are created in the lexicon, distinct from the way words are combined to make syntactic structures
- Prediction: Words can have special meanings of the sort that roots have, but phrasal idioms cannot
Why non-lexicalism?

- “Transmission” doesn’t have the range of possible meanings which “blick” does
- Roots, not words, can have special meanings
- Chomsky’s (1970) “Remarks on Nominalization” – the nominalization “growth” is intransitive, unlike the verb “grow”
- If words are derived in the lexicon and we can derive the transitive verb “grow,” why can’t we derive the transitive noun “growth”?
- Marantz: the root √GROW represents an internally caused change of state, incompatible with an external agent
Why non-lexicalism?

• In a non-lexicalist approach like DM, phrasal idioms are to be expected
• Words are idiomatic in the same sense that phrasal idioms are – their meaning must be specified in the Encyclopedia
• Roots take on a particular meaning in a particular syntactic context
• √GROW takes on a particular meaning in the context of n
• √KICK takes on a particular meaning in the context of √BUCKET (and vice versa)
Syntactic flexibility of idioms

• Nunberg et al. (1994): semantically decomposable idioms are more syntactically flexible than non-decomposable idioms

(1) a. The beans were spilled
    b. Those beans, John would never spill
    c. Mary has spilled many beans
    d. The beans are easy to spill
    e. John spilled the beans, but Mary didn’t spill them
Syntactic flexibility of idioms

(2)  
   a. *The bucket was kicked
   b. *That bucket, John would never kick
   c. *You only kick one bucket
   d. *The bucket is easy to kick
   e. *John kicked the bucket, but Mary didn’t kick it

(All judgments apply to the idiomatic reading only)
Syntactic flexibility of idioms

- But it’s also clear that non-decomposable idioms can undergo some transformations:

(3) **V2 in German** (Schenk 1992)

\[
\text{Morgen beisst er ins Gras}
\]

tomorrow bites he into.the grass
‘Tomorrow he bites the dust’

(4) **German fronting** (Ackerman and Webelhuth 1993):

\[
\text{Den Vogel hat Hans abgeschossen}
\]

the bird has Hans shot.off
‘Hans stole the show’
Syntactic flexibility of idioms

(5) **French V-to-T movement**

Il me pose souvent un lapin
He to.me places often a rabbit
‘He often stands me up’

(6) **English adjectival modification** (Ernst 1981)

a. She kicked the proverbial bucket
b. She kicked the social bucket
Proposal

- There is no strict syntactic distinction between decomposable and non-decomposable idioms (or between idioms and non-idiomatic structures)
- In principle, idioms can undergo any syntactic transformation
- The flexibility of idioms is restricted by the semantics: a transformation is impossible if it would not result in a licit semantic interpretation
- The difference in behavior between decomposable and non-decomposable idioms is a reflex of this semantic restriction
Proposal

• Passive
  • Passives in English have frequently been analyzed as having a topic/comment structure, where the theme argument is the topic (e.g. Frey 2000, Hupet and Le Bouedec 1974)
  • The bucket in kick the bucket has no interpretation independent of kick; it receives no theta role and does not refer
  • Hence *The bucket was kicked is ungrammatical, since the bucket cannot be topic
  • The beans were spilled is grammatical, because the beans does refer, and receives a theme theta role
Proposal

• Topicalization
  • Semantically/pragmatically, the topicalized constituent is typically said to be old information about which something is said
  • Since *the bucket* receives no independent interpretation in *kick the bucket*, it cannot be topicalized
  • What about the German data, repeated here?
  • (4) **German fronting** (Ackerman and Webelhuth 1993):
    
    *Den Vogel hat Hans abgeschossen*  
    the bird has Hans shot off  
    ‘Hans stole the show’
  
  • Nunberg et al. (1994) show that this is not true topicalization, as the fronted chunk has no special semantic or pragmatic role (in fact, even non-constituents can undergo this fronting)
Proposal

• Similar arguments apply to tough movement, quantification, and pronominal reference – the rest of the transformations in (1) and (2)
  • Tough movement has also been analyzed as creating a topic-comment structure (e.g. Callies 2008)
  • Quantifiers take arguments of type <e,t>, so only DPs which are interpreted as a predicate can be quantified
  • Only DPs which refer can undergo pronominal reference
• In contrast, German V2 (3) and French V-to-T movement (5) are syntactic phenomena which are not dependent on the moved idiom chunk having an independent interpretation
Proposal

• The adjectival modifications which are possible with non-decomposable idioms are *external*, rather than *internal*, in Ernst’s (1981) terminology.

• In *kick the filthy habit*, the adjective semantically modifies the noun, which has an independent interpretation.

• The adjectives in *kick the proverbial bucket* and *kick the social bucket* are semantically equivalent to adverbs ("Proverbially, John kicked the bucket" / "Socially, John kicked the bucket")
Proposal

(7) Khalkha Mongolian echo reduplication (Kubo 1997)

a. üxr-ijn nüd
   cow-GEN eye
   ‘blackcurrant’

b. üxr-ijn nüd müd
   cow-GEN eye RED
   ‘blackcurrant and other things’
   ≠ ‘blackcurrant and other cow-related things’

c. *üxr-ijn nüd müxr-ijn nüd
   cow-GEN eye RED

d. *üxer müxr-ijn nüd
   cow RED-GEN eye
Proposal

- With non-idiomatic noun-noun compounds, either noun can be targeted for reduplication, with different interpretations

\[(8)\]

a. *Mongol-yn tüüx*
   Mongol-GEN history
   ‘Mongolian history’

b. *Mongol-yn tüüx müüx*
   Mongol-GEN history RED
   ‘Mongolian history and other things’ OR
   ‘Mongolian [history and other things]’

c. *Mongol Zongol-yn tüüx*
   Mongol RED-GEN history
   ‘The history of Mongolia and other countries’
Proposal

(9) **Czech focus fronting** (Fanselow 2004)

`BOUdu na mě ušil`

hut.ACC for me he.stitched

‘He has cheated me’

Can only have a VP/TP focus interpretation – the idiom chunk itself is not semantically focused
Proposal

(9) **English shm-reduplication**

a. Pay the piper, shmay the piper
b. Pay the piper, pay the shmiper
c. Pay the piper, shmay the shmiper

All three are possible (at least for some speakers), but crucially, all target the whole idiom, not individual chunks – e.g., (9b) doesn’t mean “I don’t care about the piper,” it means “I don’t care about paying the piper”
Proposal

• So, there is no syntactic difference between decomposable and non-decomposable idioms – both must be inserted as separate chunks, so the chunks can undergo syntactic transformations
• As a result, we need co-occurrence restrictions on idiom chunks
• We need to know that, when *kick and the bucket* co-occur, they can take on an idiomatic interpretation
• We also need to know that *spill* can only mean “divulge” when it co-occurs with *beans*, to rule out *spill the secret*
Co-occurrence restrictions

• Marantz simply specifies co-occurrence restrictions in the Encyclopedia
  • *Kick* means “to die” in the context of *bucket*
  • *Bucket* means nothing in the context of *kick*
• This is perhaps somewhat unsatisfying – why should *kick* carry the entire idiomatic meaning?
Co-occurrence restrictions

• It is possible in DM to distribute the idiomatic meaning over the entire idiom (Pham 2011):

\[
\lambda x \cdot x \text{ died}
\]

\[
\sqrt{\text{KICK}} = \begin{bmatrix}
v \rightarrow \lambda x \cdot x \text{ is kicked} \\
\text{”the bucket”} \rightarrow [v \rightarrow \lambda x \cdot x \text{ died}] \\
\ldots
\end{bmatrix}
\]
Co-occurrence restrictions

• Jackendoff (1997) points out that co-occurrence restrictions on individual lexical items become very unwieldy with idioms more complex than simple verb-object idioms:
  • *Strike while the iron is hot*
  • *Let the cat out of the bag*
  • *A chip off the old block*
  • *{V} one’s heart out*
Co-occurrence restrictions

• Nanosyntax provides an interesting alternative way of incorporating co-occurrence restrictions
• Recall that Nanosyntax includes lexically stored subtrees
• These subtrees can also include pointers to other lexical items
• So, in addition to having the lexical items *kick* and *bucket*, we can have a lexically stored idiom *kick the bucket*, with pointers to *kick* and *bucket*
• If at any point in the derivation the relevant subtree is built up, it can be given the idiomatic interpretation, which is specified in the lexical entry for *kick the bucket*
Co-occurrence restrictions

• Having *kick*, *bucket* and *kick the bucket* in the lexicon might seem redundant
• But we need to store *kick* and *bucket* (with their normal interpretations) in the lexicon anyway, and we also need to store the idiom as a whole (whose interpretation is unpredictable) somewhere
Co-occurrence restrictions

• Notice that, like in DM, encyclopedic information isn’t present in the syntax – just morphosyntactic features
• So technically, *kick* and *bucket* aren’t present in the syntax, just verbal and nominal feature complexes
• This is why the lexical entry for *kick the bucket* contains pointers – the pointers say that the *kick the bucket* subtree is only there if the lexical entries *kick* and *bucket* have been spelled out
• Recall that Spell-Out is cyclic
Co-occurrence restrictions

• To deal with an idiom like \{V\} one’s heart out, just don’t include a pointer in the verbal position.

• The subtree for \{V\} one’s heart out, then, will contain a complex of features which will be present no matter what verb is used to spell it out (subject to restrictions on what sorts of verbs are possible in such a construction – there will be some feature encoding intransitivity, for instance).
Example

```
Tree Structure:

TP
 /    \
|     |
DP    TP
|     |
John  -ed
     /   \
    kick  DP
         /
        the
        /
       bucket
```
Summary

• Idioms are built up syntactically in the same way as words and sentences
• Idioms can undergo any syntactic transformation which results in a semantically interpretable structure
• Co-occurrence restrictions on idiom chunks can be captured with lexically stored trees
Thank you!
References

• Ackerman, F. and Webelhuth, G. 1993. Topicalization and German complex predicates. La Jolla & Chapel Hill: University of California, San Diego & University of North Carolina, ms.