Conspiracy theories: the problem with lexical approaches to idioms

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One-to-many relations in morphology, syntax, and semantics
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Outline

- Multiword expressions
- Lexical approaches to idioms
- A suggestion
Multiword expressions
Word or phrase?

(1) *take the biscuit* ‘be egregious/shocking’

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<th>Word-like</th>
<th>Phrase-like</th>
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<td>▶ Non-compositional semantics</td>
<td>▶ Multiple, recognisable words</td>
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<td>▶ Parts not separable</td>
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Theoretical approaches

Since they are non-compositional, idioms need to be stored in the lexicon – or at least in ‘the list’ (Di Sciullo & Williams 1987).

But the question of how to store them, and what exactly to store, is a theoretically fraught one.
Theoretical approaches

▶ **Wholly word-like**
  (‘words-with-spaces’ – Sag et al. 2002)
  ▶ ‘Flexibility problem’ (*ibid.*).

▶ **Wholly phrase-like**
  ▶ To be discussed.

▶ **Something in between**
  ▶ To be discussed.

▶ **(Ordinary syntax, unusual something else)**
Lexical approaches to idioms
Decomposability

- Idioms differ along a number of axes. One of these is their ‘decomposability’.

- **Decomposable idiom**: the meaning can be distributed among the parts (what Nunberg et al. 1994 call ‘idiomatically combining expressions’).

- E.g. *spill the beans*: *spill* ≈ ‘divulge’ and *beans* ≈ ‘secrets’.

- Compare **non-decomposable** idioms: *shoot the breeze* (≈ ‘chat’); *kick the bucket* (≈ ‘die’).
Take the decomposability facts seriously: treat idioms as phrases composed in the usual way, by using special versions of the words they contain.

- Literal: pull, strings
- Idiomatic: pull’, strings’

Lexical ambiguity – motivations

Most of the time, the mapping from the lexicon to the grammar is one-to-one:

Syntax stroke the dog
Lexicon STROKE THE DOG

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But if idioms are stored as units in the lexicon, they disrupt this picture:

- Syntax
  - spill
    - the
      - beans
- Lexicon
  - SPILL_THE_BEANS
Lexical ambiguity – motivations

- The lexical ambiguity approach restores this one-to-one mapping:

```
Syntax
   spill
     the
       beans

Lexicon
   SPILL_{id}
     THE
       BEANS_{id}
```
Decomposable idioms – flexibility

Decomposable idioms are generally more syntactically flexible than non-decomposable ones:

(2)  
  a. Cantor duly ran to teacher and the beans got spilled.  
  b. Who’s at the centre of the strings that were quietly pulled?  
  c. Wait until next month, and we’ll see which bandwagon he jumps on.
Decomposable idioms – flexibility

- Decomposable idioms are generally more syntactically flexible than non-decomposable ones:

(3)  

a. Old Man Mose **kicked the bucket**.
b. #The **bucket** was **kicked** (by Old Man Mose).
   c. #**Which bucket** did Old Man Mose **kick**?
   d. #**The bucket** that Old Man Mose **kicked** was {sudden/sad/...}. 

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Lexical ambiguity – strengths

- Lexical ambiguity approaches explain this flexibility very naturally: the parts really are separate words, so they can do what any other words can do.
Lexical ambiguity – weaknesses

Nevertheless, there are a number of issues facing any lexical ambiguity theory.

Here we will consider 5 arguments against taking this approach to idioms:

1. The ‘collocational challenge’.
2. Irregular syntax.
4. Processing.
5. Meta-theoretical questions.
The collocational challenge

▶ What Bargmann & Sailer (in prep.) call the ‘collocational challenge’ is to constrain the appearance of idiom words appropriately.

(4)  a. #You shouldn’t pull his good nature.
     (≠ . . . exploit his good nature.)
  b. #Peter was impressed by Claudia’s many strings.
     (≠ . . . Claudia’s many connections.)
The collocational challenge

This is usually achieved by some kind of mutual selectional restriction:

(5)  \[ \text{pull} \ V \ (↑ \text{PRED}) = 'pull_{id}' \]
\[ (↑ \text{OBJ} \ \text{PRED} \ \text{FN}) =_c \text{strings}_{id} \]

(6)  \[ \text{strings} \ N \ (↑ \text{PRED}) = 'strings_{id}' \]
\[ ((\text{OBJ} ↑) \ \text{PRED} \ \text{FN}) =_c \text{pull}_{id} \]
The collocational challenge

▶ The problem is to find a suitable level of generalisation for this description for the most flexible cases.

▶ *Pull strings* can passivise:

(7) Strings were pulled for you, my dear. Did you really think the Philharmonic would take on a beginner like you?
So maybe we should constrain the semantic/argument-structure relationship instead:

(8) \( \text{pull} \ V \ (\uparrow \text{PRED}) = \text{pull}^{id} \)
    \( ((\uparrow_{\sigma} \ \text{ARG}_2)_{\sigma-1} \ \text{PRED} \ \text{FN}) =_c \text{strings}^{id} \)

(9) \( \text{strings} \ N \ (\uparrow \text{PRED}) = \text{strings}^{id} \)
    \( ((\text{ARG}_2 \ \uparrow_{\sigma})_{\sigma-1} \ \text{PRED} \ \text{FN}) =_c \text{pull}^{id} \)
But this doesn’t help with relative clauses:

(10) *The strings (that) he pulled ...*

▶ In the standard ‘mediated’ analysis of relative clauses (Falk 2010), there is *no* (direct) grammatically expressed relationship between the head noun and the gap.
The collocational challenge

▶ Instead, the head noun *strings* is merely coferential with the anaphoric element which is the internal argument of *pulled*.

▶ But this is too loose to serve as a general characterisation of the relationship:

(11) #Those are some impressive strings; you should pull them for me!
The collocational challenge – conclusions

- Hard to find the right generalisation.
- No doubt possible to give disjunctive descriptions of all the possible configurations, but is this satisfying?
Some idioms have syntactic structures which are not part of the regular grammar of the language:

(12) We \[_{VP} \text{tripped }_{NP} \text{the }_{??} \text{light fantastic}]] \text{ all night long.}

- Etymologically, from ‘trip the light fantastic toe’, so ?? = AP.
- But NP → Det AP is not attested elsewhere in English.
Irregular syntax

- Other examples include

(13)  
  a. by and large  
  b. all of a sudden

- Now we require not only special lexical entries, but also special phrase structure rules.
Non-decomposable idioms

While lexical ambiguity might seem appealing for decomposable idioms, less clear how well it fares when it comes to non-decomposable ones.

Since these do not have distributable meanings, we face a choice as to where to encode the idiomatic meaning.

Our options are constrained by our conception of (the syntax-)semantics (interface).
If we assume some kind of resource sensitivity (as is standard in LFG+Glue; e.g. Asudeh 2012), then only one word can host the meaning.

The others must be semantically empty.

Which word in e.g. kick the bucket should mean ‘die’? Formally an arbitrary choice.
Once again, we have to constrain the idiom words so that they don’t appear outside of the idiom itself.

This applies to semantically empty words just as much as others: we want to avoid *The Kim is hungry, for example.

But this means that the *the in kick the bucket can’t be the same the as in shoot the breeze, since they have different selectional restrictions.

So now we need a new lexical entry for every word in every idiom.
Unification-based semantics

- Instead of choosing one word to host the meaning, we say that all the words have the idiom meaning (Lichte & Kallmeyer 2016; Bargmann & Sailer in prep.).

- E.g. $kick_{id}$ means ‘die’, $bucket_{id}$ means ‘die’ (cf. bucket list), and $the_{id}$ means ‘die’, too.

- During composition, the multiple instances get unified.
This avoids the problem of having to choose one host for the meaning.

But it does not avoid the problem of the lexicon exploding in size.

The *the* in *kick the bucket* is still different from the *the* in *shoot the breeze*, but this time because the first means ‘die’ and the second means ‘chat’.

So once again we need a new lexical entry for *every word in every idiom*. 
Swinney & Cutler (1979): there is no special ‘idiom mode’ of comprehension which our minds switch into when confronted with idiomatic material.

At the same time, idiomatic meanings are processed faster and in preference to literal ones (Estill & Kemper 1982; Gibbs 1986; Cronk 1992; i.a.).

This might suggest there is a difference in their representation.

In the lexical ambiguity approach, this difference is not apparent: syntactic and semantic composition of idioms is identical to non-idioms.

In fact, since idioms involve ambiguity by definition, we might, if anything, expect idiom processing to be slower.
Meta-theoretical/aesthetic concerns

▶ More generally, any theory of idioms should satisfactorily explain our intuitions about them, viz. that they are partly word-like, partly phrase-like.

▶ The lexical ambiguity approach fails just like the ‘words-with-spaces’ approach in this respect, by coming down entirely on one side of this tension
  ▶ idioms have no unity: they are merely conspiracies of multiple, separate lexical items.
A suggestion
Something in between

- Treating idioms as purely word-like or purely phrase-like misses the point.
- Rather, we need some way of representing them as
  (A) units with internal structure . . .
  (B) which can be manipulated.
Something in between

- Abeillé (1995) gives a good example of this for LTAG.
- Findlay (2017a,b) argues, on this basis, for an integration of LTAG into LFG.
Lexical entries associated with trees (i.e. syntactic structure larger than the word).

⇒ Units with internal structure . . .
Something in between

- Adjunction allows modification of tree-internal nodes.

- \[ \Rightarrow \text{which can be manipulated.} \]
Conclusion

- Privileging one aspect of idioms over the other isn’t satisfactory.
- Better is a theory which embraces this multiplicity.


