Words and idioms:
Holistic and analytic aspects of idiom uses

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Overview

Idioms

- In phraseology (Fleischer, 1997): phrasal expressions which show some degree of fixedness, idiomaticity, and/or lexicalization

- Prototypical idioms:

    (1)   a.   kick the bucket 'die'
            b.   spill the beans 'reveal information'
            c.   pull strings 'use one's influence'

    - ▸ phrasal: more than one word
    - ▸ fixed: lexical material
    - ▸ idiomatic: meaning not derivable from the meaning of the words outside the idiom
    - ▸ lexicalized: part of the linguistic knowledge of a speaker

Idioms as phrasal constructions (holistic approach)

- Idioms are entrenched (lexicalized), phrasal units with idiosyncratic form (fixedness) and meaning (idiomaticity) $\Rightarrow$ phrasal constructions
- Phrase Structure Grammars: don't allow for idiosyncratic complex phrases!
- Construction Grammar (Fillmore et al., 1988)
- Mainstream Generative Grammar since Chomsky (1965)

Word-level treatment of idioms (analytic approach)

- Lexicalist theories: rich information in the lexicon
- Constructional Head-Driven Phrase Structure Grammar (Sag, 1997; Ginzburg & Sag, 2000),
  Sign-Based Construction Grammar (Sag, 2012; Michaelis, 2016)
- Word-based solutions to constructional idiosyncrasies:
  Kay & Fillmore (1999), Müller (2006)
- Analytic approach to idioms in CxG: Kay et al. (ms.);
  Kay & Michaelis (2019)

Literal and idiomatic meaning

- Idiomatic meaning: holistic, idiosyncratic
  Literal meaning: non-holistic, compositional (Wulff, 2016)
- Literal and idiomatic meaning simultaneously present:

  (2)   If you let the cat out of the bag, a lot of people are going to get scratched.

  (3)   He bit his thirst-swollen tongue.

Aim of the talk

- Present the key arguments for and against a holistic analysis of idioms.
- Look at challenging idiom data.
- Sketch a possible solution: Idioms as multiword constructions

Overview

Framework for this talk

I will use a version of CxG which

- is very similar to Sign-Based Construction Grammar (Sag, 2012; Michaelis, 2016),
- but allows for non-local constructions, i.e., constructions that span over more than one local tree,
- uses boxes instead of AVMs for descriptions of constructions

(4)   Example description from the constructicon:

X (syntactic category)
FEATURE: **value** (some features)
FEATURE: **value**
⋮
[subconstruction] [subconstruction] …
& Y-cx (constructions from which the current cx inherits)

Overview

Fixedness 1: Extragrammatical idioms

- We need phrasal constructions to capture extragrammatical idioms

    (5)   a.   trip the light fantastic 'dance'
           b.   kingdom come 'heaven'

- If these are needed anyways, why not use them for all idioms?

(6)

NP
LID: kingdom-come
SEM: 'heaven'

N	V
LID: kingdom	LID: come
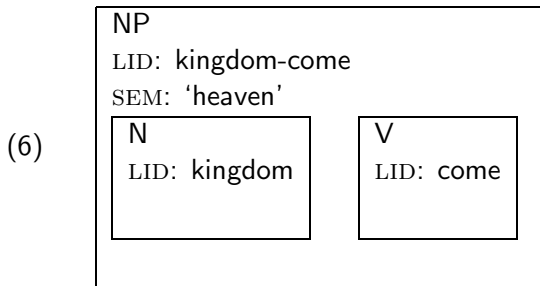
LID: Lexical identifier

Fixedness 1: challenge

- Most idioms have a regular syntactic structure
- Idiom entries can be associated with ordinary syntactic structures.

(7) pull-construction:

> V.trans
> FORM: inflect([1],[2])
> STEM: [2] *pull*
> LID: pull
> MORPHSYN: [1]

(8) V-NP-construction:

> VP
> FORM: [1] ⊕ [2]
>
> | V.trans | NP |
> | FORM: [1] | FORM: [2] |

(9)   pull-strings-construction:

> LID: pull-strings
> SEM: '*x* uses connections'
>
> > LID: pull
>
> > LID: string
> > NUM: plural
>
> & V-NP-cx

(10)
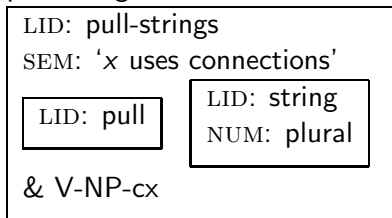
```
                        VP
                FORM: pulled strings
               SEM: 'x uses connections'
                        /        \
            V.trans                    NP
         FORM: pulled              FORM: strings
          STEM: pull                LID: string
           LID: pull                NUM: plural
       MORPHSYN: 3rd past
```
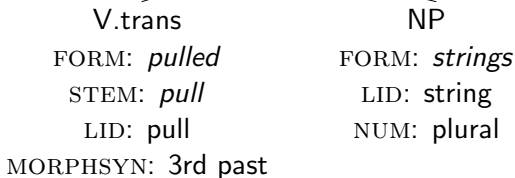
Fixedness 2: Cranberry words

- Some words only occur in one particular expression (unique words, bound words, cranberry words) (Dobrovol'skij, 1988; Dobrovol'skij & Piirainen, 1994)
  Collection: https://www.english-linguistics.de/codii/

  (11) a. make <u>headway</u>
        b. sell/go like <u>hotcakes</u> (mediopassive)

- If these expressions only occur in an idiom, why should there be a separate lexical entry for them?

- Cranberry words will be fully specified elements in idiom entries, whereas we just have a pointer to a lexeme for other words.

make headway-Construction

- No lexical entry for *headway* needed.

(12) make-headway-cx:

> SEM: '*x* makes progress'
> LID: make-headway
>
> | LID: make | FORM: *headway* |
>
> & V-NP-cx

(13) sell-like-hotcakes-cx:

> SEM: '*x* sells well'
> LID: sell-like-hotcakes
>
> LID: sell
> & mediopassive-cx
>
> PP
> P
> LID: like
> NP
> FORM: *hotcakes*
> & P-NP-cx
>
> & VP-Mod-cx
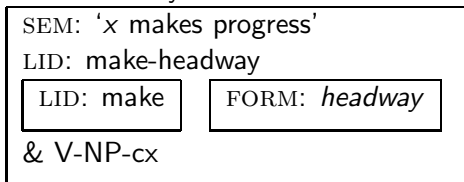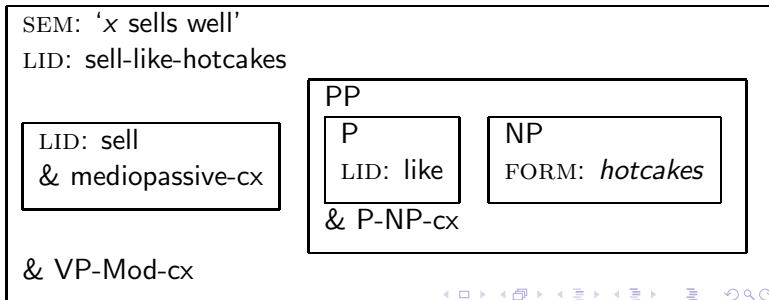
Idiomaticity: Lack of compositionality

- Compositionality: The meaning of a complex expression is a function of the meaning of its component parts and the way in which they are combined.

- In idioms: no obvious relation between the meaning of the components when used outside the idiom and the idiom meaning.

Idiomaticity: challenge 1

- Idioms with open slots and partially idiomatic expressions

  (14) a. pull <u>s.o.</u>'s leg 'tease s.o.'
        b. wage <u>war</u>
        c. <u>sell</u> like hotcakes

(15) sell-like-hotcakes-cx:

┌───┐
│ SEM: '[1] well'   │
│ LID: sell-like-hotcakes   │
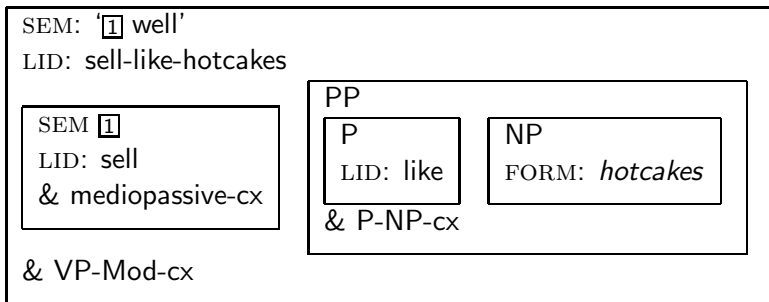│   │
│   ┌──────────────────────────────────────┐ │
│   │ PP   │ │
│ ┌──────────────┐ │ ┌──────────┐ ┌────────────────────┐ │ │
│ │ SEM [1]   │ │ │ P   │ │ NP   │ │ │
│ │ LID: sell   │ │ │ LID: like│ │ FORM: *hotcakes*   │ │ │
│ │ & mediopassive-cx │ └──────────┘ └────────────────────┘ │ │
│ └──────────────┘ │ & P-NP-cx   │ │
│   └──────────────────────────────────────┘ │
│ & VP-Mod-cx   │
└───┘

Idiomaticity: challenge 2

- For some idioms, parts can be pronominalized or referred to by a pronoun.

(16) (Riehemann, 2001, 207)
   a. No soap opera worth its bubbles would spill all the beans in one episode if it could dribble <u>them</u> out over many.
   b. Eventually she spilled all the beans. But it took her a few days to spill <u>them</u> all.

- Not possible with all idioms!

(17) a. *He kicked the bucket, and he kicked <u>it</u> yesterday.
      $\neq$ 'He died and he did so yesterday.' (Riehemann, 2001, 207)
   b. Alex was sawing logs and they woke me up.
      $\neq$ 'Alex was snoring and the snorts woke me up.'
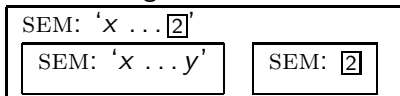
Idiomaticity: challenge 2

(18)   No soap opera worth its bubbles would spill all the beans in one
         episode if it could dribble <u>them</u> out over many.
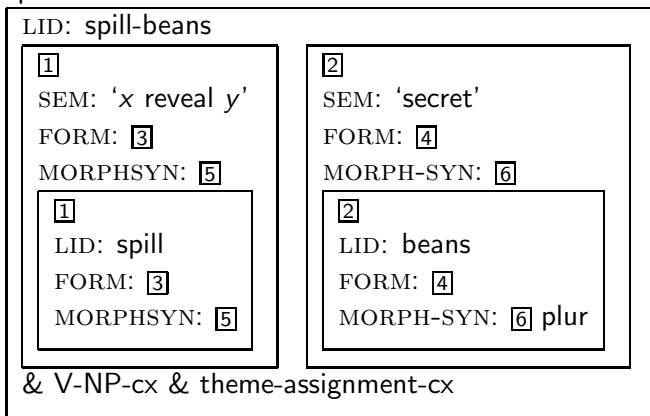
- The pronoun cannot refer to *the beans* in the literal meaning, but
  refers to the revealed secret.
- Parts of an idiom may be associated with parts of the idiomatic
  meaning!
- Riehemann (2001): idiomatic specification contains ordinary word,
  but overrides its semantics.
- Possible modelling: non-branching subconstruction: idiomatic word
  construction contains non-idiomatic word.

Idiomaticity: challenge 2
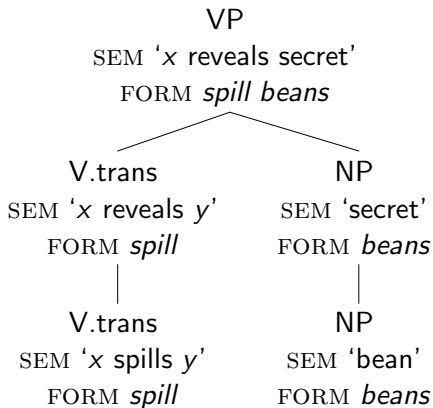
(19)   Theme-assignment construction:

┌───┐
│ SEM: 'x ... $\boxed{2}$'   │
│ ┌─────────────────────┐ ┌───────────┐ │
│ │ SEM: 'x ... y'   │ │ SEM: $\boxed{2}$ │ │
│ └─────────────────────┘ └───────────┘ │
└───┘

(20)   spill-beans-cx:

┌──┐
│ LID: spill-beans   │
│ ┌───────────────────────────┐   ┌───────────────────────────────┐│
│ │ $\boxed{1}$ │   │ $\boxed{2}$ ││
│ │ SEM: 'x reveal y'   │   │ SEM: 'secret'   ││
│ │ FORM: $\boxed{3}$ │   │ FORM: $\boxed{4}$ ││
│ │ MORPHSYN: $\boxed{5}$ │   │ MORPH-SYN: $\boxed{6}$ ││
│ │ ┌─────────────────────┐ │   │ ┌─────────────────────────┐ ││
│ │ │ $\boxed{1}$ │ │   │ │ $\boxed{2}$ │ ││
│ │ │ LID: spill   │ │   │ │ LID: beans   │ ││
│ │ │ FORM: $\boxed{3}$ │ │   │ │ FORM: $\boxed{4}$ │ ││
│ │ │ MORPHSYN: $\boxed{5}$│ │   │ │ MORPH-SYN: $\boxed{6}$ plur│ ││
│ │ └─────────────────────┘ │   │ └─────────────────────────┘ ││
│ └───────────────────────────┘   └───────────────────────────────┘│
│ & V-NP-cx & theme-assignment-cx   │
└──┘

Decomposable idioms

(21)

```
                        VP
                SEM 'x reveals secret'
                  FORM spill beans
                  /              \
         V.trans                    NP
    SEM 'x reveals y'          SEM 'secret'
      FORM spill                FORM beans
          |                        |
       V.trans                    NP
    SEM 'x spills y'          SEM 'bean'
      FORM spill                FORM beans
```

Solution compatible with a holistic analysis, but not fully in its spirit!

Lexicalization:

- Psycholinguistic notion: Do speakers access/store idioms as units?
- Usage-based notion: Can idioms be considered a unit based on a speaker's linguistic experience? (entrenchment or triggering experience)
- Swinney & Cutler (1979): early psycholinguistic results that idioms are processed faster than free combinations.

Holistic approach: summary

- Idioms are phrasal units of arbitrary form, complexity, and meaning.
- We need just one additional entry in the lexicon/constructicon per idiom (no extra entry for cranberry words)
- Semantic decomposability: Idiom parts may be assigned meaning.
- Syntactic decomposability: Idiom parts may be assigned ordinary syntactic structure.

Overview

Necessities

Necessity for analytic approaches:

- Not all frameworks allow for complex form-meaning units.
- Phrase Structure Grammar, GPSG (Gazdar et al., 1985), classical HPSG (Pollard & Sag, 1994), . . . Lexical Functional Grammar (LFG)
- Analytic option (MGG, GPSG): Idioms are outside the ordinary grammar and inserted *en bloc* as units of arbitrary form, complexity, and meaning.
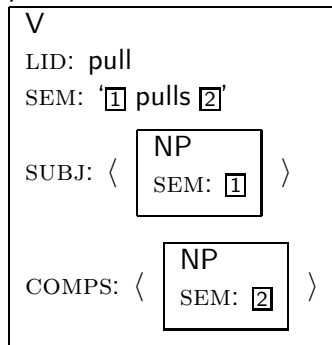
Non-necessity for holistic approach:

- Rich lexical information that includes selection information (SBCG, HPSG, LFG)
- If these are needed anyways, why not use them for idioms?

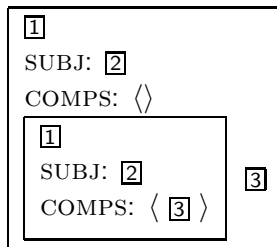# Selectional information in word- and phrase-level constructions

word-level construction:
pull

```
V
LID: pull
SEM: '1 pulls 2'

SUBJ: ⟨  NP
          SEM: 1  ⟩

COMPS: ⟨  NP
           SEM: 2  ⟩
```

phrase-level construction:
head-complement-cx:

```
1
SUBJ: 2
COMPS: ⟨⟩

   1
   SUBJ: 2        3
   COMPS: ⟨ 3 ⟩
```

Modification

- Adjectives can be added to most nominal NP-components (Ernst, 1981), even if they don't modify part of the idiom semantically:

  (22)   ...if Mikaso kicks the <u>damned</u> bucket we could lose all ties to the Philippines (COCA)

  (23)   Maybe friends at Kettering's registration office can pull <u>proverbial</u> strings, but this temporary visa expires next April. (*Eastern Flame*, googlebooks)

- Idioms don't have a completely fixed syntactic structure.

Fixedness: Modification

- With some idioms, the modifier can modify the idiomatic meaning of the noun.

    (24)   Now that he can no longer pull <u>powerful</u> strings for the gun lobby, it has far less use for him. (COCA)

    (25)   On trial for stealing from Diana, ex-aide Paul Burrell could spill <u>royal</u> beans (COCA)

- Such idioms are called *decomposable idioms*.

- Decomposable idioms don't have a monolithic/holistic meaning.

Passive

- Decomposable idioms passivize easily (Nunberg et al., 1994)

  (26)   How could you people live this way for years and years and
          years and no one even knows, like, whose parents are who?
          And so finally, sort of <u>the beans were spilled</u> then. (COCA)

- Passive with non-decomposable idioms in restricted circumstances:
  data from Bargmann & Sailer (2018) and Fellbaum (2019):

  (27)   a.   When you are dead, you don't have to worry about
                death anymore. . . . <u>The bucket will be kicked</u>.
          b.   Live life to the fullest, you never know when
                <u>the bucket will be kicked</u>.

- In passive, the idiom parts are not in a VP.
  Early MGG: argument for transformation.
  CxG: no obvious way to relate the kick-bucket-cx with a phrasal
  passive construction

Idioms in relative clauses

McCawley (1981); Wasow et al. (1983); Webelhuth et al. (2018):

(28) a. Pat pulled [NP: strings [RC: that Chris had no access to]].
      b. [NP: The strings [RC: Pat pulled]] helped Chris get the job.

- In (28-b) the idiom parts are not in the same VP.
- If *strings* is somehow "reconstructed" into the relative clause in (28-b), there is no way to derive (28-a).

Idioms in other constructions

- Bargmann (2019): occurrence of decomposable idioms in the N-*after*-N-cx.

(29)   I had mentally accepted the fact that I wasn't going, but my friends are amazing and continued pulling <u>string after string</u> until I ended up in Manchester with a VIP wristband, parking pass, and air-conditioned living quarters, all at zero cost to me (www, Bargmann 2019)

(30)   As I have confessed I am crank; and another crank characteristics is that we can't stop talking. I said I was going to give a taste, and here I am spilling <u>bean after bean</u>.
(*You are still being lied to*, googlebooks)

- No morphological plural for *string* and *bean*
- Interaction of the N-*after*-N construction with the idiom construction?

Idioms without fixed structure

Riehemann (2001, 41ff):

(31)   have butterflies in the/one's stomach
    a.   That's why, for instance, you get butterflies in your stomach
          when you get nervous.
    b.   There were butterflies in my stomach
    c.   men and women with hope in their hearts and butterflies in
          their stomachs sat silently
    d.   Butterflies in the stomach are common the minute anyone
          has to sign on the dotted line
    e.   Butterflies in my stomach, I moved into the current.
    f.   the butterflies are starting in my stomach.

- no fixed syntactic structure

Determiner variation

Bargmann (2019) reports authentic occurrences of determiner variation

- Redundant possessive:

(32)   I can't all be like William Shakespeare, who screams to the
        rooftops how Romeo and Juliet are going to
        <u>kick their respective buckets</u> by the end of the story.

- Possessive expresses the free semantic argument:

(33)   (Discussion on a travel page)
        A: Thanks for revealing these hidden treasures (for me, anyway) –
        must see these places – they're on my long bucket list which I
        hope to do before <u>my bucket gets kicked</u>!
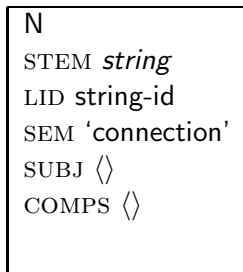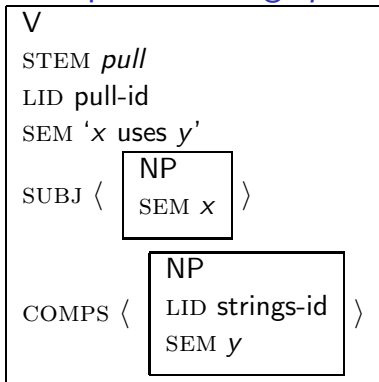   B: I don't think <u>your bucket will be kicked</u> anytime soon.

Analytic approaches to idioms

- Special idiomatic words combine in regular syntactic and semantic way.
- Analytic approach to decomposable idioms: Gazdar et al. (1985), Nunberg et al. (1994), Sailer (2003)
- Analytic approach to all "grammatical" idioms: SBCG: Kay et al. (ms.), Kay & Michaelis (2019); HPSG: Bargmann & Sailer (2018)
- Co-occurrence requirement of idiom parts: via selection (SBCG) or collocation

"We have shown that the idiomatic character of TDW [*to do with*, M.S.], like that of many other multiword expressions, is exclusively lexical: both *to* and *do* are verbal heads with idiosyncratic valence requirements."
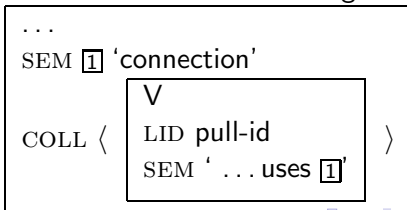
(Kay & Michaelis, 2019)

Example encoding: *pull strings*

$$\begin{bmatrix} \text{V} \\ \text{STEM } \textit{pull} \\ \text{LID pull-id} \\ \text{SEM 'x uses y'} \\ \text{SUBJ } \langle \begin{bmatrix} \text{NP} \\ \text{SEM } x \end{bmatrix} \rangle \\ \text{COMPS } \langle \begin{bmatrix} \text{NP} \\ \text{LID strings-id} \\ \text{SEM } y \end{bmatrix} \rangle \end{bmatrix}$$

$$\begin{bmatrix} \text{N} \\ \text{STEM } \textit{string} \\ \text{LID string-id} \\ \text{SEM 'connection'} \\ \text{SUBJ } \langle \rangle \\ \text{COMPS } \langle \rangle \end{bmatrix}$$

Selection: no other verb can select an NP with LID string-id

Collocation: add to *string*:
$$\begin{bmatrix} \dots \\ \text{SEM } \boxed{1} \text{ 'connection'} \\ \text{COLL } \langle \begin{bmatrix} \text{V} \\ \text{LID pull-id} \\ \text{SEM ' } \dots \text{ uses } \boxed{1} \text{'} \end{bmatrix} \rangle \end{bmatrix}$$

Evidence for idiomatic versions of words

Free uses of words in their idiomatic meaning:

(34)   a.   bucket list ← kick the bucket (Bargmann & Sailer, 2018)

           b.   cakeism ← (one cannot) have one's cake and eat it

Strengths of analytic approaches

- Relies on selection and regular syntactic and semantic combinatorics.
- Captures high degree of syntactic flexibility.
- Accounts for idiom-internal semantic processes.
- Idiom-external use of idiomatic words

Problems of analytic approaches

- Massive duplication of the lexicon – even idiom-internal occurrence of determiners may require special words (Findlay, 2019)
- No connection between literal and idiomatic version of a word
- Idiom is not represented as unit in the lexicon
- Collocation challenge: not all approaches equally fit to restrict idiomatic words to idiom-internal uses
- Riehemann's *butterfly* data:

  (35)   have butterflies in the/one's stomach (= (31))

        a.   That's why, for instance, you get butterflies in your stomach when you get nervous.

        b.   the butterflies are starting in my stomach

  ▶ The idiomatic meaning cannot be plausibly assigned to one of the words.
  ▶ The idiom consists of the words where *butterflies* is the external argument of *in one's stomach*.

Summary: Holistic and analytic properties

- H: All defining properties of idioms suggest a holistic approach.
- H: Idioms are perceived as units by speakers.
- H: Ordinary words occur in idioms.
- A: Even non-decomposable idioms cannot be reduced to a single, phrasal form.
- A: Decomposable idioms: Evidence for idiom-specific meaning of idiom components
- But: Sometimes, neither a syntactic construction nor a lexical item that could plausibly contribute the idiomatic meaning!

Overview

Co-occurrence of literal and idiomatic readings

- Holistic and analytic approaches assume pure ambiguity: mutual exclusiveness of idomatic and literal reading.
- Alternative: Mapping approaches
  The literal analysis is produced first and, then, the reading is mapped to the idiomatic meaning. (Pulman, 1993; Egan, 2008)

Overview

Three types of idioms modification (Ernst, 1981):

- external modification (all idioms):

  (36)   Carter doesn't have an <u>economic</u> leg to stand on.

  ⇒ Evidence for internal syntactic structure

- internal modification (test for decomposable idioms):

  (37)   When will you get it through your <u>small</u> head that this isn't the way to do it!

  ⇒ Evidence for internal semantic structure

- conjunct modification:

  (38)   With the regression, oil companies have to tighten their Gucci belts.
         'Oil companies have to economize. AND They have Gucci belts.'

  ⇒ Evidence for simultaneous availability of literal reading of idiom

Conjunct modification with body part expressions

- All data in Ernst (1981) have body part expressions/ kinegrams.

  (39)   a.   tighten one's belt
         b.   pull s.o.'s legs

- Kinegrams (Burger, 1976):
  - Nonverbal level: Nonverbal behavior that is conventionally associated with some meaning. (**kinegram association**)
  - Verbal level: The kinegram describes the nonverbal behavior ("literal meaning") and expresses the conventionally associated meaning of this behavior ("idiomatic meaning").
  - The kinegram can be used truthfully even if the corresponding nonverbal behavior is not performed.

Conjunct modification with non-kinegrams

Bargmann et al. (t.a.): authentic data with *kick the bucket*, *bite the dust*

(40)   Venezuela's Friend of the Working Class, Hugo Chávez,
         <u>kicked the golden bucket</u> with an estimated net worth of 2 billion
         dollars.

- Interpretation of *bucket* as inalienable possession; whoever has a
  golden bucket is rich.

Status of the literal contribution

- The literally interpreted element is a definite description in all attested cases.
- Ordinary definites come with an existence presupposition.

  (41)   Alex didn't go to the new bakery.

    a.   presupposes: there is a new bakery
    b.   conjunctive paraphrase: There is a new bakery and Alex didn't go to this bakery?

- Special definites: semantic uniques (Löbner, 2011)/ inalienable possession/ weak definites
- The same is true for the literally interpreted idiom part.

  (42)   I'm not shaking my bleeping head at you.
          I have a bleeping head and I am not shaking it at you.

- Kinegrams/ body-part idioms: body part is semantically unique.
  ⇒ The noun triggers the presupposition, the article is redundant.

Holistic and analytic aspects of conjunct modification

- H: the idiomatic reading is present and untouched
- A: the non-idiomatic reading of an idiom component is available and is interpreted as a presupposition.
- Problem: neither theory combines the idiomatic and the literal reading.

Overview

Extended uses

- Egan (2008), Findlay (2019), Findlay et al. (2019)

  (43) a. Livia didn't quite <u>kick the bucket</u>,
            but she took a good strong swing at it.
        b. I had <u>butterflies in my stomach</u>
            and they had big wings on them. (www)
        c. Sometimes [...] the person that you'd <u>take a bullet for</u>
            is behind the trigger. (song lyrics)

Extended uses

(44)   S1: I had <u>butterflies in my stomach</u>
       S2: and they had big wings on them. (www)

Structure of the examples:

1. First clause: Ordinary use of the idiom.
2. Second clause: Continuation incompatible with the idiomatic meaning, but ok with literal meaning.
3. Inferred: The second clause is interpreted with respect to the idiomatic meaning.

Holistic and analytic aspects of extended uses

- H: The idiomatic reading is present and untouched.
- A: The first clause needs to be assigned a fully literal, i.e. "compositional", reading.
- Problem: neither approach makes the literal reading available.

Pretence theory (Egan, 2008)

- PRETENSE: The parts of sentences containing idioms all retain their usual semantic values, and are composed in the usual way, but the sentence is assigned nonstandard truth-conditions by processing its literal content through a pretense.
- Idioms come with *Pretence Statements*, Egan (2008, 395): "*kick the bucket*: if somebody dies, pretend that there's some salient bucket that they kicked."

Example: *kick the bucket*

- Pretence statement as modality: For each case in which someone dies in situtation s, there is a pretence situation s' such that that person kicks some salient bucket in s'.

(45)   Alex kicked the bucket.
  a.   (literal) s': 'Alex kicked the bucket.'
  b.   (pretence inference) s' cannot be the current situation, therefore, we should go to some situation s that is related to s' via a pretence statement.
  c.   (idiomatic) s: 'Alex died.'

Problems of pretence theory

- Idiomatic meaning does not seem to be inferred in ordinary uses of the idiom.
- Unclear how to capture restricted syntactic flexibility.
- Idioms without free reading (cranberry words)

Rather . . .

The extended uses seem to require some "backtracking."

(46) a. Livia didn't kick the bucket.
      (Direct idiomatic reading) s: 'Livia didn't die.'

   b. but she took a good swing at it.
       (i)   (literal) s'': 'Livia took a good swing at it.'
       (ii) (pretence inference) The current situation s cannot be
             extended to contain s''.
       (iii) (backtracking) First sentence makes a pretence
             situation s' available.
       (iv) (extension) Extend s' to contain s''.
       (v)   (analogical mapping) Extend s analogically.

Idiom mapping

Express pretence statement as Idiom Mapping (IM):

- s 'idiomatic reading' $\Leftrightarrow$ s': literal reading
- Kinegram association:
  s: 'x and y greet each other.' $\Leftrightarrow$ s': 'x and y shake their hands'
- Idiom mapping (nondecomposable idiom):
  s: 'x dies.' $\Leftrightarrow$ s': 'x kicks the/x's bucket'
- Idiom mapping (decomposable idiom):
  s: 'x reveals secret y' $\Leftrightarrow$ s': 'x spills the beans y'

Status of Idiom Mapping

- Structure Mapping Theory for analogical reasoning (Gentner, 1983; Gentner & Maravilla, 2018):

  (47)   Rutherford analogy: "The atom is like the solar system."

    ▸ Analogy establishes a relation between two models (base: solar system; target: atom)
    ▸ Analogical reasoning: When the base is expanded, the corresponding entities and relations are added to the target.

- For idioms:
    ▸ Idiom mapping establishes a relation between two models (base: literal reading; target: idiomatic reading)
    ▸ Analogical reasoning: When the base is expanded, the corresponding entities and relations are added to the target.
    ▸ Difference to original analogy: Mapping establishes relation that need not be a structural mapping itself, but can be idiosyncratic (non-decomposable idioms).

Interpretive use of Idiom Mapping

- IM is like a port into a pretence world
- Similar to *modal subordination* (Roberts, 1989):

  (48)   If John bought <u>a book</u>, he'll be reading <u>it</u> by now.

         a. #<u>It</u>'s a murder mystery.
         b.   <u>It</u> will be a murder mystery.

- In (48-b). we are in a hypothetical situation in which we can access the hypothetical book.
- Modal subordination only works with explicit markers of irrealis, IM-conditioned backtracking is such an irrealis marker.
- Structure of IM indicates decomposability, and maybe transparency.
- Similar behavior for irony:

  (49)   [Context: Alex failed the third test in a row.]
         Alex is a real genius. ⇒ 'Alex is not clever at all.'
         I am sure he will be nominated for a Nobel price one day.
         ⇒ 'His level of intelligence will show consequences.'

Overview

Riehemann's insight

Idioms:

- Often no fixed syntactic structure
- The full idiomatic meaning cannot be plausibly assigned to one of the words.
- An idiom consists of special idiomatic words that don't occur outside the idiom and are related to their non-idiomatic counterparts.
- Selectional and other relations may hold among the idiomatic words

Framework

- No idiom-specific independent lexical entries
- No defaults
- Free syntactic combination of idiom parts
- Idiom-internally compositional semantics
- Idioms as multiword construction with no fixed overall syntactic structure an possibly idiom-specific properties of the words
- Similar to:
  - ▶ SBCG but without locality constraint ⇒ no idiosyncratic words needed.
  - ▶ Constructional HPSG, but with different formal foundations
  - ▶ Closest: Riehemann (2001)

  Non-Local Sign-Based Construction Grammar?
- Caveat: Formal foundations not worked out

Notation for multiword constructions

- VP dominates V at some arbitrary depth:

```
┌─────────────┐
│ VP          │
│    ......    │
│   ⋮┌───┐⋮   │
│   ⋮│ V │⋮   │
│    ......    │
└─────────────┘
```
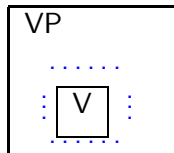
- VP contains V and NP and maybe others in non-determined order:

```
┌─────────────────────┐
│ VP                   │
│ ┌───┐    ┌────┐      │
│ │ V │ ,  │ NP │      │
│ └───┘    └────┘      │
└─────────────────────┘
```
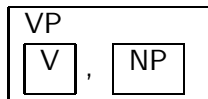
Typical multiword construction

(50)   Schematic description:

```
........                           ........
┌─────────────────────────┐      ┌─────────────────────────┐
│  idiom-word1            │      │  idiom-word2            │
│  SEM idiom-int. sem     │  ,   │  SEM idiom-int. sem     │
│  ┌──────────────┐       │      │  ┌──────────────┐       │
│  │ literal-word1│       │      │  │ literal-word2│       │
│  └──────────────┘       │      │  └──────────────┘       │
└─────────────────────────┘      └─────────────────────────┘
........                           ........
```

(51)   *kick the bucket*:

```
........
┌──────────────────────────────────────────────────────────────┐
│  ┌────────────────────┐                                        │
│  │ V                  │          ........                      │
│  │ SEM 1 'x dies'     │      ┌────────────────────────────┐    │
│  │ LID 2              │      │ 4 N                        │    │
│  │ SUBJ ⟨ [SEM x] ⟩   │  ,   │ SEM — / 1 'x dies'         │    │
│  │ COMPS ⟨ 4 ⟩        │      │ LID 3                      │    │
│  │ ┌──────────┐       │      │ ┌────────────────────────┐ │    │
│  │ │ V        │       │      │ │ N                      │ │    │
│  │ │ LID 2 kick│      │      │ │ LID 3 bucket           │ │    │
│  │ └──────────┘       │      │ │ CXT 'bucket associated │ │    │
│  └────────────────────┘      │ │     with x'            │ │    │
│                              │ └────────────────────────┘ │    │
│                              └────────────────────────────┘    │
│                                        ........                │
└──────────────────────────────────────────────────────────────┘
........
```
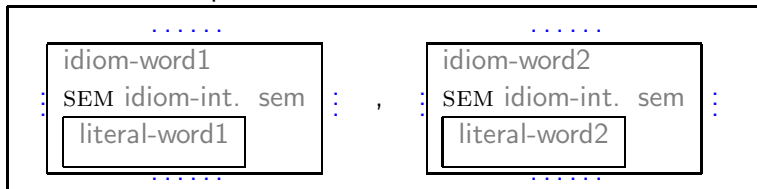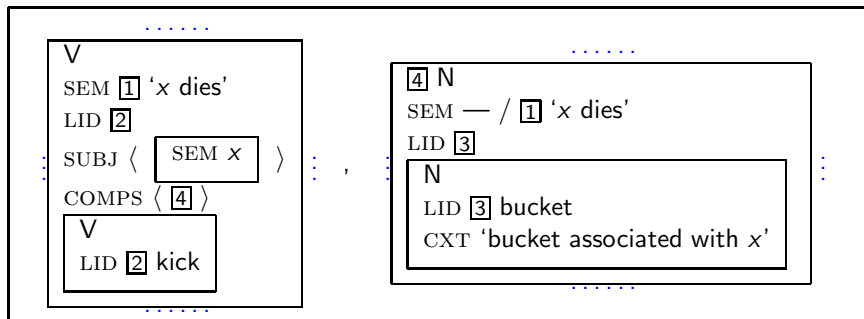
Advantages of the encoding

- No extra lexical entries needed for words in idiom.
- The words can combine freely as long as their specified properties are satisfied:
  - Internal modification only possible with decomposable idioms, external modification less restricted: if the idiom part has no independent meaning, it cannot be semantically modified, thought, syntactically modifiers are possible.

    (52)   a.   With that dumb remark he really kicked the <u>social</u> bucket last night.

            b.   They spilled the <u>royal</u> beans.

  - English topicalization requires words with non-empty/non-redundant semantics and some connection to the previous discourse (Bargmann & Sailer, 2018):

    (53)   a.   *The bucket, Alex kicked.

            b.   Those strings, Alex wouldn't have pulled for you.

Integration of Idiom Mapping

- The IM is a non-at issue meaning component – probably, a *conventional implicature* (Karttunen & Peters, 1979; Potts, 2005).
- The IM can be associated with the overall MW-Cx.
- It should/can also be associated with the *idiomatic key*.
- IM is a holistic encoding of the semantic representations of both the idiomatic and the literal reading, i.e.,*a semantic double construction*.

Multiword-Cx modelling with Idiom Mapping

- Notation: **FIG**(idiomatic situation ⇔ literal situation)
- More formally: Findlay et al. (2018)

(54)   kick the bucket

CXT **FIG**('x dies' ⇔ 'x kicks the bucket')

. . . . . .

V
SEM $\boxed{1}$ 'x dies'
LID $\boxed{2}$
SUBJ ⟨ SEM x ⟩
COMPS ⟨ $\boxed{4}$ ⟩
V
LID $\boxed{2}$ kick

. . . . . .

,

. . . . . .

$\boxed{4}$ N
SEM — / $\boxed{1}$ 'x dies'
LID $\boxed{3}$
N
LID $\boxed{3}$ bucket
CXT 'bucket associated with x'

. . . . . .

Capturing conjunct modification

- Analysis in Bargmann et al. (t.a.):

(55) a. $S1$: Hugo Chávez$_i$ kicked the$_i$ golden bucket.
          $p1$: 'Hugo Chávez died.'   (idiomatic, asserted)

      b. $S2$: Hugo Chávez$_i$ kicked the$_i$ golden bucket.
          $p2$: 'Hugo Chávez had a golden bucket.'   (literal, presupposed)
          $p2'$: 'Hugo Chávez was rich.'   (inference)

          $p1\&p2'$: 'Hugo Chávez died, who was rich.'

- Modifier not compatible with idiomatic meaning.
  $\Rightarrow$ Ignored for at issue semantics
- IM: s: 'x dies' $\Leftrightarrow$ s': 'x kicks x's bucket'
  Extension of s': 'x kicks x's bucket and x's bucket is golden'
  Inference in s': 'x is rich'
  Analogical transfer to s: x is rich.

Capturing interaction of idiomatic and literal uses

- Conjunct modification and extended uses are captured purely semantically, mediated by the Idiom Mapping
- This accounts for the high syntactic and lexical variability of such cases.

Overview

Summary

- Idioms seem to be perfect examples of complex idiosyncratic form-meaning pairings.
- But: They cannot in general be associated with a fixed syntactic structure and a monlithic semantics
- Problem for analytic approaches: explosion in the lexicon; compositionality is only within the idiom.

⟹ Idioms as multiword constructions.

- Literal and idiomatic readings can be used simultaneously.
- Not predicted by any formal account of idioms.

⟹ Idiom Mapping as a semantic link

Caveat: Multiword constructions are not compatible with current SBCG and constructional HPSG.

Future work: Multiword constructions

- Formalization of CxG with MWCx.
- Useful for other phenomena:
  - Locative inversion (Webelhuth, 2011) (Special verb valence, restricted to particular phrasal construction)
    - (56)   [Among the guests of honor] was <u>seated</u> [my mother].

  - Comparative correlative construction (Hoffmann, 2019a) (Cranberry words restricted to particluar, abstract phrasal construction)
    - (57)   [[<u>The</u> older the man got]$_{C1}$, [<u>the</u> longer he slept]$_{C2}$].

  - Periphrastic inflection Bonami & Webelhuth (2013)
    - (58)   a.   Paul [has [bought the book]].
    -          b.   (dass) Paul [das Buch [gekauft hat]]
    -          c.   Paul [a [acheté] [le livre]]

  - Other types of cooccurrence requirements (binding, NPI-licensing)
    - (59)   a.   Should <u>people</u>/*I write [books [about <u>themselves</u>]]?
    -          b.   Alex will *(not) finish the task <u>until</u> next week.

Future work: Figurative language

- Empirical testing of the predictions of the Idiom Mapping approach

    (60)   The CEO pulled a rabbit out of the hat,

         a. but it was not elaborate enough. (core use)

         b. but it left droppings everywhere. (extended use)

         c. #but its ears were purple. (inconsistent continuation)

- Application to a larger number of idioms.
- Applicable to figurative exploitation of ambiguity?

    (61)   (Hoffmann, 2019b)

         a. She is not the sharpest tool in the shed.

         b. . . . Not the shiniest penny in the piggy bank.

    (62)   a. crystal clear

         b. klar wie Klosbrühe 'clear like dumpling broth'

- Formalization of the model-theory behind the figurative mapping.

Thank you for your attention

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