Idioms and 'Constructions':
Implications for the Architecture of Grammar
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This talk presents results of our investigation (joint work with Tali Siloni) of the distribution of idioms across diatheses (voice alternations) in English and Hebrew and its consequences for idiom storage and implications for the architecture of grammar.

Examining the distribution of idioms across four diatheses (transitive, unaccusative adjectival passive and verbal passive), we observe contrasts between the cross-diathesis distribution of two distinct syntactic types of idioms. One type of idiom (which we label 'phrasal') distributes differently in the verbal passive diathesis than in the transitive, unaccusative and adjectival passive diatheses. Another type of idiom (to be labeled 'clausal'), in contrast, does not discriminate between diatheses.

The talk will

- outline our findings regarding these patterns of cross-diathesis distribution;
- discuss its implications for how the two distinct syntactic types of idioms are stored in the lexicon;
- draw conclusions for the division of labor between syntax and the lexicon
- finally, consider the findings as evidence against usage-based Construction Grammar (CxG) (Goldberg (2006) and related work), under which there is no syntactic derivation, but instead, a lexical component of stored 'constructions' (from morphemes to abstract phrasal patterns) labeled Construct-i-con; we will show that a construct-i-con type of theory cannot account for the distribution of idioms across diatheses we observed – in spite of idioms being the archetypal 'construction' à la CxG.

1. Introduction

Theories of linguistic knowledge all assume a storage component, where the associations of form and meaning are stored.

There is controversy as to the nature of this component, call it the lexicon: How much does it list? What does it allow? What else is there beyond the lexicon? Proposed alternative architectures of grammar differ significantly regarding their assumptions about the lexical component and its relation to the rest of grammar. Idioms can provide a rich empirical testing ground for alternative theories of the lexicon and the model of grammar as a whole – as the present study aims to demonstrate.

We set out to investigate the issue of where and in what form idioms are stored, by means of a clearly delineated grammatical property: their 'rigidity' versus 'flexibility' with regard to a set of diathesis (voice) alternations.

The structure of the talk is as follows:

Sections 1.1 and 1.2 set the stage by defining a core set of uncontroversial idioms that serves as our testing sample, and present the proposal for a 'Type-Sensitive Storage' of idioms, drawing a distinction between lexically headed idioms, which we label 'phrasal' idioms, and idioms headed by a sentential functional head, which we label 'clausal'— a distinction that we motivate in the subsequent sections.

Sections 2 and 3 investigate the distinction between **phrasal** (lexically headed) idioms and **clausal** idioms, and discuss each type (respectively) paying particular attention to their

systematic distinct distribution across diatheses in both English and Hebrew and what this suggests regarding their lexical storage.

Section 4 presents additional evidence for the partition into phrasal and clausal idioms and discusses how our findings are captured by the Type-Sensitive Storage model and what they show about the nature of the lexicon and the division of labor between syntax and the lexical component.

Section 5 lays out consequences of our findings for the model of usage-based construction grammar (CxG), a recently emerged approach to linguistic knowledge that had been directly inspired by the existence of idioms – the archetypal 'construction'. We show that in contrast to a derivational and modular architecture of grammar, CxG-type approaches are unable to provide an account for the systematic findings on idioms' cross-diathesis distribution, and thus turn out to be inadequate even in the very domain that had motivated them.

1.1 Definition of empirical array

(1) Idioms (core set)
     Fixed multilexemic expressions whose meaning is
     a. unpredictable (conventionalize) and
     b. figurative (metaphoric)

Multilexemic expressions involve special meanings of lexical items relative to one another, raising questions that the storage of special meanings of single lexical items does not.

Unpredictability: Although the degree of perceived opacity (or transparency) of idioms' meaning varies from one idiom to another, as in (2a vs. 2b), what is crucial is that their meaning cannot be calculated in advance, i.e., cannot be predicted based on their building blocks. The meaning of (2a), just as of (2b), is unpredictable (even if a posteriori, (2a) seems more transparent) and therefore both belong to the core set we have defined.

Figurative interpretation: the event or state (most often concrete) described by the expression is understood as representative of some other (mostly, more abstract) event or state.

(2)   a.   *land on one's feet*
             'make a quick recovery'
       b.   *cool one's heels*
             'wait'

1.2 The Type-Sensitive Storage Model: Phrasal vs. Clausal Idioms (Horvath & Siloni 2016, to appear)

In our investigation of idiom distribution across diatheses and their storage, we have systematically distinguished between phrasal and clausal idioms, as defined in (3).

(3) Phrasal Idioms: headed by **a lexical head**. The idioms in (2) are VP idioms.
     Clausal Idioms: headed by **a sentential functional head** (a fixed tense or mood, a modal, obligatory (or impossible) sentential negation, or CP-material such as a complementizer or a *wh*-phrase), as in (4); they are not necessarily full clauses.

Fixed sentential material is specified in parentheses. Non-idiomatic material within idioms is marked by italics.

(4) a.   …can't see the forest for the trees   (modal, negation)
           'doesn't perceive the whole situation clearly due to focusing on the details'

     b.   can't hold a candle to *someone/something*   (modal, negation)
           'be not as good as someone/something else'

     c.   butter wouldn't melt in *someone'*s mouth   (modal, negation)
           'someone is acting innocent'

     d.   The squeaky wheel gets the grease.   (tense)
           'The most noticeable (loudest) ones are the most likely to get attention.'

     e.   not have a leg to stand on   (negation)
           'have no support (for your position)'

     f.   Where does *someone* get off *doing something*?   (interrogative, wh-phrase)
           'Where does someone get the right to/how dare someone do something?'

Idioms exhibit an inherent duality
● Complex entities whose internal makeup reflects structural properties of phrasal units
● Conventionalized meaning that cannot be predicted by semantic composition

→ **Idioms must be stored**. Since they have syntactic structure, the question as to how they are stored is of particular interest and may shed light on the lexical component.

We propose that idioms are stored according to their type: phrasal idioms are stored differently than clausal idioms. Specifically, the former are stored as subentries of the lexical entry/ies representing their subconstitient(s) in the lexicon, while the latter are stored as independent units on their own, not as subentries of some other lexical entry. This Type-sensitive Storage proposal is summarized below.[1]

(5) **The Type-Sensitive Storage Model (TSS)** (Horvath & Siloni 2016, to appear)

     a. Idioms are stored as part of our linguistic knowledge (not as general, non-linguistic information).

     b. Phrasal idioms – **Subentry Storage**: Phrasal idioms are stored as subentries of some other existing lexical entry/ies representing their subconstituent(s) in the lexicon.

     c. Clausal Idioms – **Independent Storage**: Clausal idioms are stored as independent entries on their own, as single units.

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[1] The dichotomy proposed here between 'phrasal' versus 'clausal' idioms (3) is not meant to be exhaustive. Since our study deals with diathesis alternations, we limit our attention to idioms whose lexical head is a verb, i.e., those that are VPs and those headed by sentential material.

Sections 2 and 3 provide evidence in favour of subentry storage for phrasal idioms and independent storage for clausal idioms, respectively.

2. Phrasal Idioms and cross-diathesis distribution

It has sporadically been observed in the literature that the verbal (eventive) passive (e.g., *sold* in 'The first costumer was sold the car') and the adjectival (stative) passive (e.g., *shaven*) differ regarding the distribution of idioms. While there do not seem to be idioms specific to the verbal (eventive) passive (i.e., idioms in the verbal passive that have no transitive (active) alternant), there are idioms specific to the adjectival (stative) passive (see Ruwet 1991 for English and French, and Dubinsky and Simango 1996 for Chichewa).

A first quantitative survey of idiom dictionaries examining these observations is reported in Horvath and Siloni's (2009) study of Hebrew idioms: Out of 60 predicates sampled for 4 diatheses – verbal passive, adjectival passive, transitive, and unaccusative – **only the verbal passive exhibited no unique** idioms.

(6) Uniqueness **(**definition)
An idiom is unique to a given diathesis α, if α does not share the idiom with its (existing) root-counterpart β, which α would most directly be related to by derivation. Specifically,
a. An idiom in the verbal passive / adjectival passive / unaccusative is unique if the corresponding (existing) transitive does not share the idiom.
b. An idiom in the transitive is unique if the corresponding (existing) unaccusative does not share the idiom.

2.1 Subentry Storage vs. Independent Storage

Evidence for Subentry Storage
Based on their cross-diathesis distribution (unique to a diathesis vs. shared), we will present evidence that **phrasal idioms are stored as subentries of another, existing entry, not as independent entries of their own**.

A priori, under **subentry storage**, two main options come to mind:
On the one hand, it has been suggested that idioms are stored by multiple storage, that is, as **subentries of the lexical entries of each of their constituents** (7a) (Everaert 2010), or as subentries of the Encyclopedic entries of their constituents (Harley and Noyer 1999); on the other hand, it has been proposed that they are stored by head-based storage, that is, as a **subentry of the lexical entry of the head** of the idiom (7b) (Baltin 1989, Horvath and Siloni 2009).

On either of these alternative options, (7a) or (7b), **the idiom is stored under the entry of the head**. In order for that to be possible, **the latter must be an existing lexical entry**, which is able to host subentries.
Independent storage, in contrast, does not require that. The storage of independent entries is **not contingent upon the representation of any of the idiom constituents in the lexicon**, as the idiom is an entry on its own.

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Subentry Storage

(7) a. <u>Head Based Storage</u>: as subentries of the lexical entry of their head only (Horvath & Siloni 2009)

   b. <u>Multiple Storage</u>: as subentries of the entries of their lexical constituents (head and others) (Everaert 2010, Harley & Noyer 1999)

(8) <u>Root vs. Predicate</u>
   a. <u>Root</u>: as subentries of the root of the head
   b. <u>Predicate</u>: as subentries of the predicate (Horvath & Siloni 2009)

<u>Notice</u>: **Subentry storage is contingent upon the listing – existence in the lexicon – of the (mother) entry**.

2.2 Verb phrase idiom surveys in Hebrew and English

We believe quantitative surveys using idiom dictionaries are necessary for the study of idiom distribution, as speakers may sometimes have a hard time distinguishing whether a certain idiom variant exists and is commonly used or only could exist, i.e., is a priori possible, but is not documented. This is so because the spontaneous formation and learning of novel idiomatic expressions is part of speakers' linguistic competence. Also, knowledge of idioms varies considerably among speakers (similar to vocabulary knowledge).

Evidence for Subentry storage under predicates (Horvath & Siloni's 2009, 2014 surveys)

<u>Aim:</u> Examine the sporadic observations in the literature wrt the unavailability of idioms specific to the verbal passive (Dubinsky and Simango 1996, Marantz 1997, Ruwet 1991), and compare the distribution of these idioms to that of idioms in other diatheses/voices.

<u>Data and procedure:</u> A random sample of 60 predicates of the following 4 diatheses was collected in Hebrew and in English: unaccusatives, transitives, verbal passives and adjectival passives. The distribution of phrasal idioms across these diatheses was examined in idiom dictionaries (followed by Google searches complemented by native speaker's judgments). The number of predicates of each type appearing in idioms *unique* to the diathesis was counted.
   'Uniqueness' was defined as in (6) above; accordingly, verbal passives, adjectival passives and unaccusatives were taken to be unique if there was no corresponding transitive idiom; transitives were taken to be unique if there was no corresponding unaccusative idiom.

Except for the verbal passive, all other three diatheses can head unique idioms.

<u>Results</u>

Table 1 Hebrew: The distribution of unique phrasal idioms across diatheses

Verbal passives	Unaccusatives	Transitives	Adjectival passives
0/60	21/60	23/60	13/60

2.3 The English survey

As the English passive is somewhat different from the passive in Hebrew, we ran a survey of English idiom dictionaries too, using the same method as for the Hebrew survey.

Examples of unique unaccusative (9), adjectival passive (10), and transitive (11) idioms are given below. Notice that the nonexistent idiomatic version is no less plausible than the existing idiom. (# means the relevant sequence of words has no idiomatic meaning.)

(9)   a.   burst at the seams   (unaccusative)
           'filled (almost) beyond capacity'
      b.   #burst *something* at the seams   (transitive)

(10) a.   caught in the middle   (adjectival passive)
           'trapped between two opposing sides'
      b.   #catch *someone* in the middle   (transitive)

(11) a.   break the bank   (transitive)
           'use up all one's money'
      b.   #the bank broke   (unaccusative)

Results

Table 2 English: The distribution of unique phrasal idioms across diatheses

Verbal passives	Unaccusatives	Transitives	Adjectival passives
0/60	15/60	18/60	10/60

Discussion

Our English survey produced similar results to those of the Hebrew one. The transitive, unaccusative, and adjectival passive exhibited unique idioms, just like their Hebrew counterparts.

It must be noted here that unlike in Hebrew, the verbal passive in English turned out, prima facie, to have a unique verbal passive idiom for 2 out of the 60 predicates, namely for *caught* and *bitten*. These idioms are given in (12).

(12) a.   caught in the crossfire
           'hurt by opposing groups in a disagreement'
      b.   bitten by the *x* bug   (where *x* forms a compound with *bug*)
           'having the need/desire/obsession for *x*'

These phrasal idioms could be suspected at first to constitute unique verbal passive idioms, due to their listing in idiom dictionaries in the passive form, and not in the active, in contrast to the norm of listing verb phrase idioms in dictionaries in the active form.

    However, on closer examination, both of these turned out not to constitute true counterexamples to the generalization that there are no unique idioms to the verbal passive.

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Starting with (12a), the idiom *caught in the crossfire*, which indeed appears in the verbal passive, in fact is attested – based on Google searches accompanied by native speakers' judgments – also in the transitive (active) form, as in (13), for instance; hence it is not a unique verbal passive idiom.

(13) a.   This **caught him in the crossfire** between radical proponents of independence
            and French opponents of anti-colonialism.   (Scheck 2014, 282)[2]
      b.   …the Israeli-Palestinian conflict, which has often **caught them in the
            crossfire**.   https://goo.gl/f2FbbG

The idiom in (12b) is instantiated by versions such as *bitten by the travel bug*, *bitten by the acting bug*, etc. These, just like (12a), can be true verbal passive forms; however, again, Google searches turn up a significant number of active transitive examples of the same idiom, e.g., ((14)-(15)).

(14)   Before the **acting bug bit me** I had dreamed of being another Glenn Cunningham.
                                                                        (Halbrook 2001, 66)[3]

(15) It was during my time in the Army in the 1960s and 1970s that **the travel bug bit me**.
                                                                    (MacKrell 2006, Introduction)[4]

The listing of (12a-b) in the passive participial form may well be due to the fact that in addition to occurring as a verbal (eventive) passive, they are also attested in the adjectival (stative) passive; the latter point is demonstrated by the idioms' occurrence as complements of verbs selecting APs but not VPs, such as *seem* and *remain* (Wasow 1977), as illustrated by ((16)-(17)).

(16) a.   Everyone else seems **caught in the crossfire** between these two, I honestly feel
            bad about everyone involved.
            https://goo.gl/trJp5o
      b.   The Starbucks coffee chain remains **caught in the crossfire** of a dispute over
            "open carry" laws…
            https://goo.gl/PMCiMF

(17) a.   …and Kevin remains **bitten by the travel** – and mapping – **bug**.
                                                                        https://goo.gl/xC8kWp
      b.   It made an impression on Bowley, and he too seems **bitten by the renovation
            bug**…   https://goo.gl/H04LWn

More generally, in the case of English in particular, it is important to keep in mind that there is the interfering factor of the pervasive identity of form between verbal passives and adjectival passives, and only diagnostics can establish whether or not the particular idiom is indeed a verbal passive, and not (only) an adjectival passive one.

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2   Scheck, Raffael. 2014. *French Colonial Soldiers in German Captivity during World War II*. Cambridge:
     Cambridge University Press. Available at https://goo.gl/QAGf9E.
     All online examples accessed 9 December 2016.
3   Halbrook, Hal. 2011. Harold – The Boy Who Became Mark Twain. New York: Farrarm, Strauand Giroux.
     Available at https://goo.gl/ivWkAQ.
4   MacKrell, Thomas. 2006. One Orbit – Around the World in 63 Days. Victoria, Oxford: Trafford. Available
     at https://goo.gl/bRlHKA.

2.4 No unique verbal passive idioms: further discussion

The findings of our quantitative surveys have confirmed earlier sporadic claims in the literature that there are no phrasal idioms that are unique to the verbal passive, i.e., verbal passive idioms that are not attested also in the transitive (active) version. This generalization, in light of the different behavior of the other diatheses that our surveys examined, appears to have important potential implications with regard to theories of idiom storage and beyond. So it is worth examining further how robust this generalization about the non-existence of unique verbal passive phrasal idioms really is – specifically, to clarify the status of what might look like sporadic exceptions to the generalization.

The categorial nature of a passive form can be determined by inserting it in contexts permitting only adjectives or only verbs, as first observed by Wasow (1977) for English. These contexts can thus be used to disambiguate categorially ambiguous forms. Two major diagnostics that turn out to be suitable for use in distinguishing between adjectival passive idioms and verbal passive ones are listed below (for further diagnostics and discussion, see Wasow, 1977, Levin and Rappaport 1986, Horvath and Siloni 2008):

(18) a. Adjectival but not verbal passives can occur as complements to predicates such as *seem*, *appear*, *sound, become, remain*, etc., that select AP complements but no VP complement.
b. Verbal (eventive) passives but not adjectival (stative) passives can be modified by adverbials of duration (such as 'in a few minutes'), rationale clauses, Instrument and *by* phrases (for specific limitations, Meltzer-Asscher 2011).

One can come across some items listed in idiom dictionaries in a form that looks like a verbal passive and thus might be suspected to be unique verbal passive idioms. However, as in the previous cases, the sporadic prima facie counterexamples lend themselves, on closer examination, to analyses conforming to the 'no unique verbal passive idiom' generalization.

One such instance of apparent unique verbal passive idiom is the idiom in (19).

(19) hoist with *one*'s own petard

In this case, in spite of the fact that the idiom is listed in dictionaries in the verbal passive, Google searches for corresponding transitive forms, such as *...hoist him with his own petard,* or *...hoist himself with his own petard*, do turn up a substantial number of results such as in (20). Though the transitive versions are fewer than the passive forms, they are clearly non-sporadic occurrences.

(20) a. Davidge was eager to seize Nicky in the very act of planting his torpedo and **hoist him with his own petard**.
(*www.finedictionary.com/petard.html*)
b. ... He then proceeded to **hoist himself with his own petard** by describing his expectations about marriage to the court in such a way ...
(*https://books.google.co.il/books?isbn=1847091849*)

The above idiom originates from an actual line from Hamlet "For 'tis the sport **to have the engiener / Hoist with his own petar**" (www.merriam-webster.com/dictionary/petard), which

is in fact a passive form and this fact might have influenced lexicographers' choice of the form that this idiom is listed in.

Another subtype of apparent counterexample is represented by the idioms in (21).

(21) a.   written in stone
     b.   joined at the hip
     c.   cut from the same cloth
     d.   cast in the same mold
     e.   made of money
     f.   tied to one's mother's apron strings

Indeed idioms (21a-f) do not have transitive (active) versions, but these idioms in fact turn out to be exclusively adjectival (stative) passives. In contexts forcing the verbal passive they lose their idiomatic sense. Thus for instance, examples such as (22a-b) show that (21a) in such contexts only has a literal reading. Examples (23a-b)) illustrate the same for (21b): Its idiomatic meaning disappears in contexts forcing the verbal (eventive) interpretation. The same behavior is observable for the rest (21c-f).

(22) a.   #This is being written in stone (by the two parties).
     b.   #The commitment of the government was written in stone during the negotiations.

(23) a.   #We were joined at the hip gradually/in a couple of days,
     b.   #The two boys were joined at the hip to keep them feel safe.

Further examples of idioms that appear in unique passive forms, which actually turn out to be adjectival passives, are those in (24). These three moreover can be found by Google searches to occur, though less frequently, in a transitive-active version as well, as exemplified in (25) below.

(24) a.   built on sand
     b.   tickled pink
     c.   glued to one's seat

(25) a.   Without proper financing, you'll end up **building your business on sand**
                                              (*idioms.thefreedictionary.com/sand*)
     b.   And, besides, I'm so new at being in the movies, that it **tickles me pink** to think that anybody really wants my autograph.
                              (*lantern.mediahist.org/catalog.html?...eng...Modern...per...*)
     c.   As much as he wanted to go in and be there for Poetry, his fear of big scenes
          glued him to his seat.   (*https://books.google.co.il/books?isbn=1450284914*)

We can thus conclude that all the above idioms are in fact fully consistent with the 'no unique verbal passive idiom' generalization.

The above cases teach us a useful general lesson in that they show how cautious one needs to be before concluding that apparent unique verbal passive idioms in English constitute counterexamples to the above generalization: one needs to do further checking, including both Google searches and relevant grammatical diagnostics, to confirm or reject this conclusion.

In all our searches for counterexamples, only one idiom, *saved by the bell* (Megan Stone p.c.), persisted as a candidate for being a unique verbal passive idiom.[5]

We thus conclude that the lack of unique phrasal idioms in the verbal passive, and their existence in the other diatheses examined, represents a valid linguistic generalization. The next question is what can explain this.

Interim summary

In both languages:
- Verbal passives cannot have their own, unique phrasal idioms, in contrast to other diatheses. (Phrasal idioms in the verbal passive exist only if the idiomatic meaning is shared by the corresponding transitive (active) alternate.)
- Transitives, unaccusatives and adjectival passives can head unique (as well as shared) phrasal idioms.

Discussion[6]

I. Sensitivity of phrasal idioms to a grammatical factor, the diathesis of their head, attests
- in favor of storage with linguistic knowledge
  Or else why would their distribution depend on the diathesis of the head?
- in favor of subentry storage (against independent storage)
  If phrasal idioms were stored as independent entries on their own, not as subentries of their head, there would be no reason for why their existence is contingent upon the diathesis of the head.

II. Pervasive existence of unique phrasal idioms for 3 diatheses provides evidence
- for storage by the predicate, and against storage by the root
- that transitives, unaccusatives and adjectival passives are lexical entries
- that verbal passive is different (not a lexical entry/beyond the domain of idiosyncrasy)

Note: Uniqueness and sharing of idioms is **not a reflection of productivity/regularity at the diathesis level** (we return to this point in sect. 5, with regard to the inadequacy of CxG approaches).

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[5] The expression *touched by an angel* has also been brought to our attention (Megan Stone p.c.). However, Googling the expression, it becomes clear that it is the name of a TV series and the title of a song. Otherwise it does not appear in speech.

[6] Under the subentry storage hypothesis for phrasal idioms, and specifically its head-based storage version we propose, the lexical representation of a verb phrase idiom is assumed to be as in (i), exemplified in (ii):

(i)   Lexical representation: The head selecting the other idiom constituents by a mechanism also involved in l(exical)-selection (Baltin 1987 suggests that verbs selecting a PP complement utilize l-selection to specify the particular lexical choice of preposition they govern; see also O'Grady 1998, Rothstein 1992).

(ii) a.   KICK **V** $\langle$Ag$\rangle$ $\langle$Th$\rangle$ ($\langle$G$\rangle$)   'hit with the foot'
      b.   KICK' **V** $\langle$Ag $\rangle$ $\langle$Th $\rightarrow$ *bucket*: N_{+DEF} $\rangle$ 'die'

3. Clausal Idioms and their storage

<u>Criteria for clausality of idioms</u>: Fixed tense, mood, modal, obligatoriness or impossibility of negation, CP-material, such as a complementizer or a *wh*-phrase.

(26) a.   …can't see the forest for the trees   (modal, negation)
         'doesn't perceive the whole situation clearly due to focusing on the details'

   b.   can't hold a candle to *someone/something*   (modal, negation)
         'be not as good as someone/something else'

   c.   butter wouldn't melt in *someone*'s mouth   (modal, negation)
         'someone is acting innocent'

   d.   The squeaky wheel gets the grease.   (tense)
         'The most noticeable (loudest) ones are the most likely to get attention.'

   e.   not have a leg to stand on   (negation)
         'have no support (for your position)'

   f.   Where does *someone* get off *doing something*?   (interrogative, wh-phrase)
         'Where does someone get the right to/how dare someone do something?'

<u>A question to clarify</u>: Could what we consider clausal idioms here actually be classified more appropriately as proverbs rather than (clausal) idioms? The common informal distinction between proverbs vs. idioms is worth some clarification before we proceed.

   'Proverbs' have no precise linguistic definition. Just like our 'clausal idioms', they too are headed by some functional, rather than lexical, head. The definition we have given to delineate the core set of idioms for our study is aimed at obtaining evidence about lexical storage; therefore, our idioms all have properties that force them to be stored, and specifically stored in the grammar (not in extralinguistic storage in general memory). Consequently, the questions we need to ask regarding any clausal idiom suspected to be a proverb are: (a) Is the meaning of the expression unpredictable based on composition of its parts and does it involve figuration? If so it must be stored; (b) Is there evidence that it is stored in the storage component of the grammar (the lexicon), and not extragrammatically? The clausal idioms used in our study satisfy both of these criteria (on satisfying property (b), see (27)-(30) below); thus they are properly falling within the set of relevant idiom data to be considered. As for whether some of them may be felt to be proverb-like (due to some additional, stylistic, aspectual or other properties) this is not a factor that effects the validity of the conclusions drawn based on them, as long as they meet the criteria for intra-grammatical (lexical) storage, as explained above.[7]

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7   Observe that there is a difference between the various (fixed) clausal expressions in terms of the presence/absence of figuration they manifest. Expressions such as (i) are fixed in form and are felt to be proverbs, but involve no figuration and hence are not classified as idioms according to our criteria; in contrast the expressions in (ii) do manifest figuration and constitute idioms under our definition. At the same time, both (i) and (ii) may be felt to be proverbs; this intuitive notion does not seem to be associated with figuration. A property that does appear to play a role in the perception of a fixed clausal expression as a proverb is that it applies to a generic, rather than episodic, situation. (This property is orthogonal to qualifying as an idiom.)
   (i)   a. Two wrongs don't make a right.

Could it be that unlike phrasal idioms, clausal idioms are stored extragrammatically (similar to memorized language material such as lines of poems etc.) and thus their diathesis distribution is not relevant for the investigation of the lexicon and grammar?

No -- Unlike memorized language material, clausal idioms (used in our study) interact with the grammar, namely, are objects accessible to the syntax, therefore their storage cannot be extragrammatical:

They can appear as embedded clauses within various matrix contexts (27a-b).

They need not be full clauses and can include a non-idiomatic argument (28a-b).

The non-idiomatic element can occur within a sub-constituent (29a-b).

They can include variable pronouns obligatorily bound by a non-idiomatic noun phrase (30a-b), (the variable pronoun indicated by *one* has to be bound by the subject in (30a) and (30b)).

(27) a.   One should take into account the fact that [the squeaky wheel gets the grease].
             'One should take into account the fact that the most noticeable (loudest) ones are the most likely to get attention].'   (tense)

      b.   They had to realize that [the leopard does not change his spots].
             'They had to realize that [one remains as one is even if one pretends otherwise/tries hard].   (negation)

(28) a.   can't see the forest for the trees   (modal, negation)
             'doesn't perceive the whole situation clearly due to focusing on the details'

      b.   wouldn't touch *someone/something* with a ten-foot pole   (modal, negation)
             'wouldn't have anything to do with someone/something'

(29) a.   wouldn't put it [past *someone*]   (modal, negation)
             'consider it possible that someone might do something wrong or unpleasant'

      b.   butter wouldn't melt in [*someone*'s mouth]   (modal, negation)
             'someone is acting innocent'

(30) a.   can't fight *one's* way out of a paper bag   (modal, negation)
             'be extremely inept'

      b.   would give *one*'s right arm (for…)   (modal)
             'would like something very much'

3.1 The rationale for the Independent Storage of clausal idioms

● The head of clausal idioms is a *functional*, not *lexical*, element.

(31) Functional elements in contrast to lexical ones
      a. are closed class items
      b. have no descriptive content (Abney 1987)
      c. bear no thematic relation to their complement

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b. When the going gets tough, the tough get going.
(ii) a. A stitch in time saves nine.
      b. A chain is only as strong as its weakest link.

Functional elements are argued to be stored in a separate "lexicon" (Emonds' 2000 "Syntacticon"), or as "f-morphemes", which are not part of the Encyclopedia (Distributed Morphology).

(32) **Potential storage hypotheses for clausal idioms**

a.   Storage as subentries of their functional head: Storage of clausal idioms, which have descriptive content, as subentries of their functional head (e.g., (26d) as a subentry of present tense morpheme, (26e) as a subentry of Neg, or (26f) as a subentry of the interrogative complementizer) in the "functional Lexicon", where entries don't have descriptive content, **is implausible**. We therefore do not pursue this option.

b.   Storage as subentries of the lexical head of the "extended projection" (using Grimshaw's 1991, 2000 term) constituting the clausal idiom, namely, storage as subentries of the verb on a par with VP idioms.

c.   Independent Storage as an entry on its own (i.e., not a subentry to another lexical entry)[8]

The choice between (32b) and (32c)
Subentry storage (32b) and independent storage (32c) have opposite predictions regarding the distributional properties of clausal idioms: **(32b), but not (32c), predicts the same pattern of sensitivity to diathesis as attested in verb phrase idioms** (section 2).

3.2 Unique clausal idioms in the verbal passive

(32b) predicts the absence of unique clausal idioms in the verbal passive, on a par with VP idioms.
(32c) predicts occurrence of unique clausal idioms in the verbal passive. Under **Independent Storage**, clausal idioms get lexicalized in one piece, following consistent use of the expression in the relevant context. Clausal idioms thus can include outputs of post-lexical operations, and hence, there should be idioms unique to the verbal passive.

Initial evidence for Independent Storage (to be further tested) -- Unlike phrasal idioms, clausal idioms do occur as unique to the verbal passive.

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8   Independent Storage may be needed (at least under the head-based storage hypothesis motivated for phrasal idioms above) for the storage of idiomatic expressions that have no recognizable internal structure at all, i.e., have neither a functional nor a lexical head, such as in (i). (Head-based storage is not available for such idioms.) Accordingly, if (32c) turns out to be correct, a general statement of what idioms are stored by independent storage would be (ii).

(i) a. trip the light fantastic
         'dance (nimbly or lightly)'
     b. happy go lucky
         'carefree, easy-going'

(ii)   **Independent Storage**: An idiom that is not headed by a lexical category gets stored as a single
          unit listed as an independent lexical entry.

Examples are given in (33-34) for English and (35-36) for Hebrew.

Note: it is often difficult to decide whether a certain idiom variant exists or only could exist, and constitutes only an ad hoc 'playful' intended distortion, alluding to an existing idiom. Our data therefore are based on idiom dictionaries and the diathesis/es that they list the idioms in. In addition, however, we have googled idioms to check their existence in root-mate variants. We did not consider isolated occurrences, including playful distortions, which mostly appear in specific styles, such as media language, as evidence of existence.

(33) a. might/may as well be hung/hanged for a sheep as (for) a lamb (modal)
            'may as well commit a larger transgression, as the same punishment will result'
      b. #(They) might/may as well hang *someone* for a sheep as (for) a lamb.[9]

(34) a. Gardens are not made by sitting in the shade. (negation, tense)
            Nothing is achieved without effort.
      b. #One doesn't make gardens by sitting in the shade.

(35) a. nigzezu maxlafot-av (tense)
            sheared.VPASSIVE hair-his
            'lost one's power/influence'
      b. #gazezu et maxlafot-av
            sheared.TRANSITIVE.IMPERSONAL ACCUSATIVE hair-his

(36) a. hutla ha-kubiya (tense)
            cast.VPASSIVE the-die
            'The process is past the point of return.'
      b. #hetilu et ha-kubiya
            cast.TRANSITIVE.IMPERSONAL ACCUSATIVE the-die

Thus, while there are **no unique phrasal idioms in the verbal passive, there appear to exist clausal idioms unique to the verbal passive.** This is predicted by the Independent storage hypothesis (32c) for clausal idioms, while unexpected under the Subentry storage (32b).

Further evidence for the split between phrasal and clausal idioms, and for their distinct, (Subentry vs. Independent) storage method, as suggested by the TSS model, is provided by their exhibiting diathesis sharing versus rigidity.

4. Diathesis Sharing vs. Rigidity and the TSS Model

In both English and Hebrew, phrasal idioms can be common to, i.e., shared between, root-alternants. The verbal passive, as shown in sect. 2, always shares its idiomatic meaning with the corresponding transitive (e.g., (37)). Moreover, the other diatheses (the transitive, unaccusative, and adjectival passive), which appear in unique idioms, can also share their idiomatic meaning with their root-alternants (38-39).[10]

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9   One online dictionary (out of eight) listed the clausal idiom in the unaccusative form, not in the verbal passive: *One may/might as well hang for a sheep as a lamb*.
10 We have conducted two surveys of shared idioms. The results are as follows. The number of English transitive predicates (out of the sample of 60) sharing phrasal idioms with the verbal passive: 35, with unaccusative: 17, and with adjectival passive: 21. The number of Hebrew transitive predicates (out of the

(37) a. spill the beans   (transitive)
         'divulge the secret'
      b. The beans were spilled.   (verbal passive)

(38) a. burst *someone*'s bubble   (transitive)
         'destroy someone's illusion'
      b. someone's bubble burst   (unaccusative)

(39) a. carve s*omething* in stone   (transitive)
         'fix some idea/agreement permanently'
      b. carved in stone   (adjectival passive)

In contrast: the **clausal idioms** in our preliminary investigation, unlike the phrasal ones, **fail to exhibit sharing across diatheses**. Clausal idioms seem to be unique, as illustrated by examples (40)-(45) below.

Transitive vs. verbal passive
(40) a. can't see the forest for the trees   (modal, negation)
         'doesn't perceive the whole situation clearly due to focusing on the details'
      b. #The forest can't be seen for the trees.[11]

Transitive vs. unaccusative (in the adjunct clause)
(41) a. You can't make an omelette without breaking a few eggs.   (modal, negation)
         'It is difficult to achieve something important without causing any unpleasant
          effects.'
      b. #You can't make an omelette without a few eggs breaking.

Adjectival passive vs. transitive
(42) a. The road to hell is paved with good intentions.   (tense)
         'People often mean well but do bad things.'
      b. #Good intentions pave the road to hell.

Unaccusative vs. transitive
(43) a. do(es) not grow on trees   (auxiliary, negation)
         'is not abundant, not to be wasted'
      b. #do(es) not grow *something* on trees

The apparent lack of cross-diathesis flexibility of clausal idioms could not be attributed to the fact that in English the relevant diathesis alternations involve syntactic movements reordering subparts of the idiom (i.e., to some incompatibility of the movement with the idiomatic reading for reasons of information structure, independent of the diathesis change itself). Even

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sample of 60) sharing phrasal idioms with the verbal passive: 10, with unaccusative 16, and with adjectival passive: 5. Note that while idioms in the verbal passive always have a transitive alternant, it is not expected, and indeed is not the case, that any transitive idiom has a corresponding verbal passive idiom.

11 This idiom does have occurrences in the verbal passive (found by Google searches). However, the idiom shows signs of being in the process of developing a phrasal version. This process is indicated by the existence of a large number of occurrences of this idiom in a phrasal version headed by a couple of different lexical verbs, each yielding the same meaning as the original clausal idiom: *ignore the forest for the trees*, *miss the forest for the trees*, *neglect the forest for the trees*. The evolving use of this idiom in a phrasal form may be the reason for the occurrences of a verbal passive version.

when no reordering or addition of words is involved, diathesis flexibility still does not seem possible (example from Hebrew):

(44) a.   kše-xotvim ecim, nitazim švavim.   (tense)
            when-chop.transitive.impersonal trees, sprinkle.unaccusative chips
            'When you act, there are risks.' "Where trees are felled chips will fly."
      b.   #kše-xotvim ecim, metizim švavim.
            when-chop.transitive.impersonal trees, sprinkle.transitive.impersonal chips

The TSS model captures the above contrasts between the two types of idioms:
- Sharing of phrasal idioms between the transitive, unaccusative, or adjectival passive is **the result of the links between root-related entries in the lexicon**. Sharing is **not automatic however, since it requires additional listing under the relevant alternan**t (hence there are also unique phrasal idioms in these diatheses, as discussed in section 2).

- Since **clausal idioms are stored as independent entries** on their own, **not as subentries** (32c), **nothing would induce sharing of idiomatic meaning between the transitive and its unaccusative or adjectival passive alternates**; such sharing should therefore be unattested or rare, as our preliminary results in fact show.[12]

In sum: Preliminary evidence seems to confirm the Independent Storage proposal for clausal idioms. Their cross-diathesis distribution contrasts with the distribution attested for phrasal idioms, and thus also reinforces our subentry (head-based) storage proposal for phrasal idioms.

An overview

Table 3 **Sharing vs. uniqueness of diatheses in phrasal vs. clausal idioms**

	Phrasal	Clausal
Verbal passive	must share with transitive	can be unique
Transitive, Unacc., Adjectival passive	shared or unique	unique

As shown in Table 3, the investigation of the cross-diatheses distribution of idioms has shown that phrasal idioms cannot be unique to the verbal passive diathesis; a verbal passive phrasal idiom necessarily shares the idiomatic meaning with the corresponding transitive.

The **inability of the verbal passive to head unique phrasal idioms** turns out to contrast with **its ability to head unique clausal idioms**. Moreover it also contrasts with the **ability of the transitive, unaccusative and adjectival passive to head unique phrasal idioms**. The latter three diatheses can head unique phrasal idioms, but do not have to; that is,

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[12] A priori, nothing rules out the independent development and storage of a clausal idiom in a root-related diathesis. However, we predict this to be very rare (if at all attested) as nothing induces this.

phrasal idioms in these diatheses can also appear in a related diathesis. This contrasts with the **tendency of clausal idioms to be unique to a single diathesis**.

The account under the TSS model of idiom storage

The distinct distribution of phrasal and clausal idioms across diatheses receives a straightforward account under the Type-Sensitive Storage model, which attributes a distinct storage technique to the two types of idioms: phrasal idioms are argued to be stored by subentry storage, while clausal idioms are independent entries on their own.

The **subentry storage of phrasal idioms** explains why among the four diatheses that have been examined only the verbal passive cannot head unique phrasal idioms, assuming that the verbal passive is a post-lexical output, unlike the transitive, adjectival passive and unaccusative, and thus **does not have its own lexical entry which can have subentries specific to it**. -- If phrasal idioms are stored as subentries of their constituents, it means they must be stored as subentries of the lexical entry of their head.[13] Subentry storage is contingent upon the listing, i.e., the existence, of the (mother) entry in the lexicon. The verbal passive is formed beyond grammar's storage component, the lexicon (Baker, Johnson and Roberts 1989, Collins 2004, Horvath and Siloni 2008, Meltzer 2012, among others). It follows that the verbal passive is not stored, it is not a lexical entry. Hence, the verbal passive cannot have subentries. Thus, phrasal idioms **cannot be unique to the verbal passive because such idioms cannot be stored**. Phrasal idioms in the verbal passive can only be formed by passivization of their transitive counterparts, so they always share their idiomatic meanings with the corresponding transitive, under which the idiom is stored.

The transitive, unaccusative and adjectival passive, in contrast, are **formed in the lexicon** (Horvath and Siloni 2008, 2011, Reinhart 2002), **and are stored there** (Horvath and Siloni 2009); therefore, they can have subentries -- hence unique phrasal idioms are attested in these diatheses.

Note here that unlike the existence of a transitive (active) version for every verbal passive phrasal idiom, **we, correctly, do not predict the automatic existence of a verbal passive version for every transitive idiom**. Since verbal passives are derived in the syntax, the question determining whether or not a transitive idiom will exist in the verbal passive depends on whether the idiom is able to undergo the syntactic operation of passivization resulting in a well-formed output. This in turn involves interpretive factors, such as whether the idiom chunk to become the derived subject of the passivized idiom has the appropriate semantic properties, e.g., referentiality, to be compatible with the information structure consequences of being in subject position. (Hence, the contrast between *The beans were spilled by* vs. **The bucket was kicked by* -- see for instance Nunberg, Sag and Wasow 1994, Ruwet 1991, Punske and Stone 2014 on what factors may determine whether or not a verbal passive version of a transitive idiom is possible).

Turning to clausal idioms:
The fact that there are clausal idioms unique to the verbal passive also follows from their method of storage under the TSS model. **Being stored as independent entries on their own, clausal idioms are not dependent on the existence of other lexical entries**.

Under independent storage, clausal idioms get lexicalized in one piece (following consistent use of the expression in the relevant contexts). Thus clausal idioms do not require that their

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13 The question as to whether they are also stored as subentries of the lexical entries of their other constituents is important but irrelevant for our purposes here. We therefore abstract away from it here.

subconstituents be represented as entries in the lexicon. They get stored as a whole, constituting their own entry, and can therefore include any diathesis (or any other syntactic output). Hence, the existence of clausal idioms unique to the verbal passive is accounted for by the TSS model.

Rigidity, i.e., the lack of sharing, observed above for clausal idioms in the transitive, unaccusative and adjectival passive diatheses also follows under the TSS model.
Clausal idioms are stored as independent entries, not as subentries of other entries that may be linked to root-mates. The model therefore predicts that nothing would induce sharing of idiomatic meaning between the transitive and its unaccusative or adjectival passive alternants. The lack of sharing manifested by our preliminary results is thus accounted for (see note 12).

Finally, note that verbal passives, unlike the transitive, unaccusative, and adjectival passive, are derived in the syntax. So there is no a priori reason not to expect the application of this operation to (some) transitive clausal idioms. If that occurred, at least some transitive clausal idioms would be available in the verbal passive.[14] – If no sharing is attested between transitive and verbal passive in the case of clausal idioms, it could be due to the inaccessibility of clausal idioms to internal syntactic operations, resulting from their being lexical entries inserted into the syntax as single one-piece units.[15]

Important to note: The postulation of **two different storage methods for phrasal versus clausal idioms is not an ad hoc property in the TSS model**; its rationale **stems from what is known independently about the distinction between lexical versus functional elements**.

5. Idioms and the Construction Grammar (CxG) approach

In contrast with Generative Grammar, which assumes a modular, multi-component model (Chomsky 1965 and subsequent work), Usage-based Construction Grammar (CxG) (e.g. Goldberg 2006) and similar approaches make a radically different assumption about the nature and role of the storage component of grammar.

CxG assumes: [16]
Human knowledge of language consists of **a network of stored 'constructions' (where the term 'construction' is understood to cover any stored form-function pairing)**.

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14 Whether or not syntactic passivization would apply to a particular clausal idiom would depend on whether the idiom has the semantic properties compatible with the changes in information structure induced by passivization (as mentioned above concerning phrasal idioms).

15 A Google search reveals that the verbal passive version of the idiom in (i) does have some occurrences, though substantially fewer than the transitive form.
   (i)   could've knocked me over with a feather
         'I was extremely surprised, astonished'
   (ii) (#)I could've been knocked over with a feather.
   The question is whether or not these occurrences indeed are clausal idioms at all. This cannot be unequivocally determined because along with the clausal idiom (i), this idiom turns out to have also a phrasal transitive version: 'knock (someone) over with a feather' (listed in this form, with no fixed tense, no modal (and no fixed subject or object) (see the online Free Dictionary https://goo.gl/cv7RlT).

16 This approach is also referred to as Cognitive Construction Grammar (CCxG); see Boas (2013) for an overview of this versus other varieties of construction grammar models.

There is no faculty of language and no language specific mechanisms, no syntactic derivations, **just a lexicon of constructions, labelled 'Construct-i-con', which includes morphemes, words, idioms, partially lexically filled as well as fully abstract phrasal patterns**. Generalizations across languages are explained by general cognitive constraints together with the functions of the particular constructions. Language-specific generalizations across constructions arise via inheritance networks.

The rationale behind the CxG assumption of a construct-i-con, storing all kinds of syntactic objects, from morphemes to complex (even fully productive) phrasal patterns, is based on the existence of idioms; it goes like this:

(i) Idioms typically involve an internal makeup consisting of phrasal units. Since their meaning is unpredictable and associated with the whole construction, they are most plausibly stored as constructions.

(ii) The distinction between idioms and 'other constructions' (involving argument realization) is hard to detect in many instances, because often the specific meaning of a sentence not involving an idiom (in the traditional sense) seems better specified as a property of the construction, not as properties of the verb and of its complements (e.g., the 'transfer of possession' meaning of 'He sliced Chris a piece of cake' vs. the 'caused motion' interpretation of 'He sliced carrots into the salad', although both sentences feature *sliced*). Hence constructions in general should be stored as such.

Given that **idioms are the archetypal 'construction' in the CxG sense**, it is of obvious interest to examine how this alternative model of knowledge of language, and in particular the storage component it assumes, could capture our empirical findings, namely, the systematic patterns of idiom distribution summarized in Table 3 above (see Horvath and Siloni to appear).

Idioms being the archetypal construction à la CxG, one should assume that they constitute a test case (for alternative conceptions of grammar and the lexicon) most favorable to CxG. **So if we find that the storage they require is inconsistent with CxG's central tenet that grammar is comprised of nothing but networks of stored 'constructions', this must be all the more so for more productive, prima facie compositional kinds of 'constructions'.**

CxG, having no derivations, no incremental building of structure, and no constraints on what syntactic objects are/are not listed in the storage component of the language faculty, the 'construct-i-con', must have some alternative way to capture generalizations such as the distributional regularities we found regarding idioms. CxG proposes that the objects stored in the construct-i-con form **inheritance networks**, as the way of capturing systematic relations holding among stored constructions. Thus the CxG model would have to capture our generalizations about idiom distribution by providing an **inheritance-based account – relating the systematic facts of cross-diathesis distribution exhibited by idioms to the nature (productivity/regularity) of the same diathesis alternations at the verb level** (along the guidelines proposed by CxG for other language internal regularities among constructions).

Consider potential inheritance-based accounts for the following empirical generalizations we reached in our study:

  Generalization (i): no phrasal idioms unique to the **verbal passive** versus unique phrasal idioms prevalent in the **transitive, unaccusative and adjectival passive** diatheses (see sect. 2).

Could this generalization be accounted for by inheritance networks, a device needed and utilized in CxG approaches to capture systematic relations among stored constructions?

An inheritance-based account would have the verbal passive inherit the inability to give rise to idioms that it does not share with its transitive alternant from the inability of passive verbs to lack a transitive alternant.

But: A first indication that an inheritance-based account is not on the right track comes from inspection of the transitive-unaccusative alternation. This alternation manifests **regularity at the verb level, but pervasive uniqueness at the idiom level**. Intransitive unaccusative verbs have a transitive alternant (with a Cause external role) and vice versa (45), except for isolated instances (Härtl 2003, Reinhart 2002, among others).[17]

(45) a.   Dan / The storm / The stone broke the window.
       b.   The window broke.

So apart from sporadic, isolated gaps in the transitive-unaccusative verbal alternation, the paradigm is rather regular. Nonetheless, there is pervasive uniqueness, namely, unpredictable gaps are common, at the idiom level – behavior that is incompatible with the idea that there is inheritance of properties from the verb level to the idiom level.

This suggests that **the distribution of phrasal idioms across diatheses is not determined by or inherited from the degree of productivity of their respective predicates;** so the inheritance-based proposal is **unable to account for the observation that the verbal passive cannot head unique phrasal idioms, but the transitive, unaccusative and adjectival passive can.**

Additional evidence against an inheritance-based account: **The systematic split between the distribution of clausal versus phrasal idioms**

Generalizations (ii): Clausal idioms in contrast to phrasal idioms can be unique to the verbal passive (see sect. 3).

Generalization (iii):   While phrasal idioms are commonly shared across the transitive-unaccusative and the transitive-adjectival passive diatheses, clausal idioms appear to be regularly unique in the transitive, unaccusative and adjectival passive diatheses (see sect. 4).

This systematic discrepancy between phrasal and clausal idioms provides additional evidence against an inheritance-based account à la CxG for the observed patterns of idiom distribution across diatheses.

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17 For example, the transitive alternant may be missing idiosyncratically and sporadically in a given language for a few instances, but these instances have a transitive alternant with a Cause role at some other stage in the evolution of the same language (e.g., the recently developing transitive *faint* in Hebrew (i)) or in other languages at present (e.g., existence of the transitive *fall* in Hebrew (ii), but not in English).
 (i) barur še-hu xavat bo dey xazak im hu ilef oto.
      evident that-he hit in.him rather strong if he fainted.TRANSITIVE him
      'It is evident that he hit him rather strongly if he made him faint.'   https://goo.gl/GK7MWR
 (ii) dan hipil šney sfarim.
      Dan fell.TRANSITIVE two books

Specifically, our findings about the existence of clausal idioms unique to the verbal passive (Generalization (ii)) are incompatible with such an account:

If it was indeed merely inheritance by the verbal passive idiom of the non-uniqueness property of the verbal passive diathesis (i.e., of the necessary existence of a transitive alternant for all verbal passives), then there does not seem to be any reason in a CxG framework why **phrasal** idioms would inherit 'non-uniqueness', while **clausal** idioms in the verbal passive would not do so.

Note: the discrepancy between phrasal and clausal idioms with regard to uniqueness in the verbal passive seems to hold across languages, yet it can certainly not be attributed to general cognitive constraints or functional needs of the constructions. If all the theory has at its disposal is inheritance networks, cognitive constraints, and functional needs to explain generalizations exhibited by members in the construct-i-con, the above findings cannot be accounted for.

Similarly, Generalization (iii) would also fail to receive an account under a CxG type approach:

If knowledge of language were nothing more than an inventory of constructions whose properties derive from cognitive constraints, functional needs and inheritance hierarchies, **there would be no way to explain why the clausal idioms we have examined** (full and partial sentential structures) **are unique to their diathesis, while phrasal idioms are commonly shared across diatheses**.

In sum: not only is there no inheritance of distribution from the verb level to the idiom level, as shown regarding phrasal idioms by the transitive-unaccusative alternation, but in addition, an inheritance-based account could not explain the distributional distinction observed between phrasal versus clausal idioms regarding the verbal passive, nor regarding the option of sharing vs. rigidity found for the transitive, unaccusative and adjectival passive diatheses.

CxG imposes no principled limitation on lexically stored syntactic objects and assumes no syntactic (online) derivation, only stored form-function pairings ('constructions'), whose interrelations are expressed via inheritance networks. The inability of CxG to capture the distributional asymmetries of diatheses in idioms established in our study is a direct consequence of these fundamental characteristics of the model.

These findings lead to the conclusion that even the properties of idioms, the archetypal 'construction' for CxG approaches, require more than cognitive principles, functional needs, and inheritance networks of stored entities ('constructions') to be accounted for:

An adequate theory of idioms must have recourse to a distinction between stored items and unstored derivational outputs, and to grammatical distinctions such as those between diatheses, and those between functional versus lexical elements.

In contrast to a construct-i-con type theory, a modular, derivational architecture of grammar, as demonstrated specifically by our Type-Sensitive Storage model, can provide a principled account for the observed systematic patterns of idiom distribution.

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