Chapter 19

The verbal passive: No unique phrasal idioms

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The paper reports and discusses two studies we conducted to systematically assess the distribution of English phrasal idioms across various diatheses (transitive, unaccusatives, adjectival and verbal passives). Both studies, a quantitative survey of idiom dictionaries and an experiment using invented idioms, show that the distribution of phrasal idioms depends on the diathesis of the idiom's head. While transitives, unaccusatives and adjectival passives can head idioms specific to them, verbal passive idioms uniformly have a transitive (active) version. This pattern, we argue, shows that phrasal idioms are stored in the (pre-syntactic) lexicon as subentries of the entry of their head (not as independent entries). Further, it reinforces proposals that the verbal passive is a post-lexical output, which consequently lacks its own lexical entry, contrasting in this respect with the other diatheses we examined. Our findings also provide evidence that the lexicon comprises derived entries, which we take as indication that it is an active component of grammar.

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1 Introduction

It has sporadically been observed in the literature that there is a gap in the distribution of idioms. Specifically, Dubinsky & Simango (1996), Marantz (1997), and Ruwet (1991) report that in Chichewa, English, and French there do not seem to be any idioms specific to the verbal (eventive) passive (e.g., *sold* as in *the first costumer was sold the car*), while there are idioms specific to the adjectival (stative) passive (e.g., *shaven*). In other words, an idiom in the verbal passive must have a transitive (active) version.

A first quantitative survey checking the validity of these observations is reported in Horvath & Siloni (2009) regarding Hebrew. The survey examined four diatheses: the verbal passive, adjectival passive, transitive, and unaccusative. The results of the survey showed that the unaccusative and adjectival passive diatheses can have idioms that do not have a transitive version, and idioms in the transitive diathesis do not necessarily have an unaccusative version, as illustrated in (1–3) below. But the verbal passive always shares its idiomatic meaning with the transitive alternant ("#" means the corresponding sequence of words does not have an idiomatic meaning).[1]

(1) Hebrew
   a. Unaccusative
      yaca   le-*x* me-ha-af
      went.out to-*x* from-the-nose
      'got tired of'
   b. Transitive
      # hoci   le-*x* me-ha-af
        took.out to-*x* from-the-nose

(2) Hebrew
   a. Adjectival passive
      dafuk   ba-roš
      knocked in.the-head
      'stupid'
   b. Transitive
      # dafak   et   *x* ba-roš
        knocked ACC *x* in.the-head

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[1]The citation form in Hebrew is third person singular past; glosses and translations match this; the idioms, of course, are not limited to the past tense. For the sake of clarity, a lexically non-fixed constituent in Hebrew idioms is marked by *x*.

(3) Hebrew

    a. Transitive
       hosif šemen la-medura
       added oil   to.the-fire
       'worsened a difficult situation via a certain act', 'added fuel to the fire'

    b. Unaccusative
       # nosaf   šemen la-medura
         got.added oil   to.the-fire

Further, Siloni et al. (2018) report an experiment on Hebrew speakers that reinforces the claim that the distribution of phrasal idioms depends on the diathesis of their head. Participants in the experiment perceived the likelihood of the verbal passive to share idiomatic meanings with its transitive counterpart as significantly higher than that of both the adjectival passive and the unaccusative.

This paper advances the claim that the reason why the verbal passive differs from the other diatheses regarding the ability to appear in idioms specific to the diathesis is an inherent (independently motivated) difference between the former and the latter that affects the storage possibilities available to each.

As is well known, idioms exhibit an inherent duality. On the one hand, they are associated with an unpredictable, conventionalized meaning, which must be stored (listed) in mental representations. On the other hand, they are units with internal syntactic structure parallel to units built in the syntax. Further, idioms are constructs that interact with grammar – they can be embedded, can allow passivization, etc. This means that they must be stored intra-grammatically, that is, in the lexical component of grammar. We will claim that idioms in the verbal passive cannot be stored the way the adjectival passive, unaccusative (more generally, anticausative) and transitive idioms are stored. This, in turn, will account for their inability to head their "own" idioms.

The paper first addresses the question of the crosslinguistic validity of the quantitative results mentioned above with regard to Hebrew. This is particularly important since the verbal passive in Hebrew is known to occur with relatively low frequency in spoken language in comparison to its English counterpart (Berman 2008). This may be argued to potentially affect the inventory of verbal passive idioms in Hebrew. It is thus essential to examine the situation in another language, where usage of the verbal passive is more frequent. In order to do that, we conducted a quantitative study of the distribution of idioms in English.

Two additional factors make this comparative extension even more worthwhile. First, the passive morphology in Hebrew versus English is of a different

type. While the Hebrew verbal passive is formed by means of a verbal template, in English, the verbal passive is periphrastic, and formed by use of an auxiliary verb. Second, a comparative study by Meltzer-Asscher (2012) argues that the verbal passive in English versus Hebrew also differ with regard to the realization of the demoted external θ-role. While in English various diagnostics detect the syntactic presence of the external θ-role (e.g. Jaeggli 1986; Baker et al. 1989; Collins 2005), in Hebrew, the role is not syntactically present, but is assigned to a variable in the semantic representation (along lines suggested by Chierchia 2004; Reinhart 2003; Horvath & Siloni 2009, among others).

Since the term "idiom" is pre-theoretic and refers to various types of fixed expressions, we adopted Horvath & Siloni's (2017; 2019) definition identifying a core set of idioms, which has allowed us to test a coherent set of expressions. The set consists of conventionalized multilexemic expressions whose meaning is figurative (metaphoric) and unpredictable by semantic composition.[2]

Further, following Horvath & Siloni (2017; 2019), we distinguish between phrasal and clausal idioms: the former are headed by a lexical head, while the latter involve sentential functional material such as tense etc., as defined in (4), and illustrated in (1–3) and (5) respectively. This paper deals with phrasal idioms. For more on the analysis of clausal idioms, see Horvath & Siloni (2019).

(4) Phrasal versus clausal idioms

  a. Phrasal idioms are headed by a lexical head (e.g. 1–3).

  b. Clausal idioms are headed by a sentential functional head (a fixed tense or mood, a modal, obligatory sentential negation or CP-material); they are not necessarily full clauses (e.g. 5, where the modal and negation are fixed)

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[2]For the sake of clarity, it is worth noting that a property often mistakenly conflated with the unpredictability of idioms' meaning is the level of opacity or transparency of their meaning. Idioms indeed differ from one another in the level of their transparency (opacity). For example, the idiom in (ii) may be felt less transparent than the one in (i). However, the degree of transparency can be determined only once we know the meaning of the idioms; neither the former nor the latter meanings can be predicted based on the meaning of their building blocks. Hence, the meanings of (i) is unpredictable (even if a posteriori, more transparent) just like that of (ii). Both types of idioms are included in our study.

  (i)   land on one's feet
        'make a quick recovery'

  (ii) cool one's heels
        'wait'

(5) wouldn't put it past someone

'Consider it possible that someone might do something wrong or unpleasant.'

In §2 we report a survey of four English idiom dictionaries, examining the distribution of phrasal idioms across four diatheses: the verbal passive, adjectival passive, transitive, and anticausative.[3] Such surveys are necessary for the study of idiom distribution; intuitions in themselves are not sufficient, as speakers 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 (just like vocabulary knowledge). The survey was complemented by studying the real-life use of idioms (via Google searches), accompanied by consultation of speakers. The results of the survey have reproduced the pattern discovered in the Hebrew survey, distinguishing the verbal passive from the other diatheses.

In §3 we describe an experiment which tested the likelihood of phrasal idioms in the verbal passive, adjectival passive and anticausative to share their idiomatic meaning with their transitive alternant. Again the experiment has reproduced the same pattern of findings singling out the verbal passive as significantly more likely to share its idiomatic meaning with its transitive alternant. §4 offers our analysis of the findings in terms of lexical storage, and §5 evaluates possible alternative analyses.

2 The distribution of phrasal idioms across diatheses: A survey

2.1 Method

We examined the distribution of phrasal idioms across four diatheses, transitive (with an anticausative alternant), anticausative, verbal passive, and adjectival passive. We searched four English idiom dictionaries, looking for "unique" idioms (as defined in 6).[4]

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[3]We use the term anticausative instead of unaccusative to emphasize that for the purposes of this study it is crucial that these predicates have a transitive alternant in the language, while the question as to whether or not they involve an unaccusative syntax is not directly relevant.

[4]The English dictionaries we used are listed in the references section (see Ammer 2013; White 1998; Heacook 2003; Spears 2006).

(6) Uniqueness

An idiom is UNIQUE to a given diathesis α, if α does not share the idiom with its (existing) root-counterpart in diathesis β, which α would most directly be related to by derivation. Specifically,

a. An idiom in the verbal passive/adjectival passive/anticausative is unique if the corresponding (existing) transitive does not share the idiom.

b. An idiom in the transitive is unique if the corresponding (existing) anticausative does not share the idiom.

Lists of 60 predicates of each diathesis were composed based on the lists of predicates used by Horvath & Siloni (2009). In the Hebrew version of the survey, predicates were sampled quasi-randomly: The sample for each diathesis consisted of the first 60 verbs in a verb dictionary that had the relevant alternant (anticausative for transitive, and transitive for the other diatheses). In the current survey, we used the English translations of these predicates that did not violate the "alternant" criterion. Items that did violate it were replaced with suitable randomly chosen English verbs. For the full lists of predicate samples see Appendix A. For each diathesis, the number of predicates out of the sample of 60 giving rise to unique phrasal idioms was counted. This was done by searches of the idiom dictionaries, followed by Google searches to check occurrences of relevant root-mate idioms, and consultation of native speakers regarding the results.

The categorial nature of the passive form in idioms was determined by inserting it in contexts permitting only adjectives or only verbs, thereby diagnosing categorially ambiguous forms (see Wasow 1977). Specifically, the diagnostics we have used are the following: First, adjectival but not verbal passives can be inserted as complements to predicates such as *seem*, *appear*, *sound, become,* and *remain*, which select an AP complement, but not a VP one. Second, verbal (eventive) passives but not adjectival (stative) passives can occur in the progressive, be modified by adverbials of duration (such as "in a few minutes") and rationale clauses. These diagnostics are illustrated in (7–8) below.

(7) a. The agreement seems written in stone/#is being written in stone.

b. # The agreement was written in stone in a few hours/to make people respect it.

(8) a. The beans were being spilled/#seem spilled.

b. The beans were spilled in a few minutes/in order to attract attention.

2.2 Results

As shown in Table 19.1, transitives, anticausatives and adjectival passives exhibited unique idioms, just like their Hebrew counterparts. Examples of unique anticausative (9), adjectival passive (10), and transitive (11) idioms are given below. Notice that the nonexistent version of the idiom would make a plausible idiom (in terms of its form, meaning and usability), that is, there is no principled reason why it does not exist. The full list of predicates and examples of unique idioms that they occur in are given in Appendix A.

Table 19.1: Distribution of anticausative, adjectival passive and transitive in unique idioms

Diathesis	Anti-causative	Adjectival passive	Transitive
Heads a unique idiom	15/60	10/60	18/60
Does not head a unique idiom	45/60	50/60	42/60

(9)   a.   Anticausative
            burst at the seams
            'filled (almost) beyond capacity'

     b.   Transitive
            # burst something/someone at the seams

(10) a.   Adjectival passive
            fed to the gills
            'disgusted, unable/unwilling to put up with something'

     b.   Transitive
            # feed someone to the gills

(11) a.   Transitive
            break the bank
            'use up all one's money'

     b.   Anticausative
            # the bank broke

However, unlike in Hebrew, the verbal passive in English seems, prima facie, to present unique verbal passive idioms for two out of the 60 predicates, namely

for *caught* and *bitten*. These idioms are given in (12). The combination *the x bug* is instantiated by versions such as *the travel bug* or *the acting bug*.

(12)   a.   caught in the crossfire
            'trapped between/hurt by opposing groups in a disagreement'
       b.   bitten by the *x* bug
            'having the need/desire/obsession for something'

These phrasal idioms can be suspected at first to constitute unique verbal passive idioms: They are listed 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). Moreover, according to native speakers, these forms can be modified by adverbials of duration or appear in the progressive, suggesting that they have eventive, verbal occurrences.[5]

However, on closer examination, both of these turned out not to constitute true counterexamples to the generalization that there are no idioms unique to the verbal passive. Starting with (12a), the idiom *caught in the crossfire*, in fact, is attested – based on Google searches accompanied by native speakers' judgments – also in the transitive (active) form, as in (13), for instance.

(13)   a.   This *caught him in the crossfire* between radical proponents of
            independence and French opponents of anti-colonialism.

                                                              (Scheck 2014: 282)

       b.   … the Israeli–Palestinian conflict, which has often *caught them in the
            crossfire.*   https://goo.gl/f2FbbG

As for the idiom in (12b), again, Google searches turn up a significant number of active transitive examples (e.g. 14–15).

(14)   Before the *acting bug bit me* I had dreamed of being another Glenn
       Cunningham.   (Halbrook 2011: 66)

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

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[5]Below are two online examples of the idioms in (12a,b) in the verbal passive.

   (i)   … parents and staff were concerned that faith schools were being "caught in the
          crossfire" between Ofsted and the Department …   https://goo.gl/jqwnDD

   (ii)   During one of these journeys, I was firmly bitten by the travel bug …
                                                                     https://goo.gl/ZR6BJj

   All online examples in this paper accessed 28 January 2017.

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 fact that the idioms occur as complements of verbs selecting APs but not VPs, such as *seem* and *remain* (Wasow 1977), as illustrated by (16–17).

(16) …"The Capeman", a musical about a gang-related murder in 1959, seems *caught in the crossfire* of the rumble between New York City's tabloids.
https://goo.gl/3XvAMJ

(17) It made an impression on Bowley, and he too seems *bitten by the renovation bug*…
https://goo.gl/H04LWn

We can thus conclude that the idioms in (12) are not exceptions to the generalization that while there are idioms unique to the transitive, anticausative and adjectival passive diatheses, there are no idioms unique to the verbal passive.[6]

It is important to note that the fact that the transitive, anticausative and adjectival passive can head unique idioms does not mean that they only occur in unique idioms. In other words, while the verbal passive must share its idioms with its transitive alternant, the other diatheses need not, but can share their idioms with their transitive alternant. Among the 60 predicates of each diathesis in our sample, 35 verbal passive predicates occur in idioms available also for the active, 17 predicates exhibit sharing of idioms between the transitive and anticausative, and 21 predicates show sharing across the transitive and adjectival passive.

2.3 Statistical analysis

The results including those of the verbal passive are summarized in Table 19.2. To evaluate the significance of the relationship between the classification of a predicate as a verbal passive and its ability to head a unique idiom, we first performed two chi-square tests for independence using Bonferroni correction for multiple comparisons (X2), once on the entire data set (as in Table 19.2 and Figure 19.1) and once on a data set consisting of the transitives, anticausatives and adjectival passives (excluding the verbal passives, as in Table 19.1).

The results indicate that classification as a verbal passive indeed plays a central role in determining whether it can head a unique idiom: while the test performed on the entire data set (i.e. including the verbal passives) found that there

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[6]Additional idioms (headed by predicates not included in our sample) that may be suspected to be unique verbal passive idioms are discussed by Horvath & Siloni (2019), and are shown to also conform to the generalization that the verbal passive cannot head unique idioms.

Table 19.2: Distribution of anticausative, adjectival passive, transitive and verbal passive in unique idioms

Diathesis	Anti-causative	Adjectival passive	Transi-tive	Verbal passive
Heads a unique idiom	15/60	10/60	18/60	0/60
Does not head a unique idiom	45/60	50/60	42/60	60/60

is a significant relationship between diathesis and participation in unique idioms ($\chi^2 = 19.7$, $p < 0.001$, corrected), the one performed on all the diatheses except for the verbal passive failed to find such a relationship ($\chi^2 = 6.7$, $p = 0.07$, corrected).
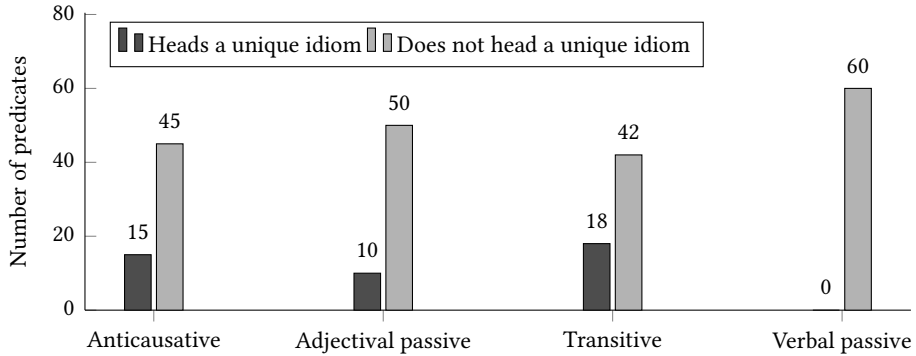

Figure 19.1: Distribution of diatheses in unique idioms

In sum, while the verbal passive cannot head unique phrasal idioms, the adjectival passive, anticausative and transitive can do so. Before turning to the account we advance for these findings, we first discuss an experiment we ran in order to further test this pattern of distribution, and establish the significance of its results.

3 Psycholinguistic evidence

3.1 Prediction

In order to further investigate the phenomenon of lack of phrasal idioms unique to the verbal passive, we ran an experiment aiming to examine speakers' competence in the domain of idiom distribution. We adopted the experimental design

put forth by Siloni et al. (2018), which tested competence based on invented idioms in order to circumvent speakers' probable acquaintance with idioms in their mother tongue. We composed idioms in English inspired by existing Hebrew idioms and taught them to native English speakers. After learning and assimilating the new idioms, participants were tested on their intuitions about the likelihood of idioms in the verbal passive, adjectival passive and anticausative to share their idiomatic meaning with their transitive alternant. Our prediction was as follows. If the findings discussed in the previous section indeed represent a linguistic pattern, then the experiment should show a significant difference between the verbal passive and the other diatheses regarding their likelihood, as perceived by native speakers, to head unique idioms.

3.2 Participants and method

Participants included 36 native English speakers, 28 female and eight male. 33 were monolingual while three were bilingual with a native or native-like knowledge of Bengali, Russian and Spanish (self-proclaimed). Their ages ranged between 18 and 32 (mean age 21.6). All participants had at least 13 years of education. None had linguistic education concerning the subject matter of this study. Participants were recruited in class or via recruitment ads and consisted of American students at MIT, Brown University and Wellesley (MA) College. After participating in the experimental sessions, participants received a $20 participation fee.

3.2.1 Stimuli

We composed 12 English idioms inspired by existing Hebrew idioms: four headed by a verbal passive predicate, four headed by an adjectival passive, and four headed by an anticausative. All predicates had a transitive alternant, and all idioms had a plausible transitive version, as judged by six speakers, and had no similar idiom in English. Adjectival passive predicates were those formed by the suffix *-en*, which disallows a verbal reading (e.g. *shaven*). Verbal passive predicates were formed by dative verbs, which allow formation of passives that are unambiguously verbal.[7] The full list of invented idioms, including their Hebrew source

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[7]Levin & Rappaport (1986) put forward the "sole complement generalization" (SCG), which states that an adjectival passive of a dative verb is possible only if its formation involves externalization of the argument that is able to stand as the sole realized complement of the verb. Externalization refers to the mechanism turning an internal argument of the input verb into the argument that the adjectival passive modifies or is predicated of. Thus, for instance, the Theme of the verb *sell* can be its sole complement (i) and therefore the adjectival passive in (ii)

of inspiration, interpretation, and example of usage, is given in Appendix B (Form 1).

3.2.2 Design

The experiment proceeded in two sessions. In the first, idioms were taught based on a list of idioms including their respective interpretations and examples of usage (henceforth: the teaching session). In the second session the idioms previously taught were reviewed, and participants were asked to complete three questionnaires: first, a multiple-choice comprehension questionnaire, second, a completion questionnaire, third, the target questionnaire, in which participants were asked to rate the likelihood that the transitive version of the idioms exists (henceforth: the practice and testing session). For instance, the (invented) anti-causative idiom *drown in the trash can* (18a) was associated with the interpretation in (18b) and usage example in (19). The comprehension task, the completion task and the experimental task for this idiom are given in (20), (21), and (22), respectively. The comprehension task required choosing the correct response out of three options: a literal interpretation (1) in (20), the idiomatic interpretation we associated with the idiom (2) in (20), and a wrong (but contextually plausible) idiomatic expression (3) in (20).

For all the idioms used in the experiment see Appendix B (Form 1).

(18)   a. drown in the trash can

        b. Interpretation: 'get fooled'

(19)   Usage example
    Alice really enjoys playing practical jokes on her friends and family. They are all pretty gullible, but her favorite victim is her little sister who somehow manages to drown in the trash can each and every time Alice tries to set her up.

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is possible. In contrast, the Goal cannot be the sole complement of *sell* (iii); hence, the adjectival passive in (iv) is ruled out. It then follows that any expression of the form in (v) (where adjectival passive formation would violate the SCG) can only be verbal.

   (i)   They sold the car.

   (ii)   The sold car.

   (iii)   * They sold the guy. (intended meaning: 'They sold the guy something.')

   (iv)   * the sold guy (intended meaning: 'the guy who was sold something')

   (v)   … was sold something

(20)   Comprehension

A: Why are you so angry?

B: It's my annoying sister with her practical jokes. I feel so stupid. This time she told me she got married in Vegas, and I was stupid enough to drown in the trash can and call every member of our family.

In the dialogue above, when B says "drown in the trash can", she means that:

1. She got so excited she walked right into a bin full of garbage

2. She got fooled

3. She got upset

(21)   Completion
Complete the following: She drowned in the ____

(22)   Experimental task
You have learned the idiom 'drown in the trash can'. How likely (from 1–5) does it seem to you that the following idiom exists as well?

'drown someone in the trash can'

3.2.3 Procedure

As mentioned above, the experiment included two sessions. In the teaching session, the instructor first explained to the group of participants that they were about to learn invented idioms on which they would be asked questions in a following meeting. The instructor then distributed the list of idioms, interpretations and usage examples (Form 1, see Appendix B), and taught the idioms by reading each idiom aloud in various tenses (to assure participants do not assume their tense is fixed), along with its meaning and example of usage. Participants were then asked to go over the idioms again before the second meeting. The practice and testing session took place three days later. The instructor made sure each participant had a copy of Form 1 and slowly read its contents aloud. Participants were then asked to return the form and were given the comprehension questionnaire (Form 2, Appendix B), the completion questionnaire (Form 3, Appendix B), and the experimental questionnaire on which participants rated the likelihood of an idiom's transitive version to exist (Form 4, Appendix B), printed side down. Participants were instructed to first fill in Forms 2 and 3, and only then proceed to Form 4 (experimental questionnaire). The instructor made sure this process was indeed executed in the specified order and that participants did not look at a previous form once they continued on to the next one.

Data from one participant who had a total of three errors altogether in the two practice forms were discarded, given that the task required assimilation of the idioms. Data from six additional participants, who had one error altogether were included, assuming that one error does not cast doubt on the speaker's knowledge of the learned idioms.

3.3 Results

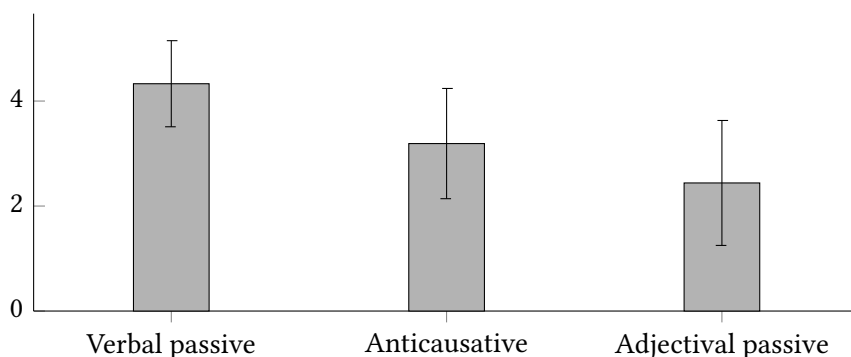Figure 19.2 shows the mean acceptance ratings of the transitive counterpart per diathesis.

Figure 19.2: Mean acceptance ratings of transitive counterpart by diathesis (error bars represent standard deviation)

We used the lmerTest package in R (Kuznetsova et al. 2015) to fit a mixed effects model to our data, with ratings of the transitive version's likelihood as the dependent variable, diathesis of taught idiom as the fixed factor, and participants and items as random effects.

Following Barr et al. (2013), we started out by running a maximal model including subject and item random intercepts and a random slope for the fixed effect. Due to convergence failure, random slope was removed for items (but not for subjects). This model yielded a significant effect of diathesis[8] ($F(2, 14.9) = 13.77$, $p < 0.001$).

As shown in Table 19.3, planned pairwise comparisons with an application of a Bonferroni correction for multiple comparisons (X3) revealed that ratings for transitive counterparts of idioms headed by a verbal passive (M = 4.33, SD =

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[8]Test-statistics were obtained by the application of the functions ANOVA (for F and p values evaluating the role of the fixed factor as a predictor) and *difflsmeans* (for estimates, labeled as β, standard errors and t and p values evaluating the difference between conditions).

0.82) were significantly higher than ratings of transitive counterparts of idioms headed by anticausatives (M = 3.19, SD = 1.05) and that ratings for transitive counterparts of idioms headed by anticausatives were significantly higher than those provided for the transitive counterparts of idioms headed by an adjectival passive (M = 2.44, SD = 1.19).

Table 19.3: Planned pairwise comparisons between diathesis of taught idiom

	B	SE	*t*(df)	*p*-value (corr.)
verbal passive/anticausative	1.0	0.26	$t(16.8) = 3.96$	0.003
verbal passive/adjectival passive	1.7	0.32	$t(27) = 5.22$	< 0.001
anticausative/adjectival passive	0.7	0.24	$t(13.2) = 2.78$	0.045

In sum, the transitive counterparts of verbal passive idioms were rated as significantly more likely to exist than those headed by anticausatives and adjectival passives. In addition, unlike in the Hebrew experiment, the transitive alternants of anticausative idioms were rated as significantly more likely to exist than those of idioms headed by adjectival passives.

4 Discussion

4.1 Support for Horvath & Siloni's approach

The survey of English idiom dictionaries has shown that phrasal idioms distribute differently in the verbal passive diathesis versus the transitive, anticausative and adjectival passive diatheses: while they cannot be unique to the verbal passive, they can be unique to the latter diatheses. The experiment we conducted further supports this pattern of distribution: participants perceived the likelihood of the verbal passive to share idiomatic meanings with its transitive counterpart as significantly higher than that of both the adjectival passive and the anticausative. That is, the likelihood of the verbal passive to head unique idioms is significantly lower than that of the two other diatheses. Both the survey and the experiment reveal that the distribution of idioms is sensitive to the diathesis of their respective head. This sensitivity reinforces the claim that idioms are stored as linguistic knowledge (i.e., intra-grammatically), since otherwise there would

be no reason for them to be affected by a grammatical factor such as the diathesis of their head.[9]

Further, the existence of unique idioms in the transitive, anticausative, and adjectival passive shows that idioms are not stored in the lexicon under the root of their head, i.e., as subentries of the bare root. If they were, we would erroneously predict prevalent idiom sharing across diatheses, that is, idiomatic meanings would have to be shared by the various diatheses generated by the same root (under which idioms would be stored), except for gaps due to independent reasons. Likewise, if phrasal idioms were stored under the root of their head, all other things being equal, we would erroneously expect the anticausative, adjectival passive, and verbal passive to be conceived by speakers as equally likely to share idiomatic meanings with their transitive alternants. (Recall that the transitive alternants of the experimental items were judged as potentially possible idioms.)

Following Horvath & Siloni (2009; 2019), we derive the distributional distinction between the verbal passive and the other diatheses, as revealed by both the survey and the experiment, from the distinct storage technique available to them. Consider first the options mentioned in the literature as to how idioms are stored. On the one hand, it has been suggested that idioms are stored as independent ("big") lexical entries (e.g., in psycholinguistic studies by Bobrow & Bell 1973; Swinney & Cutler 1979; Gibbs 1980). On the other hand, the idea that idioms are stored as subentries of other existing entries has also been entertained: it has been suggested that they are stored by multiple storage, that is, as subentries of the lexical entries of each of their constituents (Everaert 2010), or as subentries of the Encyclopedic entries of their constituents (Harley & Noyer 2003). It has also been proposed that they are stored under the lexical entry of the head of the idiom only (Baltin 1989; Horvath & Siloni 2009).[10]

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[9]As observed by Siloni et al. (2018), one could suggest that the learnt idioms in the experiment were not stored in the participants' lexicon, as would be assumed under circumstances of natural learning, but rather placed in some short term storage, given that the exposure and learning take place in an experimental setting. A priori, this could be a possible alternative hypothesis. However, this short term storage would by assumption be outside the grammar's storage component. Thus, adopting this hypothesis would leave us with the question of why the results of the experiment turn out to pattern the way they do and specifically why they manifest sensitivity to diathesis. The short-term storage hypothesis in itself does not offer any account of the pattern of behavior revealed in the experiment. Moreover, the fact that the findings reproduced the pattern revealed by the survey of (existing) idioms would then be a coincidence.

[10]Analyses of idioms claiming that the head of the idiom selects the other subparts of the idiom via a dependency between heads are common in earlier literature, and include a variety of otherwise different approaches, such as Bresnan (1982), Erbach (1992), Koopman & Sportiche

Horvath & Siloni (2009; 2019) observe that the sensitivity of Hebrew phrasal idioms to the diathesis of their head can be accounted for under the assumption that they are stored as subentries of their head.[11] If they were stored as independent entries of their own, there would be no reason why their ability (in case of existing idioms) and likelihood (in case of invented idioms) to exist as unique idioms should depend on the specific diathesis of their head. They could be stored as entries independently of whether their head is a verbal passive or a predicate in some other diathesis. On the other hand, under the assumption that they are stored as subentries, there must exist a lexical entry whose subentries they can be. Thus, if their head turns out not to be a lexical entry, evidently they cannot be stored as its subentries, as further explained directly.

In the linguistic literature, it is a widely held view that the verbal passive is not formed in the lexical component, but is derived by the computational system post-lexically (Baker et al. 1989; Collins 2005; Horvath & Siloni 2008; Meltzer-Asscher 2012, among others). Being a post-lexical output, the verbal passive is, reasonably, not stored in the lexical component. It follows that the verbal passive cannot have subentries. Hence, an idiom in the verbal passive cannot be stored directly under the entry of its head, and thus cannot be unique to the diathesis. A verbal passive idiom must share its idiomatic meaning with its transitive version, which is stored under the transitive entry. Post-lexical passivization of the transitive idiom is what produces the verbal passive version.[12]

Under Horvath & Siloni's (2009; 2019) approach, the transitive, unaccusative (in our present terminology, anticausative), and adjectival passive, unlike the verbal passive, are entries in the lexicon. It then follows that an idiom may be

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(1991), and O'Grady (1998). These studies do not address the manner of storage, and are thus not explicit as to whether they propose that idioms are listed exclusively as subentries of the entry of their head. Yet based on their emphasis on head-on-head dependency and the parallels between their accounts of idioms and other instances of "selection"/"subcategorization" (in the terminology of Chomsky's (1965) Aspects model), it is reasonable to assume that these proposals implicitly adopt a head-based storage for idioms as well.

[11]The question as to whether there are good reasons to believe that they are stored in addition under the heads of the other constituents in the idiom is orthogonal to our discussion and will not be examined here.

[12]We, correctly, do not predict the automatic existence of a verbal passive version for every transitive idiom. Since verbal passives are derived post-lexically, the question of whether or not a transitive idiom will exist in the verbal passive depends on whether the idiom is able to undergo 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 properties, e.g., referentiality, to be compatible with the information structure consequences of being in subject position (for discussion, see Ruwet 1991). See also Nunberg et al. (1994) for discussion of the question of which idioms in the active can be passivized.

stored under each of them, thereby enabling the existence of idioms unique to the diathesis. Whether or not these diatheses are indeed lexical entries is debated. But there are studies advocating this claim on independent grounds. Horvath & Siloni (2011) and Reinhart (2003) argue that transitives are lexical entries, which can be the input for additional diathesis derivations. Further, there are studies claiming that unaccusatives and adjectival passives are derived by a lexical operation (see Chierchia 2004; Horvath & Siloni 2011; Levin & Rappaport Hovav 1995; Koontz-Garboden 2009; Reinhart 2003, for unaccusatives, and Horvath & Siloni 2008; Levin & Rappaport 1986; Meltzer-Asscher 2011, for adjectival passives). Assuming with Horvath & Siloni (2008; 2011) that these lexical outputs are stored in the lexicon (more generally, that the adjectival passive and anticausative are lexical entries), it becomes clear why they can have unique idioms. Being lexical entries, they can have their own subentries including idioms unique to them.

If indeed these diatheses are derived by lexical operations, it means that the lexicon must be an active component of grammar (as argued by Reinhart 2003, Siloni 2003 among others), and not a mere storehouse of atomic items, in contrast with the view of syntacticocentric approaches (Borer 2005; Marantz 1997; Pylkkänen 2008; Ramchand 2008, among many others).

Recall, in addition, that the transitive alternants of anticausative idioms were rated in the English experiment as significantly more likely to exist than the transitive alternants of those headed by adjectival passives. Obviously, the transitive and adjectival passive differ in category (verbal vs. adjectival, respectively), unlike the transitive and anticausative, which are both verbal. One could then suggest that when sharing across diatheses involves a change in lexical category, participants perceived it as less likely to exist. However, the findings regarding Hebrew cast doubt on this suggestion, as such a distinction was not found in the Hebrew experiment, where the adjectival passive and the anticausative showed no significant difference regarding the likelihood to share a transitive alternant. Moreover, such significant effect between the anticausative and adjectival passive was not found in the English survey either. And, in fact, the number of adjectival passives heading shared idioms (21/60) in English is even a bit larger than the number of anticausatives heading shared idioms (17/60). That is, there does not seem to be a systematic distinction between the ability and likelihood of the adjectival passive to share idioms with the transitive and those of the anticausative. We thus leave this issue open for further experimentation.

In sum, assuming that (i) the verbal passive is not stored in the lexicon (since it is formed post-lexically), unlike the other diatheses, and (ii) phrasal idioms are stored as subentries of their head, the distinct distribution of phrasal idioms across diatheses follows. The verbal passive, unlike the other diatheses, cannot

head unique idioms as such idioms would be unable to be stored, given that the verbal passive is not a lexical entry.

This approach indeed accounts for the findings. But other approaches seem a priori plausible too. We examine them in the next section.

5   Alternative approaches

As observed by Siloni et al. (2018), one might try to suggest that the pattern revealed by the survey and experiment could be the reflection of the productivity found at the diathesis level, that is, that the results reflect inheritance from the verb level to the idiom level. More specifically, the same way that there are no verbal passives that lack a corresponding transitive alternant, there are also no verbal passive idioms that lack a transitive counterpart. And the same way that there are sporadic gaps in the unaccusative (anticausative) alternation – certain unaccusative verbs idiosyncratically lack a transitive counterpart in a given language, and vice versa – anticausative and transitive idioms can similarly lack the relevant alternant. Indeed, in the case of the verbal passive, an approach of inheritance from the verb to the idiom level can be envisioned. However, as far as the anticausative alternation is concerned, this approach is implausible. While uniqueness at the idiom level is a pervasive phenomenon (as shown in Table 19.2 and exemplified in (1–3) and (9–11) above), unaccusative verbs systematically have a transitive counterpart (with a Cause external role) and vice versa, except isolated sporadic gaps (Haspelmath 1993; Reinhart 2003). Idiom distribution across diatheses, therefore, cannot be considered to be a reflection of productivity at the verb level.

A different potential account of the experimental findings could rely on the difference in valence between verbal passives, which have two arguments available (including the implicit external argument), versus anticausative and adjectival passives, which are one-place predicates (but see footnote 13). The contrasting findings of the experiment may then follow, so the "valence" argument would go, from the fact that when participants are asked to estimate the likelihood of the active transitive version based on a verbal passive idiom, they are dealing with predicates of the same valence (both two-place), while in case of having to relate an anticausative or an adjectival passive idiom to a potential transitive version, participants need to convert a one-place predicate into a two-place, transitive version of the same idiom. The addition of an argument necessary in the anticausative and adjectival passive cases but not in the verbal passive may add some extra difficulty to the task, and thus it might be claimed to be the source

of the difference in the results found between these diatheses in the experiment. But such an approach would not explain the total lack of unique verbal passive idioms found in the surveys of existing idioms in both English (§2) and Hebrew (Horvath & Siloni 2009). Suppose it is easier to "transitivize" a verbal passive idiom, this still would not explain why the latter always has a transitive alternant.[13]

Within the framework of Distributed Morphology, which has a single structure-building engine, the syntax, Marantz (1997) suggests that the syntactic head introducing the external argument (Agent) is the boundary delimiting the domain of special (idiomatic) meanings. He thus argues that the fact that the verbal passive involves an external argument (explicit or implicit) is the reason why it cannot be associated with special meanings (that is, head unique idioms). The unaccusative, in contrast, lacks an external argument and can head unique idioms. It is, however, not obvious how this line of reasoning can account for the fact that transitive verbs can head unique idioms, although they involve an external argument (see also footnote 13).

The syntactic boundary delimiting the domain for idiosyncratic meanings could then be argued to be higher than the head responsible for the Agent, say the head responsible for the formation of verbal passives. The verbal passive would not give rise to unique idioms because it would be beyond the syntactic domain of special meanings. Such a proposal would be at odds with Arad's (2005) arguments that the domain of idiosyncrasy is the local domain of the root, and this is the domain delimited by the first category-assigning head above the root; the domain of any higher head is argued by Arad to have no access to meanings associated with the root. But if so, then extending the locality domain, trying to cover the split behavior of idioms in the verbal passive versus the other diatheses we examined, seems ad hoc.[14]

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[13]In addition, although in the past, it has been assumed that adjectival passives do not involve an implicit external argument, it was shown in recent literature that a subset of the set of adjectival passives does involve an external argument (Anagnostopoulou 2003; Gehrke & Marco 2014; McIntyre 2013; Meltzer-Asscher 2011). In the Hebrew experiment, two adjectival passive idioms are reported to be headed by an adjectival passive involving an external role (*aruz* 'packed', *tafur* 'sewed'). These idioms did not score better than the other two adjectival passive idioms (Siloni et al. 2018). In the English experiment the adjectival passive *shaven* implicates an external role. It did turn out to score better. Thus, no conclusion can be drawn at this point.

[14]Under some recent approaches dissociating Voice from v (e.g., Harley 2013), the passive Voice head merely captures the absence of the syntactic external argument (failure to merge a DP as its specifier) and is argued not to involve any of the particular semantics of the various "flavors" of v (assumed by syntacticocentric approaches). Given such a proposal, one might perhaps think of attributing the absence of unique verbal passive idioms to the Voice head's lack of semantic substance. But the postulation of such a Voice head is not worked out in sufficient detail to permit evaluation of its merits, and its potential ability to account for the idiom data.

6 Conclusion

We have reported and discussed two novel empirical studies, one quantitative survey of idiom dictionaries and one experimental study, examining the patterns of distribution exhibited by phrasal idioms across three diathesis alternations in English. The studies aimed to assess, based on evidence from two distinct sources, what the cross-diathesis distribution of idioms can tell us about idiom storage, about the representation and derivation of these diatheses in the grammar, and consequently about the division of labor between the lexicon and the syntax.

Our investigation dealt with the question of whether there is an asymmetry in the pattern of idiom distribution among the various diatheses, as reported in the literature. Specifically, we investigated whether phrasal idioms in the verbal passive always have a transitive version, that is, cannot be unique to the verbal passive, while the anticausative, adjectival passive and transitive diatheses commonly exhibit idioms specific to the diathesis. The results of our English survey confirmed that the latter diatheses exhibit unique idioms, while the verbal passive always shares its idiomatic meaning with its transitive alternant. The survey's findings thus suggest that the distribution of phrasal idioms depends on the particular diathesis of their head. To further confirm these findings, which were based on the set of existing idioms, we conducted also an experimental study, which tested native speakers' perception of the likelihood of invented phrasal idioms in the verbal passive, the adjectival passive and the anticausative diathesis to share their idiomatic meaning with their transitive alternant. The experimental results reproduced the same pattern of asymmetric distribution as found in our idiom survey. Speakers judged the likelihood of the verbal passive to share idiomatic meanings with its transitive counterpart as significantly higher than the likelihood of the other two diatheses.

The converging findings of these two different studies of the pattern of idiom distribution were argued to follow from the particular storage technique available to phrasal idioms. Specifically, it was suggested that phrasal idioms are stored in the lexicon as subentries of the entry of their head (not as independent entries of their own). This proposal straightforwardly accounts for the lack of unique phrasal idioms in the verbal passive: Since the verbal passive, unlike the other diatheses we examined, is a post-lexical output, which does not have its own entry in the lexicon, it obviously cannot have subentries. Hence, an idiom in the verbal passive cannot be stored directly under its head, and thus cannot be unique to the diathesis. The transitive, anticausative and adjectival passive, in contrast, are entries in the lexicon, and can therefore list unique idioms as their subentries. Our findings provide evidence that the lexicon comprises de-

rived diatheses as lexical entries, rather than roots only. We take this as an indication that the lexicon is an active component of grammar where derivational operations can apply.

Acknowledgements

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Appendices

In both the survey and the experiment, we took into account the notion of decomposability first defined by Nunberg et al. (1994). In their study of idioms, Nunberg et al. distinguish between "idiomatically combining expressions", in our terms, decomposable idioms, and "idiomatic expressions", in our terms nondecomposable idioms. An idiom is considered decomposable if its structure is isomorphic with its meaning, in the sense that its constituents correspond to elements of its meaning. If not, it is nondecomposable. Nunberg et al. (1994) claim that decomposability is a prerequisite for "syntactic flexibility", such as the ability of subparts of an idiom to undergo movements. If decomposability affects flexibility (movement), it seems relevant for the shift between diatheses.

However, it must first be noted that the claim that decomposability is a prerequisite for the syntactic flexibility of idioms is in fact a rather controversial

one. Counterexamples seem to be frequently attested; for instance, the following nondecomposable idioms, which nonetheless exhibit diathesis alternation: *break someone's heart* 'sadden, disappoint someone', *open the door to something* 'enable, allow something to happen', which both have an unaccusative counterpart, and *keep tabs* 'observe, follow', which has a verbal and adjectival passive counterpart.

Nonetheless, to be on the safe side, we did try to take this claim into consideration and chose idioms in our survey as well as idioms for the experiment so as to avoid this potentially interfering factor. Our guidelines were as follows. In cases where the lexically fixed subparts would be involved in the relevant diathesis changing operation, we included idioms only if their meaning (interpretation) could be mapped onto their head and its arguments (or modifiers). We did not consider metaphoric paraphrases as interpretations appropriate to determine decomposability. In addition, we did not consider it relevant to have matching between parts of meaning and elements of the internal structure of arguments (or modifiers). For instance, the idiom *burn one's boats/bridges* (item 1, list of unique transitive idioms) as well as *one's red bulb lit up* (item 5, Form 1 of the experiment, Appendix B) are considered decomposable (as schematized here: [$_1$ *burn*] [$_2$ *one's boats/bridges*] '[$_1$ destroy] [$_2$ options of reversing the situation]'; [$_1$ *one's red bulb*] [$_2$ *lit up*] '[$_1$ one's suspicion] [$_2$ arose]'). Nondecomposable idioms were freely used when the potential diathesis shift operation would not involve a lexically fixed constituent of the idiom, as for example in *glued to one's seat*/#*glue one to one's seat* (item 6, list of unique adjectival passive idioms, Appendix A).

Appendix A Survey

Table 19.4: Sampled predicates

Transitive	Unaccusative	Adjectival passive	Verbal passive
bend	bend	beaten	baked
blacken	blacken	bent	bashed
blur	blur	bitten	basted
bounce	bounce	blackened	bathed
break	break	blasted	beaten
brighten	brighten	blended	bent
burn	burn	blessed	bitten
burst	burst	bloated	blackened
chafe	chafe	blocked	blamed
change	change	blurred	blended

Transitive	Unaccusative	Adjectival passive	Verbal passive
chill	chill	bombed	blinded
clear	clear	borrowed	blocked
close	close	bottled	boiled
cool	cool	bound	bought
crack	crack	brightened	branded
crumble	crumble	broken	brightened
curl	curl	built	brought
dampen	dampen	buried	bruised
darken	darken	caged	built
deepen	deepen	carved	burned
defrost	defrost	caught	buttered
dim	dim	charged	caged
drown	drown	charmed	called
dry	dry	chilled	cancelled
empty	empty	cleaned	capped
evaporate	evaporate	cleared	carried
explode	explode	clipped	carved
flatten	flatten	clogged	cashed
float	float	closed	caught
freeze	freeze	cooked	chewed
harden	harden	crushed	chosen
heal	heal	cut	closed
heat	heat	darkened	cooked
improve	improve	destroyed	counted
increase	increase	eaten	cut
loosen	loosen	examined	driven
melt	melt	fed	dropped
move	move	fried	frozen
narrow	narrow	glued	given
open	open	joined	handed
redden	redden	loaded	hit
roll	roll	locked	kept
shatter	shatter	marked	kicked
shrink	shrink	packed	left
shut	shut	painted	lifted
sink	sink	poisoned	painted
soften	soften	restored	played
spill	spill	scared	pulled
spin	spin	shaven	pushed
split	split	shut	robbed
spread	spread	stolen	rubbed
stiffen	stiffen	stripped	sent

Transitive	Unaccusative	Adjectival passive	Verbal passive
stop	stop	stuffed	shaken
suffocate	suffocate	sunken	sold
thaw	thaw	taken	stuffed
thicken	thicken	tied	swept
tighten	tighten	varnished	taken
weaken	weaken	whitened	thrown
worsen	worsen	wrapped	wrapped
wrinkle	wrinkle	written	written

Table 19.5: Unique unaccusative idioms

Verb	Idiom	Interpretation
1. bend	bend in the wind	'be adaptable to difficulties'
2. bounce	bounce off the walls	'be in a nervous and confused condition, be hyper'
3. break	break even	'neither gain nor lose any money', 'recoup the money one invested'
4. burn	burn with a low blue flame	'be quietly and intensely angry', 'be heavily intoxicated with alcohol'
5. burst	burst at the seams	'be extremely full or crowded'
6. chafe	chafe at the bit	'be impatient and/or eager for something to happen'
7. crack	crack under the strain	'have a mental or emotional collapse because of continued work or stress'
8. evaporate	evaporate into thin air	'disappear quickly, without leaving a trace'
9. explode	explode in one's face	'unexpectedly fail, suddenly turn out to have'
10. float	float on air	'be very happy and excited, feel euphoric'
11. move	move up in the world	'advance and become successful'
12. roll	roll in the aisles	'laugh loudly'
13. sink	sink through the floor	'suffer extreme embarrassment'
14. spin	spin in one's grave	'show enormous disfavor for something that has happened after one's death'
15. thicken	the plot thickens	'the situation becomes more complicated/interesting'

Table 19.6: Unique transitive idioms

Verb	Idiom	Interpretation
1. burn	burn one's boats/bridges	'destroy options of reversing a situation'
2. burst	burst a blood-vessel	'use a lot of effort (doing...)'
3. change	change one's stripes	'switch one's opinion/ideology'
4. chill	chill one's action	'discourage/disrupt one's progress
5. clear	clear the air	'eliminate doubts/hard feelings'
6. crack	crack the case	'solve the crime/the problem'
7. drown	drown one's sorrows	'suppress-by-drinking feeling of sadness
8. empty	empty the tank	'contribute/expend the utmost of one's energy'
9. move	move heaven and earth	'make a huge effort'
10. open	open the/one's kimono	'reveal what one is planning'
11. roll	roll the dice	'take a chance (on something)'
12. sink	sink one's teeth into ...	'undertake an endeavor for ...'
13. soften	soften the blow	'ease a difficult experience'
14. spill	spill the beans	'disclose a secret'
15. spin	spin one's wheels	'waste time'
16. split	split one's sides	'laugh very hard'
17. spread	spread one's wings	'start new and different things'
18. tighten	tighten one's belt	'exercise/adopt thrift/frugality'

Table 19.7: Unique adjectival passive idioms

Predicate	Idiom	Interpretation
1. bent	bent on a splice	'be about to get married'
2. built	built like a tank	'have a physique that is strong and physically imposing'
3. caught	caught in the middle	'be between two opposing sides'
4. cut	cut and dried	'easy to see or understand the truth'
	cut from the same cloth	'of the same nature, similar'
5. fed	fed to the gills/fed to the (back) teeth	'disgusted, unable or unwilling to put up with something'
6. glued	glued to one's seat	'to be extremely interested in something or so involved with something that you cannot move'
7. joined	joined at the hip	'very closely connected, always together'
8. loaded	loaded for bear	'eager/ready for a fight, angry'
9. tied	tied to one's mother's apron strings	'dependent on/dominated by one's mother'
10. written	written in stone	'fixed/unchangeable'

Appendix B Forms

B.1 Form 1

Idioms, interpretations and usage examples (the copies distributed to participants did not include indications of diatheses)

Form 1: idioms, interpretations and usage examples (the copies distributed to participants did not include indications of diatheses)

	Idiom	Interpretation	Usage example
1.	**was sold a stew of lentils** (verbal passive) Inspiring Hebrew idiom: ***maxar et* x *be-nezid adašim*** sold ACC *x* in stew lentils 'accepted a bad deal'	was deceived	Danny hates going out in the middle of the week because he has to get up early in the morning. That's the reason he was very reluctant to attend his friends' midweek party. But when they told him Sara, the girl he liked so much, was going to be there, he accepted the invitation. When he got to the party, he waited impatiently for her to arrive, but she never showed up. Only then did he realize that he was sold a stew of lentils. His friends probably didn't even invite Sara. They were only trying to get him to come to the party.
2.	**stained under his/her skin** (adjectival passive) Inspiring Hebrew idiom: ***rakuv mi-befnim*** rotten from inside 'corrupt (human being)'	secretly corrupt	Dina was the only one who wasn't surprised to hear that the chair of the tenants' board embezzled the building's funds. Unlike everyone else, who admired his character, she always considered him to be one of those types who seem stained under their skin.
3.	**warm up in one's light** (unaccusative) Inspiring Hebrew idiom: ***hitxamem le-or-*x** warmed.up to-light-*x* 'learned/benefited from someone's knowledge'	benefit from one's knowledge	The first person Lisa thanked in the acknowledgments part of her dissertation was her thesis advisor Professor Green. After all, Lisa has warmed up in his light ever since she was an undergrad.

	Idiom	Interpretation	Usage example
4.	**sunken in a pit of lard** (adjectival passive) Inspiring Hebrew idiom: **(haya) be-kluv šel zahav** (was) in-cage of gold 'was in a comfortable but limiting/damaging situation'	trapped in a comfortable but damaging situation	John married Maggie at a very young age, and since she was a very rich and successful business woman, he never had to pursue a demanding career. But now, sitting by the pool all day at age 39 with no purpose, it is pretty obvious he is sunken in a pit of lard.
5.	**one's red bulb lit up** (unaccusative) Inspiring Hebrew idiom: **nidleka le-x nura** lit.up to-x bulb red 'one's suspicion arose'	one's suspicion arose	David wasn't very surprised when he got fired; he had already suspected this was about to happen. His red bulb lit up when he asked his boss if he should order a new office chair and couldn't get a straight answer.
6.	**was handed soggy bread** (verbal passive) Inspiring Hebrew idiom: **he'exil et x be-lokšim** fed ACC x in-noodles 'told someone false stories'	was told a fib in order ot keep him quiet	Shelly and Andy have been dating for almost two years and recently moved in together. A week after they moved, Shelly's grandfather decided to come for a visit. Shelly knew that if her conservative grandfather finds out they have no plans of ever getting married, he will not stop complaining about it; she decided to avoid this and came up with a ploy. When grandpa arrived he was handed soggy bread by the two of them: they happily announced they were engaged to be married.
7.	**drown in the trash can** (unaccusative) Inspiring Hebrew idiom: **nafal ba-pax** fell in.the-bin 'got fooled'	get fooled	Alice really enjoys playing practical jokes on her friends and family. They are all pretty gullible, but her favorite victim is her little sister who somehow manages to drown in the trash can each and every time Alice tries to set her up.

	Idiom	Interpretation	Usage example
8.	**break out of his/her harness** (unaccusative) Inspiring Hebrew idiom: ***yaca me-ha-kelim*** got.out from-the-tools/ equipment 'lost one's temper'	get angry	Being a 2nd grade teacher, Rachael knows it's very important that she stays calm even when her students act out. But when one of the kids spilled glue all over her designer shoes, she broke out of her harness and screamed at him.
9.	**stricken with tremors** (adjectival passive) Inspiring Hebrew idiom: ***axuz palacut*** caught horror 'terrorized'	frantic	Lisa's son really likes his babysitter. At first, Lisa thought it's because he likes playing with her, but after the third time she returned home to a boy stricken with tremors and unable to go to sleep, she gathered that the reason for his affection for this girl is that she gives him all the candy he asks for.
10.	**shaven on both sides of his/her face** (adjectival passive) Inspiring Hebrew idiom: ***megulax mi-kol kivun*** shaven from-all-direction 'left with nothing, lost everything'	left with nothing	When Lisa decided to start looking for a better job, she thought that going to job interviews on her lunch breaks was a good idea. But these long lunches she took led to her being fired from her current job. Now she is shaven on both sides of her face with no job at all.
11.	**was slipped the smudge** (verbal passive) Inspiring Hebrew idiom: ***hetil bo dofi*** throw in.him fault 'doubted him, spoke ill of him'	was maligned behind his back	At first, John had no idea who could have spread the nasty rumors about mice in his restaurant. But then he remembered how badly things ended with his head waiter a month ago, and realized that he was slipped the smudge by that angry former employee.
12.	**was given the heavy beam** (verbal passive) Inspiring Hebrew idiom: ***nixnas be-ovi ha-kora*** entered in-thickness the-beam 'delved deeply into …'	was held responsible for the failure	Even though Johnny made pretty good money tutoring last year, he decided to never do it again. He took it pretty hard when one of his lazier students failed his exam and it was Johnny that was given the heavy beam by the kid's parents.

B.2 Form 2

Comprehension questions

Participant no.: ____
Age: ____
Gender: ____
Native English speaker: yes/no
Are there any other languages you speak? If yes, name these languages and estimate your level of knowledge (poor/good/excellent/native-like): ____

Please read the following dialogue between A and B and circle the correct answer.

1. A: So why do you want to break up with Mary?
   B: I think she's cheating on me. My red bulb lit up when she started wearing perfume to work.

   In the dialogue above, when B says "my red bulb lit up", he means that:

   1. his heart broke
   2. he was so depressed that he sat in the dark with a flashlight
   3. his suspicion arose

2. A: What do you think about the new guy?
   B: I'm not sure. He works hard but I get really distracted sitting across from him, he is stricken with tremors all the time!

   In the dialogue above, when B says he "is stricken with tremors", he means that:

   1. he is sick
   2. he is frantic
   3. he is very chatty

3. A: So how is your son doing at school?
   B: Well, every evening after dinner he supposedly goes up to his room to study, but when I looked at his report card yesterday I realized I had been sold a stew of lentils.

   In the dialogue above, when B says she "was sold a stew of lentils", she means that:

   1. she was given the wrong bowl of soup
   2. she was deceived
   3. she received confidential news

4. A: Please don't fire me, I promise I'll never be late again.
    B: You leave me no choice. You always say you arrive on time but on five different occasions customers called to complain that the store was closed for at least 45 minutes after opening time. I've been handed soggy bread again and again and I won't have it!

In the dialogue above, when B says "I've been handed soggy bread", she means that:

    1. she was blamed for something she didn't do
    2. she was told a fib in order to keep her quiet
    3. she was yelled at by angry customers

5. A: How did your family dinner go yesterday?
    B: It went pretty smoothly until my granddad broke out of his harness when my brother used the wrong fork.

In the dialogue above, when B says her granddad "broke out of his harness", she means that:

    1. he fell off his chair
    2. he laughed
    3. he got angry

6. A: So what about these two guys you were dating simultaneously?
    B: Don't ask, they found out about each other and now I am shaven on both sides of my face.

In the dialogue above, when B says "I am shaven on both sides of my face", she means that:

    1. she is embarrassed
    2. she is left with nothing
    3. she is bruised

7. A: A: So what happened between Jennifer and Mary?
    B: B: I don't know the details, but I heard Mary found out she was slipped the smudge by Jennifer and decided never to speak to her again.

In the dialogue above, when B says Mary "was slipped the smudge", he means that:

    1. she was soiled by a splash of mud
    2. she was asked for a loan
    3. she was maligned behind her back

8.   A: Can you help me bake a cake for Mom's birthday?
     B: No. I promised myself never to bake with you again, after that time you forgot to take the muffins out of the oven and I was given the heavy beam. You never do what you're supposed to!

In the dialogue above, when B says he "was given the heavy beam", he means that:

   1. he was injured by bumping into a beam
   2. he was held responsible for the failure
   3. he had to solve the problem

9.   A: So who do you think will get the promotion?
     B: I think Maggie will give it to Steve, her former assistant. He has warmed up in her light for many years, which makes him the person she trusts the most.

In the dialogue above, when B says "he has warmed up in her light", he means:

   1. he has benefited from her knowledge
   2. he has enjoyed her warm office
   3. he has felt comfortable around her

10. A: How do you like your new apartment?
     B: It's great—at a very central location and only a block away from my work. But the downside is that since it's so close to everything, I get no exercise at all. So I guess I'm sunken in a pit of lard.

In the dialogue above, when B says she is "sunken in a pit of lard", she means that:

   1. she is lazy
   2. she is trapped in a comfortable but damaging situation
   3. she is not a vegetarian

11. A: Look at this guy, he has such warm eyes!
     B: Don't even think about it. He sure looks like a decent guy but my friend dated him for a while so I heard a lot about him. He really seems stained under his skin.

In the dialogue above, when B says he really seems "stained under his skin", she means he really seems:

   1. sick
   2. unstable
   3. secretly corrupt

12. A: Why are you so angry?
    B: It's my annoying sister with her practical jokes. This time she told me she got married in Vegas, and I was stupid enough to drown in the trash can and call every member of our family.

In the dialogue above, when B says "drown in the trash can", she means that:

1. she got so excited she walked right into a bin full of garbage
2. she got fooled
3. she got upset

B.3 Form 3

Completion task

1. She was sold a stew of ____
2. He seems stained under his ____
3. He has warmed up in her ____
4. She is sunken in a pit of ____
5. His ____ bulb lit up
6. She was handed ____ bread
7. She drowned in the ____ ____
8. He broke out of his ____
9. He is stricken with ____
10. She is shaven on both ____ of her face
11. She was slipped the ____
12. He was given the ____ beam

B.4 Form 4

Experimental task

Participant no: ____
Please answer the following questions:

1. You have learned the idiom 'break out of his/her harness'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'break someone out of his/her harness'

1	2	3	4	5
Unlikely				Very likely

2. You have learned the idiom 'was slipped the smudge'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'slip someone the smudge'

1	2	3	4	5
Unlikely				Very likely

3. You have learned the idiom 'drown in the trash can'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'drown someone in the trash can'

1	2	3	4	5
Unlikely				Very likely

4. You have learned the idiom 'shaven on both sides of her/his face'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'shave someone on both sides of her/his face'

1	2	3	4	5
Unlikely				Very likely

5. You have learned the idiom 'one's red bulb lit up'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'light up one's red bulb'

1	2	3	4	5
Unlikely				Very likely

6. You have learned the idiom 'sunken in a pit of lard'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'sink someone in a pit of lard'

1	2	3	4	5
Unlikely				Very likely

7. You have learned the idiom 'was given the heavy beam'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'give someone the heavy beam'

1	2	3	4	5
Unlikely				Very likely

8. You have learned the idiom 'warm up in one's light'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'warm someone up in one's light'

1	2	3	4	5
Unlikely				Very likely

9. You have learned the idiom 'was sold a stew of lentils'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'sell someone a stew of lentils'

1	2	3	4	5
Unlikely				Very likely

10. You have learned the idiom 'stained under his/her skin'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'stain someone under his/her skin'

1	2	3	4	5
Unlikely				Very likely

11. You have learned the idiom 'was fed soggy bread'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'feed someone soggy bread'

1	2	3	4	5
Unlikely				Very likely

12. You have learned the idiom 'stricken with tremors'.
How likely (from 1–5) does it seem to you that the following idiom exists as well?

'strike someone with tremors'

1	2	3	4	5
Unlikely				Very likely