BOTH ENDS AGAINST THE MIDDLE:
FEATURES OF VOICE IN ENGLISH, GREEK, AND HEBREW[*]

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1.   Introduction

This paper proposes a feature-geometric treatment of Voice, with specific focus on English, Hebrew, and Greek. We take as a starting point the treatment of Voice in English proposed by Cowper & Hall (2011), and the discussion of Hebrew and Greek in Alexiadou & Doron (2012).

What makes these three languages especially informative is that they exhibit three different mappings between morphology and semantics, shown schematically in (1).

(1) Voice syncretisms:

English: | non-passive | passive
Hebrew: active middle passive
Greek: active | non-active |

We will show that all three systems can be accounted for using (subsets of) a consistent set of features. While voice in Hebrew, spelled out by seven different templates, or *binyanim,* seems superficially to be much more complex than in either English or Greek, we will show that it is best analyzed as resulting from the interaction of grammatical voice features with three lexical classes of verbs. One of these three classes is used with the same voice features that appear in Greek, and the other two occur with voice features much like the ones used in English.

1.1   Theoretical Background and Assumptions

We assume, following Chomsky (2000) but contra Cinque & Rizzi (2008), that languages may differ in in which formal features the grammar uses, and in how these features are bundled to create the syntactic projections making up a given domain. The domain under consideration here is Grohmann's (2003) thematic domain, sometimes called the *v* domain. We further assume that the spell-out of morphosyntactic features operates according to the principles of Distributed Morphology (Halle & Marantz 1993), and that morphosyntactic features are privative.

Cowper & Hall (2011), following Kratzer (1996), show that in present-day English, [Voice] heads a syntactic projection, in whose specifier the external argument is merged. It is further argued there that [Voice] can be further specified with a dependent feature, [Passive], which makes the external argument implicit. When [Passive] is present, no argument is merged in the specifier of Voice, although the implicit argument can be made explicit elsewhere, as in an adjunct *by*-phrase.

While arguably adequate for English, this analysis cannot account for Modern Greek and Modern Hebrew. The specific challenge we will address is the fact, discussed by Alexiadou & Doron (2012), that middles pattern in different ways in the three languages. For descriptive purposes, we use the term *middle*, as do Alexiadou & Doron (2012), as a cover term for the constructions in (2).

(2)   a. Unaccusative / anticausative: *The ice melted.*
        b. Inherently reflexive: *The campers washed in the pond.*
        c. Inherently reciprocal: *We met in the park.*
        d. Dispositional middle: *That carpet cleans easily.*

We begin with an account of Voice in English and Greek, extending it to Hebrew in section 3.

2.   English and Greek

In English, only the passive voice is morphologically marked. Middles of all the types listed in (2) pattern with active transitives and unergatives, forming a category to which we can give the descriptive label of 'non-passive.'

(3)   English non-passives:
        a. Transitive: *John burned the soup.*
        b. Unergative: *John laughed.*
        c. Unaccusative / anticausative: *The soup burned.*
        d. Inherently reflexive: *Maria showered before going to work.*
        e. Inherently reciprocal: *The committee members met in the new conference room.*
        f. Dispositional middle: *This book reads easily.*

(4)   English passive: *The book was sold by the original owner.*

In Greek, the overt morphological contrast is between active and non-active. Active transitives and unergatives bear active morphology, as in (5), while 'non-active' morphology marks not only passives, but also all types of middles, as shown in (6).

(5) Greek actives:

    a. Transitive:

        O Janis ekapse ti supa.
        the Janis burnt.ACT the soup.acc

        'Janis burnt the soup.'

    b. Unergative:

        Ena pedhi fonakse.
        a boy shouted.ACT

        'A boy shouted.'

(6) Greek non-actives:

    a. Unaccusative / anticausative:

        I supa kaike.
        the soup.nom burnt.NACT

        'The soup burnt.'

    b. Inherently reflexive:

        I Maria htenizete.
        the Maria combs.NACT

        'Maria combs herself.'

    c. Dispositional middle:

        Afto to vivlio diavazete efkola.
        this the book reads.NACT easily

        'This book reads easily.'

    d. Passive:

        i. *To vivlio diavastike.*
          the book read.NACT

          'The book was read.'

        ii. *I times miothikan apo to diefthindi.*
          the prices lowered.NACT by the director

          'The prices were lowered by the director.'

The important difference between Greek and English is that in Greek, the middle constructions take the non-active form, while in English, they take the active form. This should follow from the features and projections involved in the various constructions.

2.1 English

In English, passive morphology always entails the presence of an implicit external argument, though not necessarily an implicit agent, as in (7). This implicit argument can be expressed in an adjunct *by*-phrase, as in (7b,c), or it can be left unex-

pressed. However, even when it is not expressed, the implicit external argument can be detected from the fact that it can control the PRO subject of an infinitival purpose clause, as shown in (7c). This contrasts with the unaccusative construction, where no implicit external argument is available. It cannot be expressed in an adjunct *by*-phrase, as in (8a,b), nor can it control the PRO subject of a purpose clause, as in (8c).

(7) a. *The branches were broken by careless hikers.*
     b. *The branches were broken by the weight of the snow.*
     c. *The branches were broken in order to clear the path.*

(8) a. *The branches broke (*by careless hikers).*
     b. *The branches broke ($\left\{ \begin{array}{c} *by \\ under \end{array} \right\}$ the weight of the snow).*
     c. *The branches broke (*in order to clear the path).*

Since English passive morphology always brings with it an implicit external argument, we conclude that it must be associated with the projection that introduces external arguments, namely [VOICE]. As stated above, we assume, following Kratzer (1996), that in English, the feature [VOICE] heads its own syntactic projection relatively high in the *v*P domain, and hosts the external argument.

We propose that Passive morphology in English spells out [IMPLICIT], a dependent of [VOICE]. While [VOICE] by itself provides a theta-marked external argument position in its specifier, [IMPLICIT] makes that external argument implicit, forcing it to be encoded by the Voice head rather than by an argument in the specifier of VoiceP (see Baker et al. 1989). [IMPLICIT], spelled out by the passive participial morphology, is the only voice feature in English that has overt morphological exponence. An active Voice head has no overt exponence, and thus there is no morphological difference between active clauses with [VOICE], and clauses lacking [VOICE] altogether, like unaccusatives.

We assume that dispositional middles have unaccusative syntax. Following Lekakou (2005), we assume that these constructions include a (possibly implicit) modal or adverbial element with an implicit experiencer, which is interpreted as the agent of the eventuality described by the verb.

2.2 Greek

In Greek, non-active morphology is quite different from English passive morphology, in that it does not signal an implicit external argument. It is used for unaccusative verbs, as in (9), which have no external argument at all. Conversely, active morphology is used in Greek only for transitive and unergative clauses; in other words, only when there is a thematically independent external argument in subject position.

(9) *I   supa   kaike.*
     the soup.ɴᴏᴍ burnt.ɴᴀᴄᴛ
     'The soup burnt.'

This means that Non-Active morphology in Greek cannot be associated with the feature [Iᴍᴘʟɪᴄɪᴛ], as in English. Nor is there any morphosyntactic evidence that the feature [Vᴏɪᴄᴇ] plays a role in Greek. Whatever feature distinguishes actives from middles and passives cannot be [Vᴏɪᴄᴇ] itself, which would group actives with passives, nor can it be any feature that either depends on or precludes the presence of [Vᴏɪᴄᴇ].

We therefore assume that the feature [Vᴏɪᴄᴇ] is not syntactically active in Greek, and that there is therefore no VoiceP. External arguments, when they are present, are specifiers of *v*P. In transitive and unergative clauses, *v*P includes a thematically independent specifier position. In inherently reflexive or reciprocal clauses, *v*P has a specifier, but it is not thematically independent. The internal argument moves to the *v*P specifier and receives both internal and external θ-roles. (See Hornstein (2001) for one possible treatment of inherent reflexives along these lines.)
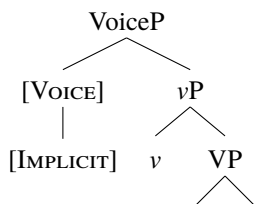
What passives and the various types of middles have in common, then, is the absence of a thematically independent specifier in *v*P. We propose that a Greek *v* without out a thematically independent specifier bears a feature that we will call [NoθSᴘᴇᴄ]. This feature is present in unaccusative clauses, where *v* lacks a specifier altogether, and in inherently reflexive and reciprocal clauses, where a single argument carries both internal and external θ-roles. It is this feature that Greek non-active morphology spells out. Active morphology (the default) will be inserted only when *v* has a thematically independent specifier—i.e., with active transitive and unergative verbs. This story points up a difference between two kinds of markedness. Greek non-active verbs are featurally marked, in that they have an overt morphological exponent associated with a marked feature. However, they are used in a wider variety of constructions than are active verbs, which are distributionally more marked.

2.3   Summary

The different structures we posit for English and Greek are shown in (10) and (11), together with informal statements of the meanings of the features, and rules for their morphological spell-out. We take a fairly abstract approach to vocabulary items here; for example, what we label simply as 'active' in English represents the full range of non-passive verbal inflections. The specific realization of this item in any given context will of course depend on the tense of the clause, as well as on any irregular morphology associated with the verb.

(10)　The structure, meanings, and realizations of voice features in English:

a.　Structure:

```
              VoiceP
             /      \
        [VOICE]      vP
           |        /  \
      [IMPLICIT]   v    VP
                       /\
                      /__\
```
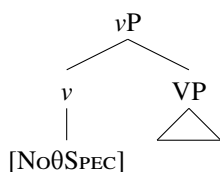
b.　Meanings: [VOICE]　　 – There is a thematic external argument.
　　　　　　　[IMPLICIT] – That external argument is not in the specifier.

c.　Realization: passive participle　　 ⇔ [IMPLICIT]
　　　　　　　　no special morphology ⇔ elsewhere

(11)　The structure, meanings, and realizations of voice features in Greek:

a.　Structure:

```
              vP
            /    \
           v      VP
           |     /\
      [NoθSPEC]  /__\
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b.　Meaning: [NoθSPEC] – There is no thematically independent specifier.

c.　Realizations: non-active morphology ⇔ [NoθSPEC]
　　　　　　　　active morphology　　 ⇔ elsewhere

3.　Hebrew

3.1　The Facts

Hebrew is more complicated, because voice is marked by morphology that also marks something Doron (2003) calls 'agency,' and which also has derivational properties. Traditionally, seven different morphological templates (*binyanim*) are seen as spelling out three voices (active, middle, and passive), incompletely cross-classified with three levels of agency: Simple, Intensive, and Causative (Joüon 1947: 93).

(12)　Hebrew *binyanim*:

	Simple	Intensive	Causative
Active	*pa'al*	*pi'el*	*hif'il*
Middle	*nif'al*	*hitpa'el*	—
Passive	—	*pu'al*	*huf'al*

We take the position (see also Arad 1999; Bat-El 1989) that the levels of agency are essentially derivational rather than productively inflectional. While there are

cases where a single triliteral root appears in all seven *binyanim,* there are, in many cases, unpredictable semantic differences between the forms in the Intensive, the Causative, and the Simple *binyanim,* as illustrated in (13).

(13) Verb forms with the root $\sqrt{\check{s}br}$ (glosses from Bolozky 2008, s.v. שׁבר)

    a. Simple:[1]
        i. Active: *šavar* 'break (tr.); destroy'   *pa'al*
        ii. Middle: *nišbar* 'be broken, be shattered, be crushed;   *nif'al*
                           be overwhelmed'

    b. Intensive:
        i. Active: *šiber*   'shatter, smash'   *pi'el*
        ii. Passive: *šubar*   'be shattered / smashed'   *pu'al*
        iii. Middle: *hištaber* 'be refracted (light);   *hitpa'el*
                           be broken / smashed'

    c. Causative:[2]
        i. Active: *hišbir* 'cause crisis; help in childbirth   *hif'il*
                          (literary)'
        ii. Passive: *hušbar* 'undergo crisis (literary)'   *huf'al*

While Doron (2003) is absolutely correct that there are considerable semantic regularities, having to do with degree of agency, relating the three groups of *binyanim,* the unpredictability of the semantic differences in many cases suggests that the combination of a particular triliteral root and a particular degree of agency must be lexically listed along with its idiosyncratic meaning.

We implement this descriptively with three features: [I] for Intensive, [C] for Causative, and [S] for Simple. A lexical verb will thus be listed as a combination of a triliteral root and one of these three features, along with its idiosyncratic meaning. Roughly speaking, the verbs in (13) would be listed as in (14).

(14) a. $\sqrt{\check{s}br}$, [s]: 'break'
    b. $\sqrt{\check{s}br}$, [I]: 'break apart'
    c. $\sqrt{\check{s}br}$, [C]: 'cause crisis'

Let us now consider the properties of the various *binyanim* that might be attributed to features of Voice. First, intensive active (*pi'el*) forms must have an agent subject, as shown in (15), while causative active (*hif'il*) forms, shown in (16), can have either an agent or a causer as subject:

(15) a. *Ha-soxen biteax*   *et-ha-mexonit.*
        the-agent insure.INTNS.ACT ACC-the-car
        'The agent insured the car.'

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[1] As we shall see later, the characterization of the *pa'al* form as simple active is misleading.

[2] Bolozky (2008: 735) notes that "a homonymous, infrequent root, meaning 'buy/sell grain/food,'" also exists. Schwarzwald (2008: 62) gives this meaning for the *hif'il* and *huf'al* forms.

b. * *Ze še   hu nahag bizehirut biteax   et-ha-mexonit.*
it that he drive carefully insure.INTNS.ACT ACC-the-car
'The fact that he drives carefully insured the car.'

(16) a.   *Xavert-o hevi'a   oto   l-a-mesiba.*
friend-his bring.CAUS.ACT ACC.him to-the-party
'His friend brought him to the party.'

b.   *Saqranut-o hevi'a   oto   l-a-mesiba.*
curiosity-his bring.CAUS.ACT ACC.him to-the-party
'His curiosity brought him to the party.'

Interestingly, however, both the Intensive passive (*pu'al*) and the Causative passive (*huf'al*) forms entail a (possibly implicit) **agent**, which can appear overtly in a *by*-PP. Neither intensive nor causative passives can have a non-agent causer in a *by*-PP.

(17) a.   *Ha-gader porqa   al-yedey ha mafginim.*
the-wall   dismantle.INTNS.PASS by   the demonstrators
'The wall was dismantled by the demonstrators.'

b.   *Hu huva   l-a-mesiba al-yedey xavert-o.*
he bring.CAUS.PASS to-the-party by   friend-his
'He was brought to the party by his friend.'

c. * *Hu huva   l-a-mesiba al-yedey saqranut-o.*
he bring.CAUS.PASS to-the-party by   curiosity-his
'He was brought to the party by his curiosity.'

This suggests that whatever feature distinguishes passive from active clauses also carries a requirement that the implicit external argument be an agent.

The situation with Simple verbs is a little less transparent. There is no specifically passive form for these verbs, and in fact, some Simple middle (*nif'al*) forms have an implicit agent, and even a *by*-phrase, as in (18a), while others are unaccusative, as in (18b).

(18) a.   *Ktovet   muzara nixteva   al-yedey ha-mafginim.*
inscription strange write.SMPL.MID by   the-demonstrators
'A strange inscription was written by the demonstrators.'

b.   *Ha-ši'ur   nigmar.*
the-lesson end.SMPL.MID
'The lesson ended.'

Simple active (*pa'al*) forms are especially baffling: they may take any kind of external argument, or none at all (i.e., they can be unaccusative). The various possibilities are shown in (19). Our account will need to explain why both the Simple middle (*nif'al*) and the Simple active (*pa'al*) can appear in an unaccusative clause, but that for any given verb, only one of the two is possible.

(19)   a.   Transitive with agent subject:

    Ha-more gamar   et-ha-ši'ur.
    the-teacher end.SMPL.ACT ACC-the-lesson

    'The teacher ended the lesson.'

  b.   Transitive with causer subject:

    Ha-masa'it maxaca   et-ha-mexonit.
    the-truck squash.SMPL.ACT ACC-the-car

    'The truck squashed the car.'

  c.   Unergative intransitive:

    Ha-mora rakda.
    the-teacher.F danced.SMPL.ACT.F

    'The teacher danced.'

  d.   Unaccusative intransitive:

    Ha-kos nafla.
    the-glass.F fell.SMPL.ACT.F

    'The glass fell.'

As Schwarzwald (2008: 68–69) observes, a *pu'al* form is always a passive corresponding to an active *pi'el,* and a *huf'al* is always a passive corresponding to an active *hif'il,* but no similarly straightforward relation exists between the *nif'al* and *pa'al.*

3.2 The Features of Voice in Hebrew

3.2.1 Intensive and causative forms

The voice pattern of intensive and causative verbs can be accounted for with two privative features, [VOICE] and [IMPLICITAGENT]. The first of these is essentially the same as its counterpart in English, in that it provides the clause with an external argument. What is specific to Hebrew is the interaction between [VOICE] and the lexical feature [I]. With Intensive verbs, [I] ensures that the external argument is an agent rather than simply a causer, while with Causative verbs, there is no such restriction on the external argument, and it can therefore be either a causer or an agent.
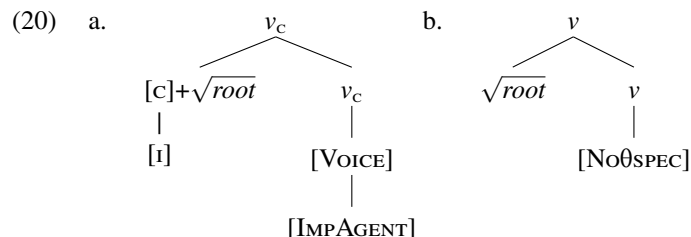
[IMPLICITAGENT] is a dependent of [VOICE], and is similar to [IMPLICIT] in English. Like [IMPLICIT], it forces the external argument provided by [VOICE] to be encoded by the head of the projection bearing [VOICE], rather than by a DP in the specifier. Unlike [IMPLICIT], however, [IMPLICITAGENT] requires that the implicit argument be an agent, not just a causer. This restriction is redundant with [I] verbs, but not with [C] verbs, where it narrows the range of possible external arguments to agents. This restriction accounts for the pattern in (17).

As in Greek, there is no evidence that [VOICE] heads its own projection in Hebrew. We thus propose that these features appear on *v,* a choice that will prove crucial in accounting for the various interpretations of the simple active *(pa'al)* form.

3.2.2 Simple Forms

While the Intensive and Causative forms have an English-like feature system, we will show that the Simple forms are featurally more similar to Greek, making use of the feature [NoθSPEC]. As in Greek, the presence of this feature on *v* requires that the *v*P not have a thematically independent specifier.

Essentially, what we claim is that the Hebrew Voice system is a combination of the Greek system, which distinguishes an unmarked Active from a Non-Active marked with [NoθSPEC], and the English system, which distinguishes a marked Non-passive from a Passive marked with [IMPLICIT]. Intensive and Causative forms follow the English-like system, while Simple forms seem to follow the Greek-like system. To account for this, we propose (provisionally) that there are two types of *v,* one of which (v_c) appears with Intensive and Causative verbs, and the other with Simple verbs, as shown in (20).

(20)   a.

$$v_c$$

[C]+$\sqrt{root}$ v_c

[I]   [VOICE]

[IMPAGENT]

b.

$$v$$

$\sqrt{root}$ v

[NoθSPEC]

[VOICE] and [IMPLICITAGENT] are dependents of v_c, while [NoθSPEC] is a dependent of the unmarked *v.* We further assume that Intensive is marked relative to Causative, as reflected by the fact that [I] is a dependent of [C] in (20a). We assume that [S] is the unmarked counterpart of [C], and have thus not included [S] in the representations in (20).

3.3   The vocabulary items and their interpretation

The features and dependencies just described serve as input to Vocabulary Insertion.[3] Our task at this point is to account for all of the interpretations of the various *binyanim.*

Some of the *binyanim* are restricted to spelling out verbs bearing one of the agency features [I] or [C], while others are not, as shown in (21).

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[3]As before, we abstract away from other aspects of inflectional morphology, in particular tense, mood, and agreement.

(21) *pu'al*   ⇔ [IMPLICITAGENT] / [I]   'Intensive passive'
      pi'el   ⇔ [VOICE] / [I]   'Intensive active'
      hitpa'el ⇔ v_c / [I]   'Intensive middle'
      huf'al   ⇔ [IMPLICITAGENT] / [C]   'Causative passive'
      hif'il   ⇔ [VOICE] / [C]   'Causative active'
      nif'al   ⇔ [NoθSPEC]   'Simple middle'
      pa'al   ⇔ v 'Simple active'

There are five different versions of *v* that can be generated by this system, as shown in (22). We begin with the featurally most marked form.

(22) a. v_c spelled out as *pu'al* with [I] verbs, and as
                 | *huf'al* with [C] verbs.
              [VOICE]
                 |
            [IMPAGENT]

      b. v_c spelled out as *pi'el* with [I] verbs, and as *hif'il*
                 | with [C] verbs.
              [VOICE]

      c. v_c spelled out as *hitpa'el* with [I] verbs, and as
                              pa'al with [C] verbs.

      d. v spelled out as *nif'al*.
                 |
            [NoθSPEC]

      e. v spelled out as *pa'al.*

This analysis accounts for the oddly versatile behaviour of *pa'al*. As the least-marked exponent, it is inserted to spell out both v_c and *v*. When it spells out v_c, it contrasts with [v_c, VOICE], and is thus the less transitive/agentive member of an English-like [VOICE] contrast. Conversely, when it spells out *v,* it contrasts with [*v*, NoθSPEC], and is the more transitive/agentive member of a Greek-like [NoθSPEC] contrast.

3.4   Mapping to Syntactic Structure

The absence of a separate Voice projection seems to be crucial in accounting for the different interpretations the Simple *binyanim* can have. The Simple active (*pa'al*) serves as the default spellout both for [C] verbs that lack an external argument, and for [S] verbs that have a thematically independent specifier. This follows automatically if both [VOICE] and [NoθSPEC] are dependents of some version of *v*, as in (20). A [C] verb without [VOICE] and an [S] verb without [NoθSPEC] will both default to the *pa'al.*

The Simple middle *binyan* (*nif'al*) can be used for passive structures (see above) as well as unaccusative ones. If there were a separate Voice projection, it would be surprising to find a passive–unaccusative syncretism. Passive clauses should have a Voice projection, while unaccusative clauses should not.

In the analysis of Greek, we assumed that there is no VoiceP because there is no evidence that the feature [Voice] is active in the system at all. In Hebrew, the feature [Voice] is active, but here we have evidence that it does not head a projection separate from *v*.

3.5   An Unresolved Problem

Hebrew appears to have two almost entirely separate voice systems, one of which is very similar to that of Greek, and the other of which is more like that of English. The choice between these two systems is determined by the lexical verb. The analysis proposed here deals with these unusual properties by stipulating that there are two varieties of *v*. The two systems overlap in the *pa'al,* which serves as a common default form. While our account captures the range of interpretations of the *pa'al* by treating it as the unmarked counterpart to two different marked alternatives, it would be preferable to unify the two systems and do away with the stipulation.

In a unified system, however, we would expect [Voice] and [NoθSpec] to cross-classify freely, giving rise to some rather subtle distinctions in meaning and to a wider distribution for the *nif'al.* It is not at all obvious how a unified account could be constructed that would explain the absence of the feature combination [Voice, NoθSpec] without resorting to stipulations at least as unattractive as the one made here. The heart of the problem is the interaction between lexical and functional items, and the semantic opacity of the categories 'simple,' 'intensive,' and 'causative' makes it difficult to determine exactly how this interaction works.

4.   Summary and Conclusion

Of the three voice systems we have discussed here, English exhibits one kind of contrast, Greek another, and Hebrew a combination of the two. What all three systems have in common is that in none of them does the middle constitute a morphologically distinct class of constructions. In English, default verbal morphology is syncretic between active and middle ([Voice] or no [Voice]); passive ([Implicit]) is the marked option. In Greek, the middle is syncretic with the passive, both being marked with [NoθSpec] and spelled out with the non-active, while the active is the default.

In Hebrew, the seven *binyanim* (and the incomplete cross-classification of three 'voices' with three degrees of 'agency') can be accounted for with only five combinations of grammatical voice features, which interact with a not yet fully under-

stood lexical contrast on verbs. Under this analysis, the term 'middle' as tradition-ally applied to Hebrew does not refer to a featurally natural class of constructions. The 'intensive middle' (*hitpaʻel*) spells out the unmarked member of a [VOICE] contrast, while the 'simple middle' (*nifʻal*) spells out the marked member of a [NoθSPEC] contrast. This difference explains why the *nifʻal* can have an agent ex-pressed in a *by*-phrase, as in (18a), repeated in (23), while the *hitpaʻel* cannot, as in (24) (cf. (17a)).[4]

(23)   *Ktovet   muzara nixteva   al-yedey ha-mafginim.*
       inscription strange write.SMPL.MID by   the-demonstrators
       'A strange inscription was written by the demonstrators.'

(24)   * *Ha-gader hitparqa   al-yedey ha-mafginim.*
       the-wall   dismantle.INTNS.MID by   the-demonstrators
       'The wall fell apart by the demonstrators'

The presence of [NoθSPEC] indicates merely that *v*P does not have a thematically independent specifier, which does not preclude the possibility of a semantic exter-nal argument outside of spec-*v*P. The contrastive absence of [VOICE], on the other hand, means that there is no external argument at all. Rather than having a single distinct middle, then, Hebrew has two potentially middle forms: the *nifʻal* is like a Greek non-active form, which could be middle or passive, and the *hitpaʻel* is like an English middle.

If this account is on the right track, then languages must be able to differ both in which interpretable formal features are active in the grammar, and in how those features are mapped to syntactic projections. We have identified two privative features—[VOICE] and [NoθSPEC]—which can each form the basis of the voice system for a given language, but which can also coexist in a more complex voice system such as that of Hebrew. It remains to be seen whether these two features are sufficient, along with their possible dependents and the different possible mappings of the features to syntactic projections, to characterize the morphosyntax of Voice crosslinguistically.

References

Alexiadou, Artemis & Edit Doron. 2012. The syntactic construction of two non-active voices: Passive and middle. *Journal of Linguistics* 48(1). 1–34.

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[4] Alexiadou & Doron (2012: 10) give the apparent counterexample in (1):

(1)   *Ha-nisuy   hitbacea'   (al-yedey ha-xoqer).*
      the-experiment perform.INTNS.MID by   the-researcher
      'The experiment was performed (by the researcher).'

Our consultants, however, find this sentence odd, and prefer the *puʻal*. Our impression is that in a sentence such as (1), the *by*-phrase is interpreted as some kind of modifying adjunct, and not as the expression of an external argument.

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