The Voice parameter in argument structure alternations

What explains the morphology of argument structure alternations across languages? Recent work has argued that the verb phrase contains a basic event, which gives rise to an "anticausative" verb if no Voice layer is merged. With Voice an agent can be added, deriving a transitive verb. I argue here that in order to account for crosslinguistic variation we must think of Voice as a parameter with three possible values for a [±D] feature.

Layering and trivalency. The Layering approach to transitivity alternations (Schäfer 2008; Alexiadou et al. 2015) suggests that in English alternations such as *open*∼*open*, the anticausative version does not have a Voice head whereas the causative version does. Languages that overtly mark at last some anticausative variants make use of an additional "expletive" Voice head, which either does not carry the semantic role of Agent as in German (and Romance), where an expletive clitic merges, (1–2) or does not project a specifier, as in Greek, where verbal morphology spells out expletive Voice, (3–4).

(1) *Florian öffnete die Tür.*
Florian opened the door
'Florian opened the door.'
[$_{VoiceP}$ *Florian* [Voice [$_{vP}$ *open the door*]]]

(2) *Die Tür öffnete* ***sich****.*
the door opened REFL
'The door opened.'
[$_{VoiceP}$ *sich* [ExpVoice [$_{vP}$ *open the door*]]]

(3) *o Giorgos ekapse ti supa*
the Giorgos burned the soup
'Giorgos burned the soup.'
[$_{VoiceP}$ *Giorgos* [Voice [$_{vP}$ *burn the soup*]]]

(4) *i supa* ***kaike***
the soup burned.NACT
'The soup burned.'
[$_{VoiceP}$ [ExpVoice [$_{vP}$ *burn the soup*]]]

Yet this view cannot extend to languages with three-way verbal marking indicating anticausative, causative and unmarked variants. I focus here on Hebrew, claiming that Voice has three EPP-like values: [–D], [+D] and unspecified for [D].

Unmarked verbs. Modern Hebrew has dedicated transitivity morphology which takes the form of "templates" (here notated with X,Y,Z for the root consonants). Verbs in the template *XaYaZ* are underspecified with regards to their argument structure. With some roots, the verb might be transitive, (5), with others, unergative, (6), with others, ditransitive, (7), and with others still, unaccusative, (8).

(5) *ha-balʃan* ***katav*** *et ha-maamar*
the-linguist wrote ACC the-article
'The linguist wrote the article.'

(6) *tom* ***rakad*** *ve-rakad ve-rakad*
Tom danced and-danced and-danced
'Tom danced and danced and danced.'

(7) *tom* ***natan*** **(le-marsel) xatif*
Tom gave to-Marcel snack
'Tom gave Marcel a treat.'

(8) ***nafal*** *le-tom ha-bakbuk*
fell to-Tom the-bottle
'Tom's bottle fell.'

Unspecified Voice makes no syntactic demands on Spec,VoiceP, meaning the only requirements come from the root, as can be seen in (5)–(8). Voice thus has two allosemes:

(9) $[\![\text{Voice}]\!] = \begin{cases} \lambda e.e & / \_\_ \ \{ \sqrt{\text{npl}}\ \text{`}\sqrt{\text{FALL}}\text{'}, \sqrt{\text{kpa}}\ \text{`}\sqrt{\text{FREEZE}}\text{'}\ , \ldots\} \\ \lambda x \lambda e.\text{Agent}(x, e) \end{cases}$

Marked alternations. Considering two additional templates, verbs in *niXYaZ* are non-active and those in *heXYiZ* are active. The following examples show a three-way contrast between non-active (10), unmarked transitive (11) and causative (12) verbs sharing the root $\sqrt{\text{ktb}}$.

(10) *ha-xiburim* ***nixtev-u*** *(al-jedej ha-talmidim)*
the-essays got.written-PL by the-students
'The essays got written (by the students)'.

(11) *ha-talmidim* ***katv-u*** *et ha-nosim*
the-students wrote-PL ACC the-topics
'The students wrote the topics down.'

(12) *fabien* ***hextiv-a*** *(la-talmidim) et reʃimat ha-nosim*
Fabienne dictated-F to.the-students ACC list.of the-topics
'Fabienne dictated the list of topics (to the students).'

Standard unaccusativity diagnostics for Hebrew—agent-oriented adverbs, the possessive dative and verb-subject word order—confirm that verbs in *niXYaZ* like those in (12a) are unaccusative while verbs in *heXYiZ* like those in (12c) are agentive. It can be further shown that all three cases are monoeventive, using diagnostics such as conflicting adverbs. I assume, as in the Layering approach, that all cases in (10–12) contain at least a basic vP with v, the root $\sqrt{\text{ktb}}$ and the internal argument (where applicable). The morphophonological and morphosyntactic differences are then the result of adding Voice heads with different featural specifications. Concretely, $\text{Voice}_{\{-\text{D}\}}$ is Voice with a [–D] feature, prohibiting anything with a [D] feature from merging in its specifier. In effect, it bans external arguments. As typically assumed for unaccusative Voice (or little *v*), $\text{Voice}_{\{-\text{D}\}}$ does not assign accusative case either through feature checking (Chomsky 1995) or calculation of dependent case (Marantz 1991). Semantically it provides an identity function, (13). Its marked counterpart, $\text{Voice}_{\{+\text{D}\}}$, is a Voice head with a [+D] feature, requiring something with a [D] feature in its specifier, in effect requiring an external argument, (14).

(13) $[\![\text{Voice}_{\{-\text{D}\}}]\!] = \lambda e.e$ (14) $[\![\text{Voice}_{\{+\text{D}\}}]\!] = \lambda x \lambda e.\text{Agent}(x, e)$

Together, the three variants of Voice allow us to get a handle on the Hebrew system, (15).

(15)

$\text{Voice}_{\{-\text{D}\}}$	**Voice**	**$\text{Voice}_{\{+\text{D}\}}$**
niXYaZ	*XaYaZ*	*heXYiZ*
nixtav 'got written'	*katav* 'wrote'	*dictated* 'was written'

Importantly, these heads are overt (for morphophonological details see Kastner 2018). This decomposition provides a more transparent mapping from syntax to the interfaces than previous approaches, be they decompositional (Doron 2003; Arad 2005; Borer 2013) or lexicalist (Bat-El 1994; Reinhart and Siloni 2005; Ussishkin 2005). On other constructions in these templates see Ahdout and Kastner (2018) and Kastner (2017, To appear).

The Voice parameter. Similar analyses can be provided for Austronesian languages (Nie 2017) and Japanese (Oseki 2017). The emerging picture of cross-linguistic variation indicates three possibilities: (i) All languages have the trivalent system. We would then assume that in English, German and so on $\text{Voice}_{\{+\text{D}\}}$ and Voice are syncretic. (ii) Only Voice heads that are morphologically distinct can be argued to exist in a given language; Alexiadou et al. (2015) propose that learners of English do not hypothesize the existence of expletive Voice (or $\text{Voice}_{\{-\text{D}\}}$) because there is no morphological evidence for it in the language. If this is so, languages like Hebrew are trivalent languages, whereas languages with only marked anticausatives are "Layering" languages. (iii) All languages are at least active/non-active Layering languages, even when there is no morphological evidence (as in English), in which case the choice between semantically expletive Voice (for clitics such as *sich*) and $\text{Voice}_{\{-\text{D}\}}$ (as in Hebrew and probably Greek as well) is further parametrized.

Selected references. Ahdout and Kastner (2018). The interaction of nominalization and Voice. *NELS 49*. **Alexiadou et al (2015)**. *External arguments in transitivity alternations*. OUP. **Nie (2017).** Voice morphology and the features of transitivity. Ms.