

No Results with Middles: on Non-Eventive Readings in Hebrew Nominalizations

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Intro: The seminal work by Grimshaw (1990) identified two types of readings attested with nominalizations in English. *-(a)tion* nominalizations are shown to often exhibit an ambiguity between an event reading – corresponding to that of the base verb, and a non-eventive individual reading denoting an entity/object related to the event, or its result (*result noun* reading, RN), e.g. the nominals *exam(ination)*, *destruction*. Syntactically, only event nominals take arguments. Most studies dealing with the structure of nominals take RNs to be root-derived, reflecting the lack of both event semantics as well as argument structure (Alexiadou 2001, Alexiadou and Grimshaw 2008, Borer 2013). Based on a large database of Hebrew verbs, I show that while a similar ambiguity exists in the language, the availability of non-eventive readings is restricted in ways which cannot be predicted on the basis of existing studies. In Hebrew, a language which marks Voice on both verbs and nominals, RNs are unattested outside the domain of active verbs, and are lacking in Middle nominals. I propose that the scarcity of RNs for verbal from Middle bases is the result of competition with the Active form, where the Active and Middle forms constitute a Voice alternation. The factors conditioning this competition are multi-faceted: first, the Middle form is built on the Active form (Doron 2003), which renders the former more complex, and thus dis-preferred in production. The structural differences are also correlated with morpho-phonological complexity, wherein the Middle is based on the Active, with the addition of the prefix *-hit*.

Data: All non-passive verbs in Hebrew appear in one of 5 morphological classes (hereby *templates*), which have a (morpho-phonologically transparently related) nominal derivative. **Active** templates host (mostly) transitive verbs, while **non-active** templates host intransitives (mostly anticausatives, unaccusatives, reflexives and unergatives). A comprehensive database of verbs and their corresponding nominals was built and used to check the kinds of readings found with Hebrew nominals, using Grimshaw’s (1990) diagnostics. Note that RNs here include also lexicalized readings (e.g. *transmission*, cf. Chomsky 1970, Borer 2014).

Results: While 4 out of the 5 templates have a similar rate of event nominals associated with the verbs they host (between 70%-77% of verbs, ignoring here the divergence of *nif'al*, line B, for which see Ahdout and Kastner 2018), only verbs in the active templates produce nominals with an RN reading (between 23%-56% for active templates, only 5% for non-active, Row D) (cases of addition of readings/Row >100% are due to aforementioned ambiguity):

	TEMPLATE NAME	MORPHOLOGICAL MARKING	VOICE ALTERNATION	EVENT NOUN	RESULT NOUN	N _{VERBS}
A	<i>pa'al</i>	Active	subject to variation	0.75	0.30	583
B	<i>nif'al</i>	non-active/Middle	mostly with <i>pa'al/hif'il</i>	0.23	-	416
C	<i>pi'el</i>	Active	with <i>hitpa'el</i>	0.70	0.37	950
D	<i>hitpa'el</i>	non-active/Middle	with <i>pi'el</i>	0.72	0.03	665
E	<i>hif'il</i>	Active	subject to variation	0.76	0.23	612

	TEMPLATE	MORPH.	VERB	EVENT READING	R.N. READING
A	<i>pa'al</i>	Active	<i>satam</i> ‘shut, plug’	<i>stima</i> ‘shutting up sth.’	‘blockage, also tooth filling’
B	<i>nif'al</i>	non-active/Middle	<i>nexlaš</i> ‘weaken (intrans.)’	<i>hexalšut</i> ‘getting weak’	N/A
C	<i>pi'el</i>	Active	<i>yišev</i> ‘populate’	<i>yišuv</i> ‘populating, settling’	‘settlement’
D	<i>hitpa'el</i>	non-active/Middle	<i>hictamcem</i> ‘decrease, reduce’; <i>hityašev</i> ‘settled down’	<i>hictamcemut</i> ‘getting reduced’; <i>hityašvut</i> ‘settling down’	N/A; ‘settlement’
E	<i>hif'il</i>	Active	<i>hiški'a</i> ‘invest’	<i>haška'a</i> ‘investing’	‘(an) investment’

Discussion: It is evident that the gap in Row D is not due to some morpho-phonological properties of the template itself, since the event noun is available for the majority of verbs in this template (1).

That it is not something to do with some idiosyncrasy related to the verbal root, is evident in the existence of RNs associated with these roots, which however take the form of the alternant active verb, in Row C:

- (1) Root: *xmm*. Active verb: *ximem* ‘warm sth.’; nominal (*pi’el*): *ximum* ‘heating (event or object reading)’.
Middle verb: *hitxamem* ‘get/become warm’; nominal (*hitpa’el*) *hitxamemut* ‘getting hot (*object reading)’.

In cases where a RN is attested in the Middle (3% of all verbs, Row D), it is either the case that [a] no active form verb/alternant exists, [b] the active form derived an RN with a different meaning. I propose that the gap between the active and non-active templates follows from the claim in several studies, that *hitpa’el* is derived from *pi’el*, based on both a morpho-phonological relation (2), as well as verb alternation patterns (distributional relation, see example in second table) (Doron 2003, Kastner 2017, Borer 2013):

- (2) *pi’el* CiCCeC *hitpae’l* **hit**CaCCeC

Accordingly, *hitpa’el* middles are syntactically more complex than *pi’el* actives, as they embed the structure associated with the latter, with the addition of a non-active/middle functional head, which bans the merge of an external argument (Doron 2003, Kastner 2017). The competition between *pi’el* and *hitpa’el* reflects the underlying structural differences between the two templates, which accordingly is in correlation with the complexity of the morphological forms. This also derives the observation that it is the active *pi’el* alternant which usually produces the RN for a given Voice-alternating root.

RNs as Root-nominals? Several examples of Middle-marked RNs reflect the semantics associated with the verbal based in the active vs. the Middle form:

- (3) Root: *agd*. Active nominal: *igud* ‘association’, from *iged* ‘merge’.
Middle nominal: *hit’agdut* ‘temporary association (a stage before becoming an *igud*)’, from *hit’aged* ‘unite, combine, get together’.

Although rare, such examples suggest that for the one and same root, both morphological instantiations are possible as an RN, but the nominal preserves the event semantics of the underlying form to an extent, namely the inchoative/change of state flavour. This suggests that the root-nominal hypothesis is not fine-grained enough to account for contrasts between the nominals, as both are nominals of the same root, with the only factor setting them apart being the morphological template, i.e. the n head.

Conclusions: The behaviour of Hebrew RNs across the template system suggests that Middle-marked forms are disfavoured as the incarnation of the RN, when the root is also instantiated in the active form, which instead holds the non-eventive reading as well as the event reading. When both forms do show RN readings, these must be distinct, occasionally in a manner which reflects more basic event-structure differences between the active and Middle verbs. A more general point to be extracted from the data presented here regards the current view of RNs, which take them to be an n head merged with a root. Under this view, the gaps between the middle and the actives templates are unexpected, as nothing in principle should prevent the same root attachment for roots/verbs hosted in *hitpa’el*. The findings presented here suggest that a reformulation of the root-nominal account is desired (see Alexiadou 2009, Harley 2009, Moulton 2014, Wood 2018).

Selected References: Ahdout, Odelia and Itamar Kastner. 2018. *Non-Active Verbs in Hebrew and the Input to Nominalization*. Paper presented at NELS49, Ithaca, NY. • Alexiadou, Artemis. 2009. On the role of syntactic locality in morphological processes: the case of (Greek) derived nominals. *Quantification, definiteness and nominalization*, 253-280 • Alexiadou, Artemis. 2001. *Functional Structure in Nominals: Nominalization and Ergativity*. Amsterdam: John Benjamins • Borer, Hagit. 2013. Taking form: structuring sense, Vol. III. Oxford: Oxford University Press. • Doron, Edit. 2003. Agency and voice: The semantics of the Semitic templates. *Natural Language Semantics*. 11(1), 1-67 • Grimshaw, Jane. 1990. *Argument structure*. Cambridge, MA: Massachusetts Institute of Technology Press • Harley, Heidi. 2009. The morphology of nominalizations and the syntax of vP. *Quantification, definiteness and nominalization*, 253-280 • Kastner, Itamar. 2018. Templatic morphology as an emergent property: Roots and functional heads in Hebrew. *Natural Language and Linguistic Theory*.