

A non-uniform account of intransitive verbal forms in Hebrew

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- “(same) Morphology and (different) Syntax“.
- **Puzzle:** Why does the same morphology appear in different syntactic constructions?
- **General:** How does lexical material combine with functional material?
- **Semitic:** How can we predict the meaning of a root in a non-concatenative template?

Identical morphology can signal different syntactic structures.
Similar morphemes are merged in different parts of the structure.

1. a. Verbs in Modern Hebrew *niXYaZ* are **never transitive**.
b. Internal arguments are possible (in some verbs): *nifbar* ‘broke (got broken)’.
c. External arguments are possible (in other verbs): *nirjam le-* ‘signed up for’.
2. Claims:
 - a. Empirical: **External arguments** are possible in *niXYaZ* when an **indirect object** is required.
 - b. Analytical: One template, *niXYaZ*, belies two separate constructions (**nonactive** and **active**).
 - c. Theoretical: Roots license a specific **argument-introducing head** in different configurations.

§I	—	Nonactive verbs
§II	—	Active verbs
§III	—	Inter-linguistically and intra-linguistically
§IV	—	Alternative accounts
§V	—	Summary and outlook
Appendix	—	Inchoatives

I Nonactive Verbs

i Anticausatives: Generalizations

3. *nifbar* ‘broke’ (< *favar* ‘broke’), *nikra* ‘tore’ (< *kara* ‘tore’), *nimtax* ‘stretched’ (< *matax* ‘stretched’).
4. Anticausatives are **unaccusative**: pass Hebrew unaccusativity diagnostics (and disallow agent-oriented adverbs or *by*-phrases).
 - a. Unaccusatives allow possessive datives (Borer and Grodzinsky 1986):¹
nifbar *li* *ha-fa'on*
broke.MID to-me the-watch
‘My watch broke.’

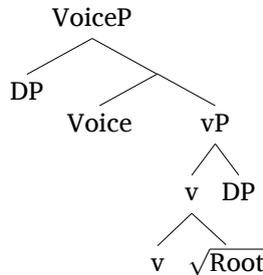
¹But see Gafter (2014) and Linzen (to appear) for critiques of this diagnostic.

- b. Unaccusatives allow verb preposing (Shlonsky 1987):
nifberu falof kosot be-mahalax ha-nesi'a
 broke.MID three glasses in-duration the-ride
 ‘Three glasses broke during the trip.’

ii Anticaustives: Analysis

- 5. Assumptions: Derive the structure in the syntax, interpret at the interfaces from the inside out (Halle and Marantz 1993; Bobaljik 2000; Arad 2005; Embick 2010; Harley 2013; Marantz 2013).
- 6. **Voice** (Kratzer 1996; Pylkkänen 2008)

- a. Syntax: does nothing special (merges above vP).

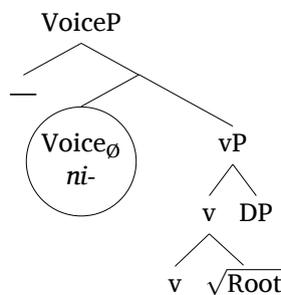


- b. Semantics: $\llbracket \text{Voice} \rrbracket \leftrightarrow \lambda P_{\langle e,t \rangle} \lambda x. \text{Cause}(x,P)$ ²
- c. Phonology: silent.

► On its own, derives verbs in *XaYaZ*.

7. Voice_∅ (Schäfer 2008; Wood 2015)

- a. Syntax: prevents merger of anything into Spec, Voice_∅, in effect ruling out external arguments.³ Proposed for German (Schäfer 2008), Greek (Spathas et al. 2015), Icelandic (Wood 2015), Latin (Kastner and Zu 2015) and Hebrew (Alexiadou and Doron 2012).



- b. Semantics: $\llbracket \text{Voice}_{\emptyset} \rrbracket \leftrightarrow \lambda e.e$
- c. Locality in interpretation: anticausatives.
 $[v \ \sqrt{\text{br}}] = \textit{favar}$ ‘broke’
 $[\text{Voice}_{\emptyset} \ [broke]] = \textit{nifbar}$ ‘got broken’

- d. Phonology: the prefix *ni-* and vocalic readjustment (marked unaccusative: Haspelmath 1993; Levin and Rappaport Hovav 1995).

► On its own, derives unaccusatives in *niXYaZ*. This template is never transitive, as predicted.

► See the Appendix for other unaccusatives in this template.

Unaccusatives in *niXYaZ* through Voice_∅

► Unlike Romance SE (Labelle 2008), Russian *-sja*, German *sich*: active verbs as well.

² Other *allosemes* (Anagnostopoulou and Samioti 2014; Myler 2014; Ramchand 2015; Wood 2014, 2015:Ch. 1.2) of Voice:
 $\llbracket \text{Voice} \rrbracket \leftrightarrow \lambda e.e / __ \{ \text{unaccusatives: } \sqrt{\text{FALL}}, \sqrt{\text{ARRIVE}} \}$
 $\llbracket \text{Voice} \rrbracket \leftrightarrow \lambda e \lambda x. \text{Agent}(x,e) / __ \{ \text{agentive event: } \sqrt{\text{MURDER}}, \sqrt{\text{DEVOUR}} \}$
³If you'd like, Voice_[D].

II Active Verbs

- ▶ The same morphological marking appears on active verbs as well.
- ▶ The *height* of the argument-introducing head matters.

i Figure Reflexives

8. *nixnas le-* ‘entered (into)’, *nidxaf derex/le-* ‘pushed his way through/into’, *nirfam le-* ‘signed up for’, *nilxam be-* ‘fought (with)’, *ne'exaz be-* ‘held on to’.

9. **Observation 1:** figure reflexives are **active** (not unaccusative).

a. Possessive dative not allowed:

#*ha-xatul nixnas l-i la-xeder (kol ha-zman), ma la'asot?*
 the-cat enters.MID to-me to.the-room (all the-time) what to.do
 (int. ‘My cat keeps coming into into my room, what should I do?’)

b. Verb preposing not allowed:

#*nixnesu flofa xajalim la-kita*
 entered.MID three soldiers to.the-classroom
 (int. ‘Three soldiers entered the classroom.’)

10. Also allow agent-oriented adverbs.

11. **Observation 2** (novel): figure reflexives take an **obligatory prepositional phrase**.

12. Analysis: we need an external argument and a prepositional object.

a. External argument \Rightarrow Regular Voice.

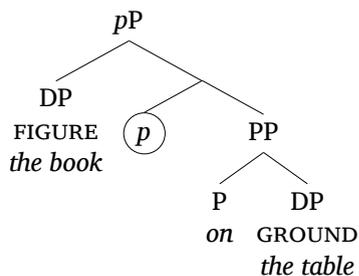
b. Prepositional object \Rightarrow Special argument-introducing head.

13. a. PPs are complements of a higher functional head (van Riemsdijk 1990; Rooryck 1996; Koopman 1997; Gehrke 2008; Den Dikken 2003, 2010).

b. Call this head ***p*** (Svenonius 2003, 2007, 2010; Wood 2014).⁴

c. Wood (2014): the subject of the preposition is the Figure and the object is the Ground.

d.



14. a. Voice and *p* both introduce arguments and are silent.

b. Voice_∅ (7) prohibits merger of a DP in its specifier.

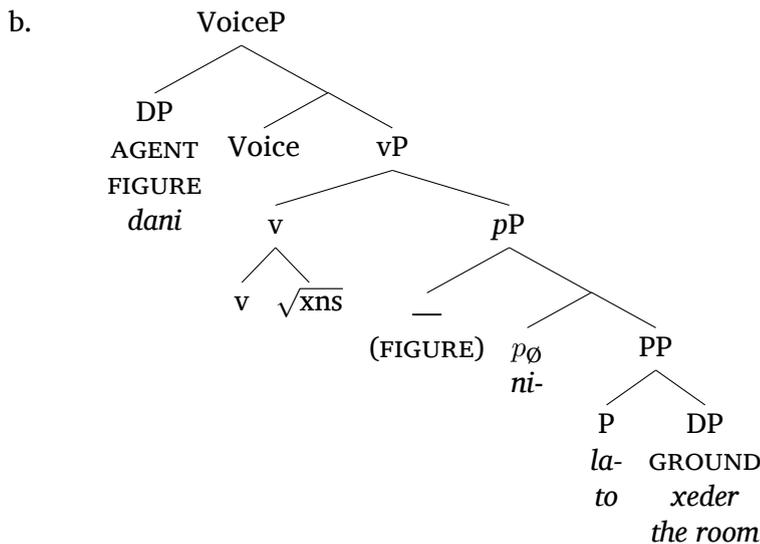
c. \Rightarrow *p*_∅ prohibits merger of a DP in its specifier (Wood 2015).

▶ Voice_∅ and *p*_∅ are spelled out the same: a prefix (*ni-*) and the relevant vowels.

15. No DP can be merged in the specifier of *p*_∅:

a. *dani nixnas la-xeder*
 Danny entered to.the-room
 ‘Danny entered the room.’

⁴Cf. Irwin (2012) and McCloskey (2014) on existentials.



16. a. The thematic role of Figure is not saturated by an argument in Spec,pP. $p\emptyset$ expects a Figure semantically but does not introduce one in the syntax (Wood 2015:158).
 b. The role is passed up.
 c. Eventually saturated by the next DP, which is also the agent.
 (Myler 2014; Wood 2014; Wood and Marantz to appear)
17. a. $[[PP]] = \lambda s.in(s,room)$
 b. $[[p\emptyset]] = \lambda y\lambda s.Figure(y,s)$
 c. $[[pP]] = \lambda y\lambda s.Figure(y,s) \ \& \ in(s,room)$
 Via Event Identification
 d. $[[v]] = \lambda P\lambda e\lambda y\exists s.P(y,s) \ \& \ enter(e) \ \& \ Cause(e,s)$
 e. $[[vP]] = \lambda y\lambda e\exists s.Figure(y,s) \ \& \ in(s,room) \ \& \ enter(e) \ \& \ Cause(e,s)$
 Via Function Composition
 f. $[[Voice]] = \lambda y\lambda e.Agent(y,e)$
 g. $[[Voice']] = \lambda y\lambda e\exists s.Agent(y,e) \ \& \ Figure(y,s) \ \& \ in(s,room) \ \& \ enter(e) \ \& \ Cause(e,s)$
 h. $[[VoiceP]] = [[Voice']](Danny) =$
 $\lambda e\exists s.Agent(Danny,e) \ \& \ Figure(Danny,s) \ \& \ in(s,room) \ \& \ enter(e) \ \& \ Cause(e,s)$
 “The set of entering events, for which Danny is the Agent, and which cause Danny to be in the room”
18. Hence a **figure reflexive**. Two main consequences:
 a. An external argument may be merged in Spec,VoiceP.
 b. The obligatory prepositional phrase does not have a subject of its own.

Introduce a figure semantically but not syntactically.
 Figure reflexives are agentive but intransitive.

III From Technical to Conceptual

19. Wood and Marantz (to appear) reconceptualize the extended projection of the verb: Voice, p and Appl are all variants of the same argument-introducing head (i^*), differing in category of complement.
20. a. The similarity of $Voice_{\emptyset}$ and p_{\emptyset} supports the proposal,
 b. and explains why they have the same spell-out.
- Though only one of them introduces a semantic role.

21. a. At least two *niXYaZ* verbs take a non-finite clause as their complement:⁵
dani {*niz'ak/nexpaz*} *la-'azor le-yosi*
 Danny rushed.MID to-help.INF to-Yossi
 'Danny rushed to help Yossi.'
- b. Another complement of the same functional head.

New possibilities for analysis of argument structure.

IV Alternative Accounts

22. **Stems** (Aronoff 1994): morphemes provide no account of argument structure alternations.
23. **Templates in the lexicon** (Reinhart and Siloni 2005): anticausativization. All intransitives are derived from transitives in the lexicon.
- a. Do not discuss figure reflexives.
- b. Faulty architectural premise: inchoatives are not derived from causatives (see the Appendix).
24. **Templates as morphemes** (Borer 2013): C-functors.
- a. Does not discuss figure reflexives.
- b. If every template is a morpheme (or C-functor), what is the *niXYaZ* template?
25. **Functional heads** (Doron 2003, 2014; Alexiadou and Doron 2012): morphosemantic heads.
- a. No clear mapping between her functional heads and the morphophonology.
- b. Composition in the syntax is unclear. *hifgij* 'caused to meet':
 [External Argument [CAUSE [Internal Argument [MIDDLE [$\sqrt{\text{pg}}$]]]]] (Doron 2003:61)

Templates as emergent from functional heads.

V Conclusion

Summary

26. a. (same) Morphology and (different) Syntax: *niXYaZ* instantiates **active** and **nonactive** verbs with **identical morphology**.
- b. Analyzed using independently proposed argument-introducing (or non-introducing) heads at different heights of attachment.
27. a. The root and the template both contribute to the meaning.
- b. What's in the template: heads organized in hierarchical structure.
- c. Correct predictions of the system: argument structure alternations (detransitivization), morphophonological regularity.
28. A formalization of how to **divide the labor** between **lexical** material and **functional** material, resulting in consistent semantics, phonology and syntax throughout the system.

⁵Thanks to Edit Doron for drawing my attention to these examples.

Additional questions

29. What kind of mistakes do children make when acquiring these alternations?
30. a. Does every language always have Voice, v and p ?
 b. Does every language have the kinds of features that Hebrew has on these heads (Voice $_{\emptyset}$, p_{\emptyset})?
31. How deterministic is each construction/verb/root?
- a. Why do some roots instantiate only anticausatives (*nifbar* ‘broke’) and others only figure reflexives (*nilxam be-* ‘fought’)? Lexical semantics? How should it be encoded?
- b. Needed: a theory of how lexical semantics (roots) interacts with functional material (syntactic heads).

Appendix: Inchoatives

Alongside anticausatives: inchoatives, unaccusatives that are not derived from an active counterpart.

32. **Inchoatives in niXYaZ**
nirdam ‘fell asleep’ (↯ **radam*), *ne’elam* ‘disappeared’ (↯ **’alam*), *nirga* ‘calmed down’ (↯ **raga*).
33. Unaccusative as well:
- a. Possessive datives:
nirdam l-i ha-kelev al ha-regel, ma la’asot?
 fell.asleep.MID to-me the-dog on the-leg what to.do
 ‘My dog fell asleep on my lap, what should I do?’
- b. Verb preposing:
hitalfu flofa xajalim ba-hafgana
 fainted.INTNS.MID three soldiers in.the-protest
 ‘Three soldiers fainted broke during the protest.’ (Reinhart and Siloni 2005:397)
34. a. **The Marantz/Arad Hypothesis** (Arad 2003; Anagnostopoulou and Samioti 2014):
 First categorizing head determines the meaning of the root.
- b. **Locality in contextual allomorphy** (Embick 2010):
 X may condition allomorphy of Y if no overt Z intervenes, [X Z Y].⁶
- c. **Synthesis** of the two (Marantz 2013; Kastner in prep):
 Overt/contentful elements condition allomorphy/allosemy and block further elements from conditioning allomorphy/allosemy themselves.
35. a. The theory predicts a situation in which v has no semantic contribution on combining with certain roots.
- b. [$v \sqrt{\text{Root}}$] does not result in a licit verb.
- c. A higher Voice head might select the alloeme (meaning) of the root.
36. a. Syntax of the template is completely predictable (unaccusative).
 b. Phonology is completely predictable (the template).
 c. Semantics is not derivable from another verb/word.
37. Locality in interpretation: anticausatives.
- a. [$v \sqrt{\text{sgr}}$] = *sagar* ‘closed’
- b. [Voice $_{\emptyset}$ [close]] = *nisgar* ‘got closed’
38. Locality in interpretation: inchoatives.
- a. [$v \sqrt{\text{rdm}}$] (does not exist)
- b. [Voice $_{\emptyset}$ [(v) $\sqrt{\text{rdm}}$]] = *nirdam* ‘fell asleep’

⁶But stay tuned especially for Ostrove and Yuan et al.

Crosslinguistic inchoatives

39. a. Crosslinguistic parallel: in some languages, verbalizing suffixes do not contribute eventive semantics in certain environments.
 b. They are phonologically overt but semantically null.
40. a. [Anagnostopoulou and Samioti \(2013, 2014\)](#) on Greek: certain adjectives can only be derived if a verbalizing suffix is added to the root first.
 b. *if-an-tos* weave-VBLZ-ADJ ‘woven’
 c. *fit-ef-tos* plant-VBLZ-ADJ ‘planted’ ([Anagnostopoulou and Samioti 2014:97](#))
41. No eventive semantics: no weaving is entailed for (40b) nor planting for (40c).
42. In fact, the part of the structure consisting of the root and verbalizer might not even result in an acceptable verb ([Anagnostopoulou and Samioti 2014:100](#)):
kamban-a ‘bell’ ~ ??*kamban-iz-o* ‘bell (v)’ ~ *kamban-is-tos* ‘sounding like a bell’
43. See also [Marantz \(2013\)](#) on *atomized individuals* and Japanese “continuative” forms. [Anagnostopoulou \(2014\)](#) extends this idea of a semantically null exponent to cases like *-ify-* in *the classifieds*, but see [Borer 2014](#) for a dissenting view.

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