

Causatives in Hebrew Object-Experiencer Nominalizations

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1 Introduction

This paper examines the syntax of Cause arguments by comparing the realization of Psych-predicates in verbal and nominal domains. In English, for example, the nominal counterparts to verbs that may have Cause subjects are exclusively agentive.

- (1) a. The authorities justified the evacuation.
b. The hurricane justified the evacuation.
c. The authorities/*the hurricane's justification of the evacuation.

Similarly, the verbal version of an Object-Experiencer (OE) predicate may include a Cause external argument, but the nominal version may not (see Lakoff 1970; Grimshaw 1990; Iwata 1995; Pesetsky 1995; Marantz 1997; Harley and Noyer 2000; Sichel 2010 for the claim that transitive nominals are always agentive).

- (2) a. My enemy humiliated me.
b. The insult humiliated me.
(3) a. My enemy's humiliation of me.
b. *The insult's humiliation of me.
c. My humiliation by my enemy/*by the insult.

Alexiadou and Iordăchioaia (2014) show, however, that under certain restricted conditions, Cause arguments realized as PPs are sometimes allowed in nominalizations (in Greek and Romanian). We show that this holds in Hebrew as well. In (4-5) we see Agent Exclusivity effects, of the sort seen in (3) above.

- (4) a. *ha-no'em šilhev et ha-kahal*
the-speaker enraptured.ACT ACC the-crowd
'The speaker enraptured the crowd'.
- b. *ha-ne'um šilhev et ha-kahal*
the-speech enraptured.ACT ACC the-crowd
'The speech enraptured the crowd'.
- c. ? *šilhuv ha-no'em et ha-kahal*
enrapturing.ACT the-speaker ACC the-crowd
- d. **šilhuv ha-ne'um et ha-kahal*
enrapturing.ACT the-speech ACC the-crowd
- e. *šilhuv ha-kahal (al yedey ha-no'em/*al yedey ha-ne'um)*
enrapturing.ACT the-crowd by the-speaker/by the-speech

- (5) a. *ha-kosem* *hifxid* *et* *ha-kahal*
the-magician scared.ACT ACC the-crowd
‘The magician frightened the crowd’.
- b. *ha-kesem* *hifxid* *et* *ha-kahal*
the-magic scared.ACT ACC the-crowd
‘The magic frightened the crowd’.
- c. *?hafxadat* *ha-kosem* *et* *ha-kahal*
frightening.ACT the-magician ACC the-crowd
- d. **hafxadat* *ha-kesem* *et* *ha-kahal*
the-frightening.ACT (of) the-magic ACC the-crowd
- e. *hafxadat* *ha-kahal* (*al yedey* *ha-kosem/*ha-kesem*)
the-frightening.ACT (of) the-crowd by the-magician/the-magic

While a Cause cannot be expressed as the nominal counterpart of an external argument, example (6) shows that a Cause may be expressed as a ‘from’ PP, selectively. While the PP-Cause is impossible with ‘frightening’ (6a), it is perfectly grammatical with ‘enrapturing’ (6b). The difference between these nominals is templatic: (6a) is based on the active causative template (Hifil) and (6b) is based on the active intensive template (Piel).

- (6) a. **ha-hafxada* *šel* *ha-kahal* *me-ha-kesem*
the-frightening.ACT of the-crowd from-the-magic
- b. *ha-šilhuv* *šel ha-kahal* *me-ha-ne’um*
the-enrapturing.ACT of the-audience from-the-speech

Our goal in the talk will be to describe the conditions under which Cause realization is possible in nominalizations. This will allow us to identify the conditions for the introduction of the Cause argument as essentially syntactic, directly related to templatic differences. In the verbal domain, these differences are largely obscured (but see Doron 2017) due to the availability of richer resources for Cause realization as external argument. The templatic differences are also less obvious with ordinary, non-Psych, causatives. Hence our focus on OE Psych nominalization to study the conditions under which PP-Causes may be introduced and the significance of the template.

Unlike nominal morphology in many languages, in Hebrew it encodes transitivity distinctions and voice distinctions, and this allows us to further identify the factors which allow the realization of Cause arguments. The first part of the talk is devoted to establishing that the introduction of PP-Cause in nominalization depends on template, hence vP-internal syntax. In the second part we turn to an investigation of how/why exactly templatic syntax restricts the introduction of the PP-Cause (6a vs. 6b). We consider two hypotheses:

- I. Following Alexiadou and Iordăchioaia (2014), PP-cause participants are available only for OE verbs which have a Subject Experiencer (SE) Middle alternate. As suggested in Ahdout 2016, 2017, since only active intensive verbs have a Middle alternate (Doron 2003), it follows that PP-Cause arguments can be associated with nominalizations based on the intensive Piel but not based on the causative template hifil. On this approach, it is the

Middle structure which supplies the PP-Cause, and these Middle structures are presumably the input to active nominalizations.

- II. Alternatively, a PP-cause may be freely added to a predicate which denotes a result state. Psych-nominals based on the active intensive are much more likely to denote states than Psych-nominals based on the active causative; PP-causes are restricted to intensive nominals because of their aspectual denotation. On this approach, the PP-cause is directly associated with the nominal, and not with the underlying verbal structure, which is not necessarily stative.

The talk is organized as follows:

Section 2: Introduction of verbal and nominal templates

Section 3: PP-Cause arguments in Greek and Romanian nominalizations

Section 4: The templatic partition in Hebrew

Section 5: Hypothesis 1

Section 6: Hypothesis 2

Section 7: Conclusions

2 The verbal / derived nominal template system

As in other Semitic languages, Hebrew word formation is non-linear: words are created through the intercalation of two units: the root morpheme (in bold) and the cv-template:

(7) *talmid* 'student', *lemida* 'studying', *limes* 'teach'.

Words may share **root** consonants, such as $\sqrt{\text{lmd}}$ above, but there are also relations between the various **cv-templates**, manifested in shared cv-skeleta and prefixation, as in these active-passive pairs in $\sqrt{\text{kns}}$, with shared prosody but distinct vowels:

(8) *kines* 'gathered', *kunas* 'be gathered; compiled'; *hixnis* 'insert' *huxnas* 'be inserted'

Derivational relations exist also across lexical categories. Most relevant for present purposes is that each Active/Middle verbal template has a corresponding derived nominal form, as in the following verb/derived nominal pairs in Piel/Hif'il based on $\sqrt{\text{kns}}$:

(9) a. intensive verb/noun	<i>kines</i> 'gathered tr.'	<i>kinus</i> 'gathering/conference'
cv-template	<i>CiCCeC</i>	<i>CiCCuC</i>
b. causative verb/noun:	<i>hixnis</i> 'put in, insert'	<i>haxnasa</i> 'putting in' (also, 'income')
cv-template	<i>hiCCiC</i>	<i>haCCaCa</i>

The verbal system encodes Agency and Voice (Doron 2003). The Agency dimension refers to differences in the specification of the external argument across Active templates: Agent in Piel, Cause in Hifil, non-specified for Simple (Paal). The Voice dimension includes the Active-Passive alternation above, and in the Middle Voice, realized in templates Hitpael (10a) and Nifal (10b).

(10)a. <i>hitkanes</i> 'gather int.'	<i>hitkansut</i> 'gathering'
b. <i>nixnas</i> 'entered'	<i>hikansut</i> 'entering'

There is an asymmetry in Voice realization: whereas each Active template is associated with a Passive counterpart, only Piel is associated with a Middle counterpart, in (10a); this is expressed in their syllabic structure and mid-consonant (non-)gemination. The Hifil template, in contrast, is not

associated with a unique Middle form, and the Middle in (10b) is not uniquely associated with any Active template (Doron 2003, 2014). The structuring of these dimensions is illustrated in the following table with the verbal root $\sqrt{\text{yšv}}$ 'sit, inhabit':

Agency Voice	Simple	Intensive	Causative
Active	Paal yašav 'sit, inhabit'	Piel yišev 'settle, populate'	Hifil hošiv 'seat (tr.) make inhabit'
Middle	Nifal nošav 'be-inhabited'	Hitpael hityašev 'sit-down, settle(intr.)'	
Passive		Pual yušav 'be settled, populated'	Hufal hušav 'be-seated'

[Table from Doron 2012]

The asymmetry in designated Middle form is also observed for Psych-verbs. Intensive OE verbs alternate regularly with Hitpael Middle SE verbs:

- (11) *ošeš* 'to liven, recover sth.' *hit'ošeš* 'recover'; *ye'eš* 'discourage, despair', *hitya'eš* 'be/become despaired'; *šige'a* 'madden' *hištage'a* 'be/get mad'; *rigeš* 'excite', *hitrageš* 'be/get excited', *'ina* 'torment, torture', *hit'ana* 'be tormented'.

Notice that SE Hitpael verbs form a unified aspectual class (ambiguous between inchoative events and states, see Marin and McNally 2011).

OE causative (Hifil) verbs, in contrast, do not regularly alternate with Middle SE verbs. When SE forms are available, they are not limited to a designated template and they are not aspectually consistent. For example, Simple Paal SE verbs are strictly stative (12a).

- (12) a. active-active: *hifxid* 'frighten', *paxad* 'be frightened'.
 b. active-middle: *hivhil* 'scare, startle' *nivhal* 'get startled'; *hilhiv* 'excite' *hitlahev* 'be/become excited'.
 c. active-passive: *hiksim* 'charm, fascinate' *huksam* 'become/be fascinated'.

The structural asymmetry between the active intensive Piel and causative Hifil will play a role in our explanation of systematic differences across nominal templates in the realization of PP-cause. We now turn to the expression of Cause in psychological nominalizations, focusing on Greek and Romanian (Alexiadou and Iordăchioaia 2014).

3 Causer arguments in psychological nominalizations

As mentioned in section 1, a deficiency present with nominalizations is their inability to license Cause arguments, also known as "agent exclusivity", whereas the corresponding verbs allow Causers freely. This is a general property of nominalizations, also found in the psychological domain:

- (13) a. My enemy/the insult humiliated me.
 b. My enemy's/*the insult's humiliation of me.
 c. My humiliation (by my enemy/*by the insult).

- (18) a. *i maria enohlithike me ta nea* SE verb
 the Maria annoyed.NACT with the news
 'Maria got annoyed with the news'.

Alexiadou and Lordăchioaia claim that the causative Psych nominal is derived by merging the SE structure with its internal Causer (e.g. in 17a) with a nominalizing head. The derivation of the agentive nominal has the nominalizing head merging with the entire structure of the verbal OE source (in 17b), including the Voice layer. Since nominals do not encode Voice morphology, only the identity of the preposition disambiguates the two structures. Hebrew nominals do show voice distinctions, and this allows us to clearly identify the source of the Cause-PP in the verbal and nominal Middle.

4 Causers in Hebrew psychological nominalizations

The presence of PP-Cause in nominalization is selectively attested in Hebrew too (Ahdout 2016, 2017). The line seems to be drawn by templatic boundaries: PP-Cause is available for some OE verbs based in the intensive (Piel) template (19b), but never for nominals based in causative (Hifil) OE nominals (20b):

- (19) a. *ha-mofa sixrer et ha-cofim* INTNS verb
 the-show caused.giddiness.ACT ACC the-spectators
 'The show dazzled the spectators'.
- b. *ha-sixrur šel ha-cofim me-ha-mofa* INTNS nominal
 the-causing.giddiness.ACT of the-spectators from-the-show
- (20) a. *ha-kesem hifxid et ha-kahal* CAUS verb
 the-magic scared.ACT ACC the-crowd
 'The magic frightened the crowd'.
- b. *ha-hafxada šel ha-kahal *me-ha-kesem* CAUS nominal
 the-frightening of the-crowd from-the-magic

Given the general availability of agentive transitive nominals, both agents and Causes are licensed in intensive (Piel) nominals (21b), but only an agentive PP is possible in causative (Hifil) nominals (22b).

- (21) a. *ha-ne'um/ha-no'em šilhev et ha-kahal*
 the-speech/the-speaker enraptured.ACT ACC the-crowd
 'The speech enraptured the crowd'.
- b. *ha-šilhuv šel ha-kahal me-ha-ne'um/al yedey ha-no'em*
 the-enrapturing.ACT of the-audience from-the-speech/by the speaker
- (22) a. *ha-pkudot/ha-mefakdim hit'u et ha-xayalim*
 the-commands/the-commanders misled.ACT.3PL ACC the-soldiers
 'The commands mislead the soldiers'.
- b. *hat'ayat ha-xayalim *me-ha-pkudot/al yedey ha-mefakdim*
 the-misleading.ACT (of) the-soldiers from-the-commands/by the-commanders

The *mi/e-* preposition seen in this example is the same as the one seen with non-Psych internal causatives generally, in both verbs and nominals:

- (23) a. *ha-‘adama hitbak’a me-ha-yoveš* INTNS Middle
 the-earth split.MID.F from-the-dryness
 ‘The earth split because of the dryness’.
- b. *ha-hitbak’ut šel ha-‘adama me-ha-yoveš* INTNS Mid nominal
 the-splitting.MID of the-earth from-the-dryness
 ‘The earth’s splitting because of the dryness’.
- (24) a. *ha-xalav hitkalkel me-ha-xom*
 the-milk spoiled.MID from-the-heat
 ‘The milk went bad from the heat’.
- b. *hitkalkelut ha-xalav me-ha-xom*
 getting.spoiled.MID the-milk from-the-heat
 ‘The milk getting spoiled from the heat’.

The selective pattern of the distribution of PP-Causes recalls the selective patterns attested in Greek and Romanian, where a PP-Cause is only attested with OE forms which have a Middle SE alternate (Alexiadou and Iordăchioaia 2014). Ahdout (2016, 2017) suggests that in Hebrew as well, the realization of PP-Cause in OE nominals depends on the OE verb alternating with a Middle form. Recall the asymmetry between the two active templates intensive (Piel) and causative (Hifil) from section 2: only the former has a Middle counterpart.

If Alexiadou and Iordăchioaia are correct, the lack of Causer arguments in causative (Hifil) nominals in Hebrew has to do with the absence of a Middle form¹. Whereas in Greek and Romanian the factor responsible for the availability of a Middle, and hence for the introduction of Cause-PP remains unclear, the templatic boundary observed in Hebrew suggests that syntactic structure plays an important role.

In the following sections we develop and discuss two hypotheses for the source of PP-Cause arguments in OE nominalizations. First, we discuss the compatibility of Alexiadou and Iordăchioaia (2014) with the Hebrew paradigm, focusing on the presence vs. absence of a corresponding Middle form. We then consider an alternative hypothesis, which emphasizes the aspectual properties of nominals in the two transitive templates, and in particular the high proportion of Psych-nominals denoting result states in intensive (Piel) template, as opposed to the eventive nominals seen in the causative template (Hifil).

5 Hypothesis 1: PP-Cause in Active OE nominals is derived from the Middle verbal structure

The morphological distinction between Active and Middle nominals highlights the dependency between a PP-Cause in an Active OE nominal and its presence in Middle SE verbs and nominals. The two dimensions of nominal morphology that we mentioned above allow us to trace the derivational relationships between nominal and verbal forms, and the emerging picture appears to provide strong support for the analysis in Alexiadou and Iordăchioaia. Recall that a PP-Cause is selectively available only for intensive nominals. First, we see that the Middle SE nominal in (25b) shares PP-Cause syntax

¹ In Hebrew the terms SE verb and Middle are not interchangeable, as some SE verbs appear in morphologically active templates.

with its corresponding Middle verb, in (25a). Second, the PP-Cause emerges also in the active OE nominal, in (25c), even though the corresponding active OE verb excludes it (25d).

- (25) a. *ha-kahal hištalhev me-ha-neum* SE verb
the-audience became.enraptured.**MID** from-the-speech
- b. *ha-hištalhevut šel ha-kahal me-ha-ne'um* SE nominal
the-becoming.enraptured.**MID** of the-audience from-the-speech
‘The enrapturing of the crowd by the speech’.
- c. *ha-šilhuv šel ha-kahal me-ha-ne'um* OE nominal
the-enrapturing.**ACT** of the-audience from-the-speech
- d. **ha-kahal šilhev me-ha-neum* OE verb
the-audience enraptured.**ACT**from-the-speech

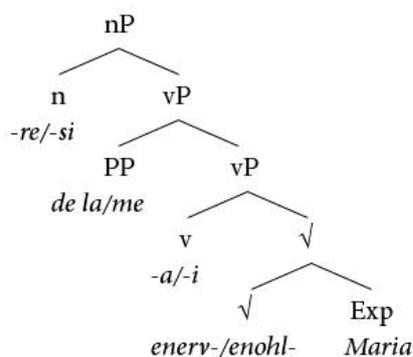
Furthermore, unlike Causers in intensive OE verbs (26a), the only way to realize the Cause in the nominal is via a PP (26c):

- (26) a. *ha-mofa sixrer et ha-cofim*
the-magician caused.giddiness.ACT ACC the- spectators
‘The show/the magician caused the spectators to feel giddiness’.
- b. **ha-sixrur šel ha-mofa et ha-cofim*
the-causing.giddiness.ACT of the-show ACC the-spectators
- c. *ha-sixrur šel ha-cofim me-ha-mofa*
the-causing.giddiness.ACT of the-spectators from-the-show

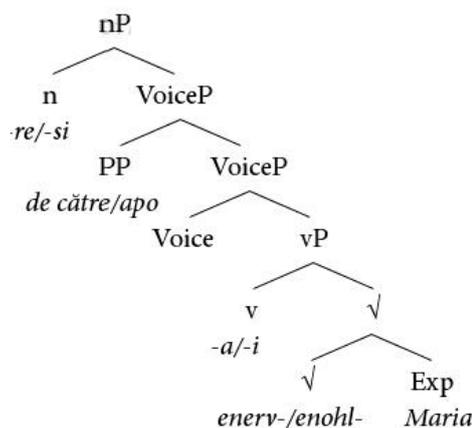
This strongly suggests that the source for PP-Cause in Active OE nominals is indeed the Middle verbal form.

This would mean that both the Active and Middle form nominals in (25b-c) have the Causative structure in (27a), whereas the agentive Active nominals in (21b) and (22b) have the Agentive structure in (27b). In what follows we set aside questions about (27b) and its compatibility with causative (Hifil)-based nominals, and focus on the derivation in (27a).

(27) a. Causative nominal



b. Agentive nominal



c. ? *ha-zi'azu'a* *šeli* *me-ha-xadašot*
 my-shock.ACT my from-the-news
 'My becoming shocked from the news'.

d. *'ir'ur* *ha-bitaxon* *šeli* *me-/biglal*
 shocking.ACT (of) the-cinference my from/because.of
ha-kišalon *b-a-mivxan*
 the-failure in-the-test
 'The diminishment of my confidence from the failure in the exam'.

The statives in (28) are part of a broader Psych-nominal trend in the intensive template (Piel). When the source verb is eventive (or ambiguous) the corresponding nominal may be stative (30), or even a non-ambiguous R-nominal (Grimshaw 1990) (31):

- (30) a. *ha-meser* *bilbel/zi'aze'a/ye'eš/sipek* *oti*
 the-message confused/shocked/despaired/satisfied.ACT me
- b. *ha-bilbul/za'azu'a/ye'uš/sipuk* *šeli*
 the-confusion/shock/despair/satisfaction.ACT my

Some nominals also get result noun readings. Notice that in these readings, these nouns can usually pluralize:

- (31) a. *pita* 'tempt' – *pituy* 'temptation', *pituyim* 'temptations'
 b. *rigeš* 'excite' – *riguš* 'excitement', *rigušim* 'excitements'
 c. *'ina* 'to torture' – *'inuy* 'torture', *'inuyim* 'tortures'
 d. *ši'aše'a* 'amuse' – *ša'ašua* 'amusement', *ša'ašu'im* 'amusements'
 e. *'oded* 'encourage' – *'idud* 'encouragement'

Regarding the availability of PP-Cause, it is mostly result nouns of (31) which cannot be associated with a PP-Cause:

- (32) a. **ha-pituy* *me-ha-haca'a*
 the-temptation from-the-offer
- b. **ha-'inuy* *me-ha-maxšavot*
 the-torture from-the-thoughts
- c. **ha-'idud* *me-ha-haclaxa*
 the-encouragement from-the-success
- d. *ha-sipuk* *me-ha-haclaxa*
 the-satisfaction from-the-success
- e. *?ha-riguš* *me-ha-zxiya*
 the-excitement from-the-win

The fact that result nominals in the intensive template (32) do not license *mi/e*- PPs freely is not so surprising since, according to Grimshaw (1990), result nouns do not take arguments at all.

→ We conclude that the decisive factor for licensing a PP-cause is the template, and that the eventivity of verb and nominal play no particular role in this domain.

The fact that *statives* in the intensive template exhibit the alternation is not itself a problem. It does raise a question, however, when compared with the consistent behaviour of the nominal Middle form, which show almost no lexical gaps compared with their source verbs. These nominals are always inchoative like their source verbs and they always can occur with *from-PP*, like the corresponding verb:

- (33) a. *hu hit'acben/hišta'amem/hitrageš/hitlahev/hitbalbel/hitya'eš* *me-ha-katava*
 he became.annoyed/bored/excited/thrilled/confused/despaired.MID from-the-article
- b. *ha-hit'acbenut/hišta'amemut/hitragšut/hitlahavut/hitbalbelut/hitya'ašut* *šelo*
 the-getting.annoyed/bored/excited/thrilled/confused/despaired.MID his
me-ha-katava
 from-the-article

Given the consistency of the Middle form, pairs such as the following, where the active form is stative and the Middle is inchoative, in (34), present a challenge for the claim that they are both derived in the same way:

- (34) a. *bilbul/hitbalbelut* *me-ha-hanxayot*
 confusion.ACT/getting.confused.MID from-the-guidelines
- b. *mirmur/hitmarmerut* *me-ha-yaldudiut* *šelo*
 bitterness.ACT/getting.bitter.MID from-the-childishness his
- c. *ye'uš/hitya'ašut* *me-orex* *ha-mivxan*
 despair.ACT/despairing.MID from-length (of) the-exam
- d. *ši'amum/hišta'amemut* *me-ha-ši'ur*
 boredom.ACT/getting.bored.MID from-the-class

5.2. The Mapping of Thematic roles to Eventualities and to Templates

The existence of stative alternations of the type seen in (34) presents a problem for the present proposal if statives are associated with a T/SM role instead of a Cause, and if this holds for all Psych-nominals in the intensive template (Doron 2012, 2017). In that case, the alternations would be T/SM alternations, rather than alternations in the realization of Cause-PP, and we would be saying nothing about the realization of Causes. In what follows, we revisit some of the evidence for a T/SM vs. Cause distinction (Doron 2012) and briefly examine its applicability in the nominal domain. We conclude that there is little evidence, in the domain of nominals, for this distinction as templatic-based.

5.2.1. (Un)availability of agentive readings

Causers, as opposed to T/SMs, may be construed as agentive arguments, i.e. the causation of the mental state may be interpreted as a volitional one, but never for T/SM. This test shows that OE verbs from both templates may take causers or T/SMs. In (35), non-agentivity in the causative (Hifil), and in (36) agentivity in the intensive (Piel) (see Doron 2017 for further discussion).

- (35) a. *ha-mora hitmiha* *oti* *(*be-xavana/*kedey* CAUS
 the-teacher puzzled.ACT.F.SG me on purpose/in.order.to

še-etanyen b-a-nose)

that-interested.FUT.1SG in-the-subject

‘The teacher puzzled me (*on purpose/*to make me interested in the subject)’.

- b. *ha-šalit* *hexrid/hiv’it* *et* *ha-ezraxim* CAUS
the-ruler horrified/terrified.ACT ACC the-citizens
(**be-xavana/*kedey še-lo* *’ivgedu* *b-o*)
on purpose/ in.order.to that-not betray.FUT.3pl in-him
‘The ruler horrified/terrified the citizens (*on purpose/*so they won’t betray him)’.

- (36) a. *hu nixem* *ota* *arukot* INTNS
he consoled.ACT her in.length
(**kedey* *še-lo* *te’abed* *tikva*)
in.order.to that-not lose.FUT.F hope
‘He consoled her so she doesn’t lose hope’.

- b. *hu pita* *otam* *le-šatef* *’ito* *pe’ula* INTNS
he tempted.ACT them to-cooperate with.him
(**be-xavana/kedey* *le-hagdil* *et* *kox-o*)
on-purpose/in.order to-enlarge ACC strength-his
‘He tempted them to cooperate (on purpose/to enlarge his power)’.

5.2.2. The T/SM restriction (Pesetsky 1995)

T/SM verbs are felicitous with the addition of a Cause; verbs in Piel appear to violate the restriction (37a, from Doron 2012, 2017) b/c they have only 1 T/SM argument. Hifil verbs obey the restriction b/c they have no T/SM argument, only Cause (37c). Piel OE verbs may also show this restriction (37b), on a par with Hifil verbs.

- (37) a. *ha-ma’amar* *’inyen* *oti be-balšanut* INTNS
the-article interested.ACT me in-linguistics
‘The article made me interested in linguistics’.
- b. **ha-katava* *’icbena/bilbela/zi’aze’a/rigša* *oti* *me-ha-xok* *ha-xadaš*
the-article annoyed/confused/excited.ACT-3SG.F me from-the-law the-new
- c. **ha-pirsum* *hilxic* *oti* *me-ha-dedlayn* CAUS
the-announcement stressed.ACT me from-the-deadline

5.2.3. Choice of preposition

According to Doron (2012,2017), *mi/e-* and *al* introduce Causers, while prepositions such as *be-* ‘in’, *le-* ‘to’, *neged* ‘against’ introduce T/SMs. It is difficult, however, to determine the thematic role from choice of preposition, since interpretations vary across verbs. For example, the preposition *mi/e-* and *al* seem to also denote sources, and may be associated with T/SMs in the Simple template and in the intensive template (Piel):

- (38) a. *ha-paxad* *šelo* *mi-tisot*
the-fear his from-flights

'His fear of flights'.

b. *ha-ka'as šeli al ha-šxitut*
the-anger my on the-corruption

Moreover, many active intensive verbs which seem to take T/SMs rather than Causers show up with *mi/e-* in the Middle construction:

(39) a. *ha-š'ur š'amem oti*
the-lesson bored.ACT me
'The lesson bored me'.

b. *hišta'amamti me-ha-š'ur*
got.bored.MID.1SG from-the-lesson
'I got bored from the lesson'.

(40) a. *ha-ma'amar 'iyef oti*
the-article tired.ACT me
'The article tired me'.

b. *hit'ayafti me-ha-ma'amar*
got.tired.MID.1SG from-the-article
'I got tired from the article'.

5.2.4. Aspectual Correlation

If T/SM arguments are associated only with stative interpretation, we do not expect intensive eventive OE verbs. Some do exist:

(41) *ze 'icben/bilbel/'oded/'ir'er/ce'er/š'amem oti tox šniyot*
it annoyed/confused/encouraged/shaken/sorrowed/bored.ACT me in seconds

→ A thematic restriction of T/SM to all and only intensive Psych-verbs seems problematic.

6 **Hypothesis 2:** PP-Cause with Active intensive nominals are licensed by result-stativity

As mentioned above, OE Nominals based in the intensive (Piel) are more likely to denote states than nominals based in OE causative (Hifil) verbs:

(42) a. intensive: *bilbul* 'confusion', *še'amum* 'boredom', *ye'uš* 'despair', *za'azu'a* 'shock', *mirmur* 'bitterness', *dixdux* 'moodiness'.
b. causative: *ha'acava* 'causing sorrow, *sadness', *hafxada* 'scaring, *fear', *halxaca* 'stressing out, *distress', *harga'a* 'calming down, *calmness', *hat'aya* 'deceiving, *feeling deceived'.

The nominal in (42b), but not (42a), is interpreted as eventive and transitive even in the absence of any arguments. The eventivity of the causative nominals (43) but not in the intensive (44) is exemplified using adverbials modifying the time/place of the event and its instigator, which are only possible with clauses denoting events:

(43) a. *harga'at ha-yeladim tox šaloš dakot*
calming.down.ACT (of) the-children in three minutes

b. <i>ha-hafxada</i>	<i>šel</i>	<i>ha-yeladim</i>	<i>karta</i>	<i>etmol/b-a-gan/</i>
the-scaring.ACT	of	the-children	took.place.F	yesterday/in-the-garden/
<i>hayta</i>	<i>axzarit</i>			
was.F	cruel.F			

(44) <i>ha-bilbul</i>	<i>šel</i>	<i>ha-yeladim</i>	<i>*kara</i>	<i>etmol/*b-a-gan/</i>
the-confusion.ACT	of	the-children	took.place	yesterday/in-the-garden
<i>*tox šaloš dakot/*haya</i>	<i>axzari</i>			
in three minutes/was	cruel			

Active intensive nominals, unlike active causative ones, behave much more like their English counterparts, which have also been shown to lack eventivity or causative force (Rappaport 1983, Rozwadowska 1988, Grimshaw 1990, Pesetsky 1995, Landau 2010 a.o). We have also shown above that intensive nominals may be stative (28) and (30), or even unambiguous R-nominals (Grimshaw 1990) (31) when the source verb is eventive (or ambiguous).

By Hypothesis: Cause-PP is restricted to predicates denoting result states; the result state is modified by a Cause-PP. This would include the stative intensive nominals and excludes all nominals derived in the causative template (Hifil). According to this hypothesis, Causer PPs are not conditioned by the argument structure of the deriving verb, and may be associated directly with the nominal.

Predictions:

1. If PP-causes are aspectually restricted to states, we expect to find them also in other templates, as long as the SE Psych-nominal denotes a state.
2. We also may expect to find PP-cause in other non-Psych state-denoting nominals based in the intensive template.

6.1 The distribution of causative PPs in Psych nominalizations across templates

There are stative Psych-nominals in the Simple template, and they are compatible with Cause-PP, with either *mi/e-* 'from', or *al* 'on'.

(45)a. <i>ha-laxac</i>	<i>šeli</i>	<i>mi-bxinot</i>			
the-stress	my	from-exams			
b. <i>ha-paxad</i>	<i>šelo</i>	<i>mi-nexašim</i>			
the-fear	his	from-snakes			
c. <i>ha-buša</i>	<i>šeli</i>	<i>me-ha-hitnahagut</i>	<i>šelo</i>		
the-shame	mine	from-the-behaviour	his		
d. <i>ha-sevel</i>	<i>šelo</i>	<i>mi kol</i>	<i>ha-carot</i>	<i>še-xava</i>	
the-suffering	his	from all	the-troubles	that-experienced.past.3sg	
e. <i>ha-ka'as/za'am</i>	<i>šelahem</i>	<i>al</i>	<i>ha-memšala</i>		
the-anger/rage	their	at	the-government		
f. <i>ha-tmiha</i>	<i>šelanu</i>	<i>al</i>	<i>ha-hitnahagut</i>	<i>šelo</i>	
the-wonder	our	at	the-behaviour	his	

The prepositional landscape in the Simple template differs from the intensive (Piel); it appears that choice of nominal prepositions is fully determined by choice of verbal preposition. The following examples show non-causative preposition *le* 'to, for', and determined by the counterpart verb.

- (46) a. *da'agti* *l-a-bri'ut šela*
 was.worried.1SG to-her-health
 'I was worried about her health'.
- b. *ha-da'aga šeli* *l-a-bri'ut* *šela*
 the-worry my to-the-health hers

- (47) a. *hi kmeha* *le-xufša*
 she longs.3SG.F to-vacation
 'She longs for a vacation'.
- b. *ha-kmiha šela* *le-xufša*
 the-longing hers to-vacation

Since PPs in Simple template nominals are determined by the counterpart verb, they do not support the hypothesis that Cause-PP is licensed by stativity.

6.2 The distribution of Cause-PPs in non-Psych intensive stative nominals

Another type of support for the 'stativity hypothesis' might be provided by non-Psych nominals which have stative readings and realize Cause-PPs. Here we distinguish between non-Psych event denoting intensive nominals like *zeruz* 'speeding up', *yibuš* 'drying', *yikur* 'raise (price)', *ximum* 'heating up', *šipur* 'improvement' and the few non-Psych nominals that also denote states as well as events like *zihum* 'contaminating/contamination', *kilkul* 'spoiling/spoilage', *izun* 'balancing/balance'.

The general picture which emerges is that PP-cause are sometimes impossible with eventive nominals (48-49), and sometimes possible (50), but we have found no non-Psych stative noun that is compatible with Cause-PP. The addition of a PP-Cause to a stative nominal, in (51), forces the eventive reading. This is significantly different from the situation with Psych-nominals in (52), where the Cause-PP never brings about a change in the interpretation of the predication, and the overall interpretation remains stative.

Eventive nominals:

- (48) a. *ha-rof'a/ha-trufa* *zerza* *et* *ha-leda*
 the-doctor.F/the-medicine induced.ACT.F ACC the-labor
 'The doctor/the medicine induced the labor'.
- b. *zeruz* *ha-leda* *al-yedey* *ha-rof'a/*me-/be-emca'ut ha-trufa*
 inducing (of) the-labor by the-doctor.F from/using the-medicine
 'Inducing the labor by the doctor/using medicine'.
- (49) a. *ha-šemeš* *ha-xazaka* *yibša* *et* *ha-šluliyot*
 the-sun the-strong dried.ACT.F ACC the-puddles
 'The strong sun dried the puddles'.

- b. *yibuš* *ha-šluliyot* (**me-ha-šemeš ha-xazaka*)
drying.ACT (of) the-puddles from-the-sun the-strong
- (50) a. *ha-ru'ax* *ha-xazaka* *kofefa* *et* *ha-giv'olim*
the-wind the-strong bended.ACT ACC the-stalks
'The strong wind made the stalks bend'.
- b. *kifuf* *ha-giv'olim* *me-ha-ru'ax* *ha-xazaka*
bending.ACT (of) the-stalks from-the-wind the-strong
'The bending of the stalks because of the wind'.

Ambiguous Nominals:

- (51) a. *zihum* 'contaminating/contamination'.
- b. *ha-pe'ilut* *ha-bilti-xukit* *b-a-mif'al* *zihama* *et* *ha-nahar*
the-activity the-illegal in-the-factory contaminated.ACT.F ACC the-river
- c. *ha-zihum* *šel* *ha-nahar* *me-ha-pe'ilut* *ha-bilti-xukit* *b-a-mif'al*
the-contamination of the-river from-the-activity the-illegal in-the-factory
'The **contaminating** of the river due to the illegal activity in the factory'.
- (52) *ha-bilbul* *šeli* *me-ha-hanxayot* *be-meSex*
the-confusion.ACT my from-the-guidelines throughout
*kol ha-boker/*be-tox daka*
all the-morning/in minute
'My **confusion** from the guidelines throughout the morning/*in a minute'.

7 Conclusions

- There is no evidence for the idea that result-stativity on its own licenses a Cause-PP: there is no generalization for Psych nominals across templates, and there is no generalization for stative non-Psych nominals within the intensive template (Piel).
- It seems, therefore, that the best account of Cause-PP in nominalization is the one in which Cause-PP is derived from a Middle SE form, probably the SE/Middle verb.
- The special contribution of Hebrew nominal morphology in both its dimensions (distinct Active forms, and Active vs. Middle) clarifies that Cause-PP arguments are introduced by syntactic mechanisms.
- In other words, Cause-PP is not idiosyncratically composed with the root. Future work should further clarify the specific nature of the syntactic configuration in which PP-Cause is introduced.
- The study of Psych nominals may also tell us something about nominalization: the input must be smaller than a full vP, possibly a Middle structure.
- The Middle-Active alternation in the realization of PP-Cause is much less common outside of the Psych domain. Why should that be? Future work might shed light on the role of stativity in the productivity of this alternation.

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