1. Psychological verbs

The main issue of this paper concerns the argument structure of Semitic verbs in the intensive template and its relation to the concept of Force as expressed in the syntax and lexical semantics of psychological (psych) verbs. A lot has been written recently on the aspectual properties of psych verbs (Marin and McNally 2011; Alexiadou and Iordachioaia 2014 a.o.), and also on the relation of Force to Causation (Talmy 2000; Croft 1991; Copley and Harley 2015; Copley, Wolff, and Shepard 2016) but here I would like to concentrate on the different construals for the semantic roles of the participants in the denotations of psychological verbs.

Psych verbs constitute a recognized class of mental verbs -- alongside perception verbs, mental state verbs (also called propositional attitude verbs), and mental act verbs. Mental verbs have been distinguished from more physical verbs like motion verbs, verbs of emission, verbs of spatial configuration, verbs of locative placement, and others studied by lexical semanticists and philosophers.

Mental verbs typically denote relations between two arguments. One argument has the role “contents of the mind”. This role consists of being grasped by a second argument of the verb, called the Experiencer. In psych verbs, the relation includes emotion or evaluation toward the “content of the mind”, or toward other targets, which then receive the title “object of emotion” in the philosophical literature (Kenny 1963 and Nissenbaum 1985). In 1995 this role was renamed Target of Emotion/Subject Matter of Emotion (T/SM) by Pesetsky. The T/SM argument is appraised and evaluated emotionally by the Experiencer. As illustrated in (1), the T/SM can be subject of the psych verb, science or the play in examples (1a). The Experiencer is then the object of the verb, and such a verb is called an ObjExp verb. For other verbs, the Experiencer is the subject, as in (1b), and in this case the psych verb is called a SubjExp verb:

1.a ObjExp verb with a T/SM subject
Science fascinates us
The play didn’t appeal to Mary

b SubjExp verb
We admire science
Mary didn’t care for the play (Pesetsky 1995:52)

What Pesetsky demonstrated was that the T/SM argument must be distinguished from a third argument that may play a role in psych verbs. This argument is a Cause argument, the same argument that plays a role in physical change of state verbs such as destroy and kill, as in (2a). The Cause argument is distinguished from the Agent argument, as in (2b)

2.a Physical verb with a Cause subject
Military losses destroyed the empire
The inappropriate use of the drugs killed the patient

b Physical verb with an Agent subject
The wind slammed the door
The teapot whistled from the stove

Pesetsky argues that in many cases we find that the subject argument of an ObjExp verb is a Cause rather than a T/SM, whereas the object argument of a SubjExp verb must be a T/SM:
3.a  ObjExp verb with a Cause subject
The article in the *Times* angered Bill

b  SubjExp verb
Bill was angry at the article in the *Times*.  (Pesetsky 1995:56)

The point about (3) is that (3a) has a reading that (3b) does not have, where John does not find anything objectionable about the article in the *Times*, he thinks it is splendid. His anger is not directed at the article, but maybe he is angry at the government for the corruption revealed by the article. The T/SM is is not overtly expressed in sentence (3a), but the Cause is. (3b) cannot be interpreted in this way, but only means what (3a) can also mean, that Bills finds the article itself objectionable in some respect. Similarly in (4):

4. a  ObjExp verb with a Cause subject
The television set worried John

b  SubjExp verb
John worried about the television set  (Pesetsky 1995:57)

(4a) has a reading that (4b) does not have, where John does not worry *about* the television set, but where he worries about something else, and his worrying is *caused* by the television set. For example, because the TV set is not in its usual place, he may worry that his baby son pushed it and got stuck underneath it. Thus the television set is not the T/SM, but the Cause of John's worry in (4a). His is not worrying *about* the TV set, but *because* of it. In (4b), on the other hand, the television set is T/SM.

This split in thematic roles generates a puzzle which Pesetsky called "the T/SM restriction". Psych verbs can take a Cause argument as in (3a) and (4a), and also T/SM argument as in (3b) and (4b), but not both in the same sentence, as shown by (5):

5.a  * The article in the *Times* angered Bill at the government.
   b  * The television set caused John about the whereabouts of his baby son.

What is the explanation of the T/SM restriction? There are different accounts (Pesetsky 1995, Arad 1999, McGinnis 2000, Reinhart 2002, Doron 2011). It is clearly not semantic, since the three arguments can be expressed together in a periphrastic construction, as in (6):

6.a  The article in the *Times* caused Bill to be angry at the government.
   b  The television set caused John to worry about the whereabouts of his baby son.

I will say something about the T/SM restriction, but my main aim today is to formulate a new puzzled generated by psych verbs in Semitic, and to try to tackle it.

2.  Semitic verb morphology

The roles of arguments of verbs in the Semitic languages is reflected by their templatic forms (e.g. Doron 2003; Kastner 2016). There are basically three templates which derive verbs from roots. The marked templates are the CAUSATIVE template and the INTENSIVE template. The difference in form between them correlates with the role of the external argument of the verb. So what is special about semitic verbal morphology, beside having consonantal roots, is that there is morphological marking of whether the external argument of the verb is a Cause (in the CAUSATIVE template) or an Agent (in the INTENSIVE template). This has been represented within DM as a contrast between a CAUSATIVE and an INTENSIVE functional v-head introducing the verb’s external argument (I will gloss over the differences between v-heads and Voice-heads). The CAUSATIVE functional head introduces a Cause external argument, and the INTENSIVE functional head introduces an Agent argument. Verbs constructed from the root without any of these two functional heads are derived in the unmarked SIMPLE template. The
templatic realization of the morphosyntax is most clearly seen when a contrasts is established between equi-rooted verbs, because the system includes a lot of noise.

7. vbšl ~ ripe/cook (all exx attested on the web)
   a. Simple template
      בשלו התנאים להסכם אזורי כולל
      bašlu ha-ta‘im le-heskem ezori kolel ripened.SMPL the-conditions for-agreement regional comprehensive
      ‘The conditions have ripened for a comprehensive regional agreement.’
   b. Causative template
      הת�отחות בעובי פמוטותעד קודם لكل מה ש북מל תורמת המשיל את הנפשקה
      ... ma še-ke-kol-ha-nir’e hibšil et-ha-’isqa
      ... what probably ripened.CAUS the deal
      ‘The companies worked together before, which probably cooked the deal.’
   c. Intensive template
      אראל מרגלית הודיע שהוא בישל את העסקה הגדולה ביותר בתולדות ההיי טק הישראלי
      ... hu bišel et-ha-’isqa ha-gdola-be-yoter
      he cooked.INTNS the-deal the-biggest
      ‘E.M. announced that he had cooked up the biggest deal in the history of Israeli high-tech.’
      ii. *הת�отחות בעובי פמוטותעד קודם لكل מה ש북מל תורמת המשיל את הנפשקה
      *... ma še-ke-kol-ha-nir’e bišel et-ha-’isqa
      *what probably cooked.INTNS the deal
      ‘The companies worked together before, which probably cooked the deal.’
      ‘*The companies worked together before, which probably cooked up the deal.’

The following additional examples also demonstrate the agentive nature of the subject of the intensive verb in (8ci), versus the causative nature of the subject of the causative verb in (8b). (8cii) is ungrammatical since abstract facts, such as ‘careful driving’, cannot fulfill an agentive role; (8b) is grammatical since abstract facts can be causes. Similarly for (9).

8. vbtx ~ secure
   a. Simple template
      הבטיח בהשתћת את הנהג
      ha-nahag batax be-ze še-hu yaxazor xay the-driver trusted.SMPL in-it that-he will-return alive
      ‘The driver trusted that he would return alive.’
   b. Causative template
      הבטיח בהשתћת את הנהג
      ha-nehiga ha-zehira hibtixa še-hu yaxazor xay the-driving the-careful guaranteed.CAUS that-he will-return alive
      ‘Careful driving guaranteed that he would return alive.’
   c. Intensive template
      הקסננט ברשוח את הנהג
      ha-soxiénet bitxa et-ha-nahag the-agent insured.INTNS the-driver
      ‘The agent insured the driver.’
      ii. *הנהיגה היחידה בימים אלה hastahat ha-zehira bitxa et-ha-nahag
      *the-driving the-careful insured.INTNS the-driver
      ‘*Careful driving insured the driver.’
9.  
   \( \overset{\text{v} \cdot \text{s} \cdot \text{h} \cdot \text{b}}{\rightarrow} \) sit/settle  
   a.  Simple template  
      \( \overset{\text{hem}}{\text{ya\text{b}hu}} b-a\text{n} \)  
      they inhabited.SIMPL in-the-Negev  
      ‘They inhabited the Negev.’  
   b.  Causative template  
      סיבוטๆ כְּלָלִיַת והשירב ארצה בּנָגְבַּי  
      si\text{b}ot kalkaliyot ho\text{i}\text{b}hu otam b-a-n\text{e}g  
      reasons economic settled.CAUS them in-the-Negev  
      ‘Economic reasons settled them in the Negev.’  
   c.  Intensive template  
      ha-\text{si\text{t}lonot} yi\text{b}hu otam b-a-n\text{e}g  
      the-authorities settle.INTNS them in-the-Negev  
      ‘The authorities settled them down in the Negev.’  
   * סיבוטๆ כְּלָלִיַת והשירב ארצה בּנָגְבַּי  
      si\text{b}ot kalkaliyot ho\text{i}\text{b}hu otam b-a-n\text{e}g  
      reasons economic settle.INTNS them in-the-Negev  
      ‘* Economic reasons settled them down in the Negev.’

10.  
   \( \sqrt{\text{v}} \)  
   Simple \( \overset{\text{CaCaC}}{\text{CaCaC}} \)  
   Causative \( \overset{\text{hiCGC}}{\text{hiCGC}} \)  
   Intensive \( \overset{\text{CiCeC}}{\text{CiCeC}} \)  
   \( \overset{\text{v} \cdot \text{h} \cdot \text{s} \cdot \text{i} \cdot \text{h} \cdot \text{b}}{\rightarrow} \) ripe  
      \( \overset{\text{b} \cdot \text{a} \cdot \text{s} \cdot \text{a} \cdot \text{i}}{\rightarrow} \) ripe’ (intrans.) \( \overset{\text{h} \cdot \text{i} \cdot \text{s} \cdot \text{i} \cdot \text{h} \cdot \text{i}}{\rightarrow} \) ripe’ (trans.) \( \overset{\text{b} \cdot \text{i} \cdot \text{s} \cdot \text{e} \cdot \text{l}}{\rightarrow} \) cook  
   \( \overset{\text{v} \cdot \text{b} \cdot \text{t} \cdot \text{x}}{\rightarrow} \) secure  
      \( \overset{\text{b} \cdot \text{a} \cdot \text{t} \cdot \text{x}}{\rightarrow} \) trust’ \( \overset{\text{h} \cdot \text{i} \cdot \text{v} \cdot \text{i} \cdot \text{t} \cdot \text{a} \cdot \text{x}}{\rightarrow} \) guarantee’ \( \overset{\text{b} \cdot \text{i} \cdot \text{t} \cdot \text{e} \cdot \text{x} \cdot \text{a} \cdot \text{x}}{\rightarrow} \) insure’  
   \( \overset{\text{v} \cdot \text{y} \cdot \text{s} \cdot \text{h} \cdot \text{b}}{\rightarrow} \) sit  
      \( \overset{\text{y} \cdot \text{a} \cdot \text{s} \cdot \text{a} \cdot \text{b}}{\rightarrow} \) sit, settle’ \( \overset{\text{h} \cdot \text{o} \cdot \text{s} \cdot \text{i} \cdot \text{b}}{\rightarrow} \) settle’ (trans.) \( \overset{\text{y} \cdot \text{i} \cdot \text{s} \cdot \text{e} \cdot \text{h} \cdot \text{b}}{\rightarrow} \) settle down’  
   \( \overset{\text{v} \cdot \text{s} \cdot \text{l} \cdot \text{t}}{\rightarrow} \) govern’ \( \overset{\text{\text{s} \cdot \text{a} \cdot \text{l} \cdot \text{a} \cdot \text{t}}}{\rightarrow} \) rule’ \( \overset{\text{h} \cdot \text{i} \cdot \text{s} \cdot \text{l} \cdot \text{i} \cdot \text{t}}{\rightarrow} \) make rule’ \( \overset{\text{\text{s} \cdot \text{i} \cdot \text{e} \cdot \text{l} \cdot \text{t}}}{\rightarrow} \) post signs’  
   \( \overset{\text{v} \cdot \text{y} \cdot \text{c} \cdot \text{e}}{\rightarrow} \) go-out’ \( \overset{\text{y} \cdot \text{a} \cdot \text{c} \cdot \text{a} \cdot \text{c} \cdot \text{a}}{\rightarrow} \) go out’ \( \overset{\text{\text{h} \cdot \text{o} \cdot \text{c} \cdot \text{i} \cdot \text{t}}}{\rightarrow} \) ‘put out’ \( \overset{\text{\text{y} \cdot \text{i} \cdot \text{c} \cdot \text{e} \cdot \text{x}}}{\rightarrow} \) ‘export’  
   \( \overset{\text{v} \cdot \text{v} \cdot \text{s} \cdot \text{p} \cdot \text{g}}{\rightarrow} \) sponge’ \( \overset{\text{\text{s} \cdot \text{a} \cdot \text{p} \cdot \text{a} \cdot \text{g}}}{\rightarrow} \) absorb’ \( \overset{\text{\text{h} \cdot \text{i} \cdot \text{s} \cdot \text{p} \cdot \text{i} \cdot \text{g}}}{\rightarrow} \) make absorb’ \( \overset{\text{\text{s} \cdot \text{i} \cdot \text{p} \cdot \text{e} \cdot \text{g}}}{\rightarrow} \) swab’  
   \( \overset{\text{v} \cdot \text{p} \cdot \text{q} \cdot \text{d}}{\rightarrow} \) charge’ \( \overset{\text{\text{p} \cdot \text{a} \cdot \text{q} \cdot \text{a} \cdot \text{d}}}{\rightarrow} \) be in charge’ \( \overset{\text{\text{h} \cdot \text{i} \cdot \text{n} \cdot \text{g} \cdot \text{a} \cdot \text{d}}}{\rightarrow} \) put in charge’ \( \overset{\text{\text{p} \cdot \text{i} \cdot \text{q} \cdot \text{e} \cdot \text{d}}}{\rightarrow} \) order’

11.  
   SIMPLY  CAUSATIVELY  INTENSIVELY

\[
\begin{align*}
\text{SIMPLE} & \quad \text{CAUSATIVE} & \quad \text{INTENSIVE} \\
& \quad \text{v} & \quad \text{v} & \quad \text{v} \\
& \quad \text{v} & \quad \text{v} & \quad \text{v} \\
& \quad \text{v} & \quad \text{v} & \quad \text{v} \\
& \quad \text{v} & \quad \text{v} & \quad \text{v} \\
& \quad \text{v} & \quad \text{v} & \quad \text{v} \\
\end{align*}
\]
12. **Exponent rules** (rough)

   a. \( \sqrt{\text{CCC} + \ldots + v} \leftrightarrow h\text{iCCiC} / \ldots \_
   
   b. \( \sqrt{\text{CCC} + \ldots + v} \leftrightarrow C\text{iCeC} / \ldots \_
   
   c. \( \sqrt{\text{CCC} + \ldots + v} \leftrightarrow C\text{aCaC} / \ldots \_

In addition, there are two non-active Voice heads which further modify the external argument of the verb (Doron 2003, Alexiadou and Doron 2012). Table 13 shows all the exponents:

<table>
<thead>
<tr>
<th>VOICE</th>
<th>Simple</th>
<th>Causative</th>
<th>Intensive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>CaCaC</td>
<td>h\text{iCCiC}</td>
<td>CiCeC</td>
</tr>
<tr>
<td>Non-Active</td>
<td>Passive</td>
<td>–</td>
<td>hu\text{CCaC}</td>
</tr>
<tr>
<td>Middle</td>
<td>( v_{\mu} )</td>
<td>\text{niCCaC}</td>
<td>–</td>
</tr>
</tbody>
</table>

Both Non-active voices modify the trees in (11) by preventing the Merge of the verb’s subject and the assignment of accusative case to the object. But while the passive voice \( v_{\pi} \) introduces its own implicit argument, which must be an Agent, the middle voice \( v_{\mu} \) does not, but allows the original external argument to be introduced by a preposition \( P_{\mu} \) (cf. Alexiadou et al 2015).

14. **The Middle Voice**

   \[
   \begin{align*}
   \text{SIMPLE} & \\
   \text{CAUSATIVE} & \\
   \text{INTENSIVE} & \\
   \end{align*}
   
   \text{Cause} \quad \text{v}_{\gamma} \quad \text{v}_{\gamma} \quad \text{v}_{\gamma} \\
   \text{v}_{\mu} \quad \text{v}_{\mu} \quad \text{v}_{\mu} \quad \text{v}_{\gamma} \quad \text{v}_{\gamma} \quad \text{v}_{\gamma} \\
   \text{Arg} \quad \text{Arg} \quad \text{Arg} \quad (\text{Ext.Arg}) \quad (\text{Ext.Arg}) \quad (\text{Ext.Arg}) \\
   \text{P}_{\mu} \quad \text{P}_{\mu} \quad \text{P}_{\mu} \quad \text{P}_{\mu} \quad \text{P}_{\mu} \quad \text{P}_{\mu}
   
3. **INTENSIVE psych verbs**

The morphosyntax of the templates generates a puzzle that I have been wondering about since Roots III (Doron 2011). Among psych verbs, we find a large class of verbs derived in the **INTENSIVE** template. But if the **INTENSIVE** template marks an Agent subject, how come many ObjExp psych verbs whose subjects are T/SM, parallel to ex (1a) above, have **INTENSIVE** templates? Clearly the subjects in (15) below are not Agents, many of these verbs are not even verbs of change, and the question is how does this reconcile with the characterization of the **INTENSIVE** template as Agentive?
are never unaccusative (in the trees in (1) above, the intensive template has an obligatory

For some of the verbs in (15), when you replace the T/SM subject with an argument which can fulfill the role of Agent, the interpretation changes and the result state is no longer entailed (Levin and Rappaport Hovav 2014; Martin 2015; Alexiadou et al 2017). In (16a) we find the same verb ‘console’ found in (15s), this time with an Agent, and the interpretation changes in a way that does not entail the consolation result:

In the passive, only overt or implicit Agents are allowed, as in 17b or 18b:

Another thing to notice about the examples of (15) is that if the subject is not Agentive, then it is always the T/SM rather than the Cause argument we found in (3a) and (4a) above. It’s like in (1a) above, where the subject is T/SM. T/SM subjects have been accounted for (ever since Belletti and Rizzi 1988) by assuming that these verbs are unaccusative. But such an account is not available here, since the most robust characteristic of INTENSIVE template verbs is that they are never unaccusative (in the trees in (11) above, the intensive template has an obligatory
external argument). Also, they do not show the backward reflexivization property typical of unaccusative verbs.

19.a * ha-goral exad-šel-ha-šeni  siqren et-dáni ve-dína
   the-fate of-each-other  intrigued.INTNS Dani and Dina
b * ha-macav exad-šel-ha-šeni  ce’er et-dáni ve-dína
   the situation of-each-other  distressed.INTNS Dani and Dina

The corresponding SubjExp verbs are generally in the middle voice, with a choice of prepositions marking the T/SM that depend on the root. (Same point as in Levin 1993:190)

20.a. ha-balšanut ‘inyena ota
   the linguistics interested.INTNS her
   a’. hi hit’anyena be-balšanut
   she interested.INTNS.MID in-linguistics
b ha-i-cédeq qomem ota
   the injustice revolted.INTNS her
   b’. hi hitqomema neged ha-i-cedeq
   she revolted.INTNS.MID against injustice
c gišati šikne’a ota
   my-approach convinced.INTNS her
   c’. hi hištakne’a be-gišati
   she convinced.INTNS.MID in-my-approach
d goral-ha-yéled siqren ota
   the-child’s-fate intrigued.INTNS her
   d’. hi histagrena be-nogé’a’-le...
   she intrigued.INTNS.MID about
e ha-shókolad pita ota
   the chocolate tempted.INTNS her
   e’. hi hitpateta l-a-shókolad
   she tempted.INTNS.MID to-chocolate
f ha-nose ‘iyef ota
   the topic tired.INTNS her
   f’. hi hitayfa me-ha-nose
   she tired.INTNS.MID from the topic
g ha-macav ce’er ota
   the situation distressed.INTNS her
   g’. hi hicta’ara al ha-macav
   she distressed.INTNS.MID for the situation

The most striking property of INTENSIVE psych verbs is that they violate the T/SM restriction:

21.a. ha-marce ‘inyen ota be-balšanut
   the lecturer interested.INTNS her in linguistics
b. ha-séret qomem ota néged ha-i-cédeq
   the film revolted.INTNS her against injustice
c. ha-ma’amar šikné’a ota be-gišati
   the article convinced.INTNS her in-my-approach
d. ha-maxaze siqren ota be-nogé’a’-le goral-ha-yéled
   the play intrigued.INTNS her about the-child’s-fate
e. ha-naxaš pita ota le-kak
   the snake seduced.INTNS her to-that
f. ha-ma’amar ‘iyef ota me-ha-nose
   the article tired.INTNS her from-the-topic
g. ha-maxaze ce’er ota al ha-macav
   the show distressed.INTNS her about the-situation
h. ba’ala ye’eš ota me ha-xayim
   her-husband discouraged.INTNS her from life
4. **Causative psych verbs**
There is a second class of psych verbs with a different set of properties from the **INTENSIVE** class. These are the CAUSATIVE template psych verbs. Unlike the previous class, a non-agentive subject is not necessarily a T/SM but can be Cause:

22a. *ha-ma‘amar* hirgiz ota  
the article **angered.CAUS** her  

b. *ha-ma‘amar* hik‘is ota  
the article **annoyed.CAUS** her  

c. *maxšhir*-ha-TV higxid ota  
the TV set **frightened.CAUS** her  

2. *maxšhir*-ha-TV hid‘ig ota  
the TV set **worried.CAUS** her  

e. *ha-dox* hexerid ota  
the report **appalled.CAUS** her  

f. *ha-siyur* hip‘im ota  
the trip **thrilled.CAUS** her  

g. *ha-nisuy* hidhim ota  
the experiment **astounded.CAUS** her  

h. *ha-sipur* hibhil ota  
the story **alarmed.CAUS** her  

i. *ha-sipur* hiḥ‘it ota  
the story **horrified.CAUS** her  

j. *ha-maxaze* he‘elīb ota  
the show **insulted.CAUS** her  

k. *ha-miḥne* hilḥiv ota  
the structure **excited.CAUS** her  

l. *ha-maxaze* hiršim ota  
the show **impressed.CAUS** her  

m. *ha-maxaze* hišpil ota  
the show **humiliated.CAUS** her  

n. *ha-ma‘amar* hiptía‘ ota  
the article **surprised.CAUS** her  

23a. *ha-ha‘ašamot* exad-šel-ha-šeni hik‘is * et-dání ve-dína  
the-accusations of-each-other **annoyed.CAUS** Dani and Dina  

b. *ha-sipurim* exad-šel-ha-šeni hibhilu * et-dání ve-dína  
the-stories of-each-other **scared.CAUS** Dani and Dina  

2. *ha-dox* hitmía ota  
the report **puzzled.CAUS** her  

If the subject is Agentive, it still brings about the result state, unlike in the previous class:

24a. *yedidey-ha* hik‘is ota  
her-friends **annoyed.CAUS** her  

b. *yedidey-ha* hibhilu ota  
her-friends **scared.CAUS** her  

Regarding the passive, unlike the case of the **INTENSIVE** class, most CAUSATIVE psych verbs do not passivize, and those that do may be Agentive, but mostly expone SubjExp middle verbs.
(the CAUSATIVE template has no middle exponent, as was shown in table 13). This was already noticed by Landau 2010: 62.

25.a yedid-ah / ha-macav \( \text{hiptia}' \) ota
   her-friend/the-situation \text{surprised.CAUS} her

   b \( \text{hi} \) hu‘pte‘a \text{al-yedey- yedid-ah / me-ha-macav}
   she \text{surprised.INTNS.PASS} by-her-friend / from-the-situation

26.a yedid-ah / ōfen-ha-dibur-šelo \( \text{hišpil} \) ota
   her-friend/ his-speech-style \text{humiliated.CAUS} her

   b \( \text{hi} \) hušpela \text{al-yedey- yedid-ah / mi-ōfen-ha-dibur-šelo}
   she \text{humiliated.CAUS.PASS} by-her-friend / from-his-speech-style

But mostly SubExp verbs are simple active verbs. The prepositions introducing the T/SM in SubjExp verbs are by and large causative prepositions (\( P_{\text{CAUS}} \)): \( \text{al or me} \), unlike the variety of prepositions we found with the INTENSIVE template verbs.

The Hebrew causative prepositions \( P_{\text{CAUS}} \) are \( \text{mi/me 'from/of}, \text{al 'for, on account of, about'}. \) The examples in (27) below are from the www.

27.a \( \text{hu hištolel mi-zá’am} \)
   he went-wild \text{from-rage}

   b \( \text{ha-débeq namas me-ha-xom} \)
   the-glue melted \text{from-the-heat}

   c \( \text{hem he’enišu ota al de’otéha} \)
   they punished her \text{for her-opinions}

   d \( \text{libam-gas ba al ki he’éza le-harim-roś me-ašpatot} \)
   they-despised at-her \text{for that she-dared to-raise} \text{from-dump}
   ‘They disparaged her for having raised from the dump.’

The following are examples showing that CAUSATIVE template SubjExp verbs are not necessarily in the middle voice, and they introduce the T/SM argument not with a variety of prepositions as do the INTENSIVE verbs, but typically with \( P_{\text{CAUS}} (\text{al or me}) \):

28.a \( \text{hi ragza al ha-šxitut} \)
   she \text{angered.SMPL at the-corruption}

   b \( \text{hi ka’asa al ha-ha’ašamot} \)
   she \text{annoyed.SMPL at the-accusations}

   c \( \text{hi paxada me-ha-mávet} \)
   she \text{feared.SMPL from-death}

   d \( \text{hi da’aga l-a-yalda} \)
   she \text{worried.SMPL for-the-girl}

   e \( \text{hi tamha al ha-toca’ot} \)
   she \text{puzzled.SMPL for the-results}

   f \( \text{hi xarda me-ha-macav} \)
   she \text{apalled.SMPL from-the-situation}

   g \( \text{hi nip‘ama me-ha-eru’im} \)
   she \text{thrilled.SMPL.MID from-the-events}

   h \( \text{hi hitpal’a al ha-eru’im} \)
   she \text{surprised.INTNS.MID from the-events}
CAUSATIVE psych verbs, unlike their INTENSIVE counterparts, abide by the T/SM restriction:

29. a. *ha-šmu’ot hirgizu ota al ha-šxitut
   the rumours angered.CAUS her at the corruption

b. *ha-ne’im hiq’is ota al ha-ha’ašamot
   the speech annoyed.CAUS her at the-accusations

c. *ha-ma’amar hipxid ota me-ha-mábet
   the article frightened.CAUS her from-death

d. *ha-dox hitmía ota al ha-toca’ot
   the report puzzled.CAUS her at the-results

e. *ha-ma’amar hip’im ota me ha-eru’im
   the article excited.CAUS her from the events

f. *ha-dox hexerid ota me-ha-macav
   the report appalled.CAUS her from the situation

g. *ha-sipur hibhil ota me-ha-’alila
   the story scared.CAUS her from-the-plot

h. *ha-ma’amar hevix ota me-ha-ta’ut
   the article embarrassed.CAUS her from-the-mistake

The contrast between the two templates of psych verbs is thus not an accidental phonological fact, even though we do not have equi-rooted verbs. Here is the summary of the systematic contrasts between the psych verbs in the two templates:

<table>
<thead>
<tr>
<th></th>
<th>CAUSATIVE</th>
<th>INTENSIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ObjExp verbs</td>
<td>uphold T/SM restriction</td>
<td>violate T/SM restriction</td>
</tr>
<tr>
<td></td>
<td>allow backward refl</td>
<td>disallow backward refl</td>
</tr>
<tr>
<td></td>
<td>T/SM subject</td>
<td>T/SM subject</td>
</tr>
<tr>
<td></td>
<td>Agentive reading entails state</td>
<td>Agentive reading does not entail state</td>
</tr>
<tr>
<td></td>
<td>Passive is rare (or expones MID)</td>
<td>Passive is Agentive</td>
</tr>
<tr>
<td></td>
<td>Dynamic nominalization</td>
<td>Stative nominalization</td>
</tr>
<tr>
<td></td>
<td>(Sichel 2010, Ahdout 2016)</td>
<td></td>
</tr>
<tr>
<td>Corresponding SubjExp verbs</td>
<td>SIMPLE active voice</td>
<td>INTENSIVE middle voice</td>
</tr>
<tr>
<td></td>
<td>T/SM with P\text{\text{CAUS}}</td>
<td>T/SM with varied P</td>
</tr>
</tbody>
</table>

5. **Explaining the two classes of ObjExp psych verbs**

We have found two classes of ObjExp verbs with very different properties, shown in the table above. In the corresponding two classes of SubjExp verbs, the T/SM argument is basically an oblique argument introduced by two different types of P: \(P\text{\text{CAUS}} / \text{varied P}\). Both classes have in common the marking of the T/SM argument as an oblique introduced by a P. But there is a
third class of SubjExp verbs, actually the most elementary in a way, where the T/SM argument is a direct object of the verb, not introduced by any P:

31.a ha-talmid ’ahav et-ha-ši’ur
   the student loved.SMPL the class
b ha-talmid sana’ et-ha-ši’ur
   the student hated.SMPL the class

The causative verbs corresponding to this simple class mark the Experiencer with a locative preposition, whereas the T/SM is a direct object of the verb. In other words, here too we find violation of the T/SM restriction:

32.a ha-more he’ehiv al ha-talmid et-ha-ši’ur
   the teacher loved.CAUS on the student the class
   ‘The teacher made the student love the class.’
b ha-more hisni’ al ha-talmid et-ha-ši’ur
   the teacher hated.CAUS on the student the class
   ‘The teacher made the student hate the class.’

The morphosyntax of Hebrew psych verbs thus reflects what was described by Scott DeLancey in the eighties, when he talked about 3 different construals of psych verbs:

“A situation in which a person experiences some cognitive or emotional state can be construed in three ways – as a proposition entertained in the individual's mind; as a state which the individual enters into, parallel to sick or grown-up; or as a force which enters into the individual, as a disease. The first of these is grammaticalized as dative-subject predicates like like; the second is grammaticalized as a species of change-of-state predicate like please.” DeLancey 1981

Here DeLancey doesn’t say anything about the third construal, but he does elsewhere, where he presents the distinction between the roles of Agent and Force as

“…the distinction between active (prototypically, moving) participants in the event and inactive entities which somehow produce their effect simply by being in the right place at the right time.” DeLancey 1983

So here are the construals, for verbs that have two arguments, Exp and T/SM:

33.

<table>
<thead>
<tr>
<th>construal I Locative</th>
<th>construal II Affective</th>
<th>construal III Force-incursive</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIMPLE</td>
<td>SIMPLE</td>
<td>INTENSIVE</td>
</tr>
<tr>
<td>SubjExp</td>
<td>SubjExp</td>
<td>ObjExp</td>
</tr>
<tr>
<td>direct obj T/SM</td>
<td>P_CAUd + T/SM</td>
<td>Subj T/SM</td>
</tr>
<tr>
<td>Experiencer entertains T/SM</td>
<td>Experiencer is affected by T/SM</td>
<td>T/SM is a force which enters the Experiencer</td>
</tr>
<tr>
<td>’ahav ‘to love’</td>
<td>ka’as ‘to be angry’</td>
<td>‘inyen ‘to interest’</td>
</tr>
</tbody>
</table>

The 3 construals are represented in the structures in (34):
In table (35) are the same 3 construals in the case of verbs which have an additional argument beyond the Exp and the T/SM:

<table>
<thead>
<tr>
<th>Construal I</th>
<th>Construal II</th>
<th>Construal III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locative</td>
<td>Affective</td>
<td>Force-incursive</td>
</tr>
<tr>
<td>CAUSATIVE</td>
<td>CAUSATIVE</td>
<td>INTENSIVE</td>
</tr>
<tr>
<td>ObjExp</td>
<td>ObjExp</td>
<td>ObjExp</td>
</tr>
<tr>
<td>P_LOC + Exp</td>
<td>P_CAUS + T/SM</td>
<td>P_μ + T/SM</td>
</tr>
<tr>
<td>Cause Experiencer to entertain T/SM</td>
<td>Cause Experiencer to undergo CoS</td>
<td>Make T/SM enter the Experiencer</td>
</tr>
<tr>
<td>no T/SM restriction</td>
<td>T/SM restriction</td>
<td>no T/SM restriction</td>
</tr>
<tr>
<td>*he’ehiv ‘cause love’</td>
<td>hik’is ‘annoy’</td>
<td>*inyen ‘interest in’</td>
</tr>
</tbody>
</table>

The 3 construals are represented in the structures in (36):

a. Locative  
CAUS  

b. Affective  
CAUS  

C. Force-incursive  
INTENSIVE
• (36b): The TSM restriction is due to the two different causative arguments
• (36c): The Agent in is merged to the middle-voice version of (34c)

6. Parallel construals of Locative verbs

In the work of Doron and Dubnov 2017, we show the parallel construals for locative verbs. This is not surprising, since DeLancey 1981 and Landau 2010 have already pointed out that some of the construals of psych verbs in the grammar of many natural languages treat the relation between an Experiencer and a T/SM as isomorphic to the relation between a Location (Loc) and a Locatum (Lctm). In addition, there is a construal where the Experiencer is affected by the T/SM, so it is typically a Theme which undergoes a change of state (in psych verbs) or a change of location (in locative verbs).

Construal I: Locative

SIMPL

37.a ha-yeled labaš et-ha-me’ił
the child put-on.SIMPL the coat
b ha-ripud sapag et-ha-mayim
the upholstery absorbed.SIMPL the water

CAUS

38.a hu hilbiš l-a-yeled et-ha-me’ił
he put-on.CAUS to the child the coat
b hu hispig b-a-ripud et-ha-mayim
he absorbed.CAUS in the upholstery the water

Construal II: Affective

SIMPL

39. nazlu mayim me-ha-séla’
leaked.SIMPL water from the rock
našru ’alim me-ha-’ec
shed.SIMPL leaves from the tree

CAUS

40. ha-séla hizil mayim
the rock dripped.CAUS water
ha-’ec hišir ’alim
the tree shed.CAUS leaves

41. moše hizil mayim me-ha-séla
Moses dripped.CAUS water from the rock
ha-rúaš hišira ’alim me-ha-’ec
the wind shed.CAUS leaves from the tree (No T/SM restriction)

Construal III: Force-incursive

INTENSIVE/ INTENSIVE.MID
42.a. *ha-mayim mil’u et-ha-brexa* a’. *ha-brexa hitmal’a be-mayim*
water filled.INTNS the pool the pool filled.INTNS.MID with water

b *ha-šéleg kisa et-ha-har* b’. *ha-har hitkasa be-šéleg*
snow covered.INTNS the hill the hill covered.INTNS.MID with snow

c *ha-krazot qištu et-ha-‘ir* c’. *ha-‘ir hitqašta be-krazot*
posters decorated.INTNS the town the town decorated.INTNS.MID with posters

43.a. *hu mile et-ha-brexa be-mayim*
he filled.INTNS the pool with water

b *ha-suřa kista et-ha-har be-šéleg*
the storm covered.INTNS the hill with snow

c *hu qišet et-ha-‘ir be-krazot*
he decorated.INTNS the town with posters

44. a. **Locative**

b. **Affective**

c. **Force-incursive**

INTENSIVE

45. a. **Locative**

b. **Affective**

c. **Force-incursive**

- (45b): No TSM restriction, due to the difference between Cause and Source
7. Conclusion

The causative and force-dynamic relations plays a crucial part in the representation of verbs. The main aim of the present study has been to clarify their role in the semantics of psychological (psych) verbs. A second aim was to clarify the locative semantics of these verbs.

Psych verbs denote a family of relations between the so-called Experiencer and the “Object of emotion” (called T/SM since Pesetsky 1995). The present paper has studied these relations from the perspective of the morphosyntax of verbs in Hebrew. In Semitic in general, the verbal template morphology reflects the different roles of Agent (including Force) and Cause through the contrast between the INTENSIVE and CAUSATIVE templates. Some psych relations form a subtype of the causative relation and are thus expressed in the CAUSATIVE template, whereas others describe the presence of a force, and are expressed in the INTENSIVE template.

The results of the present study are indicative of the basic semantic roles which are lexicalized in natural language. The main contrast is between Cause on the one hand and Agent/Force on the other. Both the Cause and the Agent/Force roles are typically aligned as the verb’s external argument. Roles aligned as internal arguments include on the one hand locative roles such as Location and Locatum, and on the other hand the Theme role (typically the undergoer of a change of state or location).

The present study has shown that psych verbs, though describing the mental rather than the physical domain, actually do not lexicalized new roles. Psych verbs can be construed as different relations, but the participant roles in these relations are the same as in the physical realm of locative verbs. The roles of “Experiencer” and “T/SM” can actually be replaced by the more familiar roles from the domain of locative verbs. The present study thus reinforces the conclusions of DeLancey 1981 and Landau 2010.

The morphosyntax of Hebrew reflects the three different psych verb construals proposed by Scott DeLancey. Under one of these construals, the psych verb denotes a locative state: the T/SM located within the experiencer’s mind. Under a second construal, the psych verb denotes a (change in the) state of mind of the experiencer. Both the locative state and the change of state event can be viewed as caused either by the T/SM or by a different cause. Both causative relations are expressed in the Semitic verbal system by dedicated causative morphology, the CAUSATIVE template.

Under the third construal, the psych verb denotes a Force entering the Experiencer’s consciousness. This is represented in Semitic by a different type of verbal morphology, the so called INTENSIVE template, which is known to describe agentive eventualities, including eventualities where there is no action taking place, but the presence of inactive but effective Forces. The dynamic character of the third construal reflects the fact that it involves a Force, not that it necessarily involves change.

References


Kastner, Itamar. 2016. *Form and meaning in the Hebrew verb*. PhD Diss, NYU.


