

Structuring temporal and aspectual relations with two Hebrew adverbials, and the semantics / pragmatics of *still*

Introduction: Yitzhaki 2003 describes two Hebrew constructions, headed by the particle *be-* (literally “in-”, as in (1) below) and the inflected proposition *beodo* (literally “while-he”, as in (2)). In both constructions the adjunct clause is not tensed, and gets its tense marking from the matrix. Yitzhaki claims that both constructions correspond to the English ‘while’ construction, where the matrix denotes an event which ‘locates’\ ‘interrupts’ a moment within the adjunct interval. This is supposed to explain why they are compatible with interval, but not with momentary states (see (3) vs. (4)).

Goal and main claims: In this talk I look more closely at the *be-* and *beodo* constructions, and suggest that neither has the semantics of *while*. I point to several differences between the two constructions and claim that whereas some of these differences can be attributed to the different temporal relations expressed by *be-* and *beodo*, and to the participial form of the verb in *beodo*, the full range of facts can be explained by assuming that *beodo* is composed from *be-* plus an inflected form of the aspectual particle *od* or *adayin* (‘*still*’), and by considering traditional and new claims about the semantics/pragmatics of *still*.

The data I point to the following differences between the *be-* and the *beodo* adverbials: **(A):** *beodo*, but not *be-*, is odd with achievements (as noted already by Yizthaki 2003) (see (5)) **(B):** Momentary states are bad with *beodo*, but are actually much better with *be-*, either with or without an inchoative reading (as in (6a), and (6b), respectively). **(C):** Unlike *beodo*, which expresses only inclusion between the matrix interval (i_m) and the adjunct interval (i_a) (i.e. $i_m \subset i_a$), with *be-* we also find reverse inclusion ($i_a \subset i_m$ in (7)), temporal identity ($i_a = i_m$, in (5)), and even apparent temporal succession, namely $i_a < i_m$ (as in (8), which can be true even if Danni called his wife a few minutes *after* he arrived to the office) or $i_m < i_a$, (as in (9), which naturally means that Danni packed *before* going to Alaska). **(D):** Unlike the adjective *ca’ir* (‘*Young*’) which is fine in the adjunct of both *be-* and *beodo* (10), the adjective *mevugar* (‘*Old*’) (as in (11)) is fine only with *be-*, although it implies that Danni is dead, i.e. it triggers a ‘lifetime effect’ (see e.g. Kratzer 1995, Musan 1997). **(E):** *be-*, but not *beodo* adjuncts can serve to restrict adverbial quantifiers (see (12a) and (12b)).

The analysis:

The semantics of *be-* I follow e.g. Stump’s 1985, Bonomi’s 1999 semantics of ‘*when*’, in assuming a uniform semantics for *be-*, and in attributing the range of temporal relations expressed by it to well known interactions between the aspectual properties of the adjunct and matrix eventualities, described also for the progressive (e.g. Vlach 1981, Glasby 1998), for temporal sequencing in discourse (e.g. Partee 1984, Kamp & Reyle 1993), for the perfect (e.g. Portner (2003)), etc. In such constructions achievements eventualities are taken to be temporally included in activities and accomplishments, the latter are temporally included in states, etc. Specifically, I suggest that *be-* [p_a], [q_m] uniformly asserts that i_a temporally coincides with i_m , written as $i_a > < i_m$ (Bonomi 1993), which holds iff $\exists i', i'' [i' \subseteq i_a \wedge i'' \subseteq i_m \wedge i' = i'']$. E.g. (2) is true at i iff $\exists e_1, i_1, e_2, i_2 [cross(e_1, dani, the\ street) \wedge i_1 < i \wedge at(e_1, i_1)] \wedge [hit(e_2, the\ car\ dani) \wedge i_2 < i \wedge at(e_2, i_2)] \wedge > < (i_1, i_2)]$. This covers all cases of temporal identity and inclusion between i_a and i_m , but not real temporal succession, which, unlike what happens in English free adjuncts, is impossible with Hebrew *be-* (as seen from the ungrammaticality of the Hebrew (13)).

To account for the apparent cases of succession in (8) and (9) I follow Stump's 1985 approach for *When*-clauses, and attribute such cases to pragmatic mechanisms. For example, in (8), where we apparently get $i_m < i_a$, the matrix arrival eventuality is extended, so it is naturally understood to be true also a few minutes after the exact moment where Danni

entered the office (so we can get temporal coincidence with the matrix eventuality). This suggestion is supported by showing that the extent to which the actual arrival moment can be extended varies depending on our real world knowledge of the adjunct and matrix predicates (e.g. in (14a) the visiting event can naturally occur a few hours / days after the moment of arriving to Rome, and in (14b) the decision to become a carpenter can naturally occur even a few weeks / months after the moment of arriving to America).

The semantics of *beodo*: I show that the form of the adjunct verb with *beodo* is participial, with a semantics similar to that of the progressive in English. This accounts for the fact that *beodo* is sensitive to the same lexical aspect distinction that the progressive is sensitive to (namely it is good with activities, accomplishment and interval states, and bad with momentary states and achievements) (facts (A) and (B) above). To capture fact (C) we can start by taking *beodo*- [p_a],[q_m] to assert that i_m is temporally included in i_a (fact (C)), E.g. (1) will be true at i iff $\exists e_1, i_1, e_2, i_2 [cross(e_1, dani, the\ street) \wedge i_1 < i \wedge at(e_1, i_1)] \wedge [hit(e_2, the\ car\ dani) \wedge i_2 < i \wedge at(e_2, i_2)] \wedge i_2 \subseteq i_1]$

These two claims, however, are not enough for explaining facts (D) and (E) above. Intuitively nothing is wrong in claiming that a past eventuality of earning lots of money is temporally included in a past eventuality of being old. As for the inability to restrict adverbial quantification (fact (E)), one may argue that this is due to the progressive semantics of verbs with *beodo*, but such an attempt is undermined by the fact that the inability to restrict quantification shows up also when the predicate in the adjunct of *beodo* is an adjective (as in (15)).

To explain the full range of facts I propose that the semantics of *beodo* is based on the that of *be-* and *odo*, - the inflected form of the Hebrew aspectual particle *od* / ‘*adayin* (“*Still*”) - as in (16). Thus, *beodo*[p][q] is reanalyzed as *be-* [*still-p*][q], asserting that the temporal location of *still-p* coincides with that of q , and implementing the semantics / pragmatics of *still*.

Following e.g. Löbner 1989, Mittwoch 1993, Krifka 2000, I take *still p* to assert that p holds at reference time t , and to presuppose that p holds prior to t , (the ‘prior time’ ps.). Following e.g. Michaelis 1993 I assume that p is also presupposed to potentially cease after t (the ‘potential cassation’ ps.). Fact (D) above about *beodo* is now explained by showing that the latter presupposition cannot be met with the adjective *mevugar* (“*old*”), just as it cannot in *#John is still old*.

As for fact (E), I observe that the inability to restrict adverbial quantification, found with *beodo*, has parallel manifestations with Hebrew and English *When*-clauses with *adayin* / *still*. For example, while (17) and (18) without *adayin* / *still* are ambiguous between a reading where the adjunct restricts the quantifier (‘all/most events’ reading), and a reading where it serves as a temporal background adverbial (“in the period when...” reading), the versions with *still* can only have the second, temporal background, reading. I show that the existence of the “prior time” ps. is not enough to explain this fact. Instead, I propose that the reason is that *still p* asserts that p holds at some unique reference time t . For example, unlike simple past tense sentences without *still*, which can be uttered out of the blue, and which can be asserted to hold at an existentially quantified-over interval prior to the utterance time (as suggested in, e.g. Kratzer 1998 for English), when *still* is present the reference time must be a unique, contextually salient past interval. Among other things this is supported by the oddness of the out of the blue past tense (19) with *adayin* and *still* (where no contextually salient past time is provided), as opposed to the felicity of the out of the blue present tense (20) with *adayin* and *still* (where the unique reference time is the utterance time), and the felicity of the past tense (21) with *still* and an explicit time expression. The proposal is motivated by showing that without a unique reference time, the “prior time” ps. of *still* comes out vacuously true. It is the uniqueness of the temporal location of the eventuality with *still*, and

thus also with *beodo*, which prevents these constructions from restricting quantification over events.

Finally, I show how the new requirement for a contextually salient reference time with *'adayin / still*, together with the temporal coincidence semantics of *be-*, lead to a natural explanation of the proper temporal inclusion associated with *be-odo* (fact (C) above), namely its *'while*-like interpretation (Yitzhaki 2003), so this fact need not be stipulated anymore as part of the semantics of *beodo*.

Examples:

- (1) ***be-kotvo et ha-maamar cilcel ha-telefon***
in-he-write acc. the-paper rang the-telephone
- (2) ***beodo kotev et ha-maamar cilcel ha-telefon***
while-he write acc. the-paper rang the-telephone
(Both: "While he was writing the paper the telephone rang"),
- (3) ***be-yoSvo / beodo yoSev 'al ha-mita cilcel ha-telefon***
in-he-sit / while-he sit on the-bed rang the-telephone
"While he was sitting on the bed the phone rang"
- (4) ****be-ohavo / *beodo ohev et rina cilcel ha-telefon***
in-he-love / while-he love acc. Rina rang the-telephone
"While he was loving Rina, the phone rang"
- (5) ***be-hagi'o / ??be-odo magi'a la-pisga hitxila sufa xazaka***
in-he-reach / while-he reach to-the-summit started storm strong
"Reaching the summit, a strong storm began"
- (6) ***a. e-yodo' / *be-odo yode'a et ha-tSuva, herim dani et yado***
In-he- know / while-he know acc. the-answer, raised Danni acc. his-hand
Knowing the answer, Dani raised his hand"
b. ?be-ohavo / *be-odo 'ohev et rina haya dani me'uSar yoter mi-ey pa'am
in-he-love / while-he love acc. Rina, was Danni happy more from ever
"Loving Rina, Danni was happier than ever"
- (7) ***be-pog'o be-rina nasa dani be-emca ha-kviS***
in-he-hit at-Rina drive Danni in-middle the-road
"Hitting Rina, Danny drove in the middle of the road"
- (8) ***be-hagi'o la-misrad, cilcel dani le-iSto***
in-he-reach to-the-office, called Danni to-his-wife
"Arriving to the office, Danni called his wife"
- (9) ***be-nos'o le-alaska, 'araz lo dani bgadim xamim***
in-he-go to-Alaska, packed him Danni cloths worm
"Going to Alaska, John packed some warm clothes"
- (10) ***be-heyoto / be-odo ca'ir, haya dani populari meod***
in-he-be / while-he young, was Danni popular very
"Being young, Danny was very popular"
- (11) ***be-heyoto / *beodo mevugar hirvi'ax Danni harbe kesef***
in-he-be / while-he old, earned Danni lots-of money
"Being old, Danny earned lots of money"
- (12) ***a. be-holxo / *beodo holex la-'avoda, ra'a dani lif'amim 'et ha-ganan***
in-he-go / while-he go to-the-work, saw Danni sometimes acc. the-gardener
"Going to work, Danny sometime saw the gardener"
b. be-taylo / *beodo metayel ba-ya'ar, Some'a dani be-derex klal klavim novxim
in-he-walk / while-he walk in-the-forest, hears Danni usually dogs bark
"Walking in the forest, Danni usually hears dogs barking"

- (13) ***be-ceto min ha-bayit be-SeS, higia dani la-bank be-Seva**
in-he-leave from the-house at-six, arrived Danni to-the-bank at-seven
 “Leaving the house at six, Danni arrived to the bank at seven”
- (14) **a. be-hagi’o le-roma, halax dani le-vaker et rina**
in-he-arrive to-Rome, went Danni to-visit acc. Rina
 “Arriving to Rome, Danni went to visit Rina”
b. be-hagi’o le-‘amerika, hexlit dani le-hafox le-nagar
in-he-arrive to-America, decided Danni to-become to-carpenter
 “Reaching America, Danni decided to become a carpenter”
- (15) **be-heyoto / ??be-odo xole Sote dani tamid te im dvaS**
in-he-be / while-he ill, drinks Danni always tea with honey
 “Being ill, Danny always drinks tea with honey”
- (16) **dani odo /adayin yaSen**
Danni still-he / still asleep
 “Danny is still asleep”
- (17) **kSe-dani (adayin) halax le-beit ha-sefer hu tamid haya meduka**
when-Danni (still) went to-house the-book he always was depressed
 “When Danni (still) went to school, he was always depressed”
- (18) **kSe-dani (adayin) haya xole, hu tamid haya acbani**
When-Danni (still) was ill, he always was nervous
 “When John was (still) ill, he was always nervous.”
- (19) **'axi (#adayin) haya xole** (out of the blue).
Brother-mine (still) was ill
 “My brother was (#still) ill”
- (20) **axi (adayin) xole** (out of the blue).
Brother-mine (still) ill
 “My brother is (still) ill”
- (21) **be-1993 'axi (adayin) haya xole**
in-1993 brother-mine (still) was ill
 "In 1993 my brother was still ill"

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