Event-Based Additivity in English and Modern Hebrew

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1. Introduction

This paper examines novel data concerning the interpretation of the particle *od* in modern Hebrew, and its English correlate *(some) more*, in two constructions expressing what I will henceforth call 'nominal additivity' (as in (1)), and post-predicate additivity (as in (2)):

(1)   (etmol axalti 3 tapuzim) ha-yom axalti od (tapuzim)

        (yesterday I-ate 3 oranges) the-day I-ate od (oranges)

        "(Yesterday I ate 3 oranges) Today I ate some more (oranges)"

(2)   (ba-boker rina yaSna kcat). Ba-cohorayin hi yaSna od

        (in-the-morning Rina slept a bit). In-the noon she slept od

        "(In the morning Rina slept a bit). At noon she slept some more"

The main claim made in this paper is that despite the fact that the *od* and *more* in (1) combine with nominal expressions they expresses additivity in the domain of eventualities. Specifically, I propose (in section 2) that these particles trigger the presupposition that there is an existing eventuality, that the asserted eventuality is added to, resulting is a larger eventuality. In section 3 I examine ways to formally capture this intuition, inspired by Rothstein's 2004 S-summing operation, and Landman's 1996, 2000 groupification operation, and on Landman's 1992 notion of event stages.

In section 4 I show that the analysis of the nominal *more / od* can be naturally extended to account for the Semantics of post-predicate *more / od* seen in (2). Here too, I suggest, we get additivity in the domain of eventualities. The difference between the nominal and post-predicate additives lies that in the former the summed eventuality gets larger by virtue of enlarging the number of the participants in it, whereas in the latter this is done by adding the running times of the presupposed and asserted eventualities. I show that characterizing the underlying difference this way naturally accounts for several contrasts in the distribution and interpretation of nominal and post predicate *more_{add}* and *od*.

Section 5 summarizes the main findings of the paper, and points out a direction for further research, namely extending the analysis of the nominal and post-predicate additives to pre-predicate *od* and its English correlate, *still*, as in (3):

(3)   rina od yeSena

        Rina od asleep

        "Rina is still asleep"

Throughout the paper I make comparisons between the analysis and observations concerning the Hebrew *od* and the English *more,* and those made in Tovena & Donazzan 2008 with respect to the Italian particle *ancora*, the French *encore* and the Chinese *zai*. Tovena & Donazzan propose a unified eventuality-based analysis for the various interpretations of these particles, which is very similar to the one proposed in this paper for the Hebrew and English ones. However, there are also interesting differences, both in the data, and the analyses of the additive particles in the two sets of languages. I point to some of these differences and propose that they result from a real difference between the Hebrew and English particles, on the one hand, and the French /Italian / Chinese ones, on the other hand. Whereas the former particles are indeed restricted to express addition only (extending an existing eventuality), the latter seem more flexible, and can express both addition and repetition (ending up with a plurality of eventualities, which share a common characteristic).

2. The Semantics of nominal *od / more*add

2.1 Preliminary observations

English *more* is usually discussed in the Semantics literature with respect to its comparative meaning, with APs (see e.g. Kennedy 1999), comparing degrees, and in (4a), or with NPs, comparing quantities (see e.g. Hackle 2000) (as in (4b)):

(4)   a.   Mary is more intelligent than Danny (*comparative*)

        b.   Mary bought more books than Danny (*comparative*)

But *more* has another use, so far not discussed in the literature, as an additive particle. Consider for example (5):

(5)   Yesterday Danny interviewed three students. Today he interviewed more (students) (*comparative / additive*)

(5) is ambiguous between the comparative reading, in which Danny interviewed more than three students (e.g. four students), and another, additive reading, in which he interviewed additional students, perhaps even one more. The ambiguity is resolved in (6): (6a), which marks the comparison directly using a *than*-phrase immediately after *more*, is unambiguously comparative, and (6b), with the quantifier *some* or the numeral *three* just before *more*, is unambiguously additive:

(6)   a. Today Danny interviewed more *than three* students

                b. Today Danny interviewed *some / three* more students.

Other languages, e.g. German, Italian, French, Chinese and Hebrew lexically encode the comparative and additive readings of *more* differently. In modern Hebrew the ambiguous (5) will be translated as (7), with *yoter* for the comparative reading, and with *od* for the additive one:

(7)   etmol dani ri'ayen SloSa studentim. Ha-yom hu riayen yoter / od

Yesterday Danny interviewed three students. Today he interviewed yoter /od

"Yesterday Danny interviewed three students. Today he interviewed more (students)"

At first sight the Semantics of *od* and the additive *more* (called henceforth *more*$_{add}$) in (5) and (7) seems to be defined in a similar way to that of the more well studied additive *too*, i.e. in terms of addition in the domain of individuals, denoted by the nominal expressions that the particles combine with. Intuitively, for example, (7) seems to assert the existence of students interviewed by Danny, in addition to presupposed existing students with the same property. (Indeed, a proposal along this line is made in König's 1977 analysis of the additive reading of the German *noch*, and a modified version of this proposal, maintaining the additivity of *noch* in the domain of individuals, is proposed in Umbach 2008).

I believe, however, that despite the 'nominal' nature of *od* and *more*$_{add}$ in (5) and (7) they actually relate to the eventuality expressed by the verb. A first indication for this is the contrast between (5), repeated here, and the very similar (8):

(5)   Yesterday Danny interviewed three students. Today he interviewed more (students)
        (*comparative / additive*)

(8)   Today Danny interviewed three students. Yesterday he interviewed more
        (*comparative / #additive*)

Unlike (5), *more* in (8) has only the comparative reading (the sentence can only mean that Danny spoke with more than three students), and the additive reading is not available anymore. Notice also that translating (8) to Hebrew is only felicitous with the comparative particle *yoter*. Unlike (7), using the additive *od* is infelicitous in this case:

(9)   hayom dani ri'ayen SloSa studentim. etmol hu ri'ayen yoter / #od
        today Danny interviewed three students. yesterday he interviewed yoter /od
        "Today Danny interviewed three students. Yesterday he interviewed more (than
        three)"

It seems, then, that using the Hebrew *od* and the English *more*$_{add}$ we can add 'forward' (e.g. from yesterday to today), but not 'backward' (e.g. from today to yesterday). Notice that this constraint has a presuppositional status. For example the additive reading of *more* is blocked under the negative predicate in (10) as well:

(10)   Danny interviewed three students today. But yesterday he was too tired. I don't think
        he interviewed more students (*comparative / # additive*).

In the meantime I will call this constraint the 'prior time presupposition', and will examine it in more detail below. As can be seen from the felicity of (11), this presupposition does not seem to be triggered by the presence of the additive *too*, and its Hebrew correlate *gam*.

(11)   ha-yom dani riayen 3 studentim. Etmol hu gam riayen studentim.

The-day Danny interviewed 3 students. Yesterday he also interviewed students

"Today Danny interviewed 3 students. Yesterday he interviewed students too"

The important implication at this point is that despite the nominal nature of *od / more*add they are different from *gam / too* in that they seem to be additive in the domain of eventualities. We don't want to say, for example, that (7) presupposes that there are existing *students* prior to the reference time of the sentence, because this requirement will be met also in the infelicitous (9): Even if Danny interviewed students for the first time - the students existed before. Instead, the sentence seems to presuppose that an *eventuality* of interviewing students existed before the reference time of the assertion. This can be more formally captured in (12) (ignoring tense):

(12) a. Today Danny interviewed (some) more students

b. <u>Assertion</u>: $\exists e_1,x,t$ [interview $(e_1) \wedge$ Ag(e_1) =j $\wedge$ The(e_1) =x $\wedge$ *student $(x) \wedge \tau(e_1) \subset$ t $\wedge$ t=today] ("There is an interviewing students eventuality by Danny, e_1, whose time is included in today")

c. <u>Presupposition</u>: $\exists e_2$, y, t' interview $(e_2) \wedge$ Ag(e_2) =j $\wedge$ The(e_2) =y $\wedge$ *student $(y) \wedge \tau(e_2) \subset$ t'$\wedge$ t'< today] ("There is an interviewing student(s) eventuality by Danny, e_2, whose time is before today")

I believe this representation is on the right track. However, there are two main revisions we should make in it, concerning (a) the temporal relationship between the presupposition and the assertion and (b) the characterization of the asserted and presupposed eventualities ($e_1$and e_2 in (12)). I deal with these two issues in subsections 2.2 and 2.3, respectively.

<u>2.2 A prior time presupposition ?</u>

Defining the particles *more*add */ od* as triggering a 'prior time' presupposition, as in (12), makes it intuitively similar to aspectual *still,* which in Hebrew appears as *od* as well*:*

(13) dani od yaSen

Danny od asleep

"Danny is still asleep"

This is because the triggering of a 'prior time presupposition' has been known to be THE defining characteristic of aspectual *still* (e.g. König 1977, Mittwoch 1993, Löbner 1989, Krifka 2000, Michaelis 1993, van der Auwera 1993, Ippolito 2007, Greenberg (2008)). Indeed, a central part of Tovena & Donazzan's 2008 theory of the *ancora / encore / zai* adverbs is that in all their occurrences and interpretations they share an underlying 'prior time' component. According to them in all its occurrences , the particle takes a time (the reference time), and a property of eventualities, and triggers the presupposition that a property of eventuality is salient and used in the context, which is predicated both of the reference time and of a prior time.

However, a closer looks shows that the 'prior time' component is not a necessary condition on the felicity of the nominal $more_{add.}$ / od. Consider, for example (14)-(16) :

(14) ha-boker dani ri'ayen 3 studentim ba-misrad Selo. Be-oto zman

The-morning Danny interviewed 3 students in-the-office his. In-same time

Rina ria'yna **od** studentim ba-sifriya

Rina interviewed **od** students in-the-library

"This morning Danny interviewed 3 students in his office. At that time Susan interviewed some **more** students in the library"

(15) be-SeS bediyuk dani ra'a 3 ze'evim leyad ha-mexonit, ve-od kama (zeevim)

In-six sharp Danny saw 3 wolves near the-car and-**od** some wolves

mamaS   meaxorey ha-ohel

just behind the-tent.

"At 6.00 sharp Danny noticed 3 wolves near the car and some more (wolves) just behind the tent"

(16) ha-mesiba ha-zo hayta ason ! hayiti carix le-tapel be-oto zman be-6 yeladim

The-party the-this was disaster I-was need to-treat in-same time with 6 children

boxim ve-od 4 ravim ve-corxim !

Crying and-**od** 4 fighting and-screaming

"That party was a disaster ! I had to deal at the same time with 6 children crying and 4 **more** fighting and screaming !"

In all these examples *od* is felicitous and *more* can get an additive reading, although the presupposed eventuality is not 'prior' to the asserted eventuality, but occurs 'at the same time'. This means that our definition in (12), should be, in fact changed to (17), where e_2 (the presupposed eventuality) should be temporally prior *or identical* to the e_1 (the asserted eventuality):

(17) a. Today Danny interviewed (some) more students

b. <u>Assertion</u>: $\exists e_1,x,t$ [interview $(e_1) \wedge Ag(e_1) =j \wedge The(e_1) =x \wedge$ *student $(x) \wedge \tau(e_1) \subset t \wedge t=$today]

c. <u>Presupposition</u>: $\exists e_2, y, t'$ interview $(e_2) \wedge Ag(e_2) =j \wedge The(e_2) =y \wedge$* student $(y) \wedge \tau(e_2) \subset t'\wedge$ **t'$\leq$ today**]

This change has two implications. First, unlike what is reported for Tovena & Donazzan 2008 for the particles in Italian / French / Chinese, a 'prior time presupposition' cannot be what unites the Semantics of the verbal and the nominal additive particles in Hebrew and English with *od* and aspectual *still*. Second, the necessary component for the nominal $more_{add}$ / od is the presupposition that there is an *existing* relevant eventuality at the reference time (not necessarily a prior one).

<u>2.3 The relationship between the presupposed and asserted eventualities</u>

In definition (17) the asserted and presupposed eventualities (e_1 and e_2) were characterized by the same predicate. Specifically both were defined as eventualities of interviewing students by Danny. A closer look, however, shows that this is not always the case.[1]

For example, in (14) above the agents and locations of the two eventualities differ: The asserted eventuality (e_1) is that of interviewing students by Danny in the office, whereas the presupposed one (e_2) is that of interviewing students by Mary in the library. In other cases, as in (18), the agents, locations and times are different:

(18) ha-xatula kvar lo beherayon: ba-boker macati 4 gurim mitaxat la-mita, ve-

The-cat already not pregnant: in-the-morning I-found 4 kittens under the-bed and-

axSav dani maca od kama ba-mirpeset

now Danny found od some in-the-porch

"The black cat is not pregnant anymore: In the morning I found 4 kittens under the bed, and now Danny found some more in the closet".

And, in fact, as can be seen in (19)-(21), even the verbs themselves don't need to be the same:

(19)   dani afa 3 ugot la-mesiba. Ani ekne od maxar

Danny baked 3 cakes to-the-party. I will-buy od tomorrow

"Danny baked 3 cakes for the party. I will buy more tomorrow"

(20)   kibalti 30 kvasim mi-dod Seli. Be-Savu'a ha-ba ekne od 10

I-bought 30 sheep from-uncle mine. In-week the-next I-will-buy od 10

"I got 30 sheep from my uncle. Next week I will buy 10 more".

(21)   dani Sama harbe yatuSim mezamzemim mixuc la-ohel, ve-ra'a od kama bifnim,

Danny heard many mosquitoes buzzing outside to-the-tent and-saw od some inside

leyad ha-menora

near the-lamp

"Danny heard many mosquitoes buzzing outside the tent, and I saw some more inside, near the lamp".

The presupposed and asserted eventualities, then, can vary along various dimensions. Crucially, however, not anything goes here. The relation between the presupposed and asserted eventualities is constrained in such a way that intuitively, the result of adding the asserted eventuality to the presupposed one should result in a single and larger eventuality.

For example, in (19)-(21),the asserted and presupposed eventualities, e_1 and e_2, seem to be summed into a larger eventuality of "preparing cakes for the party", of "having sheep", and of

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[1] Cf. also Tovena & Donazzan for this observation with the French / Italian / Chinese data.

"noticing mosquitoes", respectively. Similarly, in the original (7), repeated here, e_1 and e_2 are summed together to create a single, larger eventuality of interviewing students (yesterday and today):

(7)   etmol dani ri'ayen SloSa studentim. Ha-yom hu yera'ayen od

        Yesterday Danny interviewed three students. Today he will-interview od

        "Yesterday Danny interviewed three students. Today he will interview some more.

The main support for this intuitive characterization is the observation that when the two eventualities *cannot* be summed up into a singular, larger eventuality, the presence of *od / more*$_{add}$ is infelicitous. Consider for example (22) and (23):

(22)   afiti 3 ugot la-mesiba Sel ha-ben Seli. iSa Se-ani makira be-nu York

        I-baked 3 cakes to-the-party of the-son mine. Woman that-I know in-New York

        afta #od / yoter ugot la-mesiba Sel ha-ben Sela

        baked od / yoter cakes to-the-party of the-son hers

        "I baked 3 cakes for my son's birthday party. A woman I know in New York baked

        more cakes for her son's party *(comparative / # additive)*

(23)   le-roS ha-memSala yeS 3 yeladim. Li yeS #od / yoter

        to head the-government has 3 children. To-I have od / yoter

        "The prime minister has three children. I have more" (*comparative / #additive*).

Unlike what we see in (19) and (21), in (22) and (23), *od* is infelicitous (as opposed to the felicitous comparative particle yoter), the English translations are naturally interpreted as comparative only: The woman in New York baked more than three cakes, and I have more than three children. Intuitively, the reason for that is the fact that unlike what we saw before, in (22) and (23) the presupposed and asserted eventualities are not naturally taken to form together a single, larger eventuality. For example, baking cakes for two distinct parties, by two different people is not naturally considered a singular, larger eventuality, and under normal circumstances, the prime minster having children, and I having children cannot be summed together into a singular eventuality of having children.

Furthermore, the felicity of these sentences (under the additive reading) can be rescued if we can place them against the scenarios where we do end up with a single, larger, eventuality. For example, (22) will become felicitous if we imagine some new context where women all over the world baked as many birthday cakes as they can, and the more cakes we manage to count, the more money some foundation will contribute to starving children. (23) can become felicitous if we imagine a situation where me and the prime minister are living in the same building (e.g. I am the prime minister's house keeper), and the bodyguards are trying to see how many children we have, in order to find a suitable room to hide in case of an emergency.

It is interesting to compare this intuitive constraint with what Tovena & Donazzan 2008 propose for the relevant particles in Italian, French and Chinese. As noted above, according to them

ancora / encore / zai combine with a time (the reference time) and a property of eventualities and trigger the presupposition that a certain property of eventualities, predicated of a prior time, has been used and is salient in the context. The presupposed property is a hypernym of the property characterizing the asserted eventuality and the antecedent.

However, the infelicitous (23) and (23) show that this characterization is too weak to capture the constraint on the Hebrew and English additive particles. Crucially, in these cases we can easily say that a certain property, characterizing both the presupposed and the asserted eventuality ('a hypernym') has been used and is salient in the context. In (23) this can be the property of baking cakes for one's son's party, and in (23) it can be the property of having children, etc. Nonetheless, these sentences are infelicitous.

Intuitively, then, we really need the stronger constraint requiring that when summing the presupposed and asserted eventualities we end up with a singular, larger eventuality. In the next section we turn to examine ways to formally capture this intuitive constraint.

3. Formally capturing the 'single eventuality' intuition

3.1 The challenge

Trying to be more precise about the intuitive 'single, larger, eventuality' constraint is not trivial. The standard approach to summing operations on events (Landman 1996, 2000, Rothstein 2004, Kratzer (forthcoming)) is that these operations are similar to summing operations in the domain of individuals. The standard sum operations of individuals yield plural individuals, marked with a star (*). Thus, the denotation of the plural noun *children* is *child,* and the conjoined NP *Danny and Mary* is represented as *Danny+Mary ,* both denoting a plural individual (sum of atoms).

Similarly, when atomic eventualities are summed together the result is a plural eventuality. Thus in (24b) the interpretation of the verb is *run,* denoting a plural running eventuality. The same holds for (24c), given what has been known as the 'unique role requirement', namely the requirement that each thematic role of an event (e.g. the agent role) is filled by one individual. Thus, given a distributive reading of *run* in (24b) and (24c), we end up with two events of running, one where Danny ran, and a one where Mary ran, i.e. again with a plural denotation *ran[2].*

(24)　　a.　　Danny ran

　　　　b.　　 Danny ran twice

　　　　c.　　Danny and Mary ran

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[2] Notice that the interpretation of the verbs in (24b) and (24c) is indeed plural, although unlike nouns, it is not morphologically marked for plurality. I.e. there is no morphological difference between the verb in (24a) and in (24b-c). There are many languages, though, where verbs denoting plural eventualities are marked morphologically, in what has been known to be pluractional markers (see e.g. Newman 1990, Cusic 1980, Lasersohn 1995.)

Given this approach, then, it is not clear how to capture the intuition discussed above, that summing two eventualities, namely the presupposed and asserted eventualities with $more_{add}$ / od yields a *single* eventuality.

Let us examine now two potential solutions to this problem

3.2 Using Rothstein's 2004 S-summing and Landman's 1996, 2000 groupificaiton operator

Rothstein 2004 suggests that in addition to the standard summing operation on eventualities, there is an additional, S(ingular)-summing operation. S-summing takes two atomic events e_1 and e_2 and forms from them a new *singular* event, $^S(e_1+e_2)$. This operation is an inherent part of the Semantics of constructions like depictive predication (as in (25)), where distinct predicates (e.g. driving and being drunk) are summed into a singular predicate 'drive-drunk':

    (25)   Mary drove the car drunk

According to Rothstein, the S-summing in constructions like (25) is subject to a constraint she calls **TP-** (Temporal-Participant) **connect**: E.g. in (), the driving and the being drunk eventuality must have the same temporal location, and share the same agent (Danny). If this constraint is met, we end up with a singular, though complex predicate: *drive-drunk*.

       We can propose, then, that a similar operation is triggered by the presence of $more_{add}$ / od , above. In these cases too we start from two eventualities, and end up with a singular, though a complex, eventuality. Unlike what happens with depictive constructions, however, the temporal constraint is more flexible: not temporal identity, but temporal identity or priority of the presupposed eventuality. We end up with a singular, though a potentially temporally discontinuous eventuality.

       In addition, the od / $more_{add}$ construction is also different from the depictive one in (25) in that the participants of the two eventualities are not the same. First, the denotation of arguments headed by od / $more_{add}$ is different in the presupposed and asserted eventuality. E.g. in (19) different cakes are prepared, and in (21) different mosquitoes are noticed. In addition, as noticed above, the agents of the two eventualities can differ as well, as in (5), repeated here:

       (5) Danny interviewed three students. Mary interviewed (two) more

In this case, we seem to get a plural individual (e.g. Danny+Mary) as the agent of (5). As mentioned above, the standard assumption (e.g. Landman 1996, 2000) that a singular eventuality is a one whose thematic roles are filled by singular entities as well. Given this assumption it is not clear how to maintain the claim that the presupposed and asserted eventualities in e.g.(5) can be S-summed (using Rothstein's 2004 terminology) and yield a singular eventuality.

       However, Landman 1996, 2000 proposes that sometimes apparently plural individuals can function, or viewed as singular. Consider (26) and (27):

    (26)   a.   Danny carried the piano upstairs

<div align="center">b.   The man carried the piano upstairs</div>

(27)   a.   The children carried the piano upstairs

<div align="center">b.   Danny and Mary carried the piano upstairs</div>

The agents in (26a-b) are clearly singular individuals, and the predicate 'carried the piano upstairs' can be thus safely considered a singular predicate. But according to Landman 1996, 2000 there are also scenarios where a plural NPs (as in (27a)), or a conjoined NPs (as in (27b)) can be considered singular. This happens when these plural NPs (*child), or conjoined NPs (Danny + Mary) are seen as *groups*, marked by Landman's groupification operator ↑. In this case we end up with ↑*child (the group of children), and ↑(Danny +Mary), (the group of Danny and Mary), as the denotations of the subjects in (27a) and (27b) respectively. Crucially in this cases the VP 'carried the piano upstairs' is interpreted collectively, and thus as expressing singular predication. Landman, then, reduces distributive and collective interpretations of VPs to plurality and singularity of the predicates, respectively.

What is relevant to our analysis is Landman's claim that grouped sums and predication over groups are different from plural sums and plural predications, in involving *non-inductive inferences*. Consider (28a) and (28b):

(28)   a. The boys carried the piano upstairs

           b. The marines invaded Granada (Carlson 1977)

According to Landman, for (28a) to be true on the collective reading, it is not enough that each of the boys carried the piano upstairs (this will be fine for the distributive reading). We need to assume that the boys are having collective responsibility, are involved in a collective action, collective decision, etc. Similarly, for (28b) to be true it is not enough that two, most, or even all members of the Marine corps invaded Granada. Instead it is "collective responsibility, rather than the number of individual Marines involved, that makes (28b) true" (Landman 2000, p.172).

Turning back to the interpretation of *more$_{add}$ / od,* what supports the idea that these additives involve singular predication is the observation that the interpretation of such sentences seems involve non-inductive inferences and group readings as well. Consider (29):

(29)   dani katav od ma'amarim

           Danny wrote od papers

           "Danny wrote (some) more papers".

Trying to check in which situations we would naturally utter (29), we can see that an inductive inference is indeed not enough. For example, a situation where Sara, a person we know, wrote papers, and Danny, a person we also know wrote papers as well, is not enough to make (29) felicitous. In this situation we can naturally utter (30), with the additives *gam / too*, but not (29):

(30)   sara katva kama maamarim. gam dani katav ma'mamarim

Sara wrote several papers. Also Danny wrote papers

"Sara wrote several papers. Danny wrote (some) papers too"

Notice that even if Sara and her papers writing are salient in the context, this is not enough to trigger a natural use of *more*add / *od*. In (31), for example, *more* has the comparative reading only, and the Hebrew *od* is infelicitous:

(31)　　yeS li harbe xaverim Se-katvu maamarim la-axrona. Sara katva 3 maamarim. dani

　　　　Have I many friends that-wrote papers to-the-lately. Sara wrote 3 papers. Danny katav

　　　　od maamarim

　　　　wrote od papers

　　　　" I have many friends who wrote papers lately! Sara wrote 3 papers, Danny wrote

　　　　more papers" (*comparative only*).

In order to get a felicitous use of *more*add in (29), we have to assume a stronger scenario: e.g. imagine that Sara and Danny are part of a research project: Sara has written some papers, and Danny wrote additional ones, e.g. in order to make the number of papers in the project larger.

　　　　Given this observation we may propose that in (29) Sara and Danny function as a group, having collective responsibility, and the papers they write can also be treated as a group.

　　　　(32) offers a DRT translation of (29), attempting to capture this idea (I use here brackets notation, and underline the presupposition (as in Geurts 1999). As usual, all free variables are caught by existential closure). (32) is paraphrased in (33):

(29)　　Sara wrote papers. Danny wrote *more*add. papers

(32)　　$[e_1, t, x, \underline{y, e_2, e_3, t'}$: $t < n$, write (e_1), $Ag(e_1) = d$, $Th(e_1) = x$, *paper (x), $\tau(e) \subset t$, $\underline{\text{write } (e_2),}$
　　　　$\underline{Ag(e_2) = s, Th(e_2) = y, \ t' \leq t, \text{*paper}(y), \tau(e_2) \subset t', \text{write } (e_3), e_3 = {}^S(e_1 + e_2), Ag(e_3) = \uparrow}$
　　　　$\underline{d + s, The (e_3) = \uparrow x + y]}$

(33)　　a.　　Assertion: There is a writing eventuality e_1 whose agent is Danny, whose
　　　　　　theme is some plurality of papers, and whose time is included in a past time t.

　　　　b.　　Presupposition: There is a writing eventuality e_2 whose agent is Sara and
　　　　　　whose theme is some paper(s), such that
　　　　　　i. The time of this eventuality e_2 is included in t', which is the same or prior to t
　　　　　　ii. There is a singular writing eventuality e_3, resulting from the S-summing of
　　　　　　e_1 and e_2.
　　　　　　iii. The agent of e_3 is the group of Danny and Sara (the agents of e_1 and e_2), and
　　　　　　its theme is the group of papers x and y (the themes of e_1 and e_2).

3.3 Problems with the group-based analysis of the additive particles

(32), then, seems to indeed capture the intuition that the use of *od / more*add triggers the presupposition that we end up with a singular eventuality, even if we have distinct participants, and that this is because these participants behave as a group.

However, a closer look at the data shows that although this interpretation seems to indeed work for many cases, there are other cases where no group interpretation of the agents seem to be available, but nonetheless the use of *od / more*add is perfectly felicitous. Consider, for example, (34) and (35):

(34) (What happened to the cookies you baked?)

Axyan Seli haya kan ve-axal et ruban. Axar kax hayta li pgiSa im ha-

Nephew mine was here and-ate acc. most-of-them. Later had I meeting with the-

studentit Seli ve-hi axla od

student mine and-she ate more

"My nephew was here and ate most of them. Later I had a meeting with my student, and she ate some more."

(35) (We had a horrible time last month)

ha-hurikan harag 4 anasim ba-kfar. Savua axar kax od Sney anaSim nehergu

the-hurricane killed 4 people in-the-village. Week later two more_add people killed

al yedey Sodedim

by robbers

"The hurricane killed 4 people in this village. A week later two more people were killed by robbers".

In (34), it is hard to take my nephew and my student to form a group, assuming that they probably do not even know each other. Crucially, it is hard to talk here about these agents as having some 'collective decision' or 'collective responsibility', since they may be completely unaware of each other, and / or of each others' cookies-eating. This is even clearer in (35), since we won't tend to consider the inanimate hurricane which killed four people, and the animate robbers who killed two people a week after as a group. Here too we cannot talk about collective action or decision.

Rather, in these cases we seem to get standard distributive readings. Consequently it seems impossible to represent the eventuality resulting from the summing of the presupposed and asserted eventualities in these sentences as a singular eventuality.

Crucially, however, *more* can naturally get an additive reading in (34) and (35) and the presence of *od* in the Hebrew correlates is perfectly felicitous. This seems to strongly suggest that we need another way to capture the intuitive constraint on the use of these additive particles. In the next section we examine such a way.

<u>3.4 Stages: The summed eventuality as a more developed version of its parts.</u>

Until now we concentrated on trying to capture the intuition that the asserted and presupposed eventuality (e_1 and e_2) form together a single eventuality (e_3).But there is another intuition we need to capture, which concerns the 'incremental' nature of the addition expressed by *od /more_add*. Take again (7):

> (7)   etmol dani ri'ayen SloSa studentim. Ha-yom hu yera'ayen od
>
> Yesterday Danny interviewed three students. Today he will-interview od
>
> "Yesterday Danny interviewed three students. Today he will interview some more"

Intuitively, the summed eventuality e_3, is not only a *sum* of two eventualities. It is also a more 'developed' version than its parts. In other words, the use of *od / more_add* in the assertion somehow advances a certain situation (e.g. the process of choosing which students to accept), and makes it more developed.

Notice that this is different from the intuition we get with (36), with the Hebrew additive *gam* and its English correlate *also* :

> (36)   etmol dani riayen 3 studentim. Gam ha-yom hu riayen studentim
>
> Yesterday Danny interviewed 3 students. Also today he interviewed students
>
> "Yesterday Danny interviewed 3 students. Today he interviewed students too".

Unlike (7), the use of *too can* indicate a development, but this is not necessarily the case. (36) can simply report what Danny did yesterday and today. In contrast, (7), with *more* intuitively indicates incramentality and development of the situation / event involved.

Similarly in (29) above the presence of *more_add / od* indicates that an eventuality of e.g. writing papers for the project is developing (by having additional papers), (34) indicates that an eventuality of eating up the cookies in the jar is advancing, etc..

One direction of capturing this intuition is by employing the notion of a stage-of (as opposed to the part-of) relation between eventualities. This notion was originally introduced by Landman 1992 as a key ingredient for capturing the semantics of the progressive, and it is further used also in e.g. Rothstein 2004 treatment of progressive achievements, and in Sharvit's 2003 analysis of the Semantics of *try*. Landman 1992 explains that

> An event is a stage of another event if the second can be regarded a more developed version of the first, that is, if we can point at it and say "It's the same event in a further stage of development" (Landman 1992, p. 23)

We can now propose that the stage-of relation between eventualities is part of the semantics of *od / more_add* . Specifically, the relationship between eventualities with these particles is more constrained than the one found with the additive *too* (and its Hebrew correlate *gam*). In () above, with

too / gam, for example, the summing of Sara's writing papers and Danny's writing papers yields a plural eventuality of Sara's+Dany's writing papers. Each subevent is a *part-of* the resulting plural event. But the intuition with *od / more_{add}* is that the presupposed eventuality e_2 is not only *part* of the summed eventuality e_3 (which is the sum of e_1 and e_2), it is also a *stage* of that eventuality. Thus, by adding e_1 to e_2 we get not only a strictly speaking sum of two eventualities, but also a more developed version of e_2. That is, the presupposed eventuality e_2 is seen as a beginning part of a certain process, and e_1 (the asserted eventuality) is seen as an extension of e_2, which leads to the more developed eventuality e_3.

Notice that defined this way, e_3 is strictly speaking plural, and not singular as in the S-summing proposal above. However, we still capture the intuition that the use of *od /more_{add}* leads to a singular larger eventuality, since the resulting event is taken to be a more developed version of its stage, and not merely as a sum of the two subparts.

For a sentence like (37), then, our definition should look like (38), paraphrased in (39), where $<_s$ is the stage-of relation between eventualities:

(37)   Sara wrote papers. Danny wrote more_{add.} papers

(38)   [e_1,t,x,$\underline{y,e_2, e_3, t'}$: t<n, write ($e_1$), Ag($e_1$) = d, Th($e_1$) = x, *paper (x), $\tau(e) \subset$ t, $\underline{write (e_2)}$, $\underline{Ag(e_2) = s, Th(e_2) = y,\ t' \leq t}$, *paper(y), $\tau(e_2) \subset t'$, write (e_3), $e_3 = (e_1 + e_2)$, Ag(e_3) = s +d, The (e_3) = x+y, $e_2 <_s e_3$

(39)   a. <u>Assertion</u>: There is a writing eventuality e_1 whose agent is Danny, whose theme is a plurality of papers, and whose time is included in a past time t.

b. <u>Presupposition</u>: there is a writing eventuality e_2 whose agent is Sara and whose theme is some paper(s), such that

i. The time of this eventuality e_2 is included in t', which is the same or prior to t

ii. There is a writing eventuality e_3, resulting from the summing of e_1 and e_2.

iii. The agent of e_3 is the sum of Sara and Danny (the agents of e_1 and e_2), and its theme is the sum of papers x and y (the themes of e_1 and e_2).

iv. e_2 is a stage of e_3

Notice that the thematic roles of the resulting eventuality e_3 in (38) are filled by plural individuals, Sara+Danny as the plural agent, and the sum of papers as the plural theme. That is, unlike the definition in (32) above no group operation is built into the Semantics of *od / more_{add}* (though such a group interpretation is of course possible). Thus, the resulting eventuality is indeed a plural one, and its intuitive 'single, larger eventuality' characteristic is due to its being defined as a more developed eventuality of e_2.

As I will show now, this 'stage-of' analysis of the nominal additive particles is supported by the behavior of post-verbal additives, to which I turn now.

4. Post-predicate *od / more_{add}*

In the previous section we examined the behavior of *od / more_{add}* when it combines with a nominal argument, as in (40);

(40)   dani diber im od studentim

Danny spoke with od students

"Dani spoke with some more students"

In addition, however, *od / more_{add}* can appear in post-predicate position, namely with intransitive verbs, as in (41), 'intransivitized' verbs, as in (42) (to use Mittwoch 1998 and Rothstein's 2004 terminology), as well as with some transitive verbs whose argument role has been filled, as in (43)[3]:

(41)   Ba-caharyim rina yaSna od.

In-the-noon Rina slept od

"In the afternoon Rina slept some more"

(42)   rina Sara od

Rina sang od

"Rina sang some more*"*

(43)   rina cixcexa et ha-Sulxan od (kcat)

Rina polished acc. The-table od (a bit)

Rina polished the table some more"

Just as with the nominal *od / more_{add}* , in these post predicate positions the additive particles trigger a presupposition of a contextually salient existing eventuality (of e.g. sleeping for some time in the morning in (41), singing in (42) and polishing the table in (43)). In addition, as with nominal additivity, here too the presupposed and asserted eventualities can hold in different locations (as in (44)), can have different agents, (as in (45)), and can be even denoted by different predicates, as in (46):

(44)   dani kara kcat ba-sifriya. Ba-erev hu kara od ba-babayit

Danny read a bit in-the-library. In-the-evening he read od in-the-house.

"Danny read a bit in the library. In the evening he read some more at home"

(45)   rina Sara be-txilat ha-mesiba. Be-sof ha-mesiba yael Sara od

Rina sang in-the-beginning the-party in-end the-party Yael sang od

---

[3] Notice that, unlike nominal *more_{add}*, in English post predicate *more_{add}* *must* appear with some degree expression like *some* or *a bit*.

"Rina sang at the beginning of the party. At the end of the party Yael sang some
more".

(46)   rina halxa 2 kilometer. Axar kax hi raca od kcat

Rina walked 2 kilometers. Later she ran od a-bit

"Mary walked 2 kilometers, then she ran a bit more".

I will assume that here too the main operation of *od / some more* is additive: A presupposed existing
eventuality is summed together with the asserted eventuality to create a larger, more developed
eventuality. The difference between the two types of additives lies in the way they make the resulting
eventuality larger. In the case of nominal additivity this is done by enlarging the cardinality of the set
of participants in the event (e.g. making the set of students interviewed by Danny larger). In contrast,
the effect of *od / more*$_{add}$ in post predicate position seems more varied: it can add duration (e.g.
duration of sleep in (41)), a longer path (in the case of (46)), additional songs sung (in (42)),
additional pages read (as in (44)) etc.

We can simplify things by assuming that the post predicate additive always add running time
or duration to the presupposed event, and the added time is which is mapped differently - to paths,
quantities read, sang, etc. – depending on the predicate. This move is supported by the fact that,
unlike what we saw above with nominal additives, here the presupposed event *must* be temporally
prior to the asserted one. Compare, for example, the sentences with the additive *more*$_{add}$ to their
counterparts with the additive *too:*

(47)   a. Mary slept a bit. In the afternoon she slept some more

         b. Mary slept a bit. In the afternoon she slept too.

(48)   a. Mary cleaned the table. Sara cleaned it some more

          b. Mary cleaned the table. Sara cleaned it too.

(47b), with *too* does not entail anything with respect to the temporal order the two eventualities. The
presupposed event can be understood as occurring before or after the asserted one. In contrast, (47a),
with *more*$_{add}$ necessarily means that the presupposed sleeping eventuality occurred before the
afternoon (the time of the asserted eventuality). Similarly, (48b) does not say anything about the
temporal order of Mary's and Sara's polishing-the-table eventualities. But in (48a) with *more*$_{add}$ it is
clear that Mary started polishing the table and Sara continued with the polishing event.

In these two cases we can also see that the use of *od / more*$_{add}$ triggers the presupposition that
the asserted eventuality is an extension of the presupposed one, and that the resulting eventuality (e.g.
summing up Mary's polishing and Sara's polishing) is seen as a more developed eventuality.

More formally, here too we will generally assume that with post additive *od / more*$_{add}$ we start
with two eventualities, e_1 (the asserted eventuality) and e_2 (the presupposed eventuality) which are
summed together into a plural eventuality (e_3). However, e_1 and e_2 are not merely *parts of* e_3 . Instead

e_2 is a stage e_3, i.e. e_3 — the result of adding e_1 to e_2 - is defined as a more developed version of e_2, and not merely as the sum of these two subevents. In addition, the relevant development is done along the dimension of time. Thus, the presupposed eventuality is prior to the asserted one. (49), for example, will be represented as in (50) (ignoring tense):

> (49)   (Mary slept for some time). In the afternoon she slept some more

> (50)   [e_1,t, $\underline{e_2, e_3, t'}$: t<n, sleep (e_1), Ag(e_1) =m, τ(e)$\subset$ t, t=the afternoon, $\underline{\text{sleep } (e_2), \text{Ag}(e_2)= m}$
>
> $\underline{t'<t, \tau(e_2) \subset t', \text{sleep } (e_3), e_3 = (e_1 + e_2), \text{Ag}(e_3) = m \ e_2 \leq_s e_3}$]

More intuitively, (50) asserts that there is a sleeping eventuality e_1 by Mary in the afternoon and presupposes that (a) there is a sleeping eventuality e_2 by Mary, whose running time t' is before the afternoon, and (b) there is an eventuality e_3 which is the result of summing e_1 and e_2, and that e_2 is a stage of e_3.

There are two pieces of data which further support this kind of analysis. First, combining *od / more$_{add}$* with stative predicates is problematic:

> (51)   #rina hayta acuva / meluxlexet/ xola od
>
>   Rina was sad / dirty/ ill od
>
>   "# Rina was sad / dirty / ill some more"

If all we do with *od / more$_{add}$* is sum eventualities (in this case states), and thus 'enlarge' the running time of the summed state, it is not clear why we get the infelicity in (51). After all, the running time of states can be easily summed, as seen in (52):

> (52)   ba-xodeS Se-avar Rina hayta xola be-meSex yomayim. Ha-xodeS hi hayta xola
>
>   In-the-month that-passed Rina was ill for two-days. The month she was ill
>
>   be-meSex 4 yamim. Be-sax ha-kol hi hata xola be-meSex 6 yamim
>
>   for 4 days. In-sum the-all she was ill for 3 days
>
>   "Last month Rina was ill for two days. This month she was ill for 4 days. All in all she
>
>   was ill for 6 days."

However, if the presence of *od /more$_{add}$* indicates that the presupposed event e_2 is *a stage* of the whole, summed event e_3, and that e_3 is not only a longer eventuality, but also a more developed event than e_2, then things are clearer. Rothstein 2004 claims that statives do not have stages, and do not express development in time. In that statives are different from eventive predicates, e.g. the activity predicate *run* which do express eventualities which develop in time. For example, an event e of running from 2 to 4 can be seen as a more developed version of the part of the subevent e' of running from 2 to 3. Hence e' can be considered a stage of e. In contrast, if e is a state where I was sad from 2 to 4, this state cannot be considered a 'more developed' version of e' - my being sad from 2 to 3. It is clearly a longer eventuality, but there is no sense in which it is 'more developed'. Hence here e' cannot be considered a *stage* of e. Thus, if we are right that additivity expressed with *od / more$_{add}$* involves

stages, and a more developed summed eventuality, the infelicity of the post-predicate *od* and *more* with statives can be explained[4].

A final piece of support for the analysis is the fact that combining *od /more*$_{add}$ with achievements is problematic. Consider (53):

(53)   higati la-taxana (#od) / hivxanti bexa (#od) / macati ha-na'al Seli (#od)

I-arrived to-the-station od / I-noticed you od / I-found the-shoe mine od

"I arrived to the station (#some more) / I noticed you (#some more) / I found my shoe (#some more)

In contrast, notice that using here *again* / *Suv* is absolutely fine:

(54)   higati la-taxana Suv / hivxanti bexa Suv / macati ha-na'al Seli Suv

I-arrived to-the-station again / I-noticed you again / I-found the-shoe mine again

"I arrived to the station again/ I noticed you again / I found my shoe again"

This contrast can be explained as follows: Achievements are known to be near instantaneous eventualities (Dowty 1979, Rothstein 2004). Thus, two such eventualities cannot be summed into a more developed longer eventuality, but result *only* in a plurality distinct eventualities. Thus, the additive *some more / od* is out, but the repetitive *again* is ok, as its main function is to create two distinct eventualities (see e.g. Ippolito 2007).

It is illuminating to compare the behavior of *od / more*$_{add}$ with the behavior of the French *encore*, the Italian *ancora* and the Chinese *Zai*, discussed in Tovena & Donazzan 2008. Unlike the English and Hebrew *more*$_{add}$*/ od,* the repetitive reading with short, telic eventualities *is* possible with these particles, as in the French (55)[5]:

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[4] One question which is immediately raised by this proposal is the following: If *od /more*$_{add.}$ involve development and stages, and state do not have stages, how come we can have states with nominal additivity, examined above, as (i) ?

    (i)   yeS li 30 kvasim. Ani ekne od maxar
                "I have 30 sheep. I will buy some more tomorrow".

A preliminary answer to this question has to do with the different ways nominal and post-predicate additives make the summed event more developed. With nominal additivity, as in (i), the development of the eventuality is not along the time dimension, but along the 'number of participants' dimension. That is, the summed eventuality is perceived as more developed due to the fact that the cardinality of the set of participants is larger, and not because the running time of the event is longer. We can hypothesize, then, that states do not develop over time, but can be considered more developed along the participants domain. For example, If Danny has 30 sheep during August, this is not seen as a more developed state than his having these 30 sheep in the first two weeks of August. But if he has 50 sheep, this can be seen as a more developed eventuality than his having 30 sheep. A general implication of this contrast, which I will not attempt to formalize here, is that we need to restrict the 'non-development' of states, and the claim that they do not have stages, to the temporal dimension only, and allow for development in other dimensions.

[5] In both Hebrew and English a repetitive reading of *od / more* and compatibility with achievements is possible when the particles combines with *pa'am* (Hebrew) or *once* (in English), as in (i):

    (i)   dani higi'a la-taxana od pa'am
                Danny arrived the-station more once
                "Danny arrived to the station once more"

Pa'am in Hebrew translate as *time*, which Rothstein 1995 claimed to denote an eventuality (and not a time). For example: In (ii) we have quantification over bell-ringing and door opening eventualities (not times):

    (ii)   kol pa'am Se-ha-paamon cilcel, mery patxa et ha-delet
                Every time that-the-bell rang Mary opened acc. The-door
                "Every time the bell rang, Mary opened the door".

(55)   rencontré encore la copine de Marie.

'He met again the friend of Mary'

This seems to indicate, again, that in these languages the relevant adverbs are more flexible than the English and Hebrew ones discussed above: the particles discussed by Tovena & Donazzan do not seem to be specified for addition only (forming a larger and more developed eventuality), but merely require that a relevant property is true of two eventualities, thus allowing for a repetition reading, with a plurality of eventualities sharing the same property.

5. Concluding remarks

This paper argued for an eventuality based analysis of the additive particle *more* in English and *od* in Hebrew, in two main positions, namely nominal and post predicate positions. I claimed that in both cases the sentences with these particles express additivity in the domain of eventualities. Specifically, sentences with these particles assert the existence of a certain eventuality, which extends a presupposed eventuality, resulting in a 'larger' eventuality. Crucially, the resulting eventuality is not merely a plural sum of the asserted and presupposed eventuality, but has to be considered also a more developed version of the presupposed eventuality. This is captured by assuming that the presupposed eventuality is not only a part of the resulting, summed eventuality, but also its stage (in the sense of Landman 1992).

Given this kind of analysis, *more* and *od* discussed above seem more restricted than the French *encore*, the Italian *ancora* and the Chinese *zai*, as analyzed in Tovena & Donazzan 2008. The former particles indeed express addition, namely a larger or more developed eventuality than the presupposed one, whereas the latter can express repetition of similar types of eventualities, and can result in a plurality of events only.

I suggested that the underlying difference between the nominal and the post-predicate additivity lies in the way they make the resulting summed eventuality larger and more developed. In the case of the nominal additive this is done by enlarging the set of participants in the eventuality, whereas in the case of post-predicate additivity this is done by lengthening its running time. As shown above, defining the underlying difference this way enabled us to account for a number of distributional and interpretational contrasts between nominal and post predicate additives, e.g. the fact that with the latter, but not with the former the presupposed eventuality must precede the asserted one, and the fact that the latter, but not the former are subject to lexical aspect constraints on the type of predicates that they can combine with can combine with.

Thus, in (i) we add a whole new eventuality, and we indeed end up with a repetition of eventualities.

An intriguing question for further research is to what extent the analysis developed above for the Hebrew nominal and post-predicate *od* can be extended to account for the behavior of this particle in what can be called 'pre predicate' position, as in (56):

(56)   be-SeS va-xeci dani od yaSan

At-six and a half Danny *od* asleep

"At six and a half Danny was still asleep"

Notice, first, that although the English correlate of *od* in this case is not *more*, but *still*[6], *more* nonetheless surfaces in the negative version of (56), as the NPI *anymore*, as in (57):

(57)   be-SeS va-xeci dani lo yaSan od / lo od yaSan

At-six and a half Danny not asleep *od* / not *od* asleep

"At six and a half Danny was not asleep any***more***'

Following current theories of aspectual *still* we can say that in this case *od* and *still* act as additive as well: E.g. (56) asserts that a certain eventuality holds, and presupposes an existing (and in particular a prior) eventuality, which together with the asserted eventuality makes up a longer eventuality. Indeed, aspectual *still* has been analyzed as an additive particle in e.g. Ippolito…

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[6] In addition, *od* can appear in two other positions in Hebrew, which can also be glossed by the English *still*. In (i) *od* combines with the comparative *yoter*:

(i)   rina (od) yoter gvoha mi-sara
        Rina od more tall than-Sara
        "Rina is even / still taller than Sara"

The effect of *od* in (i) is to implicate that Sara (and consequently also Rina) is tall, i.e. (following e.g. Kennedy ..) that the degree to which Sara is tall is higher than some contextually relevant standard or average. As has been noted a long time ago, this effect is completely absent with a simple comparative, i.e. when the additive is not present. Notice that this average can be given by the preceding context as well, as in (ii), which clearly does not suggest that Roni is tall:

(ii)   paam hayu SloSa gamadim tomi, lomi ve-roni. Lomi haya yoter gavoha mi-tomi, ve-roni haya od
        once were three dwarfs Tomi, Lomi and-Roni. Lomi was more tall than-Tomi, and-Roni was still
        yoter gavoha.
        More tall
        "There were once three dwarfs, Tomi, Lomi and Roni. Lomi was taller than Tomi, and Romi was
        even / still taller."

Similar observations are made in Umbach 2008, with respect to the German particle *noch*..Indeed Umbach analyzes the similar *noch* in this construction as an instance of the additive particle.

In contrast, the occurrence of *od* in sentences like (iiia) and (iiib) do not seem to be analyzable in terms of additivity. Rather in both cases they seem to indicate contrast:

(III)   a.   ani od agi'a le-london
               I still-arrive to-London
               " I will arrive to London once"
        b.   hu paga bi, ve-axar kax hu od ba le-vakeS mimeni ezra.
               He hurt me and-then he still comes to-ask from-me help
               "He hurt me, and still, he then comes to me asking for help"

In (iiia) the presence of *od* implicates that arriving to London seems farfetched, or impossible. The assertion is that, despite this apparent impossibility the speaker believes that he will arrive one day to London. In (iiib), the contrastive proposition is expressed by the first conjunct.

In this sense *od* in (iii) seems to resemble not the additive *still*, but rather concessive, or contrastive *still*, as in (iv):

(iv)   I know that she is smart. Still, she is very childish.

Unified analyses of the various readings of *still* were offered by e.g. Michaelis 1993 and Ippolito 2007. Although examining the varied behavior of *od* in light of such theories is beyond the scope of this paper, this seems to be a fruitful direction for further research.

Notice, however, that there are some interesting differences between the nominal and post-predicate additives examined above, and the additive in (56) (which we can call a 'pre-predicate additive'). Specifically, aspectual *still* has been known to combine with stative predicates only (see, e.g. Michaelis 1993). In addition, the presupposed and asserted eventualities must end up forming a temporally continuous eventuality (unlike the temporally discontinuous cases with nominal and post-predicate *more*$_{add}$ / *od*).

A potential way to account for these facts is to assume that unlike the nominal and post-predicate additives, which as we saw above, create a 'larger' eventuality from two distinct eventualities, the pre-predicate additive (manifested as aspectual *still* in (56)) takes a single predicate and just enlarges this eventuality by adding to it more running time, or, in more intuitive terms, makes this single eventuality longer.

This kind of proposal is both empirically and theoretically supported. Theoretically, Ippolito 2008 independently claims that sentences with aspectual *still* assert that a certain eventuality overlaps the reference time of the sentence, and presuppose that this very same eventuality overlaps also a time prior to the reference time. In other words, in Ippolito's theory too, the function of *still* is to temporally lengthen a single eventuality.[7]

Empirically, the intuition that the eventuality in the presupposition and in the assertion of sentences with aspectual *still* is the very same eventuality is supported by three facts. First, unlike what we saw above with nominal and post predicate additives, with aspectual *still* there can be no variation between the asserted and presupposed eventuality. That is, the presupposed eventuality must be characterized exactly the same as the asserted one (e.g. it must have the same participants hold in the same the location, and must be denoted by the same verb). For example, in (58),it must be Mary who was singing just before 6, and the prior singing must have occurred in the shower[8]:

(58)   At 6 p.m. Mary was still singing in the shower

Second, the idea that 'pre predicate' additives take a single eventuality and enlarge it can also explain the fact these particles can only combine with homogeneous predicates, i.e. stative and imperfective predicates only (see e.g. Michaelis 1993). The idea would be that only combining aspectual *still* (and pre predicate *od*) with such homogeneous predicates necessarily leads to a longer single eventuality. In this case the option of ending up with two distinct eventualities which are summed together, as with nominal and post predicate additives is blocked(see Michaelis 1993 for a similar proposal concerning aspectual *still*).[9]

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[7] See Greenberg 2008 for discussions and modifications of Ippolito's proposal, and for comparisons with other theories of aspectual *still*.

[8] Tovena & Donazzan 2008 make a similar observation with respect to *again*, and its correlate in French *à nouveau* , but, in fact, this characteristic holds of the English *still*, and the pre-predicate *od* as well)

[9] It is interesting to compare this suggestion with Tovena & Donazzan's claim about the Italian *ancora,* the French *encore,* and the Chinese *zai*, all three can also have the *still* reading. As mentioned above, Tovena & Donazzan assume that the relevant particles (*ancora / encore / zai*) take a time (the reference time), and a property of eventualities, and

Third, there is in interesting difference between the focus patterns of sentences with nominal and post predicate additives, on the one hand, and those with 'pre predicate' *od* and *still* on the other hand, which further support the idea that in the former case we start with two distinct eventualities, whereas in the latter case we start from a single eventuality (and lengthen *this* eventuality). Starting with nominal additivity, it is interesting to note the focused elements in such sentences are not the nouns headed by *more* - these are de-accented and can be deleted - but rather various other elements in the sentence, as in (59a)-(59c), respectively, which get a (rise-)fall-rise intonation. (In addition *:(*"more" is usually stressed as well

(59) a. dani riayen 3 studentim. [Sara]$_F$ riayna [od]$_F$

Danny interviewed 3 students. Sara interviewed od

"Danny interviewed 3 students [Sara]$_F$ interviewed some [more]$_F$

b. ha-yom riayanti 3 studentim. [maxar]$_F$ ani era'ayen [od]$_F$

the-day I-interviewed 3 students. Tomorrow I will-interview *od*

"Today I interviewed 3 students. [Tomorrow]$_F$ I will interview some [*more*]$_F$

c. ba-kufsa yeS 10 ugiyot. [ba-tanur]$_F$ yeS [od]$_F$

in-the-box there-be 10 cockies. In-the-oven there-be od

"In the box there are 10 cockies. [In the oven]$_F$ there are some [more]$_F$"

A similar kind of intonation is seen with post predicate *od*, as in (60):

(60) ba-boker sara yeSna kcat. [ba-erev]$_F$ hi yaSna [od]$_F$

In-the-morning Sara slept a-bit in-the-evening she slept od

"In the morning Sara slept a bit. [In the evening]$_F$, she slept some [more]$_F$

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trigger the presupposition that a property of eventuality is salient and used in the context, which is predicated both of the reference time and of a prior time. Given this interpretation Tovena & Donazzan predict different interpretations depending on the aspectual properties of the verbs. Specifically, when "…the property characterizes telic eventualities…instantiations at two different times are inferred to be different events" (p.102), so we get a repetitive reading (like *again*)", as in the Italian example in (i). In contrast, when the property characterizes states, which are homogeneous – we end up with one eventuality, and a continuative reading, as (ii):

(i) Maria è andata ancora a trovare Luisa.
Mary went again to see Louise.
(ii) Maria è ancora arrabbiata.
'Mary is still angry.'

Thus, according to Tovena and Donazzan the difference between the 'repetitive' (two separate eventualities), and the 'continuative' (one eventuality) readings are due to the different aspectual properties of the verbs that *ancora* combines with.

Notice, however, that this suggestion cannot be our unified theory of additives in Hebrew and English since, as we saw before, the nominal additive does not necessarily need prior time. Instead, we claimed that *od* and *more*$_{add}$ require an existing (not necessarily prior) eventuality at the reference time. Hence temporal priority cannot be what underlines the Semantics of *more* and aspectual *still*. In addition, such a suggestion cannot explain the fact that with *still* (or the pre-predicate *od*) we *must* end up with a continuative reading: Assuming the existence of a prior time with statives could in principle lead to a discontinuous state (just as we have discontinuous telic eventualities).

In the preliminary proposal made here we use, in fact, a reversed type of argumentation: Instead of assuming that we end up with a single eventuality (and a necessary continuative reading) with *still* because it happens to combine with a stative (a homogeneous predicate), as in Tovena & Donazzan's proposal, we assume that we get necessary combination with a stative because we must enlarge a *single* eventuality.

This makes the focus pattern of sentences with nominal and post predicate additivity similar to that of sentences with the additive particle *too* discussed in e.g. Krifka 1999, involving contrastive topics (as in (61)):

(61) a. Today Danny bought books. [Tomorrow]$_F$ he will buy books [too]$_F$.

b. Today Danny bought books. [Mary]$_F$ he will buy books [too]$_F$.

Intuitively, in the case of (59) and (60) the association with contrastive topics enables the listener to construct in what senses the presupposed eventuality is distinct from the asserted one, (e.g. in their participants, their time or their location).

In contrast, with pre-predicate additives, e.g. with *od* and aspectual *still* in (62), we get a more standard intonation pattern, where the syntactic argument is focused, and triggers a set of potential alternatives, (see e.g. Krifka 2000 for an analysis):

(62) dani od [yaSen]$_F$

Danny od asleep

" Danny is still [asleep]$_F$"

Thus, unlike what happens with nominal and post-predicate *still*, where intonation helps characterizing the difference between two distinct eventualities, here no such contrastive intonation is found. This may further support the idea that in sentences like (62) only one eventuality is involved, which simply get lengthened by the presupposition triggered by the additive particle.

Further research is needed in order to determine whether this suggestion with respect to aspectual still and its relation to nominal and post-predicate additivity, is on the right track.

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