

'At least': a general alternative marker

Ruti Bardenstein

Tel-Aviv University, Israel.

Abstract: The English adverbial *at least* seems puzzling from a synchronic point of view since it has multiple functions, among which are its function as a scalar operator denoting contextual '**minimum**' quantity or degree on the one hand (examples 1), but also as a cancellation discourse marker, denoting temporal '**maximum**' quantity or degree on the other hand (examples 2):

1. In order to pass the test, a student has to score at least 60 [TAU website]
2. Women have better memories- at least until menopause

[<http://www.realsimple.com/health/mind-mood/memory/women-better-memory-men-menopause-alzheimers-clue>]

In this paper, we suggest that *at least* functions as a **polysemous general alternative marker**. We provide a path of change based on previous work (Bat Zeev Shyldkrot, 1995, Lewis 2002, Bardenstein 2017) regarding French *au moins*, English *at least* and Hebrew *lefaxot* (respectively), in order to support our analysis and claim that the different 'alternativity' uses of the *at least* can be explained diachronically ('from multiple alternative to a single alternative'). In other words, it is our

claim that the '**persistence**' of the grammaticization path of *at least* (while changing semantically) is its alternativity function, **one which motivates the change**. Our examples are taken from previous work, and from the internet.

Key words: alternativity, grammaticization, persistence

2. Introduction:

This paper aims to provide a diachronic grammaticization path of the English *at least* and claim that its 'persistence' is its alternativity operation. This analysis will be further supported cross-linguistically by previous work on equivalent operators in other languages, namely Hebrew *lefaxot*, French *au moins* and Arabic على الأقل *ala alakal* demonstrating a similar path of change. Thus, this path of change can be named 'universal'. This paper will demonstrate how a 'multiple alternative operator' becomes a 'single alternative operator', changing from an operator bearing a conceptual meaning to functioning as a procedural operator. The following six grammaticization stages will be provided:

- 1.**Stage I**: A multiple-alternative operator denoting 'minimum quantity or degree'
- 2.**Stage II**: Speaker non-commitment *at least* denoting approximated alternative
- 3.**Stage III**: *p or at least q*: from lower-bounding to down-toning correction: an 'alternative construction'
- 4.**Stage IV**: From down-toned correction to marked 'more desirable alternative' within contrastive constructions
- 5.**Stage V**: From marked 'more desirable alternative' within contrastive constructions, to an implicit 'alternative analogous event'
- 6.**Stage VI**: From an implicit 'alternative analogous event' to an implicit 'maximal' quantity or degree marker: a cancelling alternative¹

3. Literature Review:

Much has been done previously to provide an analysis for *at least* in various linguistics fields: in the field of semantics, the field of the semantic-pragmatics interface and the field of diachronic grammaticization analysis. We will now outline the work previously done on *at least* from different linguistics perspective, followed by our analysis:

¹This use of *at least* has not been discussed in the literature
<http://jrdsjournal.wixsite.com/humanities-cultural>

3.1 Semantics:

In traditional semantic approaches (e.g. in Generalized Quantifier Theory) *at least* was semantically explained alongside other quantifiers as determiners. However, differentiating such quantifiers from determiners, Krifka (1999) introduces a compositional analysis of 'at least': it introduces **alternatives**, which sometimes survive. This correctly explains why 'at least 60' (example 1), unlike bare 60, has no 'exactly 60' implicature.

Buring (2008) claims that Krifka's analysis fails to predict any implicatures for *at least* sentences, and proposes that *at least* does induce implicatures and treats *at least* as a **disjunction operator over scalar alternatives**. Buring proposes that 'at least n' is interpreted as 'exactly n or more than n'. In conjunction with general implicature schemata for disjunctions, this derives the basic entailments and

implicatures of sentences with '*at least*'. Geurts and Nauwen (2007) claim that scalar modifiers like 'at least' have a **modal** meaning: an utterance of "At least three girls danced" (example 3) conveys two things: first, that it is CERTAIN that there was a group of three dancing girls, and second, that more than four girls MAY have danced.

3. At least three girls danced

Schwartz (2016) claims that both the numeral and *at least* itself are subject to substitution by Horn scale mates due to symmetry (Horn, 1972). Schwartz elaborates that *at least* conveys 'speaker ignorance'- The speaker is ignorant about the exact number or degree 'at least' scopes over.

3.2 Semantic-Pragmatics interface:

In pragmatic-semantic approach, Kay (1992) divides *at least* into three distinct types of uses:

- A. 'simple scalar *at least*'
- B. 'evaluative *at least*'
- C. 'rhetorical retreat *at least*'

Kay claims that the primary semantic effect of the 'simple scalar at least' (type A) is the **suppression of the upper-bounding quantity implicature** that attaches to a scalar predicate. For example, in (4), 'scalar *at least*' blocks the upper-bounding quantity implicature of a scalar sentence like in (5), to the effect that Mary has no more than three children².

4. Mary has at least three children

5. Mary has three children

Kay further claims that 'scalar *at least*' always **focuses a constituent** and affects the interpretation of the sentence by affecting the interpretation of this constituent. In addition, he claims that 'scalar at least' cannot focus from a distance (from the left) and unlike (6), in which IRRITATED is focused, in (7) *at least* can only focus the subject:

6. He is going to be at least IRRITATED

7. At least he is going to be irritated that I called home

In (6), unless HE is stressed, indicating that it is the focus, *at least* in this context is interpreted differently. This new interpretation in this context makes his getting irritated **a good thing**. This at least is named by Kay 'evaluative at least' and it can either initially or at a distance from the phrase in its scope.

Anscombe and Ducrot (1983) differentiate two uses of the French *au moins* ('at least'):

a. a **quantitative use**

b. a **modal use**

While use (a) is similar to Kay's scalar *at least*, use (b) is claimed by A & D (within the theory of argumentation) to hold a modal meaning. *At least* in example (8) is claimed to hold two semantic properties:

I. Positive evaluation

II. Indicating a less than maximal scalar degree (of positive evaluation)

8. J'aime bien ce restaurant; au moins, on sait ce que l'on y mange.

'I like this restaurant; at least you know what you're eating there'

Following Anscombe and Ducrot, Kay (1992) claims that 'evaluative *at least*' (still performing as a scalar operator) requires **two contextual propositions**:

- I. a less desired event
- II. a more desired event.

In addition, claims Kay, (9b) might represent the interpretation of (9a).

9a. Well, I didn't get an A, but I didn't do too badly either. At least I got an A–

9b. At least I got an A–.

Lastly, 'rhetorical retreat *at least*' is demonstrated by Kay in (12):

12. Mary is at home- at least that's what Sue said

However, Kay claims that "it difficult to characterize the illocutionary force or other interpretive function of 'rhetorical retreat *at least*'. One wants to say that a sentence employing an adjunct introduced by this *at least* is somehow **weaker** or **less forceful** than the sentence would be without the adjunct, but it is difficult to specify just what one means here by “weaker” or “less forceful”. Rhetorical retreat *at least* **does not appear to be scalar** in any straightforward way, but perhaps that observation reflects nothing more than our ignorance regarding the interpretational function of this expression". Lewis (2006) claims that this third kind of *at least* is **a discourse marker** that signals an **epistemic RETREAT** (similarly to other discourse markers such as *well* and *in fact*).

3.3 Grammaticization:

Bat-Zeev Shyldkrot (1995) examines the grammaticization path of the French *au moins* ('at least'). Bat-Zeev Shyldkrot discusses the three above mentioned functions of *at least* and claims that *at least* changes **via comparison** since it is **a connector of analogy**. Originating from *moins* ('less'), it functions as a comparison operator ('a comparison connector') between two events. In (13), for example, Pierre's work is compared to Paul's work:

13. Pierre travaille moins que Paul

'Pierre works less than Paul (does)'

Bat-Zeev Shyldkrot claims that it is its function in concessive conditioned event (examples 14) that have led it to gain its 'subordination' interpretation (example 15):

14. Tout au moins il comprendra, comment expliquer le problème.

'He will at least know how to explain the problem (if not solve it)'

15. Du moins, Paul n'a pas laissé de dettes avant de partir

'At least Paul didn't leave any bills before he left

In (15), *au moins* denotes two events:

A. Paul has left

B. Paul has not left any bills

The first event (A) is a less desirable event than the latter event (B). The function of *au moins* as a **connector** between such two events, has led to its function in (16):

16. Au moins, Paul ne part pas sans nous dire au revoir.

'At least Paul doesn't leave without saying goodbye ('unlike you').

Similarly, Lewis (2002) examines the grammaticization path of *at least* from Middle English to Modern English. Lewis claims that *at least* shows evidence of 'subjectification of meaning', which arises from its use in regular rhetorical patterns that eventually leads to semantic shift via local analogies. *At least* shows prolonged of stable defeasible 'utterance-type-meanings' (Levinson, 1995), arising from its co-occurrence with particular rhetorical patterns has generated a semantic shift via local analogies that allow its extension to new domains and which created a new polysemy. Lewis claims that all uses of *at least* are somehow scalar, and involve a contrast between two incompatible ideas. Lewis begins examining *at least* in the 13th century and claims that at that time, only scalar *at least* was used and that evaluative and rhetorical retreat *at least* are more recent and within those uses, the *at least* host is less 'informationally salient' than the idea expressed by the other conjunct. The *at least* host therefore comes to act as a **modifier of the other conjunct**, to hedge it. In 15th century, the expression *or at least* signals a **real-world alternative**, (16th century) becoming an epistemic marker.

From around the middle of the 16th century *at least* often occurs in the context of an explicit contrast, most commonly in the pattern: *if [not] p, (then) at least q*, where p and q are incompatible ideas. This 'irrealis' use of *at least* (it has not taken place yet and so, is therefore an unrealized situation) differs in information structure, since the non-*at least*-hosted conjunct is in focus (more

informationally salient than the other conjunct). The contrast that arises, along with the analogies, created a semantic shift of *at least* which has allowed its evaluative and rhetorical retreat use. Bardenstein (2017) demonstrates the grammaticization path of the Hebrew *lefaxot*, from its original meaning as a PP *le-paxot* 'for less' in Mishnaic Hebrew (3rd century) and Talmudic use (5th century), to its present day use as a Discourse Marker. In the Hebrew case, there were two significant processes that have allowed the change in meaning:

1. *le-paxot* occurring mostly in **negative contexts**, which have caused the semantic shift of *le-paxot* to become an adverb '*lefaxot*', meaning 'no less than' in the 16th century.
2. *lefaxot* occurring within **contrast-constructions** (concessive constructions) and later within their **"reduced" form** (not including the adjunct proposition, but only the *lefaxot* hosted proposition) which represent the meaning of the whole sentence.

The grammaticization path of the Hebrew *lefaxot* is somewhat similar to the English *at least*, as well as the French *au moins*, and the different uses of other language equivalents, such as Arabic *ala alakal*, supports the claim that this path of change is not entirely unique to one particular language, but reflects a "natural" pattern of change or a **Universal Grammaticization Path**.

Following this previous work, we provide a grammaticization analysis which focuses on the **alternativity function** of *at least*, claiming that this alternativity function **motivates as well as explains** the shift from one stage to another, and will be named the 'persistence' within the grammaticization analysis. Such analysis of *at least* has not been conducted before.

4. The analysis:

Stage I: At least denoting minimum quantity or degree:

Multiple irrealis alternatives, single realis alternative

According to the online etymology dictionary, *least* in old English *laest* and earlier *laesest* means "smallest, lowest in power or position, (superlative of little (adj.)) and thus, *at least* means "**in the least degree**", from proto-Germanic superlative **laisista*, from PIE root **leis* (less): "small". As a noun "smallest admissible quantity or degree" is from early 12c. Quantifying phrase *at least* "not to say more than is certainly true" is Middle English *æt læstan*.

We argue that there are four different sub-types of scalar *at least*, dependant on **the nature of upper-bounding degree**:

A. suppressed**B. contextual****C. reversed**

A. Suppressed upper-bounding: In these cases, *at least* denotes the least degree or quantity, while its upper-bounding quantity or degree is suppressed, since it contributes little to the preajacent. In (17), for example, according to the Jewish laws, in order to get married, a couple needs to have 'at least two witnesses'. Having more than two witnesses is possible, but does not make the couple 'more married' than when having two witnesses. That is the reason why in some cases, *at least* is not used, even though it is inferable that more than two is also a possibility. In (18), for example, it can be inferred that being accompanied by three witnesses is possible, but since it does not contribute much to the legality of the "Atto Notrio", *at least* was not used:

17. While a rabbi is not mandatory, *Halacha* does require that **at least two** witnesses, unrelated to the couple, attest that all the aspects of the marriage occurred.

[<https://www.thoughtco.com/marriage-and-weddings-in-judaism-2077178>]

18. Before you leave the United States, if possible, go to the nearest Italian consulate to obtain an "Atto Notorio," a statement which declares there's no legal obstacle to your marriage. You need **two** witnesses to accompany you.

[<https://www.allianztravelinsurance.com/travel/wedding/getting-married-abroad.htm>]

B: Contextual upper-bounding *at least*: scalar *at least* scopes over quantities and sets their lower-bound ('minimum'), while the upper-bounded quantity with scalar *at least* is often **dependent on the contextual common-knowledge**. In example (1), repeated here, 60 is the lower-bounded quantity (grade), while 100 is the contextual common-knowledge upper-bounding quantity:

1. In order to pass the test, a student has to score at least 60 [TAU website]

In such cases the lower-bounding quantity hosted by *at least* always has an alternative or alternatives that are higher up in the contextual quantification till the upper-bounding (100 in example 1).

C: Common knowledge Reversed *at least*: 'reversed *at least*' occurs based on common knowledge.

In these cases, the scale is often 'reversed'. Thus, winning *at least* 3rd place (example 19) **does not** denote that the lower-bounding place is the third place and the upper-bounding place 4th place **or more**.

In this case, a higher place is set by a smaller number and thus, 1st or 2nd places are considered better ('higher' on a common-knowledge scale) than 3rd place. Thus, *at least* denotes the lower-bounding 3rd place while the upper-bounding place is the 1st place:

19. Borussia secure **at least third place** [https://www.borussia.de/english/team/news/borussia-news/news-detailansicht.html?tx_ttnews%5Btt_news%5D=13796&cHash=5e49465bfefb90f2f04b60ccf05277fa]

In all three types of scalar *at least*, there is one or more alternatives to the *at least* hosted quantity or degree. In all three cases, there is only one alternative per described event. i.e, all alternatives are unrealistically plausible, but **only one alternative** can be fulfilled per described event.

In all three cases, *at least* is a focus word which denotes a 'minimum'². This use, according to Lewis (2002) is from 13th century.

Stage II: speaker non-commitment at least: approximated alternative

As mentioned above, the use of adverbial *at least* came to play in Middle English. *At least* at the next stage of grammaticization still denotes a 'minimum', but the speaker in this use does not commit to the alternatives of this minimum quantity or degree. In (20), the exact number of Somali refugees is unknown to the speaker. Had the speaker known the exact number, he wouldn't have used *at least*. *At*

least marks the potential alternative number as the true number in the 'realis (real-life) event'.

The actual number of refugees (the alternative number) could eventually turn out to be exactly 133, but it could also be more than 133. Note that the upper-bounding number here is potentially "close" to 133, it is an estimation-alternative based on evidence. It is inconceivable that the actual number of dead will turn out to be 1,000 and if it does, than the speaker's estimation (even if it were based on factual evidence), would be judged as a false one:

²Within the category of focus words, there are expressions such as *only*, *also*, *even*, *just* and *simple* (Quirk et al, 1985: 604)

20. At least 33 Somali refugees including women and children have been shot dead aboard a boat on the Red Sea

[<http://www.news24.com/Africa/News/at-least-33-somali-refugees-shot-dead-on-red-sea-yemen-officials-20170317>]

Stage III: *p* or at least *q*: from lower-bounding to down-toning correction: an alternative construction

At this stage, *q* in the construction *p* or at least *q*, acts similarly to a Minimizer NPI³.

The non-*at least*-hosted conjunct at this stage is in focus (more informationally salient than the other conjunct (Lewis 2002), similarly to the Hebrew *o lefaxot* 'or at least', used since the 18th century, as in 21):

²Within the category of focus words, there are expressions such as *only*, *also*, *even*, *just* and *simple* (Quirk et al, 1985: 604)

21. After the coldness had passed, a high fever arose, with headaches, lumbar ache, vomiting, or at least the need to vomit [Originally Hebrew, Mendel lapin, 1794]

At this point, *at least* gains its argumentative use (or 'epistemic' use (Lewis 2002)). The scale denoted by *at least* is a discursive one, rather than a quantificational one. In Hebrew, example (21) might be interpreted in two ways:

A. The lower-bounding end of the discursive scale: *At least* marks "the need to vomit" as the lower-bounding item on the scale: The need to vomit < vomiting

B. Correction, or hedging: 'if not vomiting, then at least the need to vomit'

³NPI (Negative Polarity Items) are often regarded as lexical items that occur in negative contexts. Ladusaw claimed for "downward entailment" of the utterance including the NPI. Minimizing NPI such as *lift a finger* provide the smallest contextual degree or the least likely scenario in order to strengthen the negation.

It was at that time (18th century), when the Hebrew *lexol hapaxot* ('to all the least'=at the least) emerged. Notice that in English the change was different: *at the least* became *at least*. Unlike the lower-bounding *at least*, the correction/hedging *at least* raises **a contrast between two asserted claims**. Contrast, along with analogy, created a semantic shift of *at least* (Lewis 2002).

The 'correction' use of *at least* down-tones the strength of the claim. From asserting a strong claim to a lesser strong claim, a down-toned, or hedged claim. Lewis calls this "lower commitment to the previous idea by claiming that there is merely some evidence for it" (p.532).

Interestingly, in Hebrew, another syntactic 'contrasting asserted claims construction' is in use, one without *o* ('or'), but instead, raises an analogy construction of two alternative discursive claims, as in (22):

22 ..some were definitely real...some were real at least somewhat (originally Hebrew, 1788)

In (22) the syntactic construction some p...some q... raises the analogy between the two contrasting claims. In this case, claim q **does not** hedge the previously asserted p and *lefaxot* is not used argumentatively, but rather present a lower-binding realis contrastive alternative to p. We believe this analogical syntactical construction has also contributed to the grammaticization of *lefaxot* as marking argumentative contrast, as in stage IV.

At this point, *at least* has turned into a Discourse Marker (Lewis 2006), and more particularly, a **Prototypical Discourse Marker** (as defined by Maschler 2009), which induces 'a reduced validity alternative' (example 23). The speaker in those cases is making a statement ("I'm hanging up my racing flats"), which is usually followed by a '**reduced validity alternative**' of that statement denoted by *at least* ("at least for a while"):

23. "I'm hanging up my racing flats, **at least for a while.**"

[Read more at <http://www.phillymag.com/be-well-philly/2017/02/22/cecily-tynan-facebook-post-racing/#vYXM9WuGXRhkHXvS.99>]

Stage IV: From Down-toned correction to Marked 'more desirable alternative' within Contrastive constructions

Lewis demonstrates that in the 15th and more often from the middle of the 16th century, an explicit (mostly conditioned) contrast construction emerges and frequently occurs with one or more

contrastive expressions such as *yet* and/or the presence of a lexical contrast, such as *good* vs. *harm*. Naturally, in Hebrew, which was not a spoken language for a long period of time and was revived in the 19th century by Eliezer Ben-Yehuda, *lefaxot* became frequently used argumentatively in contrastive constructions only within the revival of the Hebrew language, initially within semantic-opposition 'but' (*ax/aval*) constructions, as in (24):

24. Most are women and most are old, but there are, at least a few, young good looking women (originally Hebrew, Israeli News, the Zfira paper, 1893).

In (24), the old women are contrasted with the good looking women. Here, the down-toned correction of "there are" to "there are at least a few" (in parenthetical commas), also marks the second part of the semantic opposition (Lakoff, 1971). The meaning of contrast within semantic opposition constructions lies in the lexical items in the two conjuncts, which form a pair of antonyms. Later, still discursively scalar, *lefaxot* became a concession marker, marking a contrastive, more desirable alternative to the previously asserted less desirable assertion, despite not changing the actual state of affairs, as in (25):

25. A Jew from Brookline writes to the Danish king and asks for his brother-in-law's right for citizenship due to his marriage to his Danish sister...the king has replied that "he is sorry but he cannot act against the law"...The Brookline Jew did not succeed in achieving citizenship for his future brother in law, but at least he has a souvenir letter from a king..[Originally Hebrew, Bardenstein 2017]

In (25), the refusal of the king to approve citizenship to the Jew's brother in law (undesirable assertion) is down-toned with a "looking at the bright side" assertion of having a letter from a king. This desirable letter does not change the actual state of affairs (the king's refusal) and does not convey semantic opposition, but rather provides a more (even a little more) desirable alternative to a previously undesirable assertion. This is a purely argumentative use of *lefaxot*.

In Modern Hebrew, this concessive use of *lefaxot* allows the speaker to convey a subjective scale, even if the objective scale is different, as in (26):

26. The service was terrible, but at least the food was good [<https://he.wiktionary.org/wiki>]

The common objective scale of the components of a restaurant meal is: Food>Service

But here, the speaker emphasizes the fact that for him, service is the most important component and that for him, the restaurant visit was not good.

The following example (27) is from Modern English:

27. If you can't make it good, at least make it look good [Bill Gates]

In the above example (27), the concessive-conditional construction: 'if not p, at least q', creates an **alternative construction** in which it introduces the negated element "make it good" and its less desirable alternative: "make it look good". This is also the case with concessive constructions: 'not p, but at least q', in which *at least* functions as a discursive '**Double Agent**': On the one hand, it scopes over a proposition that is perceived as discursively 'positive alternative' and on the other hand, it conveys a negative interpretation of the utterance as a whole: "I am different" in (28) is perceived as a 'discursively positive alternative' to "I am no better":

28. I may be **no better**, **but at least** I am different

[<https://www.brainyquote.com/quotes/quotes/j/jeanjacqu394955.html>]

This "double agent" *at least* also appears in concessive constructions in which "**negativity**" is used to express 'the lesser of two evils', as in (29):

29. It may be **cold** here in Denver **but at least** we're not in the mountains

[<http://www.denverpost.com/2017/01/07/it-may-be-cold-here-in-denver-but-at-least-were-not-in-the-mountains/>]

Note that it is sometimes **up to the addressee** to figure out exactly how the two elements in the alternative scale constructions actually form a scale. In (29), the addressee needs to draw an inference that "cold" and "in the mountains" form a 'coldness scale' and by "we're not in the mountains" the speaker means that it is **much colder** in the mountain area.

In addition, as Kay (1992) claims that an "evaluative *at least*" (in 30b) might represent the interpretation of a whole contrastive construction (30a):

30a. Well, I didn't get an A, but I didn't do too badly either. At least I got an A–

30b. At least I got an A–.

Stage V: From Marked 'more desirable alternative' within Contrastive constructions, to an implicit alternative analogous event:

Anscombe & Ducrot (1986) give the following example, in which *au moins* denotes a more desirable event of **not** a previously less desirable event, but of an analogous contrastive event:

31. I like this restaurant; at least you know what you're eating there [originally French, Anscombe & Ducrot, 1986].

In this example the hosted *at least* assertion does not down-tone the previous assertion and it does not mark a 'more desirable alternative to a previous assertion. The argumentative direction does not explicitly change (I like this restaurant—you know what you are eating there have the same 'positive' evaluation). However, an implicit analogous contrastive even arises. In (31), an implicit negative contrast arises to **other** restaurants (or restaurants in general).

In example (32), the speaker is not committing to 'additional people may have a fair chunk'. *At least* here scopes over a proposition 'someone is having a fair chunk (of money)', which is perceived as discursively 'positive', but what the speaker actually conveys is a 'negatively interpreted' message that 'consumers **are not** (having a fair chunk, literally):

32. **At least someone is** getting a fair chunk (of cash!):

Boss of US snack company which cut the number of triangles in a Toblerone has earned £100 million in just six years [http://www.dailymail.co.uk/news/article-3931412/Boss-snack-company-cut-number-triangles-Toblerone-earned-100million-just-six-years.html]

Stage VI: From an implicit analogous event to an implicit 'maximal' quantity or degree marker: a cancelling alternative

Unlike previous studies, the present paper claims that yet another stage of development has risen for the use of *at least*. It is our claim that *at least* has come to denote **cancellation of a previously asserted claim**. As such, it might be perceived as denoting **temporal maximal** quantity or degree, as in (33-34) In (33), "until menopause" is not a minimum quantity or degree, but rather a maximum quantity or degree. Menopause (~55) is the **maximum** age for women to have a better memory (than men do), rather than serving as the minimal age. *At least* in this context denotes that its prejacent statement "women have better memories" is **no longer valid** once its successive "menopause" is. i.e. the proposition is true at the age of 55 **or less**. Similarly, in (34), "I am caught" is an event that serves

as the **maximal** time frame for the speaker to be regarded as innocent. *At least* marks the cancellation of the speaker's innocence and marks that the speaker is actually guilty.

33. Women have better memories- **At least until menopause**

[<http://www.realsimple.com/health/mind-mood/memory/women-better-memory-men-menopause-alzheimers-clue>]

In (35), the conclusion that arises after the use of the *at least* part of the sentence is that the speaker in NOT innocent. In addition, *at least* as a cancellation operator might mark **temporal- exclusiveness**. In (35), "today" is perceived as the **exclusive time** for the speaker to be Moroccan (similarly to 'just for today'. The conclusion following the *at least* part of the sentence in (35) is that the speaker in NOT Moroccan:

34. Innocent! At least until proven guilty! [Originally Hebrew, Bardenstein 2017]

35. Moroccan. At least today..[Originally Hebrew, Facebook post, 17.4 2017:

<https://www.facebook.com/photo.php?fbid=10208610915342848&set=a.1141443188785.19582.1608626263&type=3&theater>]

We call these uses ('Temporal Maximality and Temporal Exclusiveness) of discourse marker *at least* 'a **cancellation marker**' since it marks cancellation of a previously asserted claim. *At least* in these cases marks its adjacent statement as non-true. If the statement is referred to as *p*, then the overall conclusion is *not-p*. As mentioned earlier, these kinds of examples have no reference in the literature.

5. Conclusions:

In this paper, we have examined the grammaticization path of the English *at least* as a general alternative operator, from its original meaning as a superlative adverb meaning 'as the least' to a Modern English Discourse Marker, marking cancellation of a previously asserted utterance. We have discussed earlier work in the Semantic-pragmatic arena as well as earlier grammaticization analysis both in English and other languages, mainly Hebrew *lefaxot* and French *au moins*. It is our claim that it is the persistently alternativity function of *at least* down the grammaticization path that explains the different synchronic uses of *at least* and its polysemous nature. Lastly, this paper has focused on three main languages, but further diachronic research needs to be conducted regarding Arabic *على الأقل* *ala alakal*, which also functions literally as denoting 'the least' ('minimum') quantity or degree, as a *PP* superlative of 'lessening' or 'little' ('minor'/'minus'), as well as similarly functioning languages such as German *mindestens* /*mindestens/zumindest*.

In addition, some languages, however, such as Hindi (Urdu-based Hindi *kam si kam*: "less for less"), and Pure Hindi: *nyutan*: "Zero level" demonstrate a slightly different origin. These types of languages should also be examined more thoroughly and be provided with a semantic-pragmatic inspection as well as a grammaticization analysis which might turn out to be different than the analysis provided here.

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