Discourse Markers and Form-function Correlations

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Discourse markers are typically expressions with sentential scope, whose role is to guide speakers’ interpretations of the utterances such expressions occur in. They thus explicitly mark coherence relations among discourse units, and/or cue the addressee to the appropriate context (the preceding discourse or some extra-linguistic information) he is to use when interpreting the utterance (see Schiffirin 1987; Ariel 1993). Discourse markers may contribute to the conceptual meaning of the proposition expressed (e.g. because), but they may be semantically empty (e.g. uh), in which case they only carry procedural meaning (see Blakemore 1987; and Wilson and Sperber 1993 for the conceptual/procedural distinction). I will concentrate on a set of procedural discourse markers, whose function it is to mark that the information under their scope is accessible to the addressee, i.e. he already has a mental representation for it.

I would like to address two related questions with respect to such markers. The first pertains to the cognitive status we should assign to the competence we use in generating the interpretation(s) they involve: grammatical or extra-linguistic/pragmatic. The second pertains to their form-function relations. Why are certain particles used for the functions they mark? Some have a semantics which is clearly compatible, and even conducive to the interpretation associated with the marker (e.g. and, I mean). Some are either empty, or else not quite related to the interpretation involved (e.g. Hebrew harei, English well). In line with much recent literature on grammaticization processes (see Du Bois 1987; Hopper 1987; Thompson and Mulac 1991; Traugott and Heine 1991; Hopper and Traugott 1993; Bybee et al. 1994), I would like to suggest that quite opaque form-function correlations often hide a historically transparent, or at least motivated, form-function correlation. In
other words, while the synchronic grammar may show the correlation to be arbitrary (i.e. unpredictable, undervisible via inference), the etymology of the form may point to a well-motivated, potentially universal, form-function specialization. The linguistic/extra-linguistic and the motivated/arbitrary questions are clearly related. Normally, (complete) transparency entails a nonlinguistic (inferential) status for the interpretation under discussion (in our case, accessibility), because the literal meaning (whether itself motivated or not) can be seen as giving rise to the extra-linguistic meaning by supplying a premise needed for the derivation of that meaning as a conversational implicature. Opaqueness entails grammatical status for the interpretation involved, for there is no inferential chain between the literal (possibly zero) semantic meaning and the interpretation at hand. Rather, a convention must be stipulated which connects the specific form with the specific function. As we shall see, however, the correlation between an interpretation being motivated and extra-linguistic cognitive status is not perfect.

1. Introducing Hebrew harey

A speaker who uses Hebrew harey indicates to her addressee that the proposition under its scope imparts information which is already available to him. The harey therefore marks that the speaker intentionally conveys information which she assumes to be accessible, rather than new for her addressee (see Ariel 1985a,b, 1988). Note example (1) (examples will be here quoted in English, readers can substitute after all for harey, although the two are not fully identical - see below):

(1) I had high expectations from the new program ... Harey even its name
[“A feminine perspective” - M.A.] points to a positive intention... (Noga 30, 1996, p. 46).

Note that non-new does not mean currently highly accessible. In fact, harey modifies information not currently accessible to the addressee. It may even not be represented as such by him (as in (1), where it is readily inferred from information actually available).

But the mere fact that the information is not currently available to the addressee does not constitute a sufficient reason to mention it either. Why is the information evoked (or generated based on other stored information) mentioned? I have argued that in itself, the harey proposition does not serve any communicative purpose (i.e. it does not satisfy Sperber and Wilson’s
1986/1995 principle of relevance on its own). Harey propositions are (for the most part) pragmatically dependent, non-dominant (in a sense extended from the originally sentential notion proposed by Erteschik-Shir and Lappin 1979). The information contained in such propositions is not the constituent the speaker wishes to draw the addressee’s attention to. Dominant pieces of information are natural candidates for forming the next discourse topic, but the utterances following harey propositions typically do not pick up the topics of the latter. Rather, the next proposition goes back to the topic established before the harey proposition. Consider (2):²

(2) Not long ago I met a good-looking man... It didn’t occur to me that that man had such a rich and non-glorious past. And actually, how could I have known that? Harey I didn’t know him at all. In Rechovot this [Meeting a man the speaker doesn’t know about – M.A.] would not have happened to me, I know everybody there (A.Veissberg, an interview, Haaretz 3.9. 1979).

Note that the text coherence would not have been reduced had we omitted the harey utterance, which is only to be expected when a non-dominant assertion is concerned. This is so because prima facie the content of the harey proposition constitutes a digression from the general text progression so far.

I have argued that harey propositions are directly related only to an adjacent proposition, the utterance immediately preceding them, in an overwhelming majority of the cases (but sometimes it is an implicature generated by that proposition). It is actually a digression from the global discourse topic, because it is aimed at strengthening only the particular point made in the previous proposition. Hence, it carries no important message on its own. The main reason for speakers to mention such accessible and irrelevant information (with regard to the global topic discussed) is that it serves as justification for an original claim of theirs. Indeed, this would also explain why the tone attached to harey propositions is quite often argumentative. Hareys are used when speakers have a claim they are emotional about, or when they feel it may not be easily accepted by their addressee. Harey therefore occurs in argumentative contexts much more than in informative types of discourse (see the statistical findings in Ariel 1985a on newspaper editorials). Example (3) is then bizarre, since such a topic of a lecture needs no justification at a linguistics conference:

(3) (Lecturer at a linguistics conference): ?? I’ll be talking about anaphora today. Harey hundreds of articles have been written on the subject.
Thus, harey marks pieces of information which are available to the addressee but are of low accessibility for him, they constitute some divergence from the general direction of the discourse, they are non-dominant, they support the truth or validity of another, more original assertion, they occur mainly in argumentative contexts, and are used when the speaker has something at stake. Harey propositions can also be put to further uses, where the speaker pretends to take as accessible information which is not accessible, for humorous reasons as in the ironical (4a), or for manipulative reasons, as in (4b), and see also (8) below:

(4) a. She [woman in general – M.A.] is tolerated as a working person only if she is ambitionless... Harey who likes a woman who is not “feminine”? (adapted from an English after all example from Women and Psychoanalysis, 36).

b. They [feminists - M.A.] cause damage to women... Harey they need to be soft and delicate; most women want to be so... (Tediot Ahronot 1.3.1979)

In addition to these discoursal properties, harey has obvious grammatical features. Most notably, as a sentence adverbial, accessibility harey (but not matrix harey, for example - see note 1 again) has sentential scope and is free to occur anywhere in the sentence (in fact, spontaneous examples show it to even violate the phrasal constraint). Are these the only grammatical constraints harey obeys? Are all the aspects of its interpretation mentioned above independent of each other and need to be listed separately? Where should these interpretations be listed? In the grammar? Should they all receive a unitary analysis? What status should we assign to other accessibility markers in Hebrew and in other languages? I address these questions regarding harey and other accessibility markers in section 2. In section 3 I discuss the question of form-function correlations manifest in some of the accessibility markers.

2. The cognitive status of the interpretations associated with accessibility markers

As has been amply demonstrated, especially by Sperber and Wilson (1986/1995), there is no possibility to interpret natural discourse without massive reliance on context. Usage of context has usually been the magic word that automatically classified any phenomenon associated with it as pragmatic, and hence also as extra-linguistic. I propose that there are at least two distinct types of reference to context in utterance interpretation. The first involves
linguistically encoding some contextual aspect (e.g. a referring expression). The second involves a relatively less constrained use of contextual assumptions as premises for drawing inferences, a step performed by the addressee without receiving an explicit (coded) instruction from the speaker to do so (e.g. conversational implicatures). Following Kasher (Kasher 1974, 1982, 1991; Kasher and Zaidel 1995) and Prince (1988), and in line with Sperber and Wilson (1986/1995), Wilson and Sperber (1993), Blakemore (1987), Newmeyer (1991), Carston (1994), Croft (1995, 1996a), I have proposed (Ariel 1990b, 1993, 1995, forthcoming) that phenomena hitherto called pragmatic are either linguistic, in which case they are part of the grammar, or else they are not based on specifically linguistic knowledge, in which case they lie outside the scope of grammar, and should be accounted for by a central-system pragmatics (e.g. Grice 1975; Horn 1984; Sperber and Wilson 1986/1995; Giora 1985, 1988; Levinson 1987).4

Fodor’s (1983) proposal to distinguish between modular and central cognitive systems on the one hand, and the well-documented differences between the functioning of the two cerebral hemispheres with regard to language on the other hand, offer a different, neurological basis for the grammar-pragmatics distinction. Input systems are modules, namely, domain specific, obligatory, fast, informationally encapsulated, associated with fixed neural architecture, etc. Central system processes are “general-purpose”, slow, “intelligent” and inferential (drawing rational, non-demonstrative inferences), and they have access to all the information available to the human cognition. This is where the interface between input systems and relevant background knowledge we hold takes place, for the fixation of perceptual beliefs. Fodor specifically characterized language (grammatical competence) as a modular system. If pragmatic phenomena are complementary to linguistic phenomena, and if, as is commonly believed, they make crucial use of contextual assumptions, then pragmatics can naturally be seen as a central system interpretive process.5

Indeed, whereas linguistic processes proper are associated with fixed neural architecture in the left hemisphere, many non-linguistic, pragmatic phenomena are associated with the right hemisphere. Left and right brain-damaged subjects manifest different dysfunctions, attesting to the differential role the two hemispheres play in language comprehension and production. Left brain-damaged patients have selective semantic, syntactic and morphological deficits. Research on right brain-damaged subjects suggests that the right hemisphere is responsible for drawing inferences based on contextual
assumptions, which are used to extract the text’s macrostructure, including, among other things, a discourse theme, a main point, a coherent connection among textual propositions, a distinction between important and trivial elements, humorous points, inferences about the emotional state of others etc. (see inter alia, Beeman et al. 1994; Brownell and Gardner 1988; Brownell et al. 1983; Brownell et al. 1986; Brownell et al. 1992; Chiarello 1995a,b; Delis et al. 1982; Etcoff 1984; Gardner et al. 1983; Hough 1990; Rehak and Gardner 1990; Schneiderman et al. 1992; Tucker and Frederick 1989; Wapner et al. 1981). Indeed, Blumstein (1988), in an overview of language-brain relations in aphasia determines that “the right hemisphere seems to have only a primitive linguistic ability, its primary contribution to normal language processing seems to be with respect to the pragmatic and narrative of discourse properties of language” (Blumstein 1988, 231; emphasis added). These are all central, nonlinguistic pragmatic assignments.

If we take the crucial distinction to be between linguistic and extra-linguistic phenomena, rather than between grammar and pragmatics (as pragmatics has been taken in the literature), we can account for the conventionality and even arbitrariness of many so-called pragmatic interpretations. Moreover, I propose that we apply the modular approach even more radically, so that phenomena such as speech acts, implicatures and the like are not wholly either intra- or extra-grammatical (but see Kasher 1991, 1994 for a different, “topical” approach). Rather, unpredictable conventions associated with specific linguistic forms (be they morphemes, particles, words or whole constructions) belong in the grammar, whereas inferences based on linguistic utterances by relying on context and a set of rationality principles are extra-grammatical. I believe that both linguistic (decoding) and nonlinguistic (inferential) interpretive steps routinely participate in the processing of many, if not all, linguistic forms (see Bates and MacWhinney 1982; and Chafe and Nichols 1986). This is then a mixed but modular analysis. It assigns the arbitrary facts to the linguistic system of the specific language, and the inferential/motivated, often universal aspects of meaning to non-linguistic cognitive processing. It is mixed from the point of view of the end result of the analysis (the interpretation consists of both linguistic and nonlinguistic products), but it is modular from the point of view of how the cognitive processes responsible for generating it operate (the linguistic part of the processing need not have any access to the nonlinguistic processes involved, nor to their products).
Note, however, that it is no trivial matter to determine whether some interpretation is a conversational or a conventional implicature (see, for example, the current debate on the status of so-called generalized conversational implicatures, an intermediate category, in Horn 1984; Carston 1990). I wish to argue that harey and other similar expressions simultaneously convey two types of interpretations: one is linguistic, the other is extra-linguistic. Specifically, the marking of the proposition as accessible is linguistically coded, but the interpretation that the harey proposition provides some kind of justification for accepting another proposition currently in focus is nonlinguistically derived (via a conversational implicature). A brief look at its English counterpart, after all, and a special intonation contour reveals that a very similar set of interpretations can indeed be conveyed in English by after all and the special intonation contour, but with a different linguistic-nonlinguistic division of labor. Thus, it is possible that different cognitive statuses are assigned to the same meaning within and across languages. In fact, the well-documented changes from conversational implicatures to conventional semantic meanings (see Hopper and Traugott 1993) through entrenchment are precisely such changes in cognitive status.

2.1. *The cognitive status of harey interpretations*

Some aspects of the interpretation associated with harey are directly coded, but some can be inferred using central-system pragmatic inferencing. The fact that the information modified by harey is already available to the addressee has to be stipulated as a linguistic principle governing the proper use of harey. There is no way to derive this interpretation by relying on rational, inferential processes, certainly not on any iconic relation between harey, originally (and still) a deictic, and the marking of accessible information (see below). The fact that the accessibility interpretation is not cancellable is compatible with this analysis. Finally, that this meaning is linguistic is attested to by the fact that two accessibility particles (e.g. harey and hen) cannot occur together just as two semantic connectives bearing the same meaning cannot, although particles with a different meaning can cooccur (davka is a particle marking the information under its scope as “counter-expected”):

(5)  a. *Harey hen I told you!*
    b. Harey davka I told you!

But arguably, there is no need to stipulate a form-function correlation for the non-dominance, the tone and the justification aspects of harey’s interpretation.
It is only reasonable to assume that the non-dominance reading is associated with the accessibility of the information: totally non-new information cannot normally be dominant (although not every piece of new information is dominant). Moreover, there are harey utterances which are actually dominant (especially when prefaced by and or but, see below). The strong tone associated with harey utterances can be motivated by their redundancy, coupled with their justification function (see below). If the speaker takes the trouble to dedicate a whole proposition to information which is redundant, in order to motivate another proposition, it is plausible to assume that she has a deep interest in her original, nonredundant proposition.

Most importantly, taking the piece of information as justifying another piece of information is also only natural (that is, inferable, rather than triggered by a stipulated convention), given the Gricean maxims (Grice 1975), the principle of relevance (Sperber and Wilson 1986/1995), or Giora’s (1985, 1988) relevance requirement. According to Grice’s maxim of quantity, the speaker is expected to convey information at a quantity which is appropriate to the current stage of the discourse. Redundant information can then never be appropriate. It is “too much”. Hence, the addressee, who assumes the speaker to be nonetheless obeying the overall cooperative principle, generates a conversational implicature to justify the speaker’s violation of the quantity maxim. A plausible implicature is that the accessible piece of information contributes to the discourse nonetheless, through the support it lends to another assertion of the speaker.7

Similarly, according to Relevance theory, a speaker who “wastes” her addressee’s efforts on processing information that is already available to him must intend that piece of information to yield some effects in the particular context which otherwise would not have been made accessible to him. The harey proposition alone cannot satisfy the requirement of the principle of relevance. It needs to be processed together with another proposition in order to generate enough contextual implications. Recall that for Relevance theory, context is not trivially given. Harey propositions provide that required context. They should be used when the processing cost of retrieving the pieces of information contained in them from our encyclopedic knowledge storage exceeds the processing effort invested in interpreting them (see Sperber and Wilson 1995: 143-4).

Last, according to Giora (1985, 1988), harey propositions violate the requirement that all discourse propositions must be about the discourse topic (a full proposition according to her). Any divergence from this requirement
needs to be overtly marked, and interpreted in a special manner. Indeed, *harey*
marks the deviation from the norm and the proposition is then interpreted in
relation to the assertion adjacent to it, rather than the discourse in general. In
other words, all analyses have in common that *prima facie* the *harey*
proposition is superfluous and inappropriate, but its mention is justified by
reference to the information derivable from it, rather than from the information
directly contained in it.

Note that an alternative reduction, namely motivating the accessibility
constraint by reference to the justification function, will not do. Thus, whereas
it seems to be a good strategy to motivate an original/new piece of information
by presenting it as following from a piece of information which is accepted by
all, and specifically by the addressee himself (see below), this is not necessarily
always our habit. Justifications are at least sometimes made by relying on new
information:

(6) O. J. Simpson is as guilty as guilty can be. I saw him do it, did I ever tell
you that?

Indeed, example (7) is unacceptable with *harey*, even though the proposition
itself certainly constitutes a plausible justification for the preceding assertion:

(7) Guest at a party: I’m sorry I have to leave in the middle. *Harey* I
suddenly have a headache.

The best motivation for treating the justification interpretation as utilizing of
the accessibility feature of the proposition comes from other discursal uses
*harey* propositions sometimes have. If the justification understanding is only
an interpretation adopted by addressees in order to view the speaker as abiding
by accepted discourse norms, then other interpretations which render the
speaker’s *harey* utterance cooperative/relevant are also possible. Indeed,
although the overwhelming majority of *harey* propositions are used to justify a
previously conveyed proposition, other uses can be found. Consider example
(8):

(8) Husband and wife suspected of prostitution (headline):

After a short time the husband, Yechezkel, 49, was brought to court,
charged as a suspect in soliciting his wife to prostitution. The reaction of
the suspect was: *Harey* I am a grandfather. That I should commit such a
thing as this? It is not true. (*Yediot Ahronot* 12.7.1979)

In this case, the suspect’s being a grandfather is (manipulatively) claimed to
justify his later assertion that he did not solicit his wife to prostitution (i.e.
‘grandfathers cannot be pimps’). Note that the previous utterance, which the suspect is responding to with the harey utterance, is the charge (roughly, ‘You are a pimp’). The harey proposition is then certainly not meant to justify the proposition currently under discussion (although harey utterances can be used to justify a different speaker’s assertion). In fact, the proposition is meant to emphatically contradict it. Whereas the local relation has been that of justification in the examples so far, here, it is one of denial. Indeed, a ‘but’ could either accompany or substitute for this harey,8 and the assertion following the harey utterance (the one being supported by it) is sometimes even omitted, as in:

(9) A, in hospital: May I smoke here?
Nurse: (But) Harey it is harmful for the patients (→ You can’t smoke).

Thus, either we analyze the harey proposition in (8) as denying the proposition under discussion (‘Y is a pimp’), or else we analyze the conclusion it justifies (‘Y is not a pimp’) as denying the current proposition. This is especially hard to support when the supported proposition which is supposed to deny the assumption under discussion is not even overtly mentioned (as in (9), where You can’t smoke does not occur explicitly). And it would be somewhat unintuitive (though not impossible) to claim that harey supports either the proposition currently in focus or its opposite (whichever seems the more relevant).

The next example shows that a harey utterance may function as a denial without supporting another assumption (neither a previous one nor a later one):

(10) Knesset member Tufik Tubi: [Interrupting Shmuel Tamir] Let it be made clear that I am not supporting the application of Israeli laws in the West Bank and Gaza.
Minister of Justice, Shmuel Tamir: I harey am not speaking for you,
Knesset Member Tubi; I’m speaking for the government of Israel... (The Knesset Transcripts 2 (1978): 116)

One could say that here too S.T.’s harey proposition supports an implied speech act, namely, ‘you needn’t assert your reservation,’ but it seems that once we consider such cases to satisfy the justification requirement, any assumption can be seen as an auxiliary assumption in the service of another, for indeed, we constantly use dominant pieces of information as premises in
inferential chains. In fact, this is what utterance interpretation is, namely computing contextual effects from speakers’ utterances (see Sperber and Wilson 1986/1995).

Next, consider ‘but’ + harey. The result of combining ‘but’ with harey marks information as already accessible plus the contrast or denial of ‘but’. The harey proposition in (11) constitutes dominant information (hence my claim above that the nondominant status of the overwhelming majority of harey utterances is merely a plausible inference). The information it conveys is a main claim of the writer of this article, it would fall under the scope of the “lie test”, employed by Eretschik-Shir and Lappin (1979) diagnosing dominant information. It also forms the next discourse topic (see propositions j and k below):

(11) The religious parties hastened to promise the secular public that [they will not “interfere with anybody’s plate”]. [But harey this is not what the cultural struggle is about], [and the religious leadership knows this very well]. [The struggle is precisely on the public sphere...]. (Haaretz 6.7.1996)

Here the writer is using the harey proposition (j) to deny the relevance of the previous proposition (i): the religious parties will not demand changes in the religious status quo which pertain to the private sphere. He is arguing that the relevant issue is the public sphere, and we therefore cannot say that harey is here used to justify another claim.

Another example where harey is not used to justify a previous assumption, nor does it preface a denial is:

(12) (A note from R.F. to E.T. towards the end of a guest lecture):

E, Harey you’re going to respond. Can I recruit you to also ask the following question: ... (12.24.1984).

Here R.F. is not justifying her next speech act. She’s making explicit an assumption of hers, which if wrong, nullifies her next request. Note that without the harey, the utterance would have been interpreted as an indirect command to E to respond. Now, most of the examples are such that the harey proposition supports the proposition immediately preceding it, but the above minority group of examples points to the inferrability and context-dependency of the justification (and other) interpretations.

Another type of argument in favor of the analysis of harey as conversationally implicating justifications (denials etc.), rather than as coding
these, or a subset of these interpretations, is that the code-inferencing distinction naturally explains why whereas we cannot use in conjunction two connectives which carry the same meaning (e.g. *since because), harey can modify a sentence also modified by the semantically nonempty connectives ‘and’, ‘because’, ‘but’ etc. (see Ariel 1985a, 1988 for more examples and discussion, and see example (22), which would be equally acceptable in Hebrew). Last, deriving the justification and denial functions from the accessibility marking function (based on central pragmatic inferencing) explains why these conversational implicatures/inferences are generated when a variety of quite different linguistic means are used to mark a piece of information as accessible. Thus, Hebrew halå, literally a negative question particle, and hen, originally a deictic, are quite synonymous with harey (they are mostly distinguished as to register), in that they all mark accessible information. So do ‘after all’ expressions and special intonation contours. Indeed, they all give rise to similar implicatures of justification and/or denial.

2.2. Alternative ways of marking accessible propositions

Note the following strings:

(13) a. Golda Meir: People want us to stay home at night. Why should we do that? [Men are the ones who rape], let them stay home at night. (Noga 5, 1982: 31)

b. One day in summer Frog was not feeling well. Toad said, “Frog, you are looking quite green.” “But I always look green,” said Frog. “[I am a frog].” (Lobel 1970: 16).

The propositions indexed i and j convey accessible information and they are used to strengthen a previous claim—‘There is no reason we should stay home at night’ (a proposition derived from the rhetorical question in 13a); ‘I always look green’ (in 13b).

A harey could have been added to the Hebrew (a) example and an after all to the English (b) example, without altering their interpretations. If the same interpretation can be achieved without the specific marker, is the harey marker then not redundant, its role as modifying accessible information simply contextually determined? I believe that the fact that some interpretation is potentially inferable is not necessarily proof that it was not also optionally overtly marked (and see Bybee 1994). But in these cases we do not even need to rely on such an assumption. Propositions i and j in (13) are intoned in a manner which points to their intended interpretation. In Ariel (1985a,b, 1988), I have argued that there are specific intonation contours which
mark accessible propositions. Laufer (1974) identifies a basic accessibility intonation for Hebrew, as well as a few sub-types, the most important of which is the one where a critical or challenging tone is added.

The English examples in (14) present utterances intoned in a special accessibility intonation. All were translated into *harey* sentences in Hebrew (they are quoted from data I collected of English translations of Hebrew *harey* sentences, and English utterances translated into Hebrew using *harey*):

(14) a. We’ve just got here! (Archie Bunker, Israeli TV, 5.20.1979)
   b. They’ll only be here a few days... (TV Drama, Israeli TV, 2.23.1981).
   c. A: He’s a strange fellow.
      B: Well, he is an American (Movie, Israeli TV, 3.24.1980).

Another, different intonation contour was used with (15):

(15) We’re not going to give him a present now! (*Love, American style*, TV series, 5.2.1980).

The intonation of (15) is actually the one described by Liberman and Sag (1974) as a contradiction intonation:

(16) Elephantiasis isn’t incurable!

I have argued (Ariel 1985a, 1988) that this intonation is not only a marker of disagreement. Although it is certainly used when the speaker wishes to contradict another’s assertion, it also requires that the information thus presented be accessible. Hence, although Ivan’s (17b) contradicts the content of Mark’s previous utterance, just as his (17a) does, only (17a), which presents accessible information, is acceptable ((17) is a take-off on an example of Liberman and Sag): 11

(17) Mark: Hey Ivan, how about on your way to school this morning you drop off my pet whale at the aquarium!
   Ivan: a. ¿You don’t have a pet whale!
       b. ?? ¡I’m not going to school today, how about that!

Another marker of accessible propositions is *after all*. I have originally analyzed English (and Hebrew) *after all* in a manner essentially identical to that of *harey* (Ariel 1985a,b, 1988). A certain type of *after all* (parenthetical, distressed, occurring in initial or medial sentence position) necessarily marks
information which is already accessible to the addressee (the data was mostly collected from two novels: Irving 1976 and Nicholson 1973). In all the examples collected, the accessible information presented by the after all proposition was presented in order to justify or motivate the material immediately preceding the after all utterance:

(18) a. Jenny’s book was more of a shock to Helen, when she first read it, than it was to Garp who, after all, had lived with his mother and was unsurprised by her eccentricity (Irving 1976: 183).


Interestingly, Blakemore (1987) analyzes English after all slightly differently. She only notes in passing that the information modified by after all is accessible. Blakemore is much more interested in the role after all plays in relevance guided inferential processes. According to Blakemore, very much like my own conclusion, an after all proposition serves as a premise for the deduction of the truth of another proposition. However, Blakemore takes this restriction to be linguistic. It is a coded inferencing instruction from the speaker to her addressee. In addition, Blakemore argues that after all propositions do satisfy the relevance requirement on their own, since strengthening another proposition is relevant enough. This fact then helps her explain why presumably after all cannot occur in conjunction with and. And, she argues, requires that the two conjuncts be processed for relevance together. Although each conjunct may satisfy the relevance requirement on its own, when conjoined, the two should yield contextual effects above the combined contextual effects yielded by each conjunct alone. This is not the case for but, where each conjunct necessarily carries its own relevance, though that of the but proposition is dependent on the previous proposition. Such assumptions account for why after all seems not to combine with and, although it can combine with but.

But problems remain. Why does Hebrew harey combine with ‘and’, just as easily as with ‘but’? Is English after all only used for justifications, as is assumed by Blakemore, or is the justification understanding associated with after all only optional? Assuming justification is the only interpretation actually produced by addressees, what cognitive status should we assign to it in English? Blakemore assumed it to be linguistic, I have assumed it is an inferred central pragmatic interpretation. If it turns out to be linguistic for after all, is it necessarily also linguistic for harey? Is the connection, then, between
whole propositions which are accessible and justifying another proposition accidental, stipulated by an arbitrary convention? If it is arbitrary/linguistic, how come very different types of sentential accessibility markers also signal justifications? What, if at all, is the connection between contradiction and accessible propositions (recall that both Hebrew and English have intonations dedicated to such combined interpretations)? I intend to propose a preliminary account for these puzzles in section 3.

2.3. The cognitive status of ugly facts about harey particles, after all and the accessibility contradictory intonations

Is clothes line a transparent compound, one where the meaning of the whole derives from the meanings of its parts? It would seem so. But then, the Hebrew ‘clothes line’ is coded by an equally transparent compound, namely, ‘laundry line’. Still, each expression, when translated to the other language, sounds odd. This is a problem because we are used to Sadock’s (1978: 258) suggestion that

with heavy doses of Gricean pragmatics, a very great deal of grammar can be completely done away with by making supposedly arbitrary lexical and syntactic facts follow from a few general principles of conversation. As these psychological or sociological principles are independently required to account for nonlinguistic aspects of human behavior, the result is a genuine simplification of the total description of the way the forms of a particular language are used.

But, as Wierzbicka (1986) points out, there are problems in attempting as general and as elegant a linguistic analysis as we think we can, by relegating the account to (central) pragmatic principles (see also Du Bois 1994). The differences between near synonyms within a language, and the differences between near equivalents across languages are left unaccounted for. This is precisely the problem we face with harey synonyms within Hebrew, and its near equivalents in other languages. Thus, although it is very tempting to ignore details, opt for the general account and present a central pragmatic, non-mixed analysis (in Croft’s 1995 terminology) of the justification interpretation (for example), I wish to point out a few problems with such an approach. I will then propose that the radically modular mixed approach can best account for the intricate data.

First, a few “ugly facts”. Blakemore (1987) claims that English after all does not occur in conjunction with and (but see below). Hebrew harey does, as does Hebrew halo. But surprisingly enough, Hebrew h'en, a third accessibility
marker, does not (cf. ve+harey, ve+halo, *ve+hen). A third fact which is surprising under a general pragmatic account is that whereas harey is used for a variety of functions (above the accessibility marking), English after all seems to be restricted to one such function (as argued by Blakemore, and as all my natural examples confirm). The B sentence in (19) with a would-be contradicting after all, which I presented to two native speakers of English, was felt to be awkward. It is perfectly acceptable in Hebrew with a harey:

(19) A: I don’t want to help C this time. I’m sick and tired of her making the same mistakes over and over again.
   B: ?? After all, she IS your best friend.

The two did not accept the English translation of example (10) above either, where the speaker is denying the relevance of a previous speaker’s utterance (and a few other denial hareys translated by after all). Denial after alls were accepted only if they also provided some justification for a later spelled out conclusion, as in the counterpart of example (8). They were not judged acceptable when the conclusion supported did not explicitly occur in the discourse (but the justification after all is acceptable when the proposition justified is merely an implicature). Hence, they did not accept the exchange in (20), even though the after all proposition could very well be interpreted as supporting a conclusion which contradicts the first speaker’s assertion, namely, that the girl should not automatically give up her baby. (20) would be perfectly acceptable in Hebrew with harey:

(20) Pregnant girl: I’m thinking of giving this baby up for adoption.
   Counsellor: ?? Illegitimate children, after all, are normal and wonderful children!

Nor did they accept the translation of example (12), where the speaker is simply making explicit an assumption she is making.

A fourth ugly fact is that the contradictory intonation contour identified by Liberman and Sag (1974) typically conveys accessible information which is necessarily a denial. The two interpretations are inseparable in this case (the contradictory implicature is uncancellable, in other words), although they are separable with harey. Fifth, contra Blakemore’s claim (which is supported by my written data examples), my informants did accept three and after all utterances. Two of them correspond to a common function of and harey, namely adding another premise (which happens to consist of accessible information) to a previously mentioned premise. Together, these premises
support a conclusion, specified either before or immediately following the *and* *after all* utterance. Here is one of the relevant examples:

(21) The attraction in this word [then - M.A.] is that it is suitable for both past and future. *And after all*, what we talk and tell about is, as is well known, mostly the past and the future (adapted from an ‘and’ +*harey* example).

The following example from a TV interview shows that *after all* can also cooccur with *because* (though I have no other such examples):

(22) Sure! That’s easy for Lola ... *because after all*, she has all that help! (Tom Brokaw 6.26.1993).

Now, Hebrew *harey* often occurs with other connectives, but once we assume that *after all* codes rather than implicates justification, it is somewhat surprising that it can cooccur with another connective with roughly the same meaning. Note that *because* cannot cooccur with *since*, for example. This would argue for an implicature analysis, whereby the justification interpretation is not necessarily generated, because *because* already codes it. But then, (22) is a single example. Another possibility is to treat the justification interpretation of *after all* as a conventional implicature, in which case it is uncancelable, but still has a different cognitive status from the justification associated with *since* or *because*. This would account for their allowed cooccurrence.

So, what is the cognitive status of these use conventions? It is probably unnecessary to specify in the grammar whether an ‘and’ should be allowed to cooccur with *harey* or *after all* (it should!). In Hebrew, the *harey* can, but need not even be adjacent to the ‘and’ while the reading remains the same, which means that ve+*harey* is really merely a combination of ‘and’ plus *harey*. Its interpretation does not need to be specified (‘and’, just like ‘but’, encourages the reading of the utterance as pragmatically dominant). The nonoccurrence of such uses in my data may be explained by the low frequency of cases where accessible information is also dominant (and/or serves as an added premise). Accessible information is not usually dominant. However, *hinne* ‘behold’ is a marker of new information (even if self-evident). Since both ‘and’ and *hinne* specialize for dominant information, there are many ve+*hinne* combinations (40% of Biblical *hinne* are actually ve+*hinne*). But the ban on ‘and’ +*hen* in Hebrew makes it clear that languages are not always maximally general, as we like to assume as theoreticians. This must be a grammatical stipulation. Hebrew *hen* is now disappearing from the language, which may account for the
elimination of some of its contexts of use, despite the general principles which would predict a freer distribution in discourse.\textsuperscript{15} English after all may have entrenched and grammaticized one certain conversational implicature, even if not completely, more than the Hebrew harey. Complete entrenchment entails grammatical status. An in-between cognitive status may nevertheless have to be postulated for the unique properties of after all.

Last, consider she+harey, literally ‘that’+harey. Seemingly, this expression should pattern like other harey combinations, whose interpretation combines the interpretations of the two components involved. But this is not the case with she+harey. She+harey simply means ‘since’. Now, this meaning is transparently derivable from the two components involved. ‘That’ can sometimes mean ‘because’ (this was especially true in Mishnaic Hebrew, where the expression was formed), and harey naturally contributes the accessibility associated with she+harey reason clauses. Still, she+harey, I have argued (Ariel 1985a) semantically means ‘since’. Thus, although she ‘that’ can be an empty complementizer, it never is in this case, and although harey can implicate denials or added assumptions, she+harey cannot convey these interpretations, even though they do not contradict the general usage of the Hebrew ‘that’. Last, unlike ‘and’ and ‘but’, ‘that’ cannot be separated from harey while preserving the same meaning. Thus, the combined ‘accessibility+justification’ are in this case grammatical.

Table 1 sums up the main interpretations associated with the expressions discussed above, namely, accessibility, justification, denial, premise and (non)dominance. It assigns them one of three statuses: semantic, linguistic pragmatic or generalizable central pragmatic. Linguistic pragmatic meaning roughly corresponds to conventional implicatures (but I assign them linguistic status). Generalizable pragmatic inferences are prevalent central pragmatic inferences, roughly, generalized conversational implicatures (which I view as nonlinguistic, though entrenched to some extent). Note how the different interpretations assume different cognitive statuses for different expressions.

The interpretation of information as accessible is best assumed to be part of the semantics of ‘that’+harey and since (since the reason and the accessibility interpretations cannot be separated, nor cancelled, nor derived by implicature). It is a linguistically determined pragmatic interpretation for harey, after all, the special contradictory intonations in Hebrew and English, and ‘and/but’ harey. In addition, it may be a central pragmatic inference, even without a specific marker (and hence this case cannot be listed in Table 1, but see the examples in (13) again). The justification interpretation is semantic for
‘that’+harey and since, it is linguistic pragmatic for after all and the special contradictory intonations, and it is a central pragmatic inference for all the other expressions. Last, contradicting another proposition is a linguistic pragmatic interpretation for the special accessibility contradictory intonations, but it is a central pragmatic inference for most of the other expressions.

<table>
<thead>
<tr>
<th></th>
<th>Semantic Meaning</th>
<th>Linguistic Pragmatic Meaning</th>
<th>Generalizable Central Pragmatic Inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harey</td>
<td>None</td>
<td>Accessibility</td>
<td>Justification, Denial, Premise, Nondominance</td>
</tr>
<tr>
<td>After all</td>
<td>None</td>
<td>Accessibility, Justification</td>
<td>Denial</td>
</tr>
<tr>
<td>Intonation &amp; Hebrew intonation</td>
<td>None</td>
<td>Contradicting the addressee, Accessibility</td>
<td>Nongeneralizable</td>
</tr>
<tr>
<td>‘And’ harey</td>
<td>‘And’</td>
<td>Dominance, Accessibility</td>
<td>Justification, Premise, Denial</td>
</tr>
<tr>
<td>‘But’ harey</td>
<td>‘But’</td>
<td>Dominance, Accessibility</td>
<td>Denial, Justification</td>
</tr>
<tr>
<td>‘That’+harey/ Since</td>
<td>Justification, Accessibility</td>
<td>None</td>
<td>Nongeneralizable</td>
</tr>
</tbody>
</table>

Table 1: Semantic, linguistic pragmatic and central pragmatic interpretations associated with accessibility markers

3. Form-function correlations

Before we address the form-function correlations involved in marking accessible propositions, we should briefly mention additional means which speakers have at their disposal in order to express accessible propositions. That these strategies indeed involve the same function is attested to by examining translations to and from Hebrew, showing the Hebrew harey as the translation/source of a variety of forms in other languages. Prince (1978) analyzed it- and wh-clefts as constructions marking some piece of information as Given (my ‘accessible’). Indeed, a few examples show that harey is seen as
their equivalent. Thus, although a parallel structure exists in Hebrew, (23) was translated with a *harey* and a regular SVO syntax:

(23) But he was the one who closed the case

\[ \Rightarrow \]

*Harey* he closed the case (a literal translation from Hebrew, *For the sake of justice*, Israeli TV, 2.16.1980).

The same goes for the factive *you know*, and for rhetorical questions. Tag questions, on the other hand, do not sound natural in Hebrew. Hence, when the proposition tagged by the tag question is accessible, *harey* may substitute for it.\(^{16}\)

(24) Don’t look so surprised, you were expecting me, weren’t you? (TV movie, Israeli TV, 5.15.1981).

Thus, presuppositional constructions, certain tagged questions, rhetorical questions, specific intonation contours, deictics and ‘after all’ expressions can all mark propositions as accessible, and they actually do that in Hebrew and English (as well as many other languages). What, then, is the relationship here between form(s) and the accessibility function? It is obviously one of **ONE FUNCTION-MANY FORMS**. But since each of these forms is also used for other functions, the relationship is at the same time also of **ONE FORM-MANY FUNCTIONS**. Such complex relationships seem to point to grammatical arbitrariness. I would like to argue that while we must assume grammaticality is involved here, grammatical status does not entail arbitrariness in the sense of randomness.

We cannot fully predict linguistic facts. However, although we cannot predict which possible rules will actually be realized in each language, we can distinguish between possible and impossible linguistic rules. This is why I find the reference to arbitrariness in the literature somewhat misleading. Recent work by functional typologists shows that whereas much of linguistic form can be motivated, it is not totally predictable (for a variety of reasons, e.g. competing motivations, see Du Bois 1985, 1987). For lack of better terminology, even functionalists sometimes call an interpretation or a form-function correlation which is not 100% predictable by an inference, arbitrary (see Prince 1988; Croft 1995). This is very much in the spirit of Saussure (1960), although Saussure’s point was that there are degrees of arbitrariness, and that grammatical combinations manifest more motivation than do single lexical items. While it is true that lack of total predictability entails a
grammatical status for the principle/form-function correlation at hand, this does not amount to claiming that that principle, or that grammar in general, is random (see also Lakoff 1987; Langacker 1987; Goldberg 1995). In other words, we use “arbitrary” in two senses which I think should be teased apart: random and unpredictable. They are lumped together, because if something is not totally predictable it is ‘unpredictable’, and many ‘unpredictable’ phenomena (though by no means all) are unpredictable precisely because they are random (to various extents). Thus, if we call less than perfect predictability arbitrariness, partially motivated grammatical principles can be made to look as if they were random. But (grammatical) conventions are not necessarily arbitrary [random], even if they need to be specified, because they represent a specific formal choice out of a restricted set of alternative forms. I therefore reject the automatic inference from arbitrary [grammatical] to arbitrary [random]. If we can rule out some grammatical possibilities, acknowledging that language variability exists does not amount to claiming that “anything goes” (= arbitrary [random]).

Linguistic variability is severely restricted. Syntacticians try to reduce restricted variability to parametric variation. Functional typologists do not believe in such drastic reductionism, but their universal scales serve a similar function, in that they delimit linguistic variation, with the added claim that universality of form (to be distinguished from uniformity of form) is motivated by function.

Motivating a specific FORM X - FUNCTION Y correlation does not rule out the possibility that there is another, well-motivated FORM Z - FUNCTION Y, nor that there is not in addition a well-motivated FORM X - FUNCTION Z correlation. This is the case at hand. The key idea here is that there is an enabling relationship between forms and emerging meanings, not an unavoidable path of change. Forms lend themselves to some but not other additional uses, but they may lend themselves to more than one such innovative meaning. Thus, the literal meaning of ‘at the same time’ is compatible with the development of both a contrastive meaning between the events depicted (English while), and a causal connection between them (German weil).

What codes tend to develop into sentential accessibility markers? The following remarks are not meant as etymological analyses and/or as descriptions of the evolution of accessibility markers. That awaits much further research. But even a superficial examination of these markers shows their heterogeneity, which points to a ONE FUNCTION-MANY FORMS relation. One source are syntactic constructions originally perhaps reserved for nondominant information (the clefts, for example), and specialized intonations. Factives are
another obvious possibility. I would like to sketch the plausibility of using rhetorical question markers, deictics and 'after all' expressions as accessibility markers. Although I will not here attempt to actually trace the development of such expressions into accessibility markers, what I would like to do is supply the rationale that may have led to the development of these accessibility markers.

If something is available in the speech situation, it may already be accessible to the addressee, and hence noncontroversial, because we tend to agree on facts we actually witness together (Clark and Marshall’s 1981 physical co-presence). If deictic expressions become sentential in scope (a development which is not specifically related to accessibility), they are natural candidates for marking accessible propositions. This motivates the deictics ‘behold’/‘thus’ developing into accessibility markers in Hebrew (harey, hen, (she+)ken - see below). Another plausible source for marking accessibility is an expression such as ‘after all has been considered’, or ‘in the end’ - Hebrew sof sof, besofo shel davar, axrei kislot hakol. Such expressions make reference to a set of assumptions which are supposed to be shared by the speaker and the addressee (in the end, everything is known). Finally, negative questions (ha+lo = question particle + ‘not’) are commonly used as rhetorical questions. This then is another potential source for the marking of a piece of information as accessible. Note that indeed, after all, which should modify assertions (used as premises), can modify rhetorical questions, as in:


Now, the cognitive status associated with the accessibility interpretation may vary for the different expressions, depending on how advanced along the grammaticization path the interpretation is for the specific marker (see Table 1 above).

Next, why is accessibility so often related to other, additional meanings, even though the accessibility markers are so varied? Combining the marking for accessibility and justification, and for accessibility and denial is certainly very likely. This follows from the very plausible connection between accessibility on the one hand and justifications and denials on the other. Accessible information is highly useful precisely when justifications are sought, or when denials of somebody else’s claims are intended. When the speaker’s original
proposal is supported by a premise which constitutes common knowledge, or one which is at least accepted by the addressee, the original proposition has a better chance of being adopted by the addressee as well. The same logic operates in contradictions. If a contradicting assertion is information which is accepted by both participants, then the contradicted assumption may more easily be abandoned by the addressee, who should be concerned about holding consistent beliefs. In other words, justifications and contradictions have in common a situation where the speaker feels she has to be extra-persuasive. Using common ground information to motivate either her own potentially more controversial claim (justifications) or else a claim which someone else (usually the addressee) is known to disagree with (contradictions) makes perfect sense then. This is probably the reason why French and English (to some extent) have a \textit{mais bien sûr / but of course} combination, with \textit{but} contributing the contrast and \textit{of course} contributing the accessibility of the information. Perhaps because Hebrew has \textit{harey} for such circumstances, *\textit{avâl bevaday} does not exist as a combined connective in Hebrew. Note the following translation, then:

(26) A: Mme Duvernois, how nice of you to come!
        Mme Duvernois: But of course, you have invited me. =>

\textit{Harey you have invited me (The lady with the Camellias, Israeli TV, 1.18.1980).}

The usefulness (i.e. relevance-induced usages) of the connection between justification and accessibility, and contradiction and accessibility would, then, motivate using accessible information often, or even mostly, in contexts where it would also be used for justification or contradiction (as conversational implicatures or as context-dependent inferences). The recurrence of contexts where the interpretation of accessible propositions gives rise to a justification/contradiction reading as well, may eventually lead to the grammaticization of these two meanings as conjoined meanings of one and the same form. Grammaticization often involves a change from a conversational to a conventional implicature, possibly even into a semantic meaning (see Grice 1975; Cole 1975; Morgan 1978; Traugott and König 1991; Hopper and Traugott 1993) through high frequency of use. This change in the status of certain interpretations is precisely the crossing of non-linguistic, central-system inferencing into linguistic conventional, automatic, fast, uncancelable interpretations. Note that if more than one form is used for marking accessibility, we can expect more than one form to also develop the other
associated meanings. Indeed, *harey*, as well as *halo, hen* and *after all* are all used for justifications etc.¹⁷

Now, the freezing of pragmatic conversational implicatures into linguistic conventional interpretations/rules is optional, rather than obligatory, depending on the specific usage patterns recurrent in the specific language (consider again the different conventionalization of English and German *‘while’*, and see Hyman 1983 about optional versus obligatory marking of the same function in different languages). Hence, whereas we can predict that associations between accessibility, justification and contradiction are highly likely (i.e. motivated, not random), we cannot predict for a specific language/marker whether these associations would be pragmatically derived as conversational implicatures, or coded and interpreted via a conventional interpretive procedure (i.e. grammatical). Looked at this way, we can answer at least some of the questions posited above. It is possible that *harey* only has *‘accessibility’* as its linguistic meaning, although in an overwhelming majority of cases, it is also used in justifying another proposition. The latter may very well be merely central pragmatic inferences (conversational implicatures in Gricean terms). It is also possible that the common and repetitive usage of parenthetical *after all*, precisely when the pragmatic enrichment of justification is also called for, encourages these two interpretations to be reanalyzed as inseparable, i.e. both having linguistic status. It is significant to note that the *OED* has an *“afterall”* spelling for *after all*, which is attributed to American usage (although not so listed by *Webster Third New International Dictionary*). In fact, Aramaic dictionaries define *arey*, the Aramaic counterpart of Hebrew *harey*, as a conjunction meaning *‘because’* (see Levy 1867).

Now, although we can motivate the development of certain semantic meanings into others via grammaticization of conversational implicatures, we should note that these very same expressions may lead to other, equally plausible, grammaticizations. We now consider the **one form-many functions** situation. Consider tonic *after all* whose function is *‘in spite of what may have been understood’* - see Halliday and Hasan (1976: 20). This contrastive *after all* is formally distinguished from the accessibility *after all*: it is sentence final, it is not a parenthetical, and it is stressed. Consider (27):

(27) ... I tried to develop two general strands...: One pertaining to the individual’s uniqueness and the other to the conditions under which relatively effective communication can be expected *after all* (Kreckel 1981: 9).
Such *after all* uses do not have to present accessible information. Why then should *after all* mark contrastive, possibly new information as well as accessible, justifying information? I suggest this contrastive information is also related to accessible information. It is a surprising piece of information only given the speaker and the addressee’s prior expectations. In other words, here it is the unspecified expectations shared by the speaker and her addressee which constitute accessible information, though not the proposition itself. Thus, both *after all*s are used when speakers rely on shared assumptions due to their having experienced some process to its completion. When these are highly salient or easily inferred, we need not mention them at all (this is the case of tonic *after all*). If this information is accessible, but not highly accessible, we need to actually mention the assumption we are referring to (this is the parenthetical *after all*). The stress marks tonic *after all* as modifying dominant information, whereas the lack of stress on the parenthetical *after all* points to its proposition being non-dominant.

The contra-expectations function, which leaves inexplicit the “accepted” facts, cannot be performed by *harey*, no doubt because it originates from a deictic, which points to the actual accessible entities. Hence, its sentential function retains the requirement to specify explicitly the accessible proposition. Interestingly, colloquial Hebrew *sof sof*, ‘in the end/at last’, which is quite similar to ‘after all’ (Hebrew *axrei ki-xlot hakol*, literally, ‘after everything has ended’) is currently fluctuating between two implicatures, which in English require either the (tonic) *at last* (the dominant usage, with *sof sof* receiving stress) or the (parenthetical) *after all* (a marginal, innovative usage with an unstressed *sof sof*). It cannot, however, be used to mean contra expectations, no doubt, since its tonic version has conventionalized for the ‘at last’ reading.

The non-obligatory nature of conversational implicatures, and hence of the historical changes involved in the grammaticization of such implicatures, can most clearly be seen when we examine the implicatures associated with deictic expressions/presentatives. Recall that *harey* and *hen* are originally deictic expressions meaning ‘behold’. *Harey* is still marginally used as a deictic:

(28) *Harey* for you breakfast (*A translation of “There’s your breakfast”, from the movie *Cabaret*).

However, information available to the speakers due to their presence in a specific speech situation does not necessarily render that information a unitary status of accessibility, because information available from the physical
surrounding is not necessarily attended to. Now, information which is attended to will be presumed to be accessible. Information which is in the process of becoming available will be treated as new. Indeed, *harey* and *hen*, both presentatives, conventionalized the *accessibility* aspect involved in information derived from the physical location of the speakers, when they developed from expressions used to point to objects into information markers. So did *ken* (originally, and to some extent even currently meaning 'thus'), as in *she+ken* 'since'. They are now sentential markers modifying accessible information. However, *hinne*, a derivative of the same deictic root as *hen*, which also acquired sentential scope, becoming an information status particle (see Gesenius 1907; Loewenstamm 1957) conventionalized the *newness* aspect, and is used to preface new and dominant propositions (already in the Bible - see Gesenius 1907 and Loewenstamm 1957). So did the Mishnaic *harey+she*, literally *harey*+‘that’, which meant (semantically) ‘if’ or ‘on the assumption that’.18 This expression is no doubt a development of the deictic *harey*, but here it is the drawing of attention to new information which is relevant: *Harey+she* indicates to the addressee to assume as given assumptions which do not constitute accessible information:

(29) *Harey she* (=in case) one pushes his friend down from a roof...

Thus, (29) presents a hypothetical premise, which is followed by the appropriate Talmudic ruling on the case.

Similarly, with *know* being a factive verb, *y’know* could have served a similar function of making reference to accessible information. But it has conventionalized as the speaker’s attempt to *establish* (rather than assume) a consensus with her addressee (see Schiffrin 1987). The same explanation would account for why parenthetical *obviously* and *surely*, which could have conveyed the same meaning, specialize for accessible and new information respectively (see Ariel 1985a, 1988). Thus, whereas *obviously* modifies information assumed to be accessible to the addressee, *surely* asserts a piece of information to be self-evident without assuming that it is so for the addressee. Hebrew only has the new information interpretation for these expressions.

In sum, there is no doubt an enabling relationship between certain literal meanings and plausible, and hence recurrent pragmatically induced inferences. But these are neither obligatory nor unique. The result is therefore a one function-many forms relationship. Accessibility, I have argued, is expressed by a variety of forms, all motivated, though not fully predictable. Next, once a specific linguistic marker codes accessibility, since the persuasive power of
accessible information is potentially great, the accessibility interpretation (of whatever cognitive status) often combines with justification and/or denial. These further pragmatic inferences may eventually conventionalize. My main point has been that the cognitive status of a given interpretation is not predetermined. It cannot be fully predicted by the division into motivated versus arbitrary. It depends on the degree of grammaticization reached. The approach here proposed for accounting for accessibility, justification and denial is not committed to a unitary analysis for one and the same interpretation when associated with different markers within or across languages. Interpretations are assigned a cognitive status according to the cognitive mechanisms responsible for generating them and not according to their content. These mechanisms may vary per language and per marker.

If, moreover, hard-wiring may occur in adults (see Karmiloff-Smith 1991; Croft 1995 1996b; Aitchison 1996), we can explain the near, but not perfect grammaticization of after all (justification). In fact, the English after all is actually not so unique in requiring an intermediate status analysis. The Hebrew ‘after all’ may require an intermediate analysis too, but in this case, for the accessibility interpretation. We have noted that Hebrew harev can cooccur with semantic connectives. Recall, however, that the various accessibility particles cannot cooccur in the same clause (while modifying the same information). However, interestingly enough, the Hebrew ‘after all’ is allowed to cooccur with harev (30a), though it cannot cooccur with another after all expression (30b):

(30) a. This harev is what we would have all liked in the end, no? (A translation from Hebrew, Hair, 1.31.1997).

b. ?? This, after all is what we would have all liked in the end, no?

I suggest that the reason why the Hebrew after all can cooccur with harev although other accessibility particles cannot cooccur with each other is that it still carries a residue of its literal, semantic meaning (‘when all is considered’). The particles (harev, hen, halo) no longer carry a literal meaning. Thus, halo can no longer be used to create negative/rhetorical questions in Hebrew. Hence, the only meaning it has is its accessibility marking. I think that the accessibility interpretation of the Hebrew ‘after all’ is therefore not as entrenched as the accessibility interpretation for harev, hen and halo. It does seem to be linguistic (it has to be stipulated by the grammar), but at the same time it can (rarely) be cancelled, in which case its literal meaning is the relevant meaning.19 Similarly, although I have argued that she+harev semantically means ‘since’ (which
explains why it cannot cooccur with the semantic *ki* 'because'), its meaning may have not yet acquired the full status of a semantic meaning, in view of the fact that *she+harey* cannot cooccur with *harey/hen/halo*. Recall that *ki* 'because' can cooccur with these particles. I believe that such cases point to the gradedness of cognitive statuses and to the richness of potential form-function correlations. The accessibility of (the Hebrew) 'after all' is almost completely entrenched (i.e. grammatized), but it is not as entrenched as the accessibility of the various *harey* particles. The same applies to the justification interpretation of English *after all*.

With respect to the **one form–many functions** relationship, we have seen that linguistic meanings (be they semantic or linguistic pragmatic) naturally lend themselves to more than one type of enrichment, which may form the source of grammatical change. Sometimes more than one such enrichment is entertained (Hebrew *harey* used for justifications, denials etc.). Sometimes a formal distinction is used to distinguish between the added meanings (English and Hebrew tonic versus parenthetical *after all* and *sof sof* 'at last'), and sometimes, just one implicated meaning gets grammatized (or semi-grammaticized), e.g. parenthetical *after all*, Aramaic *arey*, Hebrew *she+ken, she+harey*. These numerous, but at the same time far from infinite plausible meanings, explain the development of many functions for one and the same form.

Semantic meaning is for the most part conceptual, truth-functional, conventional (though not necessarily arbitrary), automatic and fast. Linguistic pragmatic meaning is conventional, automatic and fast, but not necessarily truth-functional and not necessarily conceptual (see Wilson and Sperber 1993 for further discussion of procedural versus conceptual, encoded versus inferential interpretations). It remains to be seen whether the +/-truth-functional (within the grammar) distinction which I have here taken for granted is justified, and/or whether other distinctions should be assumed on the basis of neurological differences found in the processing procedures they involve (e.g. between content and function words, which are known to be accessed differently neurologically - see Zurif 1980 - or regular and irregular verbal morphology - see Jaeger et al. 1996). Central pragmatic meaning is crucially not conventional. It is inferential, non-automatic, highly dependent on a motivating context, a set of pragmatic principles and our general encyclopedic knowledge. Hence, it is (relatively) slow. It may be either conceptual or procedural (as when the justification is inferred). I believe that a reading in this spirit of Schiffirin’s (1987), Abraham’s (1991) and Jucker’s (1993) (*inter alia*) analyses
of discourse particles will support the relevance of the distinctions here proposed. Their analyses of discourse particles seem to distinguish between a linguistic, conventional, context-independent meaning and additional, nonlinguistic interpretations potentially generated in certain contexts, even if they do not explicitly draw this distinction. In this respect, discourse markers are not different from other linguistic codes (e.g. pronouns, speech act markers), which require a substantial amount of inferencing over and above their decoding.

Notes

1 But there are other *hareys*, one of which has clausal scope and its function is precisely to mark the dominant phrase of the sentence. This *harey*, which I have termed *Matrix harey*, is analyzed in Ariel (1985a, 1988).

2 Note that it is no easy matter to negate *harey* propositions (which is indeed a crucial test for dominance). Whereas the propositions themselves can be negated, data show that this is not actually done in natural discourse. It is certainly grammatically quite impossible to contradict the givenness aspect of the interpretation. Thus, the normal interpretation attached to the following (invented) exchange, where I applied Erteschik-Shir and Lappin’s lie test, reveals that it is the preceding dominant assertion which is felt to have been contradicted:

A: [I helped Shulamit a lot yesterday]. [Harey we’re best friends].

B: That’s a lie.

3 Section 2 is a revised and enlarged version of section 2 in Ariel (forthcoming).

4 It remains to be seen whether we should distinguish between linguistic semantics and pragmatics within grammar.

5 However, I follow Sperber and Wilson (1986/1995) in rejecting the identification of all central system processings with very slow and complex processes. Pragmatic utterance interpretations are more often than not extremely fast (see the third experiment in Swinney 1979).

6 I therefore do not accept the common view which assigns speech acts an independent (and basic) status. A typical example where such a view is presupposed is Hanks (1996), who lists illocutionary acts as requiring a specific mechanism of interpretation distinct from linguistic coding and conversational implicature. As I argue in Ariel in prep., such an assumption is unwarranted.

7 As Yael Ziv points out, justifying original assertions can be viewed as deriving from Grice’s maxim of Quality, too.
But note that but and harey are not always interchangeable. But can mark a contrast, as in: I'm tall. But you're short. Harey cannot be used in this case, for it is argumentative in function and tone.

And see Ariel (1985a, 1988) for references to counterpart expressions in Russian, German and a few other languages.

(13b) also contains a nice example of a Given proposition which is dominant: But I always took green.

Liberman and Sag use j in front of the sentence to signal the above intonation contour, and I will follow them on this.

Note that the accessible information contained in the after all clause here (derived from the rhetorical question) justifies the assertion that Violet is “poor POOR”, as opposed to Vita and Hadji being just “poor”.

I have since been able to search for after alls in the Corpus of Spoken American English (see Du Bois forthcoming). 20 conversations yielded only 2 instances. In one it was phonetically unclear what the proposition modified was. The other was a justification after all. Interestingly enough, this after all constituted a separate intonation unit. Hebrew harey cannot constitute an independent intonation unit (perhaps because of its small size).

Both informants thought the sentence improves with an added but, but not all potentially denial after all examples with but were judged acceptable by them. There were 20 sentences in the questionnaire.

Except for one example, all Givenness hens were found in poems.

Hebrew speakers can tag a “right?” or a “no?” to an assertion, but these are restricted to a more colloquial register than the one used in the TV translations.

The paths of change described above are meant to be theory-neutral, although they are phrased in Grecean terminology. They are equally compatible with a relevance theory account.

This usage does not exist in Modern Hebrew.

Alternatively, we could say that when we have a combination of harey and after all or of because and after all the language allows for redundancy which it does not allow when harey and also or the Hebrew after all and in the end cooccur. It would then be quite mysterious why redundancies are allowed in one case but not in another.

Sources

Irving, John W.

Kreckel, Marga
Lobel, Arnold

Nicholson, Nigel

*Noga* A feminist magazine (in Hebrew).

*Stach Lochemin*
1976 Published by a young Kibbutz movement group. Tel-Aviv (in Hebrew).

**References**

Abraham, Werner

Aitchison, Jean

Ariel, Mira
1985a *Givenness marking*. PhD thesis submitted to Tel-Aviv University.
1990b Pragmatics: In the grammar and in the wastebasket too. Paper delivered at IPRA III, Barcelona.
forthcom Mapping so-called pragmatic phenomena according to a linguistic-nonlinguistic distinction: The case of propositions marked accessible. In: Michael Darnell, Edith Moravcsik, Frederick Newmeyer, Michael Noonan, and Kathleen Wheatley (eds.). *Formalism/Functionalism*. Amsterdam: John Benjamins.

in prep. *Linguistic Pragmatics*

Bates, Elizabeth, and Brian MacWhinney
Beeman, Mark, Rhonda B. Friedman, Jordan Grafman, Enrique Perez, Sherri Diamond, and Miriam Lindsay Beadle  

Blakemore, Diane  

Blumstein, Sheila E.  

Brownell, Hiram H., John J. Carroll, Alexandra Rehak, and Arthur Wingfield  

Brownell, Hiram H., and Howard Gardner  

Brownell, Hiram H., Dee Michel, John Powelson, and Howard Gardner  

Brownell, Hiram H., Heather H. Potter, Amy M. Bihrlle, and Howard Gardner  

Bybee, Joan  

Bybee, Joan, Revere Perkins, and William Pagliuca  

Carston, Robyn  


Chafe, Wallace L., and Johanna Nichols (eds.)  

Chiarello, Christine  
Discourse Markers and Form-function Correlations


Cole, Peter


Croft, William

1996a What (some) functionalists can learn from (some) formalists. Paper delivered at the Formalism-Functionalism Conference. Milwaukee, April 1996.

Delis, D., Wendy Wapner, Howard Gardner, and James A. Moses

1983 The contribution of the right hemisphere to the organization of paragraphs. Cortex 19, 43-50.

Du Bois, John W.

1987 The discourse basis of ergativity. Language 63.4, 805-55.


Erteschik-Shir, Nomi, and Shalom Lappin


Etcoff, Nancy L.


Fodor, Jerry


Gardner, Howard, Hiram H. Brownell, Wendy Wapner, and Diane Michelow


Gesenius, William

Giora, Rachel

Goldberg, Adele

Grice, Paul H.

Halliday, M.A.K., and Ruqaiya Hasan

Hanks, William F.

Harnish, Robert M., and Ann K. Farmer
1984  Pragmatics and the modularity of the linguistic system. *Lingua* 63.3/4, 255-77.

Hopper, Paul J.

Hopper, Paul J., and Elizabeth Closs Traugott

Horn, Laurence R.

Hough, Monica S.
1990  Narrative comprehension in adults with right and left hemisphere brain-damage: Theme organization. *Brain and Language* 38:2, 253-77.

Hyman, Larry M.

Jaeger, Jeri J., Alan H. Lockwood, David L. Kemmerer, Robert D. Van Valin, Brian W. Murphy, and Hanif G. Khalak

Jucker, Andreas H.
Karmiloff-Smith, Annette

Kasher, Asa

Kasher, Asa, and Eran Zaide

Lakoff, George

Langacker, Ronald W.

Laufer, Abraham

Levinson, Stephen C.

Levy, Jacob

Liberman, Mark, and Ivan A. Sag

Loewenstamm, Saul E. (ed.)
Morgan, Jerry L.  

Newmeyer, Frederick J.  
Newmeyer, Frederick J. (ed.)  

Prince, Ellen F.  

Rehak, Alexandra, and Howard Gardner  

Sadock, Jerrold M.  

Sadock, Jerrold M., and Arnold M. Zwicky  

Saussure, Ferdinand de  

Schiffrin, Deborah  

Schneiderman, Eta L., Kumiko G. Murasugi, and Douglas J. Saddy  

Sperber, Dan, and Deirdre Wilson  

Swinney, David A.  
1979 Lexical access during sentence comprehension: (Re)consideration of context effects. Journal of Verbal Learning and Verbal Behavior 18, 645-59.

Thompson, Sandra A., and Anthony Mulac  

Traugott, Elizabeth Closs, and Bernd Heine (eds.)  
Traugott, Elizabeth Closs, and Ekkehard König

Tucker, Don M., and Sherri L. Frederick

Wapner, Wendy, S. Hamby, and Howard Gardner

Wierzbicka, Anna

Wilson, Deirdre, and Dan Sperber
1993 Linguistic form and relevance. Lingua 90.1, 1-25.

Zurif, Edgar B.