What does *really* really mean?: Evidence, standards and probability in dialogue

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Introduction. This paper presents a unified analysis of the epistemic, actuality and intensifier uses of *really*. We argue that *really*, following the intensifier use, raises standards of evidence by removing propositions from the subset of the conversational background used to evaluate *really*'s argument. This approach allows us to treat gradability of beliefs within the same framework as other forms of semantic gradability (Kennedy and McNally, 2005). This, in turn, provides a more general understanding of the use of *really*, its relationship with VERUM focus and their respective roles in dialogue.

Data and Background. Romero and Han (2004) (R&H) equate epistemic *really* with the semantic operator VERUM. They define VERUM(p) as asserting that its speaker is certain that the proposition p should be added to the common ground. This sort of expression of speaker certainty is usually linked with polarity focus/auxiliary insertion in English, e.g. (1b).

(1) a. Gore really DID win the election. (epistemic *really*)
b. Gore DID win the election. (VERUM/polarity focus)
$\rightsquigarrow$ The speaker has a high level of certainty that 'Gore won the election' should be put in the common ground.

(2) Gore was really sad. (intensifier)

R&H exclude two major uses of *really* from their analysis: the intensifier (2) and actuality (3) readings. While the intensifier version does seem somewhat removed from the epistemic version, the separation of the actuality case is more subtle. The actuality reading seems to arise when *really* appears after the focused auxiliary (negation, modals, or in negative polar questions), and expresses more that things are not what they seem, rather than speaker certainty about additions to the common ground (3).

(3) a. Mary isn't really human. (actuality)
$\not\approx$ The speaker isn't certain that Mary is human
$\approx$ Although Mary appears as such, the speaker knows that Mary is not human.
b. Isn't Mary really an alien?
c. Mary might really be an alien.

Several questions arise from this view of *really* as VERUM. In particular, it is not clear what the contributions of *really* and VERUM are in cases where both appear, e.g. (1a). Similarly, we would like to know why the actuality reading arises when it does and if this fundamentally differs from epistemic *really*, or even the intensifier version. Like the intensifier, both epistemic and actuality interpretations seem to involve raising of a standard, i.e. speaker certainty of the proposition under its scope. In this sense, *really* can to take scope above and below negation (4). That is, this standard appears to be at-issue.

(4) a. Mary really isn't a liar. (Tests confirm she is a human.)
b. Mary isn't really a liar. (She never said she was human.) $\neq$ Mary ISN'T a liar.

In (4a) *really* is used to affirm that Mary surpasses the standard for not being a liar, while (4b) expresses that Mary doesn't meet the standard for being a liar, if we do not count lies of omission. So, *really* seems more involved in setting the current standard of evidence used in discourse rather than asserting that a proposition belongs in the common ground.

***Really* tightens the kernel.** Extending von Fintel and Gillies (2009)'s analysis of epistemic modals, we assume that utterances are evaluated with respect to a subset of the propositions in the conversational background. Inclusion in this (generalized) kernel K, is determined by rankings of these propositions' reliability and relevance. While epistemic modals constrain K's contents to direct evidence, we argue that *really* simply signals evaluation with respect to a new smaller kernel, $K_r \subset K$, i.e. better evidence than previous. Dropping propositions from the kernel results in degree evaluations over a more general domain. Expanding the evaluation domain reduces the likelihood of a random object having a degree that exceeds the standard. Thus, tightening the kernel has the effect of raising standards to a level which may exclude some propositions which would have passed at a normal standard, as in (4b).

***Really*, standards and probabilities.** This notion fits with the intensifier version of *really*. Following Kennedy and McNally (2005), a gradable adjective G projects a scale S_G. That is, *really* says that

the degree of x with respect to S_G surpasses the standard with respect to K_r, as shown in (5).

(5) [[really]](G)(x) = $\exists d[d > std(S_G) \wedge G(d)(x)]$ w.r.t $K_r \subset K$, a 'tightened' kernel.

Following Davis et al. (2007), proposition p, uttered by X, projects X's subjective probability of p: $C_{X,K}(p)$ which we can now say is evaluated with respect to K. Assertion of p requires $C_{X,K}(p) > c_\tau$, the quality threshold, i.e. the minimum standard for assertability. The intensifier definition of *really* (5) can then be applied to propositions:

(6) [[really]]$(C_{X,K_r})(p)$ = $\exists d[d > c_\tau \wedge C_{X,K_r}(p) = d]$ w.r.t $K_r \subset K$,
i.e. $C_{X,K_r}(p) > c_\tau$ for $K_r \subset K$.

We can take K_r as containing only propositions that surpasses a certain evidential standard. For example, direct visual evidence may be dropped in the case of an optical illusion.

Modals and actuality. This probabilistic view can explain why *really* expresses increased likelihood when scoping over a modal as in (7). Define $C_{X,K}(\text{MIGHT}(p))$ as the probability of drawing a p-world from $\cap K$ in N attempts (for *must*: the probability of drawing N p-worlds). Now, $\cap K \subset \cap K_r$, so to assert [[really]](MIGHT(p)), p must be true in a significant number of worlds in this expanded set. Epistemic modals also shed light on the actuality reading of *really*. The position of *really* determines whether the probability calculation is done after fixing K_r, or over a possible (salient) K_r which may or may not be adopted as the standard afterwards. The latter suggests a world view that diverges from the one admitted by 'normal' standards. Assuming K fulfils the conditions for *might*, we have, for example:

(7) Mary really might be an alien. (epistemic)
$\rightsquigarrow$ Given $K_r \subset K$, calculate the probability w.r.t K_r that Mary is an alien.

(8) Mary might really be an alien. (actuality)
$\rightsquigarrow$ Calculate the probability w.r.t K, that given a $K_r \subset K$, Mary would be an alien.

Foregrounding with VERUM**.** *Really* and VERUM reflect different actions on the conversational background. While *really* manages evidence in the kernel, VERUM foregrounds propositions which are already in the conversational background. This may arise from updates due to new evidence (9).

(9) Mary has green blood. See, she IS an alien!

Such cases fit with Gutzmann and Castroviejo Miró (2009)'s conventional implicature analysis of VERUM (p) as downdating $?p$. That is, removing $?p$ from the set of questions under discussion and adding p to the common ground. However, in (10) VERUM seems restricted to the embedded clause *Mary is an alien*, but the follow up indicates that the speaker does not wish to downdate this. So, while VERUM, or rather polarity focus, does not seem to affect truth conditions in the same way as *really*, it does not appear to be speaker oriented as predicted in the conventional implicature account.

(10) A: What's the consensus on Mary? B: J. thinks she IS an alien, but I don't believe it.

In general, we find the data support a fairly bare view of VERUM: the auxiliary focus marks the whole proposition as given, while the exact nature of the update (perhaps leading to downdate) depends on other factors, such as level of emphasis, the contribution of intonation over the utterance, preceding moves in the discourse, and whether or not the proposition was previously settled or controversial.

Implications. This approach allows us to untangle the different notions of speaker certainty associated with *really* and VERUM focus. In general, this provides a better articulated view of how evidence, probability and associated standards are managed in discourse. Moreover, understanding these discourse phenomena will better allow us to understand the gradience introduced by, for example, prosody.

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