The emergence of scalar meanings:
association with focus of the additive particle *ere* in Basque

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1. **GOAL:** We analyze the emergence of scalar additive meanings with the particle *ere* in Basque. We will show that in Basque the same particle can obtain both the ‘simple additive’ reading and the ‘scalar additive’ reading and will argue that the reading is disambiguated by means of prosody (the placement of nuclear stress), and hence, by changing the focus of the sentence. We will propose an analysis of the mechanism by which this scalar additive reading is obtained by using the alternative semantics of Rooth (1985).

2. **THE BASQUE PARTICLE *ERE*:** The Basque particle *ere* is a particle that has not been studied so far, so we believe it interesting to consider its behavior in order to try to shed some light in the cross-linguistic study of additive particles. The particle *ere* has as its core meaning that of simple addition, as represented in the example in (1B), where B adds the information that Aitor also knows the answer (besides Jon):

Jon know answer.ART  Aitor ere know answer.ART
‘Jon knows the answer’  ‘Aitor does too’

Adapting the analyses of Karttunen & Karttunen (1977), Karttunen & Peters (1979), or Rooth (1985) the presupposition brought by (1B), would be an existential presupposition (existential implicature) which could be characterized as in (2):

(2) ‘There are other x under consideration besides Jon such that x knows the answer’

This is basically the lexical import of English particles like *too* or *also*, a ‘simple additive’ meaning. Interestingly, the particle *ere* can also be used to create NPI expressions (*bat*+*ere* lit.: one+*ere*) and can appear under the scope of negation (in this aspect, *ere* is very similar to the Hindi particle *bhii*, cf. Lahiri 1998). Related to this use, a very interesting property of Basque *ere* is that besides the simple additive meaning described in (1) and (2), *ere* can also induce scalar additive effects, as shown in (3):

(3) Jonek ere badaki erantzuna.
Jon ere know answer.ART
‘Even John knows the answer’

In cases like (3), there would be an additional implicature regarding the likelihood of the eventuality:

(4) Implicatures in (3); note that (4i) is the existential implicature in (2):
(i) ‘There are other x under consideration besides Jon such that x knows the answer’
(ii) ‘For all x under consideration besides Jon, the likelihood that x knows the answer is greater than the likelihood that Jon knows the answer’.

It should be noted that *ere* is the only particle available in Basque to produce either simple additives or scalar additives (as opposed to other languages; cf. also Giannakidou 2007, Yoshimura 2008, among others). Interestingly, the potential ambiguity of the two meanings of *ere* is resolved by means of prosody (Nuclear Stress placement); in order to have the simple additive reading the Nuclear Stress must fall on the particle *ere* itself (5a). Alternatively, if the Nuclear Stress is placed on the element preceding the particle, then the meaning is that of a scalar additive (5b):

(5a) Jonek ERE etorri da.  (Simple additive)  (5b) JON ere etorri da.  (Scalar additive)
Jon ere come AUX  Jon ere come AUX
‘Jon also came’  ‘Even Jon came’

The effect that prosody has in disambiguating sentences with the particle *ere* in Basque
extends also to more complex sentences (downward entailing contexts) that appear to be ambiguous also in English (cf. i.a. Karttunen & Peters (1979), Rooth (1985), Kadmon (2000)):

(6) It is hard for me to believe that Bill can understand even Syntactic Structures.

On one reading the sentence in (6) implies that there are other books about which it is hard for me to believe that Bill can understand, i.e. the ‘easy’ interpretation of even. On the second reading the sentence in (6) implies that there are other books that Bill can understand besides Syntactic Structures. As we will argue, this second interpretation resembles the interpretation that we get with the simple additive reading of ere (cf. the existential implicature in (2)). Now, when we turn to Basque, a sentence like the one in (7) can also get the two interpretations we were mentioning for (6).

(7) Zaila egiten zait Jonek Eiguta Sintaktikoak ere uler dezakeenik sinestea. difficult do AUX Jon.erg SS ere understand AUX believe

‘It is hard for me to believe that Jon can understand ERE Syntactic Structures’

The potential ambiguity of the two meanings of the sentence in (7) is resolved again by means of Nuclear Stress placement; when the Nuclear Stress is placed on the element preceding the particle, then the meaning is that of a scalar additive even. Alternatively, the simple additive reading is expressed by having the Nuclear Stress on the particle ere itself.

3. ASSOCIATION WITH FOCUS AND THE ROLE OF PROSODY: We will propose an analysis based on the ‘alternative semantics’ account of focus proposed by Rooth (1985, et seq.). According to this analysis, a sentence with focus has two denotations: the ‘Ordinary Semantic Value’ (OSV), the proposition obtained by standard compositional semantics and without any influence of focus, and the ‘Focus Semantic Value’ (FSV), a set of propositions obtained by the substitution of the focal XP with discursively available alternatives that match it in semantic type. For instance, the example in (8a) with focus on the subject would have the two denotations in (8b):

(8a) [Mary]sf loves Paula.
(8b) OSV: {love(m, p)} = [[Mary loves Paula]]

FSV: \{love(x, p) \mid x \in E\} = \{[[Mary loves Paula]], [[John loves Paula]], [[Peter loves Paula]], [[Sarah loves Paula]], [[George loves Paula]]...\}

The semantic role of focus, thus, is to raise the set of possible alternatives: computing the two semantic values of a sentence (its OSV and its FSV) we get the contrastive nature of focus.

Our proposal will be based on this analysis: assuming that the simple additive in (5a) presupposes “that X came (X ≠ Jon)”, scalar additives like (5b) will have two presuppositions: the very same lexical presupposition of the simple additives (9a), and the FSV which is obtained by the substitution of the focal subject with alternative values (9b), leaving the rest of the clause as an existential presupposition.

(9a) Lexical: \(\exists x [x \neq Jon \land \text{came}(x)]\)
(9b) Focal: \{\text{came}(x) \mid x \in E \land x \neq Jon\} = \{[[Mary came and she is not Jon]], [[Peter came and he is not Jon]], [[Ted came and he is not Jon]], [[Sarah came and she is not Jon]], [[George came he is not Jon]]...\}

We will argue that with this analysis, the ‘least likelihood’ reading or the ‘scalarity’ of the scalar implicature derives directly from the focus semantic value of (9b), where all the alternative values are considered but the actual subject (Jon, in the example in (5b)). In a nutshell, the situation is one where the FSV implies that anyone but Jon could have come, and Jon did. We do believe this same analysis extends naturally to the cases in (6).

REFERENCES