The Polarity Item Question Particle *-oo* in Matrix Clauses in Kannada and Telugu

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KEY CONTRIBUTIONS: We account for the distribution and interpretation of the question particle (Q-particle) *-oo* in matrix clauses in Telugu & Kannada, by analysing it as an alternative activating polarity item. The alternatives obligatorily activated by *-oo* high up in the CP can only be exhaustified by Speech Act (SA) operators that can handle alternatives, like WONDER and EXCLAIM. Thus we show that SA operators and phrases play an active role in interpreting and licensing of other clausal elements, in line with [K12].

§1 THE TWO MATRIX READINGS WITH THE Q-PARTICLE *-oo*: In matrix clauses in Kannada & Telugu, the Q-particle *-oo* (it is also other things in other places, most notably the disjunction marker) is good adclausally with *wh*-phrases only when interpreted either as being embedded under *wonder*, (1), or as an exclamation, (2), depending on whether the intonation is that of wondering ($?_w$) or exclaiming ($!_e$). An ordinary question interpretation arises only when *-oo* is left out, and the *wh*-clause is unmarked with Q-particles, (3) (Telugu examples given here). *-oo* functions as a 'normal' Q-particle in embedded clauses (though its pattern of distribution here too shows fine-grained differences depending on the embedding context), (4). How do we explain *-oo*'s pattern of distribution here?

§2 THE EXCLAMATIVE READING: Exclamatives are an affective speech act, and it was considered a key property that their descriptive and expressive contents always involve a gradable notion. But now there is enough cross-linguistic evidence to shows that wh-exclamatives are of two types, gradable and non-gradable. The gradable reading is the only reading available in English matrix wh-exclamatives [R11], like 'What a big rose that is!'. English lacks *who, where, which,* and *why* matrix exclamatives. These are the wh-words that give rise to a non-gradable reading, in languages like Turkish, Dutch, German, Hungarian, etc. [CN11].

GRADABLE & NON-GRADABLE READING: Telugu/Kannada also form wh-exclamatives with these wh-phrases and *-oo* (in fact, any wh-phrase in an interrogative is equally good in a wh-exclamative). Therefore both gradable and non-gradable readings are available, (5) -(6). (7) is the event/propositional reading, where what is unexpected and noteworthy is the event rather than the individual. In (8), a manner reading is possible, where in English only an evaluative (*clumsily, beautifully*) reading is available for the sentence. Multiple wh-phrases in the exclamative are bad in English, but good in Telugu/Kannada, (9). (Telugu examples given)

DEGREE DENOTATION OR QUESTION DENOTATION: There are two principal analyses of wh-exclamatives. The degree approach [M08], [R11], says that the denotation of a wh-exclamative is a degree property. There is always a gradable property underlying a wh-exclamative, overtly or covertly. The propositional reading fails (in English) because there is no salient gradable property that the individual possesses. Similarly, wh-exclamatives with wh-words that do not introduce degrees are ungrammatical. Then why are wh-exclamatives headed by wh-phrases? According to this approach the wh-clause in a wh-exclamative has the same denotation as a short answer —an individual property. The question denotation approaches [A02], [ZP03], propose that wh-exclamatives are formed out of wh-questions and derive their meaning from them. The denotation of a wh-exclamative is built on a question (a set of propositions) denotation. Since these approaches don't take the degree property as the denotation of wh-exclamatives, they can possibly account for the gradable and non-gradable readings seen in Telugu, Kannada, Hungarian, etc. The degree denotation approach, we simply have to discard for Telugu/Kannada because it cannot account for non-gradable, propositional readings.

DRAWBACKS OF PREVIOUS QUESTION DENOTATION APPROACHES The most successful question denotation approach [ZP03] proposes that wh-exclamations include an operator ($R_{widening}$) which requires that the domain of quantification indicated by the wh-phrase be particularly wide, (10). The widened set includes only true propositions (11), and this gives rise to unexpectedness. But crucially, they use a scalar notion to order the alternatives and derive unexpectedness, (10b). Thus this cannot handle non-gradable readings.

OUR ANALYSIS OF THE EXCLAMATIVE READING We base our analysis on [ZP03], and propose that the exclamative denotation includes a set of propositions whose domain is widened beyond that of the normal question denotation. The normal question denotation has a contextual domain of quantification that is implicitly narrowed to the expected alternatives, (12b). The alternatives in D_1 are those formed by composing the domain of the wh-phrase pointwise with the rest of the wh-clause – the Hamblin alternatives. The Q-particle *-oo* activates a set of alternatives, those that are unexpected, widening the domain to D_2, (12c). Thus *-oo* is partly doing the work of $R_{widening}$ of [ZP03]. Intonation (emphasis on wh-word, lengthening at the end of the clause, falling intonation) marks the presence of a covert exclamative operator, Op_{XCLM}. This is introduced at the level of the Speech Act Phrase (SAP). Like the FACTIVITY operator of [ZP03], we propose that the EXCLAIM operator states that there is a proposition in $D_2 - D_1$ that is a partial answer to Q, (13). This gives rise to the affective response. Thus *-oo* exclamatives build on the core denotation of a wh-clause, a set of propositions. The gradable reading and the propositional reading both fall out of the domain widening that activation of alternatives by *-oo* brings about. Crucially, the alternatives are not ordered, allowing us to derive both the gradable and non-gradable readings. Any scalar implicatures in the gradable reading are attributed to the properties of the gradable predicate, and the type of wh-phrase.

§3 THE WONDER READING: We propose that WONDER is a Speech Act, and comes with its own Speech Act operator, Op_{WNDR}. What are the properties of this operator such that it can handle the alternatives activated by *-oo* in the CP? [RU16] observe that verbs like *wonder* are associated with a stronger form of ignorance than not knowing the answer to the embedded question, which they call *distributive ignorance.* They show that when *wonder* takes an alternative question as its complement, it implies ignorance about all the alternatives introduced, (14). They come to the conclusion that *wonder* grammaticalizes an exhaustivity operator, like *only*. Using this exhaustivity operator, the semantics of wonder is formulated, (15). Thus they pack exhaustification into the lexical semantics of *wonder* w.r.t. structural alternatives as well as sub-domain alternatives of its complement. As a result of exhaustification, '*x* wonders Q' negates those alternatives that are not entailed by $W_x(\ulcorner Q \urcorner)$. Interestingly, they find that normal wh-phrases embedded under *wonder* do not have *distributive ignorance*, but that specially marked wh-phrases, such as numerical ones, do. They take this to mean that the sub-domain alternatives generated by specially marked wh-phrases, are obligatorily activated and therefore must serve as the input for an exhaustivity operator. Piggy-backing on this analysis, we propose that Op_{WNDR} also has an EXH component built into it, and is thus able to handle the alternatives that *-oo* activates. In Telugu too we find a *distributive ignorance* requirement, when some of the alternatives are not 'live', a wonder interpretation with *-oo* is not felicitous, (16)-(17).

CONCLUSION: Matrix *wh*-clauses marked with *-oo* are polarity items because of the alternatives activated by *-oo*. Any DE operators like negation/modal available in the matrix clause cannot take scope over the *-oo* in the CP to be able to exhaustify. The only way *-oo* can surface in the matrix CP is if the alternatives are exhaustified or used up above the CP. An exclamation's Op_{XCLM} has such a capacity. Op_{WNDR} is another such operator, which handles alternatives via the EXH that is part of its semantics [RU16].

(1) enta duuram velleeD-oo ?$_w$
how far went-oo
'I wonder how far (he) went.'

(2) enta duuram velleeD-oo !$_e$
how far went-oo
'How far (he) went!'

(3) enta duuram velleeDu ?
how far went
'How far did (he) go?'

(4) enta duuram velleeD-oo telusu
how far went-oo know
'(I) know how far he went'

Context: Ravi speaks 11 languages

(5) eemi bhaashalu maaTlaaDutaaD-oo
what languages speaks-oo
'What languages (he) speaks!'

Context: Ravi speaks Ibibio (unexpected)

(6) eemi bhaashalu maaTlaaDutaaD-oo
what languages speaks-oo
'What languages (he) speaks!'

Context: Unexpected guest knocks

(7) evaru vaccer-oo
who came-oo
'Who has come!'

Context: Ravi runs backwards

(8) elaa parigettutaaD-oo
how runs-oo
'How (he) runs!'

Context: At a wedding feast

(9) enta mandi enta tinnaar-oo
how-many people how-much ate-oo
'How much how many people ate!'

(10) For any clause *S* containing R$_{widening}$, widen the initial domain of quantification for R$_{widening}$, D_1, to a new domain, D_2, such that:

    a. $[\![S]\!]^{w,D_2} - [\![S]\!]^{w,D_1} \neq 0$ and

    b. $\forall x \forall y [(x \in D_1 \ \& \ y \in (D_2 - D_1)) \rightarrow x \prec y]$

(11) For any clause *S* containing R$_{factivity}$ in addition to R$_{widening}$, every $p \in [\![S]\!]^{w,D_2,\prec} - [\![S]\!]^{w,D_1,\prec}$ is presupposed to be true.

(12)   a. ravi eemi doosalu tinTaaD-oo
Ravi what dosas eats-oo
'What dosas Ravi eats!'

    b. $[\![$ ravi eemi doosalu tinTaaDu $]\!]^{D_1} = \left\{ \begin{array}{l} \text{Ravi eats plain dosas} \\ \text{Ravi eats masala dosas} \\ \text{Ravi eats rava dosas} \end{array} \right\}$

    c. $[\![$ ravi eemi doosalu tinTaaD-oo $]\!]^{D_2} = \left\{ \begin{array}{l} \text{Ravi eats plain dosas} \\ \text{Ravi eats masala dosas} \\ \text{Ravi eats rava dosas} \\ \textbf{Ravi eats chicken dosas} \\ \textbf{Ravi eats kheema dosas} \\ \textbf{Ravi eats pepperoni dosas} \end{array} \right\}$

(13)   a. EXCLAIM: There is a proposition in $D_2 - D_1$ that is a partial answer to Q.

    b. Expected propositions are in D_1, as a result of contextual narrowing of domain of quantification.

    c. Unexpected proposition are included in the widened domain D_2, when alternatives are activated by *-oo* and added to the domain.

    d. The source of the affectation is the true proposition in $D_2 - D_1$.

Context: John has three students, Ann, Bill and Carol. He is waiting for all of them to arrive at a lab meeting. Someone knocks at the door, but John knows that it can't be Carol because she has just emailed him that she will be late.

(14) # John wonders whether Ann, Bill or Carol arrived.

(15) $\ulcorner \text{wonder } Q \urcorner = \lambda x. \textbf{EXH}_{\underbrace{\{W_x(\ulcorner Q' \urcorner) \mid Q' \lesssim Q\}}_{\text{structural alternatives}} \cup \underbrace{\{W_x(\varphi) \mid \varphi \in \text{SDA}(Q)\}}_{\text{sub-domain alternatives}}} W_x(\ulcorner Q \urcorner)$

Context: I have three students, Anil, Bhanu and Chandu. I am waiting for all of them to arrive at a lab meeting. Someone knocks at the door, but I know that it can't be Chandu because he has just emailed me that he will be late.

(16) #ee student vacceeD-oo?
which student came-oo
'I wonder which student came.'

(17) iddariloo ee student vacceeD-oo?
two-among which student came-oo
'I wonder which student came, among the two.'

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