Focus over a Speech Act Operator: A Revised Semantics for *'Our even'*
Micky Daniels, Bar-Ilan University.

1. Paper Overview: This paper proposes a revised analysis of Iatridou & Tatevosov's (henceforth I&T) 2016 account of a special instance of *even*, entitled *'our even'*, as in (1). We discuss three challenges for this account and propose a revised analysis addressing them, assuming that *even* scopes above a question speech act operator and which uses Greenberg's 2015, 2018 gradability based semantics for *even*.
(1) A: *Let's meet at Oleana for dinner*. *Is that OK*? B: *Where is that even*? (I&T 2016; 7)
2. Background: I&T's 2016 Semantics for Our *even*: According to I&T, 'our *even*' focuses an entire question (thus the focus alternatives are questions as well) and reflects extreme ignorance wrt the QUD. This analysis is based on the long-standing 'comparative likelihood' analysis of 'garden variety' *even* (e.g. Horn 1969, Karttunen & Peters 1979, Rooth 1985, 1992, Guerzoni 2003, Chierchia 2013), where *even* presupposes that its prejacent, p, is less likely than all its alternatives, q, in C. I&T's suggested semantics for our *even* in (1), is in (2), with the question *'where is Oleana*?' inserted, as an example:
(2) [[[[*even C*] [*where* [1 ? [∃*e* [*Oleana is located t*1]]]]]]^{w,g} is only defined if ∀q ∈ C. { p: ∃x [*location*
   (x) ∧ p = that there is an *e* such that *Oleana is located in e* ∧ *e* is at x} <c q. When defined it returns:
   {p: ∃x [*location* (x) ∧ p = that there is an *e* such that *Oleana is located in e* ∧ *e* is at x}
i.e. 'our *even*' takes a set of alternative questions C, e.g. *'where is Oleana*?', *'who is their chef*?' etc, and a (prejacent) question, p (e.g. *'where is Oleana*?'), and presupposes that p (*where is Oleana?*) is the least likely question in C. Importantly, each question in C denotes a set of possible propositions (answers) (e.g. Hamblin 1973). For example, the prejacent question ('*where is Oleana?*') denotes the set of propositions of the form: *Oleana is in* [*location x*], *Oleana is in* [*location y*] etc. I&T assume that the prejacent of *even* in this case is the least likely question to be asked, and since the least likely question to be asked is the one whose answer is most likely to be known, not knowing the answer to such a question implies not knowing the answer to other, more likely questions, hence the extreme ignorance effect.
3. Three Challenges for I&T's Semantics
 Challenge (a): Difficulty in Comparing Questions on a Likelihood Scale: I&T's 2016 prose states that what is being measured for likelihood are not the questions themselves but the likelihood of asking the prejacent vs. the alternative questions. However, this is not reflected in their semantics in (2) where it is, in fact, the likelihood of the questions, each denoting a set of propositions, which is compared. Besides not reflecting I&T's intuition, which appears to be on the right track, it is not clear how to compare the likelihood of questions. How can one set of propositions be more likely than another? Moreover, as we show next, likelihood does not seem to be the right tool here, even when applied to asking the questions.
 Challenge (b): Comparative Likelihood - Not a Sufficient Licenser for Our *even*: We follow Elliot et al 2015, in arguing that the prejacent question being a less likely question to ask than its alternative questions, is not sufficient to license our *even*, as in their example, (3):
(3) Context: A&B are classifying a newly discovered species according to a set of questions:
   A: *The wug seems to be cold-blooded*. B: (Skipping ahead,) *what does it feed on* (#*even*)?
Within a typological discourse as in (3), the progression of asking questions is expected to be gradual from the general to the specific. B's question appears to be too specific at this point of the discourse. A more likely alternative question to ask could be, for example: '*is it a marine or terrestrial creature*?'. But despite the unlikelihood of asking the prejacent question '*what does it feed on*?', (our) *even* is infelicitous.
 Challenge (c): Comparative Likelihood - Not a Necessary Licenser for Our *even*: We propose that in addition to not being a sufficient licenser, unlikelihood of asking the prejacent question is also not a necessary condition for licensing our *even*, as demonstrated by (4), below:
(4) (Context: A scientist is displaying a newly discovered species to a group of students. It looks like a cross between a ferret and a lizard). Student: *what even is that*?
A very general question such as '*what is that*' (p) appears to be very likely to ask where one is presented with an odd new species, that one knows nothing about. Other, less likely questions to ask, could be e.g. '*what does it feed on*?'. Here, then, *even* is felicitous though the prejacent question is very likely to ask.
 4. A Revised Proposal: Our proposal integrates three components. **(i)** Greenberg's 2015, 2018 independently motivated gradability based semantics for *even*. **(ii)** The assumption that our *even* is based

on a derived scale of 'utility towards resolution of the QUD' and **(iii)** The assumption that our *even* scopes over a question speech act operator.

(i) Greenberg's (2015, 2017) lexical entry for *even*'s scalar presupposition, is in (5), below:

(5) *even* (*C*) (*p*) (*w*) *is defined iff* $\forall q \in C$ $q \neq p$ $\rightarrow$ $\forall w1,w2$ [$w1Rw$ $\wedge$ $w2Rw$ $\wedge$ $w2 \in p$ $\wedge$ $w1 \in$ [q $\wedge$ $\neg p$]] $\rightarrow$ [max ($\lambda d2.G(d2)(x)(w2)$) > max ($\lambda d1.G(d1)(x)(w1)$) $\wedge$ *the max* ($\lambda d1.G(d1)(x)(w1)$)$\geq$ *stand G*]

Within this semantics, for *even* to be felicitous, the degree of *x* (a non-focused element within the prejacent) is required to be higher on a contextually derived scale, *G*, in the accessible *p*-worlds compared to its degree in the accessible *q-and-not-p* worlds. Moreover, both these degrees are required to be above the relevant standard associated with *G*.

(ii) Following literature on utility and decision theory (e.g. Ginzburg 1995, Benz 2004, 2005, van Rooij 2003, 2004), to address challenges (b) and (c), we will define the scale relevant to our *even* as one of 'expected utility towards resolving the decision problem' (where answering the QUD is a step towards resolution of the decision problem). We suggest that a question has a higher expected utility towards resolution of the decision problem, if its answer potentially excludes from consideration more incompatible options for action, than asking a question with a lower expected utility.

(iii) To address challenge (a), one must ensure that, as I&T's prose suggests, what is being measured (in our case for expected utility) is <u>asking</u> the prejacent question vs. <u>asking</u> alternative questions (as opposed to measuring the questions themselves. we thus propose to scope *even* above a question speech act operator, marked in the LF in (6), schematically, as '*ASK*' (see e.g. Searle 1975, 1976, Krifka 2001, 2014, Sauerland & Yatsushiro 2014). We propose a detailed implementation of this operator in the full paper:

(6) LF: [[[[*even C*] *ASK* [*where* [1 ? [$\exists e$ [*Oleana is located t*1]F]]]]]^{w,g}

The speech act operator, *ASK*, being part of the prejacent, but, crucially, not being focused, allows for the alternatives to be other propositions, which are always questions (e.g. *ASK p, ASK q* etc.). Notice that I&T 2016 examine a similar speech-act analysis, but object to it on the grounds that it will cause the alternatives to be other speech acts, such as assertions and imperatives, instead of other questions. We, however, think this will not occur as long as the speech act operator is not focused, as just proposed.

5. Accounting for the Data: Following the LF in (6), and assuming the semantics of *even* in (5), based on a utility scale, the felicitous sentence (1), would be analyzed as follows: The expected utility of asking a question (*x*) is higher in the *p*-worlds (where one asks '*where is that*?') than in the *q-and-not-p* worlds (where one asks, e.g. '*who is their chef*?' and does not ask '*where is that*?'). This appears to create the desired result: (1) is felicitous in a context where e.g. B's obligatory condition for selecting a dinner venue is that it is within a 1km radius from his hotel. He also prefers restaurants with known chefs, but is willing to compromise on this point. Thus, asking the prejacent question '*where is the restaurant*?', which indicates that the addressee is expected to provide an answer (cf. Krifka 2015, Sauerland & Yatsushiro 2016) has a higher utility degree than asking '*who is their chef*?', because possible answers to the prejacent question can exclude Oleana as a dinner option (if e.g. it is too far), whereas the alternative question ('*who is their chef*') cannot. At the same time, asking both questions is helpful, i.e. above the standard of expected utility, in that after the prejacent question is resolved, and e.g. two dinner venues are found to be within the obligatory distance, lesser factors such as the chef's identity, come into consideration and can sway the decision. Regarding (4), let us assume that the QUD is '*how should we classify this creature*?'. Receiving the answer to '*what is that*?', for example '*it is a mammal*', would be of higher utility, than asking, e.g. '*what does it feed on*?', which is more specific. Excluding non-mammals would reject more potential creatures (from defining the specimen at hand) than rejecting e.g. grain-eaters. The infelicity of (3) can be explained in a similar manner, where the QUD is e.g. '*how should we classify the wug*?'. Asking and receiving an answer to '*what does it feed on*?' (*p*) is of **less** expected utility (rejects less potential species).

6. A Prediction of Our Theory is that changing the decision problem (and subsequently the QUD), will affect the felicity of *our even*. The prediction is borne out in reality. For example, if '*What does it feed on even*'? in (3), is asked by the animal caretaker, whose job it is to feed the animals in the lab, *even* becomes felicitous.