Another Myth:
The Implicature Theory of *Even*[1]

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With a view to providing a unitary interpretation of a lexical item, *even*, this paper proposes that *even* be understood as a quantifier. To countenance this idea, the quantifier theories will be evaluated against the implicature accounts on the basis of conceptual and empirical evidence. With the help of Bach (1999), the quantifier theories of *even* are regarded as most viable and plausible. On the other hand, from among different quantifier approaches *even* will be viewed as a quasi-universal quantifier, which means that *even* is similar to the universal quantifier but still it is different from it. That is, *even* introduces a comparison set that is context-dependent and only the salient members of this comparison set will be taken into account when an *even*-sentence is to be uttered. This observation is based on the formal representation for a universal quantifier in general on the one hand and the truth-conditional contribution of *even* to the sentence containing it.

1. Introduction

While there has been no consensus among researchers on the interpretation and representation of the lexical item, *even*, it has been accepted that *even* expresses unexpectedness or surprise.

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[1]The title of this paper is indebted to Bach (1999).And I am deeply grateful to Barbara H. Partee for her valuable discussion and comments on my paper while I was visiting the University of Massachusetts, Amherst. This does not mean that she agrees with me on the nature of *even* to full extent and any misunderstandings ever occurring in my paper are all mine.

This fact can be witnessed in the definition of *even* which reads, "you use the word, *even*, to suggest that what comes just after or just before it in the sentence is rather surprising."[2] Take a look at the varied examples below:[3]

(1) a. John has *even* a swimming pool.
b. No one dared *even* to whisper.
c. Mary seemed content, *even* happy.
d. I often lend her money *even* now.
e. I shall give the details to no one, not *even* to you.
f. *Even* if you disagree with her, she's worth listening to.

As shown in (1), the distribution of *even* is so wide that it covers uses, alongside of noun phrases, verbs, adjectives, adverbs, prepositional phrases, etc.

It is also observed that *even* in a sentence generates a contrast class. This phenomenon is generally explained as that *even* serves as a focus-sensitive operator and so it implies that there are alternatives which share the same property with the object in its scope.

There have been many approaches which attempted to defin this interesting but recalcitrant phenomenon. Horn (1969) and Fauconnier (1975a,b), among others, will be reviewed as well as Krifka (1991), Rooth (1992) in the next section. For these theories are representative of the accounts of *even* from the standpoints of semantics or pragmatics. Section 3 will be alloted to the overview of implicature theories and quantifier approaches. On summarizing the theories of *even* as a conventional implicature or a quantifier and pointing out their accompanying problems, a unified account of *even* will be

[2]Refer to *Collins Cobuild English Language Dictionary* (1987).
[3]The item in focus of *even* will not be mentioned if not necessary.

proposed in section 4. And in the last section, a concluding remark that any account, semantic or pragmatic, should respect "truth" is provided.

2. Theoretical Pedigree

According to Horn (1969), (2a) can be analyzed as in (2b).

(2) a. *Even* John kissed Mary.
b. Assertion: John kissed Mary.
Presupposition: Everybody else kissed Mary.

In addition to the interpretation in (2b), (2a) implies that *John* is the least likely person that would kiss *Mary*. Therefore, it is natural that *even* be associated with a pragmatic probability scale. (2a) can be formulated as *F(x): x kissed Mary*, with *x* indicating a variable corresponding to a member of the comparison set including *John*.

(3) F(x): x kissed Mary

- x_2
- x_1
- α: *John*

In the scale offered by Fauconnier (1975a), *John* is placed on the lowest endpoint as in (3), which means that *John* is the least probable person who could kiss Mary. x_1 in (3) is located lower than x_2. Thus $F(x_1)$ is said to entail $F(x_2)$. Then it is followed that the lowest one, $F(\alpha)$ entails $\forall x F(x)$. In other words, if *John kissed Mary* is true, all the other members of the set, being more probable to kiss *Mary*, are

believed to have kissed *Mary*.

As is mentioned, Fauconnier interprets the event in a sentence containing *even* as a less probable thing to happen than those in all the other substitute sentences. Therefore, this account requires that every member of a particular set should be considered in comparison with the object in focus of *even*. However, the sentence like (2a) can be correctly uttered in a situation where some kissed Mary and others did not. This is seen as a stumbling block for Fauconnier's scale.

According to Krifka (1991), the meaning of a sentence is understood as divided into two parts, i.e. a background and a focused part. These separated parts are represented as an ordered pair. Hence <B, F> is the structure of a sentence presented by the Structured Meaning Theory, in which B is a background and F a focus. If *Mary* is focused in (4a), the background is that *John* introduced *Bill* to somebody and the focused part is *Mary*. Then the background is applied to the focus, resulting in the representation in (4c).

(4) a. John introduced Bill to Mary.
b. $< \lambda x.$ introduce(j, b, x), m>
c. $\lambda x.$introduce(j, b, x)(m) = introduce(j, b, m)

(5) *even* $(<\alpha, \beta>)$
$\leftrightarrow \lambda V[\alpha(\beta)(V) \wedge \exists X[X \approx \beta \wedge \alpha(\beta)(V) <_p \alpha(X)(V)]]$,
where X is a variable of the type of β and V is a (vector of) variable(s) of the types of the arguments of $\alpha(\beta)$ and $<_p$ is a probability relation.

In the formula (5), $\approx$ is a symbol of "comparability" and $X \approx \beta$ means that there is an alternative by which the focus β is to be replaced. $\alpha(\beta)(V)$ represents that $\alpha(\beta)$ has a property of V. According to (5), the meaning which *even*

contributes to a sentence is that $\alpha(\beta)(V)$ containing the focus β is less probable than $\alpha(X)(V)$ containing X with the same semantic type as that of β.

As is seen in (5), *even* in the Structured Meanings plays a role as an existential quantifier, $\exists$. This is problematic since there are a lot of counterexamples which must be accounted for by the universal quantifier theory of *even*.[4]

Alternative Semantics (Rooth 1985) basically argues that the semantic account of focus be given by adding an additional semantic value. That is, the focus semantic value of a sentence is the set of propositions which can be obtained from the ordinary semantic value by making a substitution in the locus corresponding to the focused phrase. Rooth (1992) observes that intonational focus is related to the notion of contrast within a set of alternative elements. These concepts are presented as generalizations for interpreting focus-contained sentences as follows (1992: 85-86).

(6) a. Focus Interpretation Principle:
In interpreting focus at the level of a phrase α, add a constraint that
(contrasting set) $\Gamma \subseteq [\alpha]^f$, or
(contrasting individual) $\gamma \in [\alpha]^f$
Γ is a variable with the type of a set of objects matching α in type, and γ is a variable matching α in type.

b. Focusing adverb constraint:
If C is the domain of quantification of a focusing adverb with argument α, then $C \subseteq [\alpha]^f$.

Therefore, the focus-sensitive operator, *even* is considered generating the presupposition of a quantifying domain in Rooth's

[4]See Barker (1991) and Lycan (1991).

theory, too.

3. Implicature vs. Quantifier Theories

3.1. Implicature Theories

The conventional implicature theory assumes that there are certain locutions which do not contribute to what is said and do not affect the truth or falsity of what is said and yet, by dint of their conventional meanings, generate implicatures. Therefore, the conventional implicature does not have any influence on the truth condition of a sentence while subsumed to the felicity or assertibility conditions. Within this Gricean paradigm, certain words such as *but, still, even,* etc. have no semantics, with their sole contributions to interpretation being the conventional implicature.

The pragmatic theory proposed by Bennett (1982) regards *even* not as a contributor to the truth value of a sentence, but as an important contributor to the assertibility of such a sentence. Assertibility of an *even* sentence is determined based on "Equivalence Thesis," which states that *Even A is F* is true only if *A is F* is true. The assertibility conditions are proposed as in (7).

(7) a. S_j is true and mutually believed by the speaker and hearer, and salient for them (e.g. it has just been authoritatively asserted);
b. the truth of S* and that of S_j can naturally be seen as part of a single more general truth;
c. it is more surprising that S* is true than that S_j is true.

(8) *Even* John laughed at Mary.

In (7) S_j is a member of a contrast class composed of sentences which are only different from S in that they have another grammatical element in the position of *even* and its focus. S* is a sentence devoid of *even*. Due to (7), an *even* sentence is assertible only if there is a neighbor sentence that is known, relevant, and less surprising. Thus (8) is assertible if there is *Bill* laughing at *Mary*, the fact of which is known to both speaker and hearer and *John* is less likely person to laugh at *Mary* than *Bill*.

Even if Bennett's observation is plausible, it is not without a problem. As Barker (1991) and Lycan (1991) point out, (7) is not necessary, especially (7a), which requires that there be mutual recognition about the truth between the speaker and hearer. In fact, a sentence can be truly uttered even if the speaker or hearer does not believe the truth of the statement.[5] Moreover, (7) is not sufficient since some *even*-sentences are infelicitous while satisfying the conditions in (7). (9) exemplifies this argument (Barker 1991: 4).

(9) Someone reading the prize winners' list remarks, *Only three people won a prize out of a hundred this year. Brain and Smart won a prize, of course, but last year's worst student was the other, Smith!* To which in reply it is claimed, *Even* ***Smith*** *won a prize!*

Francescotti (1995) suggests that it should be neither only one member nor every member of a contrast set that can be taken into account if a sentence with *even* is to be given an interpretation. He gives the following principle, with (10c) being supplementary to (10b).[6]

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[5]About this issue, there is much argument still going on in the literature. Here in this paper, I will not go into further detail but will take a neutral stance, only repeating Barker's and Lycan's claims.

[6]Francescotti (1995) basically accepts Bennett's (1982) framework

(10) a. For *any* contextually-determined, true neighbor S_j of S*,the truth of S* and that of S_j can naturally be seen as parts of a more general truth, and
b. S* is more surprising than *most* of the S_js.
c. S* is more informative than most of the S_js, since it is stronger evidence for the truth of some contextually-determined proposition.

The condition, (10c) has been added in light of Kay's (1990) argument. Kay refutes that "surprise" is what *even* conventionally implicates. He holds that "surprise" can be explained completely in terms of conversational implicature, not in terms of conventional one. His argument is attested in the following examples.

(11) a. A: It looks as if Mary is doing well at Consolidated Widget. George [the second vice president] likes her work.
B: That's nothing. *Even* Bill [the president] likes her work.
b. Granny was accused of kidnapping, and *even* murder.
c. Everyone is remarking on Mary's improvement. Last week she beat the number ten player, and this week, just as everyone expected, she *even* beat the number two player.

(11a.B) "may be felicitously uttered in a situation in which nothing is assumed or inferred about the relative likelihood of George and Bill liking Mary" (Kay 1990: 84). By the same

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in which S is a sentence with *even*, S* is S from which *even* is deleted and S_j is any grammatical sentence identical with S* except for the focus of *even*.

token, (11b) can be perfectly felicitous although murder is more common than kidnapping and therefore less surprising. (11c) can also be uttered felicitously even if everyone, without being surprised, expected *Mary* to win.

As a matter of fact, Francescotti does not fully accept Kay's idea that the factor "surprise" should be completely out of what *even* conventionally implicates. However, he agrees with Kay to the extent that he incorporates Kay's thoughts into his principle in (10). That is, Francescotti admits that *even* in the sentences like in (11) is acceptable since it gives stronger evidence for the truth of the contextually determined proposition.

Francescotti maintains that in order to utter *even*, it is sufficient that S* is more surprising than most true neighbors. Furthermore, he argues that his theory contains widespread intuitions as follows: (i) The word *even* does not make a truth-conditional difference, i.e. it makes a difference only in conventional implicature. Therefore, the statement, *Even A is F* implies the existential claim that there is an x (namely, *A*) that is *F*; (ii) *Even* is epistemic in character, implying some type of unexpectedness, surprise, or unlikelihood; (iii) *Even* is a scalar term since unexpectedness comes in degrees; (iv) The felicity of an *even*-sentence requires that S* be sufficiently surprising in comparison to its true neighbors.

Since Francescotti's comparison class is not well defined but said to be formed in a speaker's mind, this moderate account of *even* is somewhat vague and is not constrained enough.

3.2. Quantifier Theories

Lycan (1991) advocates the universal quantifier theory of *even*. Based on the idea that *even* contributes to the truth value of a

statement, he proposes an "every . . . plus" thesis for interpreting *even* sentences, which intends to modify Bennett's theory. He classifies *even* statements into two uses, i.e. the intensifying use and customary use. The former is expounded by the "comparative-intensifier" reading for disjunctive enumerations and the latter by the "plus" reading for *even* as a universal quantifier. The former is also supplemented by the "plus" reading depending on scalability. If a disjunctive enumeration is scalable, it is applied to the "comparative-intensifier" reading, and if it is non-scalable, it receives the "plus" reading.

(12) a. *Even* John has left Mary.
b. You have to be eleven or twelve or *even* thirteen to get your ears pierced.
c. Carol Nelson, a basket weaver, teaches others to dye fabric and dried grass using the juices of beets, berries and *even* onion skins.[7]

Provided that *John* is focused, (12a) is rendered as *Everybody who was expected to leave Mary has left Mary, plus John (who was not expected to leave Mary).* A scalable instance, (12b) is glossed as *You have to be pretty old to get your ears pierced — eleven or twelve or even thirteen.* According to Lycan, the comparative-intensifying use of *even* requires that at least two items be mentioned and compared, one of which has positive scalar property and the other has the same property to a greater degree. (12c) does not reflect any scalar ordering but it presents a collection of substances. Thus it is considered to be the case of universally quantifying *even.* Lycan's "plus" account paraphrases it as *In addition to anything you would expect to be used as a dyeing stuff such as the juices of*

[7](12b) is from Lycan (1991: 137) and (12c) from Berckmans (1993: 601).

beets and berries, onion skins would be used, too.

Berckmans argues that there be some examples, the meaning of which cannot be captured by Lycan's theory (1993: 598-603).

(13) a. Evans kissed Mary *even* before he knew her name.
b. He was executed *even* after the queen herself made a plea to spare his life.
c. Some of the most loyal White House officials weren't with the president on this one, *even* Sununu and Baker weren't. Scowcroft, of course, stood beside his leader.

(14) a. Evans kissed Mary before any of the personal-relation-establishing things had happened between them, *even* his learning her name.
b. He was executed after all the expectable things were done to save him, *even* the queen's pleading for his life to be spared.

Berckmans presents (14a,b) as possible paraphrases of (13a,b), respectively. And he makes a point that there is no implication that any of those things in (14a,b) ever took place. (13c) is provided as a counterexample to the "plus" reading. It should be looked upon as a case of a universal quantifier ranging over a subset of the class associated with an existential quantifier. Berckmans does not accept this move because it takes a kind of logical maneuvering. In addition, Lycan's separate treatment of enumeration sentences is thought to be unattractive since it gives different explanations for similar cases.

Berckmans' (1993) main claim is that *even* is ambiguous as between a universal quantifier and an existential quantifier. Basically he accepts Bennett's idea and Lycan's argument. That is

to say, *even*-sentences are grammatical, given the existence of at least one other item which shares a relevant property. And *even* makes contributions to the truth condition of the sentences where it belongs. Thus his account can be termed as a mixture of semantic and pragmatic ideas.

Problems with Lycan's account serve as a point of departure for Berckmans'. The three types of difficulties are tackled by Berckmans by virtue of his own notions such as apposition, enumeration, and existential quantification. In the first place, he copes with the problem of (13c) by observing that beliefs and intentions a speaker possesses should be taken into account in *even* sentences. He admits that the pitfall of interpreting *even* statements results from the attempt to look at the relationship between the object focused by *even* and a universal contrast class. As supporting evidences for his argument, he gives the following (1993: 604-605).

(15) a. *Even* Cher wouldn't wear that!
b. *Even* at Max's they're only $4.50!

A father of a teenage girl could have uttered (15a) when his daughter is about to go out in a showy and skimpy garment. In light of the world knowledge and psychological facts, it is impossible that this father knows every probable alternative individual who could be expected to wear that kind of outfit. (15b) can be explicated in the same way. Let us say that Max's is a pretty expensive bar in some town. In a situation where a man is requested to pay six dollars for a Singapore Sling at a bar which is less fancy than Max's, he could say (15b) in disgust. Also in this case, he cannot have a full knowledge of all the bars or taverns in town. Therefore, Berckmans suggests that *even* functions as an indicator of a certain kind of thing. In other words, *even* used in a sentence instantiates a token of

some stereotype or model. In this respect, (15a,b) can be paraphrased, using such phrases as "somebody . . . like . . . ," "some. . . like . . . ," or "some individuals, for example . . . ." Hence (15a) can be paraphrased as *Somebody like Cher wouldn't wear that* and (15b) as *At a place like Max's Singapore Sling is only $4.50.* This treatment of *even* clearly states that *even* in these examples is used as an existential quantifier.

Berckmans regards *even* in (13c) as an apposition indicator, which can show up with or without an explicit quantifier. That is, *even* behaves differently from the apposition indicators like *namely* or *for example* in the sense that the latter can only be used with an overt quantifier. Thus *even* sentences should be viewed as logically relying upon a sentence whose terms in apposition include a quantifier and a singular term. (13c) is an instance in which the apposition indicator exhibits prominent members of a wider class, lacking universal quantification. In this way, Berckmans reformulates Lycan's scheme into the claim that *even*-sentences express surprise about one or more of the conjuncts in a truth-functional expansion of a universal quantifier. Then a sentence like (12a) will be interpreted as *Tom has left Mary, Dick has left Mary, Harry has left Mary, as expected, plus John (a surprise).*

Secondly, Berckmans deals with the difficulty posed by disjunctive enumerations as in (12b,c). As he does with the first problem, Berckmans sees disjunctive enumerations as partially or completely truth-functional expansions of an existential quantifier. Insofar as *even* is an appositive indicator in enumerations, it functions not merely as signaling the final term in an apposition, but also as carrying an expectation-contravening connotation. Therefore, it is not necessary to resort to the treatment of two different types of *even* any more. (12b,c) can be made explicit in (16a,b),

respectively, regardless of the scalability.

(16) a. Some advanced ages exist before which children are not allowed by their parents to have their ears pierced: eleven, twelve, or (and this is quite outrageous) thirteen.
b. A variety of really different materials would be made use of in dyeing fabric and dried grass: the juices of beets, berries, onion skins (and that may come as a surprise).

Lastly, Berckmans simply explains that the problem of (13a,b) also can be solved by introducing an existential quantifier. He renders *even before* or *even after* as *at some surprising time, namely*.[8] Each interpretation of (13a,b) is given below.

(17) a. Evans kissed Mary at some surprisingly early time, namely a time before he knew her name.
b. He was executed at a time when we would have expected leniency, that is, after the queen herself made a plea to spare his life.

Adopting the notions of a contrast class and the existence of at least one contrasting element, Berckmans proposes a general principle for the felicity of *even*-sentences and their truth-conditions. Namely, *even* contained in a sentence announces an unexpectedness in a truth-functional expansion of an existential quantifier or a universal quantifier. To formulate his argument, Berckmans introduces an existential generalization of S*, S_e along with S_u into his assertibility conditions as in the following.

[8]As Barbara H. Partee (p.c.) points out, this paraphrase of Berckmans' unfortunately lacks in compositionality.

(18) a. S* and S_j are elements of a truth-conditional expansion of an explicit or implied S_u or S_e;
b. The truth of S* would be more surprising than the truth of S_j;
c. There is a contextually determined universe in which at least S* and S_j are satisfied.

As has been seen, Berckmans seems to have solved all the problems raised about Lycan's thesis by noting the ambiguity between the existential reading and the universal reading of *even*-sentences. However; Berckmans admittedly states that sentences like *That's even worse* (as a reply to *Only two were working!*, uttered in a situation where all the elevators of a hotel operate slowly) cannot be paraphrased via a universal or existential quantifier. Furthermore, although it seems that his theory covers a wide range of *even* statements, it does so through many routes, which is viewed as theoretically undesirable.

4. Proposal

4.1. Supporting Evidences

4.1.1. The myth of conventional implicature

One of the recent papers provides a brand-new idea that the uncritically admitted notion, "conventional implicature," actually does not exist. Although this issue remains to be examined thoroughly, it does help at least to cast some doubts over the implicature theory of *even*.

4.1.1.1. Basic ideas

In defiance of the implicit acceptance of the category,

"conventional implicature," Bach (1999) proposes that certain items in the guise of conventional implicature, in fact, are to be classified into two kinds, i.e. contributors to what is said and speech-act vehicles. According to Bach, the former are called "ACIDs" (Alleged Conventional Implicature Devices) and the latter "utterance modifiers," some instances of which are given below.

(19) a. ACIDs
- adverbs: *already, also, barely, either, only, scarcely, still, too, yet*
- connectives: *but, nevertheless, so, therefore, yet*
- implicative verbs: *bother, condescend, continue, design, fail, manage, stop*
- subordinating conjunctions: *although, despite (the fact that), even though*

b. Types of Utterance Modifiers
- topicals: *anyway, as for . . . , by the way, . . .*
- positionals: *first of all* (*secondly*, etc.), *next, finally, . . .*
- additives: *along the same lines, also, besides, . . .*
- illustratives: *by way of example, for example, for instance, . . .*

By pointing out the four factors which conspire to make ACIDs seem to have conventional implicature, Bach claims that the so-called intuition about conventional implicature (CI) is a myth.

(20) CI: A proposition is a conventional implicature of an utterance just in case
(i) the speaker (speaking seriously) is committed

> to the truth of the proposition, (ii) which proposition that is depends upon the (or a) conventional meaning of some particular linguistic device in the utterance, but (iii) the falsity of that proposition is compatible with the truth of the utterance. (1999: 331)

(21) Shaq is huge *but* he is agile.

By taking *but* as a case study, Bach ascribes a first factor to the fact that *but* does not encode a unique contrastive relation. That is, in (21) being huge seems to preclude being agile but this is not the only contrastive relation between these properties. A second factor is that the contrast suggested by *but* is often common ground rather than part of what the speaker is asserting. A third one is that the CI-intuition is produced as the result of a forced choice. One is required to choose from between the two truth values, i.e. true or false. This is aided by the widespread and clandestine assumption that "every indicative sentence expresses exactly one proposition" (1999: 350). And a fourth factor is that specifying the two conjuncts exhausts the entire content of the sentence except for the contribution of *but* itself. As is presented in the following, the additional clause (22iii) does not seem to have the force of an entire clause, which leads to its failure in contributing to what is said.

(22) (i) Shaq is huge, (ii) Shaq is agile, and (iii) there is a certain contrast between being huge and being agile.

Bach argues that the factors above are insidiously associated to mislead us to believe that there exists a conventional implicature.

4.1.1.2. Analysis

According to the CI-thesis, an ACID provides the intuition that the falsity of the proposition that contains it is compatible with the truth of what is said, in other words, that the proposition is not part of what is said. However, under the proviso that the *that*-clause in an indirect quotation (IQ) specifies what is said in an utterance being reported and ACIDs can occur in specifications of what is said, Bach adduces the following.

(23) IQ test: An element of a sentence contributes to what is said in an utterance of that sentence if and only if there can be an accurate and complete indirect quotation of the utterance (in the same language) which includes that element, or a corresponding element, in the 'that'-clause that specifies what is said.

(24) a. Shaq is huge *but* he is agile.
b. Marv said that Shaq is huge *but* that he is agile.

(25) a. Shaq can dunk and block shots *too*.
b. Marv said that Shaq can dunk and block shots *too*.

(26) a. *Even* Shaq can make some free throws.
b. Marv said that *even* Shaq can make some free throws.

If the IQ test is applied to (24a), the expression *but* does contribute to what is being reported as in (24b), making the whole proposition complete. On the other hand, to leave out this item would produce rather an inaccurate content of reporting as shown below.

(27) Marv said that Shaq is huge and that he is agile.

The incompleteness and inaccuracy of (27) denies the classically respected idea that the alleged conventional implicature elicitors are detachable. In fact, these ACIDs should not be detached.

Now that all the ACIDs pass the IQ test, Bach concludes that the proposition construed as a conventional implicature is a part of what is said and the CI-intuition is illusory.

4.1.2. Analogy

To regard *even* as a universal quantifier means that there is similarity between *even* and universal quantifiers like *every* or *all*. Consider the followings.

(28) a. Every student walks.
b. $\forall x[S(x) \rightarrow W(x)]$

As the formal representation of (28a), (28b), shows, a sentence containing a universal quantifier is rendered as conditional. Therefore, the sentences like (28a) can be appropriately uttered even if there are no students who walk, the fact of which is presented in the truth table, (29) below. That is, although the antecedent, p, is false and the consequent, q, is true, the material implication, symbolized as $\rightarrow$, results in being true.

(29)

p	q	p → q
T	T	T
T	F	F
F	T	T
F	F	T

Even also would be represented in an analogous way, if it is construed as a universal quantifier. Thus (30a) is to be given a logical form as in (30b).

(30) a. *Even* students walk.
b. $\exists x[S(x) \wedge W(x)] \wedge \forall y[S^c{\sim}C(y) \rightarrow W(y)]$[9]

According to (30b), (30a) is interpreted as "There are students walking and if there were members in the complementary set to the set of students, they would walk, too." Therefore, if the speaker took account of other groups of people than the group of students such as teachers, officers, bankers, dancers, etc., they should walk, too. Here again, one thing which is always kept in mind is that the contrast set generated by the operator, *even* is contextually determined as $S^c{\sim}C(y)$ shows in (30b).

Following this line, we do not have to be fazed any more in locating the place of *even* among quantifiers, universal or existential. It is the universal quantifier containing existential and universal assertions, which is called quasi-universal here in this paper.

4.2. *Even* as a Quasi-Universal Quantifier

4.2.1. Foundations

As is argued in the previous sections, the lexical item *even* does not beget conventional implicature when used in sentences. Therefore, the intuitively arising feelings, viz. "surprise" or "unexpectedness" of *even* are derived actually from conversational implicature. And this claim has been pinpointed already by Kay

[9] $S^c{\sim}C$ means a complementary set presupposed by the *even* phras depending on the context involved. Thus the so-called S_j and S^* belong to the quasi-universal set, S_u, while only S_js are in the $S^c{\sim}C$.

(1990) in section 3.1 of this paper.

What is more, *even* does function as a quantifier, and that as a quasi-universal quantifier, having truth-conditional force.[10] Besides this, it is worth noting that a theory can survive only if all the uses of an item can be related to one core meaning.[11] Therefore, I claim that the core function of *even* is as a universal operator and other seemingly different meanings of *even* can be subsumed under it.

In order to find out if *even* contributes to the truth-condition of the sentence containing it, let us first consider the following examples.

(31) A: How was the party, yesterday?
B: *Even* John was drunk.
A: It must have been another binge, then.
C: No, it's not true. Mary wasn't drunk. She was completely sober.
C': #No, it's not true. Peter wasn't drunk. He was completely sober.

If there are any members in the comparison group, they have only to be salient in the speaker's and hearer's mind. Providing that there are two kinds of groups, i.e. one group of people who tend to drink or at least to drink if they are at a party and the other group of people who are allergic to alcohol. In a situation where Peter, Sue, and John belong to the second kind of group and Mary is the extreme case of the first group, B's

[10]The universal quantifier here in this paper is somewhat different from the generally understood universal quantifier in that *even* as a universal quantifier introduces a comparison set that is context-dependent and only the salient members of this comparison set will be taken into account when an *even*-sentence is to be uttered. I will use the terms, universal and quasi-universal interchangeably for *even*, meaning, in fact, the latter.

[11]See Jucker (1993: 521).

utterance in (31) is falsified by what C said. Because Mary is one of the salient members who like drinking, Mary's sobriety turns (31B) into falsity. In the meantime, Peter is not a salient member of the drinking group, his sobriety does not wield any influence on the truth status of (31B). In fact, (31C') is unacceptable in this situation. Therefore, *even* is truth-conditional and the sentence containing it takes account of only the conspicuous members of the set under consideration.

On the other hand, we can observe that the truth-conditional meaning, i.e. the "additional" interpretation that *even* possesses is never the same as any conversational implicature, the facts of which are exemplified in the following.[12]

(32) a. #*Even* John came to th party.
In fact, everyone else didn't come.
b. #*Even* John came to the party. But Peter didn't.
c. *Even* John came to the party. But Mary didn't.

As in (32a), the overt denial of the set generated by the *even*-sentence is not acceptable, which evidences that the meaning of *even* does not come from a conversational implicature, which can be cancelled. Given that Peter is a party-hater and Mary is a party-goer, once again (32b,c) instantiate that some entities are not significant even though they are in the contrast class. However, it is noteworthy that the existence of these ignorable individuals should not be denied explicitly.

4.2.2. Analysis

To begin with, it is required that some basic assumptions be

[12]In line of this paper's argument, the "surprise" element of *even* is a conversational implicature, while its meaning of "addition" contributes to the truth-condition of the sentence containing *even*. Therefore, the former element is cancellable but the latter is not.

presented. As is the case with most other theories of *even*, this paper assumes that *even* presupposes a contrast class into a sentence containing it. This contrast class will vary according to the context. And it is also assumed that *even* implies a scale, on which the element focused by it is positioned on a comparatively lower point than the other elements of the contrast class. A third assumption is that it is possible for a speaker to utter *even* in a sentence even if she has no other contrasting element in mind. These are provided as truth conditions for *even* as in (33).

(33) a. S* is asserted and S_j is presupposed as universal instantiation cases of S_u.
b. S_u is contextually determined.
c. S* is placed on a relatively lower point on a scale than S_j.

Now, all that this paper has to do is to cut the Gordian knot as well as possible with the sharpened knife above. Consider the following examples, repeated here for convenience' sake. We will deal with only these examples since these are the very problematic ones.

(34) a. Evans kissed Mary *even* before he knew her name.
b. He was executed *even* after the queen herself made a plea to spare his life.
c. Some of the most loyal White House officials weren't with the president on this one, *even* Sununu and Baker weren't. Scowcroft, of course, stood beside his leader.

Examples in (34) have been treated by Berckmans, regarding *even* as an existential quantifier on some kind of a time scale.

However, treating *even* as a universal quantifier is more plausible. As far as (34a,b) are concerned, there are event-ordering scales as suggested below.[13]

(35) a.

9 | before getting married
| . . .
4 | before holding hands
3 | before dating
2 | before learning names
| . . .

b.

9 | after pleading by his wife
| . . .
4 | after pleading by the mayor
3 | after pleading by the premier
2 | after pleading by the queen
| . . .

For (34a), an event-ordering scale is formed where the kissing

[13]Initially, I proposed a so-called "time scale," which ended up in the wrong direction. However, soon I realized that these examples did not have to do with time at all. That is to say, any relationship-establishing events or life-saving activities do not necessarily follow the temporal ordering.

The numbers given to the points on the scale are arbitrary and only for the explanatory sake. One caveat here is that as Barbara H. Partee (p.c.) pinpoints, these points need to be event-types, not actual events and "before . . ." are not concrete times but intensional descriptions of possible times or possible states of affairs.

event can be placed and the kissing before Evans' learning Mary's name is more surprising than any one occurring point of Evans' kissing Mary as illustrated in ´(35a). For example, if the speaker of (34a) has in mind the world where the kissing before knowing each other's names is least likely to happen, she can utter it. That is, if she believes that the kissing point "2" is more surprising than the kissing point "3," she would say (34a). Likewise, an event scale is conceived for (34b) like in (35b). In this case, the imaginable execution point is positioned on the scale. And to the speaker's mind, the execution after the queen's pleading is more surprising compared with other execution points. I.e. the execution after pleading by the queen, which is given as "2," is more surprising than the execution points like "3" and/or "4," etc.

Note, however, that the suggested event-ordering scales in (35) are only for helping understand the example cases in (34). Hence, as suggested already in (33b), the universal set, S_u is context-dependent, i.e. it will rely on culture, custom, or individuals' idiosyncratic way of thinking.[14] For instance, (34a) can be uttered in one context but its surprisingness can be taken off or defeated by an ensuing utterance like in (36) below.

(36) A: Did you hear this? Evans kissed Mary *even* before he knew her name.
B: Well, that's no big deal. Some people marry *even* before they see each other.

(37) A: Evans kissed Mary *even* before he knew her name.

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[14]Idiosyncrasies can be included in the truth-conditions and may be challenged by "that's false" as in the following example, which is due to Barbara H. Partee (p.c.).

(i) A: Evans acted improperly.
B: That's false. He didn't. You're just old-fashioned.

B: That's not true. They kissed before they talked to each other.
B': #That's not true. They kissed before they got married.

On the other hand, given a scale on which the "event of kissing before talking to each other" is located below the number "2" in (35a), the truth of (37A) is denied by (37B), but not by (37B'). This is due to the fact that the event "2" entails the event "9" on the scale.

As for (34c), Berckmans has argued that it is a case of quantifying over a subset of a certain set. But in fact, this kind of a sentence can be uttered even if one does not have a full knowledge of the subset of the whole set. The sentence is true even if one is aware only that Sununu and Baker are withholding support in addition to any other White House officials, if any.

(38) *Even* Cher wouldn't wear that!

(39) A: I heard the elevators were really slow.
B: Well, only two were working!
A: That's *even* worse.

Along the same lines, (38) can be construed to be true, if the speaker sincerely utters it. Even if there is no member in the universal set generated by *even*, this sentence is ruled in. That is, on the scale of "x wouldn't wear that," is Cher placed relatively lower point because she is a least likely person not to wear that skimpy garment.[15] And the hearer wearing that outfit is the

[15]I treated it as a case of scale inversion at first, but thanks to an anonymous referee who called my attention to the paralogism about the notion of scale inversion, I realized that the scale for (35) should be that of "x wouldn't wear that," not of "'x would wear that'

individual who is in the comparison set. In addition, (39), the remaining problem for Berckmans' account, can be accounted for. That is, the *even* sentence in (39) presupposes a universal contrasting class and even if the speaker cannot put a finger on a specific situation which is better than the case where only two elevators work, this *even*-sentence makes sense.

The problematic instances have been interpreted well within the framework offered in this paper. Hence my attempted proposal can be thought of having more explanatory force than any other quantifier theory of *even*.

5. Concluding Remarks

This paper proposes that *even* should not be deemed as begetting conventional implicature but understood as a quasi-universal quantifier. In this sense, it is worthy of quoting the following statement from Kay (1990: 75).

> . . . A scalar model includes crucially a set of propositions, which are defined in the standard way as functions from states of affairs to truth values. Thus 'truth' has served as an essential atomic concept in our analysis of the 'non-truth conditional' meaning of the operator *even*. This suggests that for the purpose of analyzing meaning in natural language we might wish to develop a concept of truth that is in some way relativized to conceptual systems, that is, to the contents of actual or potential minds. In setting up a scalar model as a set of background assumptions with a particular form, we took 'truth' as a primitive term in defining that form. . . Intuitions about 'truth' are, I believe, fundamental to our interpretation of sentences and texts of natural language. . . .

+ negation." If the scale, "x would wear that" were inverted by negation, the outcome should be expected to be distinct from the scale, "x wouldn't wear that" formed as such from the very outset.

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