SOME PARTICULARITIES OF UNIVERSAL QUANTIFICATION IN ENGLISH

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Introduction

Goals of paper:

- to highlight the importance of basing usage-based theories on authentic usage.
- to build on the cognitive-grammar analysis of *every* and *each* as proposed by Langacker (2000, 2005) and Taylor (2002).
- to further our understanding of linguistic items expressing the logical concept of universal quantification in English.

Paper organisation

- For the **first part** of this paper, we will begin by a brief discussion of what sets the *each* and *every* quantifiers off from the universal quantifier *all*, which will allow a view of what they have in common. Then, we will proceed to characterize what distinguishes them from one another.

- For the **second part**, we will take a look at specific examples of *each* and *every* in actual language use.

Part 1
Langacker

- Langacker (2000, 2005) proposes a general distinction between two types of quantifiers, "proportional" and "representative-instance".

- Proportional quantifiers such as *all*, *most* and *some* profile a set of entities characterized as some proportion of a reference mass, the latter corresponding to the set of all instances of the nominal category.

- This proportion can vary from the totality of the reference mass (*all*) down to an unspecified but non-empty set (*some*).

Langacker: *Each* and *Every* = representative-instance quantifiers

- Representative-instance quantifiers, such as *every*, *each*, *any* and *a*, profile a single, arbitrary instance of the category, but one which is guaranteed to be representative of the whole.
- *Any* implies random selection from the reference mass.
- *Every* and *each* are described as construing the profiled instance "against the background of a set of equivalent instances conceived as exhausting the reference mass."
- These explanations are based on distinctions between sequential and summary scanning – notions borrowed from cognitive psychology's treatment of visual perception.

- The difference between proportional and representative-instance quantifiers is claimed to be reflected in the plural vs. singular contrast in the nouns they quantify.

- While the explanation of the occurrence of the singular after *each* and *every* as due to their profiling a single entity is appealing, the application of the notion of representative instance or 'singular exemplar' to these two quantifiers is problematic.

Problem - Langacker's view versus actual usage

- This conclusion follows from the consideration of contexts such as (1), in which *any* and *a* are quite at home, but not *each* or *every*:

(1a) ***Pick a card, any card.***
(1b) ****Pick <u>every</u> (<u>each</u>) card.***

- *Each* and *every* do not denote the extraction of a random or representative instance from the reference mass, but cover all of the singular instances of which the latter is composed.

Taylor: *Each* = restricted

- Taylor (2002) builds on Langacker's concept of representative-instance quantification, proposing that while *each* and *every* both share this characteristic, they are distinguished by the fact that *each* "presupposes a reference mass that is quite restricted in extent."

- This would account for the fact that (2) below is odd, as it corresponds to a universal statement about cats:

(2) ***?*Each cat is a carnivore.***

Problem – Taylor's view versus actual usage

- While these comments are highly suggestive, they too fail to capture the essence of the distinction between *each* and *every*.
- Although it is true that *each* tends to be found in contexts in which the reference mass is restricted, it can nonetheless occur quite comfortably in generic statements, of which two instances are given below:

(3) ***Each child has its own experience; some experience real martyrdom.***

(4) ***As with all previous ages, each child has its own individuality and development.***

Langacker: *Each* = sequential examination
Every = simultaneously visible

- Langacker (2005) characterizes the distinction in terms of the opposition between "sequential examination" for *each*, i.e. "individually looking at the members of the group, one by one, until they have all been examined," vs the members of the group being "simultaneously visible and available for examination" with *every*.

Problem – Langacker's view of *Every* versus actual usage

- With respect to the meaning of *each*, the proposal works fairly well.
- In ***He woke up each one of them***, the use of this quantifier implies that the sleepers were awakened one after the other.
- The parallel sentence with *every*,

  He woke up every one of them, however, leaves completely open the question of whether the sleepers were roused simultaneously or in sequence.

- Moreover, in some uses *every* is only interpretable in a sequential reading, as in (5).

(5) ***We stopped every three hours to stretch our legs.***

Our Hypothesis:

Each = actual summation – one by one
Every = virtual summation – sweeping inclusion

- The distinction between *each* and *every* will be described here as that between actual and virtual summation.

- *Each* denotes the actual process of adding members, individual by individual, to constitute a whole.

- *Every* sweeps over all the individuals, taking whatever ones are there and leaving none out.

- *Each* thus preserves the individuality of the parts of the whole;

  Every covers all the possibilities, allowing no individual to escape.

Part II

Exhaustiveness (1)

Every + Possible

- The meanings just proposed for *each* and *every* account for the contrast in compatibility between these two quantifiers with respect to the adjective *possible*:

(6a) ***Pope Benedict XVI, seen from every possible angle*** (headline, Washington Post)

(6b) ****Pope Benedict XVI, seen from each possible angle***.

- Here *every* involves an element of hyperbole due to the double emphasis on exhaustiveness -- provided by both the quantifier *every* and the adjective *possible*.

Exhaustiveness (2)

Every (by itself) = all possible'

- In some uses, the 'virtuality' element of *every*'s meaning can be exploited without the contribution of another word to denote the concept of possibility:

(7) ***No matter how you spend your day, hope it's great in <u>every way</u> – and hope the year that follows, too, will be a happy one for you.***

- In this type of usage, typical of greeting cards, *every* produces the expressive effect of 'all possible'.

Each + Possible

- *Each* can occur with the adjective *possible*. However, the effect produced is very different from *every*:

(8) *Are both the TX and RX antennas considered while predicting the takeoff angle (TANGLE) of the transmit antenna? For path lengths less than 7000 km, the angle prediction takes into account the gain of both the TX and RX antennas.(...)* ***The program finds the most reliable mode and its associated angle based on combining the path loss for the possible angles and the combined gain of the TX and RX antenna at <u>each possible</u> angle.***

- Unlike *every* -- which operates on the level of virtuality and leaves the set open, allowing for all the possibilities which one might be able to imagine -- *each* supposes a defined set of possible angles, and evokes a methodical coverage of the individual members of that set -- one by one.

Exhaustiveness (3)
Every + Last

- Due to ***last***'s implication of 'no more after this one', it has a natural affinity for combining with *every* to evoke exhaustiveness of coverage:

(9) ***Infuriated by what she called the actions of a wicked little sneak, small fry had forced him to eat every last crumb of the cake without allowing him to clean the dirt and animal saliva from its surface.***

Each + Last

- *Each* is not used to produce this type of effect. *Each* does not denote a sweeping over the entire reference mass all the way down to the last element of the totality.

- When *each* does occur with *last* – which is not frequent at all (only one occurrence in the 100-million-word British National Corpus, versus 102 for *every last*) – the effect is quite different:

(10) ***In this silkiest of works there needs to be an elegant bonhomie, mixed with a hint of gentle sadness which quite eludes the Israel PO and the soloist, who seem intent on squeezing out <u>each last drip</u> of sentiment – surely a misunderstanding of the composer's style and aspirations***.

- The impression here is not merely to emphasize the exhaustiveness of coverage, but rather to focus on the excruciating operation of squeezing sentiment from the piece of music -- drip by drip.

Exhaustiveness (4)
Every + expletive elements

- *Every* occurs regularly with a certain number of other emphatic expletive elements, whose role is to highlight the completeness of the whole:

(11) ***law, he says, is to be found 'at <u>every bloody level</u>.'***

(12) ***But tonight's objective was to please Richard and be photographed by <u>every goddam paparazzo</u> in London, and that meant colour, the brighter the better.***

(13) ***He says 'yes' or 'dunno' to <u>every blessed thing</u> I ses.***

Negation with *Each* and *Every*

- Huddleston and Pullum (2002) note that *not* used as a marker of non-verbal negation can occur with *every*(***Not every politician is dishonest***), but not with *each* (****Not each politician is dishonest***).

- They relate this restriction to the fact that, in clauses with verbal negation, *each* does not "readily occur" within the scope of negation.

- Neither of these claims is quite accurate. However, they do point to a difference in the way these two universal quantifiers interact with the concept of negation.

Negation and *Each* - actual usage

- Indeed, *each* **can be found** with *not* directly modifying it:

(14) ***However, the effect was only observed when Zn2+ and ferrocyanide were added, indicating that the combination of the two ions, and <u>not each</u> one separately, was responsible for the observed change***.

- Each **can also occur** in within the scope of verbal negation:

(15) ***Considering the size of the project, I obviously didn<u>'t get each note</u>… but everything I have here should sound fine***.

Negation and *Every*

- The effect produced by negative focus is not the same as with *every* however:

(16) ***I agree with you Laith – I didn't get every detail the first time I sat down, but I asked questions and I got straight answers – and got more and more info***.

Negation and Each
= negation of individual summation (1)

- While both *each* and *every* imply 'some, but not all', *each* involves the added dimension of negating not only the totality, but also the individual attention to the members which make up the totality.

- In some negative contexts, it is *each's* individualizing notion of summation which is the focus of the negation and not the whole itself as can be seen in the following example:

(17) ***When subtracting time you do <u>not</u> look at <u>each digit</u>. You look at the minutes <u>as a whole</u>. In the problem below you can not subtract 52 minutes from 15***.

- Here the individual mode of summation denoted by *each* is negated in favour of a global appraisal.

Every = more compatible with negation

- Nonetheless, as it is extremely infrequent to want to negate both the totality of a set **and** the individual application of a predicate to its members (*each*), *every* fits more naturally with negation.

- Negating *every*'s notion of 'sweeping summation covering whatever component elements make up a whole'readily suggests the inference that the predicate applies not to the whole but only to a part thereof. One does not need to negate the individuality of the elements as well in order to produce this effect.

- Thus, *every* fits the bill for negative focus quite nicely by being logically opposable to a complementary set (whole vs part).

Conclusion

Although this small study has focussed on just some of the particular uses of *each* and *every*, certain general conclusions can be drawn:

- **First, the danger of working with de-contextualized, fabricated examples.**

Several cases have been seen in which grammatical judgements performed on such examples reflect only stereotypical scenarios which do not correspond to the full potential of *each* and *every*.

- **Secondly, the danger of using abstract theoretical models which import concepts from other sciences.**

The distinction between sequential and summary scanning is inspired by studies of visual perception in the field of cognitive psychology.

Unfortunately, the explanations proposed for *each* and *every* based on this distinction have not been grounded on a sufficient observation of actual linguistic usage.

- **Finally, the danger of not doing sufficient observation of linguistic facts before suggesting theoretical explanations.**

This study provides on a very small scale the evidence of how important it is to observe authentic language use – linguistic data.

To establish *trustworthy* usage-based theories of language, it is critical for linguistics to do a sufficient examination of real and authentic language use.

MERCI DE VOTRE ATTENTION!