Hurford's Constraint, Contrastiveness, Scalar Implicature, and How They All Come Together

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Hurford's Constraint

Hurford's Constraint: What it is and why we care

(1)   a. Anna lives in Seattle or in California

        b. #Anna lives in Los Angeles or in California

Hurford's Constraint (of Hurford 1974): # *X or Y* if *X* and *Y* are entailing disjuncts (Singh 2008, p.246).

Singh points out that we need a stronger constraint:

(2)   a. Does Bertha drive a pick-up truck or an SUV?

        b. #Does Bertha drive a pick-up truck or a Ford?

There is no entailment relation between *Bertha drives a pick-up truck* and *Bertha drives a Ford*, which are merely consistent (compatible).
Hurford's Constraint': # *X or Y* if *X* and *Y* are mutually consistent (Singh 2008, p.252).

Hurford's Constraint

Hurford's Constraint and Scalar Implicature

(3) a. Anna ate some (of the cookies) or all of the cookies.
b. Erika visited [Nice or Marseille] or [both Nice and Marseille]
c. Maria's comments are sometimes or often offensive.

Without scalar implicatures, those disjuncts are entailing disjuncts and are predicted to be infelicitous.

Hurford's Constraint with disjoined scalar items is presented as evidence for the localist/grammaticist approach to scalar implicatures: Fox (2007), Chierchia, Fox and Spector (2008)

▶ Strong implicatures (scalar implicatures) are derived by the syntactic presence of a sentential operator, *exh* or *O*.
▶ This operator takes a set of alternatives that are lexically generated (à la Horn) and negates all of the non-weaker alternatives to what was actually said. Hence, its meaning is close to that of *only*
▶ While the negation of the alternatives is a part of at-issue/asserted meaning of *only*, it is an implicature for the silent version.

Hurford's Constraint

Ordering Asymmetry: Singh (2008) noted that a semantically stronger alternative cannot precede its weaker alternative. I place # in all of the examples below, but our judgments may fluctuate (and Fox and Spector (2009) report that their corpus search produces some sizable number of exceptions, which they try to explain).

(4) a. #Anna ate all of the cookies or some of the cookies.

b. #Erika visited [(both) France and Italy] or [France or Italy].

c. #Maria's comments are often or sometimes offensive.

These examples become acceptable if *only* or *just* is added to the second disjuncts.

The two analyses that I know of, Singh (2008) and Fox and Spector (2009), have the following characteristics:

▶ The constraint is couched within the semantics of disjunction.

▶ It relates to how the prefixing of *exh* is regulated.

Hurford's Constraint in Non-Disjunctive Contexts

Hurford's Constraint seems operative in non-disjunctive contexts.

E.g., Contrastive *but*: examples are taken from the notes sent by Giorgio Magri.

(5)   a. #Adam was born in Paris but Bill in France.
        b. #Adam was born in France but Bill in Paris.

(6)   a. #Adam has a dog but Bill has a German Shepard.
        b. #Adam has a German Shepard but Bill has a dog.

The ordering asymmetry also holds in the same environment.

(7)   a. Adam did some of the homework but Bill did all of it.
        b. Adam loves (Ann or Sue) but Bill loves (Ann and Sue).

(8)   a. #Adam did all of the homework but Bill did some of it.
        b. #Adam loves [Ann and Sue] but Bill loves [Ann or Sue]

Ordering Asymmetry Beyond Disjunction

The ordering asymmetry holds with all sorts of scalar items in other contrastive environments.

(9)   a.   I am surprised that we hired someone who speaks French, rather than the one who speaks (both) French and Spanish.

        b.   # I think that we should have hired someone who speaks French and Spanish, instead the person who speaks French.

(10)   a.   If Adam is smart, his younger brother is brilliant.

        b.   #If Adam is brilliant, his younger brother is smart.

The relevant asymmetry is observed in inter-speaker discourse:

(11)   A: Some of Professor Smith's students are working on implicatures.
        B: Wait, I thought that all of them are.

(12)   A: All of Professor Smith's students are working on implicatures.
        B: Wait, #I thought that some of them are.

Hurford's Constraint and Contrastiveness

- ▶ Contrast between disjuncts is an inherent feature of disjunction.
- ▶ Contrastive focus seems to obey Hurford's Constraint.

So, the first step is to take the ordering asymmetry puzzle our of the small confinement of disjunction.

(13) When two scale-mates are contrasted, the better order is the one in which the semantically stronger one follows the weaker one.

Hurford's Constraint and Contrastiveness

The second step is to present an alternative to the idea that the ordering asymmetry has something to do with how to regulate the syntax of exhaustification.

(14)   When two scale-mates are contrasted, the preceding one must be the right kind of 'contrast antecedent' for the following one.

The right kind of contrast antecedent should satisfy a stricter condition than the one proposed for focus in Rooth (1992).

Some–All Asymmetry and Contrastiveness

First, focus in general does not have to obey Hurford's Constraint.

(15)   a.   Anna is from Paris. So, (it means) she is from $[\text{FRANCE}]_F$.

           b.   Anna's dream is to live in Paris, but she would be quite content if she lived in $[\text{FRANCE}]_F$.

However, these examples do not have the sense of contrast comparable to disjunction: for instance, the two sentences in (15a) collectively answers the Question-under-Discussion, *where is Anna from?*).

It is not easy to give a precise characterization of what counts as 'contrastive'. There are definitely some expressions or constructions that evokes a sense of contrast; *but, on the other hand, while/although, etc*, comparatives. In case of inter-speaker utterances, we may appeal to the rhetorical relation of contrast in the sense of Asher and Lascarides (2003).

Focus-Contrast Condition

I propose to strengthen the condition by imposing **mutual exclusivity** (cf. Wagner 2006, Menéndez-Benito 2010).

(16)   When two expressions α, β are contrasted and α precedes β, it should be the case that the focus semantic value of α (or a constituent containing α) can be strengthened to be a mutually exclusive set which still includes the ordinary values of α and β (or constituents containing them).

This is my version of incorporating the inconsistency requirement of Singh (2008).

Back to the Ordering Asymmetry

Here is a good example:

(17) Anna ate some of the cookies or all of the cookies.

(18) [Anna ate [some]$_F$ of the cookies or Anna ate [all]$_F$ of the cookies

Is *some* a good contrast antecedent for *all*?

(19) a. Typically, $\|[\text{some}]_F\|_f$ is a set of quantificational determiner meanings (e.g., *some, most, no, every*, etc.)

   b. However, its mutually exclusive set is very small: it has just two members, {some, no}.

Additional Ingredient: The default strategy of producing a mutually exclusive set is to strengthen the ordinary value of the focused expression.

(For convenience, I use *exh* and adjoin it to the determiner, which is, strictly speaking, not the way *exh* is used.)

(20) a. Strengthen [some] to [*exh* [some]]

   b. The mutually exclusive set now includes both quantifier meanings: {some but not all, no, all}. This satisfies the condition.

Back to the Ordering Asymmetry

Here is a bad case:

(21) #Anna ate all of the cookies or some of the cookies.

The intended reading (= the one which would not violate HC) would be represented as:

(22) [Anna ate [all]$_F$ of the cookies or [exh[Anna ate [some]$_F$ of the cookies]

(23) a. $\|[all]_F\|_f$ is a set of quantificational determiner meanings, just like before.
   b. Its mutually exclusive set is again very small: {all, not all}
   c. This time, however, we cannot do any better than (23b) because *exh* is vacuous on [all].

Therefore, *all* is not an ideal contrast antecedent for *some*.

Back to the Ordering Asymmetry

All can be an antecedent of *no*.

(24)   Anna ate all of the cookies or none of the cookies.

It is not surprising: *all, no* is a mutually exclusive set. It means, however, that the mutual exclusivity requirement does not require partition.

The order of *all – some* is good if *no* is also considered as an alternative.

(25)   Anna ate all (of the cookies), (or) some (of the cookies) or none of the cookies.

The second default strategy: Given a mutually exclusive, non-partitioning set, fill the gap to make a mutually exclusive, partitioning set.

Back to the Ordering Asymmetry

A repair strategy?

Q: How bad is the *all* – *some* order?

Fox and Spector (2009) found in the Corpus of Contemporary American English (http://corpus.byu.edu/coca/) 53 instances of *all* – *some*, as opposed to 396 of *some* – *all* (all of them in disjunctions).

Fox and Spector (2009) have their own story, but in general, the *all* – *some* order is judged weird, but perhaps not atrociously bad.

(26)   Two Possible Repair Strategies

    a. Virtual Exhaustification: Start with {all, not all}. Strengthen the alternative to the ordinary value: {all, not all} → {all, not all (but some), no}

    b. Partitioning: Start with {all, no} even when *no* is not an obvious alternative in the context. Impose partition on that set. {all, no} → {all, not all (but some), no}

Back to the Ordering Asymmetry

The repair strategy can discriminate bad cases from worse cases:

(27)   a. Andy insulted Anna, but Billy insulted Anna AND her SISTER.
       b. #Billy insulted Anna and her sister, but Andy insulted ANNA.

This case is worse than the 'all–some', and to save (27b), it is necessary to add *only* or *just*.

Back to the Ordering Asymmetry

With just two individuals under consideration, the conjunctive phrase *Anna and her sister* clearly is not a food contrast antecedent. Moreover, neither of the repair strategies would work.

► The mutually exclusive set of alternatives of *(both) Anna and her sister* is: {(both) Anna and her sister, not both Anna and her sister}.

► Both the virtual exhaustification and the partitioning strategy give the following: {(both) Anna and her sister, not both Anna and her sister but not neither (= not both Anna and her sister but either one of them), neither Anna nor her sister}.

► This mutually exclusive set still does not contain the (strengthened) ordinary value of the subsequent contrast (= *only Anna/Anna but not her sister*).

► Therefore, the need to add the overt *only* or *just* is more acute in this example.

Only

- ► The prediction is that the 'all–some' order is OK when the two quantifiers are not overtly contrasted.
- ► Why does adding *only* or *just* help?

The first prediction seems borne out indeed.

(28)   *Context: Do our students have some international experience?*
       All the students have been to Europe. Some of them have even been to Africa.

We learned a few things from this example.

1. These two sentences are not in a contrastive environment. They collectively give a positive answer to the QUD. The 'all–some' order is perfectly acceptable.
2. And the second sentence seems to elicit the exhaustive interpretation of *some*.
3. Importantly, adding *only* or *just* to *some* is inappropriate here.

Only

The intuition behind Singh (2008): (i) *exh* is the silent version of only. (ii) 'all or [*exh* some]' is not good, but 'all or only some' is good. (iii) thus, the constraint is about how to regulate *exh*.

But, the overt *only* and *exh* are not the same (although they have significant overlap). Another illustration is below:

(29) *Did your relatives come to your wedding?*
    A: Some of them did.
    A': Some but not all of them did.
    A'': Only some of them did.

The answer A is functionally equivalent to A', as we most naturally understand the meaning of *some* being strengthened, but A'' seems to communicate something extra – a sense of disappointment, for instance.

Only

The strictly scalar use of *only* has been acknowledged before (e.g., an earlier version of Schwarzschild 1999).

(30) a. This time, Usain Bolt only got the bronze medal.

  b. My Friend Joshua and I were short-listed for the same job at the company. Joshua had a meeting with the CEO, but I was interviewed only by the vice president.

Only

Zeevat's (2009) mirative analysis of focus adverbs

1. Some focus sensitive adverbs add 'mirative/surprise' meaning. *even*: more than expected, *only*: less than expected, *already*: earlier than expected, *still*: later than expected, etc.

2. The exhaustivity meaning in a sentence with *only* is derivable with focus; Even without *only*, the sentence has the exhaustive meaning, as it is typically considered as the complete (exhaustive) answer to a QUD.

3. Thus, the mirativity is the sole meaning of *only*, and it is regarded as a weak presupposition.

The notion of 'mirativity', which is often tied to some 'surprise' effect, must be treated with caution, though.

(31) The exam was very hard. So, as expected, only Anna managed to pass.

Only

So, what is going on with *only*?

(32)   Anna ate all of the cookies or only some of the cookies.

- ▶ *only* Q does not demand a contrast antecedent that has *only* Q as a member of the mutually exclusive set of alternatives.
- ▶ A good contrast antecedent for *only* Q provides the standard comparison with which the prejacent of *only* is evaluated.

on the Globalist – Localist Debate

One of the key ingredients in the proposal is the default strategy – Strengthen the ordinary value of a focused scalar item to generate a set of mutually exclusive alternatives.

Therefore, I endorse a theory that allows this strengthening. Obviously, the prominent localist approach of Chierchia (2006), Fox (2007), and Chierchia et al (2008) will do nicely.

But, it seems possible to follow Levinson (2000), provided that generalized implicature is a part of the ordinary meaning of a scalar item.

Perhaps surprisingly, Geurts (2010), who is among the most vocal critics of the localist view, proposes to solve the Hurford's constraint puzzle based on the generalization that is close to mine.

on the Globalist – Localist Debate

Geurts (2010, Chapter 8): Local 'implicatures' are possible when the relevant scalar items are contrastively focused (including Hurford's Constraint cases).

Contrastively focused scalar items under go semantic narrowing. So, SOME becomes some but not all, OR becomes or but not both, etc. Thus, local 'implicatures' aren't implicatures.

So far as the phenomena examined in this talk, any of the three ideas would work.

Some Debris

In a sin-off project of today's talk (Tomioka 2017), I argue that the lexicalist approach makes a wrong prediction about the scope of scalar quantifiers and implicatures.

If there are three possible scope positions; matrix, intermediate and the most local, the scope of a focused scalar quantifier is predicted to match that of the 'implicature'. This prediction is not borne out.

That leaves the sentential operator approach as the only feasible option.

Some Debris

Fox and Spector (2009) note a very intriguing phenomenon – the strong-weak order becomes felicitous when it is under the scope of a universal quantifier.

(33)   Fox and Spector (52ab)

    a. #Either John did both the reading and the homework or he did the reading or the homework.

    b. Either everyone did both the reading and the homework or everyone did the reading or the homework.

At this point, I don't have a good story for this...

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