Hurford's Constraint and Disjunctions over Speech Acts

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Abstract

The paper focuses on apparent exceptions to Hurford's generalization on disjunctions of the type *John was born in Paris or at least in France* and *John was born in France or even in Paris.* It argues that such cases are disjunctions of speech acts of different strength. For this reason, the assertion with the stronger proposition does not license the other one, nor vice versa, hence Hurford's generalization is not violated. The paper raises the issues of disjunctions of speech acts and of assertive strength, and also reconsiders apparent exceptions of the type *Some or all of the children are sick.*

1 Hurford's Generalization and its Exceptions

Fifty years ago, Hurford (1974) observed that disjunctions as in (1) are infelicitous, and proposed that "the joining of two sentences by *or* is unacceptable if one sentence entails the other" (p. 410).

(1) *#John is an American or a Californian.*

This generalization can be derived from more general pragmatic principles, like the Maxim of Manner (Grice 1975), cf. Meyer 2014 for "Efficiency": The meaning of (1) is already expressed by the shorter *John is an American*, as it is known that everyone who is Californian also is American,.

Gazdar (1979: 81), pointing out exceptions like (2), proposed that Hurford's generalization does not apply when the entailed sentence would potentially implicate the negation of the entailing sentence (as *some were there* would implicate 'not all were there').

(2) *Some or all of them were there.*

Singh (2008) and Chierchia et al. (2009, 2012) argued that cases like (2) do not constitute exceptions to Hurford's generalization because the first disjunct actually is strengthened by a local scalar implicature that generates an exhaustive meaning, 'only some were there'; as a consequence, it is not entailed by the second conjunct, *all were there.* Cases like (2) form the core argument for such implicatures, often associated with a silent operator EXH (cf. Katzir & Singh 2014, Fox & Spector 2018, Hénot-Mortier 2023).

Below I will offer a different proposal. It starts with an observation by Simons (2001) and by Singh (2008), which has generated less attention as a potential exception to Hurford's generalization: While (3)(a) is unacceptable, as predicted by Hurford (1974), (b) is fine.

(3) a. *#John was born in Paris or in France.*
b. *John was born in Paris or at least in France.*

I will proceed as follows. Section 2 discusses existing accounts of the contrast illustrated in (3). Section 3 proposes a new account, according to which the assertion *John was born in Paris* does not conversationally entail *John was born at least in France*, because while the latter is a weaker proposition, it is a stronger assertion. Section 4 returns to cases like (2) and proposes an analysis

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in terms of weak and strong assertions as well. Section 5 considers ways to implement disjunctions of speech acts and assertions of different strength, and Section 6 concludes.

2 "At least" Exceptions: Previous Accounts

There are a few existing attempts to explain apparent exceptions to Hurford's generalization of the *at least* type exemplified by (3)(b). We will discuss them in this section.

Singh (2008) suggested, in a footnote, that the second disjunct "retracts" the first one. He states that the sentence comes with a "comma" intonation, i.e. is realized by two prosodic phrases, (*John was born in Paris*) (*or at least in France*). There are problems with this suggestion. First, it is unclear why this intonation is not able to salvage example (3)(a). Second, the comma intonation does not seem to be required for (3)(b) to be acceptable. Third, true retractions as illustrated in (4)(a) cannot be applied to the case at hand, witness the oddity of (4)(b).

(4) a. *John was born in Paris, or rather in Lyon.*
b. *#John was born in Paris, or rather in France.*

Westera (2019) argues that *at least* in (3)(b) indicates that the two disjuncts have different value on some scale and relates the difference to the Question under Discussion (QuD). Building on this work, Zhang (2022) suggests that the QuD in (3)(b) is changed from 'In which city was John born?' to 'In which state was John born?'. As the disjuncts answer different QuDs, they do not stand in an entailment relation to each other. I think that an explanation along this line is problematic, as we can fix the QuD explicitly, and still can recreate the contrast in (3):

(5) A: *In which city was John born?*
B: *He was born in Paris or #in a city in France / at least in a city in France.*

According to Simons (2001), the individual clauses in a regular disjunction should give distinct, non-overlapping answers to the same QuD. For disjunctions with the second disjunct marked by *rather* or *at least*, Simons argues that they have a "metalinguistic" nature and "indicate a particular relation between speech acts" in which "the second 'disjunct' is to fill the same 'discourse slot' as the first, and thus in some sense replaces that act" (p. 613). The second disjunct requires some "qualifying expression" such as "*at least, rather, even, I should say* and *should I say?*" Simons observes that such disjunctions do not allow for *either—or* constructions (6)(a), that they are not symmetric (b), and that *or* can be eliminated (c):

(6) a. *#Either George lives in London, or at least he lives somewhere in England.*
b. *#George lives (at least) somewhere in England, or in London.*
c. *Georges lives in London. At least, he lives somewhere in England.*

The proposal that I will develop is inspired by Simon's impression that the disjunctions combine different speech acts. I will propose that (3)(b) is felicitous because the disjunction can scope over two assertions, where the first assertion does not license the second, as the second is a stronger assertion, as indicated by *at least*. Without *at least* as in (1), the assertions are of the same strength; consequently the first disjunct licenses the second one, and the configuration is ruled out by the pragmatic factors that are responsible for Hurford's generalization.

3 Disjunction of Assertions and Assertive Strength

I propose that disjunctions that appears within assertions can be read as disjunctions of assertions. I assume here the commitment account of assertions (cf. Brandom 1994, Krifka 2015, Geurts 2019, Shapiro 2020) and represent the assertion by speaker S of proposition Φ as "S ⊢ Φ", that S vouches for the truth of Φ. Hence, I propose that the assertion by S in (7)(a) has, in addition to the propositional assertion (7)(b), a reading with a disjunction on the speech act level, (7)(c).

(7) a. S: *John was born in Paris or in Lyon.*
b. S ⊢ ['John was born in Paris' ∨ 'John was born in Lyon']
c. [S ⊢ 'John was born in Paris'] ∨ [S ⊢ 'John was born in Lyon']

Readings involving disjunctions over speech acts are often disfavored because they lead to ambiguous discourse states. After (7)(c), speaker S is either committed to 'John was born in Paris' or to 'John was born in Lyon', a commitment that is difficult to keep track of in discourse. Therefore, disjunctions of speech acts were supposed to be ruled out. For example, Krifka (2001) derived the fact that quantification into constituent questions, as in *Which dish did every guest bring to the party?* is possible only with universal quantifiers like *every guest*, i.e. with generalized conjunctions, but not with other quantifiers like *most guests* that are also based on disjunctions. For (7)(a), this means that the reading with a proposition-scope disjunction (7)(b) is strongly favored, as this results in a non-ambiguous commitment of S to a (disjunctive) proposition.

Hurford's generalization, originally based on entailment between propositions, can be recast for disjunctions of assertions. A speaker that commits to a proposition Φ is also obliged to commit to a proposition Ψ, if Φ entails Ψ in a transparent manner (cf. commitment inheritance or entitlement, Brandom 1994). Hence the commitment to Ψ is redundant, which explains the oddness of (1) and (3)(a). This observation may seem irrelevant, if disjunctions of assertions are disfavored for the reason given above. But now we can develop an argument why (3)(b) is good.

The crucial property of (3)(b) is that the second disjunct contains the modifier *at least.* Such "superlative" modifiers have been argued to be interpreted not on the propositional level, but on the level of epistemic operators (Geurts & Nouwen 2007) or speech acts (Cohen & Krifka 2014). Assuming that *at least* is focus-sensitive and hence relates to alternatives, I propose that it is an assertion modifier that results in a commitment to the asserted proposition that is higher than the commitment to the alternative propositions. In disjoint assertions of the type (3)(b), the proposition of the first disjunct is an explicitly mentioned alternative to the proposition of the second disjunct. 'John was born in France' is logically weaker than 'John was born in Paris', and for this reason can be committed to and hence asserted more strongly. (Note that there are cases that are not based on logical entailment but on argumentative weight, as in *Mary is a full professor or at least an asscociate professor*, cf. Ducrot 1973). Thus, the reading of (3)(b) in which the disjunction scopes over the commitment has the following configuration:

(8) S: [S ⊢ 'John was born in Paris'] ∨ [S $\vdash_{\text{strong}}$ 'John was born in France']

The subscript indicates that the second commitment is stronger than the first. That speech acts may come with various strengths has been proposed before, e.g. Searle & Vanderveken (1986), who include a 5-level strength parameter, and Greenberg & Wolf (2018), who state that assertions come with different degrees. Different strengths of assertions have typically been discussed in terms of mitigation of assertions, cf. McDowell (1987), Sbisà (2001), Incurvati & Schlöder (2019). We make the plausible assumption that S⊢Φ does not oblige S to S$\vdash_{\text{strong}}$Φ; also, S⊢Φ does not oblige S to S$\vdash_{\text{strong}}$Ψ even if Φ transparently entails Ψ. Note that under this analysis, cases like (3)(b) are predicted to be felicitous by Hurford's generalization.

We predict that other modifiers of the strength of assertive commitments have similar effects. *Definitely* and *in any case* occur with the less specific proposition and should be classified as strengtheners, like *at least*, cf. (9)(a). This also holds for *certainly*, which makes the assertion of a proposition easier to defend, hence assertable under more circumstances (cf. Lassiter 2016, Yatsushiro et al. 2021). Assertive commitments with different strength do not require a weakening of the proposition but can also involve hedging by weakening the evidential backup, cf. (9)(b).

(9) a. *John was born in Paris or definitely / in any case / certainly in France.*
b. *John was born in Paris, or at least he told me so.*

Simons (2011), Westera (2019) and Zhang (2022) pointed out that the particle *even* can also lead to apparent exemptions from Hurford's generalization, cf. (10)(a). In contrast to *at least*, *even* occurs with the more specific proposition, which I take to flag a weaker commitment, leading to the analysis (10)(b). Classifying the second assertion as weaker may seem counterintuitive, as *even* seems to mark extreme alternatives. However, this applies to the proposition in comparison with its alternatives, and not to the assertive strength itself (cf. the fact that *perhaps* and *even* happily cooccur).

(10) a. *John was born in France or even in Paris.*
b. S $\vdash$ 'John was born in France' $\vee$ S $\vdash_{\text{weak}}$ 'John was born in Paris'

The order of disjuncts is relevant; assertions like *#John was born at least in France or in Paris* and *#John was born even in Paris or in France* are infelicitous. This order-sensitivity (cf. also Tomioka 2021) holds for focus-sensitive operators in general, as explicitly mentioned alternatives have to be mentioned before the operator in order to be understood as a relevant alternative (e.g. *I met John and even Bill* vs. *#I met even Bill and John*).

Operators like *at least* and *even* also occur in disjunctions of other speech acts than assertions (cf. Ciardelli & Roelofsen 2017 for questions). They can abide by Hurford's generalization due to similar asymmetries as with assertions. With questions like *Was John born in Paris or at least in France?* the second disjunct is a more likely answer. With imperatives like *Go to Paris or at least to France!* the second disjunct is a stronger command. We observe a similar phenomenon in propositional attitude contexts as in (11), where we have, in addition to a commitment-related reading (i), a reading that involves different strengths of belief (ii).

(11) *Mary believes that John was born in Paris or at least in France.*
i. [S $\vdash$ 'M BEL J was born in Paris'] $\vee$ [S $\vdash_{\text{strong}}$ 'M BEL J was born in France']
ii. S $\vdash$ ['M BEL J was born in Paris' $\vee$ 'M $\text{BEL}_{\text{strong}}$ J was born in France']

In interpretation (ii), S vouches for the proposition that Mary has a belief of regular strength that John was born in Paris, and a stronger belief that John was born in France. This description of Mary's belief is not redundant, as we cannot infer from Mary's regular belief in the first proposition to Mary's strong belief in the second.

In concluding this section, I want to point out that in all these cases of apparent violations to Hurford's generalization, there is an additional pragmatic reason for the expression of two disjuncts. With presenting two disjuncts, sentences like like (3)(a) and (9)(a) introduce two concepts (Paris and France) and draw attention to two propositions (that John was born in Paris, that John was born in France). This non-truthconditional aspect in Hurford disjunctions was pointed out by Westera (2019). However, notice that this is not sufficient to explain why apparently redundant disjunctions are pragmatically acceptable, as we would then predict that cases like (3)(a) should be acceptable as well.

4 "Some/All" Exceptions: An Alternative Account

For the apparent exceptions to Hurford's generalization considered so far, it was essential that one disjunct (the second) had an explicit marker, like *at least* or *even*, that arguably indicated a different strength from the other (the first). Disjunctions without this marker, as in (3)(a), do not simply coerce the second disjunct into a stronger or weaker reading.

Turning to apparent exceptions of the *some or all* type like (2) and (12)(a), we see that such explicit markers are not necessary; we do not have to insert *only* before *all* in (12). In fact, there is a slight degradation with overt *only*; on Google Ngrams the string *only some or all* occurs 4 orders of magnitude less frequently than *some or all*, and seems largely confined to texts in logic, computer science, and linguistics.

(12) a. *John read some (most, several) or all novels by Dickens.*
b. *John read three or seven novels by Dickens.*
c. *John read 'Oliver Twist' or 'Bleak House', or both of these novels.*

We observe that exceptions of the *some or all* type can be reproduced with other items, in particular number words as in (12)(b); note that the proposition 'John read 7 novels by Dickens' entails the proposition 'John read 3 novels by Dickens'. (Cases like *John read three or four novels by Dickens*, spoken with one prosodic phrase over the disjunction, have to be treated separately, as approximate number words).

There are several proposals to explain apparent exceptions to Hurford's generalization of the *some or all* type (cf. Marty & Romoli 2022 for a critical overview). I would like to point out that these cases can be subsumed under the exceptions involving different assertive strengths if we assume that the second disjunct makes a weaker assertion, as in (13). This is similar to our analysis of cases with *even* as in (10). Note that we could insert *even* before *some* and *seven* in (12)(a,b); in fact, on Google Ngrams *some or even all* only occurs only 2 orders of magnitude less frequently than *some or all*.

(13) a. S $\vdash$ 'John read some of the novels by D' $\vee$ S $\vdash_{\text{weak}}$ 'John read all of the novels by D'
b. S $\vdash$ 'John read 3 novels by D' $\vee$ S $\vdash_{\text{weak}}$ 'John read 7 novels by D'
c. S $\vdash$ 'John read OT or BH' $\vee$ S $\vdash_{\text{weak}}$ 'John read OT and BT'

The question arises why cases like (12) do not require an explicit marker of assertive strength of the second disjunct, in contrast to (3), (9) and (10). A plausible reason is that these cases involve alternatives that are derived from the structure of the lexicon, or Horn scales. Hence purely linguistic competence will result in the recognition of differences in assertive strength. An additional difference is that quantifiers like *some, all*, numerals like *three, seven* and Boolean connectives like *or, and* [*both*] form total (linear) relations, in contrast to part relations or hyponymy relations like *Paris, France* or *beetle, insect*. The lexical nature of the alternatives, perhaps in addition to their linear semantic order, reduces the need to mark the non-default strength of the assertion explicitly. Merin (2003), without referring to Hurford's generalization explicitly, discusses the use of *if not* in such cases, as in *some if not all* and *three if not four*, and develops an analysis in terms of act-based relevance similar to the one proposed here.

The two competing analyses both make use of the notion of alternatives; one understands *some or all* as 'only some or all', the other as 'some or even all'. There is a structural difference: In the first paraphrase, the alternative-sensitive operator, *only* or EXH, occurs before the disjunct that mentions the alternative; in the second, the operator *even* occurs after the disjunct that mentions the alternative. We have seen that explicitly mentioned alternatives should occur before the alternative-sensitive operator; this is a further argument for the analysis proposed here.

5 Implementing Speech Act Strength and Disjunction

In sections 3 and 4 I sketched a theoretical account from which apparent exceptions to Hurford's generalization lose their exceptional status. It makes two essential assumptions: We can disjoin speech acts, and we have assertions of different strength. In the remainder of this short paper, I will point to research that show how these notions can be formally implemented and tested.

Disjunctions of speech acts can be handled in the framework of Commitment Spaces (CS) introduced in Krifka (2015), where it is central for alternative questions and constituent questions. The CS framework comprises the common ground at a particular state of conversation, the root, together with its possible continuations. The root is ideally a single commitment state, but it can also be ambiguous, with more than one commitment state (cf. Kamali & Krifka 2020). Update of the root {c} with a commitment S⊢Φ to {c + S⊢Φ} triggers further update with the asserted proposition Φ to {c + S⊢Φ + Φ} in case the addressee does not prevent this (cf. Krifka 2022). Update of a CS with root {c} with a disjunction of assertions, like S⊢Φ ∨ S⊢Ψ, results in an ambiguous root {c + S⊢Φ, c + S⊢Ψ}, which should be avoided, as it leads to an ambiguous discourse state at which it is unclear whether Φ or Ψ can be assumed. However, in the case of disjunctions like (8), of the form S⊢Φ ∨ S$\vdash_{\text{strong}}$Ψ, where Φ ⇒ Ψ, the resulting discourse state allows for the introduction of the more general proposition Ψ in any case, as it is supported by both S$\vdash_{\text{strong}}$Ψ and, indirectly, by S⊢Φ. Hence the resulting discourse state is considerably less ambiguous now, as it allows for assuming Ψ in any case. In addition, there is partial and weaker support for Φ. Furthermore, the introduction of Φ as a propositional discourse referent makes this proposition salient (in addition to Ψ) so that it can be taken up in subsequent (cf. Westera 2019).

The cases we have considered all involved disjunctions of sub-clausal constituents, such as *in Paris or at least in France* for (3)(b), which appears at odds with the idea that they indicate disjunctions of assertions. However, we can assume that redundant material is not phonologically realized, hence (3)(b) is derived by deletion, *John was born in Paris or ~~John was born~~ at least in France.* Alternatively, we can explore the idea that there is an interpretation to the disjunctive phrase *in Paris or at least in France* that takes a speech act with a trace as an argument, like λxλc[c + S⊢'John was born in x']. Such quantifications into speech acts have been proposed for alternative questions and constituent questions in Krifka (2015).

I want to raise, as a final point, the notion of strength. In the commitment account of assertions, assertive strength can be operationalized by the level of warrant with which the speaker backs up a commitment to the asserted proposition. This idea was introduced by Ch. S. Peirce in terms of the "esteem", or reputation, of the speaker that may be affected if the asserted proposition turns out to be false and the speaker does not have a sufficient excuse (cf. Tuzet 2006). In general, stronger assertions result in an increased threat of one's reputation than weaker ones, where strength can be mitigated or increased by epistemic and evidential operators and by direct modifications of commitments (cf. Krifka & Modarresi 2023). In accounts of assertions that work with the notion of expressed beliefs, one would have to assume different belief strengths.

6 Conclusion

In conclusion, we propose a novel explanation of exceptions to Hurford's generalization like (3)(b) that have not been given a satisfying explanation so far, and tentatively extend this to better-known exceptions (2) that have been explained differently. Our approach also throws light on the possible scope of disjunction over speech acts and the role of speech acts in general. It also provides new evidence for the graded nature of assertive commitments and the mitigation and strengthening of speech acts.

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