When it's better to be *more hungry* than *hungrier*: Optionality in Comparative Production

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Summary

Are grammatical options (such as the dative alternation) adaptive? If so, do speakers choose between options to help their listeners? The present work explores these questions by looking at the alternation between *-er* and *more* variants that occurs for some comparative adjectives, e.g., *angrier ~ more angry*. Corpus data (Mondorf, 2003) suggest that use of the *more* variant is tied to processing load: in complex environments, the *more* variant is more common. Corpus evidence, however, is ill-suited to making processing claims, and cannot answer whether the relevant processing demands are those of the speaker or of the listener. We address these questions by having speakers produce sentences with comparatives under different load conditions, and in both communicative and non-communicative settings. Speakers tended to use the *more* variant more often when their sentences were syntactically more complex, or when they used an adjective sense that was abstract. However, an external verbal load did not affect *more* production. Additionally, the pattern of *more* use did not differ based on communicative environment, suggesting that speakers do not strategically use the *more* variant to assist listeners (although listeners may still derive benefits from its use).

Corpus Data (Mondorf, 2003)

For adjectives that vary in comparative form (e.g., *riskier ~ more risky*), use of the *more* variant is more common in syntactically complex environments (with a *to*+V complement, as in (1)) than in syntactically simple environments (as in (2)).

(1) Chasing tigers is *more risky* <u>to do</u> than chasing bunnies.
(2) Chasing tigers is *riskier* than chasing bunnies.

Other types of complexity may also be relevant. For example, the *more* variant may be more common with semantically complex (abstract) uses of adjectives like (3), than with semantically simpler (concrete) uses like (4):
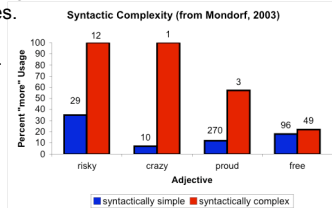
(3) The Chargers winning the Super Bowl is a *more remote* possibility than us winning a Nobel Prize.
(4) From New York, San Diego is *remoter* than Hoboken.

Mondorf's (2003) Claims:
• Increased use of *more* in complex environments is processing-based (not stylistic).
• Speakers use *more* to help listeners by simplifying parsing, and by warning of upcoming complexity.

But...
• these data come from a corpus that is mostly written (only 1% spoken).
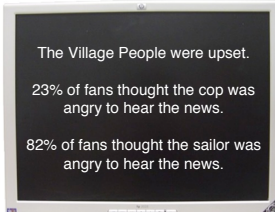• conclusions are limited by low token frequencies (see numbers above bars).

Questions

1. Do speakers really choose between *more* and *-er* based on processing demands?
2. What kind(s) of complexity are relevant to this choice?
3. Are speakers' choices based on communicative, listener-based factors?
4. How does *more* help mitigate processing demands?

Experiment 1: Methods

Complexity × Manipulation × Communicative Environment
(simple vs. complex)   (syntactic vs. semantic)   (listener vs. no listener)

The sailor was *angrier / more angry* to hear the news than the cop.

Syntactic manipulation:
• **Simple**: The sailor was *angrier / more angry* than the cop.
• **Complex**: The sailor was *angrier / more angry* to hear the news than the cop.
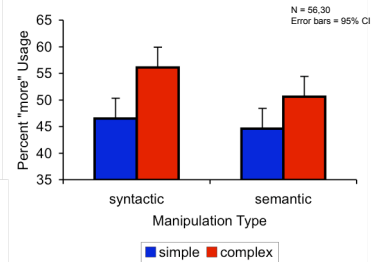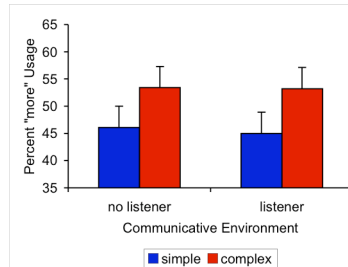
Semantic manipulation:
• **Simple** (concrete): Golden Retrievers are *friendlier / more friendly* than Pit Bulls.
• **Complex** (abstract): Macs are *friendlier / more friendly* than PCs.

(note that the concrete vs. abstract uses were determined in a prior norming study)

Experiment 1: Results

Speakers do produce the *more* variant more often in complex environments.

Both syntactic complexity (sentences with *to*+V complements) and semantic complexity (abstract adjective senses) led to increased *more* use.

The effect of complexity was not more pronounced in communicative than in non-communicative environments, suggesting that speakers do not use *more* to assist their addressees.
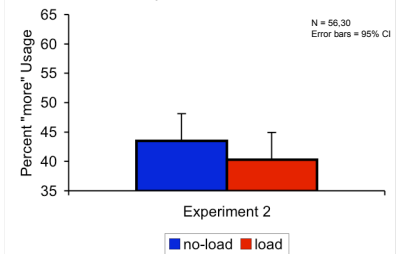
Experiment 2

Is the effect of complexity general to *any* type of processing difficulty? Or is it specific to difficulties *internal* to sentence production (e.g. increased processing loads associated with generating more complex syntactic structure, or more abstract adjective senses)?

In Experiment 2, speakers produced the simple sentences from Experiment 1, while sometimes holding an unrelated word in memory (an *external load*).

Speakers were no more likely to produce the *more* variant when under an external memory load than when not under a load.

The choice between morphological alternatives is influenced only by sentence-internal factors.
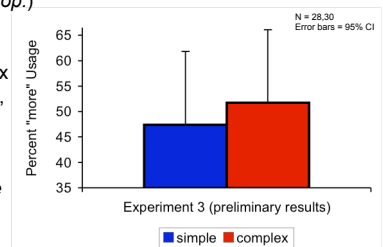

Experiment 3: Why is *more* useful?

Speakers might choose the *more* variant because it is the grammatical default, to avoid morphological affixation, or to buy time for further processing.

Experiment 3 tests the "buy time" hypothesis by having speakers produce simple and complex comparative sentences in time with a metronome (e.g., *The sai-lor was ang-ri-er / more-ang-ry than the cop.*)

Preliminary results: speakers do not preferentially produce *more* in complex environments when they speak slowly, and when *more* does not provide additional time.

This suggests that speakers use *more* to allow more time for planning the production of complex sentences.

Conclusions

• Speakers choose between comparative alternatives due to their own processing considerations, not to assist their addressees (Exp. 1).

• Complexity internal to the production process leads to increased *more* usage, but external processing factors do not affect the choice of comparative form (Exp. 2).

• The *more* variant helps speakers by buying time for further processing (Exp. 3).