Representing Focus Scoping over New

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Alternative semantics

3 ~ 2 licensed by: Justin ate the last piece of cake being a proposition of the form $y$ ate the last piece of cake.
/~F marks the locus, scope and antecedent for focus
Entailment semantics/Givenness semantics

3 \sim 2 \text{ licensed by: somebody ate the last piece of cake entails some entity ate the last piece of cake.}
~ not scoping over F

7 ~ 5 licensed by: ate the last piece of cake = ate the last piece of cake (alternative semantics) or somebody ate the last piece of cake entails some entity ate the last piece of cake (entailment semantics).
the last piece of cake = the last piece of cake.
Phrases with $\sim$ not scoping over F ...

... often surface as reduced/destressed. This is part of the focus system.
Alternative Focus vs. New according to Katz and Selkirk 2011

... for instance, they mostly store mines\textsubscript{F} in Idaho. speech/katz/07aMpc12.wav
... for instance, they mostly store mines in Idaho\textsubscript{F}. speech/katz/07bMpc21.wav

Katz and Selkirk (2011): F gets realized differently than new, with greater pitch range and duration.

Data from Jonah Katz and Lisa Selkirk
Since all nodes are new ...

\[ 
\begin{array}{c}
1 \\
2 & 3_F \\
4 & 6_F \\
\text{store} & \text{mines} & \text{in Idaho}
\end{array}
\]

... projecting F is not distinguished.
Really every node is F-marked.
Prosody of farmer sentences

[Canadian$_F$ farmers]$_1$$\sim$2 admire [American$_F$ farmers]$_2$$\sim$1.

Roberts 1996/2012

The two tokens of farmer sound different, with the first one prosodically subordinate to Canadian, but not reduced. So the first F is not alternative-focus at all.
Scott Hollis

That was Phil Woods on the alto\textsubscript{F} saxophone.

Hope to see you again next\textsubscript{F} Friday.
Focus and reduction in comparatives

\[ I_F \text{ dance the tango} \] better than \[ y_0u_F \text{ dance the tango} \]

As in farmer sentences:
\[ I_F \text{ dance the tango} \] \(2 \sim 3\) better than \[ y_0u_F \text{ dance the tango} \] \(3 \sim 2\)
With preceding antecedent ...

I’m an expert at [dancing tango]₁. Hah! I bet [I₁ F [VP dance the tango]₁] better than you!

The gray part is reduced because it is redundant relative to the first VP, as expressed by ₁.
Out of the blue ...

I should do the next part.
Why? [IF [VP dance the tango]~1] better than you!

Without a preceding antecedent, destressing of VP *dance the tango* seems not to be licensed, even though focus on the main-clause subject is licensed.

default: speech/tango/tango1.wav
destressed: speech/tango/tango1.wav
Focus/new vs. Focus/given in Japanese
M. Sugahara (2003)

Dialogue FN: Word 1 = FOC, Word 2 = new
Speaker: Tooyoo-ya Oosaka-no yoona hanzai-no tahatsusuru tóshi-dewanaku,
Tokyo-and Osaka like high crime rate city-Not,

\text{tian-no yóikotode sirareru, ano [YOKOHAMA-NO]_w_1}

safety-Gen good known, that YOKOHAMA-GEN,

\text {[yunyuu-daikooya-de]_w_2 maneejaa-no}

importing-agency-at manager-Gen

\text {yuujin-ga moderu-ni mayaku-o uttarasiiyo.}

friend-Nom model-to marijuana-Acc sold-I heard.

"I've heard that in an (office of) importing agency of YOKOHAMA, the
city known to be safe unlike those cities like Osaka or Tokyo, which are
notorious for their high crime rate, a friend of the manager (of that
importing agency) sold marijuana to a model."
While it is Tokyo and Osaka that are known for crime, this week the manager of a [Yokohama F [importing agency]] was arrested for selling marijuana to a model.
Sugahara: for AA case, difference in pitch scaling in absence of a difference in phonological phrasing.
Recursive alternative semantics

Let \( h \) be the ordinary semantic operation for a node of the form \([\alpha\beta]\), e.g. leftward function application or rightward function application.

\[
\llbracket [\alpha\beta] \rrbracket^f = \{ h(a, b) | a \in \llbracket \alpha \rrbracket^f \land b \in \llbracket \beta \rrbracket^f \}
\]

Hamblin 1973
Rooth 1985

Alternatives project automatically, independent of syntactic features.
The problem again

The focus syntax doesn’t express that the F on *next* projects while the F on *Friday* doesn’t.
Local information-structural operators

Project alternatives only along a “spine” of 1’s.
These 1’s also have a phonological interpretation of relative prominence—a local Stress-F.

M. Rooth and H. Dong (application to in situ WH and second occurrence focus).
Semantic interpretation of information-structural operators

Let $h$ be the ordinary semantic operation for a node of the form $[\pi \sigma \alpha \beta]$, e.g. leftward function application or rightward function application.

$$[[10\alpha\beta]]^f = \{ h(a, [\beta]^o) | a \in [\alpha]^f \}$$
$$[[01\alpha\beta]]^f = \{ h([\alpha]^o, b) | b \in [\beta]^f \}$$
$$[[11\alpha\beta]]^f = \{ h(a, b) | a \in [\alpha]^f \land b \in [\beta]^f \}$$
$$[[00\alpha\beta]]^f = \{ h([\alpha]^o, [\beta]^o) \}$$

$$[[\pi \sigma \alpha \beta]]^o = h([\alpha]^o, [\beta]^o)$$

Difference from Hamblin: when branch is marked 0, ordinary semantic value is plugged in, instead of selecting an element from the alternative set.
Projecting F in all new
Each F projection path has an antecedent at the top, \( \sim k \)
∼ x also without F-projection tail

Focus over given
Remaining vertices are non-projecting F

Focus over new

~k

nyuujin-ga

maneeja-no

Yokohama-no

nyunyuu-daikooya-de

Focus over new
Formally no F

... at the base of F-projection paths, or on novelty F.
Local stress F

Given a vertex with children $a, b$ where $a$ is marked for F-projection and $b$ is not, some grid column in the realization of $a$ exceeds every grid column in the realization of $b$.
Incremental improvement over standard stress F

Given a vertex with children $a,b$ where $a$ is marked for F-projection and $b$ is not, some grid column in the realization of $a$ exceeds every grid column in the realization of $b$. Let $\beta$ be an F-marked phrase with scope $\phi$. Then the strongest stress in the phonological realization of $\phi$ falls within the realization of $\beta$.

... because there’s no global reference to F-marked phrase, the corresponding F scope, and their phonological realizations.
Both of these obey local stress F

focus over given

focus over new
Phrase F
X is bears ~, or the realization of X dominates an accentual phrase.

*Accentual phrase
Lower-ranked *Accentual phrase provides pressure towards de-phrasing for ~ k.
Summary

1. \( \sim k \) with an optional projection tail replaces the \( \sim k/F \) grammar for focus.

2. Alternatives project only along projection paths, they don’t project by default.

3. Licensing of \( \sim k \) using alternative semantics or entailment semantics.

4. Anaphoric de-stressing is in the same system as projecting focus.

5. Phonology uses local Stress F, plus Phrase F and *Accentual phrase.