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GLOW Newsletter   **GLOW Bureau**

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GLOW Newsletter & Conference Handbook

CONTENTS

INTRODUCTION

Welcome to the 62nd GLOW Newsletter, and to the 32nd GLOW Conference. The former, in keeping with Spring newsletter tradition, is designed to accompany the latter, and constitutes a comprehensive guide to attending this year's conference in Nantes from April 15th to 18th.

Practical information can be found at the start of the newsletter, from page 4 onwards. This is then followed, from page 10, by the programmes for the main colloquium and all three workshops. Finally, beginning on page 17, the abstracts for all the non-invited talks are included, in strictly alphabetical order. The invited talks this year are being given by Danny Fox, Gillian Ramchand and Paul Smolensky (main colloquium), Colin Phillips (acquisition workshop), and Thomas Ede Zimmermann (semantics workshop).

Two differences from recent years might strike you in perusing the programmes and abstracts contained herein. The first is that the main colloquium is themed, with all the talks relating to the topic "On the architecture of the grammar: Y, if and how". This means that there are no parallel sessions for syntax and phonology this year; instead, we have a single three-day session on a common topic which will hopefully promote the interface between syntacticians and phonologists, and everyone else besides.

The second difference is that, as proposed and approved at last year's business meeting, the colloquium abstracts now appear unshorn of their references, with third pages intact (workshop abstracts, however, remain truncated). We hope that the inclusion of reference pages will add to the handiness of the newsletter; your feedback on this would be welcome, of course, as would be any other suggestions you might have regarding format or content.

The next newsletter, being a Fall edition, will be purely electronic, so check your spam folders around September time.

Marc Richards

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CHANGES TO THE BOARD

The current composition of the GLOW Board is given in the table below.

The complete **GLOW** Board for 2008-2009

Congress President	Hamida Demirdache	2008-2009
Chairperson	Artemis Alexiadou	2007-2009
Secretary	Uli Sauerland	2007-2009
Treasurer	Maaike Schoorlemmer	2007-2009
Newsletter Editor	Marc Richards	2008-2010
Journal Editor	Harry van der Hulst	
Website Manager	Gunnar Hrafn Hrafnbjargarson	2008-2010
Member A	Anna Cardinaletti	2008-2010
Member B	Lida Veselovska	2007-2009
Member C	Viola Schmitt	2007-2009
Member D	Ricardo Bermúdez-Otero	2008-2010
Advisory member 1	Henk van Riemsdijk	
Advisory member 2	Martin Everaert	
Co-opted member (Phonology)	Marc van Oostendorp	2007-2009

Every year, several positions come up for renewal. Nominations are normally sent directly to the Chair, who accepts until January 1st. The GLOW Board wishes to remind GLOW members to be thinking about who they would like to represent them on the board in the future, and to nominate those people in good time.

For the coming year, the Board has made or received the following nominations:

- Bozena Rozwadowska (Congress President)
- Sjef Barbiers (Chairperson)
- Jeroen van Craenenbroeck (Secretary)
- Maaike Schoorlemmer (re-election for Treasurer)
- Lida Veselovska (re-election for Member B)
- Viola Schmitt (re-election for Member C)
- Tobias Scheer (Co-opted Member for Phonology)

WELCOME TO GLOW 32, NANTES!

PRACTICAL INFORMATION

REGISTRATION

Registration for the workshops on April 15 will open at 8h30 in the Censive building, on the Tertre Campus.

Registration for the (workshop +) main colloquium will start on Wednesday 15th April during the Reception (18h00-21h00) at the Cité des Congrès (*Foyer Haut 200*).

Registration will also be available on April 16 at the Cité des Congrès, from 8h30. The registration desk will be located in the *Foyer Haut 200.*

GLOW membership, which is necessary for registration, can also be purchased at the registration desk. Please note that after April 3rd, late registration fees apply.

REGISTRATION FEES

REGULAR REGISTRATION (BEFORE APRIL 3RD)			LATE REGISTRATION (AFTER APRIL 3RD)		
	Faculty	**Student**		**Faculty**	**Student**
Workshops	free	free	**Workshops**	10€	10€
Main session	70€	30€	**Main session**	80€	40€
Main session + workshops	70€	30€	**Main session + workshops**	80€	40€

For more information and online registration (starting March 1st), please consult the conference website: http://www.lettres.univ-nantes.fr/lling/glow32/

TRAVEL INFORMATION

Nantes is a national and international destination at the heart of a highly efficient transportation network, with excellent train and airplane connections.

By plane
Nantes-Atlantique airport (NTE), the first air travel hub in Western France with 2 million passengers per year, offers 67 domestic and international destinations.
For flight information, including a map of cities air-connected to nantes, please check the English version of the Nantes-Atlantique Airport website at
http://www.nantes.aeroport.fr/ANA-English/Page/Default.aspx

It takes 30 minutes to get from the airport to the centre of Nantes by the shuttle bus TAN Air. The shuttle has a timetable adapted to scheduled flights (available on the TAN website http://www.tan.fr/), with no extra charge for luggage, and stops at the city's main points: the city centre (Place du Commerce), the Cité des Congrès, and

the SNCF railway station, South Entrance. You can buy your ticket (6.20 euros) from the shuttle driver or online on the TAN website.

The Tan Air ticket is valid throughout the TAN network for one hour from the moment you stamp it (in the tram).

By train

Nantes has excellent railway connections with the rest of France. Every day, 21 TGV high-speed trains (every half hour during peak hours) connect Nantes with Paris in 2 hours, and with Lyon and Lille in 4 hours. There are also several daily TGV connections (2h50) with Roissy Charles de Gaulle Airport.

Tickets can be booked and purchased online at http://www.tgv-europe.com/en/home/. You can print your ticket yourself or you can retrieve it in a French railway station with the credit card that was used to pay for it. If you are younger than 26 or older than 60 years, you are entitled to a reduced fare.

Please note that Nantes railway station has 2 exits:
* Exit North: tramway to the city centre.
* Exit South: pedestrian access to Cité des Congrès Nantes (Nantes International Convention Centre), the conference venue.

ACCOMMODATION

It is easy to find accommodation in Nantes, as the city has a vast choice of hotels. For a full overview of possible accommodation arrangements, you can check the Nantes Métropole Tourist Office website
http://www.nantes-tourisme.com/en/accommodation/accommodation/

We recommend picking a hotel that is in the city center. A list of hotels is given on the conference website (http://www.lettres.univ-nantes.fr/lling/glow32/; alternatively: http://glow.uit.no/index.php?page=GLOW32), with information on the prices and locations relative to the conference venue (*Cité des Congrès*), as well as websites for online booking (either directly through the hotel website or via the Tourist Office).

VENUES AND MAPS

**Workshops – Université de Nantes, Campus Tertre, Bâtiment de la Censive**

The GLOW 32 workshops (April 15) will be held at the University of Nantes, Campus Tertre, Bâtiment de la Censive. From the city centre, the campus is easily reachable by tram. Take Line 2, direction Orvault Grand-Val, tram stop *Les Facultés*.

You can use the following map to get to the Censive building (number 2 on the map) from the tram stop (in green on the map).
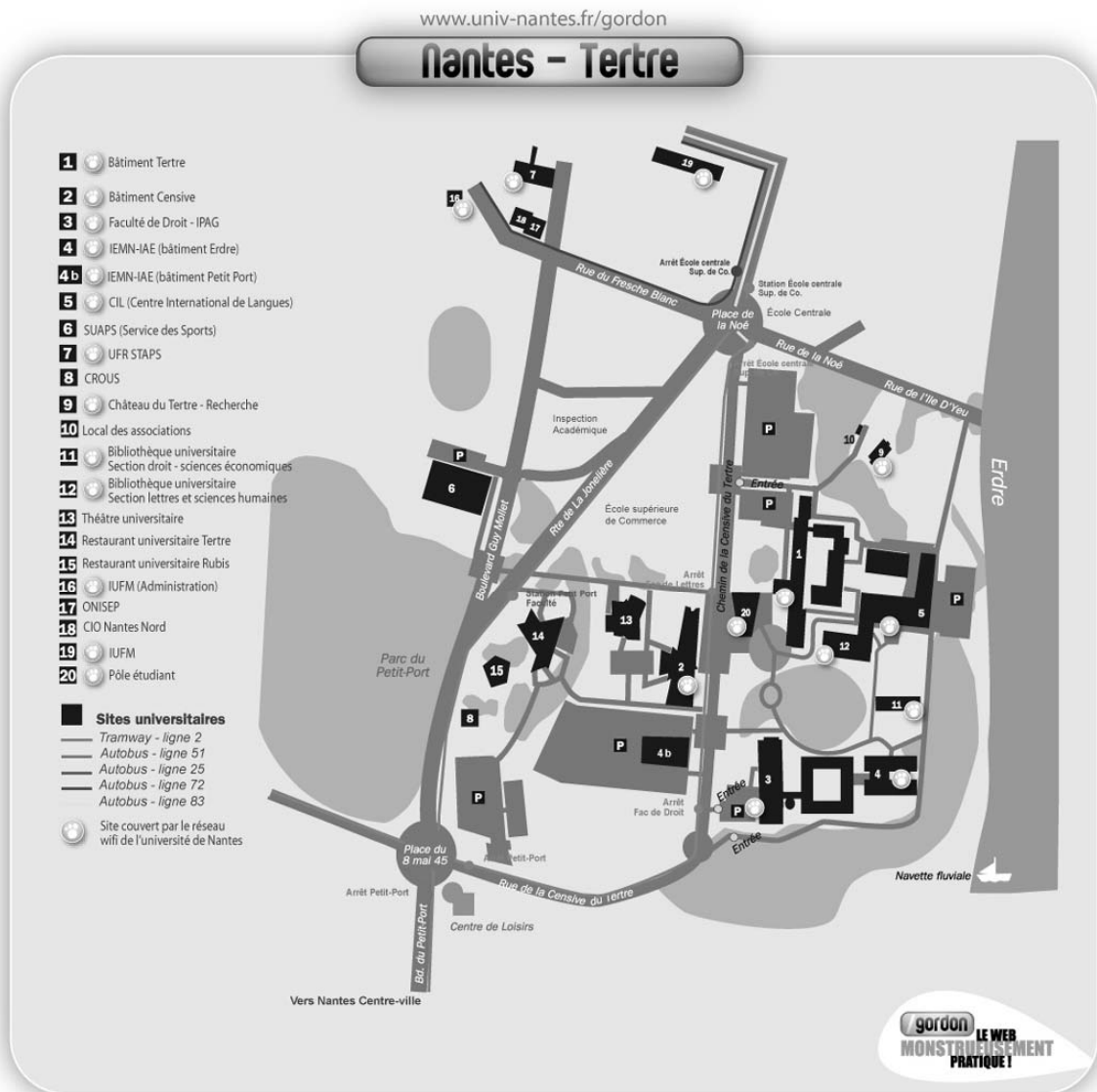
GLOW 32 Main Colloquium – Cité des Congrès, Nantes

The GLOW 32 Main Colloquium (April 16-18) will be held at the Cité des Congrès Nantes (Nantes International Convention Centre), Room 200. The Cité des Congrès is located in the heart of the city right opposite the high-speed train station. Any hotel in the city center will be in walking distance from the conference venue, but you can also catch the tram (line 1) or the bus (line 4) which will take you there in a few minutes.
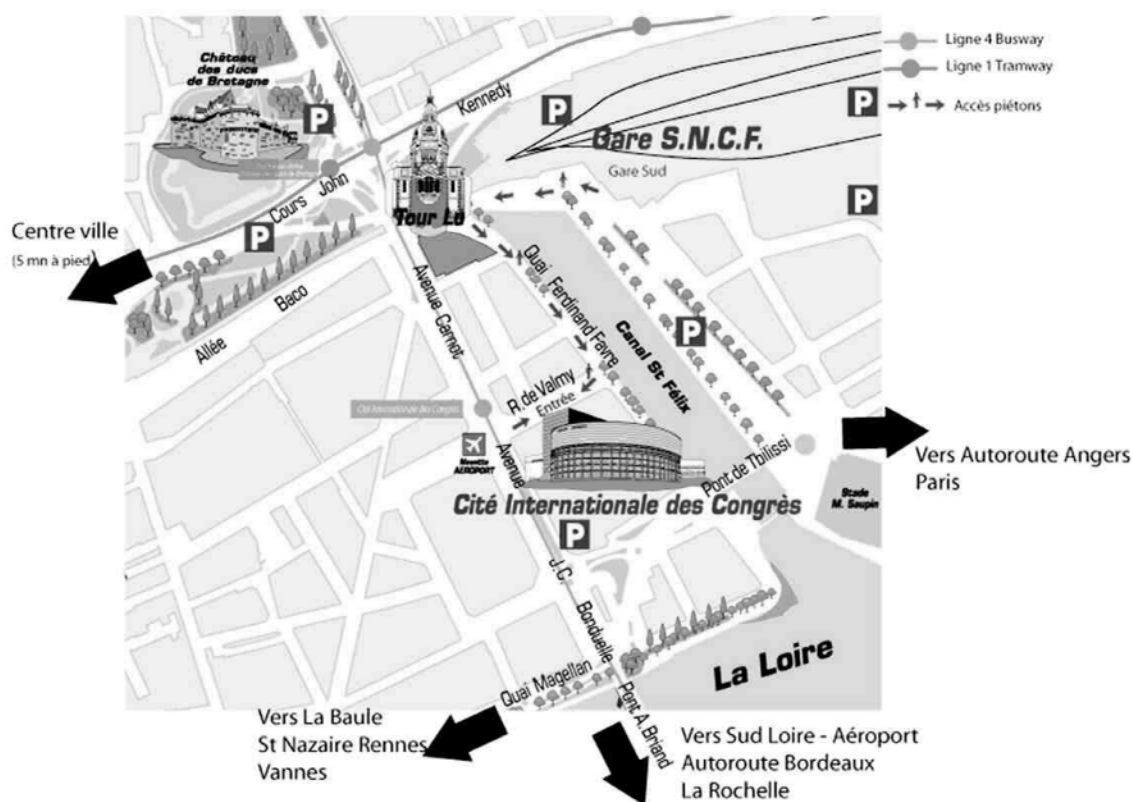
Further information on Nantes public transportation, including itineraries, distances and ticket information, can be found at the following website (type 'Nantes' for 'commune'): http://www.destineo.fr/en/main/transport/itineraries.html

CONTACTS

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Phonology workshop	Ali Tifrit	atifrit@free.fr
Semantics workshop	Orin Percus	orinalt@yahoo.com
Acquisition workshop	Oana Lungu	oanalungu82@gmail.com

Accomodation (including crash space)
Dafina Ratiu-Gasparin   ellemico@yahoo.fr

SELECTION PROCEDURE

118 abstracts were received for the colloquium and each of them was assigned to 5 reviewers, who graded them on a 10-point scale (where up to 6 points were awarded for quality and up to 4 points for adherence to the topic of the colloquium / workshop).

Once the scores were all tabulated, the top 41 that received the best marks on the basis of the reviewing process were sent to the selection committee: Artemis Alexiadou (the chair of GLOW), Marc van Oostendorp (a representative for phonology from the GLOW board), Mélanie Jouitteau (CNRS, LLF UMR 7110), Milan Rezac (CNRS, SFL UMR 7023), and Hamida Demirdache, Olivier Crouzet, Orin Percus, Ali Tifrit, Anamaria Falaus (all members of Laboratoire de Linguistique de Nantes).

The selection committee met on January 10th in Nantes and made the final selection from among the abstracts considered according to the above procedure. The committee carefully read all the comments on those papers from the reviewers and selected the best 20 + 3 alternates. The names were then revealed and the program was established.

The breakdown of submitted and accepted abstracts by country and region can be found in the table on the opposite page.

REIMBURSEMENT

Speakers at the Colloquium, including alternates *if they present their talk*, will be partially reimbursed as follows:

€150 for students and faculty coming from Europe;
€250 for students and faculty coming from outside Europe.

Note that no distinction is being made between faculty and students this year. Only one reimbursement will be made per talk, regardless of the number of co-authors presenting.

Colloquium speakers are also exempted from paying the conference registration fee.

Workshop presenters will not be reimbursed and must pay the conference fee if they attend the Colloquium.

	Submitted	Accepted
EUROPE	**71,83**	**10**
Austria	**1**	
Basque Country	**1.5**	
Belgium	**0.5**	
Cyprus	**2**	
France	**12**	
Germany	5.5	1
Greece	2.5	2
Hungary	1	
Italy	6.5	2
Netherlands	11.83	2
Norway	5	1
Poland	1	
Portugal	1	
Romania	0.25	
Russia	1.75	
Slovenia	1	
Spain	7	
Sweden	2	
Switzerland	0.5	
UK	8	2
NORTH AMERICA	**39**	**11.83**
USA	**35**	**10.83**
Canada	**4**	**1**
ASIA & MIDDLE EAST	**7.16**	**1.16**
Iran	1	
Israel	1	
Japan	2.16	1.16
Korea	1	
Taiwan	1	
United Arab Emirates	1	
TOTAL	**118**	**23**

GLOW 32 Colloquium Programme: April 16-18

<table>
<tr><td colspan="2" align="center">

Thursday April 16

Cité des Congrès (Room 200)

On the Architecture of the Grammar:

Y, If and How

LLING – EA 3827

</td></tr>
<tr><td>8:30</td><td align="center">Registration</td></tr>
<tr><td>9:00-10:00</td><td align="center">Theresa Biberauer, Anders Holmberg, Ian Roberts
University of Cambridge, University of Newcastle, University of Cambridge
A hierarchical universal and its consequences for the LCA and word-order parameters</td></tr>
<tr><td>10:00-11:00</td><td align="center">Michelle Sheehan
University of Newcastle
Complement stranding: a window on multiple spellout and the LCA</td></tr>
<tr><td></td><td align="center">Coffee Break</td></tr>
<tr><td>11:30-12:30</td><td align="center">Valentina Bianchi, Mara Frascarelli
Università di Siena, Università di Roma III
The dark side of the phase: Cyclic access is not 'blind'</td></tr>
<tr><td></td><td align="center">Lunch Break</td></tr>
<tr><td>14:00-15:00</td><td align="center">Sylvia Blaho, Curt Rice
University of Tromsø/CASTL
Nothing has serious consequences</td></tr>
<tr><td>15:00-16:00</td><td align="center">Vera Gribanova
University of California Santa Cruz
The phonology and syntax of sub-words</td></tr>
<tr><td></td><td align="center">Coffee Break</td></tr>
<tr><td>16:30-17:30</td><td align="center">Marc Simpson, Charles Reiss
Concordia University
Reduplication as iterated projection</td></tr>
<tr><td>17:30-18:30</td><td align="center">Edward Göbbel
University of Wuppertal
Rightward movement and the syntax-phonology interface</td></tr>
<tr><td></td><td align="center">Coffee Break</td></tr>
<tr><td>19:00-20:00</td><td align="center">*Keynote speaker:* Paul Smolensky
Johns Hopkins University
TBA</td></tr>
</table>

	Friday April 17 *Cité des Congrès* **(Room 200)** **On the Architecture of the Grammar:** **Y, If and How** **LLING – EA 3827**
9:00-10:00	Winfried Lechner University of Athens *Generalized survive - single output syntax without attraction*
10:00-11:00	Emar Maier, Kees de Schepper Radboud University Nijmegen *Fake indexicals: a job for syntax, morphology, semantics, or pragmatics?*
	Coffee Break
11:30-12:30	Zhiguo Xie Cornell University *Concealed questions are questions in disguise: A crosslinguistic perspective*
	Lunch Break
14:00-15:00	Jon Sprouse, Matt Wagers, Colin Phillips University of California Irvine, University of California Santa Cruz, University of Maryland *Islands and the role of working memory in acceptability judgments*
15:00-16:00	Elena Anagnostopoulou, Yota Samioti University of Crete *Locality domains for (non)-compositional meanings of words*
	Coffee Break
16:30-17:30	Rita Manzini, Leonardo Savoia University of Florence *Is there a morphological structure? Some cases of syncretism*
17:30-18:30	Business Meeting
	Coffee Break
19:00-20:00	*Keynote speaker:* Gillian Ramchand University of Tromsø/CASTL TBA
20:30	Conference Dinner

	Saturday April 18
	Cité des Congrès (Room 200)
	On the Architecture of the Grammar:
	Y, If and How
	LLING – EA 3827
8:30-9:30	Shoichi Takahashi University of Tokyo *The hidden side of clausal complements*
9:30-10:30	Jeremy Hartman MIT *The position and variety of traces with respect to MaxElide*
	Coffee Break
11:00-12:00	Dave Kush, Akira Omaki, Norbert Hornstein University of Maryland *Reanalyzing relative clause island effects*
	Lunch Break
13:15-14:15	Bradley Larson University of Maryland *Ellipsis does, but right-node raising doesn't, involve deletion*
14:15-15:15	Patrick Grosz MIT *Movement and agreement in right-node raising constructions*
	Coffee Break
15:45-16:45	Hiroki Narita Harvard University *Multiple transfer in service of recursive merge: pied-piping genuinely eliminated*
16:45-17:45	Gertjan Postma, Johan Rooryck Meertens Institute Amsterdam/Academy of Science, University of Leiden *When spell-out is vocalization – and when it is not*
	Coffee Break
18:15-19:15	*Keynote speaker:* Danny Fox MIT TBA

GLOW 32 WORKSHOP PROGRAMMES: APRIL 15

<table>
<tr><td colspan="2">

Wednesday April 15

Université de Nantes, *Campus Tertre, Bâtiment de la Censive*

Acquisition Workshop: At the Syntax—Semantics Interface

LLING – EA 3827 & Temptypac Project, CNRS, TUL – FR 2559

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<tr><td>9:00-9:45</td><td>

Elena Gavruseva

University of Iowa

Scalar implicatures and the acquisition of perfective prefixes in child Russian

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<tr><td>9:45-10:30</td><td>

Tetsuya Sano, Hiroyuki Shimada, Takaomi Kato

Meiji Gakuin University, University of Tokyo, Japan Society for the Promotion of Science/Sophia University

On the acquisition of variation of negation-sensitivity:
Early acquisition of a negative concord item in Japanese

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<tr><td></td><td>Coffee Break</td></tr>
<tr><td>11:00-12:00</td><td>

Keynote speaker: Colin Phillips

University of Maryland

TBA

</td></tr>
<tr><td></td><td>Lunch Break</td></tr>
<tr><td>13:30-14:15</td><td>

Susannah Kirby

University of North Carolina

Building syntax on semantics: "semantic scaffolding" in raising and control

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<tr><td>14:15-15:00</td><td>

Yi-ching Su

National Tsing Hua University

Syntax vs. discourse constrained Ziji in Mandarin child language

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<tr><td></td><td>Coffee Break</td></tr>
<tr><td>15:30-16:15</td><td>

Fabrizio Arosio, Kazuko Yatsushiro, Matteo Forgiarini

University of Milano-Bicocca, Institut für Deutsche Sprache und Linguistik, University of Milano-Bicocca

The influence of memory resources on the effectiveness of morphological information in the comprehension of German relative clauses

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<tr><td>16:15-17:00</td><td>

Bart Hollebrandse, Tom Roeper

University of Groningen, University of Massachusetts Amherst

Indirect recursion as a restriction on the syntax-semantics interface

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<tr><td>18:00-21:00</td><td>

Reception

Registration for the Colloquium

Cité des Congrès, Foyer Haut 200

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	Wednesday April 15 **Université de Nantes, *Campus Tertre, Bâtiment de la Censive*** **Semantics Workshop: Modes of Composition** **LLING – EA 3827 & Institut Jean Nicod, CNRS, UMR 8129 – EHESS – ENS**
13:00-14:00	Daniel Gutzmann University of Frankfurt *Hybrid semantics for expressive content*
14:00-15:00	Suwon Yoon University of Chicago *Expressivity of non-truthconditional negation: expletive negation in Japanese and Korean*
	Coffee Break
15:30-16:30	Berit Gehrke, Louise McNally Universitat Pompeu Fabra *Frequency adjectives and an ontological solution to a compositional problem*
16:30-17:30	*Keynote speaker:* Thomas Ede Zimmermann University of Frankfurt TBA
18:00-21:00	Reception Registration for the colloquium Cité des Congrès, Foyer Haut 200

	Wednesday April 15 Université de Nantes, *Campus Tertre, Bâtiment de la Censive* **Phonology Workshop: The Lexicon (if any)** **LLING – EA 3827**
9:00-9:45	Bridget Samuels Harvard University *Loops, linearity, & the lexicon*
9:45-10:30	Mingxing Li The Chinese University of Hong Kong *Minimal faithfulness to lexical tone:* *Cases from Chinese tonal neutralization*
	Coffee Break
11:00-11:45	Mohamed Lahrouchi, Philippe Ségéral CNRS **–** Université Paris 8, Université Paris 7 *Consonantal extraction in two secret languages in Tashlhiyt Berber*
	Lunch Break
13:30-14:15	Jochen Trommer Universität Leipzig *Obviating prosodic words: Nespor & Vogel (1986) revisited*
14:15-15:00	Pavel Iosad University of Tromsø/CASTL *Lexicon and computation: the case of Breton*
	Coffee Break
15:30-16:15	Martin Krämer University of Tromsø/ CASTL *Hypercorrection and lexical representation*
16:15-17:00	Shakuntala Mahanta Indian Institute of Technology – Guwahati, India *Exceptional morpho-phonemic processes and emergent markedness*
18:00-21:00	Reception Registration for the colloquium Cité des Congrès, Foyer Haut 200

ALTERNATES

Colloquium (April 16-18) – On the Architecture of the Grammar: Y, If and How

Ranked Alternates
Tomoko Ishizuka (UCLA)   *Deriving CNPC violations through possessor raising in Japanese*
Samuel Epstein, Hisatsugu Kitahara, Daniel Seely   (Michigan University, Keio University/Michigan University, Eastern Michigan University)   *The necessity, but invisibility of counter-cyclic outputs: Deducing extraction constraints and transfer-application from 3rd factor conditions on language design*

Acquisition Workshop (April 15): At the Syntax—Semantics Interface

Alternate
Roksolana Mykhaylyk (Stony Brook University)   *Semantics of the scrambled direct object in Ukrainian*

Semantics Workshop (April 15): Modes of Composition

Ranked Alternates
Tue Trinh, Yasutada Sudo, Luka Crnic (MIT)   *The indefiniteness effect in Vietnamese: description and analysis*
Qiong-Peng Luo (Peking University)   *A semantic topography for distributivity in Chinese and its implications*

Phonology Workshop (April 15): The Lexicon (if any)

Ranked Alternates
Lior Laks (Tel-Aviv University)   *The necessity of an active lexicon: evidence from Hebrew valence changing*
Azra Ali, Michael Ingleby (University of Huddersfield)   *Culture-based differences in mental models of syllabic structure*

Culture-Based Differences in Mental Models of Syllabic Structure

Azra Ali and Michael Ingleby
University of Huddersfield
azra.ali@hud.ac.uk   m.ingleby2@hud.ac.uk

A syllabic onset-rhyme structure in the mental lexicon has been revealed in several types of experiment: using word-games [1], or auditory priming stimuli or visual priming of auditory stimuli [2, 3]. These experiments are designed supposing that perception of the auditory prime and the separate perception of a visual target (text or image) are mediated by the same structural model of lexical items. Seeking a greater degree of ecological validity, we have sought a probe that engages only natural speech processing, and used audiovisually incongruent stimuli, which elicit the channel-fusion phenomenon known as McGurk fusion [4]. If human are presented with incongruent stimuli having different segments temporally aligned in audio and visual channels, then the perceived sound maybe different from that present in either of the channels. Typically, audio 'baits' dubbed onto visual gesture 'gates' elicits in most observers the fusion 'dates': $_{Aud}(baɪts\|\ gaɪts)_{Vis} \rightarrow (daɪts)\ _{85\%Fusion}$, $(baɪts)_{15\%Aud}$, $(gaɪts)_{10\%Vis.}$

For an incongruent phonetic segment, the fusion rate (proportion of participants reporting fusion) depends on syllabic context, and can be used to probe internalized syllabicity. McGurk fusion rates have been used successfully to probe syllable structure of English words [5]. The abiding pattern, in this work, indicates that fusion rates elicited by incongruent segments by native English speakers (*Anglophones*) are significantly lower in onset than in coda positions. Such differences survive in branching constituents – there were no significant differences within branching onsets, nor within branching codas, but between coda and onset the differences were significant difference. Also, the coda-onset differences remained even in polysyllabic words and when embedded in words in natural phrase contexts.

One could argue that the high fusion rates reported in codas is not surprising, considering that the acoustic signal in the coda position is often weaker than in the onset position. Also, that the formant transitions in syllable onsets are more reliable cues to consonant place of articulation than coda transitions. The experimental evidence that has been put forward [6] is based on intelligibility rate of consonants in onsets and in codas in presence of variable acoustic signal-to-noise. However, misperceptions of place consonants were made by participants, but mainly in noisy conditions, although, greater misperceptions were made for consonants in the coda position than in the onset position. But, evidence from audiovisual speech experiments clearly highlight that visual cues can improve speech intelligibility. In fact, in presence of noise, accuracy rate for identifying consonants was far greater in audiovisual modality than in audio only modality [7, 8]. In a more recent study by [9], showed with a cross-splicing technique, that when codas were switched into the onset position, both in audiovisual modality and in audio only modality, the intelligibility rate was 100% in audiovisual modality but only 88% in audio only modality.

Therefore, in the case of languages for which syllabic structure is contested, one could use fusion rates to test empirically linguistic conjectures about codas in the mental lexicon. We begin with Arabic. The Arabic tradition of Sybawaih, on which the (phonetic) Arabic alphabet is founded, uses CV units symbolised orthographically by a consonant bearing a vowel diacritic. Word-medial consonant clusters can occur because one of the Arabic vowels is silent [10]. The Western tradition of classical scholars treats Arabic like Latin and Greek, postulating there are closed CVC, CVVC, CVCC syllables [11]. We put the same Arabic word stimuli to two groups: native Arabic speakers, and native English speakers with no

Arabic. To ensure ecological validity, we embedded incongruent stimuli at random amongst congruent stimuli based on the same words.

In the first experiment, each incongruent segment was at either an onset or a 'coda' site (i.e. a word-medial or word-final position which would be nominated as coda in the Western tradition). When we put these to our Arabophones, results showed that there were no significant difference in fusion rates between onsets and 'codas'.

In the second experiment, we subject *Anglophones* to the same Arabic stimuli to our Arabophones, (these are **non-words** to *Anglophones)* and investigate whether or not their fusion responses show the coda-onset fusion differences suggested by syllabification in the Western tradition. *Anglophones* showed similar perceptual patterns to our English syllable studies – higher fusion rates for 'codas' than for onsets. Perhaps this explains why Western classical scholars treated Arabic like Latin!

In the third experiment, we put the Arabic stimuli to students learning Arabic (2-3 years of study). The results showed fusion-rate patterns close to those of our Arabophones: no significant 'coda'-onset differences. This suggests that the learning process was internalizing in students the lexical CV structure of the learned language.

Our findings are in line with [10], indicating that Arabic is following a CV phonology. Of course the no onset-coda distinction of fusion rates is also compatible with a VC phonology, but the absence of word-initial vowels in classical Arabic and several (but not all) modern dialects pushes the balance strongly towards CV. The counterbalancing cases have been reviewed by Kiparsky [12] from the point of view of moraic theory, but they could also be thought of as the output of phonological processes favoured by a dialect group, the processes operating on an underlying onset-rhyme CV structure.

References

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[3] Segui, J. (1984). The syllable: A basic perceptual unit in speech processing. In H. Bouma, and D.G. Bouwhuis, (Eds.). *Attention and performance X: Control of language processes*, Lawrence Erlbaum Associates, 165-181.

[4] McGurk, H. & MacDonald, J. (1976). Hearing lips and seeing voices *Nature, 264*, 746-748.

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[6] Wright, R. (2001). Perceptual cues in contrast maintenance. In the role of the interplay of speech perception and phonology. In E. Hume & K. Johnson (Eds.). 251-277. New York: Academic Press.

[7] Sumby, W. and Pollack, I. 1954 Visual contribution to speech intelligibility in noise, *Journal of the Acoustical Society of America*. 26: 212-215.

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Locality domains for (non)-compositional meanings of words

1. In the literature it has been observed (Chomsky 1970, Wasow 1977) that there are two classes of morphemes, corresponding roughly to derivational (category changing) and inflectional (non-category changing) morphology, which display different behavior with respect to productivity, phonological and semantic idiosyncrasy, as well as interaction with other syntactic rules. Within Lexicalist models, this distinction has been treated in terms of two types of word formation: lexical and syntactic. Since words in the lexicon have special listed properties, lexical word formation can show idiosyncratic forms and meanings, unlike syntactic word formation which is fully productive, resulting in transparent forms and compositional meaning. For syntactic approaches to morphology, properties traditionally attributed to lexical listing (e.g. categorization, argument structure) are reduced to mechanisms of the computational system. In such models, there can be no well-defined distinction between lexical and syntactic word formation. In this paper, we focus on the question of how (non)-compositional meanings of complex words are assigned in syntactic models. We investigate Marantz's (2001) hypothesis that idiosyncratic meaning derives from locality constraints on the interpretation of roots. This is based on the following generalization: *When affixes attach directly to the root, idiosyncratic meanings may arise. When they attach outside category defining heads, the result is a meaning predictable from the meaning of the stem.* We present evidence from participles that category heads do not define domains for idiomatic meaning. What matters is functional structure licensing arguments (see Borer 2003, 2008a,b).

2. One difference between adjectival and verbal participles in English is that only the former are associated with idiosyncratic forms and meanings (the *hung* jury vs. *the jury was being hung;* the *shaven* man vs. John was *shaved*). Marantz (2001, to appear) proposes that this difference reduces to root affixation vs. attachment above a little v head. He hypothesizes that category defining heads (little v's, n's, a's) determine edges of cyclic domains (phases) which are sent to LF and PF for phonological and semantic interpretation.

(1)   root-cycle= adjectival participles   outer-cycle attachment= verbal participles

morpheme   root   morpheme   little x
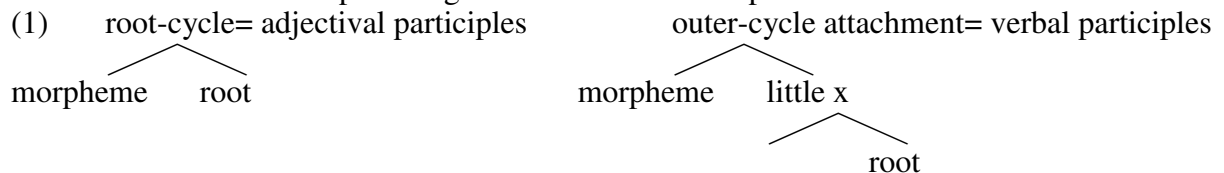
                                                              root

Since the meaning of the root in the context of little x is negotiated using Encyclopedic knowledge, morpheme attachment to the root below x may result in idiosyncratic meanings. On the other hand, morphemes outside little x take as a complement a structure in which the root meaning has already been determined, explaining predictability. On the assumption that the verbal passive affix attaches above little v and the stative one (in English adjectival but in Chichewa not, Dubinsky & Simango 1996) attaches to the root, the difference between the two participles can be explained without appealing to category change (Wasow 1977).

3. An empirical domain for testing this hypothesis is provided by Greek which has a rich set of stative/adjectival participial constructions showing systematic correlations between meaning, structure and morphology. As discussed in Anagnostopoulou (2003), Greek has two participles that can be used as adjectives (verbal passives are synthetic formed by affixation of non-active morphology to the verb stem). The participle in –*menos* and the one in –*tos*:

(2)   a.   vraz-o vras-**men**-os   vras-**t**-os   "boiled"
        b.   psin-o psi-men-os   psi-t-os   "grilled"

Like adjectives, they appear in attributive and predicative positions. However, semantic and syntactic differences between the two can be observed. (i) The participles in -*menos* refer to a state as a result of a previous action, while the participles in -*tos* simply denote states. The *menos*-participle in the first conjunct of (3) signals that the boat is in a state resulting from a pumping event. Negating this event in the second conjunct results in a contradiction. The -*tos* participle in (3) does not entail the existence of a prior event and the negation of the event in the second conjunct does not lead to a contradiction:

(3) Afti i   varka ine #fusko-**meni/** fusko-**ti**   alla den tin exi fuskosi kanis akoma
    This the boat is pumped up/ pumped up   but   not it has pumped noone yet
    'This boat is pumped up but noone has pumped it up yet'
(ii) The -*menos* participle can be modified by manner adverbs, the -*tos* participle cannot:
(4)   To kotopoulo ine kala/prosektika vras-**meno**   /*kala/proesktika vras-**to**
        The chicken is well/carefully   boiled   well/carefully boiled
(iii) Only -*menos* participles license instrumental PPs:
(5)   To bukali   ine anig-**meno** me anixtiri   /*anix-**to** me anixtiri
        The bottle   is opened   with a bottle opener / open with a bottle opener
(iv) -*menos* participles can license *by*-phrases, -*tos* fail to do so:
(6)   Ta lastixa ine fousko-**mena** apo tin Maria   /*fousko-**ta** apo tin Maria
        The tires are inflated by Mary   /of the type that can be inflated by Mary
Closer inspection reveals that -*menos* participles fall into two classes, labelled 'target states'
and 'resultant states' by Kratzer (2001). Target state –*menos* participles do not license agent
and instrument PPs (7) and agentive adverbials (8) (they do license manner adverbs when
these modify the visible result of the event, as shown in (8)):
(7) Ta lastixa ine   (*akoma) fusko**men**a apo   tin   Maria /me   tin   tromba
    The tires   are   (still) inflated   by   the   Mary /with the pump
(8) Ine akoma kala/*prosektika fuskomena 'They are still well/*carefully inflated'
The typology is thus as follows: (I) -*tos* participles involve no implication of an event and no
agentivity (no agent-oriented modification, no by-phrases and instruments); (II) -*menos* target
state participles involve implication of an event (result oriented manner modification) and
lack agentivity; (III) -*menos* resultant state participles involve an implication of an event and
agentivity. Alexiadou & Anagnostopoulou (2008) propose to treat the distinctions between
the three types of participles in terms of different heights of attachment. A layer Asp
(stativizer) is present with all three types (-**t-** and –**men-** are exponents of Asp while –**os** is the
adjectival inflectional ending). Since -*tos* participles lack agentivity and event implications,
they involve root attachment of Asp. -**men**- is an exponent of Asp that in target states attaches
to vP explaining why they contain event implications (v is a verbalizer yielding event
interpretation). Finally, resultant states with event implications and agentivity have Voice in
addition to v. Voice licenses agent- and instrument-PPs and agent-oriented adverbs.
(9)   [Asp [XP]] where XP = root, vP or VoiceP
It is crucial for present purposes that –**tos** attaches at the root cycle, while –**menos** attaches
above little v. Morphology provides independent support for this analysis. As argued in
Alexiadou (2001, 2007), affixes like –**iz**- and –**o(n)**- are overt reflexes of v, turning roots
denoting states, entities, instruments into verbs. –**menos** productively attaches to such forms,
–**tos** generally does not (exceptions will be discussed and explained in the talk):
(10) aspr-**is**-*menos*   *aspr-**is**-tos 'whitened' , xalar-**o**-menos   *xalar-**o**-tos 'loosened',
 Are idiosyncratic meanings limited to –*tos* participles, as the root-attachment hypothesis
leads to expect? The answer is negative. Even though –*tos* participles often have
idiosyncratic meanings, as predicted, –*menos* participles can be non-compositional as well:
(11) a. stri-**menos** jeros lit. twisted man 'crotchety man' / *i zoi ton estripse 'life twisted him'
b. ftas-**menos** epistimonas lit. reached scientist 'successful scientist' /*i dulia eftase ton
epistimona 'work reached the scientist'
What blocks idiomatic readings is the presence of manner adverbs, agents, instruments:
(12) a. kala/ prosektika stri-**menos** only lit. 'well/carefully twisted' b. stri-**menos** apo kapion/
me kati   only lit. 'twisted by someone / with something'
We conclude that little v does not define a domain for non-compositional meanings but the
presence of Argument Structure (AS) material is the source of predictability in meaning. This
suggests that AS should be dissociated from the presence of verbalizing morphology (Borer
2003, Alexiadou 2007) and that the functional structure licensing AS blocks assignment of
non-compositional meanings, as proposed by Borer (2008a, b). We present further evidence
for Borer's proposal based on –*menos* and –*tos* synthetic compounds in Greek.

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The influence of memory resources on the effectiveness of morphological information in the comprehension of German Relative Clauses

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A subject-object asymmetry is found in the comprehension of relative clauses (RCs) in both adults (Frauenfelder, et al., 1980; King & Kutas, 1995) and children (Booth et al., 2000; Friedmann & Novogrodsky, 2004). This asymmetry has been argued to depend on different computational costs associated to the analysis of antecedent-trace relations in these structures: the analysis of a non local relation in object RCs is more demanding than the one of a local relation in subject RCs (De Vincenzi 1991; Frazier & D'Arcais 1989). Moreover, it has been observed that individual memory resources modulate this asymmetry (King & Just, 1991).

In this talk we will show that not all object RCs are equally difficult and that these difficulties are modulated by memory resources. In particular we will discuss the disambiguating role of two interface features: verbal agreement morphology and case morphology in German children comprehension of subject and object RCs and the impact of children memory resources on it. In German, a language with a relatively free word order, a proper analysis of the verbal agreement morphology and of the embedded NPs case morphology is needed for a correct RC interpretation as shown in (1)-(4) below

SUBJECT	OBJECT
(1) Die Frau die die Kinder sieht	(2) Die Frau die die Kinder sehen
The woman [who the children watches]$_{RC}$	The woman [who the children watch]$_{RC}$
The woman who is watching the children	*The woman who the children are watching*
(3) Die Frau die den Clown sieht	(4) Die Frau die der Clown sieht
The woman [who the$_{ACC}$ clown watches]$_{RC}$	The woman [who the$_{NOM}$ clown watches]$_{RC}$
The woman who is watching the clown	*The woman who the clown is watching*

In (1) and (2), the relative pronoun "die" and the plural definite article "die" (in "die Kinder") are morphologically case ambiguous between nominative and accusative and the embedded verb morphology disambiguates the sentences: (1) should be interpreted as a subject RC since the embedded verb and the head of the RC (henceforth head-NP) "die Frau" (and not the embedded NP "die Kinder") share the same number features, while (2) should be interpreted as an object RC since the embedded verb and the embedded NP "die Kinder" (and not the head-NP "die Frau") share the same number features. In (3) and (4), where the relative pronoun "die" is case ambiguous, the NPs are singular and the morphology of the embedded verb is third singular, it is the case morphology of the embedded NP that disambiguates the sentences: while (3) is a subject RC, since the accusative case morphology on the definite article "den" says that "den Clown" is the embedded object, (4) is an object RC, since the nominative case morphology on the definite article "der" says that "der Clown" is the embedded subject.

In our study we tested 48 German monolingual 7 year old children. 26 children were tested in a picture selection task including 20 relative clauses disambiguated through the agreement morphology of the embedded verb (plus fillers): 10 featuring subject extraction, as in (1) and 10 featuring object extraction, as in (2); 22 children were tested in a picture selection task including 20 relative clauses disambiguated through the case morphology of the embedded NP (plus fillers):10 featuring subject extraction, as in (3) and 10 featuring object extraction, as in (4); all subjects where tested with a memory digit span test (d-span test).

In our analysis we made use of logistic regression models given the discrete nature of response accuracy (Dixon, 2008). The results show that subject RCs are easier than object RCs regardless of the type of disambiguating cue and that individual d-span differences modulate their effectiveness in object RCs comprehension but not in subject RCs comprehension. Our results are in agreement with studies on adults' processing of subject-object ambiguities where stronger garden path effects

are found when disambiguation is obtained through agreement morphology than when it is obtained through case morphology (Meng & Bader, 2000). Additional analysis within children who had the same score at the d-span test revealed that:

- children with d-span value 4 found both agreement disambiguated object RCs and case disambiguated object RCs equally difficult (raw score percentages: 36.67% correct for agreement, 35.56% for case);
- children with d-span value 5 found case disambiguated object RCs easier than agreement disambiguated object RCs (raw score percentages: 44.38% correct for agreement, 71.00% for case);
- children with d-span value 6 found both agreement disambiguated object RCs and case disambiguated object RCs equally easy (raw score percentages: 85.00% correct for agreement, 85.00% for case).

These results clearly show that individual d-span differences modulate the effectiveness of the different disambiguating cues in object RCs comprehension.

We will argue that the described differences can be explained under Fodor and Inoue's (2000) diagnosis and repair model, which was proposed to account for adults' processing of subject-object ambiguities. According to this model, reanalysis is more or less difficult depending on the information delivered by the diagnosis: when the information introducing a temporal ungrammaticality also suggests how to repair the provisional structure, the revision and the correction of the online parsed structure goes smoothly. Given the incremental course of sentence parsing, in case disambiguated object RCs as in (4), children start to hypothesize a subject RC analysis at the relative pronoun and posit a gap in the subject position connected to the head-NP, according to filler-gap processing strategies, as adults do (De Vincenzi 1991; Frazier & D'Arcais 1989). When the embedded NP is encountered, they know that the online parsed structure is not correct since the nominative case on this NP indicates that it is incompatible with an embedded object position and that it should occupy the embedded subject position. According to Fodor & Inoue's model, case on the embedded NP is a positive symptom since it also provides information about how to repair the structure. The adjustment is local; one grammatical function was assigned before the reanalysis and one is still assigned after it, always the subject function. The reanalysis is memory taxing, since the online parsed structure is required to be revised, but it is relatively straightforward since the diagnosis indicates how to repair the analysis. Concerning agreement disambiguated object RCs as in (2), children also hypothesize a subject RC analysis at the relative pronoun; the following embedded NP and lexical verb are compatible with this choice. When the embedded auxiliary is encountered, the agreement morphology indicates that the parsed structure is not correct but it does not by itself indicate the way in which the structure should be repaired. In order to achieve the correct structure, we have to look for a new subject with the relevant number features by remembering the old input and this has an extra memory cost. According to Fodor & Inoue's model, agreement on the embedded auxiliary is therefore a negative symptom since it does not provide information about how to repair the structure and this cause the reanalysis process to be especially demanding: the adjustment is not local, we have to look for a new subject with the matching features in the old input and build a new RC structure. According to Fodor & Inoue's model, our data indicates that: (i) children with d-span 4 do not have enough memory resources to accomplish reanalysis and they fail in both case and agreement disambiguated object RCs; (ii) children with d-span 5 have enough memory resources to accomplish the uncomplicated reanalysis in case disambiguated object RCs but not enough for the particularly demanding reanalysis in agreement disambiguated object RCs; (iii) children with d-span 6 have enough memory resources for achieving reanalysis in both case and agreement disambiguated object RCs.

THE DARK SIDE OF THE PHASE: CYCLIC ACCESS IS NOT 'BLIND'
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Introduction. One recent evolution of the Y model assumes cyclic transfer to the interfaces at each phase edge. But does this access work exactly the same for all types of vP and CP phases? Focussing on the interface with the conversational common ground, we argue that it does not, by examining a) the properties of two different topic constructions and b) the connection at the interface between a dislocated element and a pronoun. We then discuss the consequences for the overall architecture of the grammar.

Case study 1. English topicalization and Romance clitic dislocation differ systematically w.r.t. the following properties (Haegeman 2007, § 4.2.6): (I) the former is restricted to root clauses and a subset of 'root-like' subordinate clauses (Maki et al 1999, 3-4; Emonds 2004, 76-78 a.o.), the latter is generally allowed in all finite subordinate clauses; (II) the former can target only one constituent per clause (e.g. Emonds 2004, (27c)), the latter can target multiple constituents (DeCat 2007, 489); (III) the former creates an island for wh-extraction (Culicover 1991,7; cf. also Lasnik & Saito 1992, 100-105, who reduce the ban on multiple topicalization (II) to the topic island); the latter does not (e.g. Haegeman 2007, (37)).

These properties can be related to the different purposes that the two structures serve at the interface. Following the line of analysis originating from Reinhart (1981), English topicalization encodes an instruction on how to update the stalnakerian common ground. It thus pertains to *common ground management*, in the sense of Krifka (2006) (as does partial/ contrastive topicalization: cf. Büring 1997, 65-69, Krifka 2006, §5.2). The above mentioned properties follow: (I) Reinhart assumes that for each possible pragmatic assertion, the sentence topic is unique: whence the uniqueness of English topicalization. (II) The sentence topic is restricted to root clauses because only these give rise to an independent illocutive act updating the common ground. As for indirect discourse complements like (1), we show that the low topic indicates how the embedded proposition has to be inserted in the context set associated with the matrix clause event (instead of the 'root' context set determined by the conversational common ground).

(1)   Bill warned us [that flights to Chicago we should try to avoid] (Emonds 2004, (1))

(III) Finally, the island effect results from the fact that the clause introduced by a sentence topic must denote a full proposition: hence it cannot contain a variable that is bound from outside (deriving Emonds' (2004) (29)).

On the other hand, we show that Romance dislocation is not necessarily linked to CG management. One subtype of it involves deaccenting of dislocated given constituents (in the sense of Schwarzschild 1999), which are present in the CG content (Krifka 2006, §4.1) but do not require an update; therefore, this subtype lacks the restrictions discussed above.

Returning now to our initial question: we saw that the interpretation of English topicalization implies access to CG management; since topicalization cannot target the edge of vP and targets only a subset of CPs, we conclude that access to CG management is not allowed for all the phases. The next step is to determine what kind of access, if any, occurs for the other phases, in particular in the case of Romance dislocation of given constituents.

Case study 2. Focussing on the vP phase, consider the connection between a dislocated argument and an object pronoun in English left dislocation:

(2)   [CP Your brother, [IP I [vP know him quite well]]]

Suppose that transfer occurs at the edge of vP: then, by the time the topic element is computed, the pronoun contained in the vP phase complement has already been transferred to the interface. How can a connection obtain? The first, more radical, solution is to assume that vP is not trasferred to the interface at all. The second solution is to assume that the pronoun is a D-type pronoun (Elbourne 2001, 2006), and its connection to the dislocated phrase is accidental

coreference. This predicts that binding is impossible, and a sloppy reading is not allowed in an elliptical sentence:

(3)   ?* Your brother, I know him quite well; your sister, I don't [$_{vP}$ e]

English topicalization allows for a sloppy reading, contrary to (3), because it can exploit cyclic extraction across the edge of vP, which is accessible to the higher phase:

(4)   [$_{CP}$ Your brother, [$_{TP}$ I [$_{vP}$ t [know t quite well]]]]; your sister, I don't [$_{vP}$ e]

The connection problem seen in (2)-(3) does not arise in Romance clitic dislocation: under the hypothesis that the clitic is outside vP (e.g. Sportiche 1996), the clitic and the dislocated phrase belong in the same phase (possibly with a local empty antecedent in the case of 'long distance' dislocation). Building on Kratzer (in press), we propose that the clitic – or its null associate – originates as a minimal pronoun consisting of a numerical feature only: the C head binds it and transmits to it the features of the dislocated phrase (which C inherits via Predication).

(5)   [$_{CP}$ Tuo fratello$_{\{m.sg.\}}$ [C$_{\{\lambda n, m.sg.\}}$ [$_{TP}$ lo$_{\{n, m.sg.\}}$ conosco [$_{vP}$ bene]]]

The crucial point is that the clitic provides a bindable position within the CP phase: whence the possibility of a sloppy reading in (6) below, contrary to (3). If the minimal clitic remained trapped inside vP, it could not be bound by the C head, and it could not be properly interpreted either at the semantic interface (for lack of a binder within vP) or at the PF interface (because of the lack of phi-features).

(6) Tuo fratello, lo conosco bene; tua sorella, no.

The contrast between (3) and (4)/(6) w.r.t. binding shows that vP is indeed transferred to the semantic interface, though this access excludes at least CG management.

General discussion. The above arguments, taken together, suggest that cyclic access to the external system(s) occurs, but it is not 'global' and undifferentiated. As a matter of fact, the conversational common ground is a structured state of information comprising various subcomponents (a structured repository of presupposed propositions, a set of discourse referents, a questions-under-discussion stack, etc: see Roberts 1996, 2004 for an overview). More importantly, we know that the common ground plays a double role in the interpretation process: on the one hand, it helps determine the propositional content expressed; on the other hand, it gets dynamically updated by that propositional content. Therefore, we propose that the access to the interface at a given phase edge must be specified as to (a) which subcomponents are accessed and (b) in which way they are accessed: *retrieval* of information and/or *update* of the relevant subcomponent.

If transfer is not a unique and 'blind' operation, then it must be mediated by the presence of specific *interface features* on the phase head. Thus, only the head of a root (or root-like) CP phase is endowed with an illocutive feature which triggers an update access to some CG subcomponent. Other C heads can trigger the retrieval of given information, which is sufficient to license Romance deaccented dislocated phrases. As for v, if we assume that it cannot access any subcomponent of the CG, we might derive a version of Diesing & Jelinek's 1995 generalization that presuppositional noun phrases have to move out of VP (however, this assumption may imply nontrivial consequences for the D-type analysis).

The next question is, how are the appropriate interface features for a phase determined within narrow syntax? The general architecture forces us to assume that they come out of the numeration, as the intrinsic endowment of specialized phase heads. This remains an irreducible residue of the dear old Y model.

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A hierarchical universal and its consequences for the LCA and word-order parameters
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1. We argue that the Final-over-Final Constraint of Biberauer, Holmberg & Roberts (2007, 2008/BHR) (a) provides new evidence supporting the classic version of the LCA (Kayne 1994), in particular that (b) head-initial and head-final strings are hierarchically different, (c) head-final order is marked in relation to head-initial order, (d) there is no PF-directionality parameter (*pace* Richards 2004, Abels & Neeleman 2006), and, further, that (e) the head-initial vs head-final choice is encoded as a lexical property of categorial heads (C, T, D, etc.). It also shows that purely microparametric approaches to word-order variation, where each category autonomously chooses its ordering, cannot be maintained, as cross-categorial generalisations concern not only Greenbergian harmonic orders, but also mixed ones.

2. BHR show that the following constraint holds universally (cf. also Holmberg 2000 and Julien 2002):

(1) For all heads {α, β, ..} on a single projection line, if α is a head-initial phrase and β is a phrase immediately dominating α, then β must be head-initial. If α is a head-final phrase, and β is a phrase immediately dominating α, then β can be head-initial or head-final.

This **Final-Over-Final Constraint/FOFC** rules out ordered structures of the following type:

(2) *[βP [αP α γP] β] (still supposing α and β are on the same projection line)

Excluded structures include i.a. *VO-Aux, *VO-C, *NObject-Postposition, and *PolTP-C. Further, languages with the potential to violate FOFC – e.g. OV languages with initial Cs, where a preverbal CP-complement would violate FOFC – systematically avoid doing so by employing a range of strategies such as extraposition or nominalisation (Sheehan 2008). Additionally, Biberauer, Newton & Sheehan (2008) show that there is evidence that FOFC-violating structures fail to be borrowed despite a feasible contact situation, and Cecchetto (2008) observes that FOFC also holds in contact situations involving sign language. Finally, word-order changes appear to follow a FOFC-defined pathway, with changes in the clausal domain, for example, proceeding top-down for OV-VO (final-to-initial) changes and bottom-up for VO-OV (initial-to-final) changes. Crucially, however, FOFC does not rule out disharmonic word orders as such: right-branching disharmony [αP α [βP γP β] is not ruled out, which is correct as disharmonic word orders of this type are not uncommon – cf. Aux-OV in West Germanic, Finnish and Vata, and C-OV in West Germanic, Turkish and many Indo-Aryan languages.

3. A processing-based explanation may seem attractive at first sight (cf. Hawkins 1994, 2004). Since FOFC avoidance strategies are implemented even where a potentially problematic head is not spelled out – e.g. clausal extraposition taking place even where an initial C in an OV language is unrealised and where preverbal placement would thus not have resulted in a superficially FOFC-violating [CTP]-V string – we reject processing-based explanations: FOFC-violating structures already appear to be barred in Narrow Syntax, the consequence of a genuine hierarchical universal (cf. Whitman 2008).

4. Relying entirely on a directionality parameter (Head PRECEDES/FOLLOWS Complement), relativised to categories to allow for mixed orders, cannot provide a principled explanation either: without further stipulation, cross-categorial harmony is not predicted in preference to anything else, and all (combinations of) disharmonic orders are allowed. The same is true for the simplest Kaynian reformulations of the HP in terms of (possibly differentiated) leftward movement of complements (cf. Baker 2008). An alternative formal account is thus required.

5. Relying on the classic LCA of Kayne (1994) as the only linearising principle, BHR derive FOFC from a condition on feature transmission from phase heads, given in (3):

(3) a. As a parameterised property, any head may have a diacritic ^ indicating <u>head-final</u> order.

    b. If a phase-head PH has the diacritic ^, then ^ must spread to all heads on the projection line associated with that head (cf. Chomsky 2008).

Applying (3) to the vP phase, for example, we arrive at the following:

(4)   a.   v^   V^   →   [[VP O V] v]   (consistent head-final order)

       b.   v   V^   →   [v [VP O V]]   (disharmonic non-FOFC-violating order)

       c.   v   V   →   [v [VP V O]]   (consistent head-initial order)

d.   * v^   V   →   [[$_{VP}$ V O] v]]   (FOFC-violating order)

As feature-spreading is restricted to projection lines, the fact that languages may have disharmonic clausal and nominal projections of both types (initial clausal projections and final nominal projections, *and* vice versa) follows. A further important implication of (3) is that head finality must start "at the bottom" of a projection line; elsewhere, word order can switch from head-final to head-initial only where a "satellite" attaches to the projection line (The reference to "satellite" categories is also central to a full account of island phenomena, a point which we will address in passing).

6. Crucially, the required linearisation constraint ((3)) cannot be expressed in a formal system where ^ indicates head-initiality: this would predict the "anti-FOFC", allowing i.a. FOFC-violating [VO]v and barring v[OV], and is thus empirically falsified. Hence the "extra" diacritic must signal head-finality. Moreover, independently of the headedness signalled by ^, (3) would also not be able to capture the attested typological skewing if the resulting structures were mapped onto linear order via a SUCCESSION-rather than a PRECEDENCE-based version of the LCA. Together these two facts thus provide independent evidence for the correctness of the classic assumptions underlying the LCA of Kayne (1994). (This holds regardless of whether we assume simple comp-to-spec movement, or whether additional, usually abstract, heads circumventing "too local" movement are involved.)

7. What FOFC, and the account proposed by BHR, further show is that cross-categorial generalisations are required to account for missing disharmonic orders; this naturally complements the Greenbergian observation that they are required for harmonic word orders. Significantly, purely microparametric approaches to word-order variation, where each category independently chooses its ordering, cannot be maintained. But BHR's approach to FOFC in fact suggests a way to capture both macro- and microparametric effects without postulating either macro- or microparameters: via "spreading" of the head-finality diacritic. If ^ spreads to all categories, we get a harmonically head-final system; if it only spreads within a given phase, some type of (partially harmonic) disharmonic system results (e.g. German: head-final vP, but head-initial CP and DP); if ^ is absent, the system is uniformly head-initial.

8. Given the Strong Minimalist Thesis, the postulation of a(n NS-internal) linearisation diacritic requires principled motivation: why postulate such a diacritic? Our proposed answer touches on the general nature and ontology of parameters: we propose that ***parametric variation arises where the narrow syntax (NS) doesn't mind***. NS regulates the derivation from the Numeration to LF, and itself has no need of linear order, which is only needed at the PF interface. But no property of NS or PF independently dictates the exact nature of that order. We thus have a choice point, and to encode which choice is made in the simplest way possible, one must be marked with a diacritic, our ^ (note that this notion of simplicity is a general, 3rd-factor notion, not specific to UG). In principle, ^ could signal either initiality or finality, UG having no preference, but the empirical record (the skewing in the distribution of word-order patterns) indicates that ^ in fact signals head-finality. More generally, UG itself requires nothing, neither harmony nor disharmony, and the diacritic, which gives NS the unambiguous instruction it requires, has no cost to NS (note also that FOFC derives somewhat indirectly from it, in interaction with other aspects of locality and structure building). The variation, and, crucially, the structure of the observed variation, derive from the interaction of UG with plausible, 3rd-factor assumptions about the learning device: (i) superfluous symbols are avoided and (ii) input data are maximised (cf. Roberts's 2007 *Generalisation of the Input* and Boeckx's 2008 *Superset Bias*). (i) associates a cost to head-final order, which, in terms of (ii), is higher the less harmonic the order. This accounts for microparametric variation as gradually increasing in cost the more specific it becomes; thus the fact that languages feature only limited numbers of elements requiring item-specific linearisation specifications (e.g. head-final force-marking particles in head-initial Chinese and Italian). (ii) leads to harmony (if some head precedes, then assume all do until the data indicate otherwise), and thus to macroparametric variation. Both micro- and macroparametric variation, then, fall outside UG itself, but can nonetheless be handled in a principled and predictive way. Parameters emerge from UG indifference, the computational nature of the learning device and the way in which the latter interacts with primary linguistic data.

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Nothing has serious consequences

Implications of absolute ungrammaticality for models of grammar

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This paper examines the phenomenon referred to as *paradigm gaps* (McCarthy 2005, Rice 2005, 2007, McCarthy & Wolf 2005), *ineffability* (Pesetsky 1997) or *absolute ungrammaticality* (Ackema & Neeleman 2000, Törkenczy 2002), and the consequences of these cases on models of grammatical competence. We argue that paradigm gaps have different properties from other cases of phonologically null elements such as zero pronominals and zero morphemes, and that the satisfactory treatment of ineffability has to involve more communication between the syntactic and the phonological components of grammar than the traditional Y-model view suggests.

An example of absolute ungrammaticality comes from imperative formation in Norwegian (Kristoffersen 1991; Rice 2003, 2005). Norwegian imperatives are identical to their roots, while infinitives (for consonant-final roots) show affixation of a final schwa. As a result, we find infinitive-imperative pairs of the variety seen in (1). However, when a root ends in consonant cluster with rising sonority, there may be a gap for the infinitive, as in (2). The expected result from the morphology is an imperative identical to the root. However, a monosyllabic expression of the root will be ill-formed.

(1) *Well-formed Norwegian imperatives*

    a.   å spise – spis! '(to) eat'
    b.   å snakke – snakk! '(to) talk'
    c.   å løfte – løft! '(to) lift'

(2) *Ill-formed Norwegian imperatives*

    a.   å åpne – *åpn! 'open'
    b.   å padle – *padl! 'paddle'
    c.   å sykle – *sykl! 'bike'

Current research in phonology has largely focussed on the formal issues of deriving ineffability in Optimality Theory (Prince & Smolensky 1993). Because an OT evaluation always selects a winning candidate, the mechanism always produces an output, and there is no scenario where the phonological derivation crashes. To circumvent this problem, Prince & Smolensky (1993) introduced an unpronounceable *null parse* candidate, which is stipulated to only violate one constraint, MParse. When MParse is low-ranked, the null parse candidate may be the winner of the evaluation, but, since it cannot be pronouced, it never actually surfaces. (See McCarthy 2002; McCarthy & Wolf 2005 for marginally different versions of the same idea.)

The Optimal Paradigms model (McCarthy 2005, Rice 2005, 2007) eliminates the stipulations necessary for the null parse candidate and MParse by proposing that the phonology evaluates paradigms rather than single words. It introduces the constraint family Max{cat}, demanding that morphological categories be expressed by the phonology. If Max{imp} outranks the phonotactic constraint against word-final rising sonority clusters, the paradigm with a gap in the imperative cell is selected, whereas, if the order is reversed, the imperative form undergoes some repair (like epenthesis, devoicing, syllabification of a consonant – see Rice 2005 for the various repair strategies).

Finally, Control Theory (Orgun & Sprouse 1999) introduces an extra component to the phonological grammar, containing inviolable constraints. The CONTROL component exam-

ines the output of the OT evaluation and either accepts it or rejects it. The latter case results in phonological ungrammaticality.

While all three of these approaches overcome the technical challenge of modelling ineffability in OT, they suffer from a crucial shortcoming: they do not take context into account. However, as Rice & Svenonius (1998) have shown, ineffability in Norwegian imperatives depends on the phonological shape of the word following the imperative.

(3) *Phonology forbids a consonant-initial preposition*

    a. Sykl opp bakken.   b. *Sykl ned bakken.
        bike up the.hill   bike down the.hill
        'Bike up the hill!'   'Bike down the hill!'

Thus, the paradigm of 'bike' in Norwegian *does* contain an imperative form, which fails to surface in certain contexts – something all three approaches mentioned fail to account for.

Furthermore, treating absolute ungrammaticality as a *phonological* property of *single paradigm cells* leads to empirically incorrect predictions. At least 3 kinds of phonologically empty categories need to be distinguished:

1. silent pronominals – whether these are allowed seems to be language-specific (and possibly syntactically motivated): Hungarian (4a) allows them, English does not.

2. null affixes – these seem to depend on arbitrary lexical specifications: in Hungarian, 3.SG. is expressed as zero suffix (4b), whereas in English 3.SG. is the only overt person/number suffix.

3. paradigm gaps.

Comparing ineffability with other cases of phonologically null elements, we find that phonologically unexpressed pronominals and zero suffixes are free to occur in grammatical sentences, but the presence of a paradigm gap makes the whole sentence ungrammatical.

(4) a. $\emptyset$ láttam a kutyát.   b. Lát-$\emptyset$ egy kutyát. c. *$\emptyset$ ned bakken.
       I saw   the dog.ACC   see-3.SG a   dog.ACC   jump down the.hill
       'I saw the dog.'   '(S)he sees a dog.'   'Jump down the hill!'

If the grammar treated paradigm gaps like other phonologically null elements, Norwegian sentences containing phonologically null imperatives would be grammatical, and there would be massive homophony between these types of sentences.

(5) a. *$\emptyset$ ned bakken.   b. *$\emptyset$ ned bakken. c. *$\emptyset$ ned bakken.
       climb down the.hill   bike down the.hill   jump down the.hill
       'Climb down the hill!'   'Bike down the hill!'   'Jump down the hill!'

We argue that these data cannot be satisfactorily accounted for by syntax or phonology alone, and need to be modelled by the interaction of the two subsystems. We see at least two logically possible technical implementations of this: either syntactic computation is sensitive to phonotactic information like sonority rise at syllable peripheries or syntactically well-formed sentences are filtered by the phonology, and the derivation crashes if it contains a phonologically uninterpretable paradigm gap. In either case, the view that phonology is a purely interpretive component cannot be maintained, since phonological properties of lexical items play a crucial role in determining the grammaticality of sentences. Thus, we believe that cases of ineffability provide solid arguments against the traditional Y-model of language.

The Necessity, but Invisibility of Counter-Cyclic Outputs:
Deducing Extraction Constraints and Transfer-Application from 3rd Factor Conditions on Language Design

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On purported invisibility

Chomsky (2008) suggests that the ban on the extraction of e.g. the PP complement from within Spec-T (*[PP of which car] did [the driver tPP] cause a scandal?*) follows in part from the stipulation that Spec-T is invisible (as a goal) to (the probe) C. Specifically, he proposes that Spec-T becomes invisible to further computation once its uninterpretable feature (= Case) is valued, generalizing the inactivity condition of earlier work (cf. Nevins 2005). By contrast, however, Spec-C (unlike Spec-T) continues to be visible after the valuation of its uninterpretable feature (= Case), thereby allowing e.g. successive cyclic *wh*-movement (**who do you think saw her?**). Exempting the construction of A-bar chains from such a generalized inactivity condition is a pure stipulation, and this asymmetry remains to be explained. The alleged invisibility of Spec-T poses another problem. Take the indirect question (**I wonder who saw her**). Under Chomsky's (2008) phase-based model, Spec-C and Spec-T (each occupied by *who*) must be created simultaneously, and Spec-T becomes invisible upon the valuation of its uninterpretable feature (= Case). But then, how can Spec-T, being invisible, count as a position lower than Spec-C? The calculation of the relative heights of Spec-T and Spec-C raises another rather difficult question. As is generally assumed, the phonological component PHON deletes Spec-T if (i) Spec-C and Spec-T are each occupied by *who*, and (ii) Spec-T counts as a position lower than Spec-C. But if Transfer sends to PHON just the phase-head-complement TP, and PHON can operate solely on this TP domain, then how does PHON get to know that Spec-T is a position lower than Spec-C? Chomsky's (2008) analysis thus confronts (at least) the following three questions: (Q1) How does Spec-T become invisible, while Spec-C continues to be visible? (Q2) How can the height of Spec-T be calculated when Spec-T itself is invisible? and (Q3) How does PHON get to know the relative heights of Spec-T and Spec-C (information necessary for PHON to delete Spec-T)? In this paper, we seek to provide a principled answer to each of these questions, and argue that this can be done by advancing a "strongly" derivational model of syntax.

Deducing the invisible status of Spec-T as a property of the independently motivated derivational model

Under the derivational approach (Epstein et al. 1998, Epstein and Seely 2002, 2006), the narrow syntax NS establishes syntactic relations derivationally, and no syntactic relation can be arbitrarily defined on output representations (contra GB theory). Specifically, c-command is the relation that Merge establishes between α and terms of β at the exact point of merging α with β. One unique property of this approach is the following: Suppose α is merged counter-cyclically with an embedded category γ, where γ is not the root but is a distinct term of β (i.e. γ is embedded within β). Representationally, all the terms of β above γ would either c-command or dominate α. But derivationally, these higher terms of β will neither c-command nor dominate α. Why? Because when these higher terms of β underwent their birth-merger, they were not merged with a category containing α in its counter-cyclically merged position. Thus, these higher terms of β bear no derivational relation to such α. Applying this derivational analysis of syntactic relations to the CP phase cycle, it follows (without stipulation) that neither C nor Spec-C c-commands Spec-T. To see why this is, recall the indirect *wh*-question (**I wonder who saw her**) and consider the following trees (indices are introduced only for expository purposes, and the linear order is irrelevant):
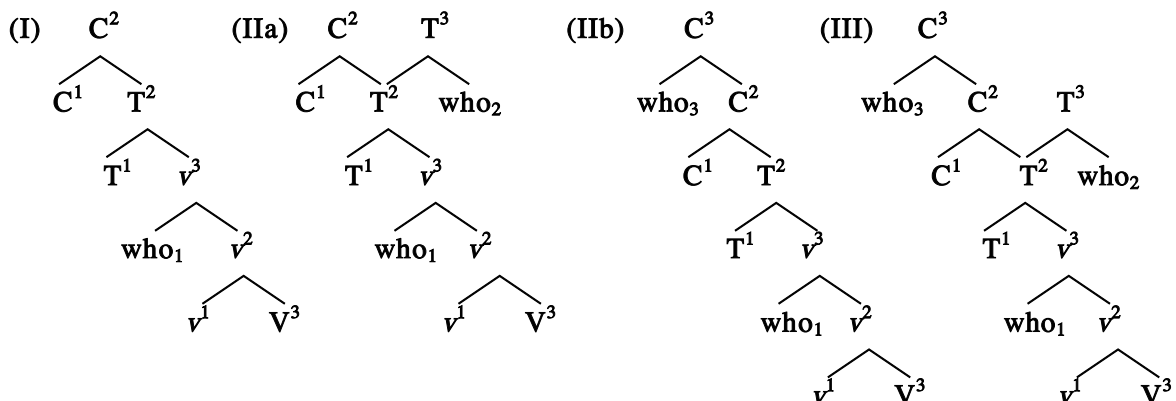
Within Chomsky's (2008) feature-transfer analysis (see also Richards 2007), External Merge (EM) merging C^1 with T^2 (yielding (I)) precedes the necessarily simultaneous applications of Internal Merge (IM) (yielding (III)), which create Spec-T and Spec-C by merging *who* with T^2 (forming (IIa)) and *who* with C^2 (forming (IIb)), respectively. With this execution of merger operations, it naturally follows that *who$_2$* (= Spec-T) c-commands every term of its merged sister T^2 (= [$_{T2}$ T^1 [$_{v3}$ who$_1$ [$_{v2}$ v^1 V^3]]]), but neither C^1 nor *who$_3$* (= Spec-C) c-commands *who$_2$* (= Spec-T). Why? Because C^1 was merged with T^2 (of which Spec-T was not at the time, a term), *who$_3$* (= Spec-C) was merged with C^2 (of which Spec-T was not at the time, a term), and c-command relations are established at the exact point of merger (not inexplicably defined on output representations). The present analysis thus deduces the invisible status of Spec-T to both C^1 and Spec-C as a property of the derivational model, while allowing Spec-C to continue to be visible to any "higher" category merged to a category of which Spec-C is a term – thereby allowing successive cyclic movement.

Explaining why Transfer applies when and how it does

The simultaneous applications of IM (one of which forms Spec-T counter-cyclically), in effect, create an object with "two peaks," in which the term T^2 (= [$_{T2}$ T^1 [$_{v3}$ who$_1$ [$_{v2}$ v^1 V^3]]]) is "shared" by the two peaks C^3 and T^3 (as shown in (III)) (cf. Citko 2005). Such a two-peak object, however, does not meet Chomsky's (1995) definition of syntactic object since it is neither a lexical item nor of the type $\{\gamma, \{\alpha, \beta\}\}$. Also, under minimal search (imposed by independently proposed 3rd factor considerations), only the label (= head) of the root can be accessed to drive further operations. Thus, NS confronts the following problem: NS cannot continue the derivation from the point at which a two-peak object emerges, because it is neither a syntactic object nor a root. To resolve this problem, then, we propose that Transfer (immediately) removes one peak from the two-peak object. Specifically, Transfer targets the label T of the shared term T^2 (= [$_{T2}$ T^1 [$_{v3}$ who$_1$ [$_{v2}$ v^1 V^3]]]) and removes every object projected by the label T. This algorithm explains why Transfer applies when it does (every time that and only when a two-peak object is created by the counter-cyclic application of IM – invariably induced by the independently motivated property of a phase-head), and it also explains why Transfer removes everything but the phase-head and its specifier(s) (i.e. removing the peak T^3 (= [$_{T3}$ who$_2$ [$_{T2}$ T^1 [$_{v3}$ who$_1$ [$_{v2}$ v^1 V^3]]]]) while stranding the edge of the peak C^3 (= [$_{c3}$ who$_3$ [$_{c2}$ C^1 ---]]).

Calculating the height of invisible Spec-T from its visible occurrence

Consider again, the above trees (in particular, (III)). Chomsky (2008) suggests that the simultaneous applications of IM form a relation between *who$_2$* and *who$_1$*, and a relation between *who$_3$* and *who$_1$*, but not a relation between *who$_3$* and *who$_2$*, because there is no application of IM involving the positions of *who$_3$* and *who$_2$*. We argue that the invisible status of Spec-T to both C and Spec-C is deducible from the derivational analysis of syntactic relations. If this deduction is on the right track, then the height of Spec-T is not calculated by the position of Spec-T itself. Instead, we propose that the height of Spec-T should be calculated by the position of its occurrence. Chomsky (1995) defines an occurrence of K as a category to which K is merged. An occurrence of Spec-T is then its merged sister T^2. Under this occurrence-based calculation, the position of a category is uniquely determinable by reference to its merged sister. Thus, Spec-T counts as a position lower than Spec-C, because T^2 (= the occurrence of Spec-T) is a distinct term of C^2 (= the occurrence of Spec-C), and this crucial "term-of" relation between T^2 and C^2 was established derivationally.

Toward a "strongly" derivational model of syntax

The occurrence-based calculation alone, however, cannot provide an answer to (Q3). Recall, If PHON knows the relative heights of Spec-T and Spec-C, then it can delete lower Spec-T when necessary to do so. But if Transfer sends to PHON just the phase-head-complement, e.g. T^3 in (III), then a question arises: How does PHON get to know that T^2 is a distinct term of C^2 (information necessary for PHON to delete Spec-T)? A natural answer would be that NS provides PHON with syntactic information at the exact point of establishing it. Optimally, this dynamic relation should extend to the relation between NS and the semantic component SEM. This is reminiscent of Epstein et al's (1998) "strongly" derivational model of syntax, in which syntactic information is provided to PHON and to SEM derivationally. Under current assumptions, however, Transfer applies when a two-peak object emerges, and it functions as a gatekeeper. That is, when Transfer opens the gate, some of the locked materials are released to PHON and to SEM, but all of the information contained in the object that NS is currently working on is available. Thus, PHON can see that Spec-C is higher than Spec-T, though PHON actually receives (and is permitted to work on) T^3.

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Scalar implicatures and the acquisition of perfective prefixes in child Russian
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This paper aims to extend the research on scalar implicatures to the acquisition of perfective prefixes and aspectual contrasts in child Russian. Previous comprehension studies show that Russian children are adult-like when asked to interpret perfective verbs that refer to telic eventualities (e.g. **s**jest' jaloko 'to eat up an apple') (Stoll 1998, 2005; Vinnitskaya & Wexler 2001). However, children have difficulties with perfectives marked with prefix *za-* which encodes inceptive aspect as in *zaplakat'* (to begin to cry). In addition, they also misinterpret perfectives marked with prefix *po-* which has delimitative semantics ('to do something for a while, excluding an endpoint') (Stoll 2005; Gavruseva 2008).

More specifically, in the situations where 3- to 4-year-olds watch a telic and delimitative versions of the same event (e.g. 'build a tower' vs. 'work on building a tower') and then hear a sentence with a *po-* perfective, some children incorrectly and consistently match the *po-* predicate with a telic version. While truth-conditionally correct (a telic event includes a delimitative one), this response pattern is pragmatically infelicitous because the context includes a delimitative version that is a better match. One possible interpretation of this non-adult response pattern is that children have trouble deriving scalar implicatures (triggered by *po-* perfectives) at the syntax/semantics interface.

The delimitative *po-* prefix and telic perfective prefixes form a type of scale akin to <finish, start>, where telic prefixes are strong members and *po-* is the weaker one (*po-* implicates 'not telic'). Both po- and telic prefixes attach to the same verb stem, as in *po-risovat' zvyozdochku* (= 'to work on drawing a star') vs. *na-risovat' zvyozdochku* (= 'to draw a star').

Prior research suggests that aspectual scales (of the <finish, start> type) are problematic for children who fail to derive implicatures generated by the weaker element and hence accept infelicitous statements (Papafragou & Musolino 2003).

The hypothesis to be explored in this paper is that scalar implicatures are involved in the acquisition of perfective prefixes and therefore children are predicted to misinterpret 'weaker' prefixes. 25 children (mean age 4) were tested on comprehension of two sets of prefixes <telic, po-> (Condition A) and <u-, ot-> (Condition B). Prefix *u-* denotes a change in location with subsequent disappearance of an actor (e.g. *u-* combined with 'run' [*u-bezhat'*] means 'to run off'). Prefix *ot-* denotes a change in location only (*ot-* combined with 'run' [*ot-bezhat'*] means 'to run some distance'). Prefixes *ot-* and *po-* are the weaker elements and generate the implicatures 'not *u-*' and 'not telic' respectively. In the experiment, a child and a puppet watched short scenarios acted out with toy-props. Two versions of the same event were presented to a child on four trials. The puppet described both events but asked the child to point to the one that corresponded to a *po-* or *ot-* predicate.

The results show that the two sets of prefixes are not equally problematic for the children who give significantly more correct responses in B than in A (p=.0268, as determined by the logistic regression model). A further analysis established three groups of children: (i) 1st is adult-like in Conditions A & B, (ii) the 2nd group is non-adult-like in both A & B, and (iii) the 3rd group is adult-like in Condition B <*u-, ot-*> but not in Condition A <*telic, po->*. There were no children who responded correctly to *po-* and incorrectly to *ot-*. These patterns suggest that the knowledge of <*u-, ot-*> emerges first. The greater difficulties with <*telic, po*> predicates may indicate that the acquisition of perfectivity semantics interacts with children's understanding of event structure. Telic prefixes refer to eventualities in their entirety, meaning that a perfective construal does not highlight any temporal interval (e.g. the beginning, middle, or end phase of an event). Prefixes <*u-, ot-*> refer to eventualities that indicate how an event unfolds in space (change in location from point A to point B), with spacial relations having no 'natural' endpoint phrase. On the other hand, *po-* combined with telic predicates ('to build a tower') signals how an event unfolds in time, with an implication that a natural endpoint is not reached. If children fail to partition an eventuality into temporal intervals (phases), it could suggest that perfectivity in children's language is limited in semantic scope. This research contributes to the studies on syntax/semantics interface by investigating the acquisition of aspectual contrasts in relation to scalar implicatures and event structure.

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Frequency adjectives and an ontological solution to a compositional problem
Berit Gehrke & Louise McNally (Universitat Pompeu Fabra)

Frequency adjectives (FAs) such as *occasional*, *frequent*, and *daily*, pose two sorts of challenges for semantic composition. First, though FAs intuitively describe events, they can combine not only with event-denoting nouns but also with nouns that do not denote events (see (1)). Moreover, as Stump 1981 notes, the resulting interpretation is not always uniform (contrast the paraphrases in (1a) and (1b)).

(1) a. An occasional beer is good for you. = Drinking a beer occasionally is good for you.
　　b. An occasional beer tastes good on a hot day. ≠ Drinking a beer occasionally…

The sentences in (1) illustrate the so-called *generic* reading of FAs (Stump 1981, Schäfer 2007). However, Stump 1981 argues that FAs have at least two additional readings – an *internal* reading ((2a)), which will not concern us further here, and an *adverbial* reading ((2b), originally observed in Bolinger 1967). The second, and more difficult, composition problem arises with this latter reading.

(2) a. That claim was made by an occasional sailor. = …by someone who sails occasionally.
　　b. The / An occasional sailor strolled by. = Occasionally, a sailor strolled by.

Stump 1981, Larson 1998 and Zimmermann 2003 provide a semantics for the adverbial reading; their analyses all effectively treat the FA as a quantifier. Zimmermann's analysis, sketched in (3), is representative (*e* is a syntactically represented event argument; semantic details which are irrelevant for our purposes are omitted):

(3) a. $[_{IP}[_{QP}[_Q$ the/an+occasional$_1$]$[_{NP}$ t_1 sailor]]$[_{VP}$ e strolled by]
　　b. *an/the occasional*: $\lambda P\lambda Q[\text{INFREQ}\langle e,x\rangle][\textbf{part-of}(e,e^*) \wedge Q(x)][S(e,x) \wedge ….]$

Since there are certain semantic and syntactic problems for raising the adjective by itself to get scope over the verb's event argument (see Larson 1998, Zimmermann 2003), Zimmermann syntactically incorporates the FA into the determiner, which forms a complex quantifier with it, roughly following Larson. This analysis correctly predicts the fact that *occasional* on this reading occurs only with a very limited set of determiners (mainly *a* and *the*) and that these determiners appear to have no semantic import: determiners with 'inherent semantic content' (which *a* and *the* by assumption must lack) cannot participate in complex quantifier formation because their inherent semantic content must not be overwritten.

　　The problem with this sort of analysis is that there is no independent motivation for the determiner-like syntax and semantics for FAs. First, there is no trigger for the movement of the FA in (3a) that licenses the adverbial reading. Second, if the FA is interpreted as a complex quantifier, it is not really clear why it must be accompanied by a real determiner (cf. the ungrammaticality of (4)):
(4) *Occasional sailor strolled by.
Finally, it is far from obvious how to extend the semantics in (3b) to the other readings, and indeed Stump 1981 provided a radically different semantics for the generic reading. Schäfer 2007 is the first attempt we know of to provide a (relatively) unified analysis for all readings of FAs, but his analysis of the adverbial reading in particular suffers from technical problems. In this paper, we argue that these problems can be solved, and a version of Schäfer's unified analysis maintained, if we make one simple, novel, and easily justifiable assumption: that sentences can be used to make assertions not only about events, but also about *event types*.

　　Our semantics for *occasional* follows Schäfers in that the FA combines with a nominal to yield a description of a kind. The rest is different. The FA modifies the kind indirectly, by directly modifying an event kind in which the nominal kind participates. This event is

described by the variable Q_i, which gets its value contextually. Though by default the value of Q_i is **drink** for a beer, we might imagine Q_i getting other values in very specific contexts.

(5) a. *ocasional*: $\lambda P \lambda x_k \exists e'_k [Q_i(e'_k, x_k) \wedge P(x_k) \wedge \mathbf{occasional}(e'_k)]$
    b. *occasional beer*: $\lambda x_k \exists e'_k [Q_i(e'_k, x_k) \wedge \mathbf{beer}(x_k) \wedge \mathbf{occasional}(e'_k)]$
    c. *a/the occasional beer*: $\iota x_k \exists e'_k [Q_i(e'_k, x_k) \wedge \mathbf{beer}(x_k) \wedge \mathbf{occasional}(e'_k)]$

This analysis, like Zimmermann's, straightforwardly captures the fact that FAs almost always combine only with the definite or indefinite articles, but without requiring the stipulation that these articles are contentless. We argue that the articles that appear with FAs are precisely those that are compatible with kind terms. Moreover, the analysis avoids positing unmotivated syntactic movement and maintains a standard semantics for the adjective.

    We then derive the generic readings in (1) as well as the adverbial reading from the representation in (5c). The semantics for (1a) and (1b) appear in (6a) and (6b), respectively.

(6) a. $\exists e_k [\mathbf{good\text{-}for\text{-}you}(e_k, \iota x_k \exists e'_k [Q_i(e'_k, x_k) \wedge \mathbf{beer}(x_k) \wedge \mathbf{occasional}(e'_k)])]$
    b. $\exists e_k [\mathbf{tastes\text{-}good}(e_k, \iota x_k \exists e'_k [Q_i(e'_k, x_k) \wedge \mathbf{beer}(x_k) \wedge \mathbf{occasional}(e'_k)])]$

The parallel in the representation of the nominal amounts to the claim that the difference in interpretation noted in (1) is illusory: the nominals in both (1a) and (1b) could be paraphrased as "a kind of thing which is beer and is drunk occasionally (by the relevant person)".

    The adverbial reading for *Sara drank an occasional beer* (ignoring tense) appears in (7).

(7) $\exists e_k [\mathbf{drink}(e_k, \mathbf{Sara}, \iota x_k \exists e'_k [Q_i(e'_k, x_k) \wedge \mathbf{beer}(x_k) \wedge \mathbf{occasional}(e'_k)]$

We suggest that for such an event kind to exist, there must be appropriate event tokens that support its existence. If Q_i is fixed to $\lambda x_k \lambda e_k [\mathbf{drink}(e_k, \mathbf{Sara}, x_k)]$, this will entail that there have been on occasion drinking event tokens involving beer .

    Although the semantics in (5) is very similar to Schäfer's, as will be shown in detail in the talk, Schäfer does not show how his semantics for the nominal is combined with the semantics for the rest of the sentence. We will show that under the standard assumption that sentences quantify over event tokens, Schäfer's analysis produces incorrect readings.

    A final advantage of our analysis is that it correctly predicts that only non-episodically used tenses can appear on the main verb.

(8) a. ??She was reading an/the occasional book.
    b. ??This year, she has written an/the occasional book.

We will argue that such tenses are only appropriate when one is making assertions about event tokens, as opposed to event types.

    When semantic composition becomes problematic, invariably there is some trade-off between maintaining the simplest possible assumptions for one part of the grammar (syntax, lexical semantics, or semantic composition rules) and complicating them for another. We argue in this case that the preferable analytical alternative is a small change in our assumptions about what sentences can denote – exactly parallel to one independently motivated in the nominal domain for the analysis of natural kinds – with the result that no special assumptions are needed for syntax or semantic composition.

Rightward movement and the syntax-phonology interface
Edward Göbbel, University of Wuppertal

This paper discusses several rightward movement constructions in English in order to show that displacement can be triggered by phonological interface constraints or constraints on prosodic structure. I will argue that rightward movement can occur either in the syntax or at PF. The syntax can therefore anticipate constraint violations in some cases, but not in others.

First I will discuss extraposition (EX) from NP in order to motivate an approach to the syntax-phonology mapping in which successive cyclic spell-out of phases does not only linearize terminal nodes, but also creates a hierarchical PF representation, which phonological interface constraints like ALIGN LEX^0/XP (Selkirk 1995, Truckenbrodt 1999) can access. Furthermore, cyclic spell-out also specifies an initial prosodic structure, in which a syntactic phase corresponds to a major phonological phrase (MaP). Granted this model of the syntax-phonology mapping, EX can be described as a follows: If the syntactic phase contains a complex NP as in (1), the initial prosodic structure invariably violates Align XP twice, because the right edges of two NPs are not aligned with a MaP boundary. So either a MaP boundary is inserted (1b) or the PP complement is removed and mapped to a separate MaP (1c).

(1) a. (You'll find a review of Túrner in your ín-tray)$_{MaP}$
    b. (You'll find a review of Túrner)$_{MaP}$ (in your ín-tray)$_{MaP}$ √
    c. (You'll find a revíew in your ín-tray)$_{MaP}$ (of Túrner)$_{MaP}$ √

On this view EX occurs at PF and can be modelled within an OT framework, in which the alternative structures are made available by GEN. The optionality of movement is attributed to free ranking of Align XP and a faithfulness constraint that wants to preserve the phrasing specified by the syntax. The appropriateness of a PF-movement approach is supported by the fact that EX is phase-bound, does not necessarily freeze the moved constituent as well as by traditional c-command tests like variable pronoun binding and NPI-licensing. A PF-movement approach is also appropriate for EX of light PPs, which can target the right edges of MaPs, as in (2). Essentially following Selkirk's (1995) analysis of the prosodic structure of function words, I will argue that a constraint on minor phonological phrases (MiPs), namely ALIGN MiP, which requires a MiP to end in a prosodic word (PWd), can either force a light PP to incorporate into the prosodic word to the left as an affixal clitic, or it is removed from that MiP. However, it may end up as a clitic on another PWd, as in (2b/c), or it is prosodised as a PWd at the right edge of the MaP (3).

(2) a. (I réad a revíew *of it* today)$_{MaP}$ (in Tíme mágazine)$_{MaP}$
    b. (I réad a revíew today *of it*)$_{MaP}$ (in Tíme mágazine)$_{MaP}$
    c. (I réad a revíew today)$_{MaP}$ (in Tíme mágazine *of it*)$_{MaP}$
(3) How clóse *to it* is it? [tʊɪt] ⇒ How clóse is it *to it*? [tʰuːɪt]

Whereas EX from NP provides evidence for adjustment of PF (or 'surface' syntactic) representations to the requirements of phonological (interface) constraints, there is evidence from heavy NP shift (HNPS), or heavy XP shift more generally, that displacement can occur in the syntax. Traditional c-command tests and subextraction data lead to the conclusion that the light constituent can be scrambled leftward (4). On the other hand, the heavy NP can also move, since HNPS is not clause-bound.

(4) a. *Who did Bill explain [to t] Newton's law of gravitation.
    b. What did Bill recommend to Mary [an interesting book about t]?

It has been argued that several factors are responsible for the displacement of an NP from its canonical position to the right edge of a sentence. Relative weight, focus structure as well as processing/production considerations are among them (cf. Wasow 2002). I will argue that the conditioning factors are phonological constraints. Syntactic complexity and focus structure

are directly reflected in the prosodic structure and either leftward movement of the defocused material or movement of the heavy NP is a repair strategy which adjusts the syntactic structure to conform to phonological constraints, once the structure has been spelled out.

Firstly, focus on an internal argument has the effect that the head of a MaP or intonational phrase (IP) is not aligned with the right edge of the phrase. I will argue that head-alignment constraints (Truckenbrodt 1995, Samek-Lodovici 2005) are responsible for the right-edge position of the NP/CP in (5). For example, the light PP in (5a) must be prosodised as a prosodic word at the right edge of the MaP, but can be incorporated as an affixal clitic after NP shift.

(5)   What did you explain to Mary?
   a.   (I expláined my próblem to her)$_{MaP}$ → (I expláined to her my próblem)$_{MaP}$
   b.   [(I expláined why I was láte for wórk) $_{MaP}$ to Mary]$_{IP}$ →
        [(I expláined to Mary)$_{MaP}$ (why I was láte for wórk) $_{MaP}$]$_{IP}$

Secondly, HXPS regularly occurs in focus neutral (broad focus) contexts and has been blamed on the elusive notion of heaviness. Essentially following Selkirk (2001) and Ghini (1993), I translate heaviness into phonological size constraints. Crucial here is the size of an IP, formulated as the constraint BINIP in (6). A root sentence is contained in one IP (Downing 1970, Selkirk 2005), whereas embedded sentences are phases in the syntax that correspond to MaPs in prosodic structure. The more complex the internal argument contained in a root sentence, the larger the number of MaPs created in the process of mapping the whole sentence onto prosodic structure. Rightward positioning of the argument allows restructuring of the prosodic structure of the sentence in such a way that it conforms to BINIP. The result is a 'stylistically' more balanced sentence. In (7), mapping the sentence onto prosodic structure results in three MaPs, which violates BINIP. This can be remedied by rightward shift of the PP. In (8), an IP containing four MaPs is adjusted to an utterance containing two binary IPs.

(6)   BINIP: An intonational phrase contains two major phonological phrases.
(7)   a.   [(He wórked on mángroves)$_{MaP}$ (that grów in Pánama)$_{MaP}$ (with Melínda) $_{MaP}$]$_{IP}$ ⇒
      b.   [(He wórked with Melínda)$_{MaP}$ (on mángroves that grów in Pánama)$_{MaP}$]$_{IP}$
(8)   a.   [(The President has been requesting)$_{MaP}$ (that he should find a solution)$_{MaP}$ (to the United States' growing mortgage crisis)$_{MaP}$ (ever since last week)$_{MaP}$]$_{IP}$ ⇒
      b.   [(The President has been requesting)$_{MaP}$ (ever since last week)$_{MaP}$]$_{IP}$ [(that he should find a solution)$_{MaP}$ (to the United States' growing mortgage crisis)$_{MaP}$]$_{IP}$

Thirdly, I will address restrictions on rightward movement of internal arguments. Rightward movement is ruled out if the resulting prosodic structure violates the strict layering of prosodic constituents (i.e. Exhaustivity). For example, in (9) an adverb like *immediately*, as opposed to *angrily*, is necessarily focused and emphatic, inducing an IP-boundary. The moved NP must be large or prominent enough to be prosodised as a separate IP. The NP in (9b) cannot be more than a MaP and is ruled out by Exhaustivity at the level of the utterance.

(9)   a.   (The Président fíred ángrily)$_{MaP}$ (an Áir Fórce géneral)$_{MaP}$
      b.   *The President fired immediately an Air force general.
      c.   (The President fired imMEdiately)$_{IP}$ (a híghly decorated géneral)$_{IP}$

In sum, rightward movement in English can occur in the syntax or at PF in order to satisfy phonological (interface) constraints. The analysis of EX supports a phase-based model of the syntax, while HXPS constructions provide evidence that the syntax has (presumably limited) access to PF, particularly due to the fact that none of the constraints that trigger this operation is an interface constraint. Focus cannot be invoked as a syntactic trigger since HXPS is not a true focus construction.

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The Phonology and Syntax of Sub-Words
Vera Gribanova, University of California, Santa Cruz

This talk explores two approaches to the interface between morphosyntax and phonology at the sub-word level. The first approach, embodied by the work of Arad (2003), Marantz (2001, 2007) and Marvin (2003), proposes that words are built syntactically, with functional, category-defining phase heads playing the crucial role of "fixing" both morphophonological and semantic information before further word formation takes place. A second approach, along the lines of Ackema and Neeleman (2004), explores the possibility that certain parts of words are built by a separate morphological module, and inserted as complex heads into syntax in compliance with a set of constraining principles. I explore the phonological consequences of these approaches in the domain of Russian lexical prefixes (LP), and demonstrate that a successful analysis of LP requires starkly different assumptions about the structure of the syntax-phonology interface at the sub-word level for each treatment. Models that adopt the derivation-by-phase approach must either augment the traditional notion of phase, or subscribe to a phonology in which constraints can be re-ranked at different cycles (as in Kiparsky 2000). Models that allow for a separate morphological component can account for the LP data using a traditional version of OT (Prince and Smolensky, 2004), without strata. I argue that a less stipulative and more elegant analysis can be obtained on the latter approach.

LP are understood as pre-theoretically "close" to the root largely due to the availability of non-compositional LP-stem meanings (1), their participation in bare (2a) as well as complex nominal forms (2b), and their ability to change the stem's argument structure (3), among other properties (as described in Isačenko 1960; Babko-Malaya 2003; Svenonius 2004a,b, *inter alia*).

(1) iz-gnat^j *out-chase* 'drive away'
     iz-lučit^j *out-shine* 'emit'
     iz-ložit^j *out-put* 'put into words'
     iz-brat^j *out-take* 'elect'

(2) a. rassmotr
         LP-look (root)
         '(a) look-through, consideration'
     b. rassmotrenie
         LP-look.PASS.NOM
         'examination (abstract)'

(3) a. Sobaka ležala (*odejalo).
         Dog   lay^I (*blanket)
         'The dog lay (*the blanket).'
     b. Sobaka proležala odejalo.
         Dog   lay^P blanket
         'The dog wore out the blanket by lying on it.'

Under an approach along the lines of Arad 2003, LP should be joined with a root before the merger of a category-defining phase head (*n* or *v*). Since this phase-head will induce spell-out, the semantics of the LP-root chunk are correctly predicted to be fixed. Spell-out also ensures that the chunk so formed should be impervious to any further phonological manipulation. As (4) suggests, the evidence does not bear out this last prediction. Instead, a bracketing paradox involving jers — underlyingly present vowels, alternating with zero in certain contexts — arises (Lightner, 1972; Pesetsky, 1979, 1985; Rubach, 1986; Matushansky, 2002).

(4) a. sžog 'burned.3SG.M' / sožgla 'burned.3SG.F'
         podžog 'set fire to.3SG.M' / podožgla 'set fire to.3SG.F'
     b. sčol 'consider.3SG.M' / sočla 'consider.3SG.F'
     c. podobral 'pick up.3SG.M.PST' / podberjot 'pick up.3SG.FUT'
         otobral 'take away.3SG.M.PST' / otberjot 'take away.3SG.FUT'

d.   obozval 'call names.3SG.M.PST' obzovu 'call names.3SG.FUT'

In (4), roots /žOg/, /čO/, /bOr/ and /zOv/ contain underlying root-internal jers (capitalized), which would have to be deleted or vocalized upon spell-out of the LP-root combination. Changes to gender marking (4a,b) and to tense marking (4c,d) trigger changes to the root jer vowel; this vowel should have been either deleted or vocalized upon spellout of the LP-root, thus either the form on the left or the one on the right in (4) is left unaccounted for. The LP /podO/, /obO/ and /sO/ also contain final jer vowels, which are present in the left-hand forms, but absent in the right-hand forms; this, too, appears to be triggered by changes of gender or tense features. If spelled-out chunks are opaque to further phonological processes, then it is not clear how the phonological form of the root can be altered via the addition of functional material much later in a derivation. Instead, the theory predicts incorrect forms like *[sžogla] or *[sožg]).

Predicting the correct forms on this view requires augmenting the traditional notion of phase-hood as put forth in Chomsky 2001. We may concede that some category-defining heads induce spellout only to LF, but not PF; but positing a special status for category-defining heads appears analytically suspicious without additional motivation. Alternatively, we might invoke derivational phonology approaches, such as Stratal constraint re-ranking, as a way of preventing the constraints that govern jer realization from applying until the entire verb, with all its sub-parts, has been built. But this solution poses computational challenges of its own, since it requires that language-particular phase-boundaries be associated with lexical strata.

I entertain an alternative approach in which LP and the root are joined in a separate morphological module. At LF, the semantic closeness of the LP-root relationship will be read from the morphosyntactic bracketing. At PF, the verb's structure is analyzed via a combination of Ito and Mester's (2006) version of the prosodic hierarchy — which allows prosodic adjunction and recursivity — and the rankable constraints provided by standard OT. The relevant constraints include a revised version of Yearley's (1995) DEP-μ (moras in the output correspond to moras in the input), which forces the deletion of (by assumption mora-less) jers unless there are higher-ranked markedness constraints. I also invoke a highly-ranked alignment constraint that requires the word's root to be left-aligned with ω_{MIN}, which ensures, for example, that the optimal output for the past tense form in (4c) has the structure in (5).

(5)
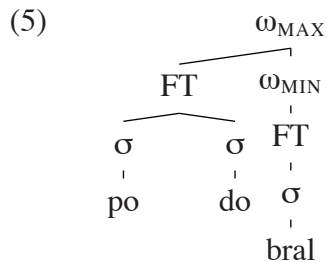
The localizing of DEP-μ to domains, and ranking of the two constraints DEP-$\mu(\omega_{\text{MIN}}) \gg$ DEP-$\mu(\omega_{\text{MAX}})$ ensures that jers contained in the root and suffixes are always deleted/vocalized within ω_{MIN} independently of the presence of LP, which is considered for jer deletion/vocalization as an appendix in ω_{MAX}.

In broad terms the suggestion is that language-specific variation as to whether or not certain parts of words have the same phonological bracketing as their morphosyntactic bracketing can best be handled by a theory that allows for the existence of separate morphosyntactic and prosodic modules. Phase-based theories of word-formation, which rely crucially on the universal properties of phases as opaque chunks at all branches of the grammar, are not the ideal device for describing such variation.

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<h1 style="text-align:center">MOVEMENT AND AGREEMENT IN RIGHT-NODE RAISING CONSTRUCTIONS</h1>

<p style="text-align:center">Patrick G. Grosz (Massachusetts Institute of Technology)</p>

Introduction: In this talk, I discuss how movement and agreement interact with Right-Node Raising. I argue for a view of syntax where indvidual sharing of adjacent nodes is possible in one derivation. This has broader implications for the nature of derivations and linearization.

Background: *Right-Node Raising* (RNR) constructions are coordinations where a right-peripheral, "shared" element behaves as though it was part of both conjuncts, cf. (1).

(1) a.   John buys and Sue burns **books**. ≈ John buys **books** and Sue burns **books**.
   b.   John bought and Sue burned **10 books in 30 minutes**.
      ≈ John bought **10 books in 30 minutes** and Sue burned **10 books in 30 minutes**.

RNR has been analyzed as *backward deletion* (Wexler & Culicover 1980, (2a)), *Across-the-Board* (ATB) *movement* (Ross 1967, (2b)) and *multi-dominance* (McCawley 1982 / Wilder 1999, (2c+d)). Most multi-dominance approaches to RNR assume that only single nodes can be shared, as in (2c). In contrast, Gracanin-Yuksek (2007) argues that RNR structures may involve individual sharing of separate nodes, as in (2d).

(2) a.   *PF-Deletion:*   [John buys ⟨~~books~~⟩ and Sue burns **books**].
   b.   *ATB-Movement:*   [John buys t_{books} and Sue burns t_{books}] **books**.
   c.   *Multi-Dominance of a single node:*   d.   *Multi-Dominance of separate nodes:*
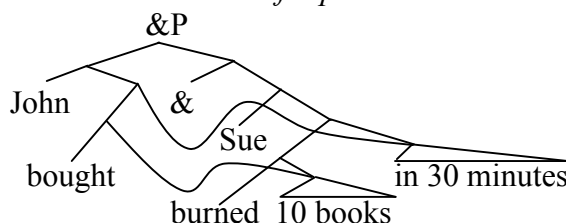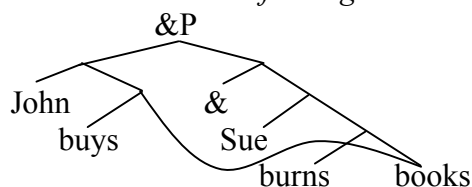
The Facts: I discuss a new set of data supporting a multi-dominance analysis and show that the analysis requires a multiple sharing structure as in (2d). An unshared phrase can occur in a medial position within the unshared material, even when its base position is both followed and preceded by shared material. Examples include Raising (3a) and Wh-Movement (3b).

(3) a.   [Bill thinks ***John*** is __] and [Jack thinks ***Mary*** isn't __] likely *t* to be sleeping.
   b.   [John wonders ***what*** Bill __] and [Jane knows ***what*** Jim __] will bring *t* to the party.

Crucially, such constructions exhibit *cumulative* number agreement (cf. Postal 1998, Yatabe 2003). Shared elements that agree with pairs of unshared elements in ϕ-features exhibit plural agreement even if the unshared elements are singular, cf. (4)+(5).

(4)   [Sue's proud that ***Bill***[SG] __] and [Mary's glad that ***John***[SG] __] **have**[PL] / **?*has**[SG] travelled to Cameroon.

(5)   [I saw [DP ***the linguist***[SG] t_{RC}] yesterday __] and [I'll meet [DP ***the philosopher***[SG] t_{RC}] tomorrow __] [RC who **were**[PL] / **?*was**[SG] dancing at your house-warming party].

Why Not ATB-Movement? These data are incompatible with ATB-movement accounts to RNR, as it can be demonstrated that the moved elements reconstruct separately into the scope of shared material, shown in (6). (In addition to reconstruction for scope, these constructions also pass movement tests such as the expletive test and the idiom test.)

(6)   [**A young lady₃** was __] and [**a doctor with a good reputation₇** wasn't __] likely *t₃* / *t₇* to win the popularity vote.   (✓*likely » ∃*)

Under an ATB-movement account to RNR, (6) would instantiate *remnant movement*. Such movement induces freezing effects (Barss 1986, Bobaljik & Wurmbrand 2005): no element may reconstruct into the remnant or covertly move out of the remnant, as illustrated in (7).

(7) a.   ... and a soldier died in every battle that day.   ∀»∃ / #∃»∀
   b.   # ... and [die in every battle] a soldier did that day.   *∀»∃

As reconstruction is possible in (6), we conclude that no remnant movement is involved, i.e. RNR cannot be ATB-movement. As expected, freezing effects re-emerge if we front the shared material *across the board*, shown in (8).

(8) [Likely *t* to win the popularity vote]$_2$ [**a young lady** was __] and [**a doctor with a good reputation** wasn't __] t$_2$.   (?*likely » ∃)

Why Not Deletion? Cumulative agreement is evidence against a deletion account for RNR, as this agreement can be shown to be grammatical. We can rule out *default plural agreement*: (9a) and (9b) differ only in the case marking of the DPs (cf. Bobaljik & Wurmbrand 2005).

(9) a. dass **der Traktor** zu reparieren und **der Wagen** zu verkaufen versucht **wurd-en/?-e**
that the$_{NOM}$ tractor to repair   and the$_{NOM}$ wagon to sell   tried   were/?was

   b. dass **den Traktor** zu reparieren und **den Wagen** zu verkaufen versucht **wurd-e/*-en**
that the$_{ACC}$ tractor to repair   and the$_{ACC}$ wagon to sell   tried   was/*were
'that they tried to repair the tractor and to sell the wagon.'

We can further rule out *sense agreement* (i.e. semantic agreement between the verb and an abstract plurality): As illustrated for gender agreement in (11), relative pronouns must agree with the N head in grammatical gender and cannot pick up the natural gender (of *das Mädchen* 'the girl' in (11)). Yet we find plural agreement in (10).

(10) Ich hab **den Mann** getroffen und **den Buben** gesehen, **die**   dort   gesungen **haben**.
I   have the man$_{[SG]}$ met   and the boy$_{[SG]}$ seen   who$_{[PL]}$ there sang   have$_{[PL]}$
'I have met the man and seen the boy who were singing there.'

(11) Ich hab **das Mädchen** gesehen, **das / *die**   auf der Party   getanzt   hat.
I   have the girl$_{NEUT}$ seen   that$_{NEUT}$ that$_{FEM}$ at the party   danced   has
'I have seen the girl that was dancing at the party.'

We conclude from (9)-(11) that cumulative agreement is syntactic or morphological. As such, it is not compatible with a deletion analysis, which would require that cumulative agreement only emerges after deletion, and not without deletion ((4) *vs.* (12)). It is unclear how to derive such deletion-sensitive agreement, as there is only a singular antecedent in each conjunct.

(12) Sue's proud that ***Bill* has / *have** *t* travelled to Cameroon and Mary's glad that ***John* has / *have** *t* travelled to Cameroon.

Analysis: We conclude that the right solution must be multi-dominance − and specifically, multi-dominance with multiple sharing of distinct nodes, as in (14) (not just a single node, as in (13)). In RNR, any node dominated by both conjuncts must be linearized at their periphery (the *Right-Edge Restriction,* RER). Treating movement as remerge, some elements first merge in a position below shared material, yet spell out in a non-peripheral position. If that position *below shared material* was shared itself, this should violate the RER, ruling out (13).

(13)   (14)
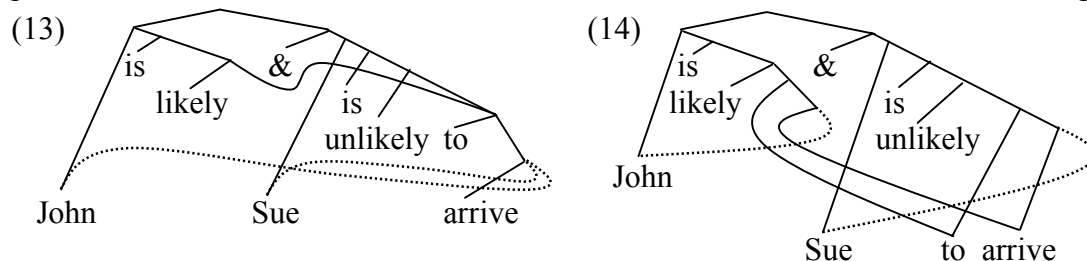
Also, (13) predicts unattested collective readings, cf. (15); this problem does not arise in (14).

(15) *Mary is glad that **John** and Sue is happy that **Bill met** and carried the piano **together**.

Finally, the proposal in (14) accounts for the cumulative agreement facts. Assuming that agreement is established between two elements in a c-command relationship (a *probe* c-commanding a *goal*), we can assume that φ-agreement with two equidistant goals always yields plural. This is independently needed for agreement with conjoined singular DPs.

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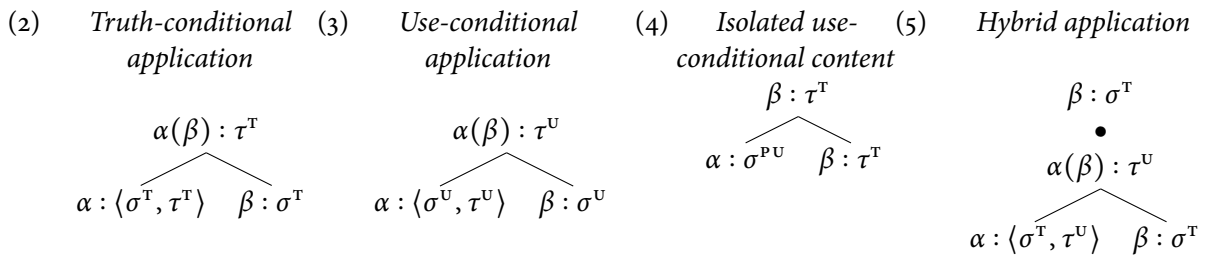# Hybrid Semantics for Expressive Content

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Following David Kaplan's (1999) short but revealing remarks on how expressive or *use-conditional content* could be integrated into a formal theory, I prose a formal approach to expressions that contribute to the use conditions of an utterance rather than to its truth conditions. Building on Kratzer's (1999, 2004) remarks on German discourse particles and making heavily use of the semantic toolbox developed in Potts 2005, I develop a semantic approach that makes use of both truth conditions and use conditions and therefore my be called *Hybrid Semantics*. At its heart lies Kaplan's (1999: 6) idea that for »certain expressions of natural language, a correct Semantic Theory would state rules of use rather than something like a concept expressed«. However, as soon as we have integrated use-conditions into our semantics, we are able to deal with use-conditional content with all the methods familiar to the semanticist.

Regarding its syntax, $\mathcal{L}_{\mathbf{TU}}$ constitutes only a slight deviation from common type-driven semantics. The main innovation is the introduction of a new basic use-conditional (UC) type u for use values. The recursive definition of types is extended accordingly. Furthermore, I distinguish between hybrid and pure U-types. While the former take a truth-conditional (TC) expression as argument to yield an UC expression, the latter take (UC) expression.

(1)   a. e, t, s, and u are basic types for $\mathcal{L}_{\mathbf{TU}}$.
      b. e, t, and s are basic truth-conditional types for $\mathcal{L}_{\mathbf{TU}}$.
      c. u is the basic use-conditional type for $\mathcal{L}_{\mathbf{TU}}$.
      d.   If σ and τ are truth-conditional types for $\mathcal{L}_{\mathbf{TU}}$, then $\langle \sigma, \tau \rangle$ is a truth-conditional type for $\mathcal{L}_{\mathbf{TU}}$.
      e.   If σ is a truth-conditional type for $\mathcal{L}_{\mathbf{TU}}$ and τ is a (hybrid or pure) use-conditional type for $\mathcal{L}_{\mathbf{TU}}$, then $\langle \sigma, \tau \rangle$ is a hybrid use-conditional type for $\mathcal{L}_{\mathbf{TU}}$.
      f.   If σ and τ are (hybrid or pure) use-conditional types for $\mathcal{L}_{\mathbf{TU}}$, then $\langle \sigma, \tau \rangle$ is a pure use-conditional type for $\mathcal{L}_{\mathbf{TU}}$.

On the semantic side, a corresponding domain D_u for the interpretation of expression of type u. D_u is given by $\{\checkmark, \notfoursharp\}$, the set of use values (»felicitious« vs. »infelicitous«). Complex domains are as usual, as does putting expression together to build complex expressions. However, the crucial work to account for the special properties of use-conditional expressions is done by a set of tree-admissibility conditions (TACS) that put constraints on possible semantic parsetrees for $\mathcal{L}_{\mathbf{TU}}$. For the most part, I adopt Potts' (2005: 223) tree-admissibility conditions for conventional implicatures, but customize them for UC expression.

(2)   *Truth-conditional application*

$$\alpha(\beta) : \tau^{\mathrm{T}}$$
$$\alpha : \langle \sigma^{\mathrm{T}}, \tau^{\mathrm{T}} \rangle \qquad \beta : \sigma^{\mathrm{T}}$$

(3)   *Use-conditional application*

$$\alpha(\beta) : \tau^{\mathrm{U}}$$
$$\alpha : \langle \sigma^{\mathrm{U}}, \tau^{\mathrm{U}} \rangle \qquad \beta : \sigma^{\mathrm{U}}$$

(4)   *Isolated use-conditional content*

$$\beta : \tau^{\mathrm{T}}$$
$$\alpha : \sigma^{\mathrm{PU}} \qquad \beta : \tau^{\mathrm{T}}$$

(5)   *Hybrid application*

$$\beta : \sigma^{\mathrm{T}}$$
$$\bullet$$
$$\alpha(\beta) : \tau^{\mathrm{U}}$$
$$\alpha : \langle \sigma^{\mathrm{T}}, \tau^{\mathrm{U}} \rangle \qquad \beta : \sigma^{\mathrm{T}}$$

These TACS ensure that the root note of the semantic parsetree that represents the truth-conditional of a sentence is uncontaminated by use-conditional content.
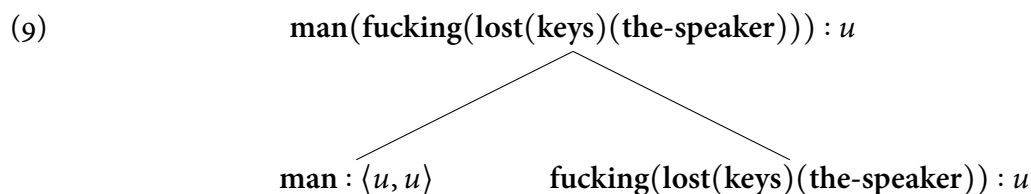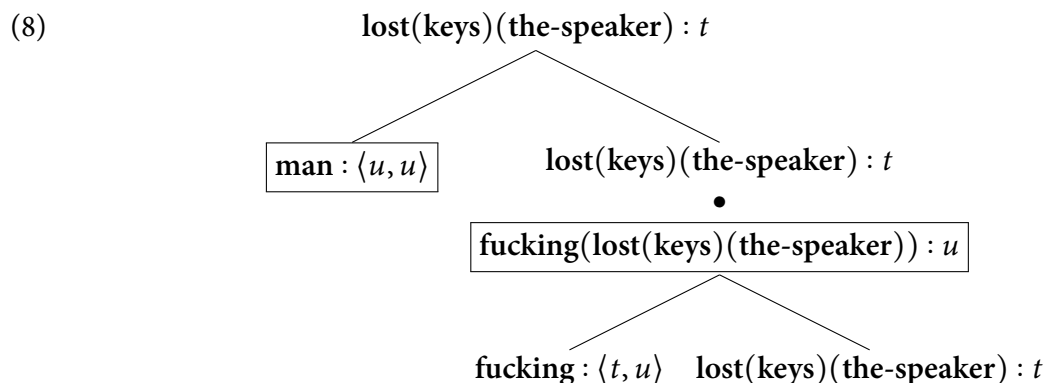
To make sure that use-conditional content that is isolated by these TACS gets nevertheless interpreted, I employ the core idea of Potts' (2005: 224) *parsetree interpretation* to interpret entire parsetrees. However, I take his idea astep further into real multidimensionality, insofar as my rule – I call it *layered parsetree interpretation* – collects all independent UC expression from a semantic parsetree and builds a new parsetree out of them:

(6)   Let $\mathcal{T}$ be a semantic parsetree build in accordance with the TACS above that has an TC expression at its root node and independent use-conditional terms $\alpha_1 : \sigma_1^U, \ldots, \alpha_n : \sigma_n^U$ on nodes in it. $\mathcal{R}$ is a function that delivers the root node for a parsetree. The pragmatic parsetree $\mathcal{P}$ for $\mathcal{T}$ is given by the parsetree that is built from the expression $\alpha_1 : \sigma_1^U, \ldots, \alpha_n : \sigma_n^U$ according to the TAC (3). Then the interpretation of $\mathcal{T}$ is:

$$\llbracket \mathcal{T} \rrbracket = \left\langle \llbracket \mathcal{R}(\mathcal{T}) \rrbracket, \llbracket \mathcal{R}(\mathcal{P}(\mathcal{T})) \rrbracket \right\rangle$$

Layered paretree interpretation does not only take care for the interpretation of UC expressions, but also overcomes the rigidity of the isolation of use-conditional content caused by (4) and (5). Due to the derivation of a pragmatic parsetree, UC content can actually interact with each other regardless of their position inside the semantic parsetree. A derivation for a sentence containing an expressive by means of $\mathcal{L}_{TU}$ may look like this:

(7)   I've lost my fucking keys, man!

(8)
$$\mathbf{lost(keys)(the\text{-}speaker)} : t$$

(9)
$$\mathbf{man(fucking(lost(keys)(the\text{-}speaker)))} : u$$

According to layered parsetree interpretation (6), the interpretation of the semantic parsetree (8) for (7) is given by the tuple of the interpretation of its root node and the interpretation of the root node of its pragmatic parsetree (9):

(10)   a. $\llbracket (8) \rrbracket = \left\langle \llbracket \mathcal{R}((8)) \rrbracket, \llbracket \mathcal{R}(\mathcal{P}((8))) \rrbracket \right\rangle = \left\langle \llbracket \mathcal{R}((8)) \rrbracket, \llbracket \mathcal{R}((9)) \rrbracket \right\rangle$
           $= \left\langle \llbracket \mathbf{lost(keys)(the\text{-}speaker)} \rrbracket, \llbracket \mathbf{man(fucking(lost(keys)(the\text{-}speaker)))} \rrbracket \right\rangle$

Equipped with the basic ideas of Hybrid Semantics and the semantic tools of $\mathcal{L}_{TU}$, not only run-of-the-mill examples of expressives can be analysed, but also other use-conditional phenomena like German discourse particles (e.g. Kratzer 1999, 2004), sentence mood (e.g. Stenius 1967; Truckenbrodt 2006a,b), »free datives« (e.g. Gutzmann 2007; Horn 2008a,b) or VERUM focus (e.g. Höhle 1992; Romero & Han 2004).

The Position and Variety of Traces with respect to MaxElide
Jeremy Hartman (MIT)

A central puzzle of the syntax/semantics interface is the interpretation of movement. A-bar movement has self-evident semantic consequences, but the status of A-mvt and head-mvt is less obvious. This paper presents evidence from ellipsis that all three types of movement have effects on semantics and are therefore relevant to the architecture of the grammar as a whole.

Background VP-ellipsis is often disallowed when sluicing in the same clause is possible:

(1) a. John borrowed a book. Guess which book (*he did.)
   b. Mary was trying to kiss someone, but I don't know who (*she was).
   c. *Speaker A:* John has broken something. *Speaker B:* Really? What (*has he)?

Takahashi & Fox (2005) (cf. also Merchant 2008) propose a constraint that prefers the largest ellipsis in a given Parallelism Domain (PD) determined by semantic identity to an antecedent:

(2) *MaxElide*: Elide the biggest deletable constituent reflexively dominated by the PD.

Normally, the PD could be as small as the elided VP itself, and MaxElide would be trivially satisfied. However, the conditions on parallelism prohibit a PD from containing any variables bound from outside the PD ("rebound variables"). In (1), then, the VP cannot be a PD, since it contains such a variable (the trace of the wh-word). This trace forces the PD to be large enough to contain its binder. MaxElide applies to this larger PD, and the biggest deletable constituent is the constituent targeted in sluicing. Deletion of VP thus violates MaxElide.

Wh-Adverbials I examine the behavior of wh-adverbials, and show that they do not trigger MaxElide violations with VP ellipsis (3), because they can originate above the elided VP. They can be adjoined VP-externally and thus need not leave a trace inside the VP (4).

(3) a. Mary was trying to kiss someone, but I have no idea why (she was).
   b. *Speaker A:* John's leaving. *Speaker B:* Do you know when (he is)?
   c. John knows the prisoners escaped, but he doesn't know how (they did).

(4) I don't know [$_{CP}$ when [$_{TP}$ ~~when~~ [$_{TP}$ John will [$_{VP}$ leave]]]].

This explanation makes a straightforward prediction: In a structure where the wh-adverbial originates *below* the elided VP, VP-ellipsis should be ruled out by MaxElide. I show that this prediction is borne out by examining the construal of wh-adverbials when the elided constituent includes an embedded clause. The sluicing cases allow both matrix and embedded construal of the wh-adverbial, while the VP-ellipsis cases allow only matrix construal.

(5) a. John wanted Mary to perform, but I don't know when.　　　✓Matrix ✓Emb.
   b. John wanted Mary to perform, but I don't know when he did.　✓Matrix *Emb.

(6) a. John told Mary to dance, and you'll never guess how.　　　✓Matrix ✓Emb.
   b. John told Mary to dance, and you'll never guess how he did　✓Matrix *Emb.

The same effect is found with 'high' (TP-adjoined) vs 'low' (VP-internal) readings of certain adverbials (Iatridou et al. 2002). Sluicing has both readings; VP-ellipsis, only the high one (8)

(7) John has been in Boston for two months.
   a. John is in Boston now, and has been there for the past two months.　(HIGH)
   b. There was a two-month period that John spent in Boston.　　　　(LOW)

(8) a. John's been in Boston, but I don't know for how long.　　　✓High ✓Low
   b. John's been in Boston, but I don't know for how long he has.　✓High *Low

Similar effects obtain with wh-subjects, which have been observed (Merchant 2008) not to trigger MaxElide violations in the simplest cases (9). I show that they *do* in fact trigger MaxElide violations when extracted from an embedded clause (10):

(9) a. Someone's laughing, but I don't know who (is).
   b. *Speaker A:* Someone left. *Speaker B:* Who (did)?

(10) a. John wants someone to leave, but I don't know who (*he does).
    b. John said a certain girl would come, but I forget which girl (*he did).

Non-A-bar Traces Next, I present and explain a revealing contrast that is only visible in the behavior of wh-adverbials. Example (3) showed that wh-adverbials do not trigger MaxElide violations in embedded questions. In main questions, though, MaxElide violations resurface.

The Position and Variety of Traces with respect to MaxElide
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(11) a. *Speaker A:* Mary left already. *Speaker B:* Really? When (*did she)?
    b. *Speaker A:* I will fix the car. *Speaker B:* How (*will you)?
    c. *Speaker A:* John is leaving the party early. *Speaker B:* Why (*is he)?

The full MaxElide paradigm to be explained, then, is shown in the table below, where "√" stands for the possibility of VP-ellipsis (= no MaxElide violation), and "X" stands for the impossibility of VP-ellipsis (= MaxElide violation). Relevant example #s are in parentheses.

	Embedded Questions	Main Questions
Wh- Objects	X (1a,b)	X (1c)
Wh- Adverbials	√ (3)	X (11)
Wh- Subjects	√ (9a)	√ (9b)

VP-ellipsis with an extracted wh-object triggers a MaxElide violation in main and embedded questions. With extracted wh-subjects, it does not trigger a MaxElide violation in either main or embedded questions. Only with extraction of wh-adverbials is there an observable asymmetry: VP- ellipsis triggers a MaxElide violation in main but not embedded questions.

To account for this paradigm, I propose that *all traces—A'-traces, A-traces, and traces of head movement—count towards the calculation of the PD*. The trace of T-to-C mvt is a variable that forces a PD big enough to include its binder. The same is true of traces of A-mvt (including, crucially, movement from VP-internal subject position). Let's see how this works:

The semantics for the six cases above are given in (12). The bold, underlined portion of the representation is the (smallest) PD. (Note that although VP-ellipsis relies on a PD small enough that VP is its largest deletable constituent, selection of a larger PD is always possible; this is why sluicing is acceptable in all the cases. Note also that in (f) I assume—following Pesetsky and Torrego (2005), among others—that extraction of wh-subjects in main clauses does not trigger T-to-C movement; this is evidenced by the lack of *do*-support.)

(12) a.   [$_{CP}$ what λx. **[$_{TP}$ she λy. will [$_{VP}$ y eat x]]]**   (Obj. Emb.)
    b.   [$_{CP}$ What **λx. will λz. [$_{TP}$ she λy. z [$_{VP}$ y eat x]]]**   (Obj. Main)
    c.   [$_{CP}$ how λx. [$_{TP}$ x [$_{TP}$ she **λy. will [$_{VP}$ y leave]]]]**   (Adv. Emb.)
    d.   [$_{CP}$ How **λx. will λz. [$_{TP}$ x [$_{TP}$ she λy. z [$_{VP}$ y leave]]]]**   (Adv. Main)
    e.   [$_{CP}$ who λx. [$_{TP}$ x **λy. will [$_{VP}$ y leave]]]**   (Subj. Emb.)
    f.   [$_{CP}$ Who λx. [$_{TP}$ x **λy. will [$_{VP}$ y leave]]]**   (Subj. Main)

In (a) and (b), the smallest PD containing no rebound variables is the constituent immediately dominating λx. MaxElide applies to this PD, and chooses the largest deletable constituent, which is the sluiced constituent. Ellipsis of a smaller constituent violates MaxElide, so VP-ellipsis is ungrammatical. In (c), the smallest PD with no rebound variables is the constituent immediately dominating λy. MaxElide can apply to this PD, and the largest deletable constituent will be VP, so VP-ellipsis is grammatical. In (d) the smallest PD containing no rebound variables is the constituent immediately dominating λx. MaxElide applies to this PD, and the largest deletable constituent is the sluiced constituent. Ellipsis of a smaller constituent violates MaxElide, so VP-ellipsis is ungrammatical. In (e) and (f), the smallest PD containing no rebound variables is the constituent immediately dominating λy. MaxElide can apply to this PD, and the largest deletable constituent is VP, so VP-ellipsis is grammatical.

Finally, I present evidence from Indian Vernacular English (IVE) (Bhatt 2000) that further implicates the trace of T-to-C movement in the contrast between (c) and (d). IVE has T-to-C mvt in embedded questions, but not main questions (the mirror image of Standard English), and the contrast is mirrored accordingly. VP-ellipsis with wh-adverbials triggers a MaxElide violation in embedded questions, but not main questions. I end by discussing some implications of the strong claims that both A-movement and head-movement involve variable-binding at level of semantic representation where ellipsis parallelism is calculated.

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Indirect Recursion as a Restriction on the Syntax-Semantic Interface

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Language provides us with an unlimited freedom of creative reference. And at the same time language has ways to restrict the range of possible meanings. Constrained recursion allows focusing on one single logical sequence. This constrained form of recursion belongs to the core of grammars for natural languages.

Recursion takes many forms and effective embedding can take many forms in language (universal (merge), language particular (possessives John's friend's car's motor)) which exhibit formal properties (self-embedding, tail-recursion, right+left=branching). Discrimination among them is crucial to isolating exactly the acquisition challenge and the semantic interface.

In its unconstrained form recursion, being a function that calls itself, raises a problem. It results in an abundance of information. The effect of such a function is that it adds more and more information. An abundance of information (potentially) leads to communicative problems. This would be highly inefficient and would make recursion not very suitable for natural language. Recursion achieves efficient communication if the set of possible interpretations is highly constrained. Therefore recursion should be part of the biolinguistic program.

The constraints on recursion are crucially applied at indirect recursion. Direct recursion forms iterated strings, while indirect recursion forms embedded strings. Indirect recursion plays a major role at the semantic interface. It is at the interface that the restrictions apply. For example what Mary likes in (1) can be variety of propositions: John arriving early; he buying a lovely cake, etc. However what Mary likes in (2) is the single proposition: John arrived early and brought a lovely cake for Christmas.

(1)   John arrived early, and he brought a lovely cake for Christmas. Mary likes that.
(2)   Mary likes that John arrived early and brought a lovely cake for Christmas.

Constrained recursion is exclusively visible at the second order level. A single embedding can be represented in syntax and in discourse ((3) <=> (4)), but a multiple embedding cannot ((5) <=/=> (6)).

(3)   The bridge is broken. John knows that.
<=>
(4)   John knows that the bridge is broken.

(5)   The bridge is broken. John knows that. His sister doesn't think that.
<=/=>
(6)   His sister doesn't think that John knows the bridge is broken.

We have tested this with over 40 adults in English and Dutch and 18 6 year-old children. None of the populations allows a recursive system in discourse, showing that the syntax-

semantics interface plays an essential role in constrained recursion (at least for Germanic languages).

This is a natural extension of the developmental path starting with the difference between (7) and (8).

(7)   According to John, the earth is flat.
(8)   John thinks that the earth is flat.

Sowalsky, Hacquard and Roeper (2008) show that children (age-range: 2-5) start with the PP-case and gradually acquire the embedded cases.

At a later stage children still have difficulty with multiple embedding. We will show in two experiments, both tested with English (34 children) and Dutch (22 children). In experiment 1 we tested a multiple embedded cases as in (9).

(9)   Jane talks to mom. She is having a fight with Billy on the phone. Jane tells mom that Billy said that all sisters are stupid.
        What did Jane tell mom?   that Billy said that all sisters are stupid
                                    #that all sisters are stupid

The results show the 6 year-olds scoring 33% correct, whereas 8 and 9 year-olds score 82% (which significantly differs from their mastery of single embedding: 91%).

In experiment 2 we tested a single and double embedding contrast in a false belief reasoning task. The same pattern of result shows up here: children have difficulty with the double embedding up to the age of 8.

These result support our theoretical proposal on recursion. We propose that indirect recursion creates a phase edge boundary. At the syntax-semantics interface two constraints are effective: the *Exclusivity Constraint* and *the Identical Interpretation Constraint*. The first one claims single interpretations of phases occur under recursion. It captures the distinction between (10a) and (10b). What is embedded in both is not only a single proposition, but also an evaluation by the main clause subject and that is why multiple embedding (10b) is excluded.

(10)   a. John considered the food to be tasty.
        b. *John considered Bill to know the food to be tasty.

The second constraint restricts recursion to (identical) interpretation occurring at each phase and can be repeatedly. Both constraints are at the syntax-semantics interface. This proposal can also be extended to the morphology-semantics interface, capturing facts as *John's father's friend's house* not being equivalent to *John's friend's father's house*. The syntax-semantic interface is minimal by nature. There is a single point of contact between the modules. We see this as crucial characteristic of natural language grammars. Recursion is an abstract phenomenon occurring at this interface. The relatively late acquisition is completely due to this abstractness, but also to language specific variation (recursive compounds in Germanic, but not in Romance; recursive possessives in English not in Dutch, etc.).

Lexicon and computation: the case of Breton

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This paper uses data from Breton to argue for an expanded rôle of the input to the phonology in accounting for sound patterns. In particular, I argue that both the complexity of the phonological patterns involved in initial consonant mutation and data regarding their interaction with other postlexical processes demonstrate the need to divorce "phonological computation" and "linguistic account of sound patterns".

Most dialects of Breton possess a system of initial consonant mutation with at least three different patterns, traditionaly described in very broad terms as follows (cf. Jackson, 1967)

- Voicing of voiceless stops; spirantization of voiced stops ("lenition");

- Spirantization of voiceless stops;

- Devoicing of voiced stops ("provection");

- Spirantization of voiced stops except [d]; devoicing of [d] ("mixed mutation");

All of these processes interact with other phonological patterns in Breton, both lexical (e. g. structure-preserving repairs) and postlexical (most notably postvocalic "voicing").

The standard approach in generative linguistics has been autosegmental (cf. most recently Wolf, 2007): an autosegment with the right features is attached to the right edge of words triggering mutation, and the rest is done by the computation. As noted by Green (2007), this approach runs into various problems with chain shifts and morphological motivation; however, it remains to be demonstrated conclusively that (say) an Optimality Theory approach *cannot* handle the relevant patterns.

The aim of this paper is to contribute to such a demonstration. It represents a two-pronged attack on current OT approaches to Breton initial mutations.

First, I review the phonological evidence. I start with discussing the laryngeal features of the relevant Breton dialects. In most varieties of Breton, laryngeal features (phonetically most often realized as lack or presence of voice) interact with vowel length: underlying voiceless obstruents are preceded by short vowels and voiced obstruents by long vowels. I argue that this seldom recognized restriction must be part of the phonology of Breton, as it interacts with final devoicing and provides another type of independent evidence for laryngeal features (i. e. evidence which does not use data from consonant mutation). In this connection I briefly review the problems associated with devoicing sandhi in Île de Groix Breton (Krämer, 2000).

I also argue that setting up a single constraint ranking to account for all of the Breton mutations runs into problems, not least because of standard assumptions with respect to featural structure. Using straightforward phonetically motivated features makes Breton mutation involve chain-shifting, counterfeeding opacity and other phenomena known to present a challenge to standard OT. I argue that unless more attention is paid to featural representations, these problems will remain.

Second, I argue that there is little morphological evidence for mutation, *contra* the claim of (Green, 2007, *et passim*) that mutation (in the Celtic languages) is like Case, and consequently that mutation triggering involves an agreement-like process. If mutation were like Case, we could expect the formation of "chains" of trigger–target relationships, yet this is not always the case.

I conclude that unless a better theory of featural representations is adopted, initial consonant mutation in Breton is not amenable to a phonological treatment where all the relevant processes (mutation, final devoicing, assignment of vowel length, external sandhi) are computed at the same level of representation.

Leaving the possibility of a featural account for future research, I claim that mutation must be accounted for at the level of the input to the phonology, i. e. what is standardly called "in the lexicon" (but cf. Boersma, 2007 for a different OT-driven grammatical architecture, which is consistent with the proposal here). More broadly, I argue that phonological theory must recognize both a more refined, less straightforward phonetics-phonology mapping, with greater attention towards phonological evidence, and a constrained lexicon which accounts for some of the sound patterns.

The Breton case is interesting in this context with respect to the functionalism debate. It is widely accepted that inherent "phonetic" biases are reproduced in both synchronic phonological systems and sound change. A consequence of this position is that phonological theory is well armed to deal with patterns reproducing these biases. However, the Breton patterns reviewed above are the outcome of several successive diachronic processes acting on "the same" segments. I argue that trying to account for the interaction of all these processes within a single system is not desirable: rather one should recognize that "natural" as some of these processes seem, they are over time "recycled" into the lexicon in a process familiar from morphosyntax.

Overall, I argue that not every language-specific sound pattern is to be accounted for by the synchronic phonology. A refinement of the grammatical architecture with a greater emphasis on the productive nature of the "pre-phonological" stage (cf. the "false cyclicity" of Bermúdez-Otero and McMahon, 2006), decreases the emphasis on the formal phonological computation. I submit this is preferable to increasing its power in order to account for patterns which are not really within its purview.

While I do not exclude the possibility of a purely phonological analysis of the Breton patterns within a superior representational theory, I argue that on conceptual grounds it is preferable to assign a greater rôle to the "lexicon" (however it is formally implemented), including the ability to form productive generalizations. This provides for both a more parsimonious formal computation and the ability to account for the outcome of very complex historical change.

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Deriving CNPC violations through Possessor Raising in Japanese

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The paper relates two phenomena in Japanese through possessor raising: (i) violations of Complex Noun Phrase Constraints (CNPC, hereafter); and (ii) Multiple Nominative Constructions (MNC, hereafter). Following Han and Kim (2004), this paper analyzes cases of CNPC violations as local relativization of the first nominative in the MNC (*aka* the major subject) that is related to a pro inside the relative clause island. However, the proposed analysis crucially differs from theirs in arguing that "possessor raising" underlies the MNC. The proposal is motivated by a new observation that the predicate contained in the outer relative clause must be a *be*-type (or unaccusative type) predicate (italicized in (1)), whose arguments are merged low in the complement domain of an auxiliary *be* in languages like Italian. The proposed analysis will be shown to derive Hasegawa's (1981) generalizations about the contexts where CNPC violations are possible.

1. Phenomena: Japanese is alleged to allow relativization from a relative clause, in violation of the CNPC (Kuno 1973, inter alia).

(1) a. [$_{RC1}$ [$_{RC2}$ ~~sinsi$_i$~~ ~~huku$_j$~~ ki-tei-ru] huku$_j$-ga *yogo-re-tei-ru*] sinsi$_i$]
  wear-ASP-PRES clothes-NOM dirty-MID-ASP-NONPAST gentleman
  Lit: $_{DP}$ 'the [gentleman$_i$ [who the [clothes$_j$ [that (he$_i$) is wearing t$_j$]] are dirty]]'

  b. [$_{RC1}$ [$_{RC2}$ ~~hahaoya$_i$~~ ~~musuko$_j$~~ aishi-tei-ru] musuko$_j$-ga *sin-da*] hahaoya$_i$]
  love-ASP-PRES son-NOM die-PAST mother
  Lit: $_{DP}$ 'the [mother$_i$ [who the [son$_j$ [that (she$_i$) loves t$_j$]] died]]'

These sentences pose a serious challenge to the overall theory of locality and have motivated the standard analysis that Japanese relativization involves base-generation of the relativized head and a pro inside the relative clause (Murasugi 2000, inter alia).

2. Movement properties: Nevertheless, Japanese relatives do exhibit movement properties, such as reconstruction effects in terms of anaphor and pronominal binding (Ishii 1991).

(2) a. [John$_i$-ga ~~karezisin-no ronbun-o~~ taipusi-ta] karezisin$_i$-no ronbun
  John-NOM type-PAST himself-GEN paper
  Lit: $_{DP}$ 'himself's paper that John typed'

  b. [dare-mo$_i$-ga ~~zibun-no kekkon-aite-o~~ mada sira-nai] zibun$_i$-no kekkon-aite
  indet-Q-NOM yet know-NEG self-GEN marrige-partner
  Lit: $_{DP}$ 'self's spouse whom everyone doesn't know yet'

Furthermore, contexts where the CNPC can be violated are restricted to (i) subject relativization and (ii) relative clause island modifying a subject (Hasegawa 1981).

(3) *[[~~kodomo-ga$_i$~~ ~~inu-o~~ kat-tei-ta] kodomo$_i$-ga sinde-simatta] inu
  keep-ASP-PAST child-NOM die-PERF dog
  Int: 'the [dog [which the child [who kept (it)]] died]' (object RC: Hasegawa 1981)

Note that there are no such restrictions for local relativization.

3. Cases violating the CNPC: The paper pursues the idea that violations of the CNPC are not real. Han and Kim (2004) propose that CNPC violations involve local relativization of a major subject (*sinsi* 'man' in (4a)) with a pro. As shown in (4b), (4a) is well-formed without the inner relative clause, which guarantees that the pro inside the relative clause island is *not* the source of the relativized head.

(4) a. [$_{IP}$ ~~sinsi-ga$_i$~~ [$_{DP}$[*pro$_i$* ~~huku-o$_j$~~ ki-teiru] huku]$_j$-ga yog-ore-tei-ru] sinsi$_i$
  he$_i$ wear-ASP clothes-NOM dirty-MID-ASP-PRES man
  Lit: '$_{DP}$ the [gentleman$_i$ [whose [clothes$_j$ [that he$_i$ is wearing t$_j$]] are dirty]]'

  b. [$_{IP}$ ~~sinsi-ga$_i$~~ huku-ga yog-ore-tei-ru] sinsi$_i$]-o mi-ta.
  clothes-NOM dirty-MID-ASP-PRES man-ACC see-PAST
  Lit: '(I) saw the [gentleman [who the clothes were dirty]].'(Relativizing out of MNC)

4. New observation: The gap in the relative clause island behaves like pro rather than a trace. In general, only an embedded "subject *pro*" can be bound by an element in the matrix clause in Japanese (Huang 1984, Hasegawa 1981). However, an embedded object *pro* can be

bound by the matrix element once a compound verbial *kureru* 'give' (in favor of receiver) is suffixed to the embedded predicate, as illustrated below:

(5). a. John$_i$–ga   Mary-ga   *pro*$_{?*i/j}$ nagut-ta-to   it-ta.
　　　John- NOM Mary- NOM him   hit-PAST-C   say-PAST
　　　'John$_i$ said that Mary hit him$_{?*i/j}$ (adopted from Hasegawa 1981)

　　b. John-ga   Mary-ga   *pro*$_{i/j}$ nagut-te-*kure*-ta-to   it-ta.
　　　John-NOM Mary- NOM him   hit-GER-give-PAST-C   say-PAST
　　　Int. 'John$_i$ said that Mary (gave him a favor of hitting) him $_{i/j}$

The same pattern holds for CNPC violations: contrary to Hasegawa's generalizations (1981), when '*kure-ru*' is suffixed to the embedded predicate, object relativization is possible.

(6) [[~~kodomo-ga~~$_i$ ~~inu-o~~   kat-te-kure-ta]   kodomo$_i$-ga sinde-simatta] inu
　　　　　　　　　　　　nurture-GER-give-PAST   child-NOM   die-PERF   dog
　　　`Lit: the dog [which the child [who$_j$ kept it] died]'

This is a *pro*-like but not a trace-like behavior.

5. New observations motivating the possessor raising analysis: CNPC violations are sensitive to the properties of the outer relative, but not of the inner relative clause. Specifically, (i) there is an obligatory genitive relation between the two head nouns, e.g.(1a) 'gentleman's clothes', (1b) 'boy's dog'; (ii) The predicate of the outer clause must be a *be*-type predicate, i.e., unaccusatives, middles, passives, and adjectival and nominal predicates (e.g., *yogo-re-ru* `dirty-**middle**-pres, *sin-u* 'die') but cannot be an unergative nor a transitive predicate. These constraints also hold for the MNC, which is an outer relative clause of cases violating the CNPC (e.g., (4b)). The observed properties can be accounted for if the derivation of the MNC involves possessor raising. In many languages, possessor raising is only possible from (underlying) internal arguments (Baker 1988, Massam 1985). The restriction on predicate types can be understood as a manifestation of this constraint: in Japanese, possessor raising is also restricted to possessors of arguments that are merged low in the complement domain of *be*-type predicates.

6. Consequences: The proposed derivation straightforwardly accounts for Hasegawa's generalizations as well as the generalizations mentioned above. First, apparent violations of the CNPC are restricted to cases in which pro can be bound by the relativized head, namely, subject relativization. Second, the relative clause island must modify the subject of the outer clause, (the MNC), because possessor raising derives the MNC and is restricted to a *be*-type predicate. In addition, the proposal accounts for the following contrast, which has been a puzzle, given the standard analysis of the MNC that the major subject is licensed by syntactic predication and 'aboutness condition' (i.e., the sentence is 'about' the first nominative DP) (Saito 1982, Heycock 1993, Vermeulen 2005 inter alia)

(7) a.　John$_i$-ga   [[t$_i$ kodomo]-ga sensei-ni   sikar-are-ta.]
　　　　John-NOM   child-NOM   teacher-DAT scold-PASS-PAST
　　　　'John, (his) child was scolded by the teacher.'　　　　　　　(Kuno 1973:70)

　　b. *John$_i$-ga [sensei-ga   [t$_i$ kodomo]-o   sikat-ta.]
　　　　John-nom teacher-nom   child-acc   scold-past
　　　　'John, the teacher scolded (his) child.'　　　　　　　　　(Kuno 1973:70)

(7a) and (7b) are both about 'John', denoting the same event (i.e., A teacher scolded John's son), thus the standard analysis cannot capture the contrast. In contrast, this follows out directly from the possessor-raising analysis. In (7-b) the possessor *John* cannot move to the sentence-initial nominative position due to relativized minimality (i.e., nominative subject is an A-position and an external argument 'teacher' intervenes), whereas no argument intervenes the possessor and the possessee in (7a). This also explains why there is a restriction to a *be*-type predicate in the MNC: this is because possessor raising is only possible from (loosely speaking) internal arguments and the landing site for the possessor in Japanese is high, i.e., nominative. Lastly, contrary to Landau (1999), Japanese facts show that it is not the Case position that restricts the options of possessor raising.

Building syntax on semantics: "Semantic scaffolding" in raising and control
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Verb learning requires action at the interface of 3 linguistic modules: syntax, semantics, and the lexicon. The child must associate a verb with its meaning, subcategorization requirements, and possible syntactic frames—a large task. But raising-to-object (RO) and object control (OC) verbs pose a further challenge to learners, since a single string could be mapped onto one of two underlying structures (1).

(1) RO: Marty gorped Alyson$_i$ [t_i to serve the prosciutto]
     OC: Marty gorped Alyson$_i$ [PRO$_i$ to serve the prosciutto]

In this paper, I examine the acquisition of RO and OC verbs, and propose that children acquire these constructions through a process I call "semantic scaffolding." Specifically, I claim that children take recourse to the semantics of an utterance to support their interpretations, until adultlike syntactic knowledge and processing power are reached.

RO verbs are "laxer" than OC verbs in both semantic and syntactic requirements. First, RO verbs may embed any clause which is internally semantically felicitous, while OC verbs demand felicity with the embedded subject (2). In addition, RO (but not OC) verbs may grammatically embed expletive subjects (3).

(2) Alyson wanted/needed/#asked/#told the hat to fit her

(3) Alyson wanted/needed/*asked/*told there to be more books on the subject

The verb learning literature has focused on monoclausal structures, but little is known about the acquisition of verbs that take multiclause frames. The case of RO/OC is also of interest for other reasons, too: the meanings of these verbs are fairly abstract or even unobservable, and unlike verbs that appear in single clauses, the underlying structure of RO/OC utterances is ambiguous, given the surface string. In short, the RO/OC distinction is quite opaque to a learner hoping to bootstrap into syntax. How, then, do children assemble the lexical-semantic and syntactic information for these verbs?

The acquisition of RO has not been examined at all, nor has OC been examined with this learning challenge in mind. Because the syntax of these constructions is so complex, it is possible that children with limited processing resources may capitalize on the syntax-semantics interface, using a non-syntactic strategy for interpretation. As such, I hypothesized that on their way to adultlike knowledge of these verbs, children may rely on the semantics of the smallest *complete* proposition within a RO/OC utterance in their assessment of the utterance as a whole.

I tested this hypothesis with 32 children (ages 4–5) using two sentence judgment tasks. In both, children heard a short vignette before each test item. In the semantic anomaly task (SA), children judged the felicity of RO/OC sentences with internally felicitous embedded clauses, as in (4). In the grammaticality judgment task (GJ), children evaluated RO/OC utterances with embedded expletive subjects, as in (5).

(4) a. The teacher needed the books to weigh less
     b. # The girl told the soup to have carrots in it

(5) a. The girl wanted there to be cookies in the bag
     b. * The boy asked it to be time for bed

Given the vignettes, all embedded clauses were internally felicitous but false. As regards entire utterances, the RO sentences were true and semantically felicitous, while the OC utterances were true but semantically infelicitous. All GJ sentences were semantically felicitous, but only RO (not OC) utterances as a whole were grammatical.

Performance on both tasks supported the prediction that children used local semantics, rather than global syntax, in their judgments (see Table 1). In SA, both age groups correctly rejected OC sentences, but incorrectly rejected RO sentences, indicating that they parsed only the embedded clause, and not the entire utterance. In GJ, 4s again parsed only the lower clause: they correctly rejected OC sentences, but incorrectly rejected RO sentences. However, 5s reversed this pattern: they correctly accepted RO sentences, but incorrectly accepted OC sentences.

Table 1: Performance (% Correct) on Sentence Judgments

Age	Semantic Anomaly		Grammaticality	
	RO	OC	RO	OC
4	56.3	77.1*	62.5	72.9*
5	58.3	79.2*	77.1*	50

$*p < 0.01$

This pattern suggests that 5s, who likely have greater processing resources, prefer to parse the embedded predicate with the next c-commanding lexical (not expletive) NP, which in GJ items appears in the matrix clause. By disregarding the embedded expletive, 5s construct semantically-driven parses which they judge as grammatical (6).

(6) a. The girl wanted... cookies in the bag
     b. The boy asked... for bed

Thus, in both tasks, children did not appear to distinguish the verb classes syntactically. Rather, they "scaffolded" their judgments of biclausal RO/OC utterances by parsing the smallest *acceptable* semantically independent proposition in each utterance: either the embedded clause alone (4s), or the embedded predicate plus the first c-commanding lexical NP (5s). This analysis has the added appeal of explaining how UG may still constrain and guide non-adultlike performance, even in the face of processing limitations. Future work should explore how children ultimately emerge from this stage and come to parse entire RO/OC utterances in an adultlike way. These data dovetail with Becker's (2006) findings indicating that when confronted with subject-raising and subject control sentences (7), children (3–4) parse only the matrix subject and the embedded verb.

(7) a. The hay seems to be on the ground (subject-raising)
     b. The flower wants to be pink (subject control)

Future work should assess how children make their way from the strategy of semantic scaffolding to an adultlike syntactic interpretation of multiclausal utterances.

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Hypercorrection and lexical representation

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English *r* dropping, linking *r* and *r* intrusion have received considerable attention in the literature. *r* intrusion has been regarded as an unnatural process by McCarthy (1993), Halle & Idsardi (1997), Hale & Reiss (2000). However, intrusive *r* was successfully analysed in OT as low glide formation (Kahn 1976, Gnanadesikan 1997, Baković 1999, Krämer 2008). Some American English varieties show an even more marked insertion pattern. Hyperrhotic accents (e.g., Massachusetts, New York) are historically nonrhotic, with linking and intrusion, and are currently returning to rhoticity. Speakers overgeneralise the (contrastive) occurrence of postvocalic *r* (as in *tuner*) to an *r* insertion rule (Wells 1982), resulting in final rhotics in words like 'tuna' and in preconsonantal rhotics in words like *cough*.

The problem: In OT, changes from input to output are seen as improvements on some markedness constraint. Since some markedness constraints stand in conflict, satisfaction of one markedness constraint can result in violation of another (e.g., to avoid a coda in a CVCCV string a complex onset can be tolerated and vice versa). Preconsonantal *r* insertion leads to more marked syllable structure by creating either a coda or even a complex coda - as in hyperrhotic *wa[ɹ]sh*. Since markedness constraints are usually functionally or typologically motivated (or both), there is no acceptable constraint available that triggers this insertion. There is no way of deriving the pattern from interaction of independently motivated constraints either.

The proposal: Hyperrhoticity is a side effect of lexicon restructuring during the acquisition of the source dialect (i.e., nonrhotic English with *r* intrusion). Speakers of nonrhotic intrusion varieties can store neutralised minimal pairs, such as *tuner* vs. *tuna*, either with or without an underlying *r*, but in any case they will not have a contrast. Learners actually take the simpler output as the underlying representation first (i.e., the *r*-less form). Once the learner encounters ∅~*r* alternations, s/he reranks faithfulness and markedness constraints until information from mark-data pairs is exhausted (based on Tesar & Smolensky's 2000 constraint demotion algorithm). At this point the learner changes underlying representations, positing an underlying *r* after non-high vowels for all alternating forms, but also for all non-alternating forms (with a morpheme-internal non-high vowel). That is, the latter take a Free Ride (Zwicky 1970, McCarthy 2005) on the change made to the representation of the former on the basis of the alternations these undergo. Underlyingly, all non-high vowels are followed by an *r* now. This affects words like *farm* and *cloth* alike. With changed inputs, violation marks for potential output candidates change as well and mark data pairs can be assessed again to find new ranking arguments. If a speaker of such a variety switches to rhotic English, the first step is the demotion of the constraint against coda *r*. With the new ranking, all underlying *r*s surface, resulting in hyperrhoticity. This hyperrhoticity then has to be corrected item by item.

Conclusion: The overgeneralisation that leads to hyperrhoticity does not occur during the change from non-rhoticity to rhoticity, but rather during the acquisition of the first variety. This paper shows that restrictions on lexical storage, that are motivated as optimizing economy of lexical representations and to solve the subset problem in acquisition, in this case the Free Ride Principle, can in specific situations lead to surprising representations, defying the principles' purpose.

Time permitting, I will provide evidence for counterproductive effects of the Free Ride from other hypercorrections as well.

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Reanalyzing Relative Clause Island Effects

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Aim

Engdahl (1997) reported many naturally occurring extractions out of relative clause islands (RCI) in Swedish, challenging the notion that strong islands such as RCIs are universal syntactic constraints (Ross 1967; Szabolsci 2006). We conducted experimental studies that show amelioration of RCI violation in analogous English sentences and argue that there is no micro-variation in strong islandhood. We further argue that amelioration is contingent on the presence of alternative structural analyses that share identical LFs, which brings about an illusory repair of the sentence's parse.

The Swedish Data

Engdahl's (1997) data were Swedish equivalents of sentences like (1). These sentences do appear to be better than a standard example of RCI violation used in the literature (2).

(1) a. …that language$_1$, there are [$_{RC}$ many that speak t$_1$]
   b. …that hair style$_1$, I have never seen [$_{RC}$ anyone who looks good in t$_1$]
(2) a. *That book$_1$, I gave the paper to [$_{RC}$ the librarian who read t$_1$]
   b. *That model$_2$ I have never seen [$_{RC}$ a hair style$_1$ that t$_2$ looks good in t$_1$]

We found that the English equivalents of the majority of Engdahl's Swedish sentences conform to the following generalization:

(3) _Small Clause generalization_: RCI violations are ameliorated when the extraction environment is a subject relative that is complement to a verb that can select a small clause complement (e.g., existential (1a) or perception verb (1b))

To be concrete, (1a,b) conform to (3) because the following are grammatical sentences:

(1') a. …that language$_1$, there are [$_{RC}$ many speaking t$_1$]
   b. …that hair style$_1$, I have never seen [$_{RC}$ anyone looking good in t$_1$]

If the small clause generalization is correct, it raises the possibility that Engdahl's data are not specific to Swedish but rather reflect some universal property of language processing mechanisms that give rise to such amelioration effects. To confirm this generalization, we conducted three acceptability judgment studies (7-point scale) as the quantified judgment data might reveal subtle differences in acceptability that may be hard to capture in verbal reports of acceptability judgment.

The Experiments

In **Experiment 1**, we compared the acceptability of those sentences which contain an existential construction (4) and those that contain an eventive predicate (5). We predicted that if the generalization in (3) is correct then (4) should be rated as more acceptable than their counterparts in (5).

(4) This is the battle that there are many historians who studied.   **[3.06 out of 7]**
(5) This is the battle that she met many historians who studied.   **[2.12 out of 7]**

Our prediction was borne out in the average acceptability ratings (shown next to each sentence): (4) was rated as significantly more acceptable than their counterparts in (5) (p<.05). In **Experiment 2**, we tested whether the lower acceptability in (5) might be an artifact of complexity: in (5) a new referent is introduced in the clause that intervenes between filler and gap but not in (4), and this additional referent may increase complexity (Gibson 1998). To control for this, we added an extra-clausal antecedent for the pronouns, so that no new referent would be introduced in the middle of the dependency.

(6) **Joan** said that this is the battle that **she** met many historians who studied.

Results in Experiment 2 replicated those in Experiment 1: the existential condition is rated significantly better than the eventive predicate condition (p<.05).

In **Experiment 3**, we further tested the generalization (3) by comparing (4) and (5) against (7) which contains a perception verb, which could in principle allow small clause continuations.

(7) This is the bill that I saw many senators who supported t_1. **[3.08 out of 7]**

We found a statistically significant difference between (4) and (5) (replicating the results of Experiment 1) as well as between (7) and (5), but not between (4) and (7). This indicates that RC complements of perception verbs and existentials are more permeable than RC complements of verbs that can't select SCs. The striking similarity between (4) and (7) ratings (3.06 and 3.08, respectively) suggests that there is a common underlying source of amelioration. These results support our descriptive generalization (3).

Analysis

We propose that the amelioration of acceptability relates to post-hoc syntactic reanalyzability. (8a) and (9a) are the relevant comparisons, with their (simplified) LF representations generated during the parse in (8b) and (9b), respectively.

(8) a. This is the bill that there are many senators *who supported*.
    b. supported(*many senators, the bill*)
(9) a. This is the bill that he met many senators *who supported*.
    b. met(*he*,x) ^ supported(x, *the bill*) ^ x = many senators

In (8) and (9), assuming that the strong island violation here is a violation of a PF representational condition (Lasnik 2001; Ross 1967; cf. Merchant 2001), LF receives an interpretable derivation but the PF rejects the interpretation. In both cases this results in a sharp drop in acceptability, but we propose that there is an amelioration effect in (8) that results from a ``repair strategy'' by the parser. This repair attempt by the parser tries to maximize the possibility of interpreting the sentence by searching for a licit PF-LF pairing for the sentence. We propose that the repair strategy searches through the set of choice-points in the sentence's parsing history to choose from the set of abandoned analyses an alternative that is minimally different from the first-pass parse (Fodor and Inoue 1994).

In this repair attempt, the parser finds a small clause analysis which is PF-acceptable and nevertheless consistent with the LF in (8), but not in (9).

(8') This is the battle that there are many senators *supporting*.
(9') *This is the battle that I met many senators *supporting*.

In (8a), upon encountering *are*, the parser can predict either a DP complement or a small clause to complete the sentence. In (9a), the parser can only predict a DP complement after *met*. (8') meets the condition on LF uniformity and does not violate any island conditions. Thus, we tie the amelioration to the presence of (8') as an alternative selected by the repair strategy. The sentence remains degraded, however, because a) it comes as a product of a repair strategy which is cognitively taxing and dispreferred (Schneider and Phillips 2000; Sturt et al. 2000), and b) the reanalyzed structure is not entirely faithful to the surface string (it ignores the relative pronoun), and hence the availability of the reanalysis remains somewhat illusory at best.

Consequences

First, although we do not currently have acceptability judgment data for Swedish, the relative amelioration seen in the English equivalents of Engdahl's sentences strongly suggests there may indeed be no variation in strong island effects cross-linguistically. Second, our account lends support to the autonomy and encapsulation of PF and LF assumed in the Y-model. Effects of this dissociation are apparent in the variability in acceptability judgments. This is

seen in our ameliorated RCI cases, where the integrity of the coherent semantic representation persists, in spite of the contribution of the illicit linearized structure at PF.

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Consonantal root extraction in two secret languages in Tashlhiyt Berber

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Background   An ongoing debate in Afroasiatic languages such as Semitic and Berber concerns the nature of the smallest unit stored in the lexicon. Standard theories claim that words are decomposed into consonantal roots combined with other morphological units (*i.e.* vowels and templates). This view has been largely supported by research in theoretical linguistics and psycholinguistics (*cf.* among others McCarthy 1979, Prunet *et al.* 2000, Frost *et al.* 2000). Alternative theories hold that whole words are stored in the lexicon and that they are derived from other whole words (*cf.* among others Hammond 1988, Ratcliffe 1987, Ussishkin 1999 and Dell & Elmedlaoui 1992). Prunet 2006 reviews arguments in favour of each of these theories.

Proposal   In this paper, we examine data from two secret languages used by women in Tashlhiyt Berber, called *Taqjmit* and *Tagnawt* (for the latter, data are from Douchaina 1988). These data show, we argue, that users of these languages have access to abstract levels of representation: they are able to extract root consonants from words and use them as the input base to derivation. It is also shown that the morphological operations used to disguise words are captured as the direct result of the association of a consonantal root to a template.

Data, analysis   The examples in (1) are sorted into three classes depending on the number of root consonants the Tashlhiyt form contains:

(1)

			Tashlhiyt forms	*Disguised forms*	
				Taqjmit	*Tagnawt*
a.	(3 root Cs)	"be afraid"	iksudˤ	tikkasdˤjusdˤ	ajkkasdˤwasdˤ
		"be the first"	izwir	tizzawrjuwr	ajzzawrwawr
		"dream"	wwarg	tiwwargjurg	ajwwargwarg
b.	(2 root Cs)	"hold, catch"	amzˤ	timmazˤjuzˤi	ajttamzˤwamzˤ
		"avoid"	anf	tinnafjufi	ajttanfwanf
		"steal"	akʷr	tikkʷarjuri	ajttakʷrwakʷr
c.	(1 root C)	"he is"	iga	tiggawiwi	ajggatwatti
		"cut"	bbi	tibbawiwi	ajbbatwatti
		"eat"	ʃʃ	tiʃʃawiwi	ajʃʃatwatti

We first notice that only the consonantal material of Tashlhiyt forms is kept in the disguised forms: the vocalic material is replaced in the disguised forms by a default vocalism (for reasons we provide, the melody varies slightly in the three classes of each language). Second, *aj-* is prefixed and *-wa-* inserted in all *Tagnawt* forms, *ti-* and *-ju-* in all *Taqjmit* forms (note that *-ju-* and *-wiwi* are analyzed as two surface forms of the same underlying elements I and U). Finally, in the case where the root contains less than three consonants, the lacking material is supplied by epenthetic *t* in *Tagnawt*, *i* in both *Tagnawt* and *Taqjmit*. In any case, the root consonants are the <u>only segments</u> that *Taqjmit* and *Tagnawt* forms share with Tashlhiyt forms: these secret languages therefore show that Tashlhiyt speakers are able to extract the root and use it as the input-base to derivation.

On the other hand, all disguised forms geminate the first consonant, and the remaining consonants are reduplicated to the right. That is, the main principle underlying the morphological operations used to disguise words can be formulated as follows: "*to disguise a word, say it twice in one word*". Gemination and reduplication are therefore analyzed as two different ways to repeat all the root consonants. Moreover, the distribution of these operations – in particular, the fact that gemination involves the first consonant and reduplication the

remaining two consonants – is construed as resulting from the structure of the template used to disguise words. It is proposed, on the basis of Lowenstamm & Guerssel 1990 and Lowenstamm 2003, that this template is internally structured and contains a derivational site which leads to the gemination of the first consonant.

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The Necessity of an Active Lexicon: Evidence from Hebrew Valence Changing
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This talk examines the interaction between valence changing operations and morpho-phonological constraints in Hebrew. I examine the thematic operations that derive decausatives, reflexives and reciprocals, manifested in Hebrew by relations among prosodically distinct configurations, called binyanim (e.g. *niCCaC*, *hitCaCeC*). Following Reinhart & Siloni (2005), I assume these operations apply in the lexicon, while passivization applies in the syntax. I argue that the criteria for choosing a binyan are unique to the morpho-phnology of the lexicon, thereby supporting the existence of two types of morpho-phonology. I will show that a word-based approach provides a better account for Hebrew valence changing relations, than assuming the existence of a consonantal root as an independent entity in the lexicon. This is demonstrated in two domains.

Selecting a binyan for verbs derived valence changing operations
The derived counterparts (e.g. decausatives) of *hiCCiC* verbs exhibit an intruiging variation. Some are formed in *niCCaC* (e.g. *hirdim* 'put to sleep'- *nirdam* 'fall asleep'), while others are formed in *hitCaCeC* (e.g. *hiršim* 'impress'- *hitrašem* 'become impressed'). This variation results from two competing morpho-phonological constraints. The selection of *hitCaCeC* is due to **markedness**; *hitCaCeC* is less marked than *niCCaC* as it is prosodically uniformed throughout its inflectional paradigm. The selection of *niCCaC* is due to **faithulness**; *niCCiC* has a consonant cluster in its past and present forms, which allows preserving the structure of the input of *hiCCaC*. Choosing *niCCaC* yields (partial) uniformity within the derivational paradigm. Moreover, there are four pattrens that manifest a tendancy to choose *niCCaC*. This stems from faithfulness constraints that block the application of phonological processes.
1. Block deletion: Verbs whose initial stem consonant is *t* or *d* usually escape *hitCaCeC*, since such derivation creates the homorganous /tt/ or /dt/ clusters, which are prohibited in Hebrew. Forming a verb in *niCCaC* blocks the application of deletion, which would be required to amend in homorganic clusters. For example, the decausative counterpart of *hidhim* 'amaze' is *nidham* 'become amazed' and not *hitdahem* or *hidahem*.
2. Block metathesis: Some verbs with a strident as their initial stem consonants do not have a derived form in *hitCaCeC*, as this would result in metathesis (e.g. *hitsarek* → *histarek* 'comb oneself'). Again, the selection of *niCCaC* allows avoiding the application of this process (e.g. *hicmid* 'stick'→ *nicmad*/ *hictamed* 'stick oneself').
3. Block prosodic and vocalic alternation: Verbs whose initial stem consonant is a glottal stop have an identical prosodic structure in *hiCCiC* and *niCCaC*. The glottal stop in both binyanim is preceded and followed by /e/. For example, *he'eliv* 'insult' and its derived counterpart *ne'elav* (*hit'alev*) 'become insulted' share the same number of syllables and two first vowels. *NiCCiC* is more faithul to *hiCCiC* than *hitCaCeC*, and hence it is prefered.

Such faithfulness constraints require that the morphological component apply on words rather than roots, in order to keep the derived verbs faithful to their transitive counterparts.

Blocking the application of valence changing operations
Morpho-phonology can restrict the application of thematic operations. Some transitive verbs, whose external theta role is a cause, have no decausative counterpart (e.g. *hecik* 'hassle'). I argue that this results from their irregular morpho-phonology (e.g. *he'ir* 'wake X up' → *hit'orer* 'wake up'). The formation of such verbs is considered exceptional and unproductive in terms of innovation. I assume that such forms are lexicalized and their formation is not a part of the morphological component in the lexicon. I contend that their irregular morpho-

phonology blocks the derivation of their decausative counterparts. Examining their thematic grids does not explain why they do not undergo this operation, as there is no observed difference compared to other verbs that undergo this operation. This case gives further rise to a surface-based account, in which forms are derived from actually occurring words, rather than a system in which forms are derived by relating to an entity that never occurs in isolation on the surface (Bat-El 1994, Ussishkin 2000). If we assumed that such decausative verbs are derived on the base of roots, there would be no reason for their relatively low productivity. Note that there are also some transitive verbs that do not undergo passivization (e.g. *tiyev* 'improve'). This restriction does not result from morpho-phonological reasons, but from thematic ones (Doron 1999, 2003, Landau 2002).

The analysis reveals the effect of morpho-phonological constraints on thematic operations. Such constraints play a role both in the selection of binyan for derived verbs and in restricting the application of valence changing operations. The analysis supports the superiority of a word-based approach over a root-based approach, which does not seem to account for the observed generalizations. In contrast to the above constraints, the morphology of passivization is predictable and is hardly subject to variation and to restrictions. I argue that this difference results from the component of the grammar where operations apply. As the above constraints are unique to the lexicon, the analysis supports the claim that morpho-phonology is an independent component that interacts with the lexicon (Aronoff 1976, Anderson 1977, Scalise 1984 among others).

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Title: Ellipsis does, but Right-node raising doesn't, involve deletion
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It has been claimed recently that Right-node raising (RNR) sentences (1) are generated via ellipsis, either strictly phonological (Hartmann 2000, Boškovic 1997/2004) or more syntactically driven (Ha 2006a, 2006b, Chalcraft 2006).

(1) Ivy BOUGHT <~~the book~~> and Ivan READ the book

In this paper I provide arguments and novel data that suggest that ellipsis is qualitatively distinct from RNR. Having shown the two to be distinct, I investigate how a multidominance (MD) (McCawley 1982, Wilder 1999, Bachrach and Katzir 2006) approach to RNR can better account for the data.
First, the reconstruction effects found in sentences having undergone VP ellipsis do not match those of the RNR sentence (2).

(2a) Ivy WROTE <~~two very different songs~~> and Ivan RECORDED two very different
    songs {2 songs or 4 songs}
(2b) Ivy wrote two very different songs and Ivan did <~~write two very different songs~~>
    too {only 4 songs}

The ellipsis sentence has only the reading where there are a total of four songs while the RNR sentence also has a distributed reading with only two songs. Also, Ha (2007) suggests that ellipsis and RNR can both undergo "vehicle change" as in Fiengo and May 1994 (3).

(3a) Mary loves John$_i$, and he$_i$ thinks Sally does <~~love him$_i$~~>, too
(3b) Mary heard that John$_i$ SUBMITTED <~~the article about himself$_i$ for the magazine~~>,
    but Sue said that Bill actually WROTE the article about John$_i$ for the magazine.

Elided noun phrases cannot however undergo vehicle change when it is a quantified noun phrase that is elided (Safir, 1999), yet RNR can (4).

(4a) *Jones recommended [several chorus girls]$_i$ to the producer and then Smith did
    <~~[recommend several chorus girls]~~$_i$> a second time. (Safir, 1999)
(4b) First John recommended <~~[several chorus girls]~~$_i$> and then Smith complimented,
    [several chorus girls]$_i$.

Ha also notes that sloppy identity is found in both ellipsis and RNR constructions, but this is found only in a restricted range of cases. When there are three or more conjunctions sloppy identity is only found in ellipsis (5).

(5a) John likes his father, but Bill doesn't <~~like his father~~> {sloppy reading possible}
(5b) John LIKES <~~his father~~> but Bill HATES his father {sloppy reading possible}
(5c) John likes his father, Bill does <~~like his father~~> too, but Jim doesn't <~~like his
    father~~>. {sloppy reading possible}
(5d) John LIKES <~~his father~~> Bill LOVES <~~his father~~> and Jim LOATHES his father
    {no sloppy reading}

I also show that RNR can apply to a wider range of constituents than ellipsis. That is, ellipsis can generally apply to IPs, VPs, and modified NPs, whereas RNR can apply to most constituents (6).

(6a) *Ivy reads quickly and Ivan reads <~~quickly~~> too
(6b) *Ivy asserts that Jupiter is gaseous and Ivan asserts <~~that Jupiter is gaseous~~> too
(6c) Ivy READS <~~quickly~~> and Ivan SPEAKS quickly
(6d) Ivy ASSERTS <~~that Jupiter is gaseous~~> and Ivan DENIES that Jupiter is gaseous

There is also a distinct intonation pattern that RNR requires, but ellipsis constructions can take an unmarked intonation pattern. Last, there can be wh-extraction from RNR sentences, but not from VP-ellipsis sentences (7).

(7a) *What$_i$ can John paint a picture of t$_i$ and Mary can <~~paint a picture of t$_i$~~> too?
(7b) What$_i$ can John <~~paint a picture of t$_i$~~> and should Mary paint a picture of t$_i$?

Given that ellipsis and RNR are entirely distinct aside from superficial similarities, a non-ellipsis account is proposed for RNR constructions, namely MD. There have been numerous accounts of how MD can account for a swath of RNR data, so I will merely show that this analysis can be extended to account for the contrasts discussed above between ellipsis and RNR. For the cases of distributive scope, I suggest that there is covert raising of the shared constituent such and thence arises the ambiguity (8).

(8) [[$\exists$x. x are two very different songs] [Ivy wrote x] [Ivan recorded x]]

This can also explain why the VP ellipsis sentences fail to get the distributive readings because, according to Citko (2003), covert ATB movement does not exist. The vehicle change data explainable under a MD analysis in that there would be only one "vehicle" (or shared element) and thus no changing of them, as opposed to in ellipsis where there is another "vehicle" to change into. Considering the liberal application of RNR to various types of constituents versus the limited types of constituents that can undergo traditional ellipsis, I suggest that RNR is created by the same basic Merge operation that creates regular constituents and thence comes to wide application. Merge just happens simultaneously between two probes and one goal. Traditional ellipsis is presumably subject to constraints particular to it (Fox and Lasnik 2003). As for the lack of the sloppy identity found in RNR sentences with three conjuncts, I speculate that overt pronouns have a limit of sorts concerning the number of binding relations they can take and that number is two. The marked intonation pattern found with RNR sentences can be the result of the PF component interpreting a structure that is by many accounts (Kayne, 1994) unlinearizable. Wh-extraction from ellipsis sentences can be seen as violating the coordinate structure constraint, while in RNR sentences this constraint would not be violated as there is only one element in both conjuncts and as such it would simultaneously move out of both of them.

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GENERALIZED SURVIVE - SINGLE OUTPUT SYNTAX WITHOUT ATTRACTION
Winfried Lechner, University of Athens

There are currently two views on why a category α moves: either α is attracted by a higher head, as in the standard *Attract* model, or α is expelled from its pre-movement position and pushed into its landing site, as in *Survive* minimalism (Stroik 1999; Putnam 2007; s.a. Platzack 1996; van Riemsdijk 1997; a.o.). There are also two competing theories on how to order overt and covert movement operations. While the classical T model delays all covert movement after spell-out, the *phonological theory of QR* posits that both operations occur in one single cycle (Bobaljik 1995; Fox and Nissenbaum 1999; a.o.). In this talk, I present arguments for a combination of these two dimensions that embeds a particular version of the *Survive* principle in a single output model of the grammar. The resulting *Generalized Survive* (GS) model is characterized by three properties:

I. GS unifies the triggering contexts for feature induced syntactic dislocation and semantically motivated movement due to type mismatches (see §1).

II. GS correctly predicts interaction between feature driven and scope related movements that cannot be expressed in standard single output models in a straightforward way (see §2).

III. GS naturally derives the type of crossing, order preserving dependencies implicated in most contexts involving multiple movements (Abels 2007; see §2).

Empirically, the GS system is supported by its ability to provide a common analysis for configurations involving multiple covert movements. These predictions, which also serve as diagnostics discriminating between Survive and Attract models of dislocation more generally, are manifest in scope restrictions on double object constructions and inverse linking.

1. GENERALIZED SURVIVE The principle of type driven interpretation (TDI) expels type-incompatible nodes from their local neighborhood. The *Survive* principle of Stroik (1999) pushes feature-incompatible categories into higher positions. It is proposed to unify these two closely related concepts under the single principle of *Generalized Survive* (GS), as defined in (1). (1) can be understood as an instruction to successively, locally adjoin a category α to the root upon insertion of new nodes in the derivation, irrespective whether α is feature or type incompatible with its sister node(s).

(1)   *Generalized Survive (GS)*
        For any nodes α, β and γ, such that γ is the mother of α:
        If α is not feature or type compatible with β, then
        (i) adjoin α to the result of merging α with β, if β is a head and
        (ii) adjoin α to the result of merging γ with β otherwise.

In contrast to attract based models, GS creates intermediate adjunction sites above each newly merged category. Evidence for the existence of these additional copies comes from scope freezing in double object constructions and inverse linking.

2. TWO SCOPE RESTRICTIONS In double object constructions, the scope of the indirect and direct object is fixed ((2); Bruening 2001), while the subject may scopally interfere between IO and DO ((3); see Sauerland 2000 for extensive discussion).

(2)   I gave a child each doll. $\exists \succ \forall / *\forall \succ \exists$ (Bruening 2001: (2a))
(3)   Two boys gave every girl a flower $\forall \succ 2 \succ \exists$ (Sauerland 2000: (49))

Attract models need to stipulate the existence of a Q-feature on an attracting head in order to account for scope preservation in (2) (ibid.). This assumption duplicates the trigger for object QR, though, which independently need to move in order to comply with TDI. By contrast, the GS analysis derives scope freezing (as well as (3)) from general properties and does not have to resort to diacritic features. The GS-derivation of (2) proceeds as in (4). DO and IO are type incompatible with their sister nodes. As a result, DO is pushed to V', the minimal node containing V° and DO in an initial step ((4)a). Next, externally merging IO in SpecVP forces movement of DO across IO, as detailed

by (4)b. Then, IO raises across DO to an outer SpecVP in response to merger of DO ((4)c).

(4) a.

V'
DO   V'
              V° t_3
I.

b.
DO_3 VP
     IO_2 V'
          t_3 V'
                          V° t_3
II.

c.
IO_3 VP
     DO_3 VP
          t_2 V'
                    V° t_3
III.
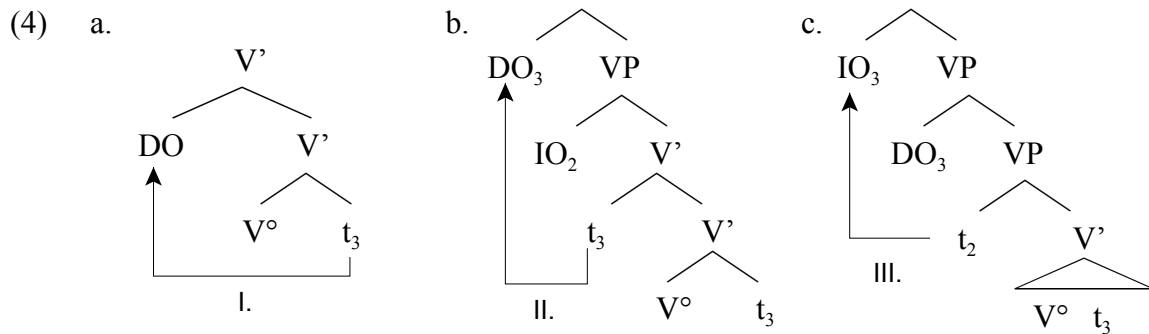
Order preservation falls out from the hypothesis that the derivation privileges recently merged categories over nodes that have already been merged at an earlier point. As a consequence, movement of IO across v° precedes movement of DO across v°, as in (5), yielding a crossing dependency. (I will discuss and present a solution to a halting problem for the analysis.)
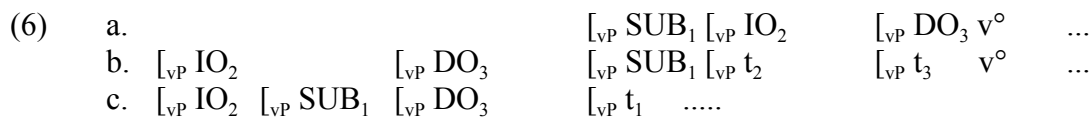
(5)

IO_2 vP
     DO_3 vP
          v°   VP
I.
               t_2 VP
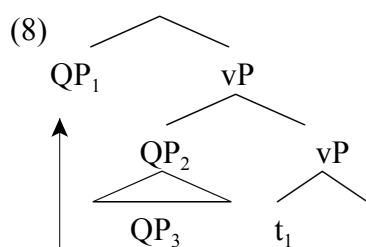II.
                    t_3 .....
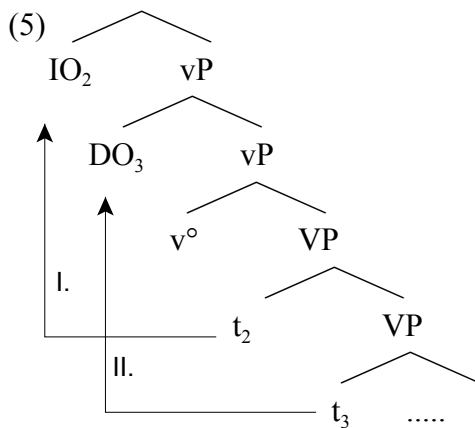
Next, the subject is inserted ((6)a), and subsequent to one final pair of movements, DO and IO end up in an interpretable position, that is as sisters of a node of type t ((6)b). In the last relevant steps, the subject, which is *feature* incompatible with its local environment, is ejected from its base, landing in a position inbetween IO and DO ((6)c), from where it moves on to TP. Since the subject is interpretable inbetween IO and DO, as well as in its base, both scope orders (2) and (3) can be generated. Thus, GS not only accounts for scope rigidity but also correctly predicts the more liberal behavior of subjects. The key to the success of the GS analysis is its ability - in conjunction with the phonological theory of QR - to create interaction between movements driven by type incompatibility and movement driven by feature incompatibility.

(6) a. $[_{vP}$ SUB$_1$ $[_{vP}$ IO$_2$ $[_{vP}$ DO$_3$ v°   ...
     b. $[_{vP}$ IO$_2$ $[_{vP}$ DO$_3$ $[_{vP}$ SUB$_1$ $[_{vP}$ t_2 $[_{vP}$ t_3 v°   ...
     c. $[_{vP}$ IO$_2$ $[_{vP}$ SUB$_1$ $[_{vP}$ DO$_3$ $[_{vP}$ t_1 .....

The analysis extends to contexts in which multiple QPs are not ordered by c-command, but where one QP is inversely linked ((7); Sauerland 2000). (7) admits a wide and narrow scope reading for the subject, but lacks the intermediate construal (7)c (Larson 1987):

(7) $[_{QP1}$ Two policemen spy on $[_{QP2}$ someone from $[_{QP3}$ every city]]]
       a. $2 \succ \forall \succ \exists$ b. $\forall \succ \exists \succ 2$ c. $*\forall \succ 2 \succ \exists$

(8)

QP_1 vP
     QP_2 vP
          QP_3 t_1

(8) depicts the critical parts in the derivation. QP$_2$ has adjoined to vP and triggers feature driven movement of QP$_1$, followed by type-induced QR of QP$_3$. What is of particular significance is that movement of QP$_2$ immediately precedes subject raising. Thus, even subject movement and QR both proceed in overt syntax, the subject has not had the option to strand an intermediate trace inbetween QP$_3$ and QP$_2$, blocking the intermediate reading (7)c.

In sum, a single output model without attract not only offers a unified account of the forces behind syntactic and semantically motivated movement (TDI), but also proves empirically more adequate in handling complex interactions between more than two QPs.

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A Semantic Topography for Distributivity in Chinese and Its Implications

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1. Problem   This study offers a novel and unified account for several long-standing puzzles wrt distributivity and universal quantifiers in Chinese. Chinese has two distinct lexical elements with universal quantificational force: *mei* ('every') and *dou*. **Puzzle I (P1):** It needs to be explained why Chinese sometimes allows two higher-ordered universal quantifiers in one sentence (cf. (1a-b)). One of the prevailing solutions to this problem is not to analyze *mei* as a quantifier of <et, <et, t>> but a determiner of type <et, e>. Lin (1998), for instance, treats *mei* to be a union operator and *dou* to be a generalized distributor (henceforth <u>Lin's solution</u> (LS))**.**

(1) a. *Mei-ge tongxue* *(dou) lai   le.*   b. *Tongxue-men(pl.) dou lai   le.*
      every-cl students dou came PER   student-pl.   dou came PER

LS first fails to explain why in (1a), the sentence is bad without *dou*. Moreover, it is not always the case that *mei* cannot independently function as a universal quantifier. As H (1996, 2005) notices it, when there is an indefinite or reflexive object NP, *dou* becomes optional (cf. (2a)) (**Puzzle II (P2):** the optionality of *dou*). Obviously, LS fails **P2**. Noticing the contrast between (2a) and (2b-c), Huang proposes (<u>Huang's solution</u> (HS)): *mei* is a Skolemized universal quantifier and it requires a lexically overt variable within its scope to license this Skolemized quantification; *dou* is a sum operator over events.

(2) a. *Mei-ge nanren (dou) xihuan yi-ge nvren.*   'Every man likes one woman.'
      every-cl man dou like   one-cl woman
   b. *Mei-ge nanren* *(dou) xihuan zhe-ge nvren / Yadianna.*
      every-cl man   dou like Dem-cl woman Athena
   c. *Mei-ge nanren* *(dou) xihuan Kailun.*   'Every man likes Helen.'

But HS fails another puzzle (**Puzzle III (P3))**: subject-object asymmetry. In contrast to subject positions, 'mei-cl NP' could appear in object positions irrespective of the absence/presence of *dou* (cf. (3)). The naturalness of 'mei-cl NP' in object positions is unexpected under Huang's analysis: in (3), the universally quantified object cannot scope over the subject, and how *mei* is licensed becomes a mystery ((a) <u>∃>∀</u>   (b) <u>*∀>∃</u>)：

(3) *You yi-ge tongxue   du-le   mei-ben guanyu hanyu lianghua   de boshi lunwen.*
     have one-cl student read-ASP every-cl   on   Chinese quantification NOM PhD   thesis

   A more comprehensive scrutiny of the data might indicate the following pattern about the (co)-occurrence between *mei* and *dou*: *dou* is obligatory when 'mei-cl NP' occur in subject positions and (a) there is a definite object NP (or a proper noun) within its scope (cf. (2b-c)); or (b) the VP is intransitive (cf. (1a)). What governs the distribution of *mei* and *dou* (**Puzzle IV**)?

2. Proposal   I assume the distributive quantification induced by EVERY has a portmanteau semantic structure, viz. it has two semantic components, a universal quantification plus a matching functional quantification, which contributes distributivity (cf. Gil '95)). A matching function π that takes members from the restriction of the universal quantifier and matches them with an existentially introduced variable from the nuclear scope of the quantifier is independently needed (cf. Barwise '79, de Swart '93, Rothstein '95). When events are included, there are three possible mappings (D: domain of individuals; E: domain of events): (a) $\pi: D^D$; (b) $\pi: E^D$; (c) $\pi: E^E$. EVERY in Chinese has two incarnations, namely, *mei* and *dou*, and there is a division of labor between them, which correspond to the three mappings ((cf. Luo (2008)). Compositionally, *mei* is a universal quantifier plus a matching function from D into D, while *dou* is a universal quantifier plus the matching function from D into E or E into E (cf. (5) and (6)). Type-logically, *mei* is of type <e, <et, t>> (cf. Matthewson '03) while *dou* could be either of <e, <et, t>> or <v, <vt, t>> (v: type of events). The value of π is contextually provided.

(4) <u>Matching Function</u>   Let A and B be sets, $\pi: \wp(B)^{\wp(A)}$ is a matching function iff (a) $\forall x \in \{X: X \subseteq \wp(A)\}$ $!\exists y \in \{\Delta: \Delta \subseteq \wp(B)\} \to \pi(x) = y$; (b) For any elements x and y of A, $x \bullet y \Rightarrow \pi(x) \bullet \pi(x)$ ($\bullet$: any operation on A); (c) $\forall x_1, x_2 \in A: x_1 \neq x_2 \Rightarrow \pi(x_1) \neq \pi(x_2)$; (d) Undefined otherwise

3. Discussion & Analysis   First, the proposal offers a ready explanation for **P2**: the weak indefinite provides an existentially introduced variable to license the matching function. **Compositionality Issue**: how to properly combine a transitive verb of type <e, et> and an indefinite (of type <e, t>)? English and Chinese satisfy this requirement in a different way. Chinese employs **Predicate Restriction**, a mode of composition which takes the property argument (of type <e, t>) as a restrictive modifier of the predicate (cf. C& L (2004)), while English uses the choice function (CF) which maps a property argument onto entities that have the property (cf. *inter alia* R(1997, 2006), Kratzer (1998), Winter (2004)). But after existential closure (EC), both the mechanisms would yield a semantic category of type <e> to combine with the transitive verb (cf. (5)). This analysis also explains why the weak indefinites in Chinese always take a narrow scope. As for the contrast between (3a) and (3b-c), it could be easily proved that when there is an *individual constant* (denoted by definite NPs or proper nouns), the distributive semantic requirement wouldn't be satisfied (cf. the oddness of (3b-c) without *dou*):

(5) [[xihuan yi-ge nvren]] = RESTRICT ($\lambda x \lambda y$ (like'(y)(x) , a woman')) = $\lambda x \lambda y$ (like'(y)(x) & woman'(y)) (Predicate Restriction) = $\lambda x \exists y$ (like' (x) (y) & woman' (y**)))** (Existential Closure)

   But if *mei* is a universal quantifier of higher type, how could it be possible to occur with *dou*? (P1 &P3) The solution lies in the determinerlessness of Chinese. Unlike the determiner languages like English, Chinese has an extra (covert) iota-operation (**I-operation**), an operation akin to type-shifting that turns a quantificational element into a referential one. This operation renders (type-shift) *mei* to be a universal determiner of type <et, e>, which denotes the function from a set to the maximal i-sum of the members of that set (cf. Link 1998 etc.). This type-shifting operation is costly and is subject to **Economy Constraint** (EC): Use the **I-operation** only as a last resort to satisfy interpretability. **Analysis**: if *mei* in object positions is interpreted as a distributive quantifier, since QR is not an option for Chinese, there will arise an interpretability problem. Naturally, not to interpret *mei* as a universal quantifier would avoid this problem. There are also some empirical motivations for this claim. We predict that when *mei* functions as the universal quantifier (a real quantificational element), it cannot be referred back in a inter-sentential discourse. (7a) shows that the subject 'mei-cl NP' in a sentence with an indefinite object NP but without *dou* cannot be referred back; (7b) indicates 'mei-cl NP' in a sentence with *dou* could be referred back by a **plural** pronoun but not a **singular** one. Likewise, we predict 'mei-cl NP' in object positions could be referred back (cf. (7c)). The contrast between (7a) on one hand and (7b-c) on the other indicates that *mei* could live on two domains, with **EC** (last-resort) as the regulating force between them. (8) shows the logical form of (2b) with *dou*.

(6) **I-operation: Iota**([[mei]])$\Rightarrow \lambda P. \Sigma x *P(x)$)

(7) a. *[Mei-ge tongxue]$_i$ kan-le   yi-bu dianying.   # Tamen$_i$ /* ta$_i$ shi Zhang San de xuesheng.*
        every-cl student   watch-ASP one-cl movie.   they /   he be Zhang San Gen students

    b. *[Mei-ge tongxue]$_i$ <u>dou</u> kan-le   yi-bu dianying.   Tamen$_i$ /* ta$_i$ shi Zhang San de xuesheng.*
        every-cl student   dou watch-ASP *one-cl movie.* they / he   be Zhang San Gen students

    c. *Wo jianguo zhe-ge xuexiao de [mei-ge laoshi]$_i$.   Tamen$_i$/* ta$_i$ hen he'ai.*
        I   meet   Dem-cl school Gen every-cl teacher   they /   he very nice

(8) $\forall x (x \leq \Sigma x *man_{(x)} \rightarrow \exists e(like\_\iota woman(x)(e) \& \pi(x) = e))$ (= (2b) with *dou*)

  So far, the proposed analysis has said little about the cases involving an indefinite object, where *dou* is optional. I think the difference lies in the dichotomy of event quantification and individual quantification. This is the semantic difference between the sentence with *dou* and the one without *dou* (cf. (9a-b)).This assumption is again motivated on empirical basis (cf. (10a-b)):

(9) a. $\forall x$ (man'(x) $\rightarrow \exists y$ (woman'(y) & π(x) =y)) (= (2a) without *dou*)

    b. $\forall x$ (x$\leq \Sigma x *man_{(x)} \rightarrow \exists e \exists y$ (!woman (y) & like (y)(x)& π(x) =e)) (= (2a) with *dou*)

(10) a. *Mei-ge nanren xihuan yi-ge nvren,   na shi Yadianna.*
        Every-cl man   like   one-cl woman   that is Athena.

    b. *Mei-ge nanren <u>dou</u> xihuan yi-ge nvren, nashi Yadianna.*

Exceptional morpho-phonemic processes and emergent unmarkedness

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In this paper I discuss morpheme-specific exceptional occurrences in Assamese and the role of indexed markedness constraints (Ito & Mester 1999, 2001, Pater 2000, 2006 etc.) in accounting for these exceptions. Assamese vowel harmony is a 'directional' right-to-left regressive harmony system, which normally ignores morphological boundaries. In this system, the [+ATR] values of /i/ and /u/ trigger harmony in the preceding [–ATR] vowels such that ɛ/ → [e], /ɔ/ → [o], and /ʊ/ → /u/. The harmony constraint *[+ATR][-ATR] prohibits adjoining sequences of vowels with [ATR] mismatch and therefore results in outputs with [ATR] harmony as shown in (1).

(1)   Regular harmony triggered by /-iyɑ/ and /-uwɑ/

	Root/Stem	Gloss	Suffix	Derived	Gloss
a.	bɔyɔx	'age'	-iyɑ	boyoxiyɑ	'aged'
b.	mɛr	'wind'	-uwɑ	meruwɑ	'wind'(causative)

The constraint *[+ATR][-ATR] interacts with the highly ranked faithfulness constraints IDENT [High] and IDENT [Low] and alongwith other featural markedness constraints give rise to directional right-to-left harmony. In this harmonising environment, /ɑ/ is opaque to vowel harmony and therefore IDENT [Low] is supposedly undominated. See below:

(2)   Assamese trisyllables with medial /ɑ/ and final /i/

a.	kɔpɑh	'cotton'	-i	kɔpɑhi	'made of cotton'
b.	zʊkɑr	'shake'	-i	zʊkɑri	'shake' (inf)

However, /ɑ/ exceptionally undergoes harmony under the influence of the morphemes /–iyɑ/ and /–uwɑ/. Apart from showing that such exceptional occurrences in Assamese lend themselves to an account based on indexation of markedness constraints, this work also shows that the caveat in Pater (2006) about such constraints' ability to subvert the universal metaconstraint FAITH ROOT >> FAITH AFFIX (McCarthy and Prince 1993) is indeed borne true. Consequently, the Assamese examples show that indexed constraints lead to an exceptional alternation where [±Back] harmony occurs only in the root and the suffixal [±Back] values remain unaltered. I argue that this reversal is a result of confluence of several factors leading to the theoretically motivated observation that some unexpected processes in OT are emergent. It is shown that when the two constraints indexed to the morphemes /-iyɑ/ and /-uwɑ/, i.e. the [ATR] harmony constraint *[+ATR][–ATR] and the front harmony constraint *[–Back –High] [+Back –High] are ranked above IDENT [Low], they result in exceptional patterns with the following three things occurring simultaneously: a) /ɑ/ raising b) iterative [ATR] harmony in the word, and c) non-iterative [Front] harmony occurring in the root as shown in the examples in (3)

(3)   /ɑ/-raising and front harmony triggered by /–iyɑ/ and /–uwɑ/

a. kɔpɑl   'destiny'   -iyɑ   kopoliyɑ   'destined'
b. dʰɛmɑli   'play'   -iyɑ   dʰemeliyɑ   'playful'
c. ɛlɑh   'laziness'   -uwɑ   elehuwɑ   'laziness'

Note that there is no [Front] harmony when /ɑ/ occurs root-initially. In those cases where /ɑ/ occurs adjacent to the triggering morpheme, /ɑ/ raising is stictly local and there is no iterativity in the harmony process as shown below:

(4)   /ɑ/ does not change when it is not adjacent to the triggering vowel

a. pɑtɔl   'light'   -iyɑ   pɑtoliyɑ   'lightly'
b. ɑpɔd   'danger'   -iyɑ   ɑpodiyɑ   'in danger'
c.. ɑlɑx   'luxury'   -uwɑ   ɑloxuwɑ   'pampered'

The occurrence of these processes are co-dependent, but they underscore several important points: a) front harmony, although emergent is nonetheless progressive conforming to the universal preference for the direction of the process b) the exceptional process is confined to the smallest domain of the root c) the special role of the vowel adjacent to the indexed morpheme. Consequently, the relevant constraint *[–Back –High] [+Back –High]$_L$ is violated when a minimal string XY contains a [–Back –High] vowel followed by a [+Back –High] vowel, only if a part of the string is adjacent to a morpheme indexed as L. Consequently, this paper also shows that the restriction on absolute local application of exceptions introduced in Pater requires modification for a complete analysis of the Assamese facts. This paper explores how in contexts like these the metaconstraint FAITH ROOT >> FAITH AFFIX needs reconsideration. In a morphologically driven exceptional pattern, various factors pertaining to minimal domain and universally well-attested root outward harmony conspire to produce an output which fatally violates this particular metaconstraint. This paper also discusses how some instances of Markedness requirements and reversals may be often emergent, and therefore a result of a particular relation that a specific morpheme construes to be the least marked (see also Inkelas and Zoll 2003).

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Fake indexicals: a job for syntax, morphology, semantics, or pragmatics?

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Kratzer (2008) on German fake indexicals: Heim (1991) uses sloppy *my* to argue that 1st and 2nd person pronouns can be syntactically bound:

(1) Only I did my homework [sloppy: $\forall x[x \neq i \rightarrow \neg(x$ did hw of $x)]$

Kratzer (2008) sets out to account for the subtle restrictions on sloppy readings of 'fake indexicals'. Her analysis starts out with German, where sloppy readings appear absent when there is no φ-feature compatibility between the pronoun and the nearest verb:

(2) Du bist   der   einzige der   deinen   Sohn versorg-t
     *2sg be.2sg the.masc.sg only.one who.masc.sg **2sg**.poss.acc son   take.care.of-**3sg***
     'you are the only one who is taking care of your son' $\left[=(6),\ *\text{sloppy}\right]$ [1]

Kratzer proposes a syntactic theory involving 'perspectival' v's born with uninterpretable φ-features (a necessary 'imperfection', p.20) along with three principles of feature transmission to handle these German data. Apparent counterexamples discussed are cases like (3), for which Kratzer then proposes an additional mechanism of long distance binding through context shifting (§4).

(3) Du bist der einzige der glaubt daß jemand deinen.2sg Aufsatz versteht.3sg
     'you are the only one who believes that someone understands your paper' $\left[=(52a)\right]$

English: effects of a poorer morphology? Other languages provide further challenges. In English we find sloppy readings of *your* in (4), in contrast to the analogous German (2):

(4) You are the only one who has.3sg brushed your.2sg teeth $\left[=(27b)\right]$

Kratzer suggests a morphological fix of her theory: German distinguishes 1st, 2nd and 3rd on the verb and the possessive so that, in the singular, there is never any competing form to spell out a given feature bundle that includes a person or gender feature. English on the other hand runs into a spell-out dilemma when faced with a bundle like $\{[2nd], [masc], [sg]\}$ which, in the case of (4) can be resolved by choosing *your* and a third person verb ending.

One problem remains: the copula in English is inflected like a German verb, distinguishing 1st, 2nd and 3rd. Nonetheless we find a sloppy reading for (5):

(5) I am the only one who is.3sg brushing my.1sg teeth $\left[=(41)\right]$

The fix proposed for this relies on the fact that this morphology of the copula is a 'quirk' (p.46) in the English verb paradigm.

Dutch & French: counterexamples: We have found English-style sloppiness without congruence between possessive indexical and local verb in languages that mark the same kinds of distinctions as German (or the English copula). The first case in point is Dutch:

(6) Jij bent de enige   die je   best gedaan heeft
     2sg be.2sg the only one who poss.2sg best done   has.3sg
     'You are the only one who did his best'

All Dutch non-auxiliary verbs in the present tense distinguish 1st from 2nd and 3rd person singular, and often also 2nd from 3rd (i.e. in inversion and in *hebben* 'have' and *zijn* 'be'), yet still allow the sloppy reading for the 2sg possessive *je*.[2]

For French, which distinguishes 1st and 2nd plural, the data are less clear, but some speakers accept:

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[1] All other examples in this paper allow sloppy readings and are therefore no longer marked.

[2] Like in German and English, a 3rd person possessive (*z'n*, *zijn*, *haar*) would be possible as well.

(7) ?Nous sommes les seuls   qui fassent   de notre   mieux ici
  we are the only ones who do.subj.3pl poss.1pl best here

Because of this we believe Kratzer's story about (5) as due to a quirk of English morphology in the copula to be on the wrong track.

A pragmatic alternative: In the short survey of fake indexicals above we find that the availability of sloppy readings is the rule rather than the exception. We therefore propose an alternative that in principle generates strict and sloppy readings for all examples considered above. Some restrictions will then be motivated pragmatically.

Our analysis follows Maier (2008) who argues that Heim's bound *my* can be analyzed as a Kaplanian indexical by adopting a Higher-Order Unification (HOU) approach to pragmatically derive a strict/sloppy ambiguity for instances of VP ellipsis and *only*, without requiring any of Kratzer's special morphologyical (e.g. marked features), syntactic (e.g. perspectival vP) or semantic (e.g. invisible context shifters) assumptions.

Some support for the pragmatic HOU account comes from the observation that with an additional coreferential indexical under *only* we get twice as many readings, as noted by Kratzer:

(8) Only you recommend your books to your librarian   [=(64)]

These readings are exactly what a HOU account predicts, without resorting to Kratzer's two distinct binding mechanisms of reflexive binding and context shifting.

By way of illustration, the HOU computation of (8) proceeds as follows: the logical structure of this sentence is $\forall x[x \neq y \rightarrow \neg B(x)]$ where y represents the indexical *you* and B, the background of the focus construction ((8) = Operator (*only*) + Focus (*you*) + Background ('rest')), is to be resolved from the 2nd order equality: $B(y) \doteq R(y, y, y)$ (with R the 3-place relation of recommending something to someone). Following Dalrymple et al. (1991), resolution is constrained by obligatory abstraction over the primary occurrence (i.e. the first y) which yields 4 unifying substitutions that in turn yield the 4 observed readings:

(9) a. $B \mapsto \lambda u R(u, y, y) \rightsquigarrow \forall x[x \neq y \rightarrow \neg R(x, y, y)]$ c. $B \mapsto \lambda u R(u, u, y) \rightsquigarrow \ldots \neg R(x, x, y)]$
  b. $B \mapsto \lambda u R(u, y, u) \rightsquigarrow \forall x[x \neq y \rightarrow \neg R(x, y, x)]$ d. $B \mapsto \lambda u R(u, u, u) \rightsquigarrow \ldots \neg R(x, x, x)]$

Additional support for the HOU based pragmatic approach comes from the Dutch contrast between weak and strong pronouns. For instance, the reduced form *je* (2sg.poss) in (6) allows for a sloppy reading while the stronger form *jouw* (2sg.poss) does not. The move from morphosyntax to pragmatics suggests an account of this contrast in terms of competing alternatives and a division of pragmatic labor: *je* is clearly the cheaper expression and therefore preferred unless we have strong pragmatic motivation for drawing attention to the 2sg possessor. Clearly no such focus on the 2sg possessor is compatible with the sloppy reading whose truth conditions say that nobody else did their best. It is thus precisely in the strict reading (others didn't do *your* best) that we need to focus on the possessor, which is achieved by choosing *jouw*.

Finally we must come to terms with the exceptionally strict German (2), the basis of Kratzer's approach. The division of labor between weak and strong forms in Dutch provides the key to our analysis. It is precisely in lacking a reduced pronominal form that German differs from Dutch. The only alternatives in competition for expressing the sloppy reading in German are therefore a 2nd and the 3rd person possessive. Since the 3rd person is not suitable for the strict reading (others not raising *your* son), we can expect a division of labor where *dein* is in principle compatible with both readings, but specializes in strict to avoid competition with *sein* which is already tied to the sloppy interpretation. That this process is not completely fossilized is shown by (3) where *deinen* is still interpreted sloppily. This is now explained not by appeal to long distance vs. local binding, but simply by the fact that the alternative *seinen* would give rise to additional unwanted ambiguity: ... *daß jemand$_i$ seinen$_i$ Aufsatz versteht*

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Is there a Morphological Structure? Some cases of syncretism

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1.   **The issue.** In Distributed Morphology (Halle and Marantz 1993), the autonomy of Morphological Structure (MS) from syntax is crucial for an account of syncretism. Given Late Insertion, syncretism arises when only an underspecified lexical item can insert under a given node eventually as a result of the application of Impoverishment in MS. Unfortunately, MS is highly redundant with syntax, since it manipulates the same primitives, and it employs many of the same operations (deletion, reordering etc.); at the same time it greatly enriches it, since operations that are barred in syntax become licit in MS (Impoverishment is a sort of 'non-recoverable' deletion and so on). Recently therefore MS has been challenged by theories which propose projection from the lexicon, hence the unification of morphology and syntax, and – connected to this – a non-underspecification/ default approach to syncretism. Cases in point include the Superset principle of Caha (2008) and silent categories in the sense of Kayne (2006, 2007). These theories on the other hand share with DM a crucial assumption about the interfacing of syntax with the lexicon – whereby entire portions of the syntactic structure are not overtly matched to lexical terminals and remain therefore abstract (impoverished in DM, 'silent' for Kayne and lexicalized only as part of a larger non-terminal node for Caha).

2.   **Evidence**. In (1) we tabulate Romance clitic systems where both the 3rd dative and the 1st plural clitic are syncretic – and the syncretisms is with the reflexive, locative or partitive clitic. (Note that the dative may be syncretic only in the context where it is paired with a 3rd accusative as in the so-called Spurious *se* of Spanish). The data base that we used is Manzini and Savoia's (2005); for each pattern we indicate just one variety where it is attested. Only relevant values are tabulated; it is to be understood that all systems have an exponent for each feature matrix.

(1)	DAT	DAT/_Acc	1^{st}pl	Refl	Loc	Part	
a.	si		ndi	si		ndi	S.Agata
b.	tʃi		ni		tʃi	ni	S.Marco
c.	nə		sə	sə		nə	Nocara
d.	g		s	s	g		Revere
e.	ge		ge		ge		Civate
f.		tʃə	tʃə		tʃə		Guardiaregia
g.		nɛ	nɛ			nɛ	Nociglia
h.		si	si	si			Paulilatino
i.		tʃɛ	ni		tʃɛ	ni	S.Fili
j.		vi	tʃi		vi/ tʃi		Castelsardo
k.		tʃə	tʃə	tʃə	tʃə		Monteroduni

3.   **DM/ Silent categories.** There is a general conceptual difficulty with the notion of default that (1) is a good illustration of. Given the different choices of syncretic forms in (1), the defaults postulated by DM cannot simply fall out of a universal hierarchy, but must be set for each language. Now, if a default is to be set, all the elements of the system for which it is a default must be known; but then the default itself must be known as part of the system – yielding (as far as we can see) a contradiction. More specifically, consider the languages (1a-d) which have at least two syncretic clitics. One possibility is that one of the two clitics is a general default and the other is, say, a 3rd person default. But consider (1a) and (1c). In (1a) the reflexive clitic is syncretic for the 3rd dative and the partitive clitic for the 1st plural – while the reverse holds in (1c). If we treat the partitive of (1c) as a 3rd person default (leaving the reflexive as the general default), this implies that the partitive has a 3rd person feature. However, this very property cannot be imputed to the partitive in (1a), which is syncretic with the 1st plural. In other words, the underlying properties of these systems turn out to quickly diverge -- in a way not supported by any independent evidence.

Silent categories do not fare much better. Kayne's (2007) idea is that '*ci,* the same *ci,* is compatible in Italian with a certain range of syntactic contexts' which include 'a silent PLACE' yielding the locative proper, 'a silent 1pl NI' yielding syncretic 1st plurals, and so on. The problem

is that the set of silent categories (PLACE, NI, etc.) licenced by overt locative *ci*, is just as much *ad hoc* as the list of features undergoing morphological readjustments in DM. Conversely, it is not clear how the parametrization in (1) can be accounted for. For instance, how come different collections of silent categories be licenced by the (same) locative in (1d), in (1j) and in (1e)?

4.   Analysis. Our proposal for a unified morphosyntax characterized by projection from the lexicon and by the abandonment of underspecification and default departs from other approaches in avoiding reference to non-lexicalized, abstract material. Thus, with respect to (1), we propose that the dative can have a common lexicalization with the locative, or the partitive, or *si* simply because these lexicalizations correspond to possible partitions of the interpretive space.

In languages in which the dative is syncretic with the locative, e.g. (1d), the dative is simply lexicalized as a directional. In languages like (1c) with syncretism between partitive and dative, the latter is simply lexicalized as a possessor. (We assume that the partitive concurs to the lexicalization of an argument by denoting a superset to which it belongs -- and similarly a possessed item is characterized as a member of a set that as a whole defines the possessor). As for syncretism of the dative with *si* in languages like (1a), we start from the assumption that *si* is a free variable; reflexive/ passive and impersonal interpretations arise as a result of its binding by an antecedent or by a (generic) quantifier (Chierchia 1995). We conclude that the dative is introduced by *si* as a quantificational element, possibily a distributor (Beghelli and Stowell 1994).

We apply this model to syncretisms involving the 1st plural. Lexicalization of the 1st plural by *si*, as in (1d), follows from its impersonal interpretation – which can be generic proper or 'episodic' when contextually restricted (Chierchia 1995). Thus the 1st plural interpretation is just a particular instance of the episodic *si* one. As for the syncretism of the 1st plural with the locative in (1j), we agree with Kayne (2006) that the key to syncretic Loc is its occurrence in existential contexts; however we take the locative clitic in existentials to be not an expletive -- but a generic. This reference is at the basis of its interpretation as the 1st person plural. More generally we argue that generic reference is possible for all oblique clitics, hence also for partitive *ne*. This forms the basis for its syncretism of with the 1st plural, as in (1b).

5. Extensions While the table in (1) displays syncretisms that are highly language- and construction-specific, a notion of universally set default seems to be justified in other cases . In Italian (2) the root followed by the thematic vowel has the values listed in (a) for 'wash' and in (b) for 'dress'-- where the infinitive value is dialectal (Florence area). The same values crop up for verbal bases in Geg (non-standard) dialects of Albanian as shown in (3a) with bases in vowel ('wash') and in (3b) with bases in consonant ('dress') -- with or without lengthening (Beci 1984).

(2) a. *lav-a*   3sg present;   2sg imperative;   V-N compounds;   infinitive(dial.)
    b. *vest-i* 2sg present;   2sg imperative;   V-N compounds;   infinitive(dial.)
(3) a. *l-a*   3sg past (perf, non-act);   participle;   infinitive
    b. *vɛːʃ*   2/3sg present   participle;   infinitive
       veʃ   3sg past (perf, non-act); 2sg imperative;

Above we argued that in syncretism a given lexical form covers a range of interpretations which represent a possible partition of the conceptual space. The same holds for verb bases of the type in (2)-(3). However in the absence of specialized morphological constituents what they cover are interpretations associated with operations independently available at LF-- e.g. generic closure over events (present) and possible worlds/ situations (irrealis, hence imperative, infinitive), reference to the core discourse anchored referent (hearer) or non-discourse anchored one (so-called 3sg), etc. We deny that we are importing into LF the markedness hierarchies of morphological underspecifications approaches Rather the reverse holds, namely markedness hierarchies (or functional hierarchies embodying them) import interpretive relations from LF. At the empirical level we note that verb bases enter into more complex forms; for instance the adjectival participle in Geg Albanian adds *-m-* to the vocalic base, as in *la-m-ɛ* 'wash-prt-fsg'. This pattern is problematic for Superset approaches, since the specifications of the 'syncretic' verb base must be a superset of those of the adjectival participle; but how is this possible if the lattercontains the verb base?

Minimal Faithfulness to Lexical Tone: Cases from Chinese Tonal Neutralization
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With analysis of three cases of tonal neutralization in Chinese dialects, this paper shows that: i) the same phonological patterns can be given different generalizations; ii) the need for lexical specification can be unnecessary in one context, but necessary in another, even for the same phonological pattern; iii) there are cases where lexical specification is a necessity, and output must hold faithfulness to input to a *minimal* degree, i.e., be faithful to the simple existance of whatever in the input, regardless of what it is.

In Chinese dialects, most syllables bear a lexical tone, like Mandarin *zhuo*HH 'table' and *shang*HL 'above'. However, in a disyllabic sequence like *zhuo.shang* 'on the table', the second syllable *shang* is usually unstressed and is rendered as a L tone. In many similar cases, the second syllable in disyllabic sequences gets unstressed, with its tone neutralized without reference to the lexical specification of the unstressed syllable. Below are three Chinese dialects, where tonal neutralization is observed.

In *Dali* Chinese (Bai 2003), stresses-unstressed disyllabic sequence (abbr. as σs.σw, where s=stressed and w=unstressed) shows a tonal configuration like (1).

(1)   Tonal Neutralization on Unstressed Syllables in Dali Chinese

σs.σw	σs.σw	σs.σw	σs.σw			σs.σw
LL.L	LH.L	HM.L	HH.L	→	i.e.	WhateverTone.L

In (1), the second unstressed syllable gets a L tone, regardless of the lexical tone of the corresponding syllable. (Similar cases are observed in Chinese dialects like *Hangcheng*, *Shenmu*, *Yanchi*, etc.) For such a case, putatively, it doesn't matter whether the input unstressed syllable is tonal or toneless. The L tone in the unstressed syllables is consistent with the observation that 'prosodic heads prefer higher tone over lower tone, while non-heads exhibit the opposite preference' (de Lacy 2002), and this can be well captured by a constraint like *Non-head/H (de Lacy 2002, Wang 2002). For such a case, no consideration of input lexical tone is needed.

In *Jishou* Chinese (Li 2002), σs.σw sequence exhibits a tonal pattern like (2), where all the unstressed syllable is configured as equal to the ending points of the tone in the preceding stressed syllable. (Similar pattern occurs in Chinese *Rudong* dialect.) As for the unstressed syllable here, no consideration of the input lexical form is needed either. On the other hand, a markedness constraint like SPREAD(T) can capture the mechanism of tonal spreading, and eschew the lexical specification problem.

(2)   Tonal Neutralization on Unstressed Syllables in Jishou Chinese

σs.σw	σs.σw	σs.σw	σs.σw
HH.H	LL.L	HL.L	LH.H

However, consideration on the lexical specification become a necessity when the above two types of tonal neutralization co-exist in one language. That is the case of *Wenzhou* Chinese (Zhengzhang 2007), where the above two types of tonal neutralization co-exist, although each functions with different lexical items. In Type A neutralization, the unstressed syllable in a σs.σw sequence takes the *Jishou* pattern above, i.e. the tonal endpoint of stressed syllable

spread to the unstressed syllable; in Type B, the unstressed syllable in a σs.σw or σw.σs sequence takes the *Dali* pattern above, i.e. all neutralized as L. (3) serves for illustration.

(3) a. Wenzhou Tonal Neutralization on Unstressed Syllables: Type A

σs.σw	σs.σw	σs.σw	σs.σw	σs.σw	σs.σw	σs.σw	σs.σw
HH.H	LH.H	MM.M	LL.L	MLM.M	LLL.L	ML.L	HL.L

   b. Wenzhou Tonal Neutralization on Unstressed Syllables: Type B

σs.σw	σw.σs
WhateverTone.L	L.WhateverTone

Such co-existence of two types challenges the above analysis: if no lexical specification is assumed for both types, any ranking of markedness and faithfulness constraints fail to capture the difference between Type A and Type B. Furthermore, if Richness of the Base is understood as to imply the absence of lexicon, then any interaction of faithfulness and markedness functions fail to capture the *Wenzhou* case.

To solve such a problem, two technical issues come about: i) lexical specification must be assumed in the input form, as far as the tonal neutralization is concerned. Type A must be analyzed as lexically tonal syllable, whereas Type B must be analyzed as lexically toneless syllables. ii) To account for such a difference, additionally, a particular type of faithfulness constraint is needed. In Type A, the phonological configuration renders input lexical tones as the ending point of the tone in preceding stressed syllable; on the other hand, it does so under a minimal (not no) condition: as long as the input is not empty. So the faithfulness mechanism here relates the input to the output, with regard to the minimal requirement that they are both 'tonal'. This can be argued to be a particular case of Faithfulness.

MINIMAL FAITHFULNESS
Be faithful to the existence of element(s) in the input, without regard to what it is.

(4) gives an attempt to evaluate the tonal neutralization in *Wenzhou*.
(4)

A: HH.T	[MINIFAITH(T) & *NON-HEAD/H]σw	SPREAD(T)	*NON-HEAD/H
→ HH.H			
HH.L		*!	
B: HH.Ø	[MINIFAITH(T) & *NON-HEAD/H]σw	SPREAD(T)	*NON-HEAD/H
→ HH.L			
HH.H	*!		

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Semantics of the Scrambled Direct Object in Ukrainian

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It has been shown in a number of languages that the movement of a direct object leftward is related to the change in its interpretation: the scrambled position is usually associated with the specific object (see Thrainsson 2001 for e.g.). In L1 and L2 learners' grammar, too, this correlation has been reported to exist (Schaeffer 2000, Ilić & Deen 2004, Brun 2005, Unsworth 2005, *i.a.*). The concept of *specificity,* however, has not been clearly defined in the literature. It was labeled either as 'referentiality' (Schaeffer), 'definiteness' (Brun), or 'partitivity' (Unsworth), and, in fact, denoted three distinct semantic features:

1) <u>*Specificity*</u> –   the speaker's knowledge or speaker's intent to refer (based on Fodor & Sag 1982, Ionin 2003).
   <u>*Definiteness*</u> –   the speaker-hearer knowledge of the existence of a unique individual.
   <u>*Partitivity*</u> –   a property of a DP that denotes a member of a set introduced by previous discourse (Enç 1991).

The earlier studies, then, raise two specific research questions: *i)* which of these semantic features plays the most important role in scrambling; and *ii)* do their effects vary cross-linguistically?

This paper provides novel evidence teasing apart the role of specific features in scrambling, using new experimental data from Ukrainian acquisition. Examination of monolingual Ukrainian acquisition allows answering the first question, while investigation of English-Ukrainian bilingual development provides some insights to the second question.

Ukrainian is an article-less language employing scrambling as a best means of encoding specificity/presuppositionality (Mykhaylyk & Ko 2008). English has no scrambling and uses articles primarily as definiteness/indefiniteness markers, but in L1 and L2 acquisition the choice of articles has been shown to depend on specificity and/or partitivity, as well (Maratsos 1974, Ionin et al 2004). Based on the Full Access to UG theory, it can be hypothesized that children acquiring Ukrainian scrambling and English articles should be able to implement these universal semantic features in appropriate contexts.

In order to find evidence supporting this hypothesis, an experimental study has been conducted. 42 monolingual Ukrainian children (2;7-6;2), 24 bilingual English-Ukrainian children (2;2-6;3), and a control group of 15 adults were tested in an oral elicitation task. Four testing conditions elicited scrambled or non-scrambled sentences as exemplified below:

2) *Condition 1: Specific-Definite*
Exp: Look, Tiger, what is this?
Tiger: A butterfly.
Exp: Who do you see in this picture?
Tiger: Winnie the Pooh.
Exp: What did he do with the butterfly?
Tiger: I don't know.
Exp: Can you help?
CHILD: <u>He him/the butterfly caught</u>.

3) *Condition 2: Specific-Partitive*
Exp: Look, Tiger, what is this?
Tiger: Three butterflies: 1, 2, 3.
Exp: Who do you see in this picture?
Tiger: Winnie the Pooh.
Exp: What did he do with the butterflies?
Tiger: I don't know
Exp: Can you help?
CHILD: <u>He one butterfly/of them caught</u>.

4) *Condition 3: Specific-Indefinite*

Exp: Tiger left, so you will tell me about the pictures. OK? So, what is this?
Child: A butterfly.
Exp: And who do you see in this picture?
Child: Winnie the Pooh.
Exp: What did he do with the butterfly?
Child: He him/the butterfly caught.

Tiger is coming and asking:
        Here I am! What did I miss?
CHILD: Winnie caught a butterfly.

5) *Condition 4: Nonspecific-Indefinite*

Exp: Look, Tiger, who is this?
Tiger: Winnie the Pooh.
Exp: And what is he doing?
Tiger: He's thinking what he can do with this net.
Exp: So, what will he do?
Tiger: I don't know.
Exp: Can you help?
CHILD: He will catch a butterfly

The preliminary results show that both adults and children are aware of correlation of semantic features and syntactic movement: they scramble optionally, but not randomly. Particularly, the rate of scrambling in the nonspecific-indefinite condition is significantly lower than the rate of scrambling in the partitive condition in all three groups (ANOVAs: p<.000). The role of other semantic features varies by language and age group, but the general pattern is clear: there is a highly significant effect of partitivity on scrambling in Ukrainian (see (6-8)).

6) Monolingual children (N 42):
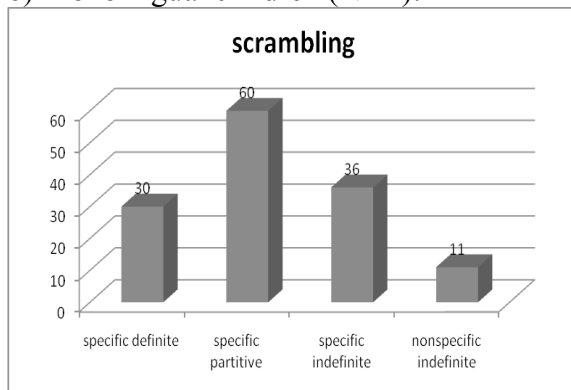
7) Bilingual children (N 24):
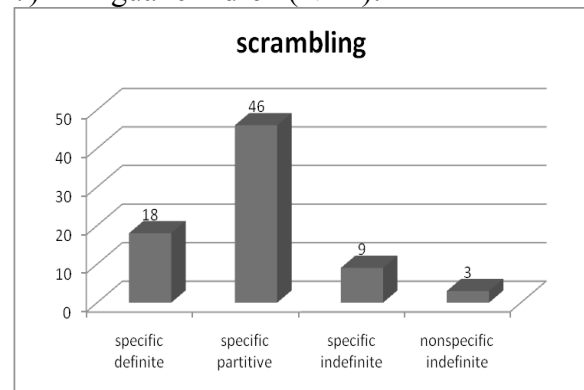
8) Adult Ukrainian native speakers (N 15): significant effects of partitivity and definiteness:
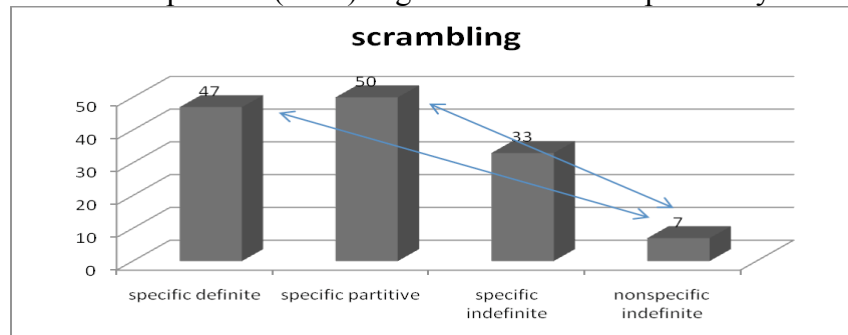
These findings have important implications for the L1 and L2 acquisition studies. They show that the aforementioned semantic features (and *partitivity* in particular) are accessible to children regardless of their dominant language and thus can constitute a part of UG. The data also suggest that the implementation of features might differ cross-linguistically. Specifically, it predicts (in line with reports on Serbo-Croatian L2-English learners (Ko et al 2008)) that Ukrainian L2-learners of English articles are likely to be more sensitive to partitivity effects than to specificity effects (cf. Ionin et al 2004 for Russian speakers).

Multiple Transfer in Service of Recursive Merge: Pied-Piping Genuinely Eliminated
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Feature percolation is a widely assumed but rather ill-understood mechanism which allegedly projects features of lexical items (LIs) onto a phrasal node (a relatively local instantiation of which is 'label/projection'). This paper is an attempt to argue that the recent development of the multiple Transfer model makes it possible for the first time to accomplish a theory of FL without 'feature-percolation', while still maintaining an empirically better account of a number of linguistic phenomena. The proposal will genuinely eliminate the notion of 'pied-piping' and XP-movement altogether from the theory of UG (in line with, but taking a more radical step than Cable 2007).

LIs are computational atoms of Syntax, each one of which is associated with "a feature that permits it to be merged," called an *edge-feature* (EF) (Chomsky 2008). Since "the fact that Merge iterates without limit is a property at least of LIs—*and optimally, only of LIs*," (*ibid*, emphasis mine), EF cannot percolate to any Merge-result set, if we assume no feature-percolation mechanism. No phrase can have an EF, *thus no phrase can utilize its EF to trigger Merge*. The consequence of this is that all instances of Merge must take an LI as at least one of its inputs (utilizing its EF as the locus of Merge), merging it with another syntactic object (SO). That is, all instances of Merge obey the form $\{H, \alpha\}$, where H is an LI with EF (Call this the *H-α schema*).

The H-α schema immediately predicts that *no two XPs can be merged*. I argue that this is a sustainable conclusion (presumably only) in Chomsky's (2000, 2008) multiple Transfer model, where Syntax interfaces with LF and PF multiple times. Each application of Transfer strips off the complement of a designated LI (called a *phase head*) from the derivational workspace to LF and PF. I specifically propose that Transfer (and only Transfer) can 'peel off' the phase-interior domain from the phase head LI, rendering the phase a minimal 'X^0' while the occurrence of the Transferred complement is still anchored to the phase head (let us mark such a derived 'X^0' phase head with a superscript ^{T}, without assuming any ontological status for this informal notation itself). For example, consider the case of external merger of an external argument nP and $\{v, \{V, Obj\}\}$. The phase head v can eliminate its complement from the workspace by Transfer, so at the point of being merged with nP, v^T can utilize its EF again, in conformity with the H-α schema ($\{v, \{\text{V, Obj}\}\} \rightarrow v^T \rightarrow \{v^T, n\text{P}\}$). This discussion shows that a phrase XP can be merged to another phrase YP only when XP can constitute a phase, whose head LI can Transfer its complement and become X^T.

In the same vein, the H-α schema predicts that *only LI$^{(T)}$s can undergo internal Merge*, since internal Merge is always to the edge of some XP (containing an occurrence of the moving element). Thus there is no such thing as pied-piping (in line with Cable 2007). This theory immediately explains the empirical generalization that only phases can undergo internal Merge (as shown in, e.g., (1)), since only phase heads can Transfer their complements before movement (anchoring the occurrence of their Transferred complement).

(1)   a.   It is [$_{\text{CP}'=\text{C}^T}$ C PRO to go home (every evening)] that John prefers.
      b.   *It is [$_{\text{TP}'}$ t_{John} T to go home (every evening)] that John seems.

(2)   a.   The barbarian's destruction of the city, I witnessed.
      b.   *Destruction of the city, I witnessed the barbarian's.

In our terms, what undergoes internal Merge in these examples is not literally a phrasal XP, but only an X^T anchoring the occurrence of its 'ex-sister/complement'. See also Cable (2007) for an argument that many instances of pied-piping (by, say, Wh) should be reanalyzed as movement of a separate phase head (Q) anchoring an occurrence of its ex-complement.

The fact that non-phasal XPs (TP, NP) cannot move receives a straightforward account, too, given that non-phases cannot execute Transfer because of their syntactic/semantic incomplete-

ness (see Chomsky 2000, 2008). The other side of the same coin will be the prediction that only non-phase heads can undergo simple X^0-movement. There exists V-to-v-movement and T-to-C-movement, but no C-to-V movement, for example.

Another consequence of the proposal is that all moved 'XPs' (which are actually X^Ts) exhibit island effects, since all moving X^Ts must have Transferred their complements, deriving the freezing effects widely attested in natural languages. See Boeckx (2008:ch.5) for much relevant discussion on the robustness of the freezing effects on nontrivial chains. For example, the CED effects on dislocated subjects are derived. However, this theory also allows an element to be extracted from an unmoved in-situ subject, as shown by, e.g., the contrast in (3) (see Chomsky 2008, Gallego 2007).

(3)   a.   Which candidate were there [posters of t] all over the town?
      b.   *Which candidate were [posters of t] all over the town?

The cases which apparently violate the freezing effects, for instance movement of $Y^{(T)}$ from a dislocated 'XP'/X^T ($...Y^T...[_{XP}...t_{Y(P)}...]...t_{XP}$) are to be attributed to either a 'resumption' strategy (see Boeckx 2008) or a derivationally prior movement of $Y^{(T)}$ from a yet unmoved 'XP' ($[_{XP}...Y(P)...] \rightarrow Y^{(T)} [_{XP}...t_{Y(P)}...] \rightarrow ...Y^T...X^T...t_Y \ t_{XP/X^T}$), accounting for the generally costly nature of such movement.

Furthermore, our theory readily captures an asymmetry in coordinate structures. Consider the merger of two coordinand XPs, mediated by a Co(ordinate-marker) ({XP1, {Co, XP2}}). Our theory predicts that in order to Merge XP1 to {Co, XP2}, Co must Transfer its complement (XP2), in order for its EF to allow another application of Merge ({Co, ~~XP2~~} $\rightarrow$ Co^T $\rightarrow$ {XP1, Co^T}). I claim that this is the only possible derivation for any coordinate structure, given the standard assumption that some Paralellism constraint requires that all the Merge-mates of one and the same Co must be of the same category. If so, all but the initial coordinand must be invisible for Agree from above (due to the P[hase]I[mpenetrability]C[ondition], Chomsky 2000), as borne out by data like (4).

(4)   a.   There was [[a man in the bathroom] and [a cat/two cats in the kitchen]].
      b.   *There were [[a man in the bathroom] and [a cat/two cats in the kitchen]].

Moreover, asymmetric extraction (if any) is predicted to be possible only from the initial coordinand, again an apparently correct prediction.

(5)   a.   How much$_i$ can you [[drink t_i] [and [still stay sober]]]?   (Wh-movement)
      b.   *How much$_i$ can you [[stay sober] and [still drink t_i]]?

(6)   a.   We$_i$ can't [t_i eat caviar] and [him/*he (eat) beans].   (subject raising)
      b.   *He$_i$ can't [we/us eat caviar] and [t_i (eat) beans].

(7)   a.   Bob$i$ dusted$_j$ [$t_i \ t_j$ the bookcase] and [Mary t_j the windowsill].   (gapping)
      b.   *Mary$i$ dusted$_j$ [Bob t_j the bookcase] and [$t_i \ t_j$ the windowsill].

(8)   a.   A student wants [every professor$_i$ to be on his committee] and [likes him$_i$].   (QR)
      b.   *A student [wants him$_i$ to be on his committee] and [likes every professor$_i$].

The overall discussion points to the conclusion that the multiple Transfer model, and presumably only this model, can exercise recursive Merge without an extraneous stipulation of feature-percolation. Or, an even more intriguing possibility is that *the lack of feature-percolation in FL necessitates multiple Transfer (recurring interfacing)*, laying down a conceptual foundation for phase-by-phase cyclic derivations, with pied-piping genuinely eliminated.

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When Spell-Out Is Vocalization - and When It Is Not.

Gertjan Postma (Meertens Institute Amsterdam/Academy of Sciences) & Johan Rooryck (Leiden Univ.)

Formal linguistics considers natural language an abstract computational system with three interfaces, the Lexicon, the Acoustic-Motoric system (PF), and the Conceptual-Interpretative system (LF) (Chomsky 1995). Syntax proper is a constant of nature and is not parametrized (within humans). The diversity of actual human languages follows from the distinct relation of core grammar with variation at the interfaces: the Lexicon. Chomsky sketches a design of the grammar, containing a Numeration (containing objects drawn *ad hoc* from the Lexicon), a Workspace (which creates and manipulates trees), and a Spell-out component (along the lines of linearization developed in Kayne (1994)). The Workspace terminates its activity when it has construed a connected syntactic object out of the elements included in the Numeration, and will send it in hierarchical form to LF and in linearized form to PF.

Fig 1.

Lexicon -> | Numeration -> Workspace | → LF
                                        → PF
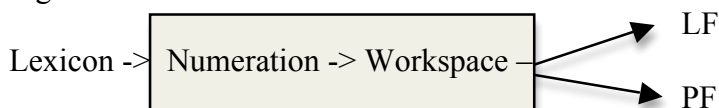
The basic operations of the Workspace are MERGE and MOVE. In this talk we will study the basic patterns of the operation MERGE (disregarding MOVE). First, we will discuss recursive merge, in the sense of merging an element recursively to a tree (null-tree and singleton tree included). It is represented schematically by (i), where e represents a lexical element taken from the numeration, t a tree present in the Workspace. When a lexical element e is merged to a tree t, they form a new (more complex) tree.

(i)   e+t -> t

On specific assumptions of linearization (cf. Kayne 1994, Chomsky 1995, Uriagereka 1999), the scheme in (i) cannot create complex left-branches. Therefore, the grammar must be enriched by a system that merges trees recursively, as represented in (ii).

(ii)   t+t -> t

The system in (ii) presupposes that the Workspace may contain more than one tree. The generalized merger rule (ii) includes (i), under the assumption that e is a singleton tree.

In this talk, we will argue that the tree composition in (ii) is too rich and should be restricted. Actually, the literature does so, in view of the abundant evidence that left branches behave in a more restricted way from right branches (notably the ban on Left Branch Extraction, Corver 1990). In a representational theory of grammar various mechanisms has been designed to state this distinction (islands, connectedness, etc). So, in addition to (i) and *instead* of (ii) we need (iii), where p is a subset of t.

(iii)   p+t -> t

The basic intuition of islands is cast by the assumption that specific points of the derivation have a distinct status: some trees t are *phases*. These phases are impenetratable. The ban on LBE shows that while right branches *can* be phases, left-branches *must* be, whence the necessity of (iii). The Phase Impenetrability Condition (PIC) has been rephrased in terms of consequences of the phonological interfaces (multiple spell-out, Uriagereka 1999, or cyclic linearization (Fox & Pesetsky 2005)).

In this talk we propose to implement the distinct status of left branches in the very design of the grammar. First, we compare the two merger rules (i) and (iii). Notice that (i) cannot be reduced to (iii), because simple lexical elements are not phases in the syntactic sense. Instead we propose to reduce (iii) to (i). Notice first that a lexical item is an object with a triple specification: a phonological matrix, a semantic matrix and formal morpho-syntactic features. We call them Interface Complying Objects (ICOs). Notice further that phases are syntactic hierarchical objects with a linearization. If well-formed, they are objects that meet the requirements of the phonological interface. They obviously have a syntactic specification. Let us suppose that they also have a defined

semantics, i.e. they are concepts or propositions (which is probable in the case of DP and CPs). Under the supposition that closure of phases in the phonological sense coincides with the conceptual closure, we may say that phases are ICOs just as lexical items. If so, we can collapse (i) and (iii) into (iv).

(iv)   e' + t -> t

where e' generalizes over all ICOs. If we identify lexical items within the numeration, and phases, we must include *phase recursion* in our grammar.

Fig 2.
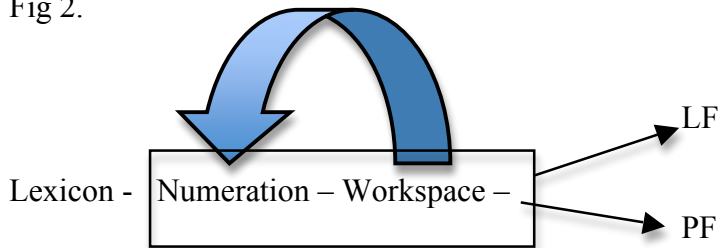
The grammar in Figure 2 allows a linearized object to be fed back into the numeration and act as if it were a (temporary) lexical item. We will show that phase recursion predicts the ban on LBE and the special status of left-branches.

Subsequently, we will discuss various theoretical consequences of a grammar with phase recursion:
-   the Workspace contains one tree only (no more is needed)
-   Merge does not need an independently motivation but is an immediate consequence of adding an element to a non-zero workspace
-   MERGE to the edge in the case of MOVE is predicted (there are no other trees in the Workspace)
-   Sideward movement (Nunes 2004) is excluded. Parasitic gaps are phases and occur at utmost right branches. The subtree they are part of, attaches to a phase (vP, CP).
-   Phonological phases are semantic entities (concepts, propositions, predicates, …).

Empirical evidence for the proposed model with phase recursion is provided the existence of a subsystem of human language that may function as a parallel to animal communication. This subsystem has recently been discovered (Postma & Rooryck 2006) and proved to be similar to animal communications in various respects. We will argue that it is generated by the system in (2) without activation of phase recursion.

The subsystem concerns human utterances located in semantic fields specific to animal communiction (alarm, begging, agression), they are non-detached (they only access the here-and-now of the speech-act), and they have depleted syntax. These utterances were earlier reported for Dutch in Den Dikken (1998).

(v)   Geef {ø/*jij} {ø/*mij} {ø/*it} op!   (vi) *Geef straks op   (Dutch)
        Give ø/you ø/me ø/it up   Give soon   up
        'You give to me here and now what you have there'

Den Dikken observes that in the presence of the particle 'op' the dative argument of the triadic verb *geven* 'give' is obligatorily silent and has the speaker as a referent. Postma & Rooryck (2007) show that all arguments are obligatorily silent and linked to the speaker-hearer situation, without time and space shifting (vi). Broadening the data to similar effects in alarm and agression utterances, we show that these effects can be explained upon absence of phase recursion. Constructions like in (v) without lexical subjects, i.e. without complex left-branches will be shown to be single-phase utterances. A single phase is generated without any subphase. Spell-out coincides with vocalization. We argue that the arrow in Fig 2 is a distinctive feature that separates Restricted Linguistic Systems from Full Language.

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Loops, Linearity, & the Lexicon
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Raimy (1999, et seq.) established that allowing 'loops' in the precedence relationships of phonological strings can account for a wide variety of morphophonological processes, from reduplication to subtractive morphology. However, the questions of how, why, and where loops enter phonological representations remain largely unanswered. In this talk, I address those questions in a way that constrains the theory considerably, thereby matching more closely the attested typology of morphophonological processes.

If we take seriously Marantz's (1982) view that reduplication involves the introduction of a phonetically null morpheme, it becomes possible to treat reduplication and affixation as being driven by the need to find a host for a newly-introduced morpheme. Each time a string enters the phonological workspace, before anything else happens, it must be combined with the string which is already present. I argue along with Gagnon (2007) and contra Fitzpatrick (2006) that there are no looped representations in the lexicon. Loops are created only when it is necessary to concatenate two morphemes.

I extend the search & copy procedure for computing long-distance dependencies in phonology (i.e., vowel harmony) advanced by Mailhot & Reiss (2007) to the creation of precedence loops. Specifically, I add one additional variable to their SEARCH algorithm, and use the COPY mechanism to integrate the precedence relationships carried by the new morpheme with the ones already present in the host word.

(1) SEARCH algorithm (M&R 30)
Search($\Sigma, \varsigma, \gamma, \delta$)

    1. Find all x in Σ subsumed by ς and index them:

       $\varsigma_0, \varsigma_1, \ldots, \varsigma_n$

    2. For each $i \in \{0, \ldots, n\}$:

       (a) Proceed from ς_i through Σ in the direction δ until an element subsumed by γ is found

       (b) Label this element γ_i

    3. Return all pairs of coindexed standards and goals, (ς_i, γ_i)

(2) COPY algorithm (M&R 32)
Identify αF on γ_i and assign αF to ς_i if the set of conditions C on γ_i are satisfied

This combination of SEARCH and COPY creates representations of the Raimyan type, but by virtue of the SEARCH mechanism itself and the values of the parameters which it takes, the variety of representations which are generable end up closely matching the typology of attested reduplicant size and affix placement.

Consider suffixing *want* with the past tense *-ed*. I argue that what it means to be an affix is to lack one or both terminal elements, # and %. This means there is a "sticky end" on the affix which enables it to concatenate with another string. In more formal terms, the sticky end is a variable (ς), and concatenation of the two strings is achieved by replacing that variable in the affix with information copied from the existing string— exactly how underspecified representations are repaired in Mailhot & Reiss's view. So in the lexicon, *want* and *-ed* are represented as below:

(3) $\# \to \text{w} \to \text{a} \to \text{n} \to \text{t} \to \%$ $\varsigma \to \text{e} \to \text{d} \to \%$

ς is the initiator of a search into the string (Σ) which is already in the workspace. The goal (γ) of SEARCH replaces ς via an application of COPY, eliminating the sticky end and integrating the two morphemes. We desire, then, for the values which γ can take to reflect the possible anchor points for affixation/reduplication. I have argued elsewhere that these anchors are the {first, second, stressed, penult, last} elements of type {X, C, V, foot} in the string. But since the SEARCH algorithm has a direction parameter (δ) which allows it to traverse the string either to the left or to the right, there are really only three positions to consider, namely {first, second, stressed}. The parameters on the SEARCH specified in the lexical representation of *-ed* would therefore be as follows:

(4)   a. Σ (string in the active workspace): $\# \to w \to a \to n \to t \to \%$

b. ς (initiator of SEARCH): $\varsigma_i \to e \to d \to \%$

c. γ (target of SEARCH): First X

d. δ (direction of SEARCH): L (i.e., beginning at %)

Upon completion of this search, the target /t/ will be copied into the precedence statement which contained the initiating ς:

(5)
$$\# \to w \to a \to n \to t \to \%$$
$$\searrow e \to d \to \%$$
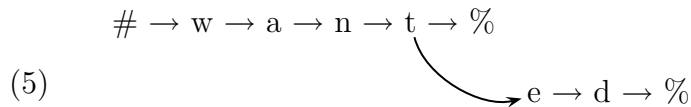
While a suffix like *-ed* contains %, an infix has two sticky ends. This means there must be *two* applications of SEARCH, which share the same search space (Σ) and direction (δ) but not the same standard (ς) or target (γ). For all cases of infixation, the target identified in the first search is the *starting point* for the next search. I represent this by adding one additional parameter to SEARCH, β, which indicates the point from which the search is initiated. The value of β can be one of the terminals or the target of the previous search (#, %, or γ_{n-1}). This ensures that the two sticky ends are attached to adjacent segments, and thus the m-link which is created does not have the effect of deleting anything in the base. When the second application of SEARCH is *not* 'first X from previous γ,' this creates a jump link, or string-internal deletion. In the case of reduplication, the affix enters with two sticky ends. However, this affix is extremely abstract if no fixed segmentism is involved: it consists only of the precedence relation $(\varsigma_i, \varsigma_j)$. I suggest that the second SEARCH in a case of reduplication can either begin afresh at one of the terminal nodes, *or* begin from the target of the first search. I show that in English *shm*-reduplication ('fancy-shmancy'), the two searches are totally independent, even having different settings for δ.

(6)   a. Σ: $\# \to f \to a \to n \to c \to y \to \%$

b. ς: $\varsigma_i \to sh \to m \to \varsigma_j$

c. γ_i: First X; γ_j: First V

d. δ_i: L; δ_j: R

e. β_i: %; β_j: #

Moreover, I show that the 'backwardness' of the loops involved in reduplication is an epiphenomenon resulting from the accidental fact that γ_i happens to precede γ_j. Nothing about the shape of the affix, or about any one particular parameter setting, forces this result.

On the Acquisition of Variation of Negation-sensitivity:
Early Acquisition of a Negative Concord Item in Japanese

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At least two types of negation-sensitivity have been observed in human language: negative concord (NC) and negative polarity (NP). Their differences are summarized in (1).

(1) Diagnostic Tests to Distinguish between NC and NP (Watanabe 2004; Lahiri 1998)

	Negative Concord	Negative Polarity
a. able to be modified by expressions like *almost*	Yes	No
b. able to be used as an elliptical answer	Yes	No
c. able to appear in nonnegative contexts	No	Yes
d. able to be licensed by a higher clause negation	No	Yes

In this paper we discuss the variation between NC and NP and propose that NC is the "default" of the two by showing early acquisition of NC by Japanese children.

It is argued in the literature that an NP item (NPI) consists of indefinite/indeterminate +[foc(us)], while an NC item (NCI) consists of indefinite/indeterminate+[foc]+[neg(ation)] (see (2a-b); Kuno 2007, Lahiri 1998, Watanabe 2004). In Japanese NCIs, however, [neg] is not realized morphologically (see (2c)).

(2) a. kuch bhii (Hindi, NPI)   b. n-i-cto (Russian, NCI) c. nani-mo (Japanese, NCI)
     something even   neg-foc-what   what-foc

Then, how do Japanese children acquire their negation-sensitive items as NCIs, rather than NPIs? Here we compare two approaches. On the one hand, the acquisition may be input-based. Alternatively, children may assume a negation-sensitive item to be an NCI by default.

The input-based scenario seems unlikely, because robust positive evidence telling a child that the target is NC seems unavailable: among the four characteristics in (1), (a)-(b) could be positive evidence, but we found no cases of (1a-b) with an NCI *nan(n)imo*, (2c), in child-directed input (168,749 utterances) in five Japanese children's databases in CHILDES. We found 56 utterances with an NCI *nan(n)imo* in our search, but they include no instance of an elliptical answer or modification by *hotondo* 'almost' .

Then, do Japanese children know from early on that Japanese *nan(n)imo* is an NCI, or do they at the beginning misconceive it as an NPI? To address this question, we conducted an experiment with Japanese children regarding the comprehension of elliptical answers (cf. (1b)). Two characters played by adults, Mickey and Pikachu, played a shopping game in front of a child. In the game, Mickey was supposed to help Pikachu's shopping. There were a carrot, a strawberry, a tomato, an empty box, and a shopping basket for Pikachu. Mickey asked a question (3) and Pikachu gave an elliptical answer.

(3) Mickey's question: Pikachu, nani kaw no?
                              what buy Q
                    'Pikachu, what (will you) buy?'

Then, Mickey put items to buy in Pikachu's basket and put others, if any, back to the box. The child's role was to judge if Mickey reacted to Pikachu's answer appropriately.

We examined children's comprehension of an NCI *nan(n)imo* and a universal quantifier *doremo* 'everything' as an elliptical answer for (3).　For sample patterns, see (4).

(4) Pikachu's answer: *Nan(n)imo*. ('Nothing') / *Doremo*. ('Everything.')
Mickey's reaction: (a) putting all the items into Pikachu's basket ;
　　　　　　　　　(b) putting only one item into Pikachu's basket, others into a box
　　　　　　　　　(c) putting nothing into Pikachu's basket, all the items into a box

The participants of the experiment were divided into the group for the NCI *nan(n)imo* and the group for the universal quantifier *doremo*.　Their information is given in (5).

(5) The information of the participants:

	3-year-olds		4-year-olds		5-year-olds	
Target	*nan(n)imo*	*doremo*	*nan(n)imo*	*doremo*	*nan(n)imo*	*doremo*
N	5	4	10	10	10	10
age range	3;5-3;10	3;6-3;11	4;0-4;11	4;1-4;11	5;0-5;11	5;0-5;11
Mean age	3;8	3;9	4;6	4;6	5;6	5;6

If Japanese children know, like adults, that *nan(n)imo* is an NCI and *doremo* is a universal quantifier, they should accept the former for (4a) and the latter for (4c) (note that as an elliptical answer to (3), *nan(n)imo* means "(I will buy) nothing"). In contrast, if Japanese children do not have the adult-like knowledge about *nan(n)imo*, they seem to be expected to behave in either of the following two ways: (i) they might treat *nan(n)imo* on a par with *doremo* and wrongly accept it for (4a) due to its similarity in shape with the latter (both consist of a *wh*-indeterminate plus *mo*); or (ii) they might take *nan(n)imo* as an NPI and randomly respond to the elliptical answer using it, as a result of failing to get any meaning for it (cf. (1b)).

In our experiment, the participants responded to *nan(n)imo* and *doremo* mostly in adult-like ways.　As shown in (6), the participants predominantly accepted elliptical answers *Nan(n)imo*. (NCI) for (4c) and *Doremo*. ('Everything.') for (4a), and they mostly rejected the rest.　This response pattern is evident even in the group of 3-year-olds.　Given this, we argue that they have adult-like knowledge of *Nan(n)imo*. (NCI) and *Doremo*. ('Everything.') as elliptical answers.

(6) Acceptance rates for (4):

	3-year-olds		4-year-olds		5-year-olds	
	nan(n)imo	*doremo*	*nan(n)imo*	*doremo*	*nan(n)imo*	*doremo*
(4a)	0% (0/10)	**100% (8/8)**	0% (0/20)	**95% (19/20)**	0% (0/20)	**95% (19/20)**
(4b)	0% (0/10)	25% (2/8)	0% (0/20)	5% (1/20)	0% (0/20)	0% (0/20)
(4c)	**80% (8/10)**	0% (0/8)	**90% (18/20)**	5% (1/20)	**95% (19/20)**	0% (0/20)

Consequently, Japanese children seem to know that Japanese *nan(n)imo* is an NCI, at around age 3;6, although decisive positive evidence seems extremely rare in the input from adults.　Thus, we propose that NC is the default of the variation between NC and NP.　This implies that NP is acquired based on input from adults, e.g., the occurrence of a negation-sensitive item (e.g., English *anything*) in nonnegative contexts (e.g., questions).

Complement stranding: a window on Multiple Spellout and the Linear Correspondence Axiom
Michelle Sheehan (Newcastle University)

0. This talk attempts to derive a variety of seemingly disparate empirical effects from the interaction of a 'dumb' syntax with arbitrary PF Spell-Out (SO) points (triggered by phase heads) mediated by a strict version of Kayne's Linear Correspondence Axiom (LCA). It builds on Uriagereka's (1999) Multiple Spell-out (MSO), but resolves a potential 'look ahead' problem, providing evidence for contexts where a (derived) specifier is *not* linearized prior to (re)merge. In the system which emerges, the timing of SO is not regulated by general economy considerations, but is rather independently encoded on phase-heads (contra Uriagereka 1999, Nunes and Uriagereka/N&U 2000 and partially in line with Chomsky 2001 and subsequent work). The deletion of copies at SO, on the other hand, *is* argued to be subject to general economy considerations, notably last resort (cf. Bošković 2001 and Nunes 2004), so that PF specifically targets (pronounces) those copies which can be totally ordered. This implementation retains Uriagereka's insight, but eliminates look-ahead and simultaneously renders the account more empirically adequate (explaining a variety of extraposition structures and typological facts and deriving Holmberg's 2000 Final-over-Final constraint for free).

1. Uriagereka (1999) presents a highly attractive Minimalist account of CED, linking it to the linearization problem posed by specifiers. His central aim is to derive the stipulative 'induction step' in Kayne's (1994) LCA (also called the Nontangling Condition by Partee, Meulen and Wall 1990):

(1)   *A reworded version of Kayne's (1994) LCA*

    a.   *Basic step: If α asymmetrically c-commands ß, then α precedes ß.*

    b.   *Induction step: If α precedes ß and α dominates γ then γ precedes ß*

In his system of MSO, (specifier) satellites must be spelled out prior to merge, so that that they can be ordered with respect to the clausal spine via (1a). Strong islandhood results from every application of SO, because once a complex phrase has been spelled out, it behaves essentially like a complex word. CED effects thus reduce to the ban on subextraction from lexical items. This correctly predicts that first-merged specifiers unlike complements, will be strong islands (Huang 1982):

(2)   a. Who did you see [a picture of]?   b. *Who did [a picture of] offend you?

2. The account does not fare so well, however, in relation to derived specifiers, which, as N&U note, are also subject to CED, although they are first-merged as complements:

(3)   a. Pictures of Mary were taken.   b. *Who were [pictures of] taken?

We know from the grammaticality of (2a) that indefinite NP complements are not usually spelled out prior to merge as they are not inherently strong islands. Therefore, in order for MSO to account for the ungrammaticality of (3b), it must be the case that either (i) any complex phrase which will end up in a specifier position is spelled out prior to merge, requiring look-ahead or (ii) spellout is a subcomponent of move, so that a complex phrase moved from complement to specifier position is first spelled out (requiring a vast complication of the operation 'move' which is standardly taken to be copy+merge) Crucially, it cannot be the case that (3b) is ruled out by general economy considerations, contra N&U, because linearization of such a structure without MSO is in fact possible, as will be shown below. In what follows, I will suggest that (3b) is ungrammatical because 'pictures of Mary' is a covert DP, which (like all DPs) is linearized prior to merge with 'taken'. A true indefinite would be linearized as (4a):

(4)   a. Pictures were taken of Mary   b. Who were pictures taken of?

Thus the presence of the phase head D triggers SO.

3. The novel proposal here is that there is no 'nontangling condition', and that complex specifiers can actually be linearized along with the clausal spine in the same application of spellout without any 'induction step', once we alter slightly our assumptions regarding Bare Phrase Structure (BPS). I adopt a version of BPS whereby only maximal projections and terminals are labelled, meaning that the specifier asymmetrically c-commands the head and complement of the phrase. Intermediate (X-bar) levels, being syntactically inert, do not require a label and so cannot c-command (cf. Chomsky 2001:40). I also propose that terminal nodes define their own precedence relations via the strict LCA,

with the maximal projection merely counting as another instance of the head for c-command (a rather literal interpretation of BPS). Crucially, like Uriagereka (1999) I omit the 'induction step' from the LCA, but unlike him I do not assume that all derived specifiers must be linearised prior to (re)merge. This means that where a complex phrase β moves (5a), the derived copies of the head β (which c-commands out of the phrase by virtue of being the maximal label) and the specifier δ (by transitivity) change their precedence relations. The complement λ inside β, however, still asymmetrically c-commands nothing:

(5)a. [tree diagram with nodes α, β, δ, λ]   b. [tree diagram]   c. [tree diagram]
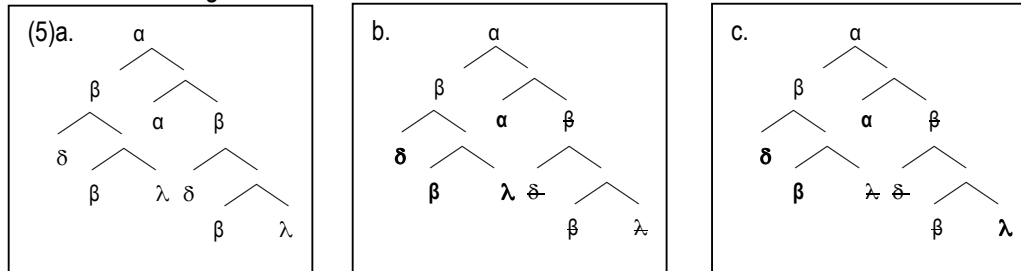
Crucially, if the base-generated copies of all moved terminals were deleted at SO, as in (5b), then the structure would not be linearizable. For this reason, it is proposed that, as a last resort, scattered deletion can rescue a derivation. PF actively selects copies for linearization which will result in a total ordering of terminals, assuming that copy deletion and linearization happen simultaneously at SO. This is what happens in (5c): because only the first-merged copy of λ is in a relation of asymmetric c-command with α, it must be targeted by PF. This systematically results in Complement stranding (CS), and also resolves mutual c-command between head and complement in this instance.

4. CS exists in English with various indefinites of various kinds with A and A-bar movement:

  (6)   a. **Pictures** were taken **of John** yesterday.   b. **Pictures of John** were taken yesterday.
  (7)   a. **Which book** did you read **on Chomsky**?   b. **Which book on Chomsky** did you read?
  (8)   a. **How likely** is John **to win**?   b. **How likely to win** is John?

Crucially, CS is not possible with first-merged specifiers, but is restricted to instances of movement from a complement position (cf. also Fox and Nissenbaum 1999):

  (9)   **Pictures** {**of disasters**} always {*****of disasters**} provoke a scandal {*****of disasters**}.

This is predicted by the current analysis as the stranding of material inside a complex specifier will not aid linearization. It follows that first-merged specifiers which are not linearised prior to merge will cause a crash at the mapping to PF, unlike derived specifiers. Moreover, as predicted, stranded complements, unlike pied-piped complements are not islands to extraction:

  (10)   a. Who was **a picture** taken **of**?   b. Who did **a book** appear to have been written **about**?
  (11)   This is the vase that you told me **how likely {*to break}** John is **{to break}**

As CS results from the movement of a non-spelled out XP, CS and non-islandhood always co-occur.

5. All four potential combinations of +/-spellout and +/-move occur, suggesting that the two operations operate independently of each other. Definite DPs are strong islands whether they move or not, true NPs are never islands and display complement stranding when moved.

6. CS also provides a potential explanation of the Final-over-Final Constraint (FOFC) (cf. Holmberg 2000, Biberauer, Holmberg and Roberts 2007, 2008, Biberauer, Newton and Sheehan, to appear:

  (12)   FOFC: a head initial phrase cannot be immediately dominated by a head-final phrase.

In these terms, FOFC falls out from the fact that very local movement of a non-spelled out complex phrase will obligatorily strand its complement. Assuming that head-finality is derived via comp-to-spec movement, it follows that movement of [V O] to spec AuxP will be linearized as V-Aux-O rather than *V-O-Aux. While the latter order is unattested in all historic and diachronic varieties of Germanic, the former is attested in several languages, notably Icelandic (cf. Hróarsdóttir 2008). This provides an account not only for the cases where FOFC holds, but also where it does not. Definite DPs, for instance are immune to FOFC because they are inherently strong islands and so cannot strand their complements, hence the existence of languages with [D-NP]-V order.

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Reduplication as iterated projection
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Over- and underapplication of phonological processes in reduplicated forms have received a lot of attention in recent years. Consider the Malay data in (1):

(1)   Overapplication in Malay

      (a)   aŋãn   'reverie'   ãŋãn-ãŋãn   'ambition'

      (b)   aŋẽn   'wind'   ãŋẽn-ãŋẽn   'unconfirmed news'

For the most part, nasalized vowels occur in Malay only as predictable variants of non-nasalized ones, when the vowel immediately follows a nasal consonant. As expected, the initial vowel of the simple forms in (1) are not nasalised, but, surprisingly, the initial vowels of the reduplicated forms are nasalised, even though these vowels are not preceded by a nasal consonant. Informally, this appears to be a case of overapplication of the nasalisation process, and it seems plausible that the irregularity of nasalisation on the vowel is somehow related to the fact that the other copy of the root-initial vowel is nasalized (by regular application of the process).
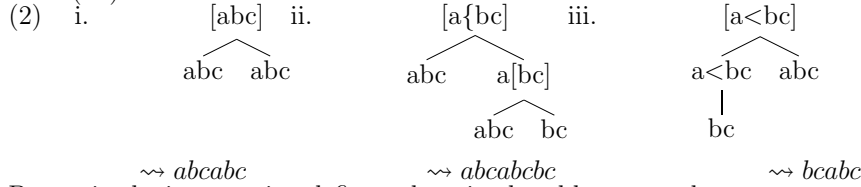
McCarthy and Prince (1995, henceforth MP) insightfully remarked on the importance of such cases, and argued that they provided strong support for non-derivational models like Optimality Theory. MP assume that these Malay forms consist of a Base, B, followed by a reduplicant, R. They called the process 'backcopying', since B appears to create the nasalization environment for the initial vowel of R, but then the effects of this environment, the nasalization on the vowel, are copied or reflected back onto B. MP claim that "The most familiar theories—those with fixed rule ordering are incapable of expressing patterns in which R imposes phonology on B that then re-appears in R."

MP suggest that such cases justify the adoption of Correspondence constraints, an extension of OT's standard identity constraints which are satisfied by identity between input and output forms. Correspondence constraints extend the demand for identity to relations between other elements, such as the B and R. Thus, the nasalisation on the initial vowel of the reduplicated forms in (1) satisfies a BR Correspondence constraint that would otherwise be violated. Raimy (2000) provided the first refutation of MP's strong claim about a derivational models by treating reduplication as the introduction of additional precedence relations in the phonological string. However, just as basic details of Correspondence Theory remained unsolved, Raimy's system never was made fully explicit. Alternatives in derivational frameworks have been offered, most notably by Halle (e.g. 2008) and Frampton (2004).

We argue that backcopying is not only non-problematic for derivational models, but that it offers strong evidence *in favor* of such models—informally, we need a derivation to create the environment for nasalization of the initial vowel in the reduplicated forms, apply the nasalization, then remove the material that created the environment.

Developing insights of Halle (2008), we achieve this by modeling reduplication as iterated projection from a base of linearly ordered segments and boundary markers. Since we generate all copies of output segments as projections from the input, we differ from MP and most other models in not recognizing B and R—even in a simple case of total reduplication, there are two projections of the input string and neither has a privileged status. In this respect we find happy convergence with a major claim of Inkelas and Zoll (2005), although they argue on the basis of morphosyntactic considerations.

1

We will illustrate the 'syntax' of our system with abstract strings, showing how various reduplication patterns, (including triplication and quadruplication) are generated. All brackets are introduced by the morphology, relying on insertion at phonologically defined anchor points or pivots (e.g. Yu 2007). We sketch here the basic machinery. The brackets we refer to are the phonological exponent of morphosyntactic features. These brackets are interpreted by the phonology in terms of projections of the segment string in which they are embedded. Any string between square brackets, [...], is part of a reduplication domain, referred to here as DUP-DOMAIN. The universal projection rule PROJECT spells out the segmental content of DUP-DOMAIN twice, generating two branches, a left projection, L-PROJ and a right projection, R-PROJ, as in (2.i).

(2) i. [abc] ii. [a{bc] iii. [a<bc]

```
         [abc]              [a{bc]                 [a<bc]
         /   \              /    \                 /    \
      abc    abc         abc    a[bc]          a<bc    abc
                                /   \            |
                              abc   bc           bc
```

⤳ *abcabc* ⤳ *abcabcbc* ⤳ *bcabc*

Braces in the input string define a domain closed by a complementary square bracket: e.g. a *left* brace leads to *nested projection* in R-PROJ, so that material between { and] form a secondary DUP-DOMAIN—see (2.ii), noting that material outside DUP-DOMAIN maintains its linear ordering. Angle brackets also define a domain closed by a complementary square bracket, but they are passed down the tree in a manner inverted w.r.t. that of braces: material between < and] form a domain for projection within L-PROJ. Spell-out of angle brackets (universally) follows that of braces, so the model is truly derivational—see (2.iii) for an example.

In (3) we see the proposed input form for the reduplicated Malay *ãŋẽnãŋẽn*, along with a derivation via PROJECT only. The crucial aspect of our analysis is shown in (4), where we show (i) that the nasalization rule must apply after the first application of PROJECT, and (ii) that the trigger of nasalization on the initial vowel of the surface form does not survive into the output, since it is outside of the left angle bracket, <.

```
(3)        [{aŋen<]                    (4)        [{aŋen<]
           /      \                               /      \
       aŋen<      [aŋen]              aŋẽn<           [ãŋẽn]
         |        /    \                 |           /     \
         ∅     aŋen    aŋen              ∅        ãŋẽn    ãŋẽn
```
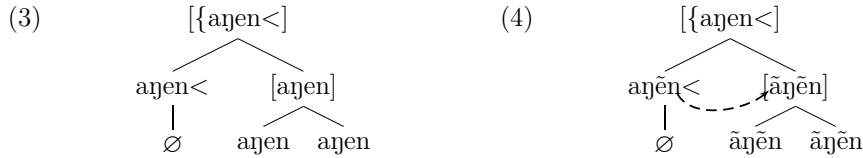
For us, backcopying can arise since we have intermediate levels of representation with ordered rule application—we need no special machinery for BR Correspondence.

We are able to provide a parallel account for *underapplication* of phonological processes, cases where a reduplicated form apparently fails to undergo a process whose environment is met—to satisfy BR Correspondence, in the view of MP.

(5) (a) kɪ-kaʔ   *tɕɪ-kaʔ   *tɕɪ-tɕaʔ   'bite'
     (b) dʑɪ-dʑe *gɪ-ge   'receive'

Although front vowels normally palatalize velars, the form in (5a) shows no palatalization by the fixed vowel ɪ, whereas (5b) appears to show palatalization. Again, we are able to provide a structural account—in brief, the palatalization in (5b) is triggered, not by the ɪ, but by adjacency to the front vowel of the *root* at the relevant point in the derivation. Using just the brackets introduced here, we are able to account for a vast range of reduplication data, such as Madurese *garadus/dusgaradus*, Levantine Arabic *barad/barbad* and other complex patterns.

2

Islands and the role of working memory in acceptability judgments

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At a certain level, syntactic architectures can be reduced to two basic types: structure-building architectures such as Generative Grammar and structure-storing architectures such as Construction Grammar. While these two architectures obviously have much of the same empirical coverage (as any comprehensive syntactic theory will), they do diverge with respect to constraints on long-distance dependencies, also known as Island constraints (Ross 1967). Therefore Island constraints provide an ideal case study for investigating the relative merits of these two architectures. The Generative Grammar Y-model posits structure-building mental computations (specifically Merge and Move), and purely syntactic constraints on these operations (the autonomy of syntax). While the theoretical mechanisms have changed subtly over the years (e.g. Chomsky 1973, Huang 1982, Chomsky 1986, Nishigauchi 1990, Tsai 1994, Hagstrom 1998, Uriagereka 1999, Chomsky 2001), the basic analysis of island constraints under the Generative Y-model employs a completely formal (i.e. syntactic) constraint on the structure-building operation Move. This approach easily accounts for one of the most striking facts of island constraints: they generalize across constructions with very different semantic values and pragmatic uses.

The structure-storing approach of Construction Grammar, with syntax and semantics stored together in the lexicon as a unit, or construction, cannot easily capture this generalization (Tomasello 2003, Goldberg 2006). Under the Construction Grammar architecture, the decrease in acceptability that characterizes Island constraints is typically analyzed as an extra-grammatical, or functional, phenomenon. One of the most prominent and widely cited of these functional explanations is the working memory limitation theory (first laid out in Kluender and Kutas 1993, developed further in Kluender 1998, 2004, henceforth WM theory). The logic of the WM theory is straightforward: long-distance dependencies require working memory resources to be resolved, and island structures in the absence of long-distance dependencies also require working memory resources to be parsed. This combination of resource requirements conspires to produce unacceptability. In this talk, I present a large scale acceptability judgment experiment designed to test a likely prediction of the WM theory: that increases in verbal working memory capacity will lead to concomitant increases in the relative acceptability of island violations. The results, however, indicate that increases in verbal working memory capacity lead to no difference in judgments of island violations, contrary to the prediction of the working memory limitation theory. Perhaps more striking, the results also suggest that certain grammatical constructions, namely those that require increased working memory for successful parsing, are actually judged less acceptable by participants with higher verbal working memory capacity.

To test the prediction that there is a correlation between verbal working memory capacity and acceptability judgments, we first asked 144 undergraduates (age 18-25, mean =21.1) to perform a verbal memory span task. Participants were asked to listen to a recording of 8 words, and remember as many as possible in the correct order. The same 8 words were used in each trial, but in different orders, to prevent the use of semantic mnemonics to aid recall. Furthermore, participants were asked to whisper the monosyllabic word *the* repeatedly during the listening phase to prevent rehearsal prior to the recall phase (Cowan 2000). The 8 words were all CVCVC, and were matched for frequency, neighborhood density, phonotactic probability to ensure that lexical access effects did not influence recall (e.g. Vitevitch and Luce 1999). The meta-analysis of memory tasks in Cowan 2000 suggests a population mean

of 4 correctly remembered items ± 1; the sample mean of the 144 participants in this study was 4.17, with a standard deviation of .98.

The same 144 participants then performed an acceptability rating task using a 7 point scale. The rating task tested Adjunct, CNPC, Subject, and Whether Islands using a 2x2 factorial design that accounts for known effects of the length of the dependency, short versus long (Phillips et al 2005), and the complexity of the syntactic structures, simple versus complex (Kluender and Kutas 1993). The 2x2 design is demonstrated here with the four conditions defining the Whether Island effect, where the simple structure is a standard embedded that-clause and the complex structure is the embedded whether-clause:

(1) short, simple: Who __ thinks that John bought a car?
(2) long, simple: What do you think that John bought __?
(3) short, complex: Who __ wonders whether John bought a car?
(4) long, complex: What do you wonder whether John bought __ ?

The task also included multiply center embedded sentences and grammatical long-distance dependencies as memory-intensive control conditions in order to assess the contribution of working memory capacity to the judgment of non-Island violation structures (Chomsky and Miller 1963, Phillips et al. 2005). Because linear regressions revealed no statistically significant correlations between working memory capacity and acceptability ratings for any of the 20 conditions, the participants were divided into quartiles based on their performance on the verbal memory span task. The judgments of the lowest performing quartile (N=36,18 female, mean =2.98) and the highest performing quartile (N=36, 18 female, mean =5.43) were then compared with a series of repeated measures statistical tests.

Two-way repeated measures ANOVAs reveal that in the first rating task, the low memory group showed significant island effects (as defined as an interaction of length and complexity) for all of the Islands tested, but the high memory group only showed significant island effects for Adjunct and CNPC Islands, with no significant effect for Subject and Whether Islands. Prima facie this appears to be evidence in support of the WM theory, at least for Subject and Whether Islands. However, in the second rating task, both the high memory group and the low memory group showed significant island effects for all of the island types. Furthermore, independent samples t-tests on Subject and Whether Islands in the first rating task indicate that the low memory group and the high memory group rated island violating sentences identically contra the WM theory
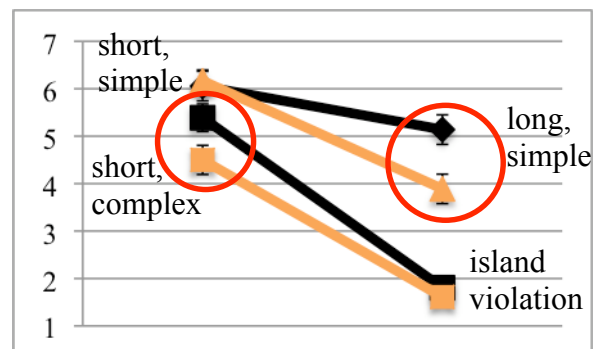
(see the representative graph of the four Whether Island conditions above: black represents the low group, orange the high group). Independent samples t-tests of the other three conditions in the 2x2 definition of island effects (the three grammatical conditions) reveal that the lack of a 2x2 interaction effect for Subject and Whether Islands is actually because the high memory group rates two of the grammatical sentences in the 2x2 design lower than the low memory group. The direction of this difference is the exact opposite of the prediction of the WM theory: higher working memory capacity appears to result in an acceptability penalty in judging these grammatical sentences for the high memory group. This penalty is further confirmed by the groups' ratings of grammatical long-distance dependencies: the high memory group rates these sentences lower than the low memory group. So it seems that not only do we not find a correlation between higher working memory capacity and higher ratings of island violations, we actually see an inverse relationship between working memory capacity and the rating of grammatical sentences.

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Syntax vs. discourse constrained *Ziji* in Mandarin child language
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Research on reflexivization in the past two decades has converged on a nonunification approach, which acknowledges both syntactic conditions of anaphor binding and logophoric considerations (e.g., Reinhart and Reuland 1993; Xue, Pollard and Sag 1994; Huang and Liu 2001). However, these analyses differ in where to draw the dividing line between the two uses of the Mandarin reflexive *ziji*. Huang and Liu (2001) propose that *ziji* in Mandarin is a syntactic anaphor obeying Binding Condition A in the environments of (1a-d).

(1) a. When it is bound by a co-argument subject.
     b. When it is contained in an argument NP and bound by a co-argument of that NP.
     c. When it is contained in an adjunct and locally bound by an argument outside.
     d. When it is locally bound by a subcommanding NP.

On the other hand, according to Reinhart and Reuland's (1993) approach, only *ziji* in (1a) can be considered as a syntactic anaphor. As for Xue et al.'s (1994) conception, *ziji* is a syntactic reflexive in (1a-b), but not in (1c-d).

Following the widely accepted generalization that children's mastery of the discourse-related constraints is observed long after that of the syntactic constraints, this study presents four experiments investigating Mandarin-speaking children's and adults' interpretations of the following types of sentences with *ziji*, using a truth value judgment task.

(2) gongzhu$_i$ shuo wangzi$_j$ zai ban   ziji$_{i/j}$-de   shafa
     princess say prince   ASP move self-POSS   sofa
     'The princess said the prince was moving self's sofa.'

(3) meimei$_i$ shuo didi$_j$ ba ziji$_{i/j}$-de yizi   banzou le
     sister   say brother BA self-POSS chair move   ASP
     'The sister said the brother moved self's chair.'

(4) xiaomao$_i$ chuangei xiaogou$_j$ yi-ben   ziji$_{i/*j}$-de shu
     cat   pass   dog   one-CL self-POSS book
     'The cat passed the dog self's book.'

(5) ziji$_i$-de   pibao bei touzou rang songshu$_i$ hen nanguo
     self-POSS purse BEI steal   make squirrel very sad
     'That self's purse was stolen made the squirrel very sad.'

The first and the second experiments examined the types of sentences as in (2) and (3) respectively, with stories in which *ziji* refers to the matrix subject of the sentences. The results showed that for the first experiment, adults (N=33) accepted the long-distance reading for (2) only 27% of the time (27/99), and children (N=25, mean age 4;10) only 4% of the time (3/75), but the difference between adults and children was significant (t=2.65, *p*<.05). For the second experiment, adults (N=29) accepted the long-distance reading 30% of the time (26/87), and children (N=25, mean age 4;10) 16% of the time (12/75). The difference between children and adults was not significant. The justification reasons provided by children and adults indicated that they interpreted *ziji* predominantly as the

1

embedded subject for sentences like (2) and (3).

The third experiment tested double object sentences like (4) with stories in which *ziji* refers to the Recipient object NP. Adults (N=15) rejected the object-orientation reading 87% of the time (39/45), but 5-year-old children (N=17, mean age 5;2) rejected the sentences only 35% of the time (18/51), and 6-year-old children (N=17, mean age 6;2) 49% of the time (25/51). The differences between adults and 5-year-olds as well as 6-year-olds were significant (t=3.74 for the former, and t=2.64 for the latter, *p*<.02), but the difference between the two groups of children was not.

The fourth experiment probed the logophoricity of *ziji* as in (5) with stories in which *ziji* refers to an extrasentential character. Adults (N=15) rejected the deictic interpretation 100% of the time, whereas the 5-year-olds (N=15, mean age 5;1) rejected the sentences only 47% of the time (21/45), and the 6-year-olds (N=15, mean age 6;0) 33% of the time (15/45). The differences between adults and the two groups of children were significant (t=4.78 for 5-year-olds, and t=6.18 for 6-year-olds, *p*<.001), but the difference between the two groups of children was not.

Since *ziji* is contained in the object NP in (2) and an adjunct in (3), the predominant local interpretation of *ziji* from adults and especially children in the first two experiments provides supporting evidence for *ziji* in the contexts of (1b-c) as a syntactic anaphor, contrary to what Reinhart and Reuland's (1993) as well as Xue et al.'s (1994) accounts predict. In addition, *ziji* in a position that is higher than VP in the surface structure makes it slightly easier for children to compute the long-distance reading as shown in the second experiment. Furthermore, similar to what was found in Chien (1992) for Mandarin and Hestvik and Philip (2001) for Norwegian, the fact that children in the third experiment accepted the non-adult object-orientation interpretation for double object sentences about half of the time suggests that antecedent selection for the reflexive in this context requires mastery of discourse-related rather than syntactic rules, adding one caveat for (1b). Lastly, the finding from the fourth experiment demonstrates that discourse-related constraints are acquired relatively late even in contexts where there is only one potential antecedent inside the sentence.

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The Hidden Side of Clausal Complements
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Introduction: I claim that properties of the procedure for interpreting syntactic structures determine possible types of constituents that can move in syntax and form a movement chain represented at LF. In order to interpret structures involving movement dependencies under the copy theory of movement, Fox (2002) proposes Trace Conversion in (1), which makes uninterpretable movement chains compositionally interpretable in the semantic component (see also Elbourne 2005 and Sauerland 1998, 2004). Notice that Trace Conversion is applicable only when a moved constituent is a DP because the existence of a determiner (Det) is a prerequisite for the rule's application. I argue that this interpretive requirement provides a key to understanding otherwise puzzling facts about clausal complements.

(1)   Trace Conversion (adapted from Fox 2002)
      Variable Insertion: Det (Pred) → Det [(Pred) λy(y=x)]
      Determiner Replacement: Det [(Pred) λy(y=x)] → the [(Pred) λy(y=x)]

Puzzle: It has been pointed out that a clausal complement (CC) is allowed to move only if its base-generated position is a position in which a DP can appear (Alrenga 2005, among others). This is puzzling because a moved CC is superficially a CP. This puzzle can be appreciated by considering the following set of facts. First, if predicates can only take a CP complement, as in (2)a-b (*hope*-class predicates), such predicates do not allow for movement of a CC, as in (2)c-d.

(2)   a.   Most baseball fans {hoped/insisted} that the Giants would win the World Series.
      b.   *Most baseball fans {hoped/insisted} that.
      c.   *That the Giants would win the World Series was {hoped/insisted} by most baseball fans.
      d.   *That the Giants would probably win the World Series, most baseball fans {hoped/insisted}.

In contrast, when a CC is selected by predicates that can only combine with a DP complement, as in (3)a (*capture*-class predicates), movement of a CC is permitted, as in (3)b-c.

(3)   a.   This theory captures *(the fact) that these nouns behave differently.
      b.   That these nouns behave differently is captured by this theory.
      c.   That these nouns behave differently, this theory captures.

Previous Analysis and New Counterevidence: There is a previously proposed analysis of sentential subjects that may solve the puzzle. Koster (1978) claims that an apparently dislocated CC is a base-generated topic and a null operator, which is assumed to be a DP, undergoes movement, as in (4).

(4)   [$_{TopP}$ [$_{CP}$ that these nouns behave differently] OP$_1$ [$_{TP}$ t$_1$ is [captured t$_1$ by this theory]]]]

An argument against this analysis comes from the fact that a reconstruction effect can be seen in (5), where a pronoun within a CC can be bound by a quantifier.

(5)   a.   [That a student from his$_i$ class cheated] doesn't seem to [any professor]$_i$ to be captured by the document.
      b.   [That a student from his$_i$ class cheated], I don't think that [any professor]$_i$ brought out.

This fact indicates that the CC actually undergoes movement in these cases. The reconstruction effect is not predicted by Koster-style analysis because it does not postulate movement of a CC.

Proposal: I claim that when a CC moves, it must involve a DP structure headed by a covert definite Det (THE), namely, [$_{DP}$ THE [$_{CP}$ … …]] (see Elbourne 2005 for THE in English). As mentioned above, this structural requirement is ascribable to the properties of Trace Conversion in (1). In order to derive (2)c-d and (3)b-c under this approach, it is necessary to first construct the structures in (6)a and (6)b, respectively. However, due to the complementation properties of *hope*-class and *capture*-class predicates, (6)a is ruled out and (6)b is legitimate, which explains the facts above.

(6)   a.   *[*hope*-class V [$_{DP}$ THE [$_{CP}$ … …]]]   b.   [*capture*-class V [$_{DP}$ THE [$_{CP}$ … …]]]

Unlike moved CCs, the covert Det should not be available to non-moved CCs. Otherwise, (7)a would incorrectly be predicted to be grammatical because (7)b could be posited for (7)a. In other words, overt movement is necessary for licensing the covert Det.

(7) a. *This theory captures that these nouns behave differently.

    b. [this theory captures [$_{DP}$ THE [$_{CP}$ that these nouns behave differently]]]

Linking this issue to the fact that sentential subjects must occupy a position higher than the Spec of TP (see (8) for evidence), I suggest that the covert Det structure is licensed only when it overtly moves to the Spec of TopicP (see Koster 1978 for related idea).

(8) a. *Does that the Giants lost the World Series really suck?

    b. Does the article that reported that the Giants lost the World Series really suck?

One way to implement this idea is to assume that the covert Det has an uninterpretable feature, which must be checked off by the Topic head and that it has an EPP feature, which induces overt movement of a CC, as in (9). Thus, the covert Det structure is not available to non-moved CCs.

(9) [$_{TopP}$ [$_{DP}$ THE$_{[uF]}$ [$_{CP}$ that these nouns behave differently]]$_1$ Topic$_{[EPP]}$ [$_{TP}$ t$_1$ is [captured [$_{DP}$ THE$_{[uF]}$ [$_{CP}$ that these nouns behave differently]]$_1$ by this theory]]]

Further Evidence: The first argument comes from the fact that movement of a CC bleeds Principle C:

(10) a. [That John$_i$'s sister cheated] seems to him$_i$ to be captured by this document.

    b. [That John$_i$'s sister cheated], he$_i$ believes to be untrue.

To set the stage, let us first consider the fact that A-movement of DPs bleeds Principle C in (11), which is puzzling from the perspective of the copy theory of movement.

(11) [Every argument that John$_i$ is a genius] seems to him$_i$ to be flawless.

Capitalizing on Fox's (2002) idea that counter-cyclic merger is permitted only when an output representation is interpretable in the semantic component, in Takahashi (2006), I proposed that the restrictor of a Det can be inserted late and that the derivation in (12) can be posited for (11) (see also Sauerland 1998 for related idea). In (12), only a Det is base-generated and the restrictor is merged with the Det after it moves out of the c-command domain of the pronoun. ((12) becomes interpretable once Trace Conversion applies.) This analysis explains (11) in a way compatible with the copy theory.

(12) [[every [argument that John$_i$ is a genius]] seems to him$_i$ [[every] to be [[every] flawless]]]

If a moved CC also involves a Det, the analysis postulated for (11) can be extended to (10), as in (13). Since there is no obvious alternative approach that captures (10), I take it to be supporting evidence.

(13) a. [[THE [that John$_i$'s sister cheated]] seems to him$_i$ to be [captured [THE] by this document]]

    b. [[THE [that John$_i$'s sister cheated]] [he$_i$ believes [[THE] to be [[THE] untrue]]]]

Secondly, the proposal receives support from the cross-linguistic fact that a Det, which I claim is covert in English, is realized overtly in various languages (e.g., in Basque, Modern Greek, and Persian). For instance, CPs can appear in the verbal object position in Persian, but a sentential subject must be a DP in which a Det takes a CP complement, as in (14). This fact is expected by the proposal.

(14) [$_{DP}$ *(in) [$_{CP}$ ke xune-ro xarid-i]] xub-e.   (Persian)

    this that house-OBJ bought-2SG good-be.3SG

    'That you bought a house is good.'   (Farudi 2007:47)

Conclusion: I have claimed that only DPs can form a movement chain represented at LF, due to the properties of Trace Conversion. I have argued that this claim is supported by the fact that a CC must be a DP when it undergoes movement. The flip side of this interpretive requirement is that movement of a non-DP should not be able to create a chain. From this perspective, it is at first sight puzzling that predicate phrases, which are not DPs, can move, as in (15)a. However, it is well-know that moved predicate phrases must be interpreted in their original position as if they had not undergone movement, as evidenced by (15)b (Heycock 1995, Huang 1993, and Takano 1995).

(15) a. [Criticize John], I think Mary did.

    b. *[Criticize John$_i$], I think he$_i$ said Mary did.

The fact that movement of a predicate phrase is semantically vacuous, unlike DP movement, can be taken as indicating that even if a predicate phrase moves, it does not form a chain. Therefore, a moved predicate phrase must be interpreted in its original position. This is indeed consistent with the proposal.

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THE INDEFINITENESS EFFECT IN VIETNAMESE – DESCRIPTION AND ANALYSIS
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1. Observations
1.1. [K+NP] is possible in Vietnamese
In Vietnamese, NPs generally cannot combine with a numeral without the mediation of a classifier (K).
(1)   John mua mot *(con)   cho
      John buy one *(K)   dog
      'John bought a dog'
The presence of K, however, does not necessitate a numeral. Nominal arguments of the form [K+NP] are possible.
(2)   John mua con cho
      John buy K   dog
      'John bought the dog'
The interpretation of [K+NP] can be described as follows.
(3)   a.   [K+NP] can always have a definite reading
      b.   [K+NP] is ambiguous between a definite and indefinite reading iff (i) and (ii) hold
             (i)   [K+NP] is in object position
             (ii)   Substitute [K+NP] with [one+K+NP] results in scopal ambiguity
      c.   When [K+NP] is indefinite, it always takes narrow scope
In the following, we provide evidence that (3b-c) is correct.
1.2. Indefinite [K+NP] is possible only in object position
[K+NP] cannot have indefinite interpretation if it is in subject position.
(4)   a.   John muon   mua con cho
             John want   buy K   dog
             'John wants to buy the/a dog'
      b.   John muon   con cho can Mary
             John want   K   dog bite Mary
             'John wants the/*a dog to bite Mary'
1.3. Indefinite [K+NP] is possible only if [one+K+NP] gives rise to scopal ambiguity
(2) cannot mean 'John bought a dog'. Consequently, (5a) is unambiguous: it only means (5b).
(5)   a.   John mua mot con cho
             John buy one K   dog
      b.   There is a dog x such that John bought x
(4a) allows indefinite interpretation of [K+dog]. Consequently, (6a) is ambiguous: it means either (6b) or (6c), i.e. (6a) can be continued with 'any dog would do' or 'his name is Fido.'
(6)   a.   John muon   mua mot con cho
             John want   buy one K   dog
      b.   John wants it to be the case that he buys a dog
      c.   There is a dog x such that John wants to buy x
Now consider (7). In this sentence, [K+dog] cannot mean 'a dog'.
(7)   John nghi Mary mua con cho
      John think Mary buy K   dog
      'John thinks Mary bough the/*a dog'
Curiously, substituting [K+dog] with [one+K+dog] does not lead to scopal ambiguity: the wide scope reading of the indefinite is missing. Thus, (8a) cannot mean (8b).
(8)   a.   John nghi Mary mua mot con cho
             John think Mary buy one K   dog
      b.   There is a dog x in the actual world such that in all worlds w' compatible with what John believes in the actual world, Mary bought x in w'
Thus, (8a) is judged by speakers to be categorically false if John thinks Mary bought Fido, and thinks Fido is a cat, even though we know Fido is really a dog.
1.4. Indefinite [K+NP] must take narrow scope
(4a) can only mean (6b), not (6c). Thus, continuing (4a) with 'any dog would do' is acceptable, but not with 'his name is Fido'.

2. Analysis

We assume that bare NPs in Vietnamese generally denote a cumulative set whose elements include atomic and plural individuals, and a classifier K takes an NP and turns it into an atomic predicate (Chierchia 1998, Krifka 2008, Trinh 2007).

(9) $||K\ NP|| = [\lambda x.[||NP||(x) \wedge x \text{ is atomic}]]$

The definite reading of [K+NP] is due to the covert operator ι, which is defined informally as follows (Chierchia 1998, Trinh 2007 and references therein).

(10) $|| \iota\ \alpha || = $ the maximal element in $||\alpha||$

The derivation of the narrow scope indefinite reading of [K+NP] has two components. First, the result of combining a transitive verb and an NP predicate can be interpreted by Restrict (Chung & Ladusaw 2004).

(11) Restrict

        If $||\alpha|| \in D_{\langle e,\langle e,t\rangle\rangle}$, $||\beta|| \in D_{\langle e,t\rangle}$, then $||\alpha\ \beta|| = [\lambda x.[\lambda y.[||\alpha||(y)(x) \ \& \ ||\beta||(y)]]]$.

Second, VP is existentially closed by the quantifier $\exists$ (Heim 1982, Diesing 1992, Chung and Ladusaw 2004), which for present purposes can be defined as in (12).

(12) $||\exists\ VP|| = \exists x(||VP||(x))$

The impossibility of indefinite [K+NP] in subject position is derived by assuming that subjects in Vietnamese do not reconstruct from [Spec,T] to [Spec,V] (Trinh 2006). This entails that [Spec,V] always contains a trace, which is of type e, and thus that VP is always of type $\langle e,t\rangle$. Consequently, Restrict cannot apply to interpret the result of combining VP and its sister, and the only way to interpret an NP of type $\langle e,t\rangle$ in [Spec,T] is to assume that NP is acutally [ι NP]. This explains the obligatory definite reading of [K+NP] in subject position.

It remains to explain why indefinite [K+NP] is possible only in environments where [one+K+NP] would give rise to scopal ambiguity. To do this, we propose the following principle.

(14) Optimal Numeration

        Sentence φ expresses meaning M iff φ is constructed from numeration N which is optimal relative to M

A numeration N is optimal relative to a meaning M iff (15a-b) holds.

(15) a.   Narrow Syntax generates $\langle PF,LF\rangle$ from N such that $||LF|| = M$

      b.   There is no alternative N' of N such that (i) and (ii) hold

          (i)   Narrow Syntax generates $\langle PF,LF\rangle$ from N' such that $||LF|| = M$

          (ii)   N' violates fewer constraints than N

The constraints that are relevant are *Restrict and *Ambiguity, which choose between different numerations given a certain meaning and which are equally ranked in Vietnamese.

(16) a.   *Restrict

          For some meaning M, if $\langle PF,LF\rangle$ is generated from N and $||LF|| = M$, the interpretation of LF does not involve Restrict

      b.   *Ambiguity

          For any numeration N, there is exactly one LF such that Narrow Syntax generates $\langle PF,LF\rangle$ from N

For an illustration, consider the tableaux (17) and (18). (17) shows why (2) does not allow the object NP to be indefinite. (18) shows why indefinite [K+NP] is possible in (4a).

(17)

$\exists x(dog(x)\ \&\ buy(John,x))$	*Restrict	*Ambiguity
→ {John, buy, one, K, dog}		
{John, buy, K, dog}	*!	

(18)

want(John,$\exists x(dog(x)\ \&\ buy(John,x))$)	*Restrict	*Ambiguity
→ {John, want, buy, one, K, dog}		*
→ {John, want, buy, K, dog}	*	

We also corroborate our analysis with data from other classifier languages in the region such as Mandarin, Cantonese and Thai.

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Obviating Prosodic Words: Nespor and Vogel (1986) Revisited

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In rule-based Prosodic Phonology, the main function of the Prosodic Word (PW) was to designate specific morpheme boundaries as visible to phonological processes and other ones as invisible – creating morphophonological domains which are not isomorphic to any morphosyntactic constituent (Scheer, 2008). In this talk, I revisit the classical summary of arguments for the PW in Nespor & Vogel (1986, henceforth N&V). Using exemplary cases, I show that virtually all data N&V adduce as evidence for the PW receive a more principled explanation by cyclic constraint evaluation in the sense of Stratal Optimality Theory. Hence apparent PW effects follow from a general theory of morphology-phonology interaction obviating the intervention of prosodic words.

Theoretical Background:

I adopt Stratal Optimality Theory in the version of Bermúdez-Otero (2008). Crucially, the first cycle of optimization (stem-level) evaluates stems (i.e. complexes of roots and stem-level affixes) and word-level affixes separately. The second level of evaluation (word level), which possibly involves a different constraint ranking from the stem level, evaluates morphosyntactic words. I attribute further phonological asymmetries between root and affix material to the constraint LEX-SPEC which requires that lexical units (roots, stems, and words) must be dominated by integrated prosodic structure (a footed metrical grid).

Penultimate Lengthening in Yidiɲ:

Data: In Yidiɲ, penultimate vowel lengthening occurs in two domains: D_1, a root (and an adjacent strings of monosyllabic suffixes), and D_2: a bisyllabic suffix (and an adjacent strings of monosyllabic suffixes). **N&V:** D_1 and D_2 are PWs. Penultimate lengthening is restricted to PWs. **Alternative Analysis:** At the stem level, foot construction happens in stems and word-level affixes. Due to FOOT-BINARITY and LEX-SPEC, foot structure is erected in stems and bisyllabic word-level affixes, but not in monosyllabic word-level affixes. At the word level, high-ranked faithfulness constraints block the modification of already existing foot structure, and additional feet parse only the remaining monosyllabic affixes. Vowel lengthening is sensitive to foot structure, not to the PW (cf. Baker, 2005; Baker, 1999 and Bermúdez-Otero, 2008 for similar analyses of related patterns in other Australian languages, invoking the PW). **Advantage:** As shown in Baker (2005), it is hard to accommodate the special behavior of bisyllabic affixes by pure alignment, i.e. in any version of OT without some kind of cyclic constraint evaluation of word-level affixes.

Intervocalic s-voicing in Northern Italian:

Data: [s] is voiced intervocalically, but not if it is stem-initial and preceded by a vowel-final prefix. **N&V:** Stems (+ adjacent suffixes + adjacent consonant-final prefixes) form PWs. Vowel-final prefixes form PWs. S-voicing is restricted to PWs. **Alternative Analysis:** Intervocalic s-voicing follows from high-ranked $\text{AGR}^{\text{Ons}}_{[+\text{vc}]}$ at the word level which requires that an onset sibilant forms a [+voice] span with a preceding vowel. $\text{AGR}^{\text{Ons}}_{[+\text{vc}]}$ is dominated by CRISP-EDGE (Ito and Mester, 1999) which blocks voicing spans across morpheme boundaries. Since there are no s-initial suffixes in Italian, no blocking happens across stem-suffix boundaries. **Advantage:** Krämer (2005) shows that the restriction of s-voicing to PWs does not extend to dialects where s-voicing happens under affixation, but not morpheme-internally. The analysis here extends straightforwardly to this pattern if there is syllabification at the stem level, and $\text{AGR}^{\text{Ons}}_{[+\text{vc}]}$ is relativized in a Comparative-Markedness style to new and old onsets (i.e. word-level onsets inherited from the stem-level and those newly created at the stem-level).

Dutch Syllabification:
Data: Word-level syllabification in Dutch is blocked across stem-stem boundaries, across stem-prefix boundaries and across the initial boundary of the bisyllabic suffix *-achtig*. **N&V:** Stems (+ most adjacent suffixes) form PWs. Prefixes form PWs. *-achtig* forms a PW. Syllabification applies in PWs. **Alternative Analysis:** I adopt basically the analysis by van Oostendorp (1994) eliminating his non-crucial use of PWs. Similarly to Yidiɲ, stems and bisyllabic word-level affixes license and require foot structure at the stem level, whereas monosyllabic affixes don't. Foot structure enforces syllable structure (by HEADEDNESS, Selkirk, 1995) in the first case, while syllable structure is blocked for the later case due to PARSE-σ (Kager, 1999). At the word-level high-ranked faithfulness constraints block the integration of new material into existing syllables blocking resyllabification of a consonant preceding a stem or *-achtig* into the following syllable. **Advantage:** As already noted in van Oostendorp (1994), this derives the prefix-suffix asymmetry instead of stipulating it as in the account of N&V.

Hungarian Vowel Harmony:
Data: Vowel harmony is bocked across stem-stem boundaries and across prefix-stem boundaries. **N&V:** Stems (+ adjacent suffixes) form prosodic words. Prefixes form PWs. Vowel harmony applies in PWs. **Alternative Analysis:** Data from separability and allomorphy show that Hungarian "prefixes" are not prefixes, but separate morphosyntactic words (Siptár and Törkenczy, 2000). This predicts that "prefixes" should not be subject to vowel harmony. As shown in Trommer (2008), suffixoid elements also fail to undergo vowel harmony if they are bisyllabic. I conclude that stem level foot structure is erected in parallel to Yidiɲ and Dutch (in stems and bisylabic suffixes, but not in monosyllabic suffixes). HEADEDNESS and constraints on syllable sonority enforce full vowel specification in footed structure, but leave the possibility that (unfooted) monosyllabic affixes retain vowels underspecified for vocalic features. AGR constraints enforce morpheme-internal vowel harmony in stems and bisyllabic suffixes. At the word level, AGR constraints are operative, but ranked below IDENT constraints for vocalic features, hence they operate in a feature-filling way (cf. Booij, 1984) leaving different stems in compounds, bisyllabic suffixes, and prespecified monosyllabic suffixes untouched. **Advantage:** In contrast to N&V, this analysis predicts correctly that all bisyllabic suffixes, but only specific monosyllabic suffixes fail to undergo vowel harmony.

Additional Arguments for the PW:
Postulating PWs in a specific language appears to be especially appealing if more than one phonological process makes reference to this domain. However, many cases of this type can be related to feet, instead of PWs. Moreover Bickel et al. (2008) have shown that languages may employ multiple partially overlapping phonological domains which are roughly of PW size, indicating that postulating unique PW domains for specific languages is not possible in general. The argument that PWs obviate the use of diacritic boundary symbols has been refuted by Scheer (2008) and Neeleman and van de Koot (2006) who show that the use of the PW category in phonology is of tantamount diacritic character as the boundary symbols assumed in SPE (Chomsky and Halle, 1968). Finally, motivating the PW by the Indirect Reference Hypothesis (cf. Inkelas and Zec, 1995 and references cited there) is problematic in OT because the bulk of work on morphology-phonology interaction in OT (e.g. work invoking positional faithfulness for roots) tacitly allows a rather direct access of morphological information to phonological constraints which is to be expected anyway in a highly parallel grammatical architecture such as OT.

Concealed Questions Are Questions in Disguise: A Crosslinguistic Perspective

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Hypothesis: There are three semantic analyses of 'concealed questions' – DP complements (CQ-DPs) of a class of verbs (CQ verbs) that can be intuitively paraphrased as an interrogative clause (1). Baker (1968)'s 'Question in Disguise' analysis (QID) holds that CQs are questions with the unpronounced materials ellipticized. In Heim (1979) and Romero (2005)'s 'Individual Concept' approach (IC), the CQ verb takes as its semantic argument an intensional object of type <s,e> or of type <s,se>. The 'Propositional Analysis' (PA) maintains that the CQ verb combines with a proposition or a propositional concept (Nathan 2006, Romero 2007). In this paper we argue that, from a crosslinguistic perspective, the QID analysis best captures the interpretation of CQs.

(1) John knew <u>the agenda of the meeting.</u> (= John knew *what the agenda of the meeting was.*)

English CQs: IC and PA cannot handle English CQs to the full extent. Under IC, a CQ-DP and a wh-complement embedded under a CQ verb receive distinct semantics. Thus IC would have difficulty explaining why coordination of a CQ-DP with an overt wh-complement is grammatical (2). Nor can it explain why coordination of a CQ verb with a prototypical individual concept taking verb (*fall*, *change,* etc) clashes (3). Lastly, IC derives Heim's (1979) Ambiguity (4) by allowing the argument of the CQ verb to arise either from the extension of the embedded CQ-DP or from its intension (Romero 2005). It over-generalizes in predicting (5) to have an unattested reading B ('John knew that the question about gift whose answer Fred decided on was, e.g., "What was the gift for the son?"').

(2) John knows the price of fish pods as well as where to get a fishing license.
(3) *The price of milk is known to John and fell last week.   (Nathan 2006)
(4) John knows the price that Fred knows.
      a. John knows the same price that Fred knows.   (Reading A)
      b. John knows what price Fred knows.'   (Reading B)
(5) John knew the holiday gift that Fred had decided on.

With PA, CQs denote a set of propositions <st,t> or a propositional concept <s,st>. CQ-DPs in their strict CQ interpretation would be predicted not to be able to combine with individual concept taking verbs at all. On the other hand, CQ-DPs are predicted to be compatible with proposition taking predicates. However, (6-7) suggest that these two predictions are invalid.

(6) John knows the price that Fred knows, which, by the way, happens to be rising.
(7) ??The price that John knows is surprising.

Acehnese CQs: Banda Acehnese (BA) is an Austronesian language spoken on the Island of Sumatra in Indonesia. The BA word for 'know', *tu-*, obligatorily combines with an interrogative element X. When *tu-X* takes a wh-complement, X is either the default *peue* 'what' or (roughly) identical to the (surface highest) wh-element in the embedded clause (8). When *tu-X* takes a CQ-DP, X shows a similar (optional) sensitivity to the set of propositions expressed by the CQ.

(8) Ibrahim geu <u>tu-soe/tu-peue</u> soe yang Hasan galaq.
      Ibrahim 3.Hon know-who/know-what who REL Hasan like
      'Ibrahim knows who Hasan likes.' (tense information left open in the gloss; same below)
(9) Ibrahim geu <u>tu-dum/tu-peue</u> yum boh-mamplam.
      Ibrahim 3.Hon know-how much/know-what price fruit-mango
      'Ibrahim knows (how much/what) the price of mango is.'
(10) Ibrahim geu <u>tu-pat/tu-peue</u> ibukota Aceh.
      Ibrahim 3.Hon know-where/know-what capital Aceh
      'Ibrahim knows where (or: what) the capital city of Aceh is.'

Analysis: Acehnese CQs first. IC and PA both treat wh-questions and CQs as having distinct semantics. It is not clear to me how they can capture the similarity between the optional sensitivity of *tu-X* to overt wh-complements and to CQ-DP complements. When *tu-X* embeds a

proposition complement it does not show the same (optional) sensitivity (11), suggesting that CQs do not denote a proposition. In addition, CQs in BA are not limited to identity questions – questions meaning *what Y is* or *who Y is,* as evident in (10). This runs afoul of what IC and PA would predict. By contrast QID does not face such empirical challenge.

(11)   Ibrahim geu   tupeue/*tusoe/*tujan   Fatimah   geu   reubah baroe.
        Ibrahim 3.Hon   know-what/*-who/*-when   Fatimah   3.HON   fall   yesterday
        Ibrahim knows that Fatimah fell yesterday.'

So we endorse QID: CQs and wh-questions are interpreted via the same mechanism (12). It follows that wh-question embedding 'know' has the same semantics as CQ-DP embedding 'know'. (13a-b) give the exhaustive and mention-some interpretation of 'know' respectively.

(12)   [[the price of mango]]=[[what/how much the price of mango is]]
       $=\lambda$ w. {p: p(w) & $\exists$ x [p=λ w'.PRICE-OF-MANGO(x,w')]}

(13)   a. [[know]]$_{exh}$= λ p$_{<s, <<s,t>,t>>}$ λ x λ w. $\forall$ w' $\in$ Dox$_x$(w) [p(w') = p(w)]   (Heim 1994)
       b.[[know]]$_{some}$= λ p$_{<s, <<s,t>,t>>}$ λ x λ w. $\exists$ p'$_{<<s,t>,t>}$[p' $\subseteq$ p(w)& $\forall$ w' $\in$ Dox$_x$(w)[p' $\subseteq$ p(w')]]

Back to English CQs, those challenges to IC and PA do not pose any problem for QID. Coordination of a CQ-DP and a wh-complement (2) is grammatical because they have the same semantics. Coordination of CQ verbs and IC-taking verbs is ungrammatical (3) because they require arguments of different semantic types. (6) is acceptable because internal arguments of a question can be modified by a relative clause in certain contexts. (7) is ungrammatical because interrogative clauses generally are not an appropriate subject for such propositional predicates as 'surprising' (e.g. *'Who came to the party is surprising.')

Regarding Heim's Ambiguity, observe that only CQs consisting of relational nouns (like *capital* and *president*) can yield the ambiguity (4), whereas non-relational noun CQs do not when used in a parallel way (5 & 14). In the context of CQs, relational nouns differ from non-relational ones in having an unsaturated argument (Frana 2006).This argument is the syntactic complement of the associated NP of relational noun CQs, and we assume that it is introduced by a covert presupposition 'of' (or the like). Heim's Ambiguity is then between asking about the head noun and asking about the covert complement (15). This analysis explains the unambiguity of (5 & 14). In addition, it predicts that when the complement of the associated NP in a relational noun CQ is overtly satisfied so that a covert preposition phrase head by 'of' (or the like) is no longer possible, the second reading would be unavailable. This prediction is confirmed by (16). .

(14)   John knew the secret that Fred knew.
       →There was a secret s.t. Fred knew what it was, and John could answer the question too.
       !→There was a person such that Fred knew what his secret was; John knew who it was.

(15)   a. John knew the price that Fred knew ~~[was]~~ ~~*what*~~.
       b. John knew the price that Fred knew ~~[was]~~ ~~*[of what]*~~.

(16)   John knew the European president that Fred knew.

English CQs have a distribution narrower than QID would predict: they are limited only to identity questions (17). Unlike *tu-X* in BA, there is no retrievable wh-element in English CQ verbs that can add extra semantic information. Nor can CQ-DPs add any more information to the semantic computation (Nathan 2006). So it comes as no surprise that English CQs only can have an identity question interpretation.

(17)   John doesn't know the directions to Paris, (but) Fred knows the capital of France.
       $\neq$ John doesn't know......, (but) Fred knows where the capital of France is.

Conclusions: With data from BA, this paper sheds new insights on the interpretation of CQs. Some alleged complications faced with QID for English CQs can be handled with plausible assumptions. Our analysis is not free of drawbacks, however. So far it has nothing to say regarding why relational nouns form CQs much more easily than non-relational nouns and why not all wh-question-taking predicates can be CQ verbs (e.g. *wonder* and *care*).

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Expressivity of Non-truthconditional Negation: expletive negation in Japanese and Korean
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1. Previous Studies: EN with 'adversative' predicates The negative 'ne' in (1) is so-called Expletive Negation (**EN**) that falls outside the realm of canonical negation because it does not truth-conditionally negate a proposition, despite its overt presence. Though ample research has attempted to solve the puzzle without ever reaching a consensus, one common assumption has been that subordinate EN is triggered by 'adversative' predicates such as *prohibit, hinder, prevent, deny, refuse, doubt*, etc. Hence, these negative licensers have yielded negative-related analyses such as NPI or negative concord analyses (van der Wouden 1994; Brown 1999; Muller 1991; Meibauer 1990), negative element analyses (Tovena 1996; Abels 2002, 2005), and negative implicature analyses of EN (Brown and Franks 1997; cf. Portner and Zanuttini 2000 for exclamatives/questions).

(1) God **defended** her that she **ne**   shold   loke behynde her   [Old English]
        God forbade   her that she Neg should look behind her
        'God forbade her to look behind her'   (*Caxton Book of Knight of Tower* 79. 14)

2. New Data: EN with 'non-adversative' predicates in J/K The current study, however, identifies another function of EN based on a novel set of data from Japanese (2) and Korean (3), in which EN occurs in broader contexts (i.e. not only an adversative predicate *fear* but also a non-adversative predicate *hope*) than Old/Middle English, French, Polish, Catalan, etc. The crucial common properties of EN-licensers here are: (i) a matrix clause employs a future-oriented predicate such as *fear* or *hope*, which is also manifested by the use of future tense *ul* in Korean (3); (ii) both Japanese and Korean EN-clauses take a Q-particle complementizer in contrast with a regular complementizer that necessity or high possibility operators take; (iii) EN is only used when a subject is uncertain as to whether the content of embedded proposition will be realized. As illustrated in (4a), EN is infelicitous in contexts with high likelihood.
Expletiveness of Negation There are two pieces of evidence that the negative *nai/an* in (2)/(3) are truly pleonastic. First, they are not able to license NPIs such as *amwuto* (*anyone*) along with EN in other languages, as shown in ((5): N.B. ungrammatical under EN interpretation). Second, EN can co-occur with real negation with the interpretation of only one logical negation, which is surprising because double negation in Japanese and Korean is normally interpreted as positive. In (6), the negative force comes from Neg$_1$ (the real negation) while Neg$_2$ is logically vacuous.

(2) John-wa   Mary-ga   ko-**nai-ka**-to   **sinpaisi/kitaisi**-te iru.   [Japanese]
        John-Top   Mary-Nom   come-**Neg**-**Q**-Comp   **fear/hope**-Asp
        'John fears/hopes that Mary might come.'
(3) John-un   Mary-ka   oci(-na)-**an**-ul-**kka**   **kekcengha/kitayha**-koissta.   [Korean]
        John-Top   Mary-Nom   come(-if)-**Neg**-Fut-**Q** **fear/hope**-Asp
        'John fears/ hopes that Mary might come.'

(4) EN & Degrees of Certainty
a. High likelihood context (80-90%): *Mary loves parties, and she said she would definitely come to John's party tonight.*   ➔ **Continuation by (2)/(3): #**
b. Medium likelihood context (50%): *John has no idea whether or not Mary comes to the party.*
                                                          ➔ **Continuation by (2)/(3):** √
c. Low likelihood context (10-20%): *Mary has an exam tomorrow, and she hates John. It is most likely that Mary will not come to John's party.* ➔ **Continuation by (2)/(3) :** √

(5)* John-un   **amwuto**   oci-**an**-ul-kka   kekcengi/kitayhan-ta   [Korean]
        John-Top   **anyone**   come-**Neg**-Fut-Q   fear/hope-Decl
      '*John fears/hopes that anyone <u>might</u> come.' (EN-reading)
(6) John-un   Mary-ka   **an**-oci-**an**-ul-kka   kekcengi/kitayhan-ta
        John-Top   Mary-Nom   **Neg$_1$**-come-**Neg$_2$**-Fut-Q fear/hope-Decl
        'John fears/hopes that Mary might <u>not</u> come.' (Single negation reading)

3. Analysis We take these characteristics to reveal important properties of EN in Japanese and Korean. The use of EN is optional, i.e. *'John fears that Mary might come'* can be expressed with or without EN in these languages; but when EN is used, the possibility of Mary's coming is 50% or lower in a subject's belief system (, marked by $w_1 \leq w_2$ relation in (7a)). This is supported by the Q-complementizer and unavailability in high likelihood contexts (discussed in section 2). Therefore, we argue that EN lowers the level of certainty about the embedded proposition. The semantic effects induced by EN become thus intentionally vague (à la Powell 1985; Channell 1994; Moxey and Sanford 1997; Jucker et al. 2000), presupposing variation comprising positive and negative propositions (just like the semantics of a yes-no question, as the Q-particle alludes). Consequently, EN in (7) heightens an epistemic subject's emotional state by expressing fear of an event despite its low likelihood. Unlike EN with negative implicature induced by adversative licensers in previous studies, we propose that EN here conveys (low) probability information, a subtype of possibility modality, which heavily depends on an epistemic subject's model of doxastic modality, $M_E(su)$. Given the semantic properties of EN, a syntactic operation is suggested in (8) in which EN is posited as a POSS(ibility) operator similar to what a subjunctive mood does in Modern Greek (Giannakidou to appear). The symmetric analysis between EN and subjunctive mood is supported by the following parallelism: (i) future-oriented EN-licensing verbs in Japanese and Korean correspond to subjunctive verbs proper (e.g. volitional verbs, verbs of fear, directives); (ii) a conditional marker *na*(if) is optionally present in a Korean EN clause (3); (iii) a subjunctive mood clause is interpreted as negative despite the absence of negative element in Greek (9); (iv) EN occurs in a subjunctive mood clause in Polish (10).

(7)a. [[John fears that Mary comes **(neg)**]]$_c$= 1 if
 $\exists w_1 [w_1 \in Dox_{john}(w) \wedge w \in \lambda w'$. Mary comes in w'] ; and $w_1 \leq w_2$ where
 $w_2 \in Dox_{john}(w) \wedge w_2 \in \lambda w''$. Mary does not come in w''.
 Where $Dox_{john}(w)$ is John's epistemic model M_E (John) in terms of ***Certainty***
 b. [[*sinpaisi / twuryep* (su, p)]] = 1 → [[p]] $_{ME(su)} \neq 1$ 'fear'

(8) syntactic derivation of Japanese sentence (2)

"I fear that Mary might come."
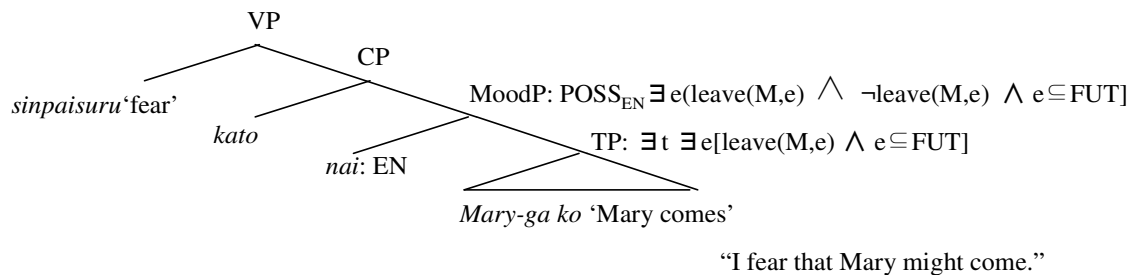
(9) Éxo   **na**   ton   dho   íkosi   xrónig   [Greek]
 have.1sg subj him.acc see.PNP twenty years
 'I haven't seen him for 20 years.'
(10) Boję   si,ę   **żebi**   ktoś   **nie**   przyszedł.   [Polish]
 Scare.1st.sg refl that.subj someone neg   come.3rd.sg.past
 'I am afraid that someone (might) come.'

Implications Proposing that EN here is a subtype of possibility operator that juxtaposes the very negative proposition with the positive one in a speaker's doxastic model for emotional emphatic effects, the current study introduces another variant of negation function in natural languages. Thus, EN in Japanese and Korean brings a fresh perspective into the EN literature, which has concentrated on languages with EN occurring in adversative environments. Furthermore, the continuum from EN to subjunctive mood is suggested in terms of possibility modality.