

Course web site: www-rcf.usc.edu/~borer/LSA

Readings for Lectures 1 and 2 (posted on web site):

- Borer (2005a) Chs 1-2
- Borer (2005b) Ch. 2
- Rosen (1999)

The Syntax of Event Structure

Lecture 1

1. Introduction

1. A. Semantics of Lexical item → Predicate-Argument Structure, (category) → Structure
 - A1. Semantic Bootstrapping: Acquiring verbs as items → interim schemata → full grammaticalization (Grimshaw, 1981; Pinker, 1984, Grimshaw and Pinker 1990;)
 - B. Structure → Predicate-Argument Structure; category
 - B1. Syntactic Bootstrapping: semantically relevant syntactic structures → word meanings (following Gleitman, 1991, 1995; Borer, 2003)
2. **The Omnipotent Lexicon:**
 - a. The sound-meaning pair
 - b. Syntactic category
 - c. Syntactic insertion frame (subcategorization)
 - d. Thematic roles
 - e. Derivational affixation
 - f. Inflectional affixation
3. **The Impoverished Lexicon (an interface with the conceptual system):**
 - a. The sound-meaning pair
4. **Projectionist Systems** (term from Rappaport-Hovav and Levin (1998))

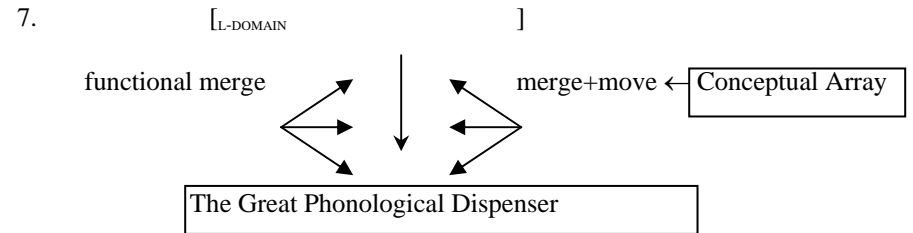
$$P(L_K) + C \rightarrow R_K$$

where L_K is some choice of a lexical item, P is its lexical semantics, possibly translated into predicate-argument structure, C is a combinatorial system with some well-defined formal properties, and R_K is a well-defined formal representation.
5. (4) is fundamentally a **checking system:**
 - a. [_{VP} agent [_V kick patient]]
 - b. [_{VP} patient [_V kick agent]]
 - c. [_{VP} [_V kick [_{PP} P agent] [_{PP} P patient]]]
 - d. *the boys comes early

2. The Top-Down Computational Approach (the exo-skeletal approach):

2.1 Crucial Assumptions.

6. a. There is a layer of the English vocabulary, call it the **Conceptual Array**, which consists of grammatically unmarked items (at times called roots, see Marantz, 1997, and referred to below as **listemes**), which are, in essence, concepts with (partial) phonological labels. Crucially, listemes are not associated with grammatical information: no categorially-polarized morphology (derivational or inflectional), no subcategorization, no argument structure information.
- b. Functional items, be they morphological or syntactic, merge with listemes, effectively making them categorially polarized.
- c. There is another layer of the English vocabulary, call it the **Functional Lexicon**, which consists of grammatical formatives, including functional morphemes (*the*, *three*), head features (<*pst*>) and categorizing morphology (*-ation*). Functional items have a category and project structure, and are specified to occur in specific architectural configurations.



8. **Conceptual Array**

<i>dog</i>	<i>AS PERTAINING TO A DOMESTIC CANINE</i>
<i>form</i>	<i>AS PERTAINING TO A RIGID SHAPE</i>

Functional lexicon: [_Dthe], [_N-ation] etc.

Structures:

[_D the [<i>dog</i>]]	('nominalizer')
[_{NUM} < <i>pl</i> > [<i>dog</i>]]	('nominalizer', <i>dog</i> moves to NUM to bind the plural head feature, and the output is spelled out as <i>dogs</i>)
[_{TENSE} < <i>pst</i> > [... [<i>dog</i>]]]	('verbalizer', <i>dog</i> moves to T to bind the past head feature and the output is spelled out as <i>dogged</i> .)
9. Argument structure (event structure) is licensed by **verbalizing** functional syntactic structure¹.
10. a. I window pictures for a living
 - b. [_{(TP).....} [_E I [_{ASPQ} pictures [_L window]]]] ('verbalization' by ASP_Q (Quantity Aspect), E (Event Phrase), by assumption, event-related functional nodes).

¹Alternatively, adjectivizing. However, as it is not clear that there are any productive ∅-alternations involving adjectives in English, it would appear that for reasons that may or may not be English-specific, adjectives never originate as "pure" category-less listemes which are then "adjectivized" by the syntax.

30. [_{#P} <e># [_{NP}]]
31. a. [_{#P} <q>.<e>#N [_{NP} N]]
 head feature, L-head movement obligatory (dual marking in Hebrew and Arabic).
 b. [_{#P} f-morph<e># [_{NP} N]]
 (free) f-morph; L-head movement blocked (cardinals)
 c. adverb<e># [_{#P} <e># [_{NP} N]]
 adverb of quantification; L-head movement not forced.

3.2. Range Assignment through Specifier – Head Agreement

32. a. the cat
 b. [_{DP} the.<e>_d [(AP) [_{NP} cat]]]
33. a. ha.xatul
 the.cat
 b. [_{DP} <e>_d (AP) [_{NP} xatul]] → [_{DP}xatul.<def>.<e>_d (AP) [_{NP}~~xatul~~]]
34. a. The dog's ear
 b. A dog's ear
35. a. *the dog's the ear
 b. *a dog's the ear
 c. *the dog's an ear
 d. *a dog's an ear
 e. *a dog's two ears (non-generic reading)
36. The dog's two ears
37. a. an ear of the dog
 b. the ear of a dog
 c. (the) two ears of the/a dog
38. [_{DP} [_{DP} the dog's]³ <e>_d ... [_{NP} ear]]
39. the two ears (of the dog)
40. [_{DP} [the dog's]³ <e>_d [_{#P} two<e># [ears]]]
41. * [_{DP} <e>_d [_{#P} [a dog's] two<e># [ears]]]

3.3. A Brief Summary

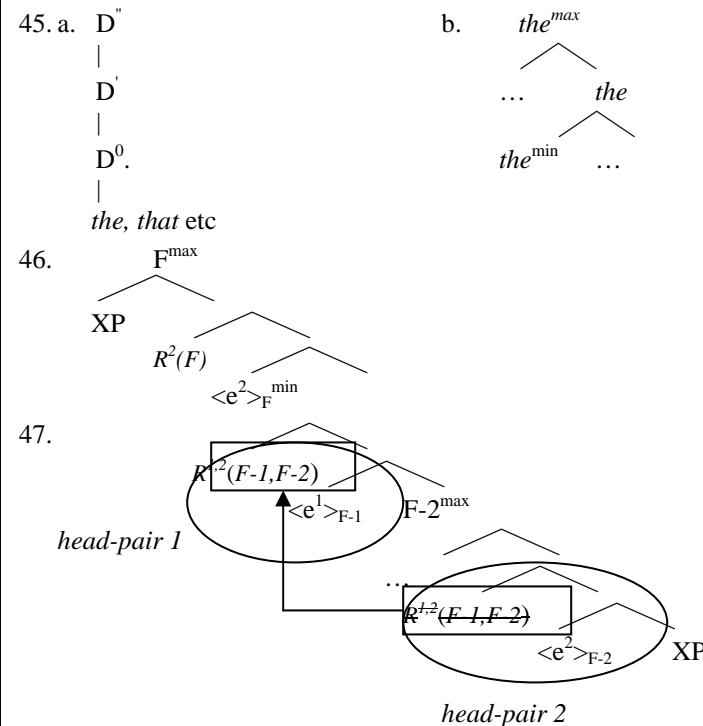
42. A. Functional structures are headed by categorically labeled open values which must be assigned range by the appropriate operator
 B. The functional lexicon of each language makes available an array of range assigners for specified open values. Such range assigners come primarily in two varieties; f-morphs, independent morphemes, which are linked with a phonological index, and abstract head features. The latter require the support of some head (L, possibly F), a fact that typically translates to the obligatory nature of head movement in such contexts (bound f-morphs are set aside here).
 C. The derivation converges just in case the phonology dispenses a representation for the combination of head+head feature.
 D. Two modes of indirect range assignment are possible (i.e., range by elements

which are not specified, in the functional lexicon, as range assigners for a particular open value). One involves range assignment by an adverb of quantification or a Discourse operator. The second involves specifier – head agreement.

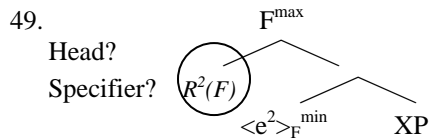
	<e>_T	<e>_a	<e>_#	'plural'
English	Past: <pst> Future: will Present: <pres>	the this that	three a most	<pl>
Hebrew	Past: <pst> Future: <fut> Present: empty (or no PF for V.<pres>)	<def>		<pl>
Kraho				me

44. [_{DP} every.<e>_d [_{#P} every.<e># [dog]]]

4. What's in a Head?

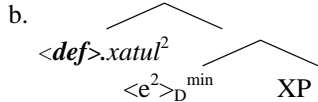


48. As (47) does not involve adjunction, or a movement of a categorically labeled element, it does not violate either the Extension Condition or the Uniformity Condition, although it retains 'head movement'.



5. Some Linearization Considerations

50. a. $[_{DP} \langle e \rangle_d (AP) [_{NP} xatul]] \rightarrow [_{DP} xatul. \langle def \rangle. \langle e \rangle_d (AP) [_{NP} xatul]]$



51. a. *house* \rightarrow
 $\langle from_P house \rangle \rightarrow$
 $[_P from [_{DP} the \dots [_N house]]] \rightarrow$
 $\langle emerge [_P from [_{DP} the \dots [_N house]]] \rangle \rightarrow$
 $[_V emerge [_P from [_{DP} the \dots [_N house]]]]$

b. *hell* \rightarrow
 $\langle from_P hell \rangle \rightarrow$
 $[_P from [_N hell]] \rightarrow$
 $\langle came [_P from [_N hell]] \rangle \rightarrow$
 $[_V came [_P from [_N hell]]]$

c. *house* \rightarrow
 $\langle under_P house \rangle \rightarrow$
 $[_P under [_{DP} the \dots [_N house]]] \rightarrow$
 $[_P from [_P under [_{DP} the \dots [_N house]]]] \rightarrow$
 $\langle emerge [_P from [_P under [_{DP} the \dots [_N house]]]] \rangle \rightarrow$
 $[_V emerge [_P from [_P under [_{DP} the \dots [_N house]]]]]$

6. A Note on Inflection

52. a. walk \rightarrow walked
 run \rightarrow ran
 think \rightarrow thought
 drive \rightarrow drove
 cut \rightarrow cut
 read \rightarrow read (/red/)
 go \rightarrow went
- b. construct \rightarrow construction
 destroy \rightarrow destruction
 transform \rightarrow transformation
 arrive \rightarrow arrival
 require \rightarrow requirement
 transcend \rightarrow transcendence
 know \rightarrow knowledge

53. stem	plural.f	stem	plural.m
<i>xol</i>	<i>xolot</i>	<i>laḥan</i>	<i>leḥanim</i>
sand	dunes.pl.f	white.Adj	linen
<i>mitzva</i>	<i>mitzvot</i>	<i>taxton</i>	<i>taxtonim</i>
commandment	age 13	lower.Adj	underwear
<i>ḡbura</i>	<i>ḡburot</i>	<i>šepək</i>	<i>špaḳim</i>
heroism	age 80	river-delta	sewer
		<i>pan</i>	<i>panim</i>
		facet	face

54. a. drive \rightarrow drove \rightarrow driven; eat \rightarrow ate \rightarrow eaten;
 b. break \rightarrow broke \rightarrow broken; get \rightarrow got \rightarrow gotten; speak \rightarrow spoke \rightarrow spoken

55. DM (Halle and Marantz, 1993):

- a. There is a \emptyset past tense morpheme in English, which is lexically specified to occur in the context of specific verb stems (certainly *put* and *cut*, but also *drive*, *run*, *speak*, *eat* and all other strong forms).
- b. The \emptyset past tense morpheme (but not any overt past tense morpheme) triggers, at times, the selection of a stem allomorph. Specifically, and as specified lexically for specific verb stems, when the past tense morpheme \emptyset attaches to e.g. *eat*, it selects the stem allomorph *ate*. When it attaches to *drive*, it selects the stem allomorph *drove*, etc.
- c. The participial is derived from the stem. When derived with *-en* (but never with *-ed*) it too may trigger the selection of a stem allomorph, again as specified in the lexical entry of specific verbs. Hence *-en* when attached to *drive* selects the allomorph *drive*, but when attaching to *break* selects the stem allomorph *broke*.

56. a. <i>drive</i> :	b. <i>break</i>
Past: with \emptyset	Past: with \emptyset
allomorph: <i>drove</i>	allomorph: <i>broke</i>
Participle: with <i>-en</i>	Participle: with <i>-en</i>
allomorph: <i>drive</i>	allomorph: <i>broke</i>

57. a. <i>drive</i> :	b. <i>break</i>
Past: <i>drove</i>	Past: <i>broke</i>
Participle: <i>driven</i>	Participle: <i>broken</i>

58. Imperfective/future	Perfective/past	
<i>'ektob</i>	<i>katabti</i>	write.1.sg
<i>tiktob</i>	<i>katabta</i>	write.2.sg.m
<i>tiktebi</i>	<i>katabt</i>	write.2.sg.f
<i>yiktob</i>	<i>katab</i>	write.3.sg.m
<i>tiktob</i>	<i>katba</i>	write.3.sg.f
<i>niktob</i>	<i>katabnu</i>	write.1.pl
<i>tiktebu</i>	<i>katabtem</i>	write.2.pl.m
<i>(tiktoḇna</i>	<i>katabten</i>	write.2.pl.f
<i>yiktobu</i>	<i>katbu</i>	write.3.pl
<i>(tiktoḇna</i>		

59. head features are not morphemes; *L-head.<f3>* representations are mono-morphemic

60. a. [_{F-1} *L-head.<f3>.<f2>.<f1>* <e_{F1}> [_{F-2} *L-head.<f3>.<f2>* <e_{F2}> [_{F-3} *L-head.<f3>* <e_{F3}> [_{L-D} *L-head*]]]]

b. *L-head.<f3>.<f2>.<f1>* (with {<f3>.<f2>.<f1>} as an unordered set)

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