POST-GRADUATE COURSE ON FUNCTIONAL DISCOURSE GRAMMAR

THE MORPHOSYNTACTIC LEVEL

IPC-FDG-2018, Salvador da Bahía

Contents

Morphosyntactic Encoding

Morphosyntactic Encoding

- Operation of Encoding: encoding a Speaker's intentions
  - Morphosyntactic function (e.g. Subject, Object)
  - Morphosyntactic form
    - Bound grammatical morphemes (Affixes)
    - Free grammatical morphemes (determiners, auxiliaries, pronouns etc.; dummies)
  - Linear ordering
- Different layers:
  - Linguistic Expression
  - Clause
  - Phrase
  - Word

General principles

- No one-to-one relationship between the units at the different levels
- Nevertheless, languages around the world seem to be governed by a number of general principles that maximize the parallelism between the levels by establishing a direct relation between function (Formulation) and form (Encoding):
  - Iconicity
  - Domain integrity
  - Functional stability

Iconicity

- iconicity: the conceived similarity or analogy between the form of a sign (linguistic or otherwise) and its meaning, as opposed to arbitrariness.
- sequence ordering at IL/RL reflects ordering at ML:
  - only true for higher layers (Move, Dsicourse Act; Propositional Content, Episode
    - The students worked very hard and they all passed the exam

      (A_1) (A_2)

      (Cl_1) (Cl_2)
- can be overridden:
  - The students, who worked very hard, all passed the exam.

Domain integrity

- domain integrity: units of information that belong together at the Interpersonal and Representational Levels are also placed next to each other at the Morphosyntactic Level.
  - *The students who worked very hard* all passed the exam.

    (x_1)

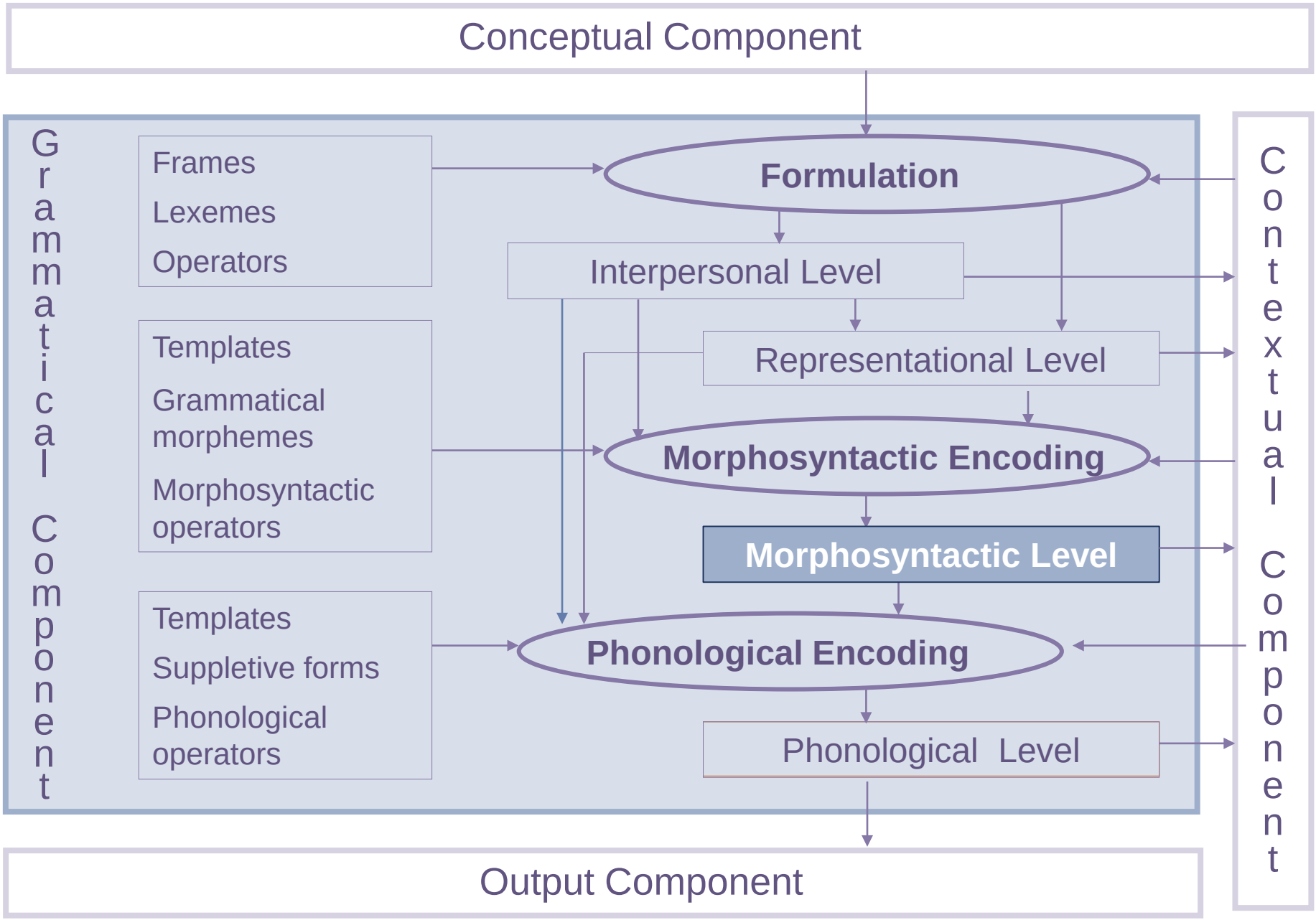
    (Np_1)

- can be overridden:
  - A tall handsome man came in, who I thought looked familiar.
  - That was the only film I saw with Brad Pitt.

Functional stability

- functional stability: units with the same interpersonal or representational specification tend to be placed in the same position with regard to each other
  - I saw Jane in London last Monday.
  - ?I saw Jane last Monday in London.
  - a big blue American car
  - *?an American blue big car
- can be overridden:
  - They gave a concert yesterday in a little village in the middle of nowhere.
  - That I don't believe!

Hierarchical organization


Conceptual Component
Grammatical Component
Frames
Lexemes
Operators
Templates
Grammatical morphemes
Morphosyntactic operators
Templates
Suppletive forms
Phonological operators
Formulation
Interpersonal Level
Representational Level
Morphosyntactic Encoding
Morphosyntactic Level
Phonological Encoding
Phonological Level
Contextual Component
Output Component

Morphosyntactic layers

Four basic layers:

- The Linguistic Expression (Le)
- The Clause (Cl)
- The Phrase (Xp), where X represents the head of the Phrase
- The Word (Xw), where X represents the head of the Phrase, i.e. noun, verb, adjective, adverb or adposition.

In addition:

- The Stem (S)
- The Affix (Aff)

Example

- John bought two books.

(Le$_1$: (Cl$_1$: [(Np$_1$: (Nw$_1$: dʒɒn (Nw$_1$)) (Np$_1$))
(Vp$_1$: (Vw$_1$: buy.past (Vw$_1$)) (Vp$_1$))
(Np$_2$: [(Gw$_1$: tuː (Gw$_1$)))
(Nw$_2$: bʊk-pl (Nw$_2$))] (Np$_2$))
] (Cl$_1$)) (Le$_1$))

Templates

- Microtemplates:
  - (What did you buy?) Two books, one DVD.
    (Le_1: [(Np_1) (Np_2)] (Le_1))
  - (How many books did you buy?) Two.
    (Le_1: (Gw_1) (Le_1))
- Macrotemplates:
  - the book on the table in the corner
    [… (Np_{1+n}) …] (where $n \geq 0$)
    (Np_1: [… ($Adpp_1$) …] (Np_1))
    ($Adpp_1$: [… (Np_1) …] ($Adpp_1$))
- Allows for stacking and nesting (recursivity)

Transparency

Transparency

- Transparency in FDG: straightforward (one-to-one) relation between units at the various levels
  - makes utterances easier to interpret and languages easier to learn
- Cross-linguistically, however, languages are characterized by "mismatches" between units at different levels
- Languages exhibit different degrees of transparency; there are no languages that are fully transparent:
  - communicatively too restricted
  - from the point of view of language processing, too user unfriendly

Mismatches

- Dummy elements:
  - **It** rained.

IL: $(A_1$: -- $(C_1$: (T_1) $(C_1))$ – $(A_1))$

RL: $(p_1$: -- $(e_1$: $(f_1$: $rain_V$ $(f_1))$ $(e_1))$ – $(p_1))$

ML: $(Le_1$: $(Cl_1$: [**$(Np_1$: $(Nw_1$: it $(Nw_1))$ $(Np_1))_{Subj}$**

$(Vp_1$: $(Vw_1$: rained $(Vw_1))$ $(Vp_1))$

] $(Cl_1))$ $(Le_1))$

Mismatches

Synthesis:

I want *those*!

IL: $(A_1$: -- $(C_1$: $[(T_1)$ (R_1) $(R_2$: **[-S, -A]** $(R_2))_{FOC}]$ $(C_1))$ -- $(A_1))$

RL: $(p_1$: -- $(e_1$: $[(f_1$: $want_V$ $(f_1))$ $(1x_1)_A$ **(dis m** $x_2)_U]$ $(e_1))$ – $(p_1))$

ML: $(Le_1$: $(Cl_1$: $[(I)_{Subj}$ $(Vp_1$: -- want $(Vp_1))$ $(Np_2$: **$(Nw_2$: those $(Nw_1))$** $(Np_2))$
] $(Cl_1))$ $(Le_1))$

The Linguistic Expression

The Linguistic Expression

- Linguistic Expressions form the highest layer at the Morphosyntactic Level.
- They typically consist of a number of lower-layer morphosyntactic units (Clauses, Phrases or Words), but may also contain just one of these units, provided it can be used independently.
- Units at this layer cannot be part of another unit:
  - Matthew bought two books and Mary bought a DVD.

    (Le_1: [(Cl_1) (Gw_1) (Cl_2)] (Le_1))
  - Matthew thought that Mary bought two DVDs.

    (Le_1: (Cl_1: [-- (Cl_2)] (Cl_1)) (Le_1))

Macro-templates

- Possible combinations (configurations) of units within the Linguistic Expression:
  - Coordination
  - (Co) subordination
  - Listing
  - Extra-clausality
  - Equiordination

Coordination and co-subordination

- Coordination:
  - Matthew bought two books **and** Mary bought a DVD.
    (Le_1: [(Cl_1) (Gw_1) (Cl_2)] (Le_1))

- Subordination:
  - Matthew thought **that** Mary bought two DVDs.
    (Le_1: (Cl_1: [-- (Cl_2)] (Cl_1)) (Le_1))

- Co-subordination:
  - Com**ing** out of the house, he checked his mailbox
    (Le_1: [^{dep}(Cl_1) (Cl_2)] (Le_1))

Extra-clausality and equiordination

- Extra-clausality:
  - As for the Beatles, I think they are rather boring.
    (Le_1: [(Xp_1) (Cl_1)] (Le_1))
- Equiordination:
  - The longer it went on, the worse it got.
    (Le_1: [^{dep}(Cl_1) ^{dep}(Cl_2)] (Le_1))

Clauses

Internal structure

- Clauses consist of a sequenced combination of Words (Xw), Phrases (Xp) and other (embedded) Clauses, all of which may occur more than once within a single Clause.
- It is at this layer that syntactic function assignment takes place:
  - John put the money in the safe.

    (Cl_1: [(Np_1)$_{Subj}$ (Vp_1) (Np_2)$_{Obj}$ ($Adpp_1$)] (Cl_1))
  - Do you know where Sue is?

    (Cl_1: [(Gw_1) (Np_1)$_{Subj}$ (Vp_1) (Cl_2)$_{Obj}$] (Cl_1))

Ordering principles

- At each of the higher two levels (IL, RL), a **core unit** can be distinguished:

$(M_1: (A_1: [(F_1)\ (P_1)_S\ (P_2)_A\ (C_1: \mathbf{[\ \ldots\ (T_1)\ (R_1)\ \ldots\ ]}\ (C_1))\ (A_1))\ (M_1))$

Content Frame

(core-unit)

$(p_1: (ep_1: (e_1: (f_1: \mathbf{[(f^c{}_1)\ (x_1)\ (x_2)\ \ldots\ ]}\ (f^c{}_1))\ (e_1))\ (ep_1))\ (p_1))$

Predication Frame

(core unit)

- All other units are non-core units.

Ordering principles

- Step 1: placement of non-core elements
- Step 2: alignment
- Step 3: placement of core elements
- Step 4: placement of dummies
- Step 5: agreement

Step 1: ordering of non-core units

- **Top-down, inward direction**:

$\pi^{M} / \Sigma^{M} \rightarrow \Phi^{A} / \pi^{A} / \Sigma^{A} \rightarrow \pi^{F} / \Sigma^{F} \rightarrow \Phi^{C} / \pi^{C} / \Sigma^{C} \rightarrow$

$\varphi^{p} / \pi^{p} / \sigma^{p} \rightarrow \varphi^{ep} / \pi^{ep} / \sigma^{ep} \rightarrow \varphi^{e} / \pi^{e} / \sigma^{e} \rightarrow \varphi^{fc} / \pi^{fc} / \sigma^{fc}$

- the first elements to be placed in a (clausal or extra-clausal) position are operators and modifiers of the Move.
- followed by functions, operators and modifiers of the Discourse Act, etc.
- functions, operators and modifiers of the Configurational Property are the last units to be put in their respective positions.
- non-core elements are placed **centripetally**.

Step 1: ordering of non-core units

- For English, three absolute positions are available at the start of the ordering process:
  - the Clause-initial position (P^{I})
  - the Clause-medial position (P^{M})
  - the Clause-final position (P^{F})

  P^{I} P^{M} P^{F}

- In other languages, one or two absolute positions may suffice. Some even have for, which then included the second ('Wackernagel') position (P^{2}).

Step 1: ordering of non-core units

- Once an absolute position has been filled, relative positions become available:

P^{I}	P^{I+1}		P^{M}			P^{F}
P^{I}	P^{I+1}		P^{M}		P^{F-1}	P^{F}
P^{I}	P^{I+1}		P^{M}	P^{M+1}	P^{F-1}	P^{F}
P^{I}	P^{I+1}	P^{I+2}	P^{M}	P^{M+1}	P^{F-1}	P^{F}

- The result is a very flexible, highly efficent, and yet not unconstrained system

Step 1: ordering of non-core units

Extra-clausal elements:

Le:	P^{pre}	|	Clause			| P^{post}
Cl:		|	P^{I}	P^{M}	P^{F}	|

Example IL

- *Finally*, he *frankly* knows very little about international politics, *unfortunately*.

P^{pre}		P^{I}	P^{M}	P^{F}		P^{post}
Σ^{A}finally			Σ^{F}frankly			Σ^{C}unfortunately
1			2			3

- Centripetal placement (from outermost to innermost position)
- P^{I} is the Subject position

Example RL

- *Presumably* (σ^{p}), she met him *again* (σ^{e}) *last week* (σ^{ep}).
- She met him *again* (σ^{e}) *last week* (σ^{ep}), *presumably* (σ^{p}).

P^{pre}	P^{I}	P^{M}	P^{F-1}	P^{F}	P^{post}
σ^{p}presumably			σ^{e}again	σ^{ep}last week	
			σ^{e}again	σ^{ep}last week	σ^{p}presumably

Example IL + RL

- *Unfortunately*, she *presumably* saw him *again last week*.

P^{pre}	P^{I}	P^{M}	P^{F-1}	P^{F}
$^{\Sigma C}$unfortunately		$^{\sigma p}$presumably	$^{\sigma e}$again	$^{\sigma ep}$last week
1		2	4	3

- Excluded are:
  - *Frankly, he finally knows very little about international politics.
  - *Last week, presumably she met him again.
  - *Presumably, she unfortunately met him again last week.

Step 2: alignment

- Types of alignment:
  - Interpersonal alignment: the morphosyntactic behaviour of elements, such as their form and the order in which they appear, can be explained in terms of the interpersonal features of these elements (e.g. pragmatic function); e.g. Focus in Kisi (TB: 210)
  - Representational alignment: the morphosyntactic behaviour of elements can be explained in terms of the representational features of these elements (e.g. semantic function); e.g. pronoun clitics in Acehnese (TB: 211)
  - Morphosyntactic alignment: there is no direct relation between the pragmatic and/or semantic properties of an element and its formal properties (neutralization); the form and position of an element is sensitive to properties of the Morphosyntactic Level itself (e.g. syntactic function, complexity); e.g. English.

Step 2: alignment

- English: morphosyntactic alignment
  - "neutralization of semantic and pragmatic oppositions that are otherwise relevant in the language"
- Neutralization of pragmatic functions:
  - A: What did the boy do?
    B: *The boy* (Top) ran away.
  - A: Who was chased by the dog?
    B: *The boy* (Foc) was chased by the dog.
  - *the boy*:
    - same position, same morphosyntactic form
    - no interpersonal alignment

Step 2: alignment

- Neutralization of semantic functions:
  - One-place predication frames: neutralization of semantic functions:
    - *The boy/He* (A) ran away.
    - *The boy/He* (U) tripped over a stone.
    - *the boy/he*:
      - same position, same morphosyntactic form
      - no representational alignment
  - Two-place predication frame: no neutralization of semantic functions:
    - *The boy/He* (A) chased the dog.
    - The dog chased *the boy/him* (U).

Step 2: alignment

- To account for the behaviour of constituents within the Clause, a third type of function is needed: the syntactic functions Subject and Object
  - nominative-accusative alignment (English)
  - absolutive-ergative alignment (e.g. Basque)

- Nominative-accusative alignment (English)
  - One- and two-place predications: Subject function needed:
    - Subject = nominative
      - Actor or Undergoer in one-place predications
      - Actor in second-place predication (active)
    - Undergoer = accusative
      - Undergoer in two-place predication

Step 2: alignment

Nominative-accusative alignment: one- and two-place predication frames:

	one-place predication frame	two-place predication frame
Actor	Subject (nominative)	Subject (nominative)
Undergoer	Subject (nominative)	Undergoer (accusative)

Step 2: alignment

- Three-place predication frames: two types
  - The boy gave **the bone (U)** to the dog.
  - The boy gave **the dog (R)** the bone.
- Neutralization of Undergoer and Recipient (same form, same position)
- Needed: syntactic function Object

	three-place predication frame I	three-place predication frame II
Actor	Subject	Subject
Undergoer	Object	Undergoer
Recipient	Recipient	Object

Step 3: ordering of core units

1. First place elements (predicate or arguments) with a pragmatic function.
2. Next, place the predicate and those arguments whose form/position is determined by their semantic function.
3. Finally, place those elements whose pragmatic and semantic differences have been neutralized. Placement of these elements takes place on the basis of:
   i. their syntactic function, with elements with Subject function being placed before elements with Object function;
   ii. their complexity

Step 3: ordering of core units

- I visited Jane last week.

P^{I}	P^{M}	P^{M+1}	P^{F}
^{Subj}I	^{Vf}visit.$^{\pi ep}$ed	^{Obj}Jane	$^{\sigma ep}$last week
4	3-1	5	2

- Non-core units:
  1. operator of Episode (tense)
  2. modifier of Episode (last week)
- Core units:
  3. predicate (visit)
  4. Subject (I)
  5. Object (Jane)

Step 3: ordering of core units

- A: Have you ever met Jim's wife?

  B: Yes. Can't stand her.

  A: No, me neither. *Him I like*, though.

- In the italicized sentence, the word order is not SVO, but OSV.
- the basic word order is overruled here by the pragmatic function Contrast
- Result: the clause-initial position is now filled by the Object (with the verb filling P^M and the Subject P^{l+1}).

Step 4: Placement of dummies

- Frankly, I did not read the book.

P^{pre}	P^{l}	P^{M}	P^{M+1}	P^{M+2}	P^{M+3}
$^{\Sigma F}$frankly |	^{Subj}I	^{Vf}**do**.$^{\pi ep}$past	$^{\sigma e}$not	$^{Vnon\text{-}f}$read	^{Obj}the book
1	5	**7**-2	3	4	6

- It is a myth [that interaction is always logical].

P^{l}	P^{M}	P^{M+1}	P^{M+2}
^{j}**it**	^{Vf}**be**.$^{\pi ep}$pres	^{Pred}a myth	^{Subj}that interaction is always logical
5	**4**-1	2	3

Step 5: Agreement

- Thomas like**s** bananas.

(Cl_1: [(Np_1: (Nw_1: Thomas (Nw_1)) (Np_1))
(Vp_1: (Vw_1: like.pres.**3.sg** (Vw_1)) (Vp_1))
(Np_2: (Nw_2: banana.pl (Nw_2)) (Np_2))] ^{Cl})

- The -s ending is triggered by the combination of the present tense operator and the number and person of the Subject.
- These latter features, inherited by the Subject from the Interpersonal and Representational Levels, are copied onto the verb, where they appear in the form of a placeholder (3.sg).

Phrases

Internal structure

- a very expensive car

  (Np_1: [(Gw_1: a (Gw_1))
  (Ap_1: [($Advp_1$: ($Advw_1$: very ($Advw_1$)) ($Advp_1$))
  (Aw_1: expensive (Aw_1))] (Ap_1))
  (Nw_1: car (Nw_1))] (Np_1))

- the money in the safe

  (Np_1: [(Gw_1: the (Gw_1))
  (Nw_1: money (Nw_1))
  ($Adpp_1$: [($Adpw_1$: in ($Adpw_1$))
  (Np_2: [(Gw_2: the (Gw_2))
  (Nw_2: safe (Nw_2))] (Np_2)) ($Adpp_1$))] (Np_1))

Ordering principles

- Step 1: placement of non-core elements
- Step 2: alignment
- Step 3: placement of core elements
- Step 4: placement of dummies
- Step 5: agreement

Ordering principles

- Top-down, inward direction:

  R → x → f

  T → f

- Φ^R / π^R / Σ^R → φ^x / π^x / σ^x → φ^f / π^f / σ^f

  Φ^T / π^T / Σ^T → φ^f / π^f / σ^f

- Absolute positions:

  P^I P^M P^F

Ordering of non-core units

- Why do they have to be out there pestering *a poor innocent dinosaur*? (COCA, written, fiction)

  IL: (-id R_1: [(T_1) (T_2)] (R_1): poor (R_1))

  RL: ($1x_1$: (f_1: dinosaur (f_1)) (x_1): (f_2: $innocent_A$ (f_2)) (x_1))

  ML: (Np_1: [(Gw_1: a (Gw_1))
  (Ap_1: (Aw_1: poor (Aw_1)) (Ap_1))
  (Ap_2: (Aw_2: innocent (Aw_2)) (Ap_2))
  (Nw_1: dinosaur (Nw_1))] (Np_1))

- a poor innocent dinosaur

P^I	P^{I+1}	P^{I+2}	P^M
π^Rindef	Σ^Rpoor	σ^xinnocent	dinosaur.π^xsg
1	2	4	5-3

Ordering of non-core units

- a famous criminal lawyer

  IL: (-id R_1: [(T_1) (T_2)] (R_1))

  RL: (1x_1: (f_1: lawyer$_N$ (f_1): (f_2: criminal$_A$ (f_2)) (f_1)) (x_1):
  (f_3: famous$_A$ (f_3)) (x_1))

  ML: (Np_1: [(Gw_1: a (Gw_1))
  (Ap_1: (Aw_1: famous (Aw_1))
  (Ap_2: (Aw_2: criminal (Aw_2)) (Ap_2))
  (Nw_1: lawyer (Nw_1))] (Np_1))

- a famous criminal lawyer

P^l	P^{l+1}	P^{l+2}	P^{l+3}
π^Rindef	σ^xfamous	σ^fcriminal	lawyer.sg
1	2	3	4.2

Ordering of core units

- the cute little boy

  $(1x_1: (f_1: \text{boy}_N\ (f_1))\ (x_1): (f_2: \text{little}_A\ (f_2))\ (x_1): (f_3: \text{cute}_A\ (f_3))\ (x_1))$

- semantic factors: adjectives designating evaluative properties (such as *cute*) typically precede those designating (objective) physical properties (e.g. *little*).

- the cute little boy

P^I	P^{I+1}	P^{I+2}	P^M
π^Rdef	σ^xcute	σ^xlittle	boy.sg
1	3	4	5-2

Ordering of core units

- the little boy playing with his toys

P^{I}	P^{I+1}	P^{M}	P^{F}
π^{R}def	σ^{x}little	boy.sg	σ^{x}[playing with his toys]
1	4	5-2	3

- complexity: long/complex units in phrase-final position

Dummy placement

Support elements – nominal heads

- At least it's a white cloud, not *a black* ***one*** (BYU-BNC, spoken, conversation)

IL: (-id R_1: [**(T_1)** (T_2)] (R_1))

RL: (x_1: **(f_1)** (x_1): (f_2: black (f_2)) (x_1))

ML: (Np_1: [(Gw_1: a (Gw_1))

(Ap_1: (Aw_1: black (Aw_1))

(Nw_1: one (Nw_1))] (Np_1))

Agreement

- this bike

  RL: (**1** prox x_1: (f_1: $bike_N$ (f_1)) (x_1))

  ML: (Np_1: [(Gw_1: this.**sg** (Gw_1)) (Nw_1: bike.**sg** (Nw_1))] (Np_1))

- these bikes

  RL: (**m** prox x_1: (f_1: $bike_N$ (f_1)) (x_1))

  ML: (Np_1: [(Gw_1: this.**pl** (Gw_1)) (Nw_1: bike.**pl** (Nw_1))] (Np_1))

Words

Words vs. lexemes (1)

- Not all Words correspond to (exactly) one lexeme:
  - Compounds
  - Idiomatic expressions
  - Syntactic derivation (coercion)
  - Grammatical Words
- This once again justifies the distinction between the Representational and the Morphosyntactic Level.

Words vs. lexemes (2)

- one-to-one relationship lexeme-Word:
  - a *ferocious* dog

    RL: $(1x_1: (f_1: \text{dog}_N\ (f_1))\ (x_1): \mathbf{(f_2: \text{ferocious}_A\ (f_2))}\ (x_2))$

    ML: $(Np_1: [(Gw_1: \text{a}\ (Gw_1))\ (Ap_1: \mathbf{(Aw_1: \text{ferocious}\ (Aw_1))}\ (Ap_1))\ (Nw_1: \text{dog}\ (Nw_1))]\ (Np_1))$

- mismatch lexeme-Word
  - barked *ferociously*

    RL: $(e_1: (f^c{}_1: [(f_1: \text{bark}_V\ (f_1): \mathbf{(f_2: \text{ferocious}_A\ (f_2))}\ (f_1))]\ (f^c{}_1))\ (e_1))$

    ML: $(Cl_1: [(Vp_1: (Vw_1: \text{barked}\ (Vw_1))\ (Vp_1))\ (Advp_1: \mathbf{(Advw_1: \text{ferociously}\ (Advw_1))}\ (Advp_1))]\ (Cl_1))$

- = coercion

Grammatical Words (1)

1. Grammatical Words that do not correspond to any interpersonal or representational unit:
   - dummy elements (e.g. dummy *it*, dummy *do*, copula *be*, the conjunction *that*)
2. Grammatical Words that are triggered by interpersonal or representational operators or functions:
   - e.g. determiners, auxiliaries, the negator *not*, grammatical adpositions.
3. Grammatical Words that correspond to interpersonal and/or representational units which do not contain a lexical head:
   - pronouns

Grammatical Words (2)

- The train *has* arrived.

IL: $(C_1: [(T_1)\ (R_1)]\ (C_1))$

RL: $(\text{pres}\ ep_1: (\textbf{perf}\ e_1{:}\ldots[$

$(f_1: \text{arrive}_V\ (f_1))\ (x_1: (f_2: \text{train}\ (f_2))\ (x_1))_{U\ \ldots}\ (e_1))\ (ep_1))$

ML: $(Cl_1: [\ (Np_1: (Gw_1: \text{the}\ (Gw_1))$

$(Nw_1: \text{train}\ (Nw_1))\ (Np_1))_{\text{Subj}}$

$(Vp_1: [(^{\text{fin}}\textbf{Vw}_1\textbf{: have-pres.sg}\ \textbf{(Vw}_1\textbf{))}$

$(^{\text{nonf}}Vw_2: \text{arrive-past.part}\ (Vw_2))]\ (Vp_1))]\ (Cl_1))$

Grammatical Words (3)

- / laughed

  IL: $(R_1: [+S\ -A]\ (R_1))$

  RL: $\mathbf{(x_1)}$

  ML: $(Cl_1: [\ (Np_1: \mathbf{(Nw_1: I\ (Nw_1))})_{Subj}$
  $(Vp_1: (Vw_1: \text{laugh-past}\ (Vw_1))\ (Vp_1))]\ (Cl_1))$

- Grammatical Words can function as the head of a Phrase (in analogy with lexical Word)

Complex Words

- Polymorphemic words:
  - filename, kitchen chair, toolkit
  - unhappy, repay, greenish
  - readable, height, happily
  - books, reads, reading
- Four types of word formation:
  - compounding (see RL)
  - lexical derivation
  - syntactic derivation
  - inflection

Lexical derivation

- Lexical derivation takes place in the lexicon on the basis of a lexeme formation rule:
  - Antonymous adjective formation:

    Input: gradable lex_A

    Output: [un-gradable]$_A$

    Meaning: the Property designated by [un-lex]$_A$ is the opposite of that designated by lex_A

  - Reverse movement verb formation:

    Input: $delete_V$

    Output: [un-delete]$_V$

    Meaning: the action designated by the output verb is the reverse of the action designated by the input verb

Syntactic derivation

- diver

  RL: $(1x_1: (f^c_1: [(f_1: \text{dive}_V\ (f_1))\ (x_1)_A]\ (f^c_1)))$

  ML: $(Nw_1: (Ns_1: [(Vs_1: \text{dive}\ (Vs_1))\ \mathbf{(Aff_1: \text{er}\ (Aff_1))}]\ (Ns_1))\ (Nw_1))\ (Np_1))$

- They have *legalized* soft drugs.

  RL: $(\text{past}\ ep_1: (\text{perf}\ e_1: (f^c_1: [(f_1: \text{legal}_A\ (f_1))\ (x_1)_A\ (x_2)_U]\ (f^c_1))\ (e_1))\ (ep_1))$

  ML: $(Vw_1: [\ (Vs_1\ [\ (As_1: \text{legal}\ (As_1))\ |$
  $\mathbf{(Aff_1: \text{ize}\ (Aff_1))}]\ (Vs_1))$
  $(Aff_2: \text{past}\ (Aff_2))]\qquad (Vw_1))$

- Derivational Affixes (-*er*, -*ize*): support elements within the Word

Inflection

- Grammatical Affixes
  - Thomas loves *dogs*

    RL: (**m** x_1: (f_1: dog_N (f_1)) (x_1))

    ML: (Np_1: (Nw_1: [(Ns_1: dog (Ns_1)) (Aff_1: **pl** (Aff_1))] (Nw_1)) (Np_1))

  - a *bigger* house

    RL: (**comp** f_1: big_A (f_1))

    ML: (Ap_1: (Aw_1: [(As_1: big (As_1)) (Aff_1: **comp** (Aff_1))] (Aw_1)) (Ap_1))

Ordering of non-core units

- Non-core units
  - Operators or functions (Grammatical Affixes):
    - In English Grammatical Affixes are always suffixes:
    - Thomas loves *dogs*

      P^{l} P^{F}

      dog π^{e}plural

      2 1
  - Modifiers (compounds):
    - filename

      P^{l} P^{l+1}

      σ^{f}file name

      1 2

Alignment

- Alignment:
  - Arguments within Words: incorporation
  - In English very restricted (usually backformations: *to fundraise*, *to moneylaunder*; but not **to birdwatch*, **to swordswallow*, *?to trainspot*)
  - But productive in compounds: *birdwatcher*, *money-launderer*, *sword-swallower*, *trainspotter*
  - Synthetic compounding

Synthetic compounding

- Syntactic derivation + compounding
- trainspotter

RL: $(1x_1: (f^c{}_1: [(f_1: \text{spot}_V\ (f_1))\ (x_1)_A\ (x_2: (f_2: \text{train}\ (f_2))\ (x_2))_U]\ (f^c{}_1)))$

ML: $(Nw_1: [(Ns_1: \text{train}\ (Ns_1))\ (Ns_2: [(Vs_1: \text{spot}\ (Vs_1))\ (Aff_1: \text{er}\ (Aff_1))]\ (Ns_1))\ (Nw_1))$

P^I	P^{F-1}	
	$[P^{F-1}$	$P^F]$
^{U}train	spot	^{se}er

Exercises

Exercise 1

- For each for the following Clauses, decide the order in which the Clausal elements are placed and the positions they go.

1. Luckily, we may get another chance tomorrow.
2. Last night we watched a film together.
3. Allegedly, his brother illegally imported exotic birds from Australia.

Exercise 1 (solution 1)

(i) Luckily, we may get another chance tomorrow.

P^{pre}	P^{I}	P^{M}	P^{M+1}	P^{M+2}		P^{F}
Σ^{A}luckily	^{Subj}we	π^{e}may	^{pred}get	^{Obj}another	chance	σ^{ep}tomorrow
1	5	3	4	6		2

Exercise 1 (solution 2)

(ii) Last night we watched a film together.

P^{pre}	P^{I}	P^{M}		P^{M+1}	P^{F}
σ^{ep}last night	^{Subj}we	^{pred}watch-$^{\pi ep}$past		^{Obj}a film	σ^{e}together
1	5	4-	2	6	3

Exercise 1 (solution 3)

(iii) Allegedly, his brother illegally imported exotic birds from Australia.

P^{pre}	P^{l}	P^{M}	P^{M+1}
Σ^{A}allegedly	^{Subj}his brother	σ^{f}illegally	^{pred}import-$^{\pi ep}$past
1	7	3	5-2

P^{M+2}	P^{F}
^{Obj}exotic birds	$\sigma^{fc}$from Australia
6	4

6

Exercise 2

- Apply the ordering principles for phrases to the Noun Phrases *an allegedly corrupt politician*.
  - an allegedly corrupt politician

Exercise 2 (solution)

- Apply the ordering principles for phrases to the Noun Phrases *an allegedly corrupt politician*.
  - an allegedly corrupt politician

P^{l}	P^{l+1}	P^{l+2}	P^{l+3}
π^{R}an	Σ^{R}allegedly	σ^{x}corrupt	politician
1	2	3	4

Exercise 3

- According to the analysis given above, both *trainspotter* and *trainspotting* would be analysed by means of synthetic compounding. Which feature at the Representational Level triggers the different forms?