From synthetic to analytic: The present tense in Brazilian Portuguese

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Analyticisation

Linguistic property is not combined into one single word, but into (more than) two (Sapir, 1921: 127–128).

(1) a. entristecer vs. ficar triste (BP)
   become.INF sad vs. become.INF sad
   ‘to sadden’ (Carvalho; Bassani, 2021: 56)

b. da dianhua (Chinese)
   hit.INF telephone
   ‘to call’ (Huang, 2014: 11)

(2) (Ledgeway, 2017: 868)

a. Paul-o (Latin)
   Paul.DAT
   ‘To Paul’

b. à Paul (French)
   to-the.DAT Paul
   ‘To Paul’
The Verbal Analyticisation is in an advanced state in BP (Cyrino, 2013; Reintges and Cyrino, 2016, 2018, Carvalho and Bassani, 2021).

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<td>não vá/vai acordar!</td>
</tr>
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**Table:** BP verbal Tense paradigm
The present Tense analyticisisation in BP

With a few exceptions, BP does not convey present Tense, i.e., an action simultaneous to speech, by synthetic verbs, but by analytic constructions headed by the functional auxiliary *estar* ‘be’ followed by the gerund/present participle: *estar + V-ndo*.

(3) (Context: My mom calls me now)
Mãe, eu não posso atender agora porque eu *estou apresentando* minha tese para pessoas importantes.
‘Mom, I cannot answer you now because I am presenting my thesis to important people.’
The present Tense analyticisation process in BP I

In the 18th century, however...

(4) (Context: My mom calls me now)
Mãe, eu não posso atender agora porque eu apresento minha tese para pessoas importantes.
‘Mom, I cannot answer you now because I present my thesis to important people.’
The present Tense analyticisation process in BP II

(5) (1737/Guerra do Alecrim e da Manjerona)
(Context: The character leaves the stage with a cloak)
Sevadilha – Espera, homem, onde levas.PRS o capote?
‘Sevadilha – Wait, man, where are you taking the cloak?’

(6) (1845/O noviço)
Emilia – Minha mãe, eu não estou triste. (Limpa os olhos com o lenço).
‘Emilia – Mom, I am not sad. (Wipes eyes with tissue)’
Florencia – Ahi tem! De que chora.PRS?
‘Florencia – There is something there. What are you crying about?’
The present Tense analyticisation process in BP III

Research question:

- What linguistic (syntactic) changes have taken place in the gap between my 18th and 21st century version?

Data source:

- BP comedy plays written from the 18th to the 21st century available at Tycho Brahe Corpus (University of Campinas – Brazil) ¹.

¹http://www.tycho.iel.unicamp.br/tycho/corpus/en/catalogo.html
### Roadmap for this talk

- Lexical verbs;
- Auxiliary verbs;
- Proposal;
- Final remarks.
A hypothesis I

“head movement results in synthesis, whereas non-movement preserves lexical analyticity” (Huang, 2014: 13)

(7) to phone, to fish, to sneeze (Huang, 2014: 11)
A hypothesis II

(8) da dianhua (lit. ‘hit phone’) ‘to phone’, da yu (lit. ‘hit fish’) ‘to fish’, da penti (lit. ‘hit sneeze’) ‘to sneeze’ (Huang, 2014:11)

\[
\begin{array}{c}
\text{a.} \\
\text{VP} \\
\text{V} \\
da \\
\text{dianhua/ yu/penti, etc.}
\end{array}
\quad \rightarrow \quad 
\begin{array}{c}
\text{VP} \\
\text{V} \\
da \\
\text{dianhua/ yu/penti, etc.}
\end{array}
\]
A hypothesis III

“As free functional morphemes, the tense-aspect auxiliary verb or the verbal particle prevent the deflected lexical verb from raising and head-adjoining to the Tense head. In this way, analyticization severely restricts the scope of verb movement operations.” (Reintges and Cyrino, 2016: 183)

(9) (Reintges and Cyrino, 2016: 183)
The position of synthetic lexical verbs I

- Verbs are base-merged with their arguments to build the Verbal Phrase (VP):

  \[(10) \text{(ADV)[VP [External Argument] [Verb] [Internal Argument]]}\]

- Adverbs have a fixed position in the structure (Edmonds, 1978; Pollock, 1989; Belletti, 1990; Cinque, 1999)

  \[(11) \text{a. *John kisses}_V \text{ often Mary – Verb ADV Verb} \]
  \[\text{b. John often kisses}_V \text{ Mary – ADV Verb}\]

  \[(12) \text{a. Jean embrasse}_V \text{ souvent Marie – Verb ADV Verb} \]
  \[\text{b. *Jean souvent embrasse}_V \text{ Marie – ADV Verb}\]
The position of synthetic lexical verbs II

Adverbs are universally ordered (Cinque, 1999):

(13) almost $>$ early

a. I almost woke up early.

b. *I early woke up almost.
The position of synthetic lexical verbs III

(14) The Universal Hierarchy of Functional Projections of the IP (Cinque, 1999)

HIGH: \[\text{frankly } \text{Mood}_{\text{SpeechAct}} > \text{luckily } \text{Mood}_{\text{Evaluative}} > \text{allegedly } \text{Mood}_{\text{Evidential}} > \text{probably } \text{Mod}_{\text{Epistemic}} > \text{once } \text{T}_{\text{Past}} > \text{then } \text{T}_{\text{Future}} > \text{perhaps } \text{Mood}_{\text{Irrealis}} > \text{necessarily } \text{Mod}_{\text{Necessity}} > \text{possibly } \text{Mod}_{\text{possibility}} > \text{usually } \text{Asp}_{\text{Habitual}} > \text{finally } \text{Asp}_{\text{Delayed}} > \text{tendentially } \text{Asp}_{\text{Predispositional}} > \text{again } \text{Asp}_{\text{Repetitive(I)}} > \text{often } \text{Asp}_{\text{Frequentative(I)}} > \text{willingly } \text{Mod}_{\text{Volition}} > \text{quickly } \text{Asp}_{\text{Celerative(I)}} > \]

LOW: \[\text{already } \text{T}_{\text{Anterior}} > \text{no longer } \text{Asp}_{\text{Terminative}} > \text{still } \text{Asp}_{\text{Continuous}} > \text{always } \text{Asp}_{\text{Continuous}} > \text{just } \text{Asp}_{\text{Retrospective}} > \text{soon } \text{Asp}_{\text{Proximative}} > \text{briefly } \text{Asp}_{\text{Durative}} > \text{(?) } \text{Asp}_{\text{Generic/Progressive}} > \text{almost } \text{Asp}_{\text{Prospective}} > \text{suddenly } \text{Asp}_{\text{Inceptive}} > \text{obligatorily } \text{Mod}_{\text{Obligation}} > \text{in vain } \text{Asp}_{\text{Frustrative}} > \text{(?) } \text{Asp}_{\text{Conative}} > \text{completely } \text{Asp}_{\text{SgCompletive(I)}} > \text{everything } \text{Asp}_{\text{PlCompletive}} > \text{well } \text{Voice} > \text{early } \text{Asp}_{\text{Celerative(II)}} > \text{(?) } \text{Asp}_{\text{Inceptive(II)}} > \text{again } \text{Asp}_{\text{Repetitive(II)}} > \text{often } \text{Asp}_{\text{Frequentative(II)}} > \text{vP–VP} \]
The position of synthetic lexical verbs IV

The position of lexical verbs

SOME FIXED ADVERBS
The position of synthetic lexical verbs

(15) The Universal Hierarchy of Functional Projections of the IP (Cinque, 1999)
HIGH: [frankly Mood\textsubscript{SpeechAct} > [luckily Mood\textsubscript{Evaluative} > [allegedly Mood\textsubscript{Evidential} > [probably Mod\textsubscript{Epistemic} > [once T\textsubscript{Past} > [then T\textsubscript{Future} > [perhaps Mood\textsubscript{Irrealis} > [necessarily Mod\textsubscript{Necessity} > [possibly Mod\textsubscript{possibility} > [usually Asp\textsubscript{Habitual} > [finally Asp\textsubscript{Delayed} > [tendentially Asp\textsubscript{Predispositional} > [again Asp\textsubscript{Repetitive(I)} > [often Asp\textsubscript{Frequentative(I)} > [willingly Mod\textsubscript{Volition} > [quickly Asp\textsubscript{Celerative(I)} >
LOW: [already T\textsubscript{Anterior} > [no longer Asp\textsubscript{Terminative} > [still Asp\textsubscript{Continuous} > [always Asp\textsubscript{Continuous} > [just Asp\textsubscript{Retrospective} > [soon Asp\textsubscript{Proximative} > [briefly Asp\textsubscript{Durative} > [(?) Asp\textsubscript{Generic/Progressive} > [almost Asp\textsubscript{Prospective} > [suddenly Asp\textsubscript{Inceptive} > [obligatorily Mod\textsubscript{Obligation} > [in vain Asp\textsubscript{Frustrative} > [(?) Asp\textsubscript{Conative} > [completely Asp\textsubscript{SgCompletive(I)} > [everything Asp\textsubscript{PlCompletive} > [well Voice > [early Asp\textsubscript{Celerative(II)} > [?] Asp\textsubscript{Inceptive(II)} > [again Asp\textsubscript{Repetitive(II)} > [often Asp\textsubscript{Frequentative(II)} > vP–VP
The position of synthetic lexical verbs VI


(16) Pedro acorda \[\text{AspAcelerative(II) cedo}\] (*acorda).
P. (*early) wakes up early.

(17) Maria cozinha \[\text{Voice bem}\] (*cozinha).
M. (*well) cooks well.

(18) Pedro analisou \[\text{AspPlurCompletive tudo}\] (*analisou) com cuidado.
P. (*everything) analysed everything carefully.

(19) Maria comeu \[\text{AspSingCompletive(I) completamente}\] (*comeu) o bolo.
M. (*completely) ate completely the cake.
The position of synthetic lexical verbs VII

(20) O José fez \([\text{AspFrustrative} \text{à toa}]\) \((*/??\text{fez})\) seu trabalho.  
\(*/??\) J. in vain did his job.

(21) a. O João obrigatoriamente fará o seu trabalho.  
J. obligatorily will do his job.  
b. O João fará obrigatoriamente o seu trabalho.  
J. will obligatorily do his job.

The finite lexical verb in BP necessarily moves to the left of \(\text{à toa/in vain (AspFrustrative)}\), whereas its movement to the left of \(\text{obligatoriamente/obligatorily}\) is optional (Tescari Neto, 2019):
The position of synthetic lexical verbs VIII

Figure: Optional and mandatory movement of finite lexical verb in BP (Tescari Neto, 2019: 3570)
Diachronic evidence I

THE CASE OF THE ADVERB ‘SEMPRE
Diachronic evidence II

- The lexical finite verbs in BP do not precede the temporal/aspectual *sempre* ‘always’ (Cyrino, 2013; Reintges; Cyrino, 2018; Schifano, 2018; Tescari Neto, 2013).

(22) a. */?? João vem *sempre* no parque.
   b. João *sempre* vem no parque.

- BP has lost Generalised Verb Movement in Belletti’s (1990) term (Cyrino, 2012, 2013; Cyrino; Matos, 2002; Roberts; Kato, 2018);

- One could recognise a period in which V preceded *sempre* ‘always’, displaying a higher movement, and another period in which V followed the adverb, spelling out the loss of movement.
Figure: The position of the verb in relation to the adverb *sempre* ‘always’ over time in BP
Synthetic lexical verbs: loss of temporal interpretation I

Synthetic lexical verbs lost movement to a higher position (arguably to T):

WHY?
Synthetic lexical verbs: loss of temporal interpretation II

BP verbs lost their temporal interpretation (cf. Cyrino, 2013).

(23) Loss of past simple Tense interpretation (cf. Cyrino, 2013)

a. Eu estou feliz porque eu vivi muito bem todos estes anos.
   ‘I am happy because I have lived very well all these years.’

b. Eu adorei sua blusa!
   ‘I love your blouse.’
(24) Loss of future Tense interpretation (cf. Araújo-Adriano; Coelho, 2022)

a. Será o Benedito que não vai parar de chover! ‘Good heavens, it will not stop raining!’ (cf. *Vai.PRS ser.INF o Benedito que não vai parar de chover! ‘Will be B. that not will stop of rain’)

b. Teu quarto está ao Deus dará! ‘Your bedroom is a mess!’ (cf. *Teu quarto está ao Deus vai dar! ‘Your bedroom is to the God will give’
Synthetic lexical verbs: loss of temporal interpretation IV

(25) Loss of pluperfect interpretation (cf. Araújo-Adriano; Coelho, 2022)

a. Quem me dera  ter  100000 reais na
   who me give.PLU have.INF 100000 reais in-the
   minha conta.
   my account
   ‘If only I could have 1000 reais in my bank account!’ (cf.
   *Quem me tinha.ipfv dado.prt ter ... ‘Who me have.ipfv
   give.prt have.inf ...’)

b. Também pudera!
   too can.PLU
   ‘It stands to reason!’ (cf. *Também tinha.ipfv podido.prt
   ‘Too have.ipfv can.prt’
(26) Loss of present Tense interpretation

a. *Olha! A Maria come banana.
   look the M. eat.PRS banana
   (cf. Look! M. eats banana’)

b. A Maria come banana.
   the M. eat.PRS banana
   ‘M. eats banana.’ (Habitual)

c. Golfinhos são mamíferos.
   dolphins be.PRS mammals
   ‘Dolphins are mammals.’ (Generic)
Synthetic lexical verbs: loss of temporal interpretation VI

Verb movement is triggered when Mood, Tense or Aspect bear an uninterpretable feature (Schifano, 2018).

BP 18th and 19th century:
- $V_{sempre}$;
- Temporal interpretation of lexical verbs;
- T wrt. lexical verbs had $[\nu T]$ (verb movement).

BP 20th and 21st century:
- $sempre\_V$;
- No Temporal interpretation of lexical verbs;
- T wrt. lexical verbs has $[iT]$ (no verb movement).
Where are we?

• Before the 19th century, BP lexical verbs moved to a position higher than *sempre* ‘always’;
• After the 19th century, BP verbs lost (high) verb movement and now they move to a lower position to be placed after *sempre* ‘always’;
• At some period (arguably in the 19th century), lexical verbs lost their temporal interpretation;
• T lost its [uT] feature and now does not trigger verb movement of lexical verbs ([iT]).
Auxiliary verbs

HAVE THEY FOLLOWED THE SAME PATTERN?
A hypothesis

Auxiliary verbs do not behave like lexical verbs (Edmonds, 1978; Pollock, 1989).

(27)  [I NP I ([Neg not/pas]) (ADV)[VP V]]
   b.  John does not like Mary – [Auxiliary Verb] Not [Lexical Verb]

(28)  a.  He is not happy – [Aux Verb] Not [Aux Verb]
   b.  *He not is happy – Not [Aux Verb]

(29)  a.  I always play with my kids – ADV [Lexical Verb]
   b.  I will always play with my kids – [Aux Verb] ADV Aux Verb
Theoretical Background I


(30) Tense > modality > perfect aspect > progressive aspect > voice > verb

(31) a. Esse assunto deve ter estado sendo debatido
This subject must have been being debated
na imprensa com alguma frequência.
in-the press with some frequency
‘That subject must have been being debated in the press with some frequency.’

b. *esse assunto ter deve estado sendo debatido […]
this subject have must been being debated
Adapted from Harwood, 2015:
*ir* ‘go to/will’ selects an InfP;
*ter* ‘have’ selects a PerfP;
*estar* ‘be’ selects a ProgP;
*ser* ‘be’ selects a VoiceP.
The position of auxiliary verbs

SOME FIXED ADVERBS
Results: The position of auxiliary verbs I

Very low adverbs and auxiliaries.

(33) The Universal Hierarchy of Functional Projections of the IP (Cinque, 1999)
HIGH: [frankly Mood_{SpeechAct} > [luckily Mood_{Evaluative} > [allegedly Mood_{Evidential} > [probably Mod_{Epistemic} > [once T_{Past} > [then T_{Future} > [perhaps Mood_{Irrealis} > [necessarily Mod_{Necessity} > [possibly Mod_{possibility} > [usually Asp_{Habitual} > [finally Asp_{Delayed} > [tendentially Asp_{Predispositional} > [again Asp_{Repetitive(I)} > [often Asp_{Frequentative(I)} > [willingly Mod_{Volition} > [quickly Asp_{Celerative(I)} >
LOW: [already T_{Anterior} > [no longer Asp_{Terminative} > [still Asp_{Continuative} > [always Asp_{Continuous} > [just Asp_{Retrospective} > [soon Asp_{Proximative} > [briefly Asp_{Durative} > [(?) Asp_{Generic/Progressive} > [almost Asp_{Prospective} > [suddenly Asp_{Inceptive} > [obligatorily Mod_{Obligation} > [in vain Asp_{Frustrative} > [(?) Asp_{Conative} > [completely Asp_{SgCompletive(I)} > [everything Asp_{PlCompletive} > [well Voice > [early Asp_{Celerative(II)} > (?) Asp_{Inceptive(II)} > [again Asp_{Repetitive(II)} > [often Asp_{Frequentative(II)} > vP–VP
Results: The position of auxiliary verbs II

(34) João (*cedo) está (*cedo) acordando cedo  
J. (early) is (early) waking up (early)

(35) a. Meus funcionários (*bem) estão (*bem)  
my employees (well) are (well) 
trabalhando bem  
working (well)  
My employees are working well

b. Meus funcionários (*bem) tinham (*bem)  
my employees (well) had (well) 
trabalhado bem  
worked (well)  
My employees had been working well
Results: The position of auxiliary verbs III

(36) Meu bebê (*do nada) está (*do nada) chorando do nada.
My baby (out of nowhere) is (out of nowhere) crying (out of nowhere)

(37) mesmo depois do ensaio, o policial (*de novo) tinha/está/vai (*de novo) errando de novo.
even after the rehearsal, the police (again) is (again) erring (again)

(38) João (*frequentemente) está (*frequentemente) cozinhando frequentemente
J. (frequently) is (frequently) cooking (frequently)

Functional auxiliaries precede very low adverbs.
Results: The position of auxiliary verbs IV

Higher low adverbs and auxiliaries:

(39) The Universal Hierarchy of Functional Projections of the IP (Cinque, 1999)
HIGH: [frankly Mood_{SpeechAct} > [luckily Mood_{Evaluative} > [allegedly Mood_{Evidential} > [probably Mod_{Epistemic} > [once T_{Past} > [then T_{Future} > [perhaps Mood_{Irrealis} > [necessarily Mod_{Necessity} > [possibly Mod_{possibility} > [usually Asp_{Habitual} > [finally Asp_{Delayed} > [tendentially Asp_{Predispositional} > [again Asp_{Repetitive(I)} > [often Asp_{Frequentative(I)} > [willingly Mod_{Volition} > [quickly Asp_{Celerative(I)} > LOW: [already T_{Anterior} > [no longer Asp_{Terminative} > [still Asp_{Continuous} > [always Asp_{Continuous} > [just Asp_{Retrospective} > [soon Asp_{Proximative} > [briefly Asp_{Durative} > [?] Asp_{Generic/Progressive} > [almost Asp_{Prospective} > [suddenly Asp_{Inceptive} > [obligatorily Mod_{Obligation} > [in vain Asp_{Frustrative} > [?] Asp_{Conative} > [completely Asp_{SgCompletive(I)} > [everything Asp_{PlCompletive} > [well Voice > [early Asp_{Celerative(II)} > [?] Asp_{Inceptive(II)} > [again Asp_{Repetitive(II)} > [often Asp_{Frequentative(II)} > VP–VP
Results: The position of auxiliary verbs V

(40) a. É fácil saber se está passando jogo: be.PRS easy know.INF if be.PRS pass.GER game meu vizinho (#/* sempre) está sempre my neighbor (always) be.PRS always berrando quando tem jogo. shout.GER when have.PRS game
It’s easy to know when there’s a game on: my neighbor is always screaming when there’s one.

b. Meninas, não esqueça da importância de
Ladies, not forget.IMP of=the importance of estar sempre₁ fazendo sempre₂ o autoexame. be.INF always do.GER always the self-exame.
‘Ladies, do not forget the importance of always doing regularly the breast self-exam.’²
Results: The position of auxiliary verbs VI

(41) a. *José não ainda está/tinha chorando/chorado no banheiro.
    J. not yet is/had crying/cried at the bathroom.

b. José não está/vai ainda chorando/chorar no banheiro.
    J. not is/had yet crying/cried at the bathroom.
Results: The position of auxiliary verbs VII

Auxiliaries precede não ...*mais* ‘no longer’ but does not precede the adverb já ‘already’.

(42) Maria não (*mais*) tem/ está/ vai mais falado/ M. no (longer) has/ is/ will (longer) spoken/ falando/ falar com o Pedro.

speaking/ speak with the P.

(43) Pedro já tinha/ está/ vai (*já*) estudado/ P. already had/ is/ will (already) studied/
estudando/ estudar muito.

studying/ study a lot.
Results: The position of auxiliary verbs VIII

Auxiliaries in BP must end up in $T_{\text{Anterior}}$ (Cinque, 1999) or T-field (Schifano, 2018) to be placed in the proper position mentioned.

(44) a.

b. [Mood[Tense ∨ [Aspect]]]

2https://estilopati.wordpress.com/2015/10/15/outubro-rosa-prevencao-e-o-melhor-remedio/
Temporal interpretation of auxiliaries before and after the 19th century
Temporal interpretation of auxiliaries before and after the 19th century II

(45) (1737/Guerra do Alecrim e da Majeron) pois eu confesso que estou tremendo de medo.
because I confess that I am trembling with fear

(46) (1845/ O noviço) Maninho, estais fazendo muita bulha à mamãe.
brother, you are making a lot of noisy to mom.

(47) (1845/ O noviço) Um momento, estou preso, vou passar 6 anos na cadeia, exultai, senhoras...
a moment I am in jail, I will spend 6 years in jail, rejoice, ladies.
Temporal interpretation of auxiliaries before and after the 19th century III

(48) (1845/O noviço)
...que tinha sido traída por um frade, que debaixo do pretexto ...
...that had been betrayed by a friar, that under the pretext ...
Temporal interpretation of auxiliaries before and after the 19th century IV

Verb movement is triggered when Mood, Tense or Aspect bear an uninterpretable feature (Schifano, 2018).

BP 18th and 19th century:
- \(V_{\text{sempre}}\);
- Temporal interpretation of auxiliary verbs;
- T wrt. auxiliary verbs had \([uT]\) (verb movement).

BP 20th and 21st century:
- \(V_{\text{sempre}}\);
- Temporal interpretation of auxiliary verbs;
- T wrt. auxiliary verbs is still \([uT]\) (verb movement).
• When functional auxiliaries increased abruptly, lexical verbs lost their temporal interpretation (movement to a high position);
**Where are we? II**

*Figure:* % of occurrences of auxiliaries (by number of words) from the 18th to the 21st century plays/Source: Araújo-Adriano (2021)
**Figure:** The position of the verb in relation to the adverb *sempre* ‘always’ over time in BP
Where are we? IV

- When lexical verbs lost their temporal interpretation (movement to a high position), functional auxiliaries increased abruptly;
- Functional auxiliaries must be ordered to the right of já ‘already’ and to left of (não) mais ‘(no) longer’ and ainda ‘still’, that is, T(Anterior)/T-field;
- Functional auxiliary verbs move higher than lexical verbs in BP;
- T lost its \([u_T]\) feature wrt. lexical verbs, whereas it still has \([u_T]\) wrt. functional auxiliaries.
Where are we? V

(49) TAM system in BP prior to the 19th century:
[Mood [iM] [Tense [uT] [Aspect [uA] [ν_{aux}-ν-VP]]]]

(50) TAM system in BP after the 19th century:
[Mood [iM] [Tense [iT] [Aspect [uA] [ν-VP]]]]
[Mood [iM] [Tense [uT] [Aspect [uA] [ν_{aux}]]]]
Proposal

How can we formalise this change?
An emergentist approach to parameters I

- The classic Generative algorithm (rich UG):
  PLD + UG = language-I

- The minimalist generative algorithm (non-rich UG):
  PLD + UG + 3rd factor = language-I

“parametric variation is not specified in UG itself. Instead, it arises from underspecified aspects of UG, and is structured by third-factor properties arising largely from the need for efficient learning.” (Roberts, 2012: 321)
(51) (Roberts, 2012: 321)
Is the head-final feature present on all heads?

Y: head-final (a)  N: present on no heads?

Y: head-initial(b)  N: present on [+V] categories?

Y: head-final in the clause only(c)  N: present on ....
An emergentist approach to parameters III

(52) For a given value $\nu_i$ of a parametrically variant feature F (Roberts, 2012):

a. Macroparameters: all heads of the relevant type share $\nu_i$;

b. Mesoparameters: all heads of a given natural class, e.g., [+V], share $\nu_i$;

c. Microparameters: a small, lexically definable subclass of functional heads (e.g., modal auxiliaries, pronouns) shows $\nu_i$;

d. Nanoparameters: one or more individual lexical items is/are specified for $\nu_i$. 
From synthetic to analytic: A matter of Head Movement

Borer-Chomsky Conjecture:
Al parameters of variation are attributable to differences in the features of the functional heads in the Lexicon.

- Probe (T) and the goal (v\textsubscript{aux} and vP).

(53) TAM system in BP prior to the 19th century:
[Mood [iM] [Tense [uT] [Aspect [uA] [v\textsubscript{aux}-v-VP]]]]

(54) TAM system in BP after the 19th century:
[Mood [iM] [Tense [iT] [Aspect [uA] [v-VP]]]]
[Mood [iM] [Tense [uT] [Aspect [uA] [v\textsubscript{aux}]]]]
From synthetic to analytic: A matter of Head Movement II

a. All probes trigger head-movement (HM)?
   - YES: Polysynthesis
   - NO:
     b. Some probes trigger HM?
       - NO: General analytic TAM root
       - YES:
         c. Does T trigger HM?
           - NO:
             d. Does T have [uT] wrt all [+V]?
               - YES: BP 18th/19 century root+TAM
                 (e.g. am+ara; am+ava
                  est+ava amando)
               - NO:
                 e. T has [uT] wrt v_aux[+V]?
                   -YES: BP 20/21century
                     root+TAM
                     (e.g. t+inha amado;
                      est+ou amando
                      v+ou amar)
### From synthetic to analytic: A matter of Head Movement III

a. All probes trigger head-movement (HM)?
YES: Inuit languages, Southern Tiwa (Polysynthesis)

(55) a. illu-juaq-aluk-mut-uq-lauq-sima-nngit-nama-li-ttauq
house-big-EMPH-ALL.SG-go-PAST-PERF-NEG-CTG.1sS-but-also
‘But also, because I never went to the really big house.’ (Do-rais, 1988: 8)
b. ti-seuan-mU-ban.
1sg.:A-man-see-past
‘I saw the man.’ (Baker, 1996: 327)
From synthetic to analytic: A matter of Head Movement IV

a. All probes trigger head-movement (HM)?

   YES: Polysynthesis
   NO: General analytic
       TAM root

   b. Some probes trigger HM?

   NO: Temporal analytic
       TAM root
   YES: c. Does T trigger HM?

   NO: Temporal analytic
       TAM root
   YES: d. Does T have \([uT]\) wrt all \([+V]\)?

   YES: BP 18th/19 century
       root+TAM
       (e.g. am+ara;
       am+ava
       est+ava amando)
   NO: e. T has \([uT]\) wrt \(v_{aux} [+V]\)??

       BP 20/21 century
       root+TAM
       (e.g. t+inha amado;
       est+ou amando
       v+ou amar)
From synthetic to analytic: A matter of Head Movement V

b. Some probes trigger head-movement (HM)?
NO: Chinese (Fully Analytic)

(56) a. Zhangsan da-le dianhua.
Zhangsan hit-Perf telephone
‘Z. telephoned.’ (Huang, 2014: 4)

b. ben shu.
Cl book
‘book’ (Huang, 2014: 8)
From synthetic to analytic: A matter of Head Movement VI

a. All probes trigger head-movement (HM)?
   
   YES:
   Polysynthesis

   NO: 
   b. Some probes trigger HM?
      
      NO:
      General analytic
      TAM root

      YES: 
      c. Does T trigger HM?
         
         NO:
         Temporal analytic
         TAM root

         YES: 
         d. Does T have \([uT]\) wrt all \([+V]\)?

         YES:
         BP 18th/19 century
         root + TAM
         (e.g. am + ara;
          am + ava
          est + ava amando)

         NO:
         e. T has \([uT]\) wrt \(v_{aux}[+V]\)?

         BP 20/21 century
         root + TAM
         (e.g. t + inha amado;
         est + ou amando
         v + ou amar)
c. Does T trigger head-movement (HM)?  
NO: Haitian Creole (Only Temporal analytic)  

(57) Mwen pa kwè pèsonn ap vini. 
1SG NEG believe nobody FUT come  
‘I don’t believe that anybody will come.’ (Roberts, 2017: 330)  

(58) Jan te toujours te ap rakonte yon istwa.  
J. PAST always ANT PROG tell a story  
‘Jan had always been telling a story.’ (Cinque 1999: 63)
”Instead, these specifications [temporal] are deduced from the combination of TMA markers and the lexical aspect of the verb. Put differently, temporal specification is computed based on TMA markers [...]”. (Aboh; DeGraff, 2017: 448)

”[...] what they lack is the features capable of attracting V”. (Roberts, 2017: 333)
From synthetic to analytic: A matter of Head Movement IX

a. All probes trigger head-movement (HM)?

YES: Polysynthesis

NO: General analytic TAM root

b. Some probes trigger HM?

NO: Temporal analytic TAM root

YES: c. Does T trigger HM?

d. Does T have \([uT]\) wrt all [+V]?

YES: BP 18th/19 century root+TAM
(e.g. am+ara, am+ava est+ava amando)

NO: e. T has \([uT]\) wrt aux|[+V]?

BP 20/21 century root+TAM
(e.g. t+inha amado; est+ou amando v+ou amar)
d. Does T have \([uT]\) wrt. all \([+V]\)?

YES: BP 18th/19th century/French (Synthetic Language)

(59)  a. comerá.
      eat.FUT
      ‘he/she will eat.’

b. vai comer.
   go.PRS eat.INF
   ‘he/she will eat’

(60)  Regard! Marie mange la soupe.
      look! M. eat.PRS the soup
      ‘M. eats the soup.’
a. All probes trigger head-movement (HM)?

YES: Polysynthesis

NO:

b. Some probes trigger HM?

NO:
General analytic TAM root

YES:

c. Does T trigger HM?

NO:
Temporal analytic TAM root

YES:

d. Does T have \([uT]\) wrt all [+V]?

YES:
BP 18th/19 century root+TAM
(e.g. am+ara; am+ava
est+ava amando)

NO:

e. T has \([uT]\) wrt \(v_{aux} [+V]\)?

BP 20/21 century root+TAM
(e.g. t+inha amado;
est+ou amando
v+ou amar)
From synthetic to analytic: A matter of Head Movement

XII

e. Does T have \( [uT] \) wrt. \( \nu_{aux} \ [+V] \)?

YES: BP 20th/21st century (Analytic Language)

(61) a. *comerá.
   eat.FUT
   ‘he/she will eat.’

b. vai comer.
   go.PRS eat.INF
   ‘he/she will eat’
From meso- to microparameter

(62) a. Mesoparameters: all heads of a given natural class, e.g., [+V], share $\nu_i$;
b. Microparameters: a small, lexically definable subclass of functional heads (e.g., modal auxiliaries, pronouns) shows $\nu_i$;
c. Nanoparameters: one or more individual lexical items is/are specified for $\nu_i$. 
Is everything analytic? Aspectual class I

(63) Verbal class compatible in an analytic construction

a. Olha lá! A Maria está dançando\textsubscript{eventive}. look there the M. is dancing
   ‘Look! M. is dancing.’

b. A Maria está chegando\textsubscript{achievement na the M. is arriving in=the
   Inglaterra. England
   ‘Look! M. is arriving in England.’

c. Olha lá! A Maria está pintando\textsubscript{accomplishment a casa. the house
   ‘Look! M. is painting the house.’
Is everything analytic? Aspectual class II

(64) Verbal class not compatible in an analytic construction

a. *Londres está **ficando**
   stative na Inglaterra.
   London be.PRS stay.PROG in-the England
   ‘London is in England.’

b. Londres **fica**
   stative na Inglaterra.
   London stay.PRS in-the England
   ‘London is in England.’
Is everything analytic? Aspectual class III

(65) (MacDonald, 2008: 5)
   a. John carried a goat. (activity)
   b. John carried a goat into the barn. (accomplishment)

(66) (MacDonald, 2008: 4)
   a. John drank a beer. (accomplishment)
   b. John drank beer. (activity)

Nanoparameters: one or more individual lexical items is/are specified for \( \nu_i \).
Is everything analytic? Aspectual class IV

(67) Eventives

(68) Statives
Is everything analytic? Aspectual class V

Auxiliary *estar* ‘be’ selects a ProgP (aspectual projection):
Is everything analytic? Aspectual class VI

Only verbal structures that Agree with ProgP (activity, accomplishment, and achievement) can be merged with ProgP.

\[\text{ProgP} \rightarrow \text{Prog} \rightarrow \text{vP} \rightarrow \text{vP} \rightarrow \text{AspP} \rightarrow \text{Asp}[u_{\text{Infl:Prog}}] \rightarrow \text{VP} \rightarrow \text{V}\]
Is everything analytic? Aspectual class VII
Is everything analytic? Aspectual class VIII

There is no syntactic context for *estar* in a sentence with statives: absence of Asp is absence of ProgP.
Is everything analytic? Aspectual class IX

(69) *Maria está estando_{\text{stative}}\text{ cansada.}

M. is being tired

‘M. has been tired.’

(70) *Londres está ficando_{\text{stative}} na Inglaterra.

London be.PRS stay.PROG in-the England

‘London is in England.’
Is everything analytic? Football narration

(71) Football narration

a. Pelé *pega* a bola e *chuta* para o gol.  
   *Pelé catches the ball and shoots it into the goal.*

b. Neymar *toma* distância para fazer a cobrança, 
   *Neymar takes distance to take the kick,* 
   o perigo *aumenta,* de curva, *bateu,* *afasta* 
   the danger increases, from curve, hit, removes 
   a zaga, [...] *dominou cruzou,* *bateu* Hugo, 
   the defender, [...] dominated, crossed, beat Hugo, 
   é *Goooooooollllllllllll* goooooooollllllllll do São 
   is goal from São Paulo (...) 
   Paulo (...)
‘N. takes distance to take the kick, the danger increases, from a curve, hit, removes the defender, [...] dominated, crossed, beat Hugo, be gol gol from São Paulo (...)’ (adapted from Fatori, 2010: 120)
"There is something which is at the moment of uttering being done by the person uttering" (Austin, 1962: 60)

(72) **Performative verbs**

a. \(\text{Eu vos } \text{declar}\text{o}_{\text{performative}} \ (\ast \text{estou declarando}): \)

I you declare               (am declaring)

marido e mulher.

husband and wife

‘I pronounce you husband and wife.’
Performative verbs are the only synthetic lexical verbs in the Present Tense in BP that conveys a Present Tense interpretation (nanoparameter):

- move to $T$;
- move to a higher position:
  - Left Periphery (Rizzi, 1997)
  - Utterance Phrase (Corr, 2016, 2022)
Is everything analytic? Performative verbs III

a. All probes trigger head-movement (HM)?

YES:  Polysynthesis

NO:  b. Some probes trigger HM?

NO:  General analytic TAM root

YES:  c. Does T trigger HM?

NO:  d. Does T have $[uT]$ wrt all $[+V]$?

YES:
BP 18th/19 century root+TAM
(e.g. am+ara; am+ava
est+ava amando)

NO:  e. T has $[uT]$ wrt $v_{aux}[+V]$?

BP 20/21 century root+TAM
(e.g. t+inha amado;
est+ou amando
v+ou amar)
Final words I

In a nutshell, we have seen that from synthetic to analytic, BP underwent a mesoparametric change.

WHY?
"Mesoparameters concern individual syntactic categories (T, V, etc) and are diachronically stable, but subject to change through contact." (Biberauer; Roberts, 2013: 2)
Thank you!

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