

Phrase Structure in Generative Theory

Academia Grammaticorum Salensis Sexta
Salų dvaras, Salos, Lithuania, August 3-6, 2009



Paweł Rutkowski
University of Warsaw
p.rutkowski@uw.edu.pl
www.pawel-rutkowski.ling.pl

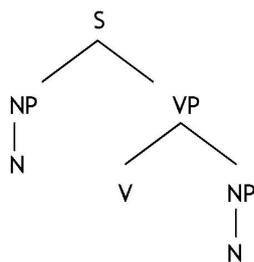
Phrase Structure in Generative Theory:

Clausal Architecture



Paweł Rutkowski
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Early generativism:



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Jackendoff (1977): X-bar syntax

Jackendoff, Ray (1977). *X-bar syntax*,
Cambridge, MA: MIT Press.

The X-bar model is assumed to be universal.

Every syntactic phrase is constructed in the same way, consisting of three main elements: the head (the central element in the phrase), its complement, and the specifier of the phrase (note that complements and specifiers are also phrases).

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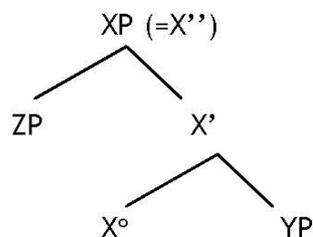
The term 'X-bar' refers to the following notation:

- X - any lexical category
(N - noun, V - verb, P - preposition,
A - adjective, Adv - adverb ...)
- X[°] - head of phrase
- X' - intermediate syntactic levels
(read as 'X bar')
- X'' - phrasal level (read as 'X double bar')

In Jackendoff's (1977) notation, the symbols X' and X'' were actually written as an X with an overbar, and an X with a double overbar, respectively. However, that notation is difficult to typeset, and has been replaced with the *prime* symbol.

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Universal X-bar model:



XP: phrase, ZP: specifier, X[°]: head, YP: complement
'genealogical' relations, e.g.: YP is the 'sister' of X[°]

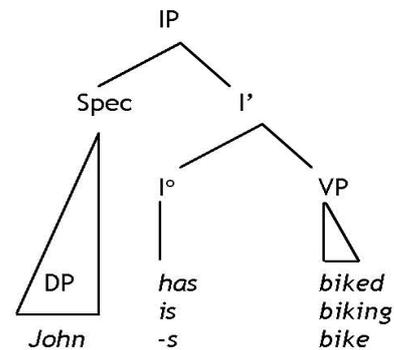
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The X-bar model has been extended by postulating new type of syntactic layers, namely **functional projections**.

Since the 80s: the node S does not fit the X-bar theory (according to which, all structures should be phrasal); sentences should be analyzed as **IPs (Inflectional Phrases)/TPs (Tense Phrases)**:

- IP is projected by the functional head I^o, associated with inflectional/temporal information;
- I^o takes a VP (Verb Phrase) complement;
- sentential subject is the specifier of IP.

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VP is the **semantic nucleus** of a sentence, providing all the necessary lexical information wrt the predication that underlies the sentence.

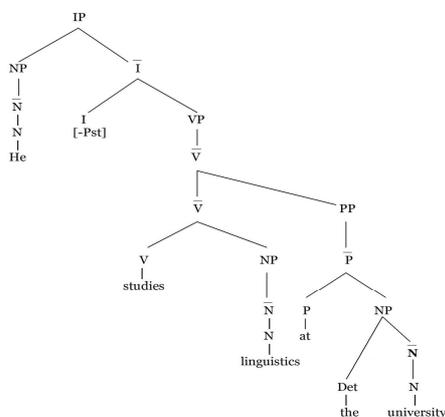
There is a clear-cut distinction between **lexical** and **functional** categories. The two classes contribute to the semantics of an expression in different ways. The former are **denotatively contentful** (their appearance is driven by the intension of an expression), whereas the latter function as the necessary **anchoring** of lexical substance in an utterance (they influence and **regulate** the interpretation of their complements by marking **grammatical** or **relational** features).

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Metaphor of a wall: lexical elements (e.g. nouns or verbs) are like **bricks** that cannot form a wall (i.e. a phrase) without **mortar** (i.e. functional projections).

Functional elements are usually described as constituting **closed classes** (the number of functional elements in a given language is finite). It is important to note that the terminological opposition “lexical” vs. “functional” does **not** mean that functional categories are never realised by a lexical item (i.e. that they are phonologically empty or dependent). Chomsky (2000) uses the term “substantive category” instead of “lexical category.”

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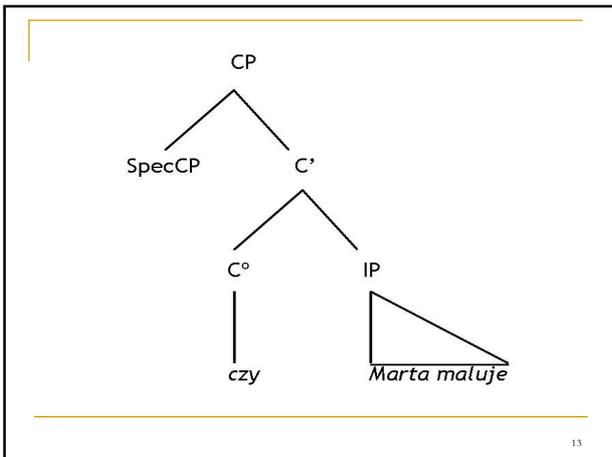


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Complementizer Phrase (CP) - a functional level at the very top of the sentential structure; C^o is an additional position in the structure, activated in questions and subordinate clauses.

- (i) *Martha is sleeping.*
- (ii) *Is Martha sleeping?*
- (iii) *I know that Martha is sleeping.*
- (iv) *Marta maluje.*
Marta paints.
- (v) *Czy Marta maluje?*
Does Marta paint?
- (vi) *Wiem, ze Marta maluje.*
I know that Marta paints.

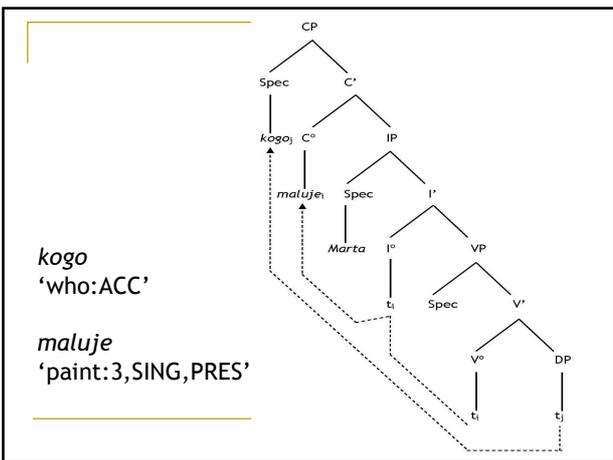
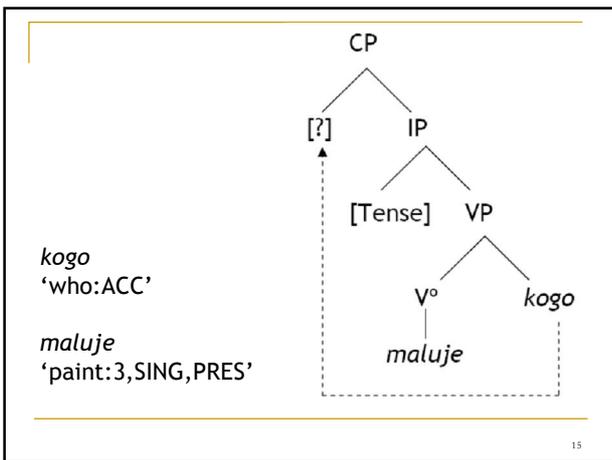
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Transformations/movements

Some sentences seem to be derived from other sentences:

- (i) *Adam has read a book.*
- (ii) *What_i has_k Adam t_k read t_i?* (t - trace)
- (iii) *Marta maluje kogoś.*
Marta:NOM paints somebody:ACC
- (iv) *Kogo_i maluje_k Marta t_k t_i?*
who:ACC paints Marta:NOM

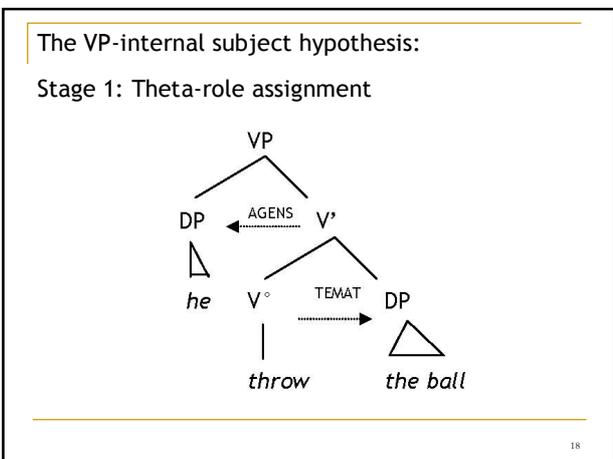


VP-internal subject hypothesis.

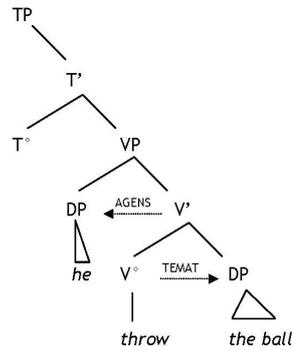
Late 1980s: the structure in which the sentential subject occupies the specifier of IP is derived from the underlying structure in which the subject is **VP-internal** (cf. Sportiche 1988).

Thanks to this assumption, we can view VP as the generative equivalent of the predicate-argument structure (since it consists of a lexical verb and its arguments - both internal and external).

VP could also be where semantic roles (Theta-roles), such as *Agent*, *Theme*, etc., are assigned.

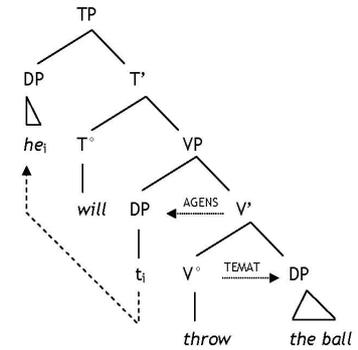


Stage 2: Creating a sentence - TP + VP merge



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Stage 3: VP-internal subject → sentential subject



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The above model seems to be supported by the syntax of so-called **floating quantifiers** (cf. Puskas 2002, Bobaljik 2003):

- (i) *Tous les architectes ont réalisé un projet.*
all the architects have realized a project
- (ii) *Les architectes ont tous réalisé un projet.*
the architects have all realized a project

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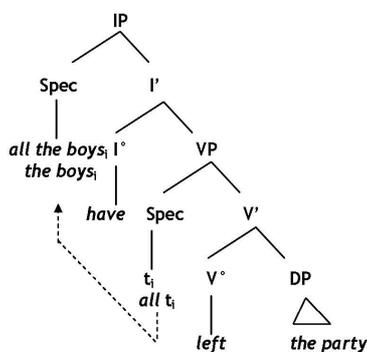
Sportiche (1988) accounts for the above data by arguing that quantifiers such as *tous* 'all' are always base-generated in the DP-initial position.

As the subject moves up from its base position it leaves traces. Sportiche (1988) interprets the phenomenon of Q-float as the stranding of the quantifier in a position adjacent to the trace of the subject DP.

Example:

- (i) *All the boys have left the party.*
- (ii) *The boys have all left the party.*

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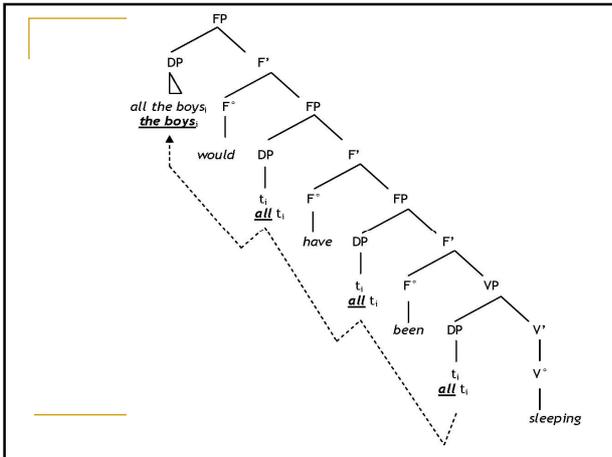


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A more complex example:

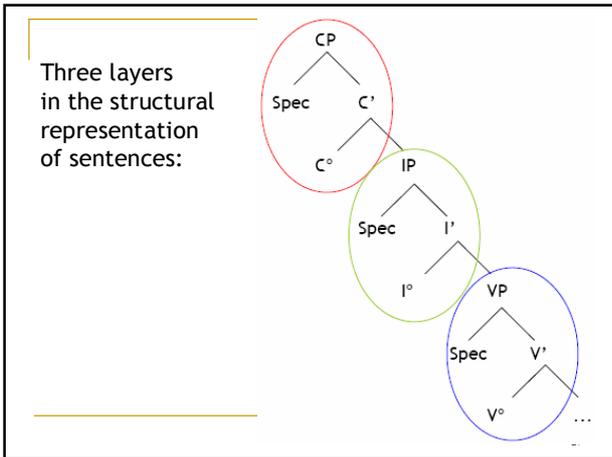
- (i) *All the boys would have been sleeping.*
- (ii) *The boys would all have been sleeping.*
- (iii) *The boys would have all been sleeping.*
- (iv) *The boys would have been all sleeping.*

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What are FPs?
 Various functional projections associated with specific atoms of grammatical information, e.g.:

- AspP - *Aspect Phrase*
- ForceP - *Force Phrase*
- NegP - *Negation Phrase*
- TopP - *Topic Phrase*
- FocP - *Focus Phrase*

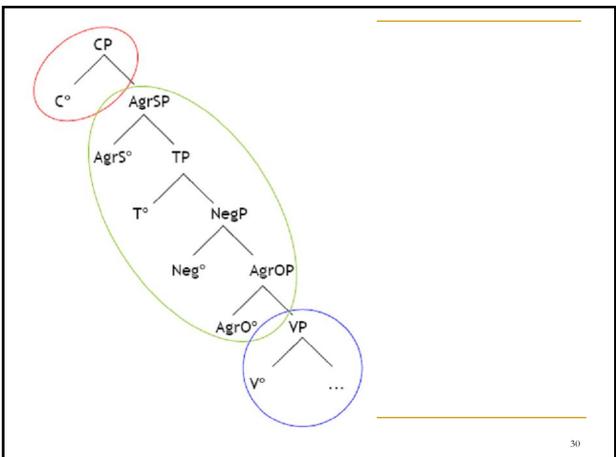


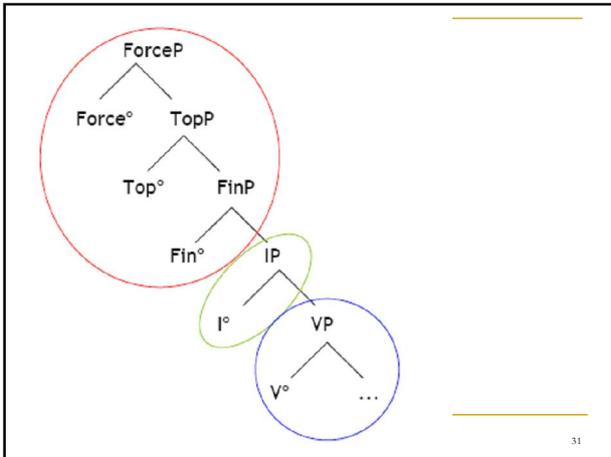
Vidal Valmala Elguea's description:

- Complementizer layer: typically headed by a free morpheme which hosts topics, focalized elements and wh-operators.
- Inflectional layer: headed by morphemes corresponding to morphological specifications of the verb; it hosts the external argument and/or the syntactic subject.
- Lexical layer: this is where theta-role assignment takes place (the VP-internal subject hypothesis lets us assume that all arguments are generated in the lexical domain).

Later developments of this model:

- Pollock's (1989) *Split Infl Hypothesis*: IP should be split into different functional layers:
 - AgrSP - *Agreement-Subject Phrase*
 - TP - *Tense Phrase*
 - NegP - *Negation Phrase*
 - AgrOP - *Agreement-Object Phrase*
- Rizzi's (1997) *Split CP Hypothesis*: CP should be split into different functional layers:
 - ForceP - *Force Phrase*
 - TopP - *Topic Phrase*
 - FinP - *Finiteness Phrase*





Case study: COPULAR SENTENCES

The aims of what follows:

- to present an overview of a number of syntactic properties that characterize copulas derived from pronouns;
- to use this cross-linguistic discussion as a basis for an analysis of Polish *to*-constructions:

- (i) *Adam to jest lingwista.*
Adam TO [historically: this] is linguist
'Adam is a linguist.'

Copulas Derived from Pronouns:

Li & Thompson (1977): copulas evolve from anaphoric pronouns when a topic-comment construction gets reanalyzed as a regular subject-predicate construction:

- (i) [Topic NP1_i] [Comment Pronoun_i NP2]
(ii) [Subject NP1] [Predicate Copula NP2]

The pronoun in (i) acts as the syntactic subject of the comment clause. It is coreferential with NP1, a topicalized nominal construction.

Support for the topicalization analysis - e.g. Saramaccan (McWhorter 1997, Whitman 2001): if the precopular position (NP1) is occupied by a third person pronoun, the pronoun must appear in the topic form:

- (i) *hen da di gaama*
he_{topic} that_(copula) the chief
'He is the chief.'
- (ii) **a da di gaama*
he_{nontopic} that_(copula) the chief

Li & Thompson (1977): copulas may develop either from personal pronouns or from demonstratives.

The former option is illustrated below:

- (i) *il rozzal huwwe usta:z mni:h*
the man he_(copula) teacher good
'The man is a good teacher.'
(Palestinian Arabic)
- (ii) *david hu ha-ganav*
David he_(copula) the-thief
'David is the thief.'
(Hebrew)

Li & Thompson (1977): copulas may also develop from demonstratives:

- (i) *moše ze student šeli*
Moshe that_(copula) student my
'Moshe is a student of mine.'
(Hebrew)

Li & Thompson (1977) illustrate this development with the following examples:

- (i) *qíng yù jiàn, shì rén zhǐ sǔo wù yě*
poverty and debasement, this people
GENITIVE NOMINALIZER dislike DECL-PART
'Poverty and debasement, that is what
people dislike.'
(Archaic Chinese - 6th-5th century B.C.)
- (ii) *cǐ shì xiǎo ér*
this COPULA small child
'This is a small child.'
(late Han period - 1st century A.D.)

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Transition period (Peyraube & Wiebusch (1994), Whitman (2001)):

- (i) *shì shì lie gui*
this this_(copula) violent ghost
'This is a violent ghost.'
(2nd century B.C.)

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Li & Thompson (1977): development of copulas from personal pronouns and demonstratives are two instances of the same phenomenon.

Diessel (1999): the two patterns differ with respect to morphosyntactic agreement!

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Diessel's (1999) point is illustrated below - examples from Hebrew:

- (i) *ha-sha'on hu matana*
the-clock_{masc} he_(copula) present_{fem}
'The clock is a present.'
- (ii) *Hevrat bóing hi taagid anaki*
company_{fem} Boeing she_(copula)
corporation_{masc} giant_{masc}
'The Boeing company is a giant corporation.'

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The copulas derived from personal pronouns clearly agree in gender with the precopular element.

This is what Li & Thompson's (1977) model predicts: the personal pronoun must resume the topicalized NP:

- (i) [_{Topic} NP1_i] [_{Comment} Pronoun_i NP2]

However, as pointed out by Diessel (1999), the above agreement pattern does not apply to copulas which evolved from demonstratives:

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- (i) *ha-báyit shelHa zot dogma tova*
the-house_{masc} your that_{fem} example_{fem} good_{fem}
'Your house is a good example.'

The Hebrew demonstrative *zot* above agrees in gender with the following feminine noun *dugma* 'example', and not with the preceding masculine noun *báyit* 'house'.

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Therefore, Diessel (1999) proposes that copulas such as *zot* ‘that_{fem}’ or *ze* ‘that_{masc}’ derive from **identificational demonstratives**, i.e., non-anaphoric pronominal elements.

Identificational demonstratives are parallel to presentatives such as *voilà* in French, *ecce* in Latin, or *vot* in Russian.

In some languages, identificational demonstratives differ from regular demonstratives morphologically (Karanga, Supyire, Kilba, Nunggubuyu, and Ponapean, among others). In others, they can be defined on semantic grounds only.

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Diessel (1999):

Unlike copulas which evolved from anaphoric pronouns, copulas derived from identificational demonstratives are not expected to have an antecedent; thus, they need not agree morphosyntactically with the preceding NP.

As will be shown below, the syntax of Polish *to*-expressions supports the prediction that, in copular contexts, demonstrative pronouns do not function as anaphoric elements and that it is NP2, and not NP1, that controls the copula.

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Two types of copular constructions in Polish:

- (i) *Adam był lingwistą.*
Adam was linguist_{INSTR}
‘Adam was a linguist.’
- (ii) *Adam to był lingwista.*
Adam TO was linguist_{NOM}
‘Adam was a linguist.’

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Both (i) and (ii) above involve the use of the verb *być* ‘be’; however, in one of them this verb is accompanied by the word *to* (historically, *to* is a demonstrative pronoun).

- Citko (2008): both the verb *być* ‘be’ and the element *to* are copulas, whereas NP1 is the subject.
- Linde-Usiekniewicz (2007): the verbal element *być* ‘be’ in structures such as (ii) agrees morphosyntactically with NP2, and not NP1; in Linde-Usiekniewicz’s (2007) terms, NP2 is the subject of *to*-expressions.

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- (ia) *Dinozaury to jest gatunek gadów.*
dinosaurs TO is species reptiles_{GEN}
‘Dinosaurs are a species of reptiles.’
- (ib) **Dinozaury to są gatunek gadów.*
dinosaurs TO are species reptiles_{GEN}
- (iia) *Cyganeria to są artyści...*
Bohemia TO are artists
‘Bohemia are the artists...’
- (iib) **Cyganeria to jest artyści...*
bohemia TO is artists

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- (iiia) *Dinozaury to był gatunek gadów.*
Dinosaurs TO was_{masc} species_{masc} reptiles_{GEN}
‘Dinosaurs were a species of reptiles.’
- (iiib) *Dinozaury to była podgrupa gadów.*
Dinosaurs TO was_{fem} subgroup_{fem} reptiles_{GEN}
‘Dinosaurs were a subgroup of reptiles.’

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Contra Citko (2008), Linde-Usiekiewicz (2007) also notices that there is no morphological agreement between NP1 and NP2:

- (i) *Jan to był mój najlepszy przyjaciel.*
Jan_{masc} TO was my best_{masc} friend_{masc}
'Jan was my best friend.'
- (ii) *Jan to była straszna świnią.*
Jan_{masc} TO was terrible_{fem} pig_{fem}
'Jan was a real bastard.'

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The NP2-headedness of Polish *to*-structures patterns with Diessel's (1999) observations concerning the syntactic properties of copulas derived from demonstratives.

Another claim made by Diessel (1999) which finds support in Polish is that demonstratives in copular structures are not anaphoric. The demonstrative *to* cannot be argued to resume NP1 because, as shown below, *to* is not a masculine form.

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Case	Masculine		Feminine		Neuter	
	Sing.	Pl.	Sing.	Pl.	Sing.	Pl.
Nominative	<i>ten</i>	<i>ci</i>	<i>ta</i>	<i>te</i>	<i>to</i>	<i>te</i>
Genitive	<i>tego</i>	<i>tych</i>	<i>tej</i>	<i>tych</i>	<i>tego</i>	<i>tych</i>
Dative	<i>temu</i>	<i>tym</i>	<i>tej</i>	<i>tym</i>	<i>temu</i>	<i>tym</i>
Accusative	<i>tego</i>	<i>tych</i>	<i>tą</i>	<i>te</i>	<i>to</i>	<i>te</i>
Locative	<i>tym</i>	<i>tych</i>	<i>tej</i>	<i>tych</i>	<i>tym</i>	<i>tych</i>
Instrumental	<i>tym</i>	<i>tymi</i>	<i>tą</i>	<i>tymi</i>	<i>tym</i>	<i>tymi</i>

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However, the neuter form of the demonstrative becomes perfectly understandable if we follow Diessel (1999) and assume that *to* is an identificational (non-anaphoric) demonstrative.

Biphrasal copular constructions of the form NP1 *to* być NP2 are essentially parallel to presentative sentences such as the ones shown below:

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- (i) *To jest mój najlepszy przyjaciel.*
TO is my best friend
'This is my best friend.'
- (ii) *To był mój najlepszy przyjaciel.*
TO was_{masc} my best friend_{masc}
'This was my best (male) friend.'
- (iii) *To była moja najlepsza przyjaciółka.*
TO was_{fem} my best friend_{fem}
'This was my best (female) friend.'

Again: NP2-headedness!

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A parallel in German:

- (i) *Das ist meine Schwester.*
this_{neuter} is my sister_{fem}
'This is my sister.'
- (ii) *Das sind meine Freunde.*
this_{neuter} are my friends_{masc}
'These are my friends.'

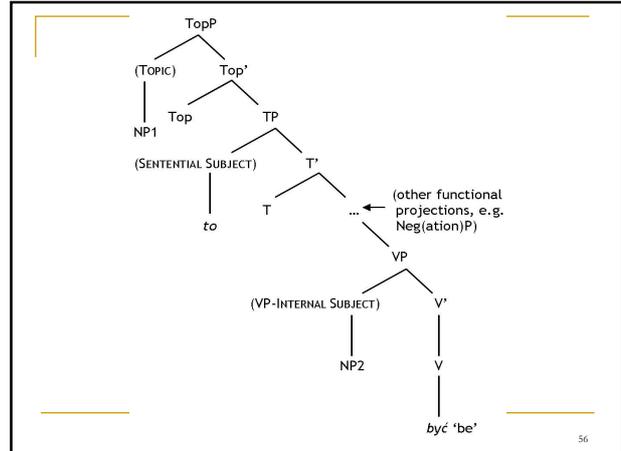
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Below, I attempt to rephrase the above observations on Polish *to*-expressions in a generative syntactic framework.

I propose that NP1 is an external (left dislocated) topic, whereas the element *to* resides in the sentential subject position (the specifier of TP).

NP1 has to be nominative because this is the default case value in Polish, assigned when a nominal element is placed outside of any syntactic context.

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I further argue that the verb *być* 'be' is the only copula in such structures. The surface position of this copula results from movement: the verb rises to a functional projection located above VP (but, crucially, below TP) - e.g. vP.

This analysis is confirmed by the fact that *to*-constructions always "bracket" elements such as negation markers, adverbs, or modal verbs:

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- (i) *Waterloo to nie było zwycięstwo.*
Waterloo TO not was victory
'Waterloo was not a victory.'
- (ii) *Waterloo to oczywiście było zwycięstwo.*
Waterloo TO obviously was victory
'Waterloo was obviously a victory.'
- (iii) *Waterloo to mogło być zwycięstwo.*
Waterloo TO could be victory
'Waterloo could be a victory.'

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I view NP2 as a VP-internal subject. Hence, it is this element that the verb agrees with.

The element *to* is a place holder for the sentential subject. This proposal explains why neither NP1 nor NP2 can act as the controller of a participial phrase. Note the following contrast:

- (ia) *Adam był lingwistą, żyjąc w New Haven.*
Adam was linguist living in New Haven
'Adam was a linguist when he lived in NH.'
- (ib) **Adam to był lingwista, żyjąc w New Haven.*
Adam to was linguist living in New Haven

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Thank you!

p.rutkowski@uw.edu.pl
www.pawel-rutkowski.ling.pl