The conjunction of predicates and modifiers in a Meaning-Dependent Grammar

Paul Elbourne

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Introduction

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  1. introduce the theory of Categoriless Minimalist Meaning-Dependent Grammar (Elbourne 2024), which is a version of Minimalist syntax that does not use syntactic categories;
  2. apply this theory to the problem of the conjunction of unlike syntactic categories.

Categoriless Minimalist Meaning-Dependent Grammar (Elbourne 2024)

- This is a version of Minimalist syntax (Chomsky 1993, 1995, and much other work) that allows the basic structure of sentences to be shaped partly by their meaning and which eliminates syntactic categories like Noun and Verb Phrase.

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- The work done by syntactic categories is done by independently motivated semantic categories, especially semantic types.

Conjunction of unlike syntactic categories I

- There is a tradition of restricting coordination to like syntactic categories (Chomsky 1957, Montague 1973, Gazdar 1980, Partee & Rooth 1983):

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(2) He felt happy and relaxed. ("AP and AP")

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Conjunction of unlike syntactic categories III

- So what is the correct generalization about what can be conjoined?
- I suggest that **conjunction relies not on identity of syntactic category but on identity of semantic type.**
- This result falls out from the choice of Categoriless Minimalist Meaning-Dependent Grammar.

Outline

A Grammar Based on Syntactic Categories

Autonomous Syntactic Categories I

- Chomsky (1957: 17): 'grammar is autonomous and independent of meaning.'
- In generative grammar ever since, syntactic categories have been autonomous, i.e. non-semantic.
- Autonomous syntactic categories play a crucial role in mainstream generative grammar in shaping sentences, i.e. constructing syntactic trees.

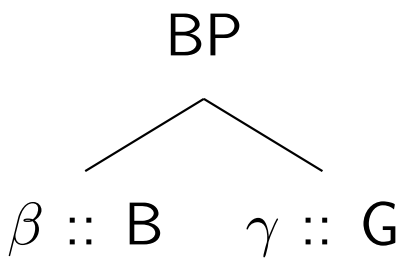
Autonomous Syntactic Categories II

DP	everyone, someone, John, Mary
D	every, some, a, most
N	man, woman, donkey
A	cute, tall, alleged
V	dance, inspect, give
P	to, from, at
C	that, if, whether
T	PAST, PRESENT
Adv	slowly, carefully

Constructing a syntactic tree I

- In a *simplified* version, Minimalist syntax builds trees like this (Collins & Stabler 2016):
  - lexical items contain indications of their syntactic category (donkey :: N, etc.);
  - some lexical items also contain features indicating what they need to combine with (every :: N_R D, inspect :: DP_R V, etc.);
  - a rule called Merge takes two syntactic items β of category B and γ of category G such that β has a feature indicating that it needs to combine with something of category G (e.g. β :: G_R B) and combines them:

(8)



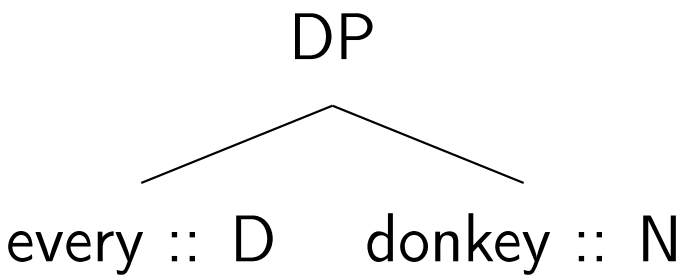
Constructing a syntactic tree II

- [every :: N_R D] [donkey :: N]

Constructing a syntactic tree II

- [every :: N_R D] and [donkey :: N] can be merged to give:

(9)



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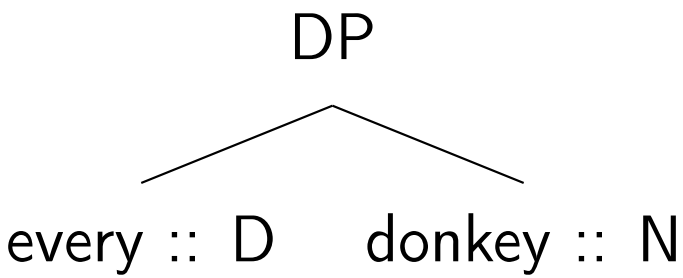

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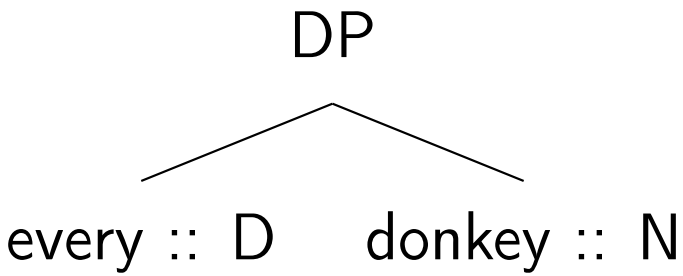
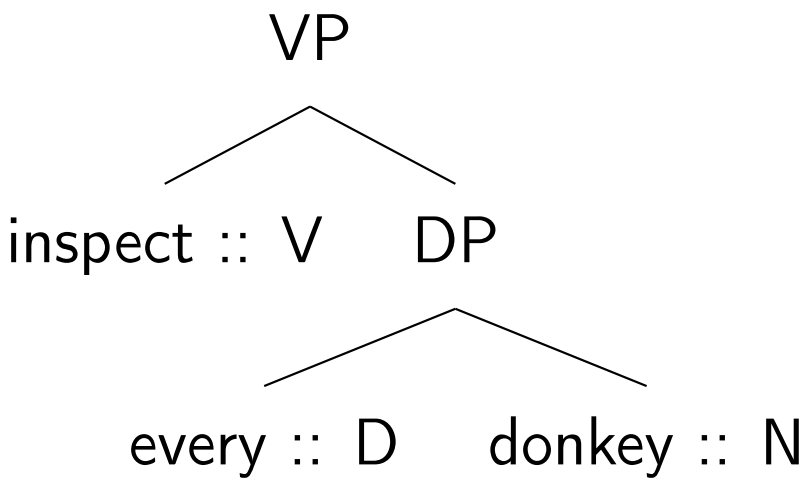
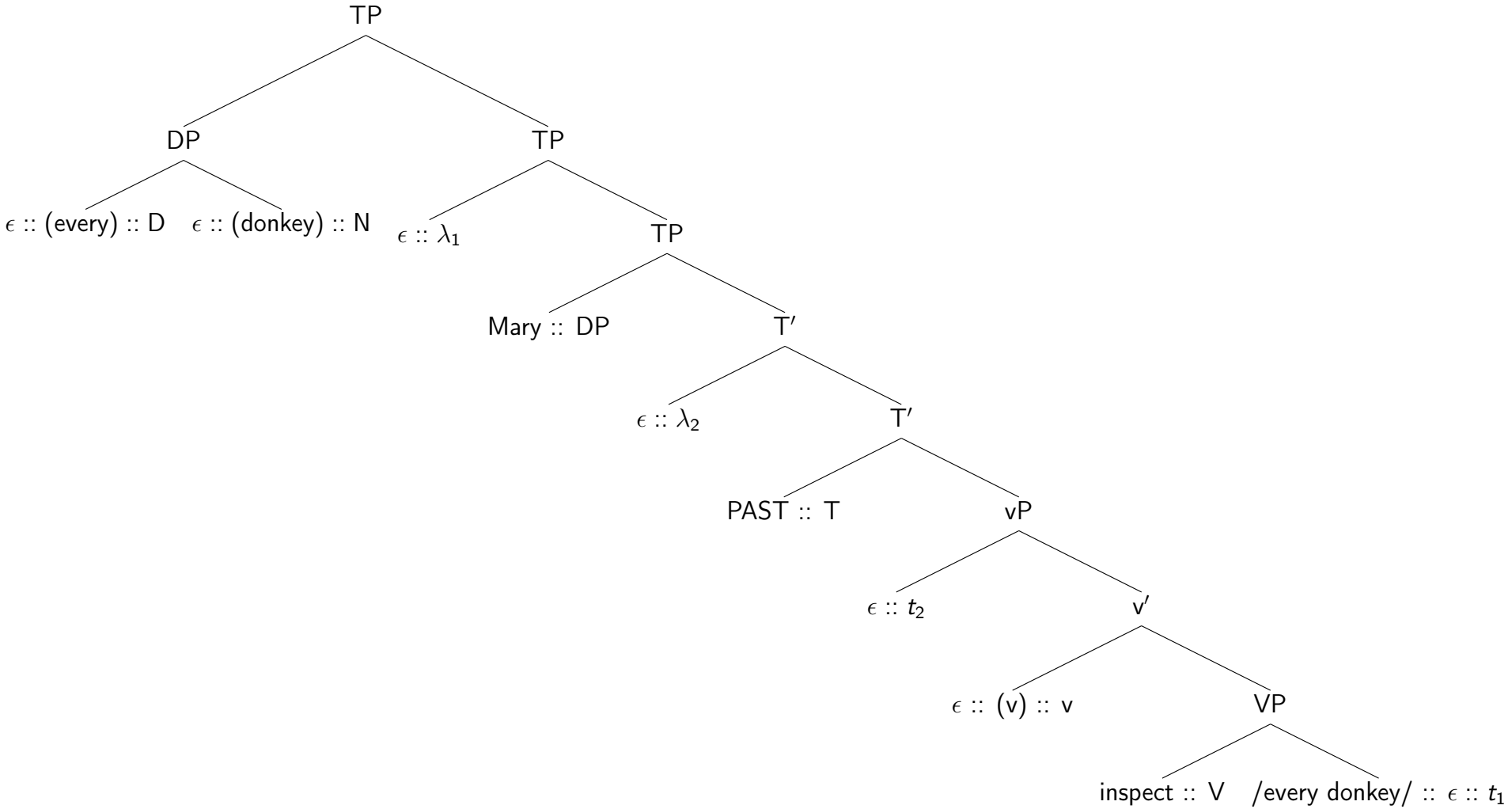


- (9) and [inspect :: DP_R V] can be merged to give:

(10)

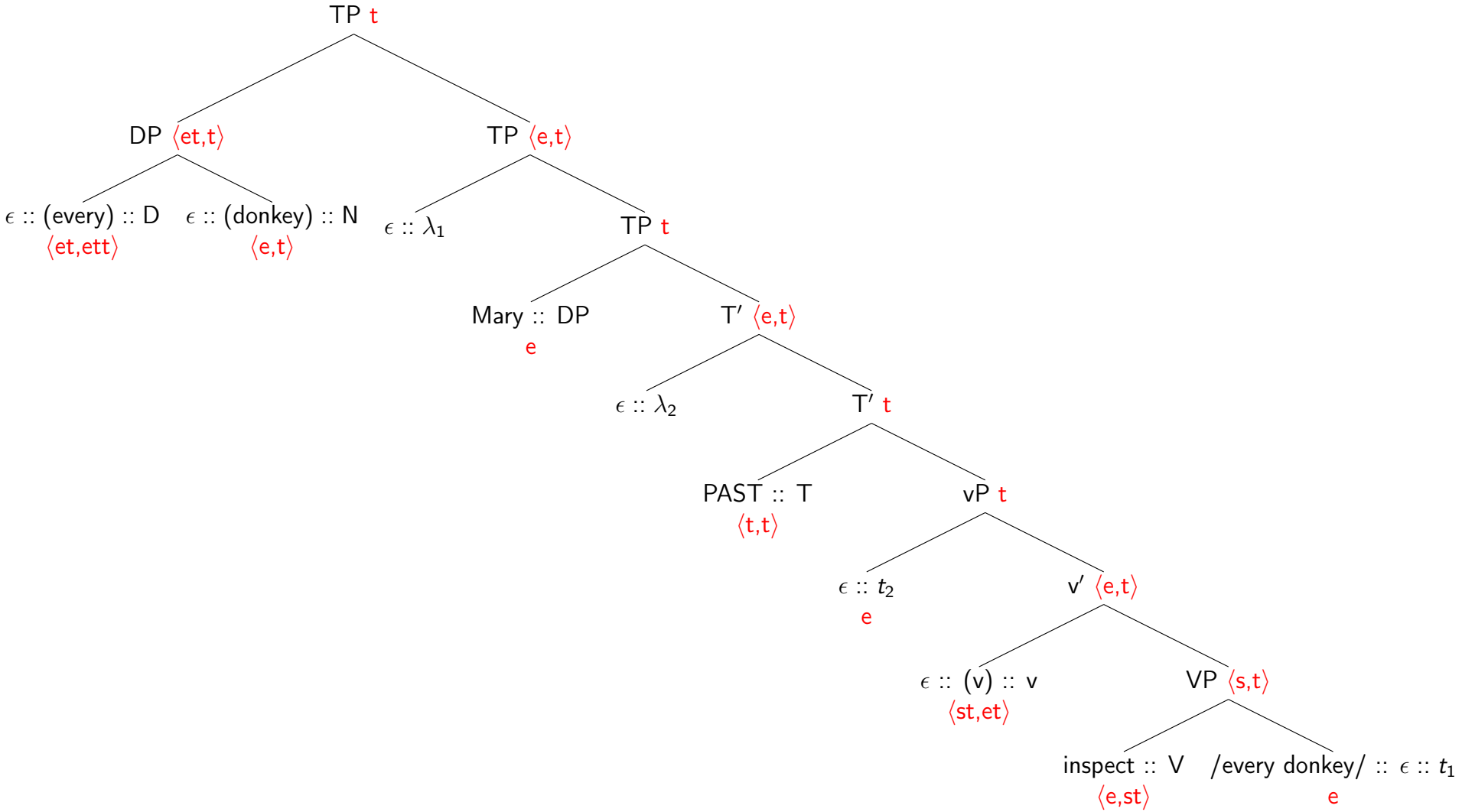


Constructing a syntactic tree III



'Mary inspected every donkey.'

Constructing a syntactic tree III



There is a certain amount of redundancy between semantic types and syntactic categories.

A Categoriless Minimalist Meaning-Dependent Grammar

Features

- There are three kinds of features: syntactic, semantic, phonological.
  - (donkey) is the semantic value of the word *donkey*.
  - '/donkey/' represents the phonological features.
  - 'donkey' summarizes the semantic and phonological features.

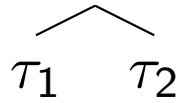
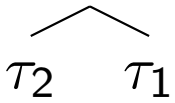
Syntactic Features

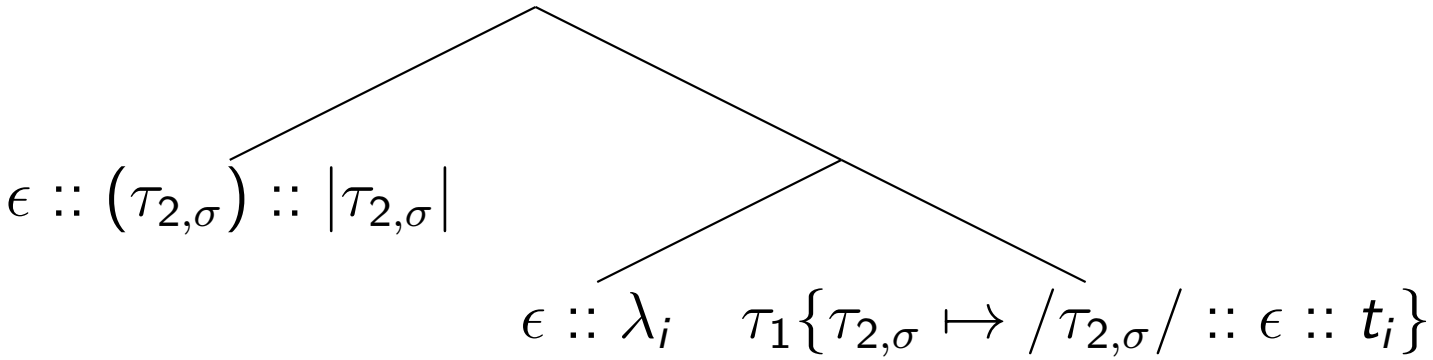
1. *Selector features*. A feature $\mathrm{E_L}$ indicates that a constituent needs to combine with another constituent to its left via external merge. Likewise for $\mathrm{E_R}$. $\mathrm{E_{L,\langle eit,it\rangle}}$ indicates that something of the indicated type must be merged. $\mathrm{E_{L,E_R}}$ indicates subcategorization for a selector feature.
2. *Probe features* are triggers of movement (internal merge). They include a subscript representation of the semantic type of the item to be moved.
   - *Weak features* are written with lower-case letters: i_σ. They produce covert movement, i.e. movement of only semantic and syntactic features.
3. Features interpreted by syncategorematic rules, restricted to those that characterize lambda operators and traces. (The other features are *uninterpretable*.)

Derivations and Sentences

- A sentence is the kind of object that a generative grammar is seen as trying to generate. It is a structure of type ⟨i,t⟩ that contains no uninterpretable syntactic features.
- The grammar is set up in such a way that any object produced by it in the course of a derivation will contain at most one node that bears uninterpretable syntactic features.
  - This node is called the *driver*; its features determine the direction of the derivation.

Rules

1. *External Merge.*
   i. $merge(\tau_1[\mathrm{E_R}], \tau_2) =$ 
   ii. $merge(\tau_1[\mathrm{E_L}], \tau_2) =$ 
2. *Internal Merge* applies to a tree $\tau_1[\mathrm{i}_\sigma]$ containing a subtree $\tau_{2,\sigma}$ as follows:



Contraints on Merge

1. *Argument Interpretability* (Collins & Stabler 2016)
   The constituent selected for by a selector feature must not contain any uninterpretable syntactic features (except any that may be selected for).
2. *Scope Economy* (Fox 2000)
   Scope-shifting operations that are not forced for type considerations must have a semantic effect.
3. *Principle of Interpretability* (Heim & Kratzer 1998)
   All nodes in a phrase structure tree must be in the domain of the interpretation function $[\![\ ]\!]$.

Lexical Entries

/Mary/ :: $\lambda f_{\langle e,it\rangle}.\lambda t.f(m)(t)$ :: ϵ	$\langle$eit,it$\rangle$
/someone/ :: $\lambda f_{\langle e,it\rangle}.\lambda t.\exists x(\text{person}(x)(t)\ \&\ f(x)(t))$ :: ϵ	$\langle$eit,it$\rangle$
/everyone/ :: $\lambda f_{\langle e,it\rangle}.\lambda t.\forall x(\text{person}(x)(t) \rightarrow f(x)(t))$ :: ϵ	$\langle$eit,it$\rangle$
/every/ :: $\lambda f_{\langle e,it\rangle}.\lambda g_{\langle e,it\rangle}.\lambda t.\forall x(f(x)(t) \rightarrow g(x)(t))$ :: E_R	$\langle$eit, $\langle$eit,it$\rangle\rangle$
/some/ :: $\lambda f_{\langle e,it\rangle}.\lambda g_{\langle e,it\rangle}.\lambda t.\exists x(f(x)(t)\ \&\ g(x)(t))$ :: E_R	$\langle$eit, $\langle$eit,it$\rangle\rangle$
/donkey/ :: $\lambda x.\lambda t.\text{donkey}(x)(t)$ :: ϵ	$\langle$e,it$\rangle$
/cute/ :: $\lambda f_{\langle e,it\rangle}.\lambda x.\lambda t.f(x)(t)\ \&\ \text{cute}(x)(t)$ :: $\langle \text{E}_\text{R}\rangle$	$\langle$eit,eit$\rangle$
/dance/ :: $\lambda R_{\langle i,it\rangle}.\lambda e.\lambda t.\text{dance}(e)\ \&\ R(\text{CUL}(e))(t)$ :: E_R	$\langle$iit,sit$\rangle$
/inspect/ :: $\lambda R_{\langle i,it\rangle}.\lambda x.\lambda e.\lambda t.\text{inspection}(e)\ \&\ \text{Theme}(e)(x)\ \&\ R(\text{CUL}(e))(t)$ :: $\text{E}_\text{R}\ \text{E}_\text{R}$	$\langle$iit,$\langle$e,sit$\rangle\rangle$
BE :: $\lambda R_{\langle i,it\rangle}.\lambda G_{\langle eit,eit\rangle}.\lambda x.\lambda t.\ \exists t'(R(t')(t)\ \&\ G(\lambda y.\lambda t''.\top)(x)(t'))$ :: $\text{E}_\text{R}\ \text{E}_\text{R}\ \text{E}_{\text{L},\langle eit,it\rangle}$	$\langle$iit,$\langle\langle$eit,eit$\rangle$,eit$\rangle\rangle$
PAST :: $<$ :: ϵ	$\langle$i,it$\rangle$
/beautifully/ :: $\lambda F_{\langle s,it\rangle}.\lambda e.\lambda t.F(e)(t)\ \&\ \text{beautiful}(e)$ :: $\text{E}_\text{R}/\text{E}_\text{L}$	$\langle$sit,sit$\rangle$
ϵ :: $\lambda F_{\langle s,it\rangle}.\lambda x.\lambda t.\exists e(F(e)(t)\ \&\ \text{Agent}(e)(x))$ :: $\text{E}_\text{R}\ \text{E}_{\text{L},\langle eit,it\rangle}\ \langle \text{i}_{\langle eit,it\rangle}\rangle\ \langle \text{i}_{\langle eit,it\rangle}\rangle$	$\langle$sit,eit$\rangle$

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/everyone/ :: $\lambda f_{\langle e,it\rangle}.\lambda t.\forall x(\text{person}(x)(t) \rightarrow f(x)(t))$ :: ϵ $\langle eit,it\rangle$

/every/ :: $\lambda f_{\langle e,it\rangle}.\lambda g_{\langle e,it\rangle}.\lambda t.\forall x(f(x)(t) \rightarrow g(x)(t))$ :: $\mathrm{E_R}$ $\langle eit,\langle eit,it\rangle\rangle$

/some/ :: $\lambda f_{\langle e,it\rangle}.\lambda g_{\langle e,it\rangle}.\lambda t.\exists x(f(x)(t)\ \&\ g(x)(t))$ :: $\mathrm{E_R}$ $\langle eit,\langle eit,it\rangle\rangle$

/donkey/ :: $\lambda x.\lambda t.\text{donkey}(x)(t)$ :: ϵ $\langle e,it\rangle$

/cute/ :: $\lambda f_{\langle e,it\rangle}.\lambda x.\lambda t.f(x)(t)\ \&\ \text{cute}(x)(t)$ :: $\langle \mathrm{E_R}\rangle$ $\langle eit,eit\rangle$

/dance/ :: $\lambda R_{\langle i,it\rangle}.\lambda e.\lambda t.\text{dance}(e)\ \&\ R(\textsc{cul}(e))(t)$ :: $\mathrm{E_R}$ $\langle iit,sit\rangle$

/inspect/ :: $\lambda R_{\langle i,it\rangle}.\lambda x.\lambda e.\lambda t.\text{inspection}(e)\ \&\ \text{Theme}(e)(x)\ \&\ R(\textsc{cul}(e))(t)$
:: $\mathrm{E_R}\ \mathrm{E_R}$ $\langle iit,\langle e,sit\rangle\rangle$

BE :: $\lambda R_{\langle i,it\rangle}.\lambda G_{\langle eit,eit\rangle}.\lambda x.\lambda t.\ \exists t'(R(t')(t)\ \&\ G(\lambda y.\lambda t''.\top)(x)(t'))$
:: $\mathrm{E_R}\ \mathrm{E_R}\ \mathrm{E_{L,\langle eit,it\rangle}}$ $\langle iit,\langle\langle eit,eit\rangle,eit\rangle\rangle$

PAST :: $<$ :: ϵ $\langle i,it\rangle$

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Note that different traditional syntactic categories have different semantic types.

Semantics (Heim & Kratzer 1998)

1. *Functional Application*
   If α is a branching node and $\{\beta, \gamma\}$ the set of its daughters, then, for any assignment g, α is in the domain of $[\![\ ]\!]^g$ if both β and γ are, and $[\![\beta]\!]^g$ is a function whose domain contains $[\![\gamma]\!]^g$. In that case, $[\![\alpha]\!]^g = [\![\beta]\!]^g([\![\gamma]\!]^g)$.
2. *Predicate Abstraction*
   For all indices n and assignments g, $[\![\epsilon :: \lambda_n \quad \alpha]\!]^g = \lambda x.\, [\![\alpha]\!]^{g^{x/n}}$.
3. *Traces*
   If α is a trace, g is a variable assignment, and $n \in \mathrm{dom}(g)$, then $[\![\alpha_n]\!]^g = g(n)$.
4. *Lexical Terminals*
   If α is a lexical item, then, for any assignment g, $[\![\alpha]\!]^g$ is given by the semantic features of α.

An example I

- We will analyse the following example:

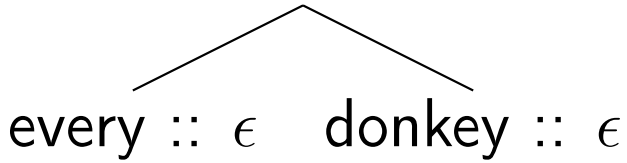
  (11) Mary inspected every donkey.

- Structure-building will be constrained by semantic type compatibility, the requirement that Merge must be triggered by a feature ($\mathrm{E_L}$, $\mathrm{E_R}$, i), and the constraints on Merge noted four slides ago.
- Assume that the verb *inspect* will be used.
- Then in the list of lexical entries above, the only pairs of items that are capable of combining are *every* and *donkey* (and other determiner–noun combinations), *inspect* and PAST, and *cute* and a noun.

An example II

- We combine *every* and *donkey* by External Merge, deleting the $\mathrm{E_R}$ feature on *every*:

(12)

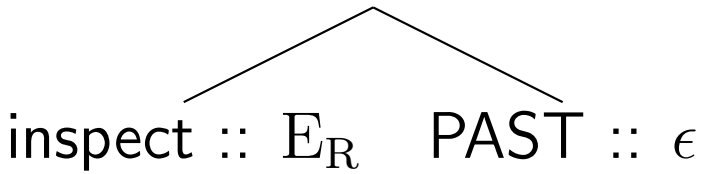


- (12) is of type ⟨eit,it⟩. It would be able to take another noun as argument if structure was constrained only by types; but it cannot because it has no syntactic features.

An example III

- We combine *inspect* and PAST by External Merge, deleting the first $\mathrm{E_R}$ feature on *inspect*:

(13)

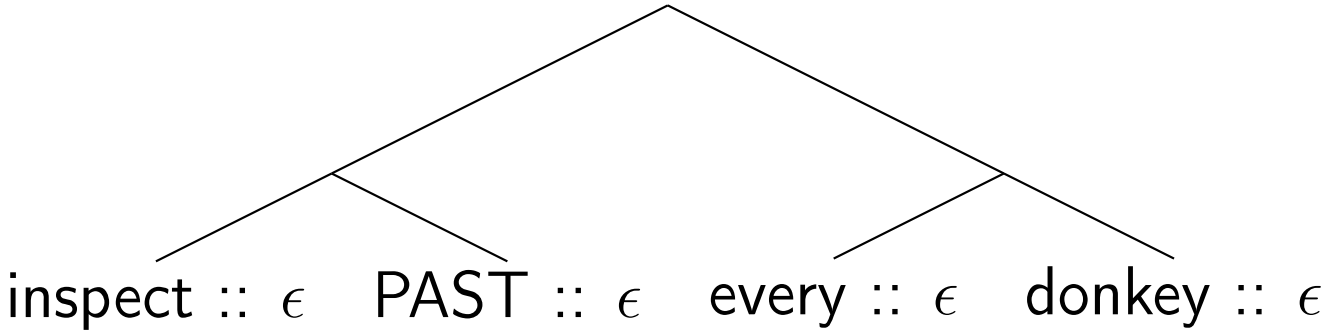


- (13) is of type ⟨e,⟨s,it⟩⟩. Nothing in this system takes things of this type as an argument. The only thing of type e that it could take as an argument is a trace.

An example IV

- Combining (12) and (13) by External Merge produces the following structure:

(14)

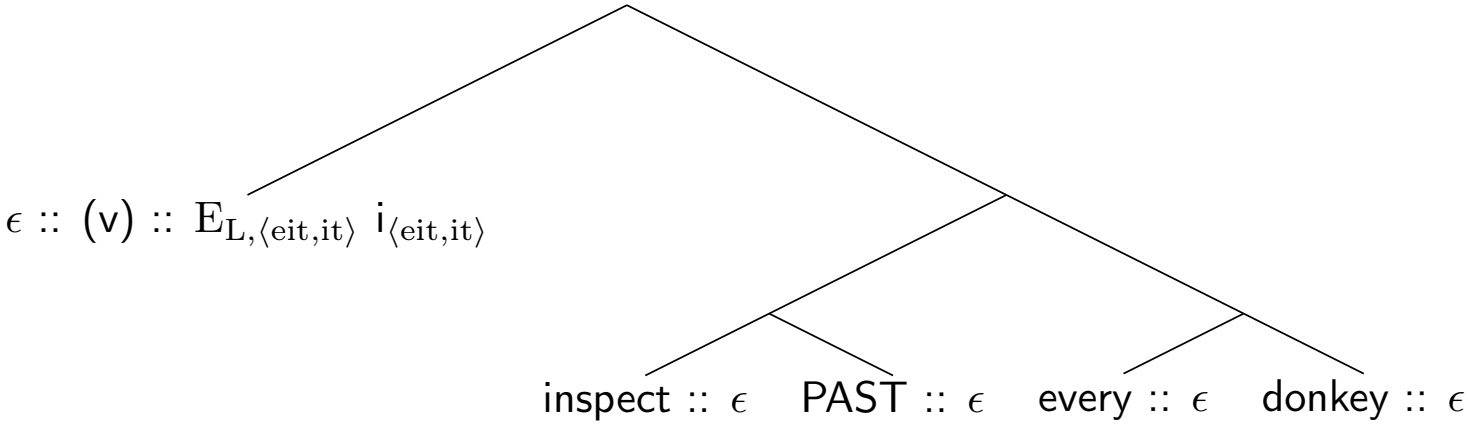


- (14) will be of type ⟨s,it⟩ when *every donkey* has been replaced with a trace. There are no items of type s in this system that it could take as an argument. There are two kinds of things that take things of type ⟨s,it⟩ as arguments: manner adverbs and little v.

An example V

- We merge in little v, deleting its $\mathrm{E_R}$:

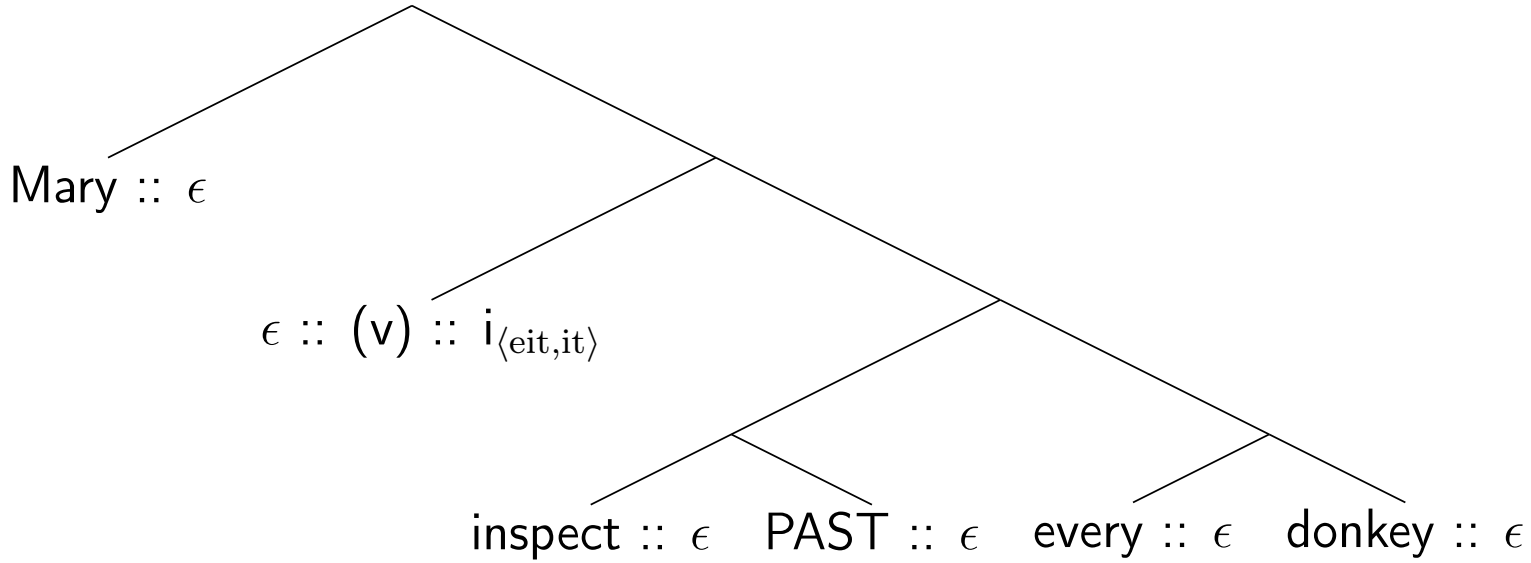
(15)



- (15) will be of type ⟨e,it⟩ when *every donkey* has been replaced with a trace. If there were no annotation for type on the $\mathrm{E_L}$ feature, it would be possible to combine (15) with *cute*.

An example VI

- We merge in *Mary*, which is of type ⟨eit,it⟩:

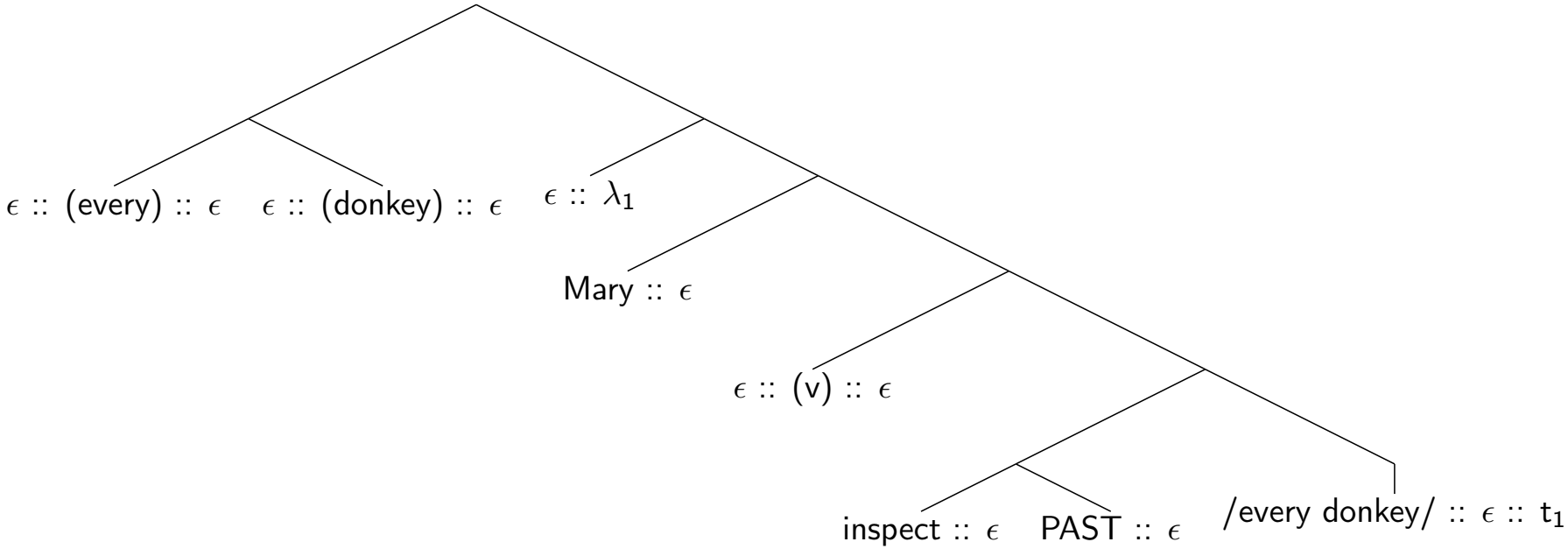


- $i_{\langle eit,it\rangle}$ mandates covert movement of an item of type ⟨eit,it⟩. There are two such items in the tree. Which should be moved? The answer follows from Scope Economy: moving the subject would have no semantic effect. We have to move the object.

An example VII

We move the object, deleting the $\mathrm{i}_{\langle \mathrm{eit,it} \rangle}$ feature on little v:

(16)



This tree has the following truth conditions:

$$\lambda t.\forall x(\text{donkey}(x)(t) \rightarrow \exists e(\text{inspection}(e) \,\&\, \text{Theme}(e)(x) \,\&\, <(\textsc{cul}(e))(t) \,\&\, \text{Agent}(e)(m)))$$

Adjectives, Prepositions, and *a*-Phrases

Adjectives I

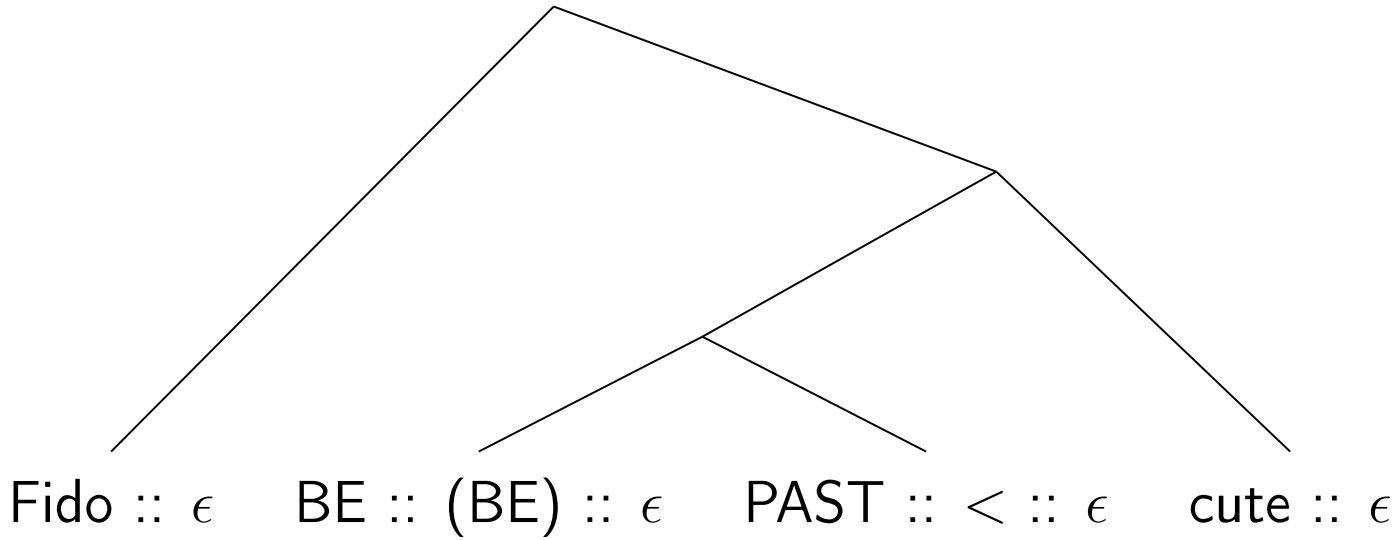
- Adjectives are functions from noun denotations to noun denotations (Clark 1970, Lewis 1970, Montague 1970, Parsons 1970, Elbourne 2026).
- /cute/ :: $\lambda f_{\langle e,it\rangle}.\lambda x.\lambda t.f(x)(t)$ & $\text{cute}(x)(t)$ :: $\langle E_R\rangle$ $\langle$eit,eit$\rangle$
- This distinguishes them from nouns.
- In *attributive position* (*every [cute donkey]*), the adjective takes the noun as an argument and maps it to something of the same type as a noun.

Adjectives II

- What about *predicative position*?

(17) Fido was cute.

(18)



(19) $\lambda t.\exists t'(<(t')(t)\ \&\ \text{cute}(o)(t'))$

Prepositions I

- Prepositional phrases have approximately the distribution of adjectives:

(20) a. Kaline is grey.
b. Kaline is in Texas.

(21) a. a grey cat
b. a cat in Texas

- I suggest that prepositions are of type ⟨e,⟨eit,eit⟩⟩: the whole prepositional phrase is of type ⟨eit,eit⟩, the type of adjectives, which explains their parallel distribution.
- For *in* this suggests (Heim & Kratzer 1998: 66):

(22) /in/ :: $\lambda x.\lambda f_{\langle e,it\rangle}.\lambda y.\lambda t.f(y)(t)$ & $in(y)(x)(t)$ :: $\mathrm{E_R}\ \langle \mathrm{E_L}\ \rangle$

Prepositions II

- At least some prepositions are capable of forming VP-modifiers:

  (23) John walked with care.

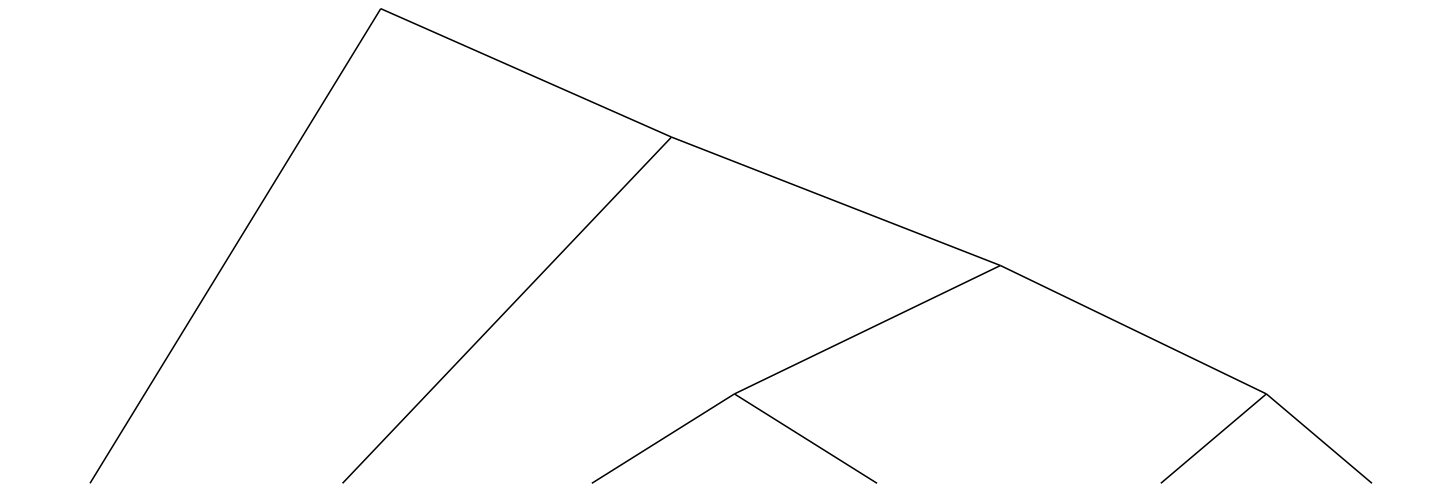
- This suggests the following lexical entry for *with*:

(24) /with/ :: $\lambda x.\lambda F_{\langle s,it\rangle}.\lambda e.\lambda t.F(e)(t)$ & with$(e)(x)$
:: $\mathrm{E_R}\ \langle \mathrm{E_L}\ \rangle$ $\langle e,\langle sit,sit\rangle\rangle$

Prepositions III

- The fragment in this paper generates the following structure and truth conditions for (23), assuming that *care* can be treated as a constant (c) of type e:

(25)



(26) $\lambda t.\exists e(\text{walking}(e)\ \&\ <(\textsc{cul}(e))(t)\ \&\ \text{with}(e)(c)\ \&\ \text{Agent}(e)(j))$

a-Phrases I

- These are DPs whose determiner is *a*, used in predicative fashion:

  (27) Fido is a dog.

- The current approach posits an ambiguity in the word *a*. As well as its quantificational meaning, it will have a meaning to create predicates of type ⟨eit,eit⟩ from nouns.
- Positing ambiguity here is a standard move.

a-Phrases II

- The relevant lexical entry for *a*:

(28) $\text{/a/} :: \lambda f_{\langle e,it\rangle}.\lambda g_{\langle e,it\rangle}.\lambda x.\lambda t.g(x)(t)\ \&\ f(x)(t) :: \mathrm{E_R}$

- The meaning in (28) is of type $\langle eit,\langle eit,eit\rangle\rangle$, a unique type in the current system.
- It converts noun meanings into meanings of the same type and overall shape as adjective meanings:

(29) $[\![\text{dog}]\!] = \lambda x.\lambda t.\text{dog}(x)(t)$

(30) $[\![\text{a dog}]\!] = \lambda f_{\langle e,it\rangle}.\lambda x.\lambda t.f(x)(t)\ \&\ \text{dog}(x)(t)$

(31) $[\![\text{cute}]\!] = \lambda f_{\langle e,it\rangle}.\lambda x.\lambda t.f(x)(t)\ \&\ \text{cute}(x)(t)$

The Coordination Data

Predicative Position I

- Examples:

(32) John is disreputable and of no fixed abode. ("AP and PP")

(33) John is disreputable and a vagabond. ("AP and *a*-phrase")

(34) Nietzsche is a philosopher and beyond good and evil. ("*a*-phrase and PP")

Predicative Position II

- I posit a sense of the word *and* that takes two arguments of type ⟨eit,eit⟩ and maps them to a constituent of the same type.
- There are no requirements on arguments beyond overall type.

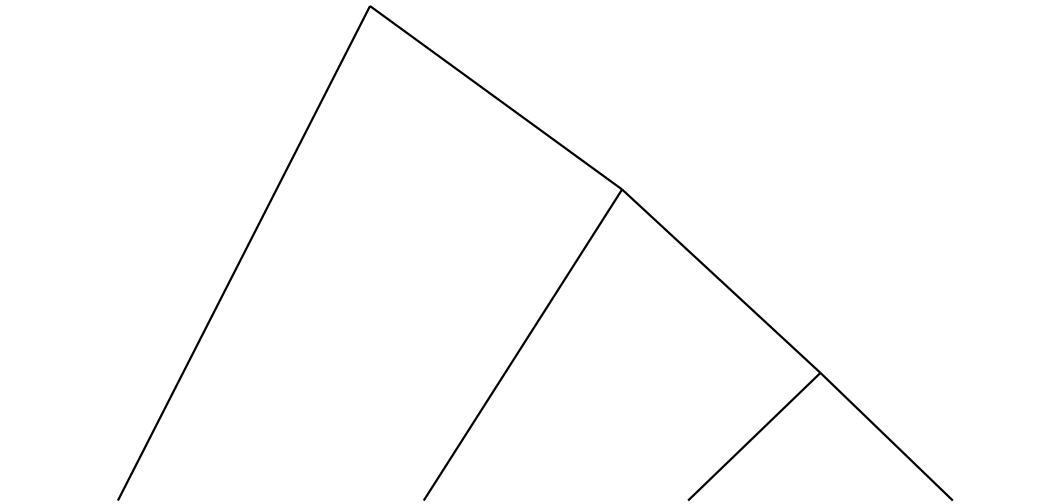
(35) $\text{/and/} :: \lambda F_{\langle \text{eit,eit} \rangle}.\lambda G_{\langle \text{eit,eit} \rangle}.\lambda f_{\langle \text{e,it} \rangle}.\lambda x.\lambda t.\, f(x)(t)\ \&\ F(\lambda y.\lambda t''.\top)(x)(t)\ \&\ G(\lambda y.\lambda t''.\top)(x)(t)$
$:: \text{E}_\text{R}\ \text{E}_\text{L}$

- The denotation in (35) is of type ⟨eiteit,⟨eiteit,eiteit⟩⟩. This is a unique type.

Predicative Position III

(36) Fido is cute and a dog.

(37)



(38) $\lambda f_{\langle e,it\rangle}.\lambda x.\lambda t.\, f(x)(t)$ & cute$(x)(t)$ & dog$(x)(t)$

- (38) is of type ⟨eit,eit⟩, meaning that (36) will now work just like (17) (*Fido was cute*).

Predicative Position IV

- The current theory allows us to cash out the hypothesis that the data make obvious and intuitive: that coordination in these cases is based on identity of semantic type.

Attributive Position I

- A tricky problem (for all frameworks) arises in connection with attributive position.
- Sag *et al.* (1985: 141) note that while (39) is fine, (40) is unacceptable. But (41) is fine:

(39) Terry turned out to be longwinded and a bully.

(40) *The longwinded and a bully man was my brother.

(41) The longwinded and boring man was my brother.

- More generally, a conjunction of adjectives in attributive position (to the left of the noun) is fine, but other combinations of the predicates we have been discussing are ungrammatical.

Attributive Position II

- Alternative generalization: all and only predicates that can appear by themselves in attributive position (to the left of the noun) can appear as conjuncts in that position.
- Just as the (a) examples in (42) and (43) are ungrammatical, so the corresponding (b) examples are ungrammatical; just as (44-a) is grammatical, so is (44-b) grammatical.

(42) a. *the a bully man
b. *the longwinded and a bully man

(43) a. *the in danger man
b. *the longwinded and in danger man

(44) a. the boring man
b. the longwinded and boring man

Attributive Position III

- This suggests that the ability to combine with a syntactic argument to their right might be the decisive factor in allowing adjectives to appear in conjunctions before nouns.

Attributive Position IV

- Thus I propose that *and* can subcategorize for items bearing particular selector features:

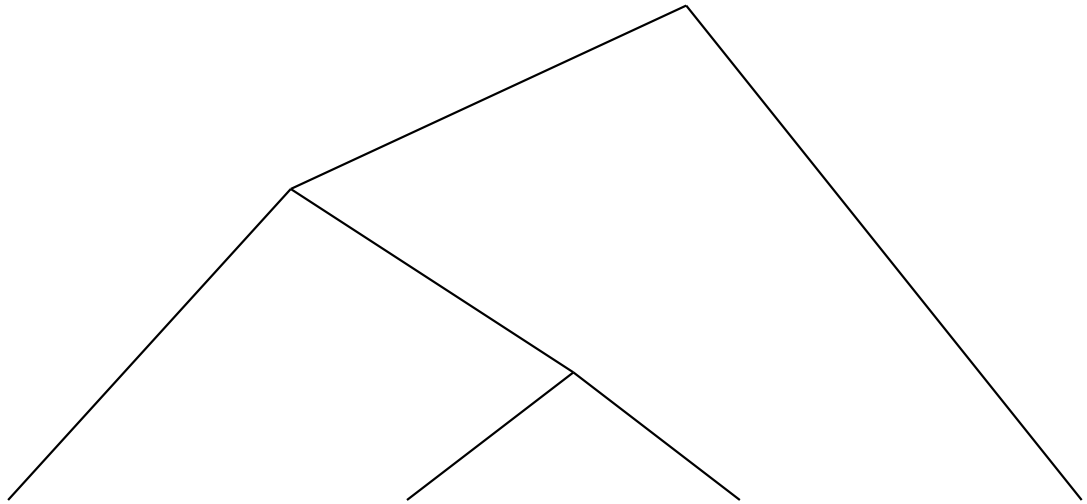
(45) /and/ :: $\lambda F_{\langle \mathrm{eit,eit} \rangle}.\lambda G_{\langle \mathrm{eit,eit} \rangle}.\lambda f_{\langle \mathrm{e,it} \rangle}.\lambda x.\lambda t.\, f(x)(t)$ &
$F(\lambda y.\lambda t''.\top)(x)(t)$ & $G(\lambda y.\lambda t''.\top)(x)(t)$
:: $\mathrm{E}_{\mathrm{R},\mathrm{E}_\mathrm{R}}\ \mathrm{E}_{\mathrm{L},\mathrm{E}_\mathrm{R}}\ \mathrm{E}_\mathrm{R}$

- Given the selector features and the meaning, this version of *and* can only assemble adjectives as conjuncts: adjectives are the only items of type $\langle$eit,eit$\rangle$ (this type being required due to the $\lambda F_{\langle \mathrm{eit,eit} \rangle}.\lambda G_{\langle \mathrm{eit,eit} \rangle} \ldots$) that can bear E_R features.

Attributive Position V

- The last selector feature, $\mathrm{E_R}$, will merge in a noun for the whole conjunction to modify:

(46)



(47) $\lambda x.\lambda t.\mathsf{man}(x)(t)$ & $\mathsf{boring}(x)(t)$ & $\mathsf{longwinded}(x)(t)$

Attributive Position VI

- We now have two versions of *and*, in (35) and (45). The meaning was identical in both cases. The only difference was in the selector features, which were as follows:

(48) $\mathrm{E_R}\ \mathrm{E_L}$

(49) $\mathrm{E_{R,E_R}}\ \mathrm{E_{L,E_R}}\ \mathrm{E_R}$

- The selector features in (48) assemble the conjuncts and do nothing else; they leave the conjunction free of uninterpretable features and thus able to be taken as an argument by the copula or another linking verb.
- A conjunction constructed with this set of features could not appear in attributive position, since it would not have the selector features to bring about the necessary Merge.

Attributive Position VI

- We now have two versions of *and*, in (35) and (45). The meaning was identical in both cases. The only difference was in the selector features, which were as follows:

(48) $\mathrm{E_R}\ \mathrm{E_L}$

(49) $\mathrm{E_{R,E_R}}\ \mathrm{E_{L,E_R}}\ \mathrm{E_R}$

- The features in (49) assemble the conjunction and also merge in a noun to its right that it modifies. A conjunction of adjectives in attributive position will behave just like an individual adjective in that position: it will have an $\mathrm{E_R}$ feature to merge in the noun to be modified.

Attributive Position VII

- We must rule out certain other conceivable sequences of selector features.
- What would happen if *and* with the current meaning could have the following selector features?

(50) $\mathrm{E_R}\ \mathrm{E_L}\ \mathrm{E_R}$

- This would allow phrases like (42-b) (**the longwinded and a bully man*), since the requirement for $\mathrm{E_R}$ features on the first two constituents to be merged has now been dropped.

Attributive Position VIII

- I suggest that the permissible selector features on the current version of *and* be indicated as follows:

(51) /and/ :: $\lambda F_{\langle \mathrm{eit},\mathrm{eit}\rangle}.\lambda G_{\langle \mathrm{eit},\mathrm{eit}\rangle}.\lambda f_{\langle \mathrm{e},\mathrm{it}\rangle}.\lambda x.\lambda t.\, f(x)(t)\ \&$
$F(\lambda y.\lambda t''.\top)(x)(t)\ \&\ G(\lambda y.\lambda t''.\top)(x)(t)$
:: $\mathrm{E}_{\mathrm{R},\gamma}\ \mathrm{E}_{\mathrm{L},\gamma}\ \gamma$

- γ is a variable over the three possibilities that obtain when it comes to selector features: E_{R}, E_{L}, and the empty sequence ϵ. That gives us three permissible options: (48), with ϵ put in for γ; (49), with E_{R}; and (52), with E_{L}.

(52) $\mathrm{E}_{\mathrm{R},\mathrm{E}_{\mathrm{L}}}\ \mathrm{E}_{\mathrm{L},\mathrm{E}_{\mathrm{L}}}\ \mathrm{E}_{\mathrm{L}}$

Attributive Position IX

- (52) will enable conjunctions of prepositional phrases (and, in a larger fragment, restrictive relative clauses) after nouns, as in the following examples:

(53) a. a man in trouble with the police and of no fixed abode
b. a man who stole frequently and who was in trouble with the police
c. a man in trouble with the police and who was of no fixed abode

(54) ??a man whom I like and in trouble with the police

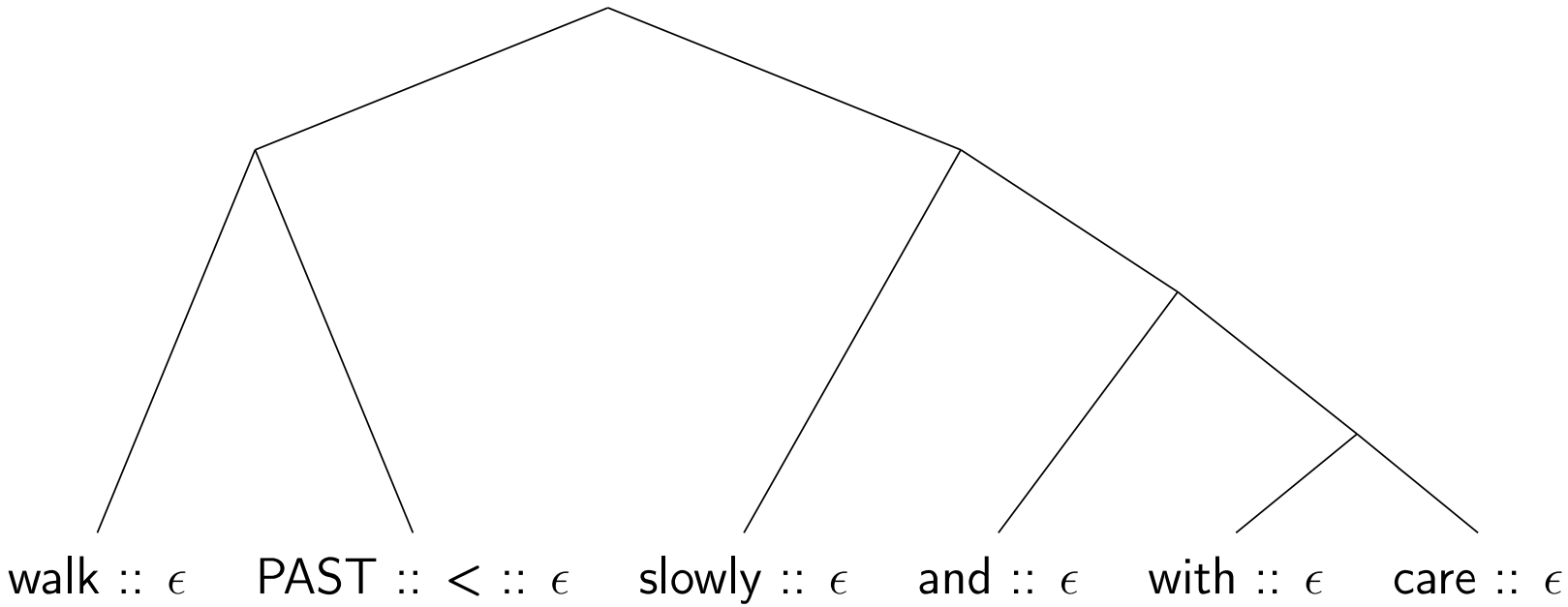
(55) I feel like I can rarely find bed recolors that I like and in this style, so I made some!

Adverbial Phrases

- As we saw in (6), there are also examples of adverbs being coordinated with prepositional phrases:

(56) John walked slowly and with care. ("AdvP and PP")

(57)



(58) $\lambda e.\lambda t.\text{walking}(e)\ \&\ <(\text{CUL}(e))(t)\ \&\ \text{with}(e)(c)\ \&\ \text{slow}(e)$

Previous Accounts

Advantage of the Current Account

- In this section I will comment on two prominent previous accounts of the coordination data.
- The main virtue of the current approach is economy.
- The data either fall out directly from the very nature of the current system (in the case of selection for semantic type) or are accounted for by the use of elements that are already posited in the current system (and in previous versions of Minimalist grammar) for other reasons.

Adding Extra Categories

- A prominent group of previous accounts add extra syntactic categories (or syntactic features) specially to deal with the current data.
- Goodall (1987: 44) proposes that we postulate not only normal syntactic categories but also "superordinate archicategories"; coordination can coordinate either.
- In the predicative cases, there is an archicategory Predicate, and in the adverbial cases there is an archicategory Manner.
- Similar accounts have been given by Sag *et al.* (1985), Bowers (1993), and Bruening & Al Khalaf (2020).
- I submit that these approaches compare unfavourably with mine in terms of economy.

Using Grammatical Functions I

- The second group of solutions is that which uses grammatical functions (Dik 1968, Peterson 1981, 2004).
- The idea is that coordination is capable of targetting two constituents whose grammatical functions are the same and not constituents whose syntactic categories are the same.
- For example, Peterson (2004: 650), building on the tradition of Lexical Functional Grammar (LFG), uses a grammatical function XCOMP that is shared by all the items that are capable of being coordinated in predicative position.

Using Grammatical Functions II

- However, theories based on grammatical functions face a problem in this context from the phenomenon of *heterofunctional coordination* (Zhang 2007, Przepiórkowski *et al.* 2025).
- Heterofunctional coordination is when conjuncts would be assigned different grammatical functions by theories that trade in these things (Browne 1972).

Using Grammatical Functions III

- Here are some examples, taken from Przepiórkowski (2022: 276, 280; Polish) and Citko & Gračanin-Yuksek (2013: 18; Romanian):

(59) Tu krytykują [wszyscy i wszystkich].
here criticize.PL all.NOM.PL and all.ACC.PL
'Here everyone criticizes someone or other and everyone is criticized by someone or other.'

(60) [Cine şi cu cine] s-a intilnit?
who and PREP who REFL-AUX met
'Who met whom?'

Conclusion

Conclusion

- The main advantage of the current analysis, that of economy, has already been stressed.
- One additional advantage of the current analysis is that it completely avoids the question of what the syntactic category of conjunctions should be, which is a problem that has dogged work on conjunction at least since Sag *et al.* (1985: 141).

Future Work I

- As well as the two cases on which I have concentrated in this paper, there are several other kinds of example that have been claimed to present problems for the thesis that coordination is restricted to like syntactic categories.
- There is some hope that these too might be analysed as involving like semantic types.

Future Work II

- Patejuk & Przepiórkowski (2023):

  (61) Many in DC behave [this way or worse].

- Perhaps *this way* is just recorded in the lexicon as an idiom chunk with an appropriate adverbial meaning.
- This approach is made plausible by the fact that the kind of meaning with which we are dealing cannot be computed compositionally:

  (62) a. Many in DC behave in this manner.
  b. *Many in DC behave this manner.

  (63) a. Many in DC behave in this fashion.
  b. *Many in DC behave this fashion.

Future Work III

- Subordinate clauses are sometimes conjoined with DPs after verbs (Dik 1968: 28):

  (64) I want to emphasize this point and also that you should never forget what your father told you.

- Perhaps the clausal conjunct is equivalent in meaning to a nominal like *the fact that...*. Unpronounced structure? Bruening & Al Khalaf 2020.

Future Work IV

- Classic fantasy novels by T. H. White (Bruening & Al Khalaf 2020):

  (65) *The Once and Future King*

- This looks like a conjunction of an adverb and an adjective.
- But Patejuk & Przepiórkowski (2023) and Przepiórkowski & Patejuk (2024) have cited naturally occurring examples in which apparent adverbs seem to have adjectival uses:

  (66) *(Talking about Charles III, shortly after the death of Elizabeth II...)* At last year's global climate talks in Glasgow, the now monarch said: "We know what we must do."

- This opens up the possibility that (65) involves two predicates of type ⟨eit,eit⟩.

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