You can depend on the symmetry of coordination and that NPs and CPs can be conjoined

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Form and Meaning of Coordination
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Introduction

What is the **syntactic structure of coordinate structures**?

Many competing views both in generative linguistics and in dependency grammars.

Two classes of syntactic theories of coordinate structures:

- **symmetric**: all conjuncts contribute equally to (morpho)syntactic properties of the coordination,
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Symmetric approaches:

1. LFG, HPSG – not illustrated here,
2. **Neeleman *et al.* 2023** (mutual adjunction; cf. May 1985):

Running example (attested; the English Web 2015 corpus):

- I understand [$_{NP}$ those concerns] and [$_{CP}$ that they are sincerely held].

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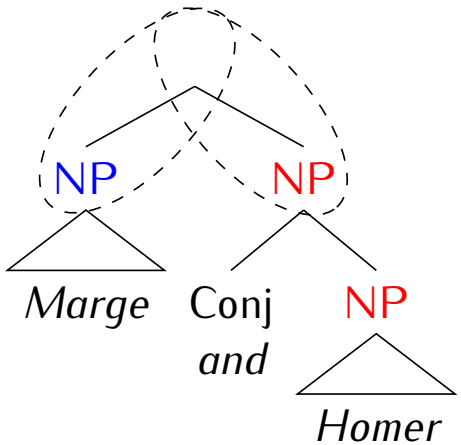

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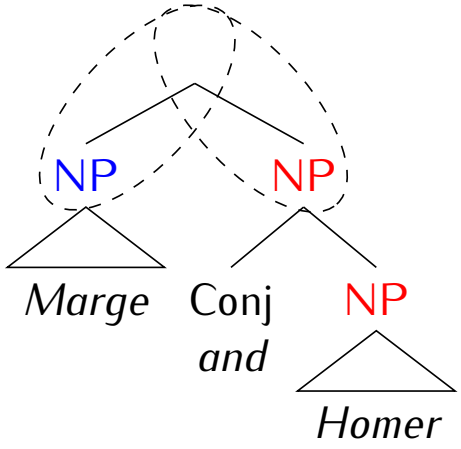

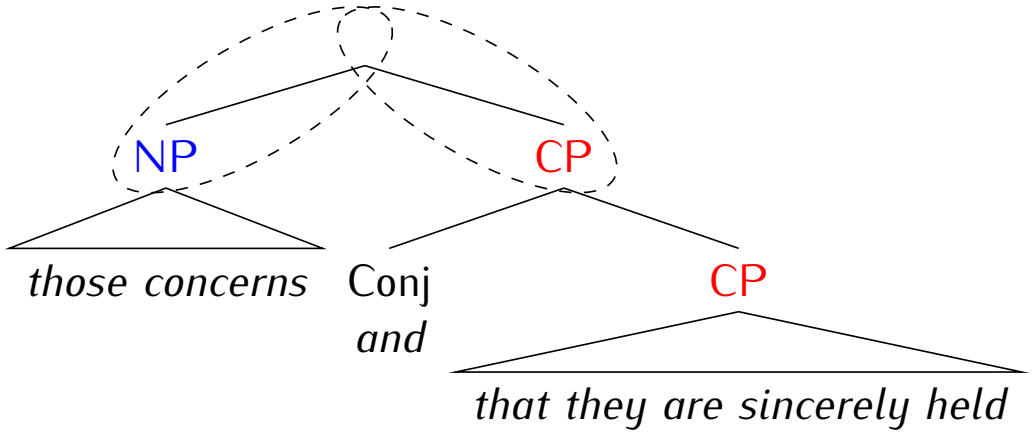

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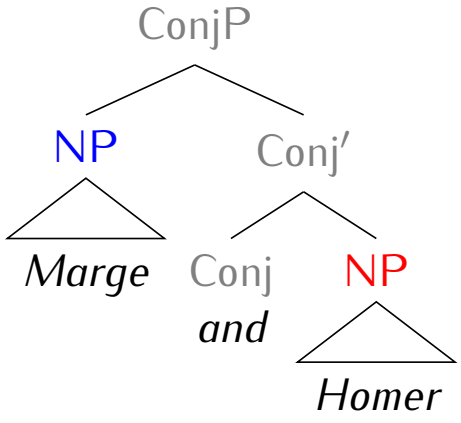

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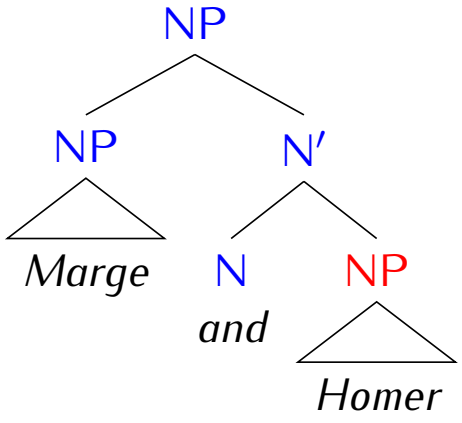

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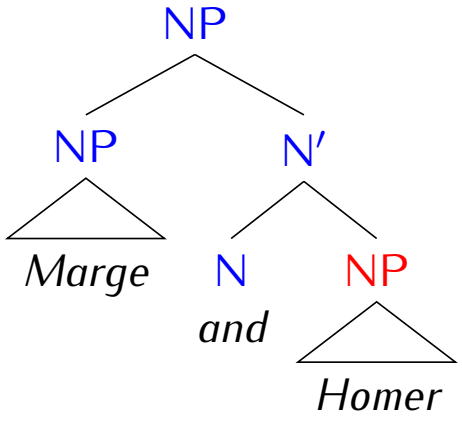

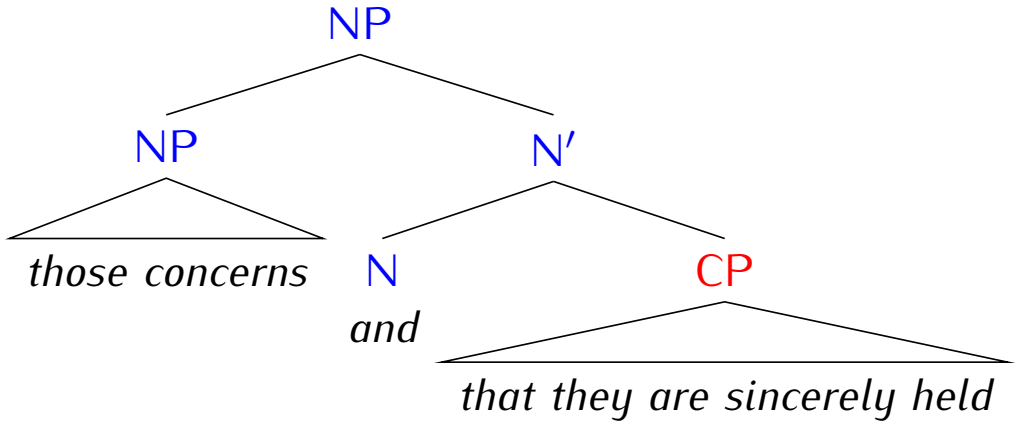

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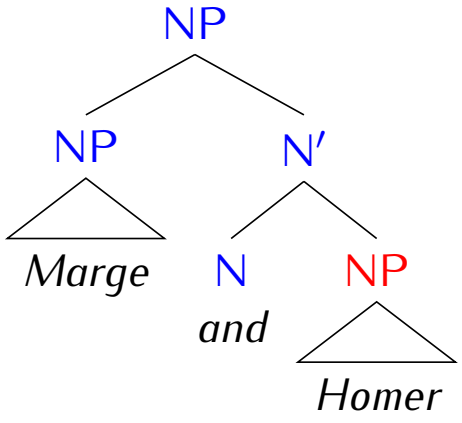

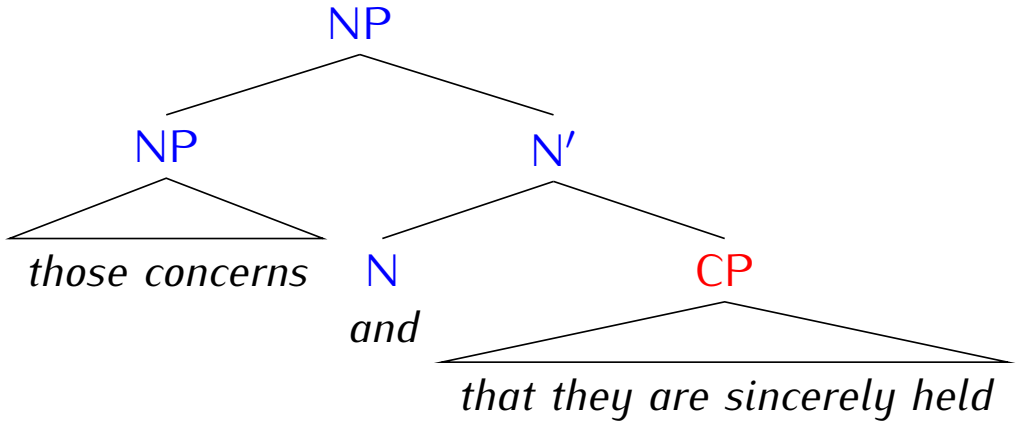

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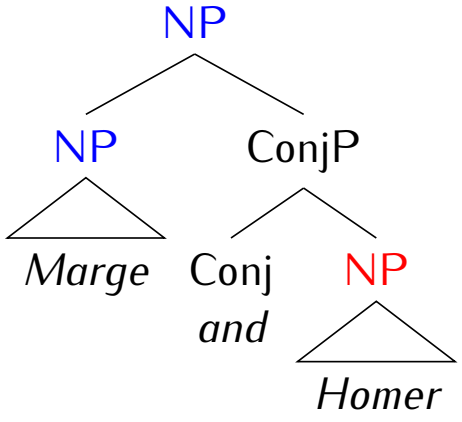

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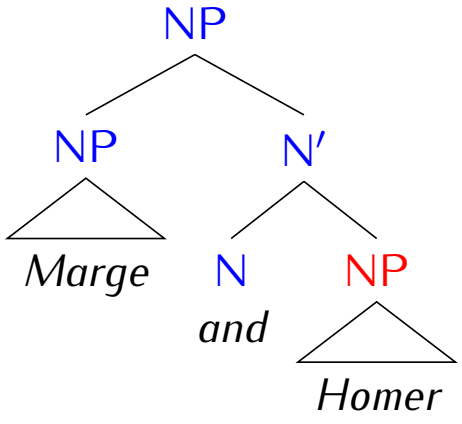

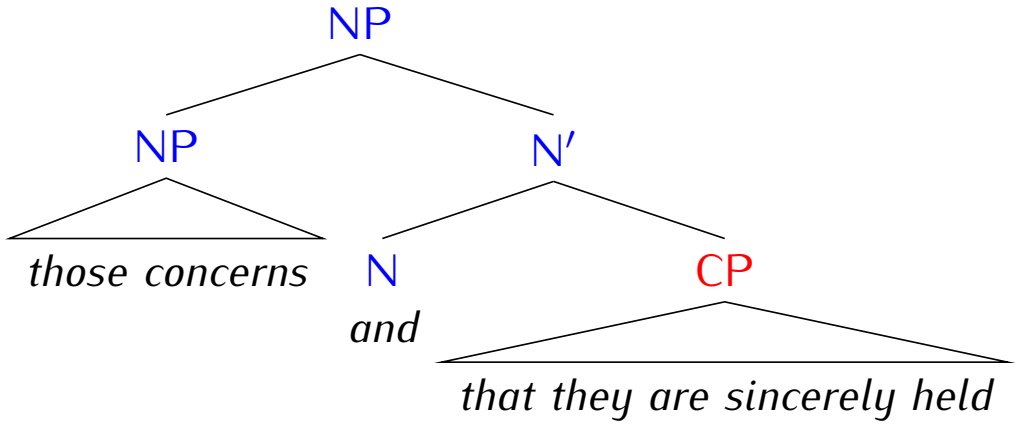

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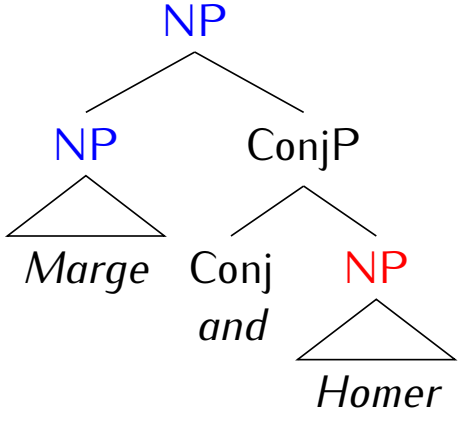

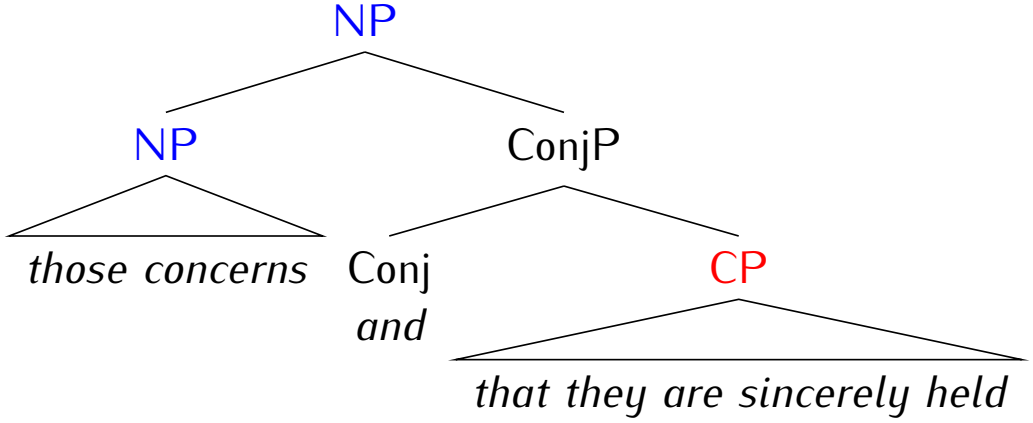

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2. **Word Grammar** (Hudson 1984, 1988, 1989, 1990):

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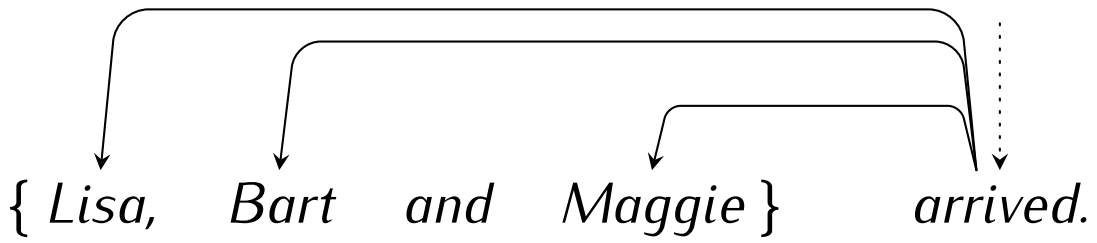

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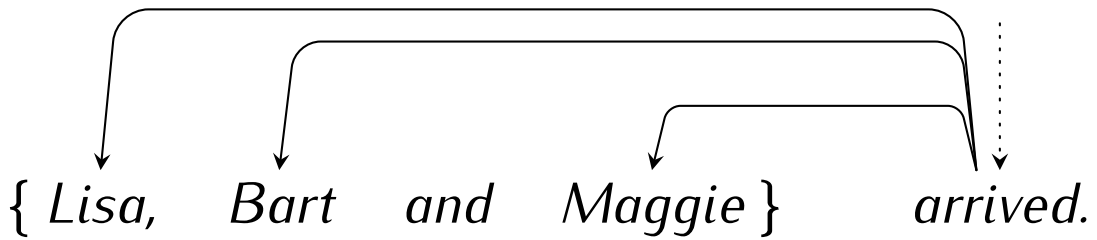

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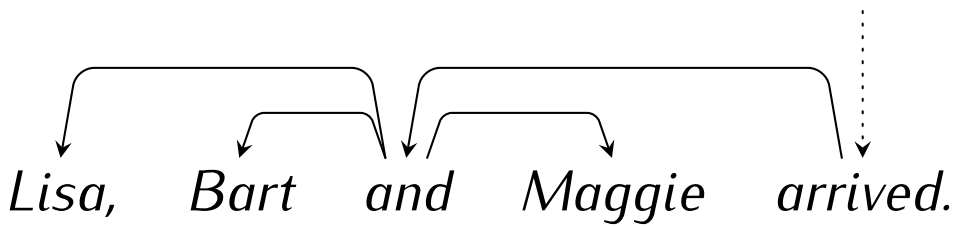

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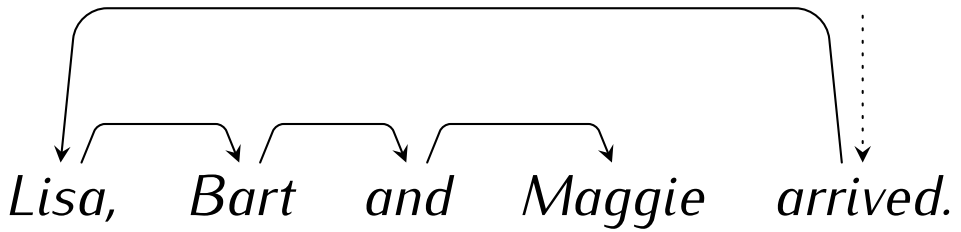

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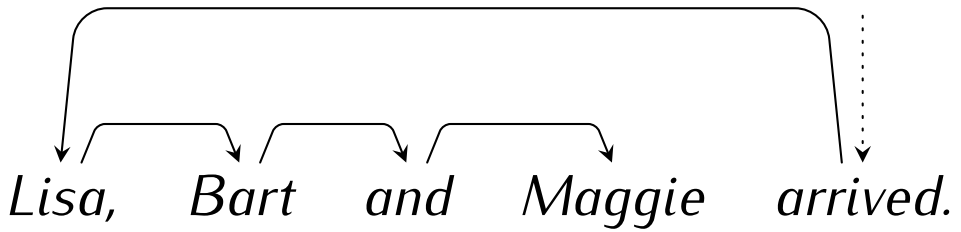

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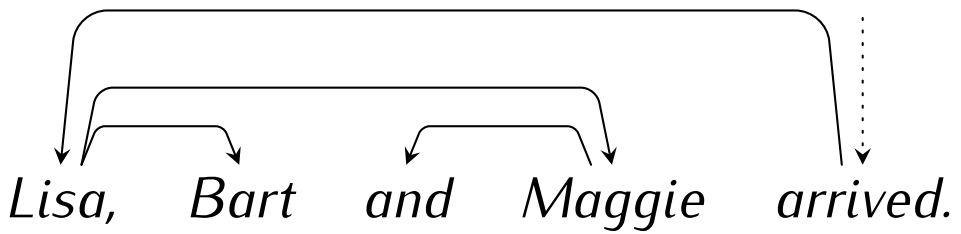

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Aim: show that **coordination of unlike categories does *not* provide an argument for asymmetric approaches**.

The **outline**:

1. argument from **coordination of unlikes** ***against*** **symmetric approaches**,
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The acceptability of the crucial examples is explained, if the following are acceptable:

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Joint work with Berke Şenşekerci, Katarzyna Kuś (both University of Warsaw), and Agnieszka Patejuk (ICS Polish Academy of Sciences).

We looked at 8 predicates:

- 3 from Sag *et al.* 1985: *annoyed (by), depend (on), talk (about),*
- 4 more more considered in Bruening 2023: *account (for), ashamed (of), familiar (with), speak (about),* and
- 1 more: *suffer (from).*

Both corpus evidence and experimental evidence.

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Corpus Evidence 1

The number of occurrences of predicate plus *that* in English Web 2021 and the number of **true combinations of the predicate with its CP dependent among a 100-hit random sample**:

Predicate	Hits	Sampled	TPs
annoyed	501	100	**93**
ashamed	4,551	100	**85**
familiar	316	100	**48**
account	7,975	100	**3**
depend	534	100	**15**
speak	17,636	100	**10**
suffer	11,603	100	**1**
talk	13,732	100	**6**

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The number of occurrences of predicate plus *that* in English Web 2021 and the number of **true combinations of the predicate with its CP dependent among a 100-hit random sample**:

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Corpus Evidence 2

Some **examples** for ***depend***:

1. *No matter what management does in the States, we always have to **depend** [$_{CP}$ that they are building it to our specs, which isn't always the case].*
2. *They respect each other's role and **depend** [$_{CP}$ that each wolf in the pack will live up to their individual responsibility].*
3. *...and you may **depend** [$_{CP}$ that we will endeavor to be your guard].*

Some for ***talk***:

4. *Some of us old timers were out at Avis Collier's Store not long ago and were **talking** [$_{CP}$ that we hadn't been to a Serenading Party for about 40 years or better].*
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Experiment 1 (for the 8 predicates listed above)

Acceptability judgement experiment (Prolific, LimeSurvey, R;
N = 70: N_{uk} = 56, N_{us} = 13, N_{ca} = 1; F = 24, M = 46).

8 × 8 = 64 **experimental items** like these:

1. 1. CP condition:
   *Justin Bieber can **depend** [$_{CP}$ that his fans still love his early songs].*
   2. PP condition:
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The experiment followed the **Thermometer Method**, argued to be superior to the standard Likert Scale (Featherston 2008, 2009).

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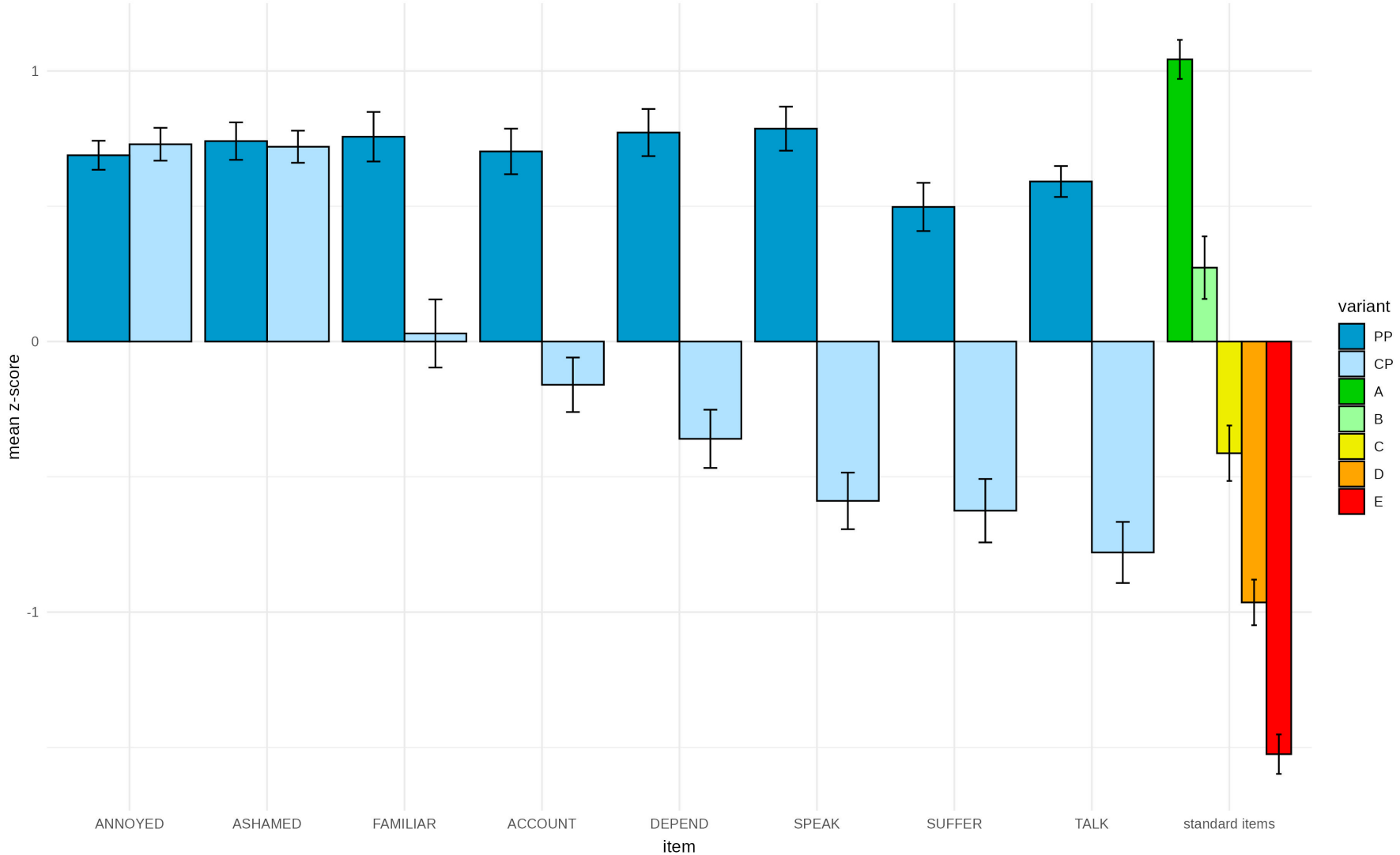

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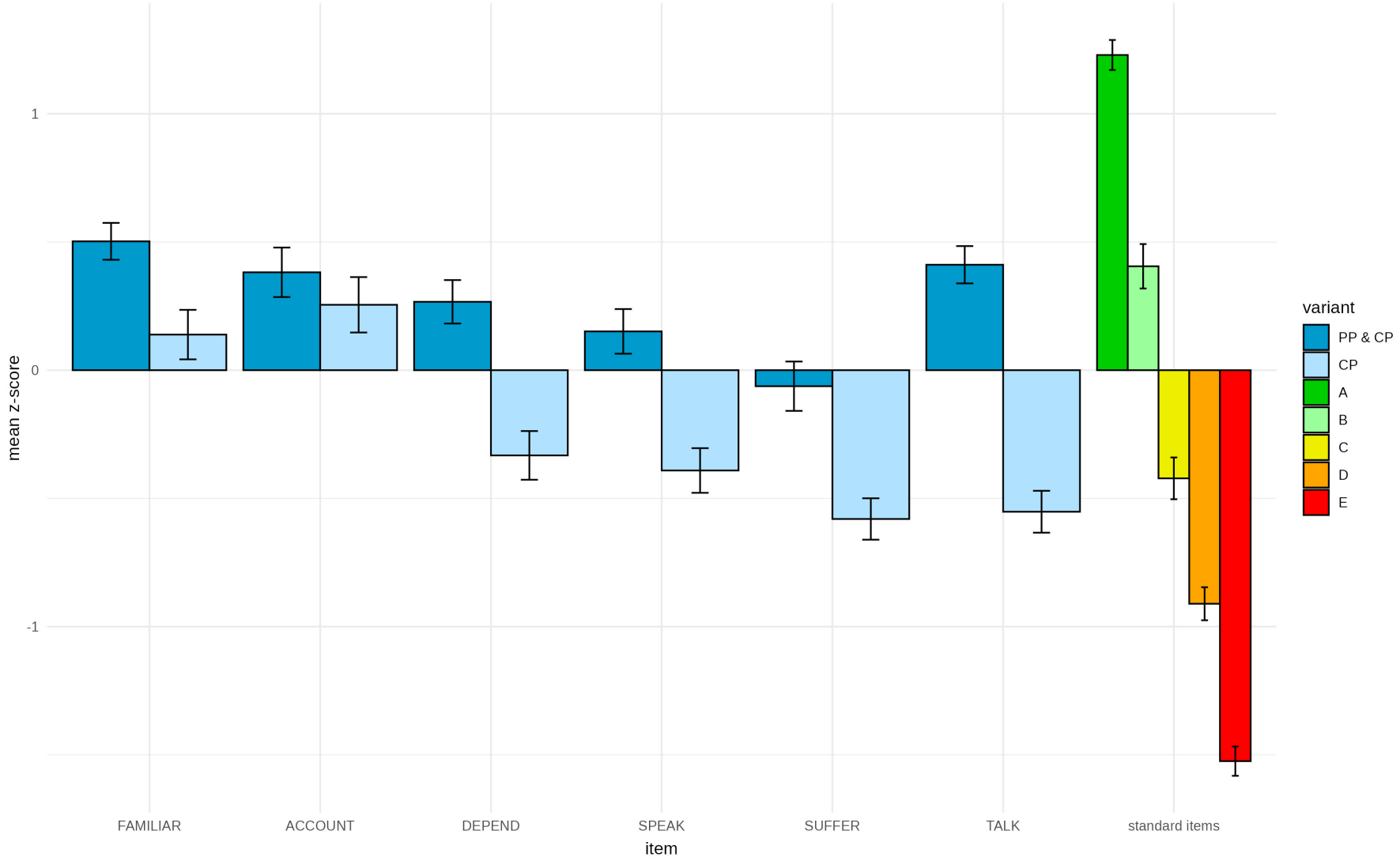

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Coordination of unlike categories actually provides an **argument *for* symmetric theories** of coordination.

For **example** (Sag *et al.* 1985, Dalrymple 2017, Neeleman *et al.* 2023):

- *Danny **was**...*
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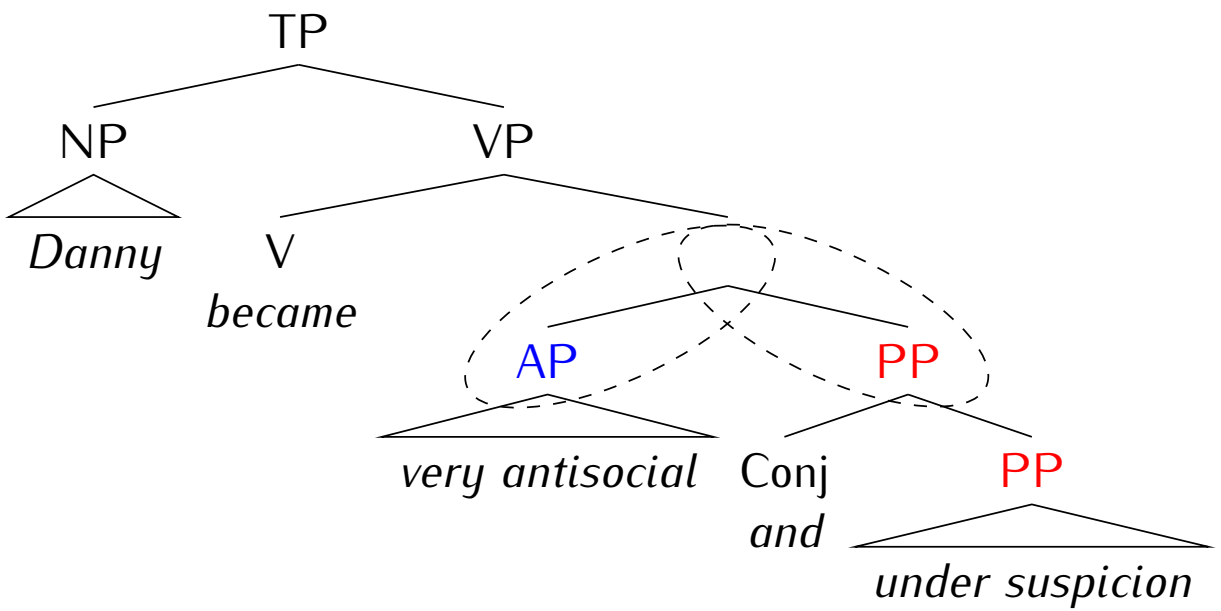

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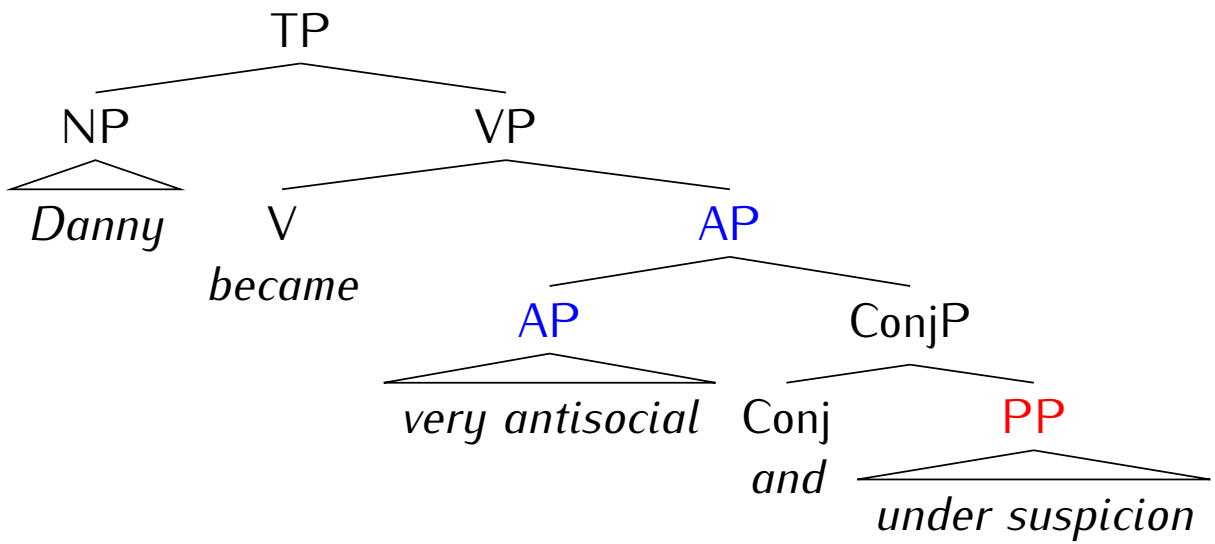

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There is **no robust argument *against* symmetric theories from the coordination of unlikes**:

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Thank you for your attention!

Bondarenko, T. (2021a). The dual life of embedded CPs: Evidence from Russian *čto*-clauses. In N. Dreier, C. Kwon, T. Darnell, and J. Starr, editors, *Proceedings of SALT 31*, pages 304–323.

Bondarenko, T. (2021b). How do we explain that CPs have two readings with some verbs of speech? In *Proceedings of WCCFL 39*.

Bruening, B. (2023). Selectional violations in coordination (a response to Patejuk and Przepiórkowski 2023). To appear in *Linguistic Inquiry*.

Bruening, B. and Al Khalaf, E. (2020). Category mismatches in coordination revisited. *Linguistic Inquiry*, **51**(1), 1–36.

Bäuerle, R., Schwarze, C., and von Stechow, A., editors (1983). *Meaning, Use and Interpretation of Language*. Walter de Gruyter, Berlin.

Dalrymple, M. (2017). Unlike phrase structure category coordination. In V. Rosén and K. De Smedt, editors, *The Very Model of a Modern Linguist*, volume 8 of *Bergen Language and Linguistics Studies*, pages 33–55. University of Bergen Library, Bergen.

de Marneffe, M.-C., Manning, C. D., Nivre, J., and Zeman, D. (2021). Universal Dependencies. *Computational Linguistics*, **47**(2), 255–308.

Featherston, S. (2008). Thermometer judgements as linguistic evidence. In C. M. Riehl and A. Rothe, editors, *Was ist linguistische Evidenz?*, pages 69–90. Shaker Verlag, Aachen.

Featherston, S. (2009). A scale for measuring well-formedness: Why syntax needs boiling and freezing points. In S. Featherston and S. Winkler, editors, *The Fruits of Empirical Linguistics (Volume 1: Process)*, pages 47–73. Mouton de Gruyter, Berlin.

Gerbrich, H., Schreier, V., and Featherston, S. (2019). Standard items for English judgment studies: Syntax and semantics. In S. Featherston, R. Hörnig, S. von Wietersheim, and S. Winkler, editors, *Experiments in Focus: Information Structure and Semantic Processing*, pages 305–327. Mouton de Gruyter, Berlin.

Hajič, J., Panevová, J., Hajičová, E., Sgall, P., Pajas, P., Štěpánek, J., Havelka, J., Mikulová, M., Žabokrtský, Z., Ševčíková Razímová, M., and Urešová, Z. (2006). Prague Dependency Treebank 2.0 (PDT 2.0).

Hudson, R. (1984). *Word Grammar*. Blackwell, Oxford.

Hudson, R. (1988). Coordination and grammatical relations. *Journal of Linguistics*, **24**(2), 303–342.

Hudson, R. (1989). Gapping and grammatical relations. *Journal of Linguistics*, **25**(1), 57–94.

Hudson, R. (1990). *English Word Grammar*. Blackwell, Oxford.

Hudson, R. (1995). Does English really have case? *Journal of Linguistics*, **31**(2), 375–392.

Johannessen, J. B. (1998). *Coordination*. Oxford University Press, Oxford.

Kratzer, A. (2006). Decomposing attitude verbs. Talk delivered at the Hebrew University of Jerusalem.

Liefke, K. (2014). *A Single-Type Semantics for Natural Language*. Ph.D. dissertation, Tilburg University.

Liefke, K. and Werning, M. (2018). Evidence for single-type semantics – an alternative to e/t-based dual-type semantics. *Journal of Semantics*, **35**(4), 639–685.

Link, G. (1983). The logical analysis of plurals and mass terms. In Bäuerle *et al.* (1983),

pages 302–323.

Link, G. (1998). *Algebraic Semantics in Language and Philosophy*. CSLI Publications, Stanford, CA.

May, R. (1985). *Logical Form: Its Structure and Derivation*. MIT Press, Cambridge, MA.

Mel'čuk, I. (1988). *Dependency Syntax: Theory and Practice*. The SUNY Press, Albany, NY.

Mel'čuk, I. (2009). Dependency in natural language. In A. Polguère and I. Mel'čuk, editors, *Dependency in Linguistic Description*, pages 1–110. John Benjamins, Amsterdam.

Moulton, K. (2009). *Natural Selection and the Syntax of Clausal Complementation*. Ph.D. dissertation, University of Massachusetts, Amherst.

Moulton, K. (2015). CPs: Copies and compositionality. *Linguistic Inquiry*, **46**(2), 305–342.

Munn, A. (1987). Coordinate structure and X-bar Theory. *McGill Working Papers in Linguistics*, **4**, 121–140.

Munn, A. B. (1993). *Topics in the Syntax and Semantics of Coordinate Structures*. Ph.D. dissertation, University of Maryland.

Neeleman, A., Philip, J., Tanaka, M., and van de Koot, H. (2023). Subordination and binary branching. *Syntax*, **26**(1), 41–84.

Parrott, J. K. (2009). Danish vestigial case and the acquisition of vocabulary in Distributed Morphology. *Biolinguistics*, **3**(2–3), 270–304.

Partee, B. H. (2009). Do we need two basic types? *Snippets*, **20**, 37–41.

Partee, B. H. and Rooth, M. (1983). Generalized conjunction and type ambiguity. In

Bäuerle *et al.* (1983), pages 361–383.

Patejuk, A. and Przepiórkowski, A. (2023). Category mismatches in coordination vindicated. *Linguistic Inquiry*, **54**(2), 326–349.

Przepiórkowski, A. (1999). *Case Assignment and the Complement-Adjunct Dichotomy: A Non-Configurational Constraint-Based Approach*. Ph.D. dissertation, Universität Tübingen.

Przepiórkowski, A. (2022). Coordination of unlike grammatical cases (and unlike categories). *Language*, **98**(3), 592–634.

Sag, I. A., Gazdar, G., Wasow, T., and Weisler, S. (1985). Coordination and how to distinguish categories. *Natural Language and Linguistic Theory*, **3**(2), 117–171.

Sgall, P., Hajičová, E., and Panevová, J. (1986). *The Meaning of the Sentence in Its Semantic and Pragmatic Aspects*. Reidel, Dordrecht.

Tesnière, L. (1959). *Éléments de Syntaxe Structurale*. Klincksieck, Paris.

Weisser, P. (2020). On the symmetry of case in conjunction. *Syntax*, **23**(1), 42–77.

Zhang, N. (2023). *Coordinate Structures*. Cambridge University Press, Cambridge.

Zhang, N. N. (2009). *Coordination in Syntax*. Cambridge University Press, Cambridge.

Zoerner, III, C. E. (1995). *Coordination: The Syntax of &P*. Ph.D. dissertation, University of California, Irvine.

Semantics? 1

Recall:

1. *Pat was **annoyed**...*
   [[$_{PP}$ by the children's noise] and [$_{CP}$ that their parents did nothing to stop it]].
2. *You can **depend**...*
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Is this really direct coordination?

- PP: e? (NP of type e preceded by a P of type $\langle e, e \rangle$)
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- $[\![\textit{about Mr. Colson}]\!] \rightsquigarrow [\lambda x.x](c) = c$ (e)

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Possibility 2 (based on Partee 2009, Liefke 2014: ch.8, and Liefke and Werning 2018):

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- $[\![\textit{Mr. Colson}]\!] = \{\sigma | \sigma_0 \sqsubseteq \sigma \wedge \textit{Mr. Colson is in } \sigma\}$ (o)
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Classical examples of **unlike category coordination** (Sag *et al.* 1985):

- *Pat is [$_{NP}$ a Republican] and [$_{AP}$ proud of it].*
- *We walked [$_{AdvP}$ slowly] and [$_{PP}$ with great care].*
- *Pat remembered [$_{NP}$ the appointment] and [$_{CP}$ that it was important to be on time].*

At least **three mechanisms invoked to explain them away**:

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Coordination of unlike categories 2

Analyses of Bruening and Al Khalaf 2020 **refuted** in Patejuk and Przepiórkowski 2023 (available since 2021).

Neeleman *et al.* 2023: 58:

> *Bruening & Al Khalaf 2020 argues that coordination of arguments (as opposed to predicates and modifiers) must involve conjuncts that have the same category. It is* ***not clear, however, that this claim stands up to scrutiny****. [Patejuk and Przepiórkowski 2023] lists numerous attested examples of unlike-argument coordination.*

Bruening 2023: 1:

> *[Patejuk and Przepiórkowski 2023] [...] successfully show that* ***conjuncts do not need to match in syntactic category****...*

Zhang 2023: 40:

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A similar argument can be made on the basis of **coordination of unlike grammatical cases**.

Weisser 2020 argues that **only the same morphological cases may be coordinated**. For example:

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  not a case system, but rather allomorphy (Hudson 1995, Parrott 2009)
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For example (Przepiórkowski 1999), the normally **accusative** direct object of *dać* 'give' may also be in (partitive) **genitive**, so:

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Conclusion: **(heads of) coordinate structures must make information about grammatical cases of all conjuncts transparent**.

Again, this is:

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