

The Union of Conjunction and Disjunction: The Case of AND/OR

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Introduction

AND/OR is a complex coordinator that shows properties of both *and* and *or*.

Well-attested in formal domains, including law, medicine, and linguistics.

- Video and/or sound recordings** obtained by police personnel [...] shall be made available for **hearing and/or viewing** by defense counsel. (Washington State Code; RCW 9.73.090b)
 - Brachydactyly and/or clinodactyly** was a consistent feature in the **hands and/or feet**.¹
 - ...researchers who have defined **grammaticality and/or acceptability** in other ways might make a principled distinction between two types of judgment (Schütze 1996:26)
 - It is standard to find that object extraction is more liberal than **subject and/or adjunct** extraction (Phillips 2013:94)
- But it is also found in entertainment, casual speech, published works.
- So, who wants **to touch and/or be touched** by a famous person? (Bob's Burgers, 2x9)
 - There's nowhere I won't go. As long as it's horribly, horribly **true and/or wrong**. (Louis CK)
 - Give your figures and tables **titles and/or captions**. ...
You can also use **indentation, bold or italic font, outlining or borders, symbols, and/or bullets** to highlight important information. (LSA Poster guidelines: 6 total instances of *and/or*)



Research questions

- What are the distinguishing properties of *and/or*?
- What is the meaning of *and/or*?
- What is the distribution of *and/or*?
- Does the syntactic behavior of *and/or* differ in any way from either *and* or *or*?

Properties

- and/or* is an established coordinator in English that shows systematic, regular, robust, and intentional use. It is not ad-hoc or a speaker error.**
- As shown above, *and/or* is attested in formal, informal, published, and spontaneous domains
- </> does not connect most other functional categories
*a/the dolphin, *I know that/if John arrived.
- There are no other "slashed coordinators" (*and/but, or/but...*).
The vanishingly rare exceptions are idiosyncratic
 - The challenge must be seen not as "either/or" but as "**and/and**." (AfricaArts journal; only found here)
 - ...when using encoding **or/and** decoding variables to predict ending performance (Weiser 2012; only here)
- and/or* is an addition to the closed functional category '&'
 - '&' is not so exclusive a category: *and/or, slash* (Woo, Ms.) *let alone, as well as* (Hulsey 2008)
 - Which is contrary to this: "[The category] '&' may constitute *the most exclusive of all categories*... only the so-called coordinating conjunctions (e.g. *and, or, but*) may head an &P" (Zoerner 1995)
- Prosody suggests *and/or* is not a repair. Compare with this:
 - You're a TA, or— AND you're a student.
- Usually (only) this "slashed coordinator" is in other languages (see Table)

Dating back to 1935, there are 15+ published articles in Law Reviews discussing *and/or* (usually proscribing it) in legal drafting.

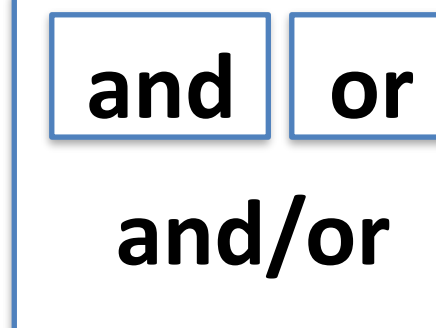
...But nothing is published about it in linguistics!

English	and/or
Czech	a/nebo
French	et/ou
Spanish	y/o, o/y ²
Italy	e/o
Russian	и/или [i/iili]
Finnish	ja/tai
Serbo-Croatian	и/или [i/iili]
Hebrew	ו/וּ [v/vu]

²or/and - unexpected, yet attested example in Spanish: "...las que tienen tres hijos y padre o/y madre discapacitado pueden ser considerados como categoría especial"

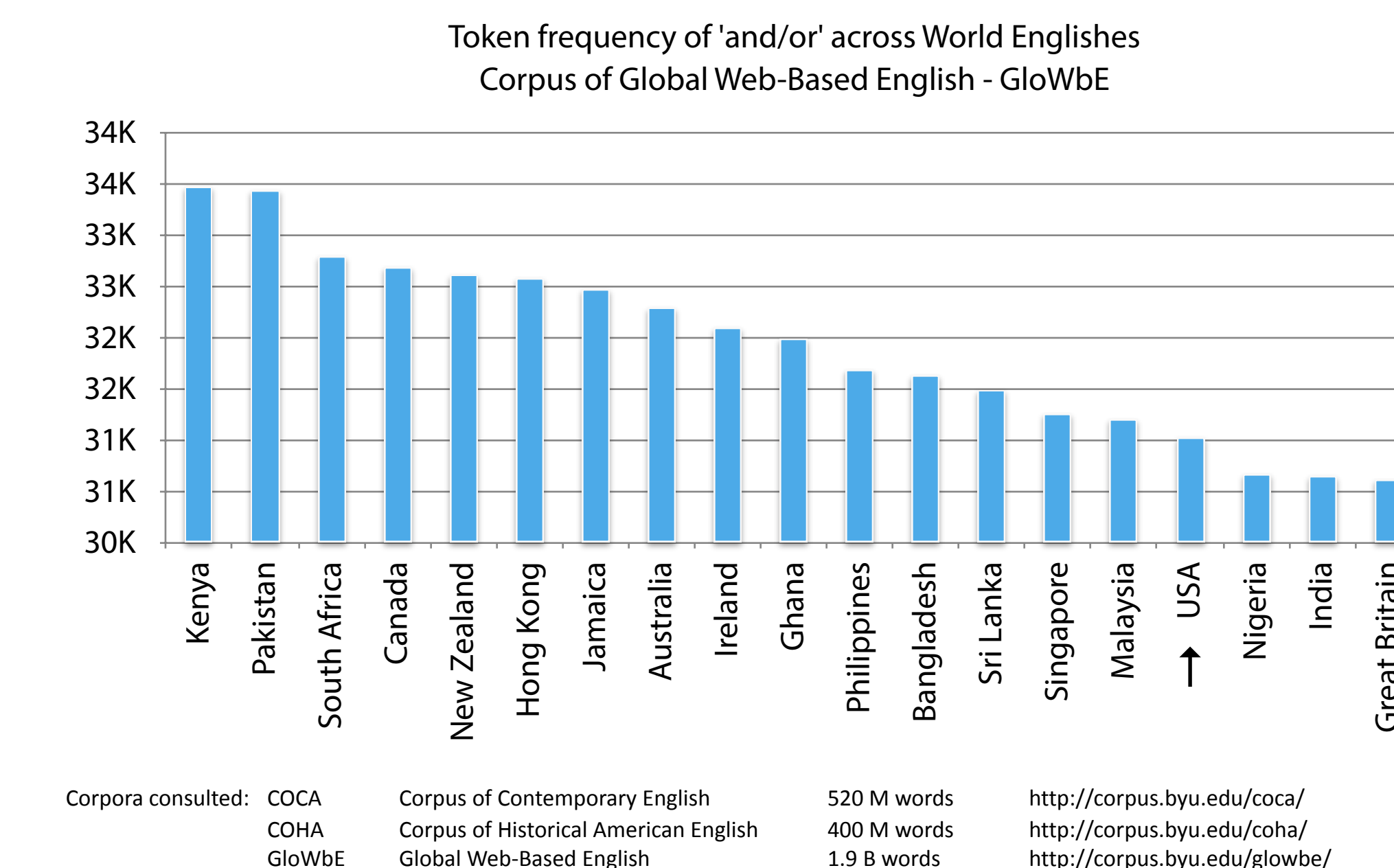
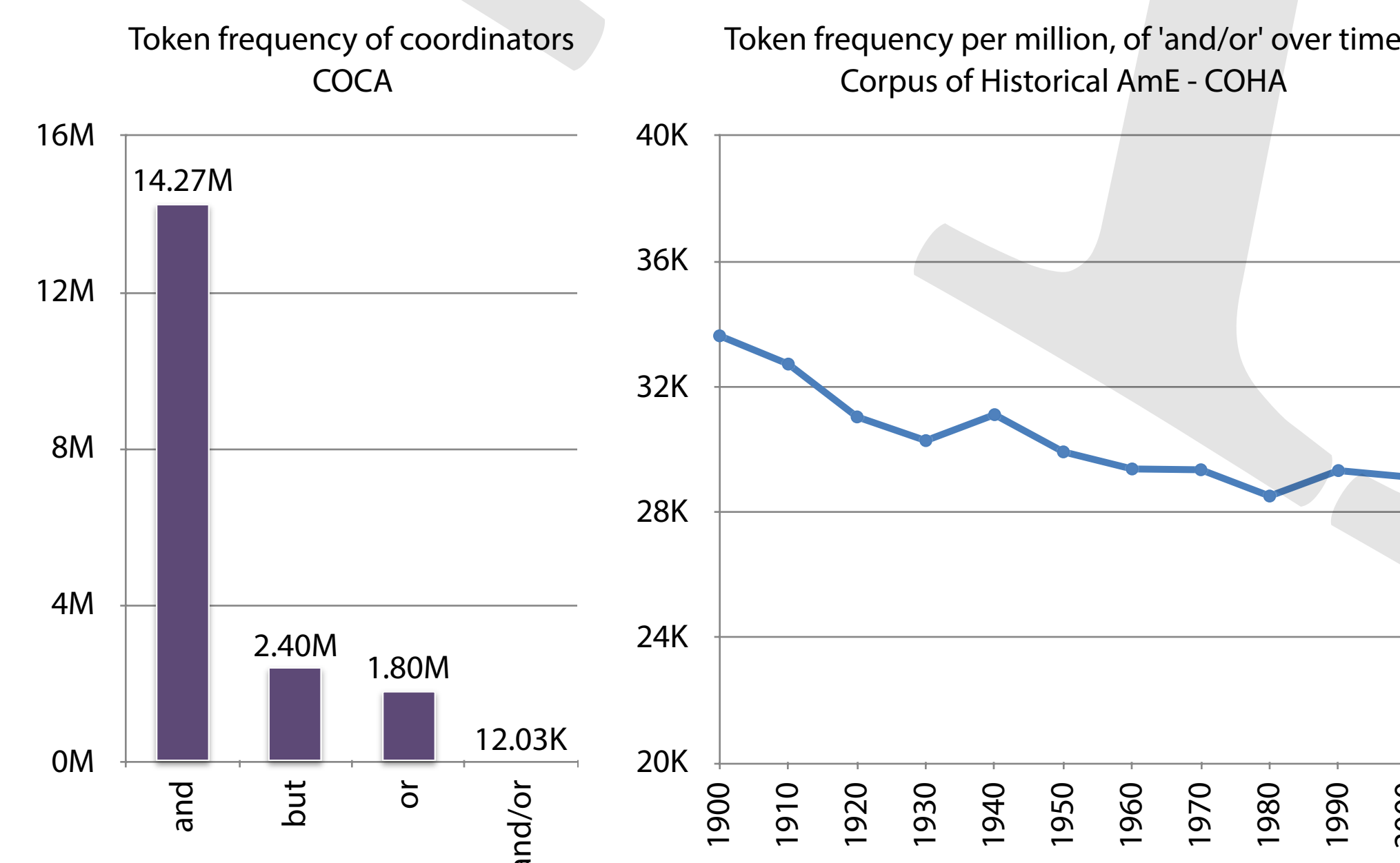
Meaning

- and/or* is the semantic combination of *and* and *or*, with a pragmatic component of **speaker uncertainty**, an implicature from the speaker's decision not to use a more specific coordinator. (Maxim of Quality)
 - Speaker says sentences in (a), Hearer understands situation as (b).
- John worked with **Adam and Brice**.
 - John worked with these two people:
 - John worked with **Adam or Brice**.³
 - John worked with one of these people:
 - John worked with **Adam and/or Brice**.
 - John worked with one of these sets:
 - both Adam and Brice, (=and)
 - Adam or Brice, (=or)
 - one of them but I don't know which. (=and/or)



³Exclusive meaning only. The inclusive meaning of *or* ("...or both") is typically not very salient in unconditioned declarative contexts (compare with interrogative: "Do you want coffee or tea?" "Sure").

Distribution



Syntactic Behavior

Any context where one of *and* or *or* is ungrammatical, *and/or* is ungrammatical.

- Kyle {and | *or | *and/or} Pat met at the park. *Collective predicates*
- Randy {and | *or | *and/or} Sandy sang the same song. *Internal relational modifiers*
- Kim {and | *or | *and/or} Michel saw themselves / each other. *Anaphors*
- John and Mary are happy {and | *or | *and/or} sad, respectively. *'Respectively'*
- John is alive {#and | or | #and/or} dead. *Contradiction*

One exception: We expect a ban on *and/or* with correlative constructions (*both...and, either...or*)

- I am going to pick up both John {and | *or | *and/or} Mary. *Correlative 'both...and'*
- I am going to pick up either John { *and | or | *and/or } Mary. *Correlative 'either...or'*

But there are examples in COCA that show that *and/or* can co-occur with *both*:

- Laity as well as priests can be **both** scholars **and/or** prophets.
 - more than half of the European adventives are **both** predaceous **and/or** phytophagous
- These anomalous cases are analyzed as repair — the meaning is "*both...and plus the disjunctive meaning of or*", which is added on as an afterthought. This predicts **either... and/or*, since "*either...and*" is never a coherent correlative.

↳ No **either... and/or* patterns were found in COCA. The prediction is borne out.

Quantifiers

- And* and *or* behave differently with quantifiers.** (Champollion 2016 §6)
 - Conjunctions of plural nouns are ambiguous between distributive and non-distributive readings (23a)
 - Disjunction is not; it has only the non-distributive (23b)
 - Similarly, *and/or* is not ambiguous; it has only the non-distributive reading (23c)
 - Given the following instructions to form a team out of some animals, how many animals would you select? (irrespective of group composition)
- We are forming a team. Please select...
 - Ten dogs and cats.

Distributive:	20 animals
Non-distributive:	10 animals
 - Ten dogs or cats.

Distributive:	*20 animals
Non-distributive:	10 animals
 - Ten dogs and/or cats.

Distributive:	*20 animals
Non-distributive:	10 animals
- ↳ *and/or* is interpreted as the more constrained option.

Gapping + Negation

- And/or* permits gapping, like other coordinators.**
 - Tom drank a beer and Mary a martini.
 - Tom drank a beer or Mary a martini.
 - Tom drank a beer and/or Mary a martini.
 - And* and *or* behave differently when the scopal operator, auxiliary, and main verb are gapped.** (Johnson 2000, Lin 2002, Repp 2009, for but see Toosarvandani 2015)
 - conjunction is ambiguous; has wide and distributive readings (27)
 - disjunction is not ambiguous; it has only the wide reading (28)
- Ward can't eat caviar and Anna beans. (Siegel 1987:53)
Wide. It's not possible for Ward to eat caviar and Anna eat beans.
Dist. Ward can't eat caviar and Anna can't eat beans.
¬(eWC & eAB)
 - Ward can't eat caviar or Anna beans. (Oirsouw 1987:208)
Wide. It's not possible for Ward to eat caviar or Anna eat beans.
Dist. *Ward can't eat caviar or Anna can't eat beans.
¬(eWC ∨ eAB) [DeMorgan's]
- and/or* has a complex reading (29)
 - Ward can't eat caviar and/or Anna beans.
Reading: Either Ward can't eat caviar or Anna can't eat caviar (but I can't remember which). Or both of them can't eat caviar.
- ↳ This should correspond to the wide scope reading, pending a precise denotation of *and/or*.

Conclusions

- Future work on coordination ought to analyze *and/or* as a legitimate coordinator, and compare its syntactic and semantic behavior to other coordinators.
- and/or* appears wherever *and* or *or* can, supporting the existence of a general coordination category such as '&'.
- and/or* is a fully lexicalized item which has the union of the set of constraints on *and* and *or*.

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