

# Structure, Evidence, and the Epistemology of Syntax

Geoffrey K. Pullum

*Brown University and the University of Edinburgh*

28 April 2013

Workshop on Structure and Evidence in Linguistics  
in honor of Ivan Sag  
Stanford University

AGE AND TREACHERY  
WILL ALWAYS TRIUMPH  
OVER YOUTH AND SKILL

The noun-modifying *such that* clauses in *WSJ*:

... “giant-fruited *ROOF-HIGH CLIMBING TOMATOES*” that get “tall as a house!” *such that* “A Single Slice Covers a Slice of Bread.” (w7\_007:12090)

... a driving force *such that* an equivalent of 81 million ounces, 29 times annual supplies, were traded on the New York Mercantile Exchange last year... (w7\_011:15135)

... new plans on top of those guaranteed benefits, *such that* PBGC’s guarantee is a subsidy... (w7\_096:15583)

The percentage that lack the obligatory anaphoric pronoun is 100%.

## Grant Goodall's (1987) judgments:

\**The bouncer was muscular and a guitarist.* (p. 34)

*Pat is either stupid or a liar* (p. 44)

*John is both crazy and a genius.* (p. 45)

?*John is both crazy and a Republican.* (p. 45)

\**John is both crazy and an attorney* (p. 45)

And an unknown commenter on a random blog:

“Sorry kids, you can’t be an apple and an orange, and if you’re a descriptivist, and someone honestly makes a sentence, that’s an honest sentence in the language that actually is.”

**Arnold Zwicky** (at <http://itre.cis.upenn.edu/~myl/languagelog/archives/000030.html>):

“when a colleague posted to the newsgroup sci.lang that possessive antecedents were just ungrammatical, and I mailed him an example from his own writing, he was inclined to think that he should just be more vigilant.”

George Orwell in 'Politics and the English language':

“Look back through this essay, and for certain you will find that I have again and again committed the very faults I am protesting against.”

Trimmed versions of the 4 predicate-fronted concessive PPs in *WSJ*:

*Skilled though they are, the Asbury-Olivers make mile-high mistakes, including his announcement of a coming AIRSOW.*

*While nobody currently expects these hearings to force President Reagan's resignation, the investigation will show that administration officials conducted covert foreign-policy operations that, well-intentioned though they may have been, turned out to be confused, duplicitous failures.*

*My retirement income, modest though it may be, is based on dividends spread out over 12 utility companies for diversification protection.*

*Incredible though it may seem, sales of Japanese cars are falling as higher prices and increasing competition demystify their once-magical allure for Americans.*



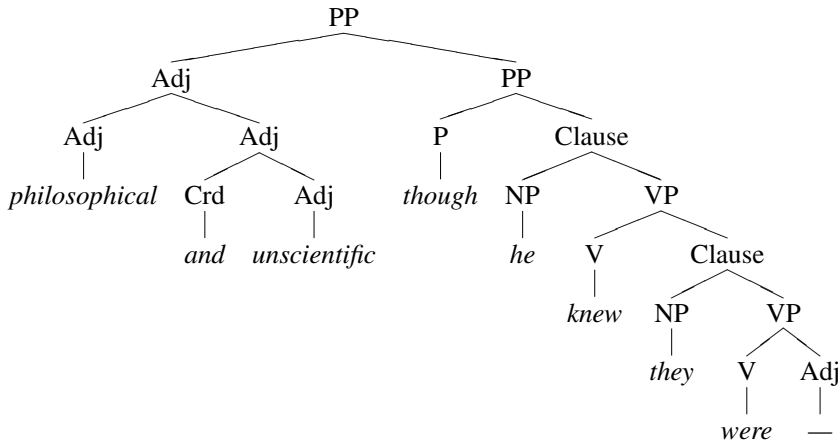
## The key PPs:

- *skilled though* [*they are* \_\_\_]
- *modest though* [*it may* [*be* \_\_\_]]
- *incredible though* [*it may* [*seem* \_\_\_]]
- *well-intentioned though* [*they may* [*have* [*been*]]]

(Invented example)

*Well-intentioned though [many people may have imagined [that the CIA probably thought [they were — ] ] ] their foreign-policy operations were confused, duplicitous failures.*

Although he sometimes retreated to a stance of pure practicality, Feynman gave answers to these questions, philosophical and unscientific though he knew they were.



The search pattern to use in COCA:

[j\*] though [pp\*] [v\*] [pp\*] [be]

'My friend Edward' by Joseph Epstein (*American Scholar*  
[Summer 1995] **64.3** (summer 1995), 371–394:

The three large intellectual influences on his own life were the economist Frank Knight and the sociologist Robert Park, both of whom he encountered as a young man at the University of Chicago, and Max Weber, against whose work, I believe, Edward measured his own writing.

Good though he knew it was, he nonetheless found, by this measure, his own writing wanting.

Principles of deductive inference are justified by their conformity with accepted deductive practice. Their validity depends upon accordance with the particular deductive inferences we actually make and sanction. If a rule yields unacceptable [sic] inferences, we drop it as invalid. Justification of general rules thus derives from judgments rejecting or accepting particular deductive inferences.

From Nelson Goodman, *Fact, Fiction, and Forecast*:

I have said that deductive inferences are justified by their conformity to valid general rules, and that general rules are justified by their conformity to valid inferences. But this circle is a virtuous one. The point is that rules and particular inferences alike are justified by being brought into agreement with each other. *A rule is amended if it yields an inference we are unwilling to accept; an inference is rejected if it violates a rule we are unwilling to amend.* The process of justification is the delicate one of making mutual adjustments between rules and accepted inferences; and in the agreement achieved lies the only justification needed for either.

From John Rawls, *A Theory of Justice*:

For example, while we may not expect a substantial revision of our sense of correct grammar in view of a linguistic theory the principles of which seem especially natural to us, such a change is not inconceivable, and no doubt our sense of grammaticalness may be affected to some degree anyway by this knowledge.



Multiple center-embedding:

*The rat the cat the dog the alligator mauled chased caught died.*

Pullum (2007, replying to Sampson):

“I take linguistics to have an inherently normative subject matter. The task of the syntactician is exact codification of a set of norms implicit in linguistic practice. . . .”

From Geoffrey Sampson (*Corpus Linguistics & Linguistic Theory* 2007, p. 112):

“Having begun by condemning my thesis as ‘extraordinary’ and one that will ‘give corpus linguistics a bad name’, Pullum proposes a view of grammatical research that departs far further than mine from the consensus. I was at least assuming that grammatical description consists of statements that are correct or incorrect: but correctness is not a concept applicable to the domains of ethics or aesthetics. (As it is often put in the case of ethics, ‘you cannot derive an ought from an is’.)”

Geoffrey Sampson, *ibid.*:

“Then, a page or two later, Pullum urges that grammarians need to become ‘a lot more conversant with ways of mathematicizing their subject matter’, blithely ignoring the conflict between that recommendation and the appeal to treat linguistics as a discipline concerned with norms. The gulf between formal mathematical discourse, and discourse about norms, is about as wide as any chasm in the map of learning.”

What Pullum said ('Ungrammaticality, rarity, and corpus use', p. 43):

“It is strange for us to find ourselves unable to agree on whether essentially all strings of words are grammatical or essentially none are. This is not a happy state for the discourse in linguistics to be in. And it is not going to improve until syntacticians gete a lot more conversant with ways of mathematicizing their subject matter — both the application of statistics to corpora and the use of logic and algebra to formalize claims about grammatical constraints.”

Sampson again (*ibid.*):

“[I]t seems clear that Pullum is opening up a range of methodological ideas more diverse than anything I suggested, and is adumbrating them too briefly for me to feel obliged to take them on board.”

## Central ideas about grammar and its evidential support

- i Grammars are sets of statements about structural properties
- ii if an expression has all the right properties, it is well-formed according to that grammar
- iii if an expression lacks any of the key properties, it is ill-formed according to that grammar
- iv a given grammar may be inaccurate
- v the descriptive grammarian aims to write a grammar that is accurate
- vi under ideal circumstances short and simple sentences will often be judged grammatical iff they are indeed well-formed
- vii under ideal circumstances accurate transcriptions will be composed mainly of sentences that are well-formed

## Parallels between the domains of syntax and morality

### LINGUISTIC DOMAIN

Judgment of grammaticality

Judgment of ungrammaticality

Grammatical constraint

Construction of grammars

Formalized grammars

Universal grammar

Usage advice

Prescriptive bullying

Problematic points of usage

Corpus

Descriptive grammar

### MORAL DOMAIN

Judgment that an act is right

Judgment that an act is wrong

Explicitly stated moral precept

Codification of moral principles

Rigorously stated codifications

Meta-ethics

Casualty (moral advice-giving)

Moral preachiness

Controversial moral questions

Raw records of behavior

Moral anthropology



Grammatical constraints are justified by their conformity with accepted usage. Their validity depends upon accordance with the particular judgments of grammaticality we actually make and sanction. If a rule yields unacceptable consequences regarding grammaticality, we drop it as invalid. Justification of general constraints thus derives from judgments rejecting or accepting particular expressions.

Constraints and particular judgments alike are justified by being brought into agreement with each other. *A general constraint is amended if it yields a consequence about grammaticality that we are unwilling to accept; a particular judgment of grammaticality is rejected if it is incompatible with a general constraint we are unwilling to amend.*

Alleged ungrammatical by C. L. Baker some 35 years ago:

*The student of chemistry was better prepared than the one of physics.*

THANK YOU