

It's Tough to be Pretty: semantic relatedness between *tough* and *pretty* predicates

1 Puzzle: *tough* and *pretty* predicates seem to differ w.r.t. their argument structure

Tough (1) and *pretty* (2) predicates are both compatible with infinitival clauses.

However, “fronted” *tough*-constructions (now fTCs, (1a)) allow an “*it*-variant” (now iTC, 1b), while “fronted” *pretty*-constructions (now fPCs, 2a) do not (2b).

The contrast extends to fronted infinitival clauses, which are grammatical in TCs (3b), but not in PCs (3a).

Besides, *pretty* seems to take its subject as argument (4a), unlike *tough* (4b). The subject of (4b) has instead been assumed to receive its θ -role from the embedded predicate, just like the embedded object of iTCs.

This can be achieved directly (long-movement approach, Hartman, 2009; Hicks, 2009) or indirectly through binding to a null operator (base-generation approach, Chomsky et al., 1977; Keine and Poole, 2017). All previous accounts thus predict that fTCs (1a) should not differ semantically from iTCs (1b).

2 Proposal: *tough* and *pretty* take the same arguments but select them differently

Building on an observation by Bayer, 1990 and work by Fleisher, 2015, we argue that, even if *tough*-predicates do not denote a property of their subject, they nevertheless take it as a proper semantic argument, that we call the *reference* (“causer” of the *toughness*). We devise a semantics for *tough*-predicates that differs minimally from that of *pretty*-predicates, in that (1) the *reference* of *pretty* predicates is the embedded clause instead of the subject and (2) *pretty* is individual-denoting, while *tough* is event-denoting. Our analysis (1) unifies the semantics of *tough* by proposing one lexical entry for both fTCs and iTCs (*contra* Keine and Poole, 2017) and (2) provides a clear explanation of the ungrammaticality of iPCs.

3 Key assumptions about the semantics of infinitival clauses and *tough*-predicates

We assume with Gluckman, 2021 and Moulton, 2015, that infinitival clauses are properties of individuals with *eventive* content (type $\langle e\langle st \rangle \rangle$), s.t. $\llbracket \text{to please John} \rrbracket = \lambda z.\lambda w. \text{CONTENT}(z)(w) = \text{pleasing-John event}$. The infinitival clause composes with *tough* through Predicate Modification (PM). Therefore, *tough*-predicates also have type $\langle e\langle st \rangle \rangle$. Building on Lasersohn, 2005 and Keine and Poole, 2017, we postulate that *tough* and *pretty* predicates are judge-dependent.

4 Key novelty: the subject of a TC is the “reference” argument of the *tough*-predicate

The fTC variant of (1), repeated in (5b), cannot admit a continuation stating that the subject no longer exists; while it can admit a continuation stating that the event denoted by the embedded clause actually never took place. The iTC variant (5b) exhibits the reverse pattern.

- (5) a. John is tough to talk to. #In fact, John is dead. In fact, no one has ever tried.
 b. It is tough to talk to John. In fact, John is dead. #In fact, no one has ever tried.

This implies that *tough*-predicates are semantically sensitive to the matrix subject.

This intuition is sharpened 6a, 6b and 6c, which appeal to different paradigmatic scenarios, depicted in the table below.

	Object-extracted TC (6a)	Goal-extracted TC (6b)	Event-extrapolated TC (6c)
Package (object)	Big and heavy	Small and light	Small and light
Mary (goal)	Lives in the same country	Lives in a remote country	Lives in the same country
Sending (event)	Sender close to post office	Sender close to post office	Sender far from post office

Each time, some property of the matrix subject seems to make the sending event hard. This shows that *tough*-predicates actually take their subject as a semantic “reference” argument. We then define the lexical entry of *tough* as follows:

$$\begin{aligned} \llbracket \text{tough} \rrbracket &= \lambda x. \lambda y. \lambda z. \lambda w. \\ \exists P : P(y)(w) &= 1 \wedge \forall w'. w' \in R_w^x \wedge P(y)(w') = 1. \\ z \text{'s content is tough} &\text{ in } w' \text{ according to } x \end{aligned}$$

Tough states that some property P of the subject y “causes” the toughness of an event $e = \text{CONTENT}(z)(w)$ according to a judge x *i.e.*, in every relevantly accessible world w' where P holds, e is judged as tough by x .

5 Some evidence that *it* in iTCs is not vacuous and refers to the embedded clause

For the lexical entry of *tough* to be homogeneous in fTCs and iTCs, we have to assume that *it* is not a dummy element, but rather refers back to the embedded clause (extraposition *it*, Rosenbaum, 1967). If *it* was a pure expletive in iTCs, iTCs should allow other semantically vacuous elements. As (7) shows, this is not borne out (Bayer, 1990).

- (7) a. * There would be difficult to believe to be a party here tonight. Existential *there*
 b. * It would be difficult to believe to be raining. Weather *it*

Moreover, in languages such as French, *it* can be replaced by a demonstrative pronoun in TCs (8a), but not in expletive raising constructions (8b).

- (8) a. C' est dur d' aimer Marie.
 This is tough to like Marie.
 b. * Ça semble que Marie gagne.
 This seems that Mary wins.

6 PCs take the embedded clause as reference and predicate over their subject

We define the entry of *pretty* as similar to *tough*, except that (1) *pretty* combines with the embedded clause through Functional Application instead of PM and (2) the “source” of the *prettiness* is some event verified by the embedded clause, not some property of the subject.

$$\begin{aligned} \llbracket \text{pretty} \rrbracket &= \lambda x. \lambda y. \lambda C. \lambda w. \\ \exists z. C(z)(w) &= 1 \wedge \forall w'. w' \in R_w^x \wedge C(z)(w') = 1. \\ y \text{ is pretty in } w' &\text{ according to } x \end{aligned}$$

Pretty states that some individual with eventive content z verifying the embedded clause C (type $\langle e \langle st \rangle \rangle$) “causes” the *prettiness* of the subject y according to judge x .

The badness of iPCs (2b) is then explained by the variable y (*it*) referring to an event, which in principle cannot be “pretty”. This is also consistent with the ungrammaticality of (3a).

7 Summary and consequences for a typology of predicates with infinitival complements

We showed that *tough* and *pretty* predicates are subjective predicates in need of a *reference* argument, understood as the source of the *toughness* or *prettiness* judgments. *Tough* takes its subject as reference in both fTCs and iTCs, and states the toughness of an *event*. *Pretty* takes the embedded clause as reference, and states the toughness of its subject (*individual*). Our analysis of *tough* bring an additional argument in favor of a base-generation approach of the structure. It may also allow to unify the class of *tough*-predicates, in particular w.r.t. *rare*-TCs, as described by Fleisher, 2015:

- (9) This vintage console is rare to find for less than its original price nowadays.

Rare-TCs like (9), have been argued to impose a “kind” restriction to their subject. This restriction is trivially accounted for in our framework. We could also show that our account better captures the meaning of *rare*-TCs, in that (9) can be true in a world were the kind of vintage console is not rare *per se*, but finding it at a good price is.

References

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