

Modal Flavor and Quantificational Force in Free Relatives with *-ever*

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INTRODUCTION

This poster examines the interaction of modal flavor (ignorance or indifference) and quantificational force (definite or universal) in *-ever* free relatives (EFRs).

Modal flavor: von Stechow (2000) argues that the suffix *-ever* in free relatives introduces a presupposition, namely, that the denotation of the free relative varies across possible worlds. When the modal base is epistemic, variation results in the ignorance reading; a counterfactual modal base yields indifference. [More on panels 3 and 7.]

Quantificational force: It has been variously argued that EFRs are definite descriptions, that they are universals, and most recently, by Dayal (1997), that they are definites that can acquire the properties of universals in generic contexts. [More on panels 4 and 8.]

The main goal of this poster is to present the following empirical generalization:

While indifference EFRs can behave like definite descriptions or like universals, ignorance EFRs cannot behave like universals and always behave like definites.

Two questions then arise:

1. How are the universal effects generated in indifference EFRs?
2. Why aren't universal effects generated in ignorance EFRs?

MODAL FLAVOR

Free relatives with *-ever* (EFRs) have ignorance and indifference readings:

(1) I can tell there's a lot of garlic in whatever Arlo is cooking over there.

Ignorance: I don't know what Arlo is cooking.

(2) Bill needed a paperweight, so he grabbed whatever was on the desk.

Indifference: Bill grabbed indifferently (if something else had been there, he would have grabbed that).

A single EFR potentially has two readings. (1) and (2), based on von Stechow (2000), are designed to yield one or the other.

Only the indifference EFR is compatible with speaker providing the identity of the thing in question:

(1') There's a lot of garlic in whatever Arlo is cooking over there...*namely, tomato soup.

(2') Bill grabbed whatever was on the desk...namely, a stapler.

Without *-ever*, neither sentence implies ignorance or indifference:

(3) There's a lot of garlic in what Arlo is cooking.

“ ... the thing Arlo is cooking”

(4) Bill grabbed what was on the desk.

“ ... the thing that was on the desk

Background: *-ever* as a modal operator

Baker (1995): “An [EFR] is most natural in a situation in which the entity to which it refers cannot be identified. It has essentially conditional force, so that (5) has roughly the import indicated in (6).”

(5) George accepted [whichever story Leah submitted to his magazine]

(6) If Leah submitted story₁ to his magazine,
George accepted story₁
If Leah submitted story₂ to his magazine,
George accepted story₂ ... etc.

Iatridou & Varlokosta (1996, 1998): “In the speaker’s ignorance reading, *whatever* quantifies over epistemic worlds. So in a sentence like “whatever I cooked is green” on the reading “whatever it is that I cooked, it is green,” *whatever* quantifies over the worlds that are compatible with the thing that I cooked being green. Such worlds include this thing being green and a tomato, it being green and a potato, etc.”

von Stechow (2000): *-ever* introduces a presupposition of variation over the denotation of the free relative across possible worlds. When the modal base is epistemic, variation results in the ignorance reading; a counterfactual modal base yields indifference. [More on panel 7.]

PRESUPPOSITION	MODAL BASE
ignorance	epistemic
indifference	counterfactual

Indifference EFRs thus have counterfactual entailments:

(7) Bill grabbed what was on the desk, *and if something else had been there, he would have grabbed that.*

QUANTIFICATIONAL FORCE

Are EFRs definite descriptions or universals?

It has been argued that EFRs are definite descriptions (Jacobson 1988, Grosu 1996, Grosu & Landman 1998) and that they are universals (Larson 1987, Tredinnick 1994, Iatridou & Varlokosta 1996, 1998).

Elliott (1971):

- (8) He gave a present to whoever came through the door.
= “everyone who came through the door”
= “the person—whoever it was—that came through the door”

Dayal (1997):

- (9) John will read whatever Bill assigns.
= “everything/anything Bill assigns”
(10) Everyone who went to whatever movie the Avon is now showing said it was boring.
= “the movie the Avon is now showing”

Universal effects are due to generic contexts.

Dayal argues that free relatives are definite descriptions that can acquire the properties of universals in generic contexts. (She assumes that *-ever* indicates ignorance.) [More on panel 8.]

DEFINITE (episodic)	UNIVERSAL (generic)
ignorance	ignorance (free choice)

A NEW EMPIRICAL GENERALIZATION

When we consider the question of quantificational force in light of the ignorance/indifference dichotomy, the following picture emerges:

DEFINITE (episodic)	UNIVERSAL (generic)
ignorance	*ignorance
indifference	indifference

Only indifference free relatives can acquire the properties of universals; ignorance free relatives always behave like definites.

almost-modifiers: Universals, but not definites, allow modification by *almost*.

- | | |
|---|-------------------|
| (11) I bet there's going to be a lot of garlic in <u>almost</u> whatever dish Arlo serves us. | *ign, Öind |
| (12) A: Bill was a great help. He did whatever I asked him to do. | |
| B: Well, he did <u>nearly</u> whatever you asked him to do. | *ign, Öind |
| B': That's because <u>practically</u> whatever task you gave him was an easy one. | *ign, Öind |

A NEW EMPIRICAL GENERALIZATION, cont.

scope under negation: Universals, but not definites, can scope under negation, as in (13b).

- (13) a. John didn't like whatever books Sue ordered; not a single one pleased him. " » \neg : **ign/ind**
b. John didn't like whatever books Sue ordered, but he liked most of them. \neg » " : **ind only**
(cf. John didn't like every book Sue ordered, but he liked most of them.)

NPI licensing: Like universals, EFRs license NPIs, but on the indifference reading only.

- (14) a. John read whatever story his father ever sent him. **ind only**
b. Kay sent a letter to whoever was the least bit inclined to care about the problem. **ind only**

QR out of partitives: Definites, as in (15), allow for both a distributed reading ("take a proposal: 3/4 of it will be vetoed") and a collective partitive reading ("if you submit 4 proposals, 3 of them won't make it"). The ordinary universal in (16) has only the distributed reading.

- (15) We'll veto 3/4 of the proposals you make. $\sqrt{\text{coll}}, \sqrt{\text{distr}}$
(16) We'll veto 3/4 of every proposal you make. $*\text{coll}, \sqrt{\text{distr}}$

EFRs can have both readings, as in (17). If an EFR has only the distributed reading, it must be an indifference EFR, as in (18).

- (17) Over the next 10 years, we'll veto 3/4 of whatever proposals you make. $\sqrt{\text{coll}}, \sqrt{\text{distr}}$
(18) Over the next 10 years, we'll veto 3/4 of whatever proposal you make. $*\text{coll}, \sqrt{\text{distr}}$: **ind only**

VON FINTEL'S SEMANTICS FOR *-ever*

In (19), *whatever* is a relation between (i) the world of evaluation \mathbf{w} , (ii) a modal base \mathbf{F} , (iii) \mathbf{P} , the expression formed by abstracting over *whatever* in the free relative, and (iv) \mathbf{Q} , the expression formed by abstracting over the free relative in the matrix. *Whatever* presupposes variation in the modal base \mathbf{F} with respect to the referent of $\mathbf{ix.P(x)}$.

(19) *whatever* (\mathbf{w})(\mathbf{F})(\mathbf{P})(\mathbf{Q})

presupposes: $\forall \mathbf{w}' \in \min_{\mathbf{w}} [\mathbf{F} \cap$
 $(\lambda \mathbf{w}'' . \mathbf{ix.P(w'')(x)} \neq \mathbf{ix.P(w)(x)})]$:
 $\mathbf{Q}(\mathbf{w}')(\mathbf{ix.P(w')(x)}) = \mathbf{Q}(\mathbf{w})(\mathbf{ix.P(w)(x)})$
asserts: $\mathbf{Q}(\mathbf{w})(\mathbf{ix.P(w)(x)})$

In words, the presupposition in (19) says the following:

In all worlds \mathbf{w}' differing minimally from \mathbf{w} in the following respect:

\mathbf{w}' is a world in the modal base in which the identity of \mathbf{x} is different from what it is in \mathbf{w}

the following is the case:

the proposition $\mathbf{Q(P(x))}$ has in \mathbf{w}' whatever truth value it has in \mathbf{w} .

Thus, von Fintel interprets (1) as follows:

Assertion: There's a lot of garlic in the thing Arlo is cooking.

Ignorance Presupposition: In all of speaker's minimally different epistemically accessible worlds where Arlo is cooking something different, there's a lot of garlic in what he's cooking.

And (2) is interpreted as follows:

Assertion: Bill grabs the thing that's on the desk.

Indifference Presupposition: In all of the minimally different counterfactual worlds in which a different thing is on the desk, Bill grabs what's on the desk.

GENERICITY AND ACCOMMODATION

Question 1: How are universal effects generated in indifference EFRs?

How are the universal effects derived? Two things are necessary:

A generic quantifier. Dayal proposes that universal effects arise when the EFR (a definite expression: $\mathbf{ix.P(x,s)}$) is in the nuclear scope of the generic operator GEN, which binds the situation variable s , yielding a possibly different referent for the EFR in each s .

Accommodation of the presupposition of indifference under the generic quantifier. I argue that, when $\mathbf{ix.P(x,s)}$ is in the nuclear scope of the generic operator, the presupposition of indifference is accommodated in the nuclear scope of GEN, which binds its situation variable.

The presupposition of indifference must be accommodated in the nuclear scope of GEN in order for the universal effects to obtain. Consider (20) on the indifference reading:

(20) Usually but not always, Kay voted for who(ever) was at the top of the ballot.

Indifference: “Usually but not always, on election day Kay voted indifferently for the person at the top of the ballot (if someone else had been there, she would have voted for that person)”.

In the following scenario, (20) is true with *-ever* but false without it:

Kay votes in 8 elections and each time votes for the name at the top of the ballot. She votes indifferently 7 times. The 8th time, she considers the candidates carefully, weighs their relative merits, and then casts her vote for the name at the top.

GENERICITY AND ACCOMMODATION, cont.

In (20), Kay's indifference is part of the assertion. Specifically, the presupposition of indifference is accommodated in the nuclear scope of the generic operator, as shown in (21).

(21) Indifference (=20)

$$\lambda s_0 \text{ MOST } s \leq s_0 [\text{election-day}(s)] [\text{vote}(k, \text{ty.top-of-ballot}(y, s), s) \wedge \forall s' \in \min_s [F \cap \lambda s' [\text{ty.top-of-ballot}(y, s') \neq \text{ty.top-of-ballot}(y, s)]] \rightarrow \text{vote}(k, \text{ty.top-of-ballot}(y, s'), s') = \text{vote}(k, \text{ty.top-of-ballot}(y, s), s)]$$

“In most situations s , Kay votes in s for the person at the top of the ballot in s and for each s' , a counterfactual situation of s , if someone else had been at the top of the ballot in s' , she would have voted for that person in s' .”

Next, consider the readings available to (22). If the EFR is understood under the scope of GEN (possibly different winners for different races), then it conveys only indifference, as in (22a). If (22) has an ignorance reading at all, it is one with ignorance interpreted outside of GEN, as in (22b).

(22) In those days, a kid gave roses to whoever won the Tour de France.

(a) Indifference: GEN » i

“In those days, for each s : a kid gave in s roses to the person who won the Tour de France in s , regardless of that person's identity.”

(b) Ignorance: i » GEN

? “There was someone who used to win the race, I don't know who it was, but in those days a kid gave roses to that person.” [See panel 12 for logical form.]

Why can't we write a formula for ignorance that is parallel to the one for indifference? This is our Question 2.

THE IGNORANCE EXCEPTION

Question 2: Why aren't universal effects generated in ignorance EFRs?

It has been shown that the German discourse particle *ja* (Kratzer 1999) and other epistemic items (von Stechow & Iatridou 2003) block binding. Since an item such as *ja* must take scope over something that expresses a proposition, it can't intervene between a bound variable and its binder. Alternatively, an epistemic item introduces a situation variable that is indexical to the actual situation variable s_0 and hence cannot be bound by intermediate operators.

English *obviously*. The phrase *it is obvious that* contributes assertive (as opposed to expressive) meaning. In (23), it is interpreted under *because*, where it enters into the truth conditions. But the adverb *obviously* has only a speaker's comment (epistemic) reading, as in (24). In (24), *obviously* is not interpreted under *because* (it contributes to an expressive tier rather than to the assertive tier).

(23) Mel should be upset with Niles because it is obvious that he doesn't love her.

= "Mel should be upset with Niles because his lack of love for her is obvious to people."

? ↪ "Mel should be upset with Niles because he doesn't love her (and it's obvious to people that he doesn't)."

(24) Mel should be upset with Niles because obviously he doesn't love her.

≠ "Mel should be upset with Niles because his lack of love for her is obvious to people."

= "Mel should be upset with Niles because he doesn't love her (and it's obvious to people that he doesn't)."

THE IGNORANCE EXCEPTION, cont.

In (25), *every* can bind *her* across *it is obvious*.

(25) Every girl_i should be upset with her boyfriend because it is obvious that he doesn't love her_i
= "Every girl should be upset with her boyfriend because his lack of love is obvious to people."

But in (26), *her* can be bound by *every* only when *obviously* is not present. The adverb *obviously* blocks binding.

(26) Every girl_i should be upset with her boyfriend because (*obviously) he doesn't love her_i

There is one exception: attitude verbs can bind into such a domain. In (27), *obviously* is caught under *said*, where it is interpreted relative to each girl.

(27) Every girl_i said she should be upset with her boyfriend because obviously he doesn't love her_i
= "Every girl said she should be upset with her boyfriend because he doesn't love her, and it's obvious to her that he doesn't."

German *ja*. Kratzer (1999): Roughly, *ja* *a* is appropriate in a context *c* if the proposition expressed by *a* in *c* is a fact of *w_c* which—for all the speaker knows—might already be known to the addressee. *Ja* blocks binding: in (28), *er* can be bound by *jeder* only if *ja* is not present.

(28) Jeder von diesen Arbeitern hat seinen Job verloren, weil er (*ja) in der Gewerkschaft war.
each of those workers has his job lost because he JA in the union was

THE IGNORANCE EXCEPTION, cont.

Again, there is one exception: attitude verbs can bind into a *ja*-domain, as in (29).

(29) Jederder Zeugen behauptete, er habe ja mit eigenen Augen gesehen, dass...
each of the witnesses claimed he had JA with own eyes seen that

The ignorance EFR. I propose that the ignorance EFR, because it has an epistemic modal base, is also an item that blocks binding. This means that on the ignorance reading of (22) the presupposition must project to the top. In the assertion in (30), the situation variable of the free relative **iy.win(y,s₀)** is tied to the situation variable of the presupposition of ignorance, in which case neither the **s₀** of the assertion nor the **s₀** of the presupposition is bound by GEN.

(30) **Ignorance: i » GEN (=22b)**

$\mathbf{I\ s_0\ GENs \leq s_0}$ [day-at-TDF(s)] [$\exists x$ [kid(x,s) \wedge give-roses(x,ty.win(y,s₀),s₀)]] \wedge $\forall s' \in \min_{s_0}$ [F $\cap \lambda s' [ty.win(y,s') \neq ty.win(y,s_0)]$] \rightarrow GENs $\leq s'$ [day-at-TDF(s)] [$\exists x$ [kid(x,s) \wedge give-roses(x, ty.win(y,s'),s') = give-roses(x, ty.win(y,s₀),s₀)]]

? “There was someone who used to win the race, I don’t know who it was, but in those days a kid gave roses to that person”.

Like other epistemic items, ignorance can be relativized to an attitude subject. In (31) (from von Stechow), the attitude verb *suspect* allows a reading under which Pascal serves as the locus of ignorance. The epistemic presupposition can be accommodated and bound under an attitude verb.

(31) Pascal correctly suspected that whatever he was eating was not vegetarian.

REFERENCES

- Baker, C.L. (1995) *English Syntax*. Cambridge: MIT Press.
- Dayal, V. (1997) “Free relatives and ever: Identity and free choice readings.” *SALT* 7:99-116.
- Elliott, D. (1971) *The Grammar of Emotive and Exclamatory Sentences in English*. Doctoral dissertation, Ohio State Univ.
- von Stechow, K. (2000) “Whatever.” *SALT* 10:27-39.
- von Stechow, K. and S. Iatridou (2003) “Epistemic containment.” *Linguistic Inquiry* 34:173-198.
- Grosu, A. (1996) “The proper analysis of ‘missing-p’ free relative constructions.” *Linguistic Inquiry* 27:257-293.
- Grosu, A. and F. Landman (1998) “Strange relatives of the third kind.” *Natural Language Semantics* 6:125-170.
- Iatridou, S. and S. Varlokosta (1996) “A crosslinguistic perspective on pseudoclefts.” *NELS* 26:117-131.
- Iatridou, S. and S. Varlokosta (1998) “Pseudoclefts crosslinguistically.” *Natural Language Semantics*, 6:3-28.
- Jacobson, P. (1988/1995) “On the quantificational force of English free relatives.” In E. Bach, et al., editors, *Quantification in Natural Languages*, Vol. II, pp.451-486, 1995. Dordrecht: Kluwer. (Ms. circulated 1988, Brown Univ.)
- Kratzer, A. (1999) “Beyond *ouch* and *oops*. How descriptive and expressive meaning interact.” Handout, available at www.semanticsarchive.net.
- Larson, R. (1987) “‘Missing prepositions’ and the analysis of English free relative clauses.” *Linguistic Inquiry* 18:239-266.
- Tredinnick, V. (1994) “On the distribution and interpretation of *-ever* in English free relatives.” Proceedings of CONSOLE II, Tübingen, 1993.