

Emotive factives and the puzzle of the subjunctive

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The puzzles of emotive predicates

Proposal

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Gradability is not preference: the case of 'be aware'

Emotive predicates

Verbs that designate an emotion towards a "fact"

- (1) Ariadne is **surprised** that Nicholas came to the party.
- (2) Ariadne **regrets** that Nicholas came to the party.
- (3) Ariadne is **glad** that Nicholas came to the party.

Thus, "factive" (Kiparsky and Kiparsky 1970), and we come back to this.

Baker's 1972 *contrariness*

Emotives express a relation of contrariness between a fact and some mental or emotional state.

- (4) "We say that we are surprised when a certain fact does not conform to our expectations; relieved when it does not conform to our fears; disappointed when it is not in line with our hopes. Likewise, we say that a certain fact is odd or strange if it seems counter to our view of what is logical."

Contrariness as negativity: licensing of NPIs

Linebarger 1980, recent discussion Giannakidou 2006

- (5) Ariadne regrets that she **ever** read that book.
- (6) Ariadne is glad that we got **any tickets** at all.

Romance languages: emotives select the subjunctive

- (7) a. (Fr.) Jean **regrette** que Marie ait(SUBJ) lu ce livre.
b. (It.) Gianni **rimpiange** che Maria abbia(SUBJ) letto questo libro.
John regrets that Mary has read this book.

Why this is a problem

1. Because emotive verbs are also thought to be factive.
 2. Non-emotive factives meaning *know* are veridical and therefore take the indicative (Giannakidou 1994, 1998, 2009, to appear)
- (8)
- a. Jean **sait** que Marie a(IND) lu ce livre.
 - b. Gianni **sa** che Maria ha(IND) letto questo libro.
John knows that Mary has read this book.

If emotives are also factive, why do they take the subjunctive?

Veridicality as actual truth

A property of operators that entail actual truth (Zwarts (1995), Giannakidou (1994, 1997, 1998, 1999, 2013))

(9) Def 1. **Objective veridicality.**

A function F is veridical iff $Fp \rightarrow p$ is logically valid;
otherwise F is nonveridical.

objective veridicality = actual truth

Factive verbs are objectively veridical

- (10) I **know** that Nicholas brought dessert.
- (11) *Know* is veridical because $\text{know}(p)$ entails p . p is a fact, the actual world is a p world.

But *want* isn't veridical:

- (12) Anastasia **wants** Nicholas to bring dessert.
- (13) *Want* is not veridical because it does not entail that the actual world is a p world.

But grammar treats knowledge and belief as equal wrt mood

Greek

- (14) I Ariadne **kseri oti** o Nicholas efige
the Ariadne knows that.IND the Nicholas left.3sg
xthes.
yesterday
'Ariadne knows that Nicholas left yesterday. '
- (15) I Ariadne **pistevi oti** o Nicholas efige
the Ariadne believes that.IND the Nicholas left.3sg
xthes.
yesterday
'Ariadne believes that Nicholas left yesterday. '

Subjective veridicality and indicative mood

Giannakidou 2013, Giannakidou and Mari to appear

(16) Def. 4 *Subjective veridicality*

A function F that takes a proposition p as its argument is subjectively veridical with respect to an individual anchor i iff Fp entails that i knows or believes that p is true. This means that i 's epistemic state $M(i)$ is such that:
 $M(i) \subseteq p$.

It follows that $\forall w[w \in M(i) \rightarrow w \in \{w' | p(w')\}]$. i knows/believes p , i is fully committed to p

Indicative is thus explained as being elected by verbs that are **at least subjective veridical**.

Emotives are at least subjectively veridical

But not factive

- (17) **Falsely believing** that he had inflicted a fatal wound, Oedipus regretted killing the stranger on the road to Thebes (Klein 1975, quoted in Gazdar 1979, 122).
- (18) John **wrongly believes** that Mary got married, and he regrets that she is no longer unmarried. (Egré 2008: (30))

So, factives express an emotion towards a **perceived or actual** fact. If this is so, then why do they select the subjunctive in some Romance languages?

Variation within emotives wrt subjunctive

Three types of languages

1. Languages that require subjunctive (Spanish, Italian, French);
2. Languages that allow both subjunctive and indicative ((Brazilian) Portuguese, Catalan, Turkish);
3. Language where emotives select indicative (Greek, Hungarian, Romanian, Bulgarian); the emotive complement may be distinguished in some other way.

So, the use of subjunctive does not seem to be "canonical" selection.

The subjunctive after emotives is an NPI triggered by a negative presupposition

- (19) Negative presupposition of factives (Giannakidou 2015)
i is surprised that (p) is defined if and only if: *i* **believed or expected that $\neg p$** , at a time $t' \prec t_u$ (where t_u is the utterance time).
1. The subjunctive is 'rescued' (Giannakidou 2006) by this **implicit negation** (see Xiang, Grove and Giannakidou 2015 for experimental data showing a difference)
 2. The emotive verb is nonveridical in the presupposition, while being veridical in the assertion.
 3. Parametrize languages: Greek-type allows subjunctive only with logically (i.e. in the assertion) nonveridicality.

A challenge:

(20) Arianna è contenta/felice/triste/irritata/ ... che
Arianna is happy/glad/sad/irritated/ ... that
Nicolas abbia partecipato alla maratona, e
Nicholas has.3sg.subj participate to-the marathon, and
ha sempre saputo che lo avrebbe fatto.
has always known that that have.3sg.cond done.
'Arianna is happy that Nicholas participate in the
marathon, and she always knew that he would do it.'

(20) does not convey that the speaker had an expectation or belief that $\neg p$. This prevents a general characterization of the emotive class in terms of a negative presupposition.

Our solution

1. Retain the idea that veridicality and nonveridicality apply at the non-assertion.
2. In addition, define the assertion of the emotive as containing a sentiment (or, emotion) scale
3. Map the sentiment scale onto a nonveridical modal base introduced by the emotive predicate

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Two meaning components

- ▶ Parallel with modal verbs.
- ▶ Just as a modal verb like **must** has a modal base and an ordering source, emotives have a modal base.
- ▶ From now on, epistemic states are referred to as epistemic modal bases. We assume that propositional attitude verbs create a modal base that can be either homogeneous or **non-homogeneous (partitioned, nonveridical)** (in line with e.g. Giorgi and Pianesi, 1997 for Italian).

Two meaning components

Emotive factives have two meaning components.

- ▶ A factive-veridical. They presuppose that the epistemic model of the anchor i is a subset of p worlds (Giannakidou, 2014). This is veridicality.
- ▶ They also create a modal base \mathcal{E} , i.e. ‘emotive’ modal base. An emotive modal base is the set of worlds in which an individual has a sentiment/emotion.
- ▶ We note \mathcal{S}_i the sentiment that i has. \mathcal{E} is the non-veridical modal base.

Scalarity

Emotive factives are indeed scalar (see Villalta, 2008, Hacquard and Wellwood, 2012; for scalar adjectives, see Kennedy, 2007).

- (21) a. Sono **molto irritato** che venga(SUBJ) anche Gianni.
I am very irritated that Gianni comes as well.
b. Sono **un po' irritato** che venga(SUBJ) anche Gianni.
I am a little irritated that Gianni comes as well.
- (22) a. Sono **molto contento** che venga(SUBJ) anche Gianni.
I am very happy that Gianni comes as well.
b. Sono **poco contento** che venga(SUBJ) anche Gianni.
I am only a little happy that Gianni comes as well.

Mapping scales into ordered sets of worlds

- ▶ A partitioned modal space is obtained when a scalar structure is mapped into a modal structure.

Let \mathcal{D} be a set of ordered degrees, and \mathcal{I} a set of individuals. With a great deal of simplification, we assume that a scalar predicate (be+scalar adj) has the analysis in (23):

$$(23) \quad \lambda x. \textit{surprised}(x) \geq d$$

(variables x and d take their value in the sets \mathcal{I} and \mathcal{D}).

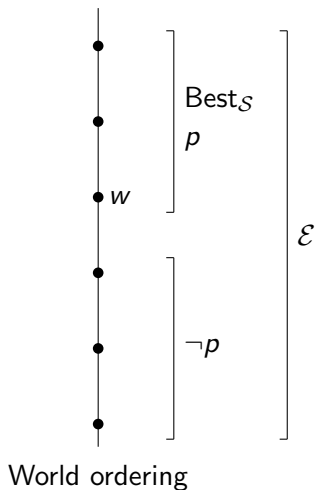
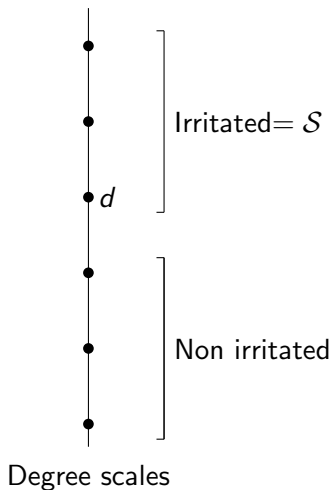
Mapping scales into ordered sets of worlds

We propose that there is a morphism \mathcal{H} from degrees and individuals to worlds, such that the worlds in which p is true are the Best ones (Portner, 2009) relative to \mathcal{S}_i .

$$(24) \quad \mathcal{H}(\mathcal{D})(\mathcal{I}) = W$$

where W is a set of worlds ordered by $\leq_{\mathcal{S}_i}$.

Mapping scales into ordered sets of worlds



Worlds of the sentiment

- (25) Better worlds, given \mathcal{P} . For any set of propositions \mathcal{P} and any world $w, w' : w \leq_{\mathcal{P}} w'$ iff for all $q \in \mathcal{P}$, if $w' \in q$, then $w \in q$.
- (26) $\text{Best}_{\mathcal{P}} = \{w' \in \text{Best}_{\mathcal{P}} : w' \text{ where the propositions in } \mathcal{P} \text{ are true}\}$

NB \mathcal{P} contains just p . So $\text{Best}_{\mathcal{P}}$ contains all the worlds in which p is true.

Worlds of the sentiment

In Best_p i has sentiment \mathcal{S} .

- ▶ The sentiment \mathcal{S}_i , via scalarity, creates an ordering and thus provides a partitioned space.
- ▶ Best_p is a subset of \mathcal{E} (the emotive modal base).
- ▶ The complement set of Best_p contains $\neg p$ worlds and thus i has not sentiment \mathcal{S} in these worlds.

We call $\text{Best}_{\mathcal{S}_i}$ the worlds in which p is true, i.e. the worlds in which i has sentiment \mathcal{S} .

Lexical entry for emotives cross-linguistically

$MB(i, t_u, w_0)$ is the set of worlds compatible with the knowledge of the speaker in the actual world.

(27) $[i$ V-emotive $p]$ is defined if and only if:

- a. $\forall w[w \in MB(i, t_u, w_0) \rightarrow w \in \lambda w'.p(w')]$
- b. If defined, $[i$ V-emotive $p] = 1$ iff
 $\forall w' \in \text{Best}_{S_i}(\mathcal{E})(p(w'))$.

- ▶ (28)-a. provides the presuppositional content (veridicality).
- ▶ (28)-b. is the at-issue meaning triggered by the emotive component (nonveridicality).

Cross-linguistic parametrization

- ▶ Greek indicative is triggered by the veridicality presupposition.
- ▶ Italian subjunctive is triggered by the asserted nonveridicality of emotion.
- ▶ Languages parametrize differently mood selection to depend on at-issue or non-at-issue meaning.

Parametrization: Greek pu

- (28) Thimosa/thimame **pu**/***oti** efages to glyko.
got.angry.1sg/remember.1sg that ate.2sg the cake
I am angry/remember that you ate the cake.
- (29) Ksero ***pu**/**oti** efages to glyko.
know.1sg that ate.2sg the cake
I know that you ate the cake.

Pu sensitive to other dimension; Veridicality presupposed, not asserted

- (30) ODD: Dhen thimame **pu** se gnorisa sto Parisi.
not remember.1sg that you.acc met.1sg in-the Paris
I don't remember that I met you in Paris.

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Villalta (2008)

(31) Subjunctive mood.

A proposition p that is the complement of the matrix predicate requires the subjunctive mood iff the matrix predicate introduces an ordering relation between propositions and compares p to its **contextually available** alternatives.

For Villalta, subjunctive is driven by **preference**, and it does not relate p and $\neg p$ but p and q .

Gradability is not preference!

To be surprised.

(32) Sono sorpreso che tu sia(SUBJ) qui.
I am surprised that you are here.

There is gradability (very surprised, little surprised) but not preference in surprise.

→ Our notion of Best is neutral, relies on the scalar ordering of the emotive predicate, no preference

A challenge for Villalta: Be aware

Be aware selects the subjunctive in Italian !

(33) Sono cosciente che tu sia(SUBJ) stanco.
I am aware that you are tired.

→ We treat on a par with emotive-doxastic, thus **revising the generalization**.

Why should we treat it with emotives-doxastic (now becoming the **gradable-doxastic** class) ?

→ It is veridical and gradable !

Be aware

Veridicality.

- (34) Sono cosciente che tu sia(SUBJ) stanco → Tu sei stanco.
I am aware that you are tired → You are tired.

Gradability.

- (35) a. È **molto** cosciente che tu sia(SUBJ) stanco.
He is very aware that you are tired.
b. È **poco** cosciente che tu sia(SUBJ) stanco.
He is little aware that you are tired.

Be aware, gradability and knowledge

Partial awareness / partiality of knowledge: different ways of partiality !

- (36) a. **È parzialmente cosciente** che sia(SUBJ) vero.
He is partially aware that this is true.
- b. **Sa parzialmente** che è(IND) vero.
He partially knows that it is true.

(36)-a. he is in the process of acquiring consciousness about a fact being true (it is a stative verb, and as such it is gradable (Baglini, 2015)).

(36)-b. he is acquiring pieces of evidence, only knows parts of the facts.

Be aware, gradability and knowledge

→ What triggers the subjunctive with veridical verbs is gradability and not preference.

→ **Epistemic verbs can be gradable too!** (but do not express preference)

Conclusions

- ▶ Subjunctive/indicative are triggered by **(non)veridicality** in the **assertion or presupposition** (Mari, 2014; Giannakidou to appear). With emotives, the assertion contains an emotion ordering \mathcal{S} that partitions the world domain \mathcal{E} into p (positive extent) and $\neg p$ (negative).
- ▶ Languages differently parametrize mood choice, which can be selected by the assertion or the presupposition.

Extending the generalization.

- ▶ Gradability is not preference.
- ▶ There are gradable epistemic verbs: *be aware!* These are compatible with both subjunctive and indicative.

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