

The expressive dimension

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Abstract

This paper explores various dimensions of meaning in a setting in which individual syntactic nodes can have multiple independent meanings (Chierchia 2004; Potts 2005). Some dimensions are semantic, others pragmatic. Expressive content blurs this clear distinction, because it is lexicalized content with strong ties to the utterance situation. It's independence from the descriptive content suggests a dimension of meaning that blends semantic and pragmatic information. I identify five special properties of expressive content, and develop a multidimensional, referential semantics for these operators that properly captures this meaning–use blend. I close by exploring the limits of the proposed definition of expressive content.

Multidimensionality

Not multidimensional modal logic (propositions as sets of structures intensional indices), but rather

denotations for nodes as tuples of meaning

$$\langle \llbracket \alpha \rrbracket, \llbracket \beta \rrbracket, \dots \rangle$$

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$$\langle \llbracket \alpha \rrbracket, \llbracket \beta \rrbracket, \dots \rangle$$

Questions

- ▶ Can the dimensions interact?
- ▶ Are the dimensions always present? Lexically triggered?
- ▶ Do the dimensions have different logical behavior?
- ▶ Do the dimensions project according to different principles?
- ▶ What are the dimensions like (semantic, pragmatic, a mix)?

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Questions

- ▶ What are the dimensions like (semantic, pragmatic, a mix)?

Semantic multidimensionality

\langle $[\alpha]$, $[\beta_1]$, ... $[\beta_n]$ (\dots) \rangle
descriptive conventional
 implicatures

Semantic multidimensionality

Potts (2005) analyzes a range of constructions using a logic that can deliver n -tuples of meanings for certain nodes:

- ▶ appositive relatives [Sam, *who is a werewolf*,]
- ▶ As-parentheticals [Sam, *as you know*, is a werewolf]
- ▶ nominal appositives [Sam, *a werewolf*,]
- ▶ speaker-oriented modifiers [*thoughtfully*]
- ▶ utterance modifiers [*frankly*]
- ▶ expressives

Pragmatic multidimensionality

Chierchia (2004, 2005) develops a recursive pragmatics in which lexical items can have semantic and pragmatic dimensions:

$$\llbracket or \rrbracket = \langle \llbracket \vee \rrbracket, \llbracket \bar{\vee} \rrbracket \rangle$$

$$\llbracket \mathbf{happy} \rrbracket = \left\langle \begin{array}{l} \lambda x. x \text{ is happy,} \\ \lambda y. \forall \varphi \text{ above } \llbracket \mathbf{happy} \rrbracket \text{ on } S, y \text{ is not } \varphi \end{array} \right\rangle$$

Also: Levinson 2000; Geurts and Maier 2003; Sauerland 2004

Semantic–pragmatic blends

$$\left\langle \begin{array}{c} [\alpha], \\ \text{descriptive} \end{array}, \quad (\dots) \quad \begin{array}{c} [\beta_1], \quad \dots \quad [\beta_n] \\ \text{lexical and pragmatic} \end{array} \right\rangle$$

Are conversational implicatures properties of utterances or of sentences?

Semantic–pragmatic blends

$$\left\langle \begin{array}{c} [[\alpha]], \\ \text{descriptive} \end{array}, \quad (\dots) \quad \begin{array}{c} [[\beta_1]], \dots \quad [[\beta_n]] \\ \text{lexical and pragmatic} \end{array} \right\rangle$$

Are conversational implicatures properties of utterances or of sentences?

We might have to answer “Yes (a bit of both)”.

Semantic–pragmatic blends

Chierchia's strategy

Identify operators that operate on both semantic and pragmatic meanings simultaneously.

Evidence explored in this talk

1. politeness markers
2. attitude predicates
3. quotation
4. metalinguistic negation
5. expressives

Semantic–pragmatic blends

Chierchia's strategy

Identify operators that operate on both semantic and pragmatic meanings simultaneously.

Evidence explored in this talk

5. expressives

Attitude predicates (Chierchia 2004)

Sam believes most students attended the lecture.

entailment

Sam believes most students attended the lecture

conversational implicature

Sam believes not all students attended the lecture

Conclusion

[[*believe*]] is sensitive to — i.e., has in its domain — the scalar implicatures generated by quantifiers, connectives, predicates, etc.

Politeness markers

1. **Please** hand me that screwdriver.
2. Can you **please** hand me that screwdriver?
3. I need you to **please** hand me the screwdriver.

Please, can you hand me that screwdriver?



the speaker needs the screwdriver (relevance)



the speaker doesn't have the screwdriver (quantity)



the addressee obviously has the ability



speakers avoid Qs with obvious answers (quantity)



... some other inferential work ...

[[*please*]]

[[*Hand me that screwdriver!*]]

Politeness markers

Conclusion

[[*please*]] is a function that is

- ▶ lexically identified, but
- ▶ operates on pragmatic meanings/inferences

Utterance-modifiers

In questions, covert demands on the answer:

Honestly, Sam is a werewolf.

≈ I am speaking honestly: Sam is a werewolf

Honestly, is Sam a werewolf?

≈ Answer honestly: Is Sam a werewolf?

For discussion: Bach and Harnish 1979; Isaacs and Potts 2003

Metalinguistic negation

1. *happy*

$$\llbracket \mathbf{happy} \rrbracket = \left\langle \begin{array}{l} \lambda x. x \text{ is happy,} \\ \lambda y. \forall \varphi \text{ above } \llbracket \mathbf{happy} \rrbracket \text{ on } S, y \text{ is not } \varphi \end{array} \right\rangle$$

2. *not* (descriptive)

$$\llbracket \mathbf{not}_1 \rrbracket = \lambda [f_1 \cdot f_2] \lambda x. [\mathbf{not}(f_1(x)) \cdot f_2(x)]$$

3. *not* (metalinguistic)

$$\llbracket \mathbf{not}_2 \rrbracket = \lambda [f_1 \cdot f_2] \lambda x. [f_1(x) \cdot \mathbf{not}(f_2(x))]$$

4. *Ed isn't HAPPY. (He's elated.)*

$$\left\langle \begin{array}{l} \llbracket \mathbf{happy}(\mathbf{ed}) \rrbracket, \\ \llbracket \mathbf{not}_2 \rrbracket (\forall \varphi \text{ above } \llbracket \mathbf{happy} \rrbracket \text{ on } S, \mathbf{Ed} \text{ is not } \varphi) \end{array} \right\rangle$$

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Expressive content

Kaplan (1999):

it seems to me quite possible to extend semantic methods, even formal, model theoretic semantics, to a range of expressions that have been regarded as falling outside semantics, and perhaps even as being insusceptible to formalization. This allows those of us with a logical turn of mind, [...] to use our familiar techniques. To me, it is illuminating to do so. I think it allows us to see more clearly the relationship between expressives and descriptives (and especially expressions of mixed kind), and to treat expressives in a serious scientific way.

Expressive content

Kaplan (1999):

and especially expressions of mixed kind

Central properties

1. Independence

Separable from the descriptive content.

2. Nondiscreteness

There is no end to the subtle expressive distinctions we can draw.

3. Descriptive ineffability

Difficult or impossible to paraphrase in nonexpressive terms

4. Nondisplaceability

Firmly tied to the utterance situation.

5. Repeatability

Multiple expressives heighten the contribution, rather than creating redundancy.

Some clear examples of expressives

- ▶ Japanese honorifics (Potts and Kawahara 2004)
- ▶ formal and familiar pronouns in German
- ▶ expressive content modifiers (Potts 2002)
- ▶ Japanese modal particles (Hara 2005)
- ▶ *ouch* and perhaps *oops* (Cruse 1986; Kaplan 1999; Kaufmann 2004)

Later: some clear nonexpressives and borderline cases

Background assumptions

Conventionalization

I focus on expressives that have the hallmarks of Saussurian arbitrariness. Cries of pain, anger, and joy are expressive but don't count.

Linguistic encoding

Unlike facial expressions, many hand gestures have conventionalized meanings. They can be very expressive. But I'm setting them aside for now.

Semantics and pragmatics and expressives

Expressives are lexically encoded (**semantic**) ...

...but tied to the utterance situation (**pragmatic**).

Independence from the descriptive content (epithets)

Kaplan (1999):

Truth is immune to epithetical color.

Independence from the descriptive content (honorifics)

Kikuchi (1994:22-23):

For a set of expressions with honorifics and antihonorifics derived from one neutral sentence E_1, E_2, \dots, E_n , there is a basic and core meaning M , but different attitudinal expressions A_1, A_2, \dots, A_n .

$$E_1 = M + A_1$$

$$E_2 = M + A_2$$

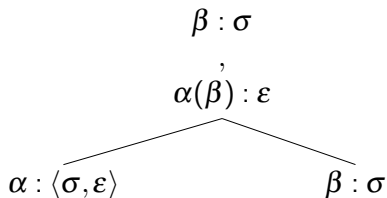
$$\vdots$$

$$E_n = M + A_n$$

M is the same in the sense that as long as truth value is concerned, M is invariant.

Managing expressive content

1. e and t are regular types.
2. ε is an expressive type.
3. If σ and τ are regular types, then $\langle \sigma, \tau \rangle$ is a regular type.
4. If σ is a regular type, then $\langle \sigma, \varepsilon \rangle$ is an expressive type.
5. Nothing else is a type.

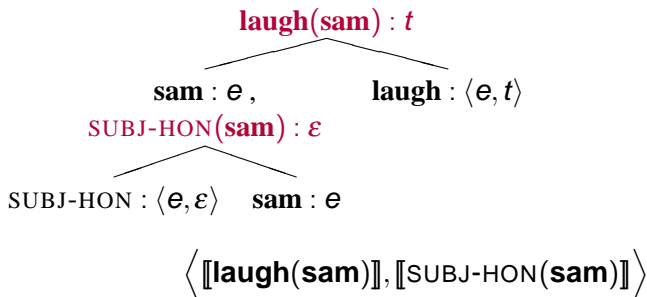


An illustration

Sam-ga o-warai-ninat-ta.

Sam-NOM **subj.hon**-laugh-**subj.hon**-PAST

1. 'Sam laughed.'
2. 'The speaker honors Sam.' [subject honorific]



But what is this stuff?

We can have a firm grip on how to manage the content without knowing much about the denotations involved.

Summary of independence

- ▶ We free expressive content from descriptive content by assigning expressives the special type ε .
- ▶ Functional types $\langle \sigma, \varepsilon \rangle$ create a **one-way** bridge between the descriptive and expressive realms. (We have no types $\langle \varepsilon, \sigma \rangle$, hence nothing that maps from the expressive to the descriptive realm.)
- ▶ The independence property is about content-management. We still have not said what the type ε picks out — we don't know what's in D_ε .

Nondiscrete (analog/continuous encoding)

Cruse (1986:272)

presented meaning is for the most part coded digitally — that is to say, it can vary only in discrete jumps; expressive meaning, on the other hand, at least in respect of intensity, can be varied continuously, and is therefore analogically coded.

Real-number models for expressive content

Lessons

- ▶ The models for expressives should allow for infinite variability
- ▶ They should have some kind of ordering, for intensity changes.

Proposal

Expressive content is modelled with the real numbers in $[0, 1]$.

Consequences for the lexicon

Tension

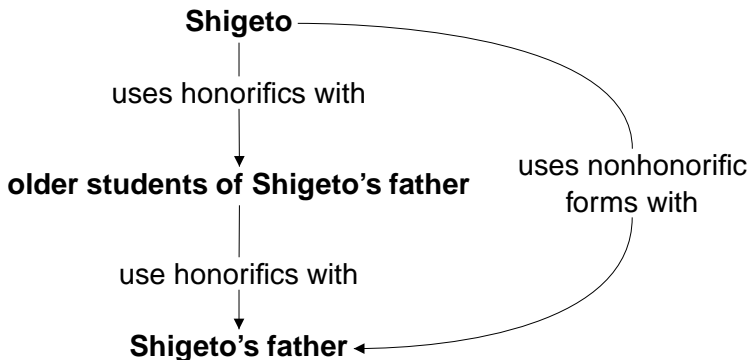
- ▶ Our focus is on lexicalized expressives.
- ▶ Unless we analyze every change in pitch, amplitude, speed, etc., as the choice of a different lexical item, we can (and should) have a discrete lexicon.

Possible resolutions

1. Lexical items are restricted to a range of values, with the context setting the precise value.
2. Lexical items denote a range of expressive values.
 - ▶ Maybe the context makes them less fuzzy.
 - ▶ Maybe they are inherently fuzzy.

A note on the ordering

We have to be careful what inferences we draw from the ordering.



Expressive objects

Expressive domains

The domain of type ε is D_ε , the set of all triples arb , where $a, b \in D_e$ and $r \in [0, 1]$.

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Contexts

A context is a tuple $c = \langle c_A, c_P, c_T, c_W, c_{HON} \rangle$, where

1. c_A is the agent (speaker) of c ;
2. c_P is the place of c ;
3. c_T is the time of c ;
4. c_W is the world of c ; and
5. c_{HON} is a subset of D_ε .

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5. c_{HON} is a subset of D_ε .

Expressive objects

In arb

- ▶ r is a real number, encoding the degree of expressivity;
- ▶ a is the speaker;
- ▶ b is the object of expressivity.

Descriptive ineffability

Kaplan (1999) on Meaning as Use:

When I think about my own understanding of the words and phrases of my native language, I find that in some cases I am inclined to say that I know what they *mean*, and in other cases it seems more natural to say that I know how to *use* them.

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We should seek rules of use for expressives.

Descriptive ineffability

Speakers are invariably dissatisfied with paraphrases of expressive content.

Where are my damn keys?

1. $[[\textit{damn}]] \neq [[\textit{I am in a heightened emotional state}]]$
2. $[[\textit{damn}]] \neq [[\textit{I am upset with my keys}]]$
3. ...

Was möchten Sie?

1. $[[\textit{Sie}]] \neq [[\textit{the addressee is socially superior to the speaker}]]$
2. $[[\textit{Sie}]] \neq [[\textit{you are socially superior to me}]]$
3. ...

Response

I think descriptive ineffability is critically important to understanding how expressives are special.

Analysis

The definition of D_ϵ as containing triples like



satisfies the demand for nonpropositionality.

Honorific consistency

One must be consistent with expressives:

Sie und Du

*Sie haben gesagt, dass Du uns helfen würdest.
you.FORM have said that you.FAM us help would
'You said that you would help us.'

Du und Sie

*Du hast gesagt, dass Sie uns helfen würden.
you.FAM have said that you.FORM us help would
'You said that you would help us.'

Honorific consistency

Honorific consistency

A context c is admissible only if c_{HON} contains exactly one triple c_Arb for every contextually salient entity b .

Consequences

1. The speaker has an expressive attitude towards all salient entities.
2. The speaker does not have conflicting attitudes about anyone.

Expressives and binding with *only*

- (D) Nur Du hast Deine Hausaufgaben gemacht.
- (S) Nur Sie haben Ihre Hausaufgaben gemacht.

$$\llbracket Du \rrbracket^c = \langle x, c_A.4c_H \rangle$$

Correct predictions

- ▶ The second-person pronoun can turn into a bound variable (von Stechow 2003; Schlenker 2003).
- ▶ But the expressive content remains fixed with the utterance context. That is, it is still directed towards only the addressee.

Summary of descriptive ineffability

Descriptive ineffability

This is captured by the fact that the expressive content is referential.

Meaning as use

Dynamically, these pronouns could function in either of two ways:

- ▶ impose definedness conditions [presuppositional]
- ▶ move the common ground to a state a specific state of C_{HON}

Both treatments capture the fact that the content of expressive pronouns is fully intertwined with conditions on use and the nature of the discourse situation.

Nondisplaceability

Tsujimura (1978:223):

expressions such as commands, prohibitions, or wishes clearly establish a relationship with the interlocutor, and hence should be treated from the attitudinal viewpoint [just like honorifics]

Expressives tell us about the **speaker's** emotional state at **the time of utterance**.

Formal treatment

Parsetree interpretation

The interpretation of a parsetree \mathcal{T} is the tuple $\langle \mathbf{A}, \mathbf{B} \rangle$, where

1. \mathbf{A} is the semantic value of \mathcal{T} 's root node; and
2. \mathbf{B} is the set consisting of all and only the interpretations of the type ε expressions in \mathcal{T} .

The definition's main effect

Expressive content gets a free ride to the root node, even when it is very deeply embedded.

Potential complications

Embedded expressive content

1. Sue asked who **the hell** would favor the Mets.
(the negativity of *the hell* seems to be attributed to Sue)
2. You might be wondering who **the hell** would favor the Mets
(here, the negative content seems to be the speaker's)

Resolutions

- ▶ Reclassify this content as nonexpressive (perhaps suspicious).
- ▶ Look for possible correlations with other context-shifting environments (Schlenker 2003; Sharvit 2004).

Repeatability: Strengthening rather than redundancy

Fuck the fucking fucked up fucks. Those fucked-up fuck-ups fucking suck. Told you once you stupid fucks, you fucked-up fuck-ups are fucked-up.

—The Mr. T Experience. ‘Told you once’.

Repetition: Strengthening rather than redundancy

- ▶ Damn, I left my damn keys in the damn car.
- ▶ The fucking fucker's fucking fucked!

Unlike propositional content

- ▶ I am emotional. I forget my keys. #I am emotional. They are in the car. #I am emotional.
- ▶ I'm angry! It's broken! #I'm angry! It's not fixable! #I'm angry!

But much like referential devices

- ▶ I forgot my keys. They are in the car. I need them.

A dynamic treatment that respects repeatability

Updates

1. $[[\alpha : \varepsilon]]^c$ is defined only if $[[\alpha]]^c \in \mathcal{C}_{HON}$
Where defined, $[[\alpha : \varepsilon]]^c \in D_\varepsilon$
2. $C + [[\alpha : \varepsilon]]$ is defined only if every $c \in C$ is such that
 $[[\alpha]]^c \in \mathcal{C}_{HON}$
Where defined, $C + [[\alpha : \varepsilon]] = C$

This defines expressives as a kind of dynamic **test**: if the input state meets the specified condition, it is left unmodified, else the computation halts.

Exploring the definition of expressive content

We've arrived at a characterization of expressive content as

- ▶ independent of the descriptive content; and
- ▶ nonpropositional — in fact, referential in a novel sense.

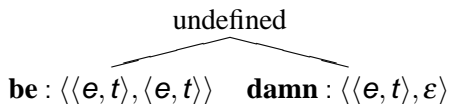
It's instructive to see some things that are expressive by this definition, some things that clearly aren't, and some borderline cases.

Some clear examples of nonexpressives

- ▶ modifiers in copular position
- ▶ determiners like *a few*
- ▶ predicates like *lurking*

Modifiers in copular position [not expressive]

1. The bloody dog tore up the rug!
[expressive reading: the dog need not be bloody; the speaker is emotional]
2. The dog that tore up the rug is bloody
[expressive reading unavailable]
3. The damn dog tore up the rug.
4. *The dog that tore up the rug is damn!



Determiner *few*

Keenan and Stavi (1986:258):

Moreover, it can be reasonably doubted whether many (few) can even be treated intensionally. For in addition to the value judgment component in these dets there is an implied comparison [...] the utility of such sentences lies in the fact that they enable the speaker to express his value *judgment*

Determiner *few*

These D's lack independence

Removing *few* alters the proposition expressed:

1. Few dogs have four legs.
2. Dogs have four legs.

No inherent tie to the utterance situation

1. Sam believes few dogs have four legs, but I think that's nonsense.
2. Few people were at the party earlier, but many are here now.

Predicates like *lurking*

Predicates like *lurking* seem to have an expressive component. But, as with *few*, it clearly contributes to the truth conditions:

1. Ed was standing in the hallway.
2. Ed was lurking in the hallway.
3. They said Ed was lurking in the hall, but he was only standing there.

Some borderline examples of expressives

- ▶ many German particles
- ▶ evidentials
- ▶ epistemic modals

German *ja*

Intervention effects that look like multidimensionality (Kratzer 1999)

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

Possible counterexamples (Kaufmann 2004)

Kaufmann (2004) claims that the above is well-formed “if it is common knowledge that all workers were in the union”.
He offers additional examples suggesting that *ja* might not be completely independent from the descriptive content.

German *ja*

A qualification

Jeder der Zeugen behauptete, er habe ja mit eigenen
Each of-the witnesses claimed he had JA with own
Augen gesehen, dass
eyes seen that

But: Konjunktiv I is plausibly a context-shifting operator.

Evidentials and epistemic modals

These examples have an emotive component, but they fail completely to manifest the independence property:

1. Ed is, I'm told, a werewolf
≠ Ed is a werewolf; I'm told Ed is a werewolf
2. wiki-caxa-k-wa.d 'I'm told there's bad weather' [Makah]
≠ there is bad weather; I'm told there is bad weather
3. Ed might be in his office.
≠ Ed is in his office; my epistemic state is compatible with Ed being in his office

Summary

- ▶ Natural language semantics seems to be multidimensional.
- ▶ Some dimensions are semantics, others pragmatic.
- ▶ But what about expressives? They are characterized by the following properties:
 1. **independence** from the descriptive content
 2. **nondiscreteness** of their domain
 3. **descriptive ineffability** due to nonpropositional denotations
 4. **repeatability** leading to reenforcement rather than redundancy
 5. **nondisplaceability** due to an inherent link with the utterance situation
- ▶ This mix of properties suggests a dimension of meaning (for expressives and perhaps many other things) that is not easily categorized as semantic or pragmatic. It is perhaps best characterized as both.

The logic of non-purely-semantic dimensions

The probability/game-theory crew¹ has given us new perspectives on the usual possible-worlds models.

Can these inform our understanding of the way content in non-purely-semantic dimensions is projected and understood within the linguistic system?

¹Prominently, Reinhard Blutner, Gerhard Jäger, Manfred Krifka, Arthur Merin, and Robert van Rooij

The semantics/pragmatics border

Grice (1975):

Conversational implicatures “are carried not by what is said but only by the saying of what is said, or by ‘putting it that way’ ”

What we've done

In the above system, pragmatic meanings can be a distinct dimension of the recursive semantics for sentences. They can even be exuberantly intertwined with the narrowly semantic meaning — as with expressives.

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