An Expressivist Theory of Taste Predicates

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1. The acquaintance inference

The requirement:

- Utterances of simple sentences containing a predicate of taste typically give rise to an *acquaintance inference* (AI), i.e. they typically convey that the speaker has a certain sort of first-hand experience with the object of predication (Mothersill, 1984; Pearson, 2013; MacFarlane, 2014; Ninan, 2014).
- For example, an utterance of (1) would normally suggest that the speaker has tasted the creme caramel in question, an utterance of (2) would normally suggest that speaker had traveled with Mary before, and an utterance of (3) would normally suggest that the speaker had seen the movie in question:

  (1) The creme caramel is delicious.
  $\hookrightarrow$ *the speaker has tasted the creme caramel*

  (2) Traveling with Mary is fun.
  $\hookrightarrow$ *the speaker has traveled with Mary*

  (3) That movie is frightening.
  $\hookrightarrow$ *the speaker has seen the movie*

- If one had not tasted the creme caramel, but had merely heard that it was good, it would, for example, be better to say some thing like:

  (4) Apparently, the creme caramel is delicious.

- Taste predications contrast with more 'factual' predications: If I were to say (5), for example, you wouldn't necessarily reach any conclusion about the grounds for my assertion:

  (5) The creme caramel contains gluten.

Defeasibility, exocentric uses:

- The inference is a default inference, and doesn't always arise, even with relatively simple taste sentences.
- One source of defeasibility arises with 'exocentric' uses of taste predicates.
- Typically, our use of a simple taste sentence conveys something about our own tastes and sensibilities. These are *autocentric* uses.
- But sometimes we use simple taste sentences to convey something about someone else's tastes and sensibilities. These are *exocentric* uses.
- Exocentric uses don't give rise to a *speaker* AI, but they may give rise to some sort of AI (Anand and Korotkova, 2018).

  (6) (a) [A]: How is Mary's trip to Morocco going?

(b) [B]: It's great. <u>The food is delicious</u>, she's met a lot of interesting people, and she loves the beaches.
$\not\hookrightarrow$ *the speaker has tasted the food in Morocco*
$\hookrightarrow$ *Mary has tasted the food in Morocco*

- There may be other sources of defeasibility (Pearson, 2013), and there seems to be some speaker variation about how easily defeated the inference is.
- For simplicity, I will mostly set aside exocentric readings here along with other sources of defeasibility.

Expressivism:

- Why does the AI arise?
- Expressivist answer: Simple taste sentences are not merely vehicles for stating facts, but for *expressing our reactions* to experiences we've had (Franzén, 2018; Willer and Kennedy, 2020).
- When you taste the creme caramel and you like it, you are in a certain psychological state, a state you can report by saying *I like the taste of the creme caramel*.
- Thus perhaps when you sincerely say *The creme caramel is delicious*, you are expressing this psychological state, expressing your 'liking' of the taste of the creme caramel.
- If that is correct, then it would seem to explain why the AI arises; for it would seem that you can only be said to *like* the taste of something if you have actually tasted it.
- This idea is a form of *expressivism* about taste predicates, for it maintains that in saying *The creme caramel is delicious*, one is expressing a certain kind of psychological state, one that is not a belief.
- And the psychological state one is expressing does not seem to be one that can assessed for truth or falsity. (What is it for 'my liking' of the creme caramel to be true? What is it for it be false?)

Outline:

- I will get back to expressivism shortly, but I want start by considering an alternative view and argue that it faces at least two problems.
- I'll then present an expressivist theory that avoids these problems, and has various other virtues as well. A particularly interesting feature of the theory is its treatment of taste predicates in the scope of generalized quantifiers.
- My version of expressivism that consists of two main parts:
  (i) a recursive semantics for a formal language that represents a fragment of English, and
  (ii) an account of assertion.
- It is a 'lightweight' version of expressivism because it turns out to be compatible with a wide range of accounts of truth and content, such contextualism, relativism, and 'purer' forms of expressivism.

2. The epistemic view

Epistemic view:

KNOWLEDGE NORM (MAXIM OF QUALITY) (KN): One may assert ϕ only if one knows ϕ

If the speaker asserts ϕ, that implies that the speaker knows ϕ.
$\phi \hookrightarrow K\phi$

ACQUAINTANCE PRINCIPLE (AP): One knows whether *o is delicious* is true only if one has tasted o (Wollheim, 1980; Ninan, 2014).

If the speaker knows that o is delicious, that implies that the speaker has tasted o.
If the speaker knows that o is not delicious, that implies that the speaker has tasted o.
$\mathcal{K}To \hookrightarrow Ao$
$\mathcal{K}\neg To \hookrightarrow Ao$

Notation:

- Think of o here as a singular term (e.g. *the creme caramel*).
- $\phi \hookrightarrow \psi$ ("ϕ implies ψ") iff ψ is an entailment or a Quality implicature of ϕ.
- $\mathcal{K}\phi$ translates *the speaker knows* ϕ, To translates *o is delicious*, Ao translates *the speaker has tasted o*

Projection over negation:

(7) (a) The creme caramel is delicious.
(b) The creme caramel is not delicious—it's too sweet.
$\hookrightarrow$ *the speaker has tasted the creme caramel*

Epistemic view predicts this:

- Suppose you say *o is delicious*. By KN, you know this. So by AP you have tasted o.
  $To \hookrightarrow \mathcal{K}To \hookrightarrow Ao$.
- Suppose you say *o is not delicious*. By KN, you know this. So by AP you have tasted o.
  $\neg To \hookrightarrow \mathcal{K}\neg To \hookrightarrow Ao$.

Further evidence:

(8) (a) The creme caramel must have been delicious.
(b) The creme caramel might have been delicious.
(c) If the creme caramel was delicious, Bina will be pleased.
$\not\hookrightarrow$ *the speaker has tasted the creme caramel*

(9) (a) It must have rained last night.
(b) It might have rained last night.
(c) If it rained last night, the streets will be wet.
$\not\hookrightarrow$ *the speaker knows that it rained last night*

Problem #1: Disjunction

- Disjunction of taste sentences gives rise to a disjunction of acquaintance requirements (Cariani, Forthcoming):

  (10) A has just arrived at the party. She and B are looking at the dessert table.
  (a) [A]: What's good here?
  (b) [B]: <u>Either the creme caramel is delicious or the panna cotta is</u>—I couldn't tell which was which.
  $\hookrightarrow$ *B has tasted the creme caramel or B has tasted the panna cotta*

- Pattern: $(Ta \vee Tb) \hookrightarrow (Aa \vee Ab)$
- What does the epistemic view predict? $(Ta \vee Tb) \hookrightarrow \mathcal{K}(Ta \vee Tb)$
- But now we're stuck, because AP only concerns atomic taste sentences and their negations (i.e. *taste literals*).
- It simply says nothing about what it is to know a disjunction of atomic taste literals: $\mathcal{K}(Ta \vee Tb) \hookrightarrow$???

Problem #2: Quantifiers

- Quantified taste claims give rise to various quantified acquaintance requirements:

  (11) Something on the dessert table is delicious.
  $\hookrightarrow$ *the speaker has tasted something on the dessert table*

  (12) Everything on the dessert table is delicious.
  $\hookrightarrow$ *the speaker has tasted everything on the dessert table*

- Again, the epistemic view does not predict these observations.
- Consider (11). From an assertion of $(some_x(Fx)(Tx))$, KN allows us to infer $\mathcal{K}(some_x(Fx)(Tx))$.
- But AP simply says nothing about what is involved in knowing that something on the dessert table is delicious

Summary:

- Basic problem: AP only concerns atomic taste sentences and their negations.
- Could the epistemic view be supplemented by further principles that would yield the right predictions?
- Perhaps, but I haven't been able to formulate such principles myself.

3. Lightweight expressivism

3.1. Formal framework

Categorical standards of taste:

- Assume a domain D and a set of worlds W.
- **Definition.** A *standard of taste* is a (possibly partial) function f from D to $\{0, 1\}$.
- **Definition.** For any individual j in world w, $\chi^{w,j}$ is j's *categorical standard of taste in* w iff:
  - ▹ $\chi^{w,j}(o) = 1$ if j has tasted o and liked it in w,
  - ▹ $\chi^{w,j}(o) = 0$ if j has tasted o and did not like it in w, and
  - ▹ $\chi^{w,j}$ is not defined for o if j hasn't tasted o in w

Toy example:

- Suppose there are three things in D: the creme caramel, the panna cotta, the apple tart.
- Suppose you j in the actual world w like the creme caramel, dislike the panna cotta, and haven't tried the apple tart. Then:
  - ▹ $\chi^{w,j}(\textit{creme caramel}) = 1$

- ▷ $\chi^{w,j}(panna\ cotta) = 0$
- ▷ $\chi^{w,j}(apple\ tart)$ is not defined.

Generators and complete extensions:

- **Definition.** A *generator* is a (total) function from pairs (w, j) to standards of taste.

  So χ is a generator that maps (w, j) to $\chi^{w,j}$, j's categorical standard of taste in w.

- **Definition.** A generator σ is *complete* iff for all (w, j), $\sigma^{w,j}$ is a total function.

  So χ is not complete (on intended interpretation) since for some (w, j) and some $o \in D$, $\chi^{w,j}$ will presumably be undefined for o.

- **Definition.** A generator σ is a *complete extension of* χ, $\sigma \succ \chi$, iff

  (i) σ is complete, and

  (ii) for all (w, j) and all $o \in D$, if $\chi^{w,j}$ is defined for o, then $\sigma^{w,j}(o) = \chi^{w,j}(o)$.

  If $\sigma \succ \chi$, we also say that $\sigma^{w,j}$ is a complete extension of $\chi^{w,j}$.

  So a complete extension of $\chi^{w,j}$ agrees with $\chi^{w,j}$ on all the cases that $\chi^{w,j}$ decides, but then goes on and decides all other cases as well.

NB. I will sometimes pronounce "$\chi^{w,j}$" as "χ", "$\sigma^{w,j}$" as "σ", etc..

Toy example:

- Since you j have tried only two of the three things in D in the actual wold w, there are two complete extensions of $\chi^{w,j}$:
- $\sigma_0^{w,j}$, where:
  - ▷ $\sigma_0^{w,j}(creme\ caramel) = 1$
  - ▷ $\sigma_0^{w,j}(panna\ cotta) = 0$
  - ▷ $\sigma_0^{w,j}(apple\ tart) = 0$
- $\sigma_1^{w,j}$, where:
  - ▷ $\sigma_1^{w,j}(creme\ caramel) = 1$
  - ▷ $\sigma_1^{w,j}(panna\ cotta) = 0$
  - ▷ $\sigma_1^{w,j}(apple\ tart) = 1$
- These both agree with $\chi^{w,j}$ on the creme caramel and the panna cotta (because you've tried those).
- But they also go on and yield a verdict on the apple tart.
- In this toy example, there are only two complete extensions of $\chi^{w,j}$ because there is only one thing in the domain you haven't tried.
- In general, if there are n things in the domain that you haven't tried, there will be 2^n complete extensions of your categorical standard.

Basic idea:

- You can say *a is delicious* iff every complete extension of your categorical standard maps a to 1.
- In the example: you can say *The creme caramel is delicious* because both $\sigma_1^{w,j}$ and $\sigma_0^{w,j}$ map the creme caramel to 1.

- But you can't say *The panna cotta is delicious* because both $\sigma_1^{w,j}$ and $\sigma_0^{w,j}$ map it to 0.
- And you can't say *The apple tart is delicious* because $\sigma_0^{w,j}$ maps it to 0.

Language, models, points:

- Formal language: variables, individual constants, n-ary predicates (including a distinguished one-place taste predicate T), Boolean connectives, generalized quantifiers, and epistemic modals.
- Models: a tuple that includes the following elements: W, D, χ, and I, where I assigns an individual to each individual constant, and assigns a function from worlds to appropriate extensions to all n-ary predicates other than the taste predicate T.
- Assume for simplicity that all individual constants are rigid. If a is an individual constant, we simply write a for the denotation of a.
- **Definition.** Let a *point (of evaluation)* be a tuple (w, j, σ, g) consisting a world w, a judge j, a complete generator σ, and a variable assignment g.
- Let t^g be the denotation of the term t relative to variable assignment g.

Satisfaction at a point (Boolean fragment):

(S1) $[\![Pt_1, ..., t_n]\!]^{w,j,\sigma,g} = 1$ iff $(t_1^g, ..., t_n^g) \in I(P)(w)$, where P is any n-ary predicate other than T

(S2) $[\![Tt]\!]^{w,j,\sigma,g} = 1$ iff $\sigma^{w,j}(t^g) = 1$

(S3) $[\![\neg\phi]\!]^{w,j,\sigma,g} = 1$ iff $[\![\phi]\!]^{w,j,\sigma,g} = 0$

(S4) $[\![\phi \wedge \psi]\!]^{w,j,\sigma,g} = 1$ iff $[\![\phi]\!]^{w,j,\sigma,g} = [\![\phi]\!]^{w,j,\sigma,g} = 1$

(S5) $[\![\phi \vee \psi]\!]^{w,j,\sigma,g} = 1$ iff $[\![\phi]\!]^{w,j,\sigma,g} = 1$ or $[\![\psi]\!]^{w,j,\sigma,g} = 1$

Assertability at a context:

- Let a *context* c be a tuple (w_c, s_c, j_c, g_c) consisting of a world w_c, a speaker s_c, a judge j_c, and a variable assignment g_c.
- ASSERTABILITY AT A CONTEXT:

  A sentence ϕ is *assertable at a context* c, $[\phi]^c = \mathcal{A}$, iff for all $\sigma \succ \chi$, $[\![\phi]\!]^{w_c,j_c,\sigma,g_c} = 1$.

Some predictions:

Fact 1. $[Ta]^c = \mathcal{A}$ *iff* $\chi^{w_c,j_c}(a) = 1$.[1]

Fact 2. $[\neg Ta]^c = 1$ *iff* $\chi^{w_c,j_c}(a) = 0$

Fact 3. $[Ta \wedge \phi]^c = \mathcal{A}$ *only if* $\chi^{w_c,j_c}(a) = 1$

Comments:

- So if you say, *The creme caramel is delicious*, this will imply that you tasted and liked the creme caramel.[2]
- If you say, *The creme caramel is not delicious*, this will imply that you tasted and didn't like the creme caramel.

[1]Proofs of these facts can be found in the paper version mentioned at the top of the handout.

[2]"Imply" here doesn't mean "entails'; rather, it means something like "convey the information that".

- If you say *The creme caramel is delicious and it's gluten-free*, this will imply that you tasted and liked the creme caramel.

Two facts about disjunction:

Fact 4. $[Ta \vee Tb]^c = \mathcal{A}$ *iff* $\chi^{w_c,j_c}(a) = 1$ *or* $\chi^{w_c,j_c}(b) = 1$

- If you say, *Either the creme caramel is delicious or the panna cotta is*, this will imply that either (you tasted and liked the creme caramel) or (you tasted and liked the panna cotta).
- So the disjunction will imply that you tasted at least one of them, but it in fact implies something stronger: that you tasted *and liked* at least one of them.
- If you tasted the panna cotta and didn't like it, and you didn't taste the creme caramel but are disposed to like it, the disjunction will not be assertable.
- To see why this might hold, imagine that you hadn't tasted either a or b. Then some complete extension of your categorical standard will map both a and b to 0 (e.g. the 'picky' extension that maps everything you haven't tried to 0).

Fact 5. *For any context c,* $[Ta \vee \neg Ta]^c = \mathcal{A}$.

- Certain disjunctions of taste literals—namely, instances of excluded middle—do *not* imply a disjunction of acquaintance requirements (Cariani, Forthcoming):

  (13) Either the creme caramel is delicious or it isn't.
  $\not\rightsquigarrow$ *the speaker has tasted the creme caramel*

- Our account predicts this:
  - ▷ Think of any complete extension $\sigma^{w,j}$ of your categorical standard. It will either map a to 1 or it will map a to 0.
  - ▷ If the former, Ta will be satisfied at (w, j, σ, g), and so $Ta \vee \neg Ta$ will be satisfied that point.
  - ▷ If the latter, $\neg Ta$ will be satisfied at (w, j, σ, g), and so $Ta \vee \neg Ta$ will still be satisfied that point.

3.2. Expressivism

In what sense do assertions express mental states?

- Speech acts "express states of mind insofar as they require the speaker to be in a certain state of mind for the utterance to be in accordance with the norms for performing the speech act" (Willer and Kennedy, 2020, 11).
- Suppose, for example, there is a norm that entails that one may assert ϕ only if one believes ϕ.
- Then if I assert ϕ, my assertion will ordinarily implicate that I believe ϕ.
- For if I assert ϕ, my audience will normally assume that I am attempting to comply with that norm, and if I am complying with it, I will believe ϕ.
- That is one sense in which assertions may be said to be express beliefs.

How atomic taste sentences express states of liking:

- ASSERTION NORM (AN)

  For any context c, s_c may assert ϕ in c only if:

(1) s_c believes $\langle\phi\rangle^c$ in c, and
(2) $[\phi]^c = \mathcal{A}$.

- Suppose you assert *The creme caramel is delicious.*
- Your hearer will assume that your attempting to comply with AN.
- If you are complying with AN, then, given **Fact 1**, you will have tasted and liked the creme caramel.
- That is one sense in which *The creme caramel is delicious* can be said to express your liking of the creme caramel.

Expressing complex states:

- Suppose I say, *Either the creme caramel is delicious or the panna cotta is—I couldn't tell which was which.*
- On our account, if my assertion complies with AN, I will be in certain complex mental state—the state one is in when one has either tasted and liked the creme caramel or tasted and liked the panna cotta.
- In just the same sense, when I utter that disjunction, I express this complex state.

3.3. Generalized quantifiers

Standard clauses for (some) quantifiers:

(S6) $[\![some_x(\phi)(\psi)]\!]^{w,j,\sigma,g} = 1$ iff
$\{o : [\![\phi]\!]^{w,j,\sigma,g[x/o]} = 1\} \cap \{o : [\![\psi]\!]^{w,j,\sigma,g[x/o]} = 1\} \neq \emptyset$[3]

(S7) $[\![every_x(\phi)(\psi)]\!]^{w,j,\sigma,g} = 1$ iff
$\{o : [\![\phi]\!]^{w,j,\sigma,g[x/o]} = 1\} \subseteq \{o : [\![\psi]\!]^{w,j,\sigma,g[x/o]} = 1\}$

(S8) $[\![exactly\ two_x(\phi)(\psi)]\!]^{w,j,\sigma,g} = 1$ iff
$|\{o : [\![\phi]\!]^{w,j,\sigma,g[x/o]} = 1\} \cap \{o : [\![\psi]\!]^{w,j,\sigma,g[x/o]} = 1\}| = 2$

A general result:

- First note that for each generalized quantifier Q_x, there is a corresponding binary relation Q_R on subsets A, B of D, e.g.:
  - ▷ $some_x : A \cap B \neq \emptyset$
  - ▷ $every_x : A \subseteq B$
  - ▷ $exactly\ two_x : |A \cap B| = 2$
- Then we have:

  Fact 6. *For any generalized quantifier Q_x and corresponding binary relation Q_R on subsets of D:*

  If $[Q_x(Fx, Tx)]^c = \mathcal{A}$, then $Q_R(I(F)(w_c), \{o : \chi^{w_c, j_c}(o) = 1\})$.

- If you say *Q things on the dessert table are delicious*, this will imply that there are Q things on the dessert table that you tasted and liked.

[3]For any variable assignment g, $g[x/o]$ is the assignment h such that $h(x) = o$ and is otherwise like g. All sets here are understood to be subsets of our domain D.

- For example, if you say, *Something on the dessert table is delicious*, this will imply that there is something on the dessert table that you tasted and liked.
  - ▷ Note again that this is stronger than just: there is something on the dessert table that you tasted.
  - ▷ It's not enough that you have tasted something on the table, didn't like it, but are disposed to like something else on the table.
- Another example: if you say, *Exactly two things on the dessert table are delicious*, this implies that exactly two things on the table are such that you tasted and liked them.

Exactly two:

- There are some more specific results pertaining to particular quantifiers, such as:

  Fact 7. *If* $[\textit{exactly two}_x(Fx, Tx)]^c = \mathcal{A}$*, then* $I(F)(w_c) \subseteq dom(\chi^{w_c, j_c})$.

- So if you say, *Exactly two things on the dessert table are delicious*, this implies that you've tasted everything on the dessert table.
- Note that our earlier result was that if you say, *Exactly two things on the dessert table are delicious*, this implies that you've tasted *and liked* exactly two things on the table.
- One thing interesting about this is that there's apparently an empirical difference here between the behavior of the acquaintance requirement and standard presuppositions. Consider

  (14) Exactly two students in my class stopped smoking recently.

- Suppose there are ten students in my class, two of whom smoked in the past and no longer smoke, eight of whom never smoked.
- According to George (2008, 13), (14) has a reading on which it is true in this situation, a judgment I agree with.
- This consequence is a problem for the supervaluational treatment of presupposition triggers like *stops* (and for the Strong Kleene approach George develops), but the corresponding prediction seems right in the case of taste predicates.

3.4. Truth and content

What we've done:

- Given a recursive definition of *satisfaction at a point*.
- Stated an account of assertion in terms of that.
- What we haven't done: given an account of the *truth of a sentence at a context* or an account of the *content expressed by a sentence at a context*.
- It turns out that our approach is largely neutral on the main rival approaches to these issues.

Hypothetical standards of taste:

- **Definition.** An agent j's *hypothetical standard of taste* in world w, $\delta^{w,j}$, is a total function from D to $\{0, 1\}$, where:
  - ▷ $\delta^{w,j}(o) = 1$ if j is disposed to like o in w, and
  - ▷ $\delta^{w,j}(o) = 0$ if j is disposed not to like o in w.

- We assume that δ is a complete extension of χ, so $\chi^{w,j}$ is just the restriction of $\delta^{w,j}$ to the things you've actually tasted.

Contextualism:

- CONTEXTUALISM

  The content of ϕ at c is $\{w : [\![\phi]\!]^{w,j_c,\delta,g_c} = 1\}$.

  A sentence ϕ is true at c iff the content of ϕ at c is true at w_c.

- Note that the 'generator parameter' here has been set to the hypothetical generator δ in this definition.

- So on this approach, the content of *The creme caramel delicious* in an autocentric context is the proposition that the speaker is disposed to like the creme caramel.

- Thus, in asserting that sentence in an autocentric context, one's assertion will be true iff that proposition is true.

- Note also that it is clear from this overall account that one is *expressing* one's liking of the creme caramel and not *asserting* that one likes it—for one's assertion may be true even if one has not tasted (and so couldn't said to like) the creme caramel.

Hybrid expressivism:

- Note that this version of our proposal would count as species of *hybrid expressivism*.[4]

- For it follows from our account of assertion that an assertion of *The creme caramel is delicious* in an autocentric context would, in addition to expressing one's liking of the creme caramel, express a certain *belief*.

- For the contextualist, it expresses the belief that one is disposed to like the creme caramel.

- That belief is an ordinary belief, one assessable for truth or falsity.

Two other options:

- RELATIVISM

  The content of ϕ at c is $\{(w, j) : [\![\phi]\!]^{w,j,\delta,g_c} = 1\}$.

  A sentence ϕ is true as used at c_1 and as assessed from c_2 iff the content of ϕ at c is true at (w_{c_1}, j_{c_2}).

- PURE EXPRESSIVISM

  The content of ϕ at c is $\{(w, j, \sigma) : [\![\phi]\!]^{w,j,\sigma,g_c} = 1\}$.

  If ϕ is not sensitive to the generator parameter, then ϕ is true at c iff the content of ϕ at c is true at (w_c, j_c, σ) (for any σ).

3.5. Epistemic modals

What about the epistemic modal data motivating the epistemic view?

- An operator will 'obviate' the acquaintance requirement in this system if it shifts the generator parameter σ to δ, viz. the generator that maps each (w, j) to j's hypothetical standard at w (cf. Anand and Korotkova, 2018).

- Example:

[4] On hybrid expressivism in metaethics, see Schroeder (2009) and the references therein.

(S9) $[\![must\ \phi]\!]^{w,j,\sigma,g} = 1$ iff for all $w' \in R(w)$, $[\![\phi]\!]^{w',j,\delta,g} = 1$, where $w' \in R(w)$ iff w' is compatible with what is known in w.

Fact 8. $[must\ Ta]^c = \mathcal{A}$ *iff for all* $w' \in R(w_c) : \delta^{w',j_c}(a) = 1$.

- If you say, *The cake must be delicious*, this will imply that it follows from what is known that you are disposed to like the cake. This can be true even if you've never tasted the cake.

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