Find verbs and discretionary predicates

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1 Introduction

- There seems to be a linguistic distinction between propositions expressing personal opinion and those that express matters of fact (Lasersohn 2005, 2009, 2017; Moltmann 2010; Pearson 2013; Ninan 2014 among others).

    (1)   a.   This cake is tasty.
           b.   Voldemort is mortal.

- For example, while propositions with simple predicates of evaluation have been argued to give rise to faultless disagreement, those that express matters of fact do not (Kölbel, 2004).

    (2)   a.   Hermione: This cake is tasty.
           b.   Harry: No, it is not.

    (3)   a.   Harry: Voldemort is mortal.
           b.   Hermione: No, he is not.

- Many doxastic attitudes have been shown to be neutral with respect to whether they embed propositions expressing personal opinion or those that express matters of facts.

    (4)   Harry {believes, thinks, knows} that {this cake is tasty, Voldemort is mortal}.

- However, some predicates are sensitive to what type of propositions they embed. For example, *find* in English has been argued to be the subjective variant of *believe* (Stephenson, 2007; Korotkova and Anand, 2021; Kennedy and Willer, 2022).

    (5)   #Harry finds Voldemort mortal.

    (6)   a.   Harry finds this cake tasty. ⤳ Harry believes that this cake is tasty.

    b. $[\![(6a)]\!]^{\langle w, g \rangle}$ is defined iff $[\![$this cake is tasty$]\!]^{\langle w, g \rangle} \in [\![$discretionary$]\!]^{\langle w, g \rangle}$;
if defined; $[\![(6a)]\!]^{\langle w, g \rangle} = \forall w'$ [w′ is compatible with what Harry believes in w,
this cake is tasty in w′]

Muñoz (2019) points out that *find* cannot be a doxastic predicate as opposed to *consider*.

(7)   Situation: Alfonse has forgotten his previous experience with licorice.
    a.   Alfonse doesn't find licorice tasty, but he thinks that it is.
    b.   #Alfonse doesn't consider licorice tasty, but he thinks that it is. (Adapted from
    Muñoz 2019, p. 275)

– Although Muñoz (2019) marks (7b) infelicitous, in the forgetfullness scenario, one could still contrast Alfonse's actual evaluation with his current, possibly not accurate belief, with *think*.

– Second, *consider* itself might not be a conventional doxastic attitude. Consider (8).

(8)   I believe, and in fact, know, that Harry was absent today. But I do not consider him absent because there are no official records for today.

– Therefore, the data in (7) is not conclusive.

> – In this presentation, I will bring in more data to support the claim that *find*-verbs do not assert belief states of their subjects.
> – Instead, they make reference to their particular experiences, and belief or knowledge is a side-product, just as in any perception reports.
> – I will extend the analysis to a particular experience-reporting construction in Turkish.
> – Finally, I will discuss how experiences could be mapped to beliefs and knowledge states.

2 Empirical observations

• The starting observation is that *find* predicates "commits the speaker to have" first-hand experience with the object in question (Korotkova and Anand, 2021), as shown in (9a).

• This is not so for belief/knowledge predicates as illustrated in (9b).

(9)   a.   John found the cake tasteless, #though he did not try it.
    b.   John thought/believed/knew that the cake was tasteless, though he did not try it.

• Regular belief ascriptions can involve reasoning external to the taste or more generally personal experience with the object at hand whereas *find* predicates force such experience.

(10) a. John thought/believed/knew that the cake was delicious because a friend told him so.
      b. John found the cake delicious #because a friend told him so.

– As previously observed in the literature, the first hand experience requirement cannot be analyzed as a lexical presupposition of the embedded predicate (e.g., Ninan 2020).

– This is so because it does not project under attitudes like *believe* and *know*.

– This suggests that it must result from the contribution of the embedding *find*.

• Additionally, sentences containing *find* predicates can be felicitously followed up by assertions of non-existence of belief, which would be contradictory to the former if they had doxastic assertions.

(11) a. Harry found the food bland because of the bruises on his tongue, but he did not believe that it was actually bland, as his favourite cook made it.
      b. Harry believed that the food was bland because of the bruises on his tongue, #but he did not believe that it was actually bland, as his favourite cook made it.

– The sentence in (11a) does not necessarily mean that Harry was of the opinion that the food was tasteless.

– It talks about a particular experience of Harry given certain problems with his taste receptors.

– The same continuation, however, generates a contradiction when preceded by a regular epistemic attitude as illustrated in (11b).

• It is not possible to negate a belief assertion with an ability modal, in contexts where the ability to experience a particular taste is lost.

• In contrast, such assertions are natural with *find* predicates.

(12) Context: John lost his taste after Covid-19.
      a. Harry really believes that this food is tasty.#But he cannot believe that it is tasty.
      b. Harry really believes that this food is tasty. But he cannot find it tasty.

• Another interesting contrast between regular belief ascriptions and *find* predicates emerges in what I call 'baby-feed' contexts.

• Baby-feed contexts allow one to use *find* to talk about a particular experience of a baby whereas a belief ascription to it sounds infelicitous. Consider the context in (13).

(13) Context: Harry has a baby of six months old. Whenever he feeds her a particular type of soup, the baby makes a sour face and suffers from gas problems. Harry tells his partner:

      a.   Let's not feed this soup to her. She probably finds it sour.

      b.   Let's not feed this soup to her. #She probably believes that it is sour.

- – In (13), *find* is appropriate to use based on apparent sensory and physical consequences of feeding a particular type of soup to the baby whereas predicates with obvious beliefs ascriptions fail as shown in (13b).

- I take these contrasts to show that *find* predicates do not assert the belief state of their subjects.

3   Immediate consequences

- Analyses that take *find* to shift the judge parameter is not tenable (e.g., Sæbø 2009).

(14)   a. $[\![\text{tasty}]\!]^{c,w} = \lambda x.\lambda y.$ x is tasty to y at w
        b. $[\![\text{find}]\!]^{c,w} = \lambda x. [\![\phi]\!]^{c,w}(x)$

(15)   Context: John lost his taste after Covid-19.

      a.   John really believes that this food is tasty, #but according to him, it is bland.

      b.   John really believes that this food is tasty, but he finds it bland.

4   Proposal

- I will assume the simplified structure in (16).

(16)

```
            John
                   \
                  found   the food tasteless
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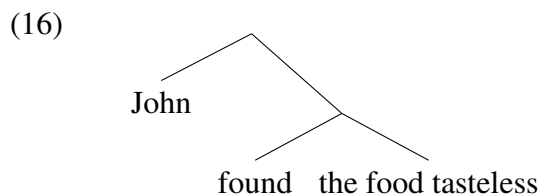
- Accordingly, *find* takes an embedded sentence and the result combines with the experiencer of the state described by the embedded clause.

- I will use a unilateral version of situation semantics, in particular Kit Fine's truth maker semantics to formalize the observations (Fine, 2014, 2017).

- The unilateral truth-making adopts the idea that sentences assert their verifiers, but not a tuple consisting verifiers and falsifiers (Champollion and Bernard, 2024).

- Truth-maker semantics argues for the existence of objects that exactly verify sentences, i.e, the objects whose parts are completely relevant for the truth of the sentence.

- In other words, they lack any parts that are irrelevant for it. It differs from other versions of situation semantics adopting minimal situations (e.g.,Kratzer 1989, 2021)

- These objects could also be understood to be events, states or **attitudinal objects** (Moltmann, 2007, 2020, 2024).

- I will argue that *find* in its evaluative use introduces one kind of such objects, namely objects of **experiental** kind.

  - Accordingly, *find* takes an embedded sentence and returns a partial function from indiviuals to predicates of states (objects) of truth making with parts verifying the embedded clause.

  (17)　　$[\![\text{find}]\!] = \lambda f.\ \lambda x: \exists d'\ [\text{find}(d') \wedge \text{experience}(d') \wedge \text{experiencer}(d') = x] \wedge \exists d''$
  $[d'' \in (\Xi_M(f)\ \text{or}\ \Xi_M(\neg f))] \wedge d'' \sqsubseteq d'].\ \lambda d.\ \text{find}(d) \wedge \text{experience}(d) \wedge \text{experiencer}(d) = x \wedge \exists d'''\ [d''' \in \Xi_M(f) \wedge d''' \sqsubseteq d]$

  > For any sentence S, $\Xi_M(S) = \{d: d \Vdash S\}$
  > For any negative sentence $\neg S$, $\Xi_M(\neg S) = \{d: \forall d'\ [d' \Vdash S \rightarrow d \perp d']\ \}$

- According to this lexical entry, (18) is a sample derivation for (16).

  (18)　　$[\![\text{John found the food tasteless}]\!]$ is defined **only if**
  $\exists d'\ [\text{find}(d') \wedge \text{experience}(d') \wedge \text{experiencer}(d') = \text{John}] \wedge \exists d''\ [d'' \in \Xi_M(\text{the food}$
  is tasteless) or $\Xi_M(\neg(\text{the food is tasteless}))] \wedge d'' \sqsubseteq d'$;
  if defined $[\![\text{John found the food tasteless}]\!] = \exists d\ [\text{find}(d) \wedge \text{experience}(d) \wedge \text{experiencer}(d) = \text{John} \wedge \exists d'''\ [d''' \in \Xi_M(\text{the food is tasteless}) \wedge d''' \sqsubseteq d]]$

- In positive sentences, the presupposition seems trivial. But, it does not make assertion uninformative in the sense of Stalnaker (1977, 1978, 1999, 2002).

- Negative sentences still implicates subject's experience with the relevant situation.

  (19)　　a.　John did not find the food tasteless.
  　　　　b.　$\Vdash$ John had experience with the food.
  　　　　c.　$\Vdash$ John found the food not tasteless.

- The presupposition of *find* ensures that this experience requirement is preserved under negation.

- The presupposition says that John had some experience that either verifies that the food was tasteless, or that it was not.

- The assertion says that he did not have the finding experience that verifies it.

- $\therefore$ He had the experience that verifies its negation.

  (20)　　a.　**Presupposition**: $\exists d'\ [\text{find}(d') \wedge \text{experience}(d') \wedge \text{experiencer}(d') = \text{John}] \wedge \exists d''\ [d'' \in \Xi_M(\text{the food is tasteless}) \text{ or } \Xi_M(\neg(\text{the food is tasteless})) \wedge d'' \sqsubseteq d']]$

b. **Assertion**: $\neg\exists d$ [find(d) $\wedge$ experience(d) $\wedge$ experiencer(d) = John $\wedge$ $\exists d'''$ [d''' $\in \Xi_M$(the food is tasteless) $\wedge$ d''' $\sqsubseteq$ d]]

c. $\therefore \exists d$ [find(d) $\wedge$ experience(d) $\wedge$ experiencer(d) = John $\wedge$ $\exists d'''$ [d''' $\in \Xi_M(\neg$(the food is tasteless)) $\wedge$ d''' $\sqsubseteq$ d]]

5   Crosslinguistic extensions

- In many languages, *find* that has an object encounter reading could also refer to particular evaluative experiences of their subjects.

- The analysis for English *find* could naturally extend to these languages.

(21)   a.   Harry yemeğ-i   tuzlu bul-du.
            Harry food-ACC salty find-PST
            'Harry found the food salty.'   (Turkish)

       b.   Harry ha   trovato il   cibo salato.
            Harry have found   the food salty
            'Harry found the food salty.'   (Italian)

       c.   Ham molva-şkhimi-s   çkva go-taxal-eri
            this   come.NMZ-POSS.1.SG-LOC more PREVERB-gain.weight-PRTCP
            g-dzir-i
            2.OBJ-SEE-1.SG.PST
            'I found you much fatter this time.' (Laz, adapted from Bucaklişi et al. 2007)

(22)   a.   Ev-e   gir-dik-ler-inde   çocuğ-u   baygın bul-du-lar.
            house-DAT enter-NMZ-PL-WHEN child-ACC fainetd find-PST-PL
            'When they came home, they found the child fainted.'   (Turkish)

       b.   L'hanno   trovato svenuto.
            3.SG.HAVE.3.PL found   fainted
            'They have found him fainted.'   (Italian)

       c.   Oxori-şa moptisis   bere gama-khutsx-eri   b-zhir-i.
            house-to when.1.SG.CAME child PREVERB-wake.up-PART 1.SEE-PST
            'I found the kid awake when I came home.'   (Laz, adapted from Bucaklişi et al. 2007)

- However, there are also other constructions that are sensitive to this distinction between subjective and objective propositions.

- In particular, Turkish has a construction where personal experience with respect to the truth of the embedded clause is expressed.

- Usually, these constructions embed adjectives describing personal opinion, and not nouns unless there is an additional complementizer *gibi* 'like/as if'.

(23)   a.   Yemek ban-a   tuzlu gel-di.
            food   1.SG-DAT salty come-PST

Lit: 'The food came to me salty.'
($\approx$ it is salty to me/I believe that it is salty.)

    b. #Bu taş ban-a   katı gel-di.
       this rock 1.SG-DAT solid come-PST
       Lit: 'This rock came to me solid.'

    c. #Harry ban-a   vegan gel-di.
       Harry 1.SG-DAT vegan come-PST
       Lit: 'Harry came to me a vegan.

(24)   a. Yemek ban-a   tuzlu gibi gel-di.
       food   1.SG-DAT salty like come-PST
       Lit: 'The food came to me as if it is salty.'

    b. Harry bana   vegan gibi gel-di.
       Harry 1.SG-DAT vegan like come-PST
       Lit: 'Harry came to me like a vegan.'

    c. Harry ban-a   ev-i   terk   et-ti   gibi gel-di.
       Harry 1.SG-DAT house-ACC leaving do-PST like come-PST
       Lit: 'Harry came to me like he left home.'

    d. Bu taş ban-a   katı gibi gel-di.
       this rock 1.SG-DAT solid like come-PST
       Lit: 'This rock came to me as if it were solid'

- Just like *find*, *come* in Turkish invokes the inference of belief towards the embedded sentence.

- Since it embeds subjective predicates, there is also an issue of whether the dative marked argument is part of the embedded clause (e.g., as a judge) or an experiencer of the matrix verb.

- I conclude that just like *find*, *come* only conveys a particular experience of its subject.

- The dative marked arguments is not the judge of the embedded clause, but the experiencer of the matrix verb.

5.1   Beliefs and experiences

- Just like *find*, negating the belief inference does not yield contradiction with *come*.

(25)   a. Bu yemek ban-a   tuzlu gel-di.   Ama gerçekte tuzlu
       this food   1.SG-DAT salty come-PST but   actually salty
       ol-duğ-un-u   düşün-m-üyor-um.
       be-NMZ-POSS-ACC believe-NEG-IMPERF-1.SG-IMPERF-1.SG
       Lit: 'This food came to me salty (This food is salty to me). But I do not believe that it is actually salty.'

    b. Bu yemeğ-in tuzlu ol-duğ-un-u   düşün-üyor-um.#Ama gerçekte
       this food-ACC salty be-NMZ-POSS-ACC believe-IMPERF-1.SG but
       tuzlu   ol-duğ-un-u düşün-m-üyor-um.
       actually salty   be-NMZ-POSS-ACC believe-NEG-IMPERF-1.SG

'I believe that this food is salty. But I do not believe that it is actually salty.'

(26)   a.   Anestezi-den dil-im   uyuş-tu.   Bu yüzden bu çorba
            anethesia-ABL tongue-1.SG.POSS get.numb-PST this cause   this soup
            ban-a   çok   tatsız   gel-di.   Ama aslında tatsız
            1.SG-DAT much tasteless come-PST but   in.fact tasteless
            ol-duğ-un-u   düşün-m-üyor-um.
            be-NMZ-POSS-ACC believe-NEG-IMPERF-1.SG
            'Due to the anesthesia, my tongue went numb. That's why this soup tastes very bland to me. But I do not believe that it is actually bland.'

       b.   Bu çorba-nın çok   tatsız   ol-duğ-un-u   düşün-üyor-um.
            this soup-GEN much tasteless be-NMZ-POSS-ACC believe-IMPERF-1.SG
            #Ama aslında çok   tatsız   ol-duğ-un-u   düşün-m-üyor-um.
            but   in.fact much tasteless be-NMZ-POSS-ACC believe-NEG-IMPERF-1.SG
            'I believe that this soup is tasteless. But I do not believe that it is actually tasteless.'

- Similarly, baby-feed contexts allow for the felicitous use of *come* whereas belief ascriptions sound infelicitous.

(27)   Context: John has a baby of six months old. Whenever he feeds her a particular type of soup, the baby makes a sour face and suffers from gas problems. John tells his partner:

       a.   Ginnie-ye bu çorba-dan ver-me-yelim.   Muhtemelen on-a   ekşi
            Ginnie-DAT this soup-ABL give-NEG-OPT.1.PL probably   her-DAT sour
            gel-iyor.
            come-IMPERF
            Lit: 'Let's not give this soup to her. It probably comes to her sour.'

       b.   Ginnie-ye bu çorba-dan ver-me-yelim.   #Muhtemelen ekşi
            Ginnie-DAT this soup-ABL give-NEG-OPT.1.PL probably   sour
            ol-duğ-un-u   düşün-üyor.
            be-NMZ-POSS-ACC think-IMPERF
            'Let's not give this soup to Ginnie. She probably believes that it is sour.'

5.2   Judge or experiencer?

- The dative marked argument does not belong to the lower clause.

- It is not the overt realization of judge for the embedded discretionary predicate/clause.

- The experiencer object is ungrammatical with isolated embedded sentences.

(28)   Bu yemek {*/?ban-a / ben-im   için} tuzlu.
       this food   1.SG-DAT 1.SG-GEN for   salty
       Int: 'This food is salty to me.'

- No Principle B effect is observed between the dative marked experiencer and the object of the embedded predicate.

  (29)   Ayşe-ye$_i$ Ali$_k$ on-u$_{i/*k}$ çek-e-m-iyor   gibi gel-di.
         Ayşe-DAT Ali   3.SG-ACC stand-MOD-NEG-IMPERF like come-PST
         Lit: 'Ali came to Ayşe like he envies her' ($\approx$ Ayşe thinks that Ali envies her.)
         *Ayşe thinks that Ali envies himself.

- In contrast, anaphors can be bound by the embedded subject, but not by the experiencer.

  (30)   Ali$_k$ Ayşe-ye$_i$ kendini$_{k/*i}$ sev-m-iyor   gibi gel-di.
         Ali Ayşe-DAT self   like-NEG-IMPERF like come-PST
         Lit: 'Ali came to Ayşe as not liking himself.' ($\approx$ Ayşe thinks that Ali does not like himself)
         *Ayşe thinks that Ali does not like her.

- NPI experiencers are not licensed when the matrix predicate lacks negation.

  (31)   a.   Ali kimse-ye   Ayşe-yi   sev-di   gibi gel-m-iyor.
              Ali anybody-DAT Ayşe-ACC like-PST like come-NEG-IMPERF
              Lit: 'Ali does not come to anybody as having liked Ayşe.'
         b.   *Ali kimse-ye   Ayşe-yi   sev-me-di   gibi gel-iyor.
              Ali anybody-DAT Ayşe-ACC like-NEG-PST like come-IMPERF
              Lit: 'Ali comes to anybody as not having iked Ayşe'.

- Clefting, leaving out the dative experiencer, is possible.

  (32)   [Çorba tuzlu gibi gel-en]   benim.
         soup   salty like come-REL 1.SG
         Lit: 'It is me to whom the soup comes like salty.'

- Therefore, the dative marked argument is not the overt realization of judge to the embedded clause, but an experiencer argument for the matrix verb.

- Accordingly, a rough syntax of these clauses would be:

  (33)

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           /\
          /  \
      NP-DAT   come
               /\
              /  \
          CP/TP  come
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5.3   Semantics of *come*

– The semantics of *find* could be extended to *come*.

– The two constructions only differ syntactically.

(34)   a.   Çorba ban-a   tuzlu (gibi) gel-di.
            soup   1.SG-DAT salty (like) come-PST
            'The soup came to me salty.'
       b.   ⟦The soup came to me (like) salty⟧ is defined **only if**
            $\exists d'$ [come(d') $\wedge$ experience(d') $\wedge$ experiencer(d') = I] $\wedge$ $\exists d''$ [d'' $\in \Xi_M$((like) the soup is salty) or $\Xi_M(\neg$((like) the food is salty))] $\wedge$ d'' $\sqsubseteq$ d'
       c.   **if defined** ⟦the soup came to me (like) salty⟧ = $\exists d$ [come(d) $\wedge$ experience(d) $\wedge$ experiencer(d) = I $\wedge$ $\exists d'''$ [d''' $\in \Xi_M$((like) the food is salty) $\wedge$ d''' $\sqsubseteq$ d]]

(35)   a. Ξ_M(the soup is salty) = {d: d $\Vdash$ the soup is salty }
       b. Ξ_M(like the soup is salty) = {d: $\forall d'$ [d' $\Vdash$ the soup is salty $\rightarrow$ d $\approx$ d']}

6   How do we account for belief inferences?

• Let us recall that both *find* and *come* invoke the inference of belief.

(36)   a.   Harry found the food tasteless. ⤳ Harry believes that the food is tasteless.
       b.   Harry-e   bu yemek tuzlu gel-di.
            Harry-DAT this food   salty come-PST
            Lit: 'This food came to Harry salty.' ⤳ Harry believes that this food is salty.

• This belief inference might derive from more general principles governing how beliefs might form from perceptual experiences.

• Although there is great body of literature on how beliefs are formed via experiences, for the purposes of this talk, "Sufficieny" thesis will (hopefully) suffice.

(37)   **Sufficiency**
       "If you have an experience e with the content that p, then e gives you defeasible justification to believe that p" Silins (2021).

• In other words, one's experiences with the content p lead to the formation of beliefs with the same content "unless you have gained evidence that your experience is misleading (Silins, 2021)."

– If you see a person running on the street, you believe that there is a person running on the street, unless you have reasons to believe that your experience is misleading (sight problems).

- In this latter case, the experience is not reliable and will not have any effect on one's knowledge and beliefs.

- However, if the experience with the content p is deemed to be not misleading, then it could generate beliefs with the same content.

- We could define a function that maps an experiential object d_e with its content d' and its holder H to a belief object d_b with the content d' and its holder (see Moltmann 2024 for attitudinal objects).

(38)   For any experiential object d_e with its content d' verifying a sentence S with its holder H:

$$d_e = \langle d', H, \text{experiential} \rangle$$

Then:

$$f_{\text{belief}}(d_e) = d_b, \quad \text{where} \quad d_b = \langle d', H, \text{belief} \rangle$$

unless d_e is misleading (i.e., if perceptors associated with d_e work as expected).

- Except for non-steoretypical cases where experiences might be misleading, they will mapped to beliefs, which might explain the belief inferences with *find* sentences.

7   Extensions to first-person genericity

- Moltmann (2010, p.187) states that "sentences that apparently give rise to relative truth should be understood by relating them in a certain way to the first person. More precisely, such sentences express [...] 'first-person-based genericity', a form of generalization that is based on an essential first-person application of the predicate."

- Hence, sentences like (39) are statements of how the actual state of affairs are given a first person generalization over other individuals' taste perception.

(39)   This cake is tasty.

- Obviously, the experience-to-belief mapping is too weak to capture this property of predicates of personal opinion, proposed in Moltmann, as belief assertions/inferences do not imply the content of the belief should hold for everyone.

(40)   I believe/find that this cake is tasty.

- So, here the relevant notion must be one's knowledge (or what one takes to be their knowledge) regarding how the actual state of affairs are.

- Going back to our earlier example, if one sees a person running on the street, you not only believe that there is a person running on the street, but you know that there is a person running on the street (unless you are aware that you are hallucinating).

- There are different approaches to the formation of knowledge (and its relation to beliefs) Ichikawa and Steup 2024.

- I will simply assume that knowledge objects are created as soon as the relevant state actually holds (or attitude holder takes it to be part of actuality).

- One could accordingly define a function that maps any experiental object d_e with the content d' to objects of facts (knowledge) d_k with the same content iff d' is an object that exists in the actual world.

(41)   For any experiential object d_e with its content d' verifying a sentence S with its holder H:

$$d_e = \langle d', H, \text{experiential} \rangle$$

Then:

$$f_{\text{knowledge}}(d_e) = d_k, \quad \text{where} \quad d_k = \langle d', H, \text{knowledge} \rangle$$

iff actual(d')

- If the relevant part of the experience also holds in the actual world, it will lead to the formation of knowledge objects.

- Let us assume that a person tastes the cake, and she has now a reliable experience that it tastes good, which leads to the belief that it tastes good, and the experiencer believes this state to actually hold, then she forms a knowledge object with the content that verifies that the cake tastes good.

- Knowledge objects are imposing. In order to form an object of knowledge, one must take its content to hold in the actual world, independent of people's evaluations/personal experiences, hence a first person based generalization.

References

Bucaklişi, İsmail Avcı, Hasan Uzunhasanoğlu, and İrfan Aleksiva. 2007. *Büyük Lazca Sözlük = Didi Lazuri Nenapuna*. Istanbul: Chiviyazıları, 1st edition.

Champollion, Lucas, and Timothée Bernard. 2024. Negation and modality in unilateral truthmaker semantics. *Linguistics and Philosophy* 1–39.

Fine, Kit. 2014. Truth-maker semantics for intuitionistic logic. *Journal of philosophical logic* 43:549–577.

Fine, Kit. 2017. Truthmaker semantics. *A Companion to the Philosophy of Language* 556–577.

Ichikawa, Jonathan Jenkins, and Matthias Steup. 2024. The Analysis of Knowledge. In *The Stanford encyclopedia of philosophy*, ed. Edward N. Zalta and Uri Nodelman. Metaphysics Research Lab, Stanford University, Fall 2024 edition.

Kennedy, Christopher, and Malte Willer. 2022. Familiarity inferences, subjective attitudes and counterstance contingency: towards a pragmatic theory of subjective meaning. *Linguistics and Philosophy* 45:1395–1445.

Kölbel, Max. 2004. Iii—faultless disagreement. In *Proceedings of the Aristotelian society*, volume 104, 53–73. Oxford University Press Oxford, UK.

Korotkova, Natasha, and Pranav Anand. 2021. 'find','must'and conflicting evidence. In *Proceedings of Sinn und Bedeutung*, volume 25, 515–532.

Kratzer, Angelika. 1989. An investigation of the lumps of thought. *Linguistics and philosophy* 607–653.

Kratzer, Angelika. 2021. Situations in natural language semantics. *The Stanford encyclopediaof philosophy (Winter 2021 edition)* .

Lasersohn, Peter. 2005. Context dependence, disagreement, and predicates of personal taste. *Linguistics and philosophy* 28:643–686.

Lasersohn, Peter. 2009. Relative truth, speaker commitment, and control of implicit arguments. *Synthese* 166:359–374.

Lasersohn, Peter. 2017. *Subjectivity and perspective in truth-theoretic semantics*, volume 8. Oxford University Press.

Moltmann, Friederike. 2007. Events, tropes, and truthmaking. *Philosophical Studies* 134:363–403.

Moltmann, Friederike. 2010. Relative truth and the first person. *Philosophical studies* 150:187–220.

Moltmann, Friederike. 2020. Truthmaker semantics for natural language: Attitude verbs, modals, and intensional transitive verbs. *Theoretical Linguistics* 46:159–200.

Moltmann, Friederike. 2024. *Objects and attitudes*. Oxford University Press.

Muñoz, Patrick Joseph. 2019. On tongues: The grammar of experiential evaluation. Doctoral Dissertation, The University of Chicago.

Ninan, Dilip. 2014. Taste predicates and the acquaintance inference. In *Semantics and Linguistic Theory*, 290–309.

Ninan, Dilip. 2020. The projection problem for predicates of taste. In *Semantics and Linguistic Theory*, 753–778.

Pearson, Hazel. 2013. A judge-free semantics for predicates of personal taste. *Journal of semantics* 30:103–154.

Sæbø, Kjell Johan. 2009. Judgment ascriptions. *Linguistics and philosophy* 32:327–352.

Silins, Nicholas. 2021. Perceptual experience and perceptual justification. *The Stanford encyclopediaof philosophy (Winter 2021 edition)* .

Stalnaker, Robert. 1977. Pragmatic presuppositions. In *Proceedings of the Texas conference on performatives, presuppositions, and implicatures. Arlington, VA: Center for Applied Linguistics*, ed. Milton K Munitz and Peter Unger, 135–148. ERIC.

Stalnaker, Robert. 1978. Assertion. In *Pragmatics*, 315–332. Brill.

Stalnaker, Robert. 1999. *Context and content: Essays on intentionality in speech and thought*. Clarendon Press.

Stalnaker, Robert. 2002. Common ground. *Linguistics and philosophy* 25:701–721.

Stephenson, Tamina C. 2007. Towards a theory of subjective meaning. Doctoral Dissertation, Massachusetts Institute of Technology.