The syntax and semantics of perception

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1. Lexicalisation of perception verbs

The five major senses (sight, hearing, touch, smell, taste) can be encoded as verbs with either the Perceiver or the Perceivee as a verbal subject – many verbs display this alternation (in English and other languages – (Viberg 1984; 2001)):

1) a. Sam felt the cloth.

   b. The cloth felt soft.

Observer subjects can trigger another important distinction: that between activity (2a) vs. experience (2b), more generally typical of psychological predicates (Viberg 1984; 2001):

2) a. Sara {watched/was watching} the birds.

   b. Sara {saw/#was seeing} the birds.

In some languages, the difference between agents and experiencer subjects is coded via case distinction, e.g. Axvax, an ergative North-West Caucasian language (Viberg 2001:1296, citing Kibrik 1985):

3) a. wašoLa   jaše $harig_o ari$ [Axvax]
      boy.DAT   giri.NOM   saw
      'The boy **saw** the girl.'
   b. {wašode/ waša}   jašoga $harig_o ari$
      boy.ERG / boy.NOM   girl.OBL   saw
      'The boy **looked at** the girl.'

Based on these and other patterns, Viberg (1984; 2001) posits the *sense-modality hierarchy* for perception verbs (see also Norcliffe & Majid 2024):

4) SIGHT > HEARING > TOUCH/TASTE/SMELL

This hierarchy models the relative markedness of perception verbs, with senses higher in the hierarchy expected to be more frequent, diachronically stable, and morphosyntactically complex. Viberg (2001) further suggests that the hierarchy also applies cross-linguistically to evidentiality systems, which tend to prioritize knowledge acquired through sight over other sources.

2. Perception verbs and sentential complementation

Most previous work has focused on perception verbs selecting a nominal complement. Much less is known about the extent to which these verbs permit clausal complements cross-linguistically and how different complements interact with their lexical semantics and argument structure properties.

2.1 Clausal complements and argument structure

Perception verbs are often mentioned in comprehensive studies of subordination and complementation (Schmidtke-Bode 2014). Cristofaro (2005: 110) notes that many languages use adjectival morphology on verbs encoding the perceived event ('*State of Affair*') and code the Perceivee as an argument of the main predicate. For instance, in Kayardild (Australian), in (6) *ngijin-ji* surfaces as a syntactic object of the main verb with *modal locative* or MLOC (the case used on non-subject NPs such as objects or instruments, see Evans (1995: 2)).

(6) ki-l-da   kurri-ja   ngijn-ji   [murruku-rrka   [Kayardild]
    2-PL-NOM see-ACT   1sg-MLOC   woomera-MLOC:COBL
    kala – thurrk]
    cut-IMMED-COBL
    'You see/saw me cut a woomera (Evans 1995:513 via Cristofaro 2005:80)

Similarly, in (7), the Perceivee is also coded as an argument of the main verb. Romance languages allow multiple complement types with perception verbs. Like some causative verbs, perception verbs allow Faire-Infinitive or Exceptional Case Marking complements, as in (7) for Italian (see Burzio 1986 a.o.; Guasti 1993):

(7)   L' / Gli ho   ho   lasciato/   [Italian]
    3SG.ACC=/3SG.DAT=   have.PRS.1SG   let.PTCP/
    visto   parcheggiare   la   macchina.
    see.PTCP   park.INF   DET.F.SG   car
    'I let/saw him park the car.'

However, perception verbs also accept additional complement types like gerunds and pseudo-relatives (Casalicchio 2013), and prepositional (inflected) infinitives (e.g. Portuguese; Barbosa & Cochofel 2005). The cross-linguistic availability of these different complement types, their diachronic evolution, and their semantic denotation is mostly known from an Indo-European perspective but remains largely unknown for other languages families/areas.

2.2 Clausal complementation across different sensorial modalities

Sentential complementation in Romance languages (and some other Indo-European languages) is limited to verbs of visual, auditory, or generic perception (e.g., feel), excluding other sensory modalities. The distribution and availability of clausal complementation with various perception verbs remains an underexplored topic.

Furthermore, differences between clausal complements across sensory modalities are still largely understudied. Enghels (2019) notes that due to physiological differences between vision and hearing, visual perception mainly involves object perception, while auditory perception aligns more with event perception. In Spanish, this affects pronominal agreement with perception verbs: visual perception tends to favour object agreement (plural), see (8), while auditory perception often triggers event agreement (singular), as in (9). Whether this is a language-specific phenomenon remains uncertain.

(8) se **veían**   desfilar ese día   por   las   [Spanish]
      IMPS see.IPFV.**3PL** file.INF   that day   for   DET.F.PL
      calles   **los**   **tres**   **únicos**   **coches**
      street.PL   DET.M.PL   three   only.PL   car.PL
      que   había   en   la   ciudad.
      REL   have.IPFV.3SG   in   DET.F.SG   city
        'That day, one could see filing through the streets the only three cars that there were in the city' (F. Puyo, *Bogotá*, 1992 [CREA], via Enghels (2019:115))

(9) […]   se   **escucha**   ladrar   los   **perros**   [Spanish]
        IMPS listen.PRS.**3SG** bark.INF   DET.M.PL   dog.PL
        'One can hear the dogs barking' (E. Wolff, *La balsa de la Medusa*, 1984 [CREA], adapted from Enghels (2019:121))

2.3 Semantic contrasts between different clausal complements

The semantic interpretations derived from different syntactic constructions remain unclear. The contrast between finite/non-finite complementation has often been connected to a distinction between direct and indirect perception, see contrast in (10a) and (10b-c). For Dik & Hengeveld (1991), this contrast is available only with the experiencer verb *see*, while the activity verb *watch* is incompatible with (10b-c).

(10) a. I saw him walk(ing) down the street. [Direct perception of a state-of-affairs/event]
b. I saw that he had been crying. [Indirect perception of propositional content]
c. I see that you will be graduating next year. [Reception of the propositional content of a speech act]

Cross-linguistically, this contrast is syntactically encoded in different ways. For example, Fijian uses nominalisations (and not clausal complements) to convey what appears to be direct perception (Dik & Hengeveld (1991: 242, citing Dixon 1988: 38, 268); Japanese uses the particle –*no* (as opposed to –*koto*) (Dik & Hengeveld (1991: 242, citing Kuno 1973: 220); and Russian uses the complememntiser *kak* (as opposed to *čto*) (Dik & Hengeveld (1991: 242, citing Noonan (1985: 131).

If we are to assume that more complex structures map onto more complex meanings (cf. Givón 2001), then the binary direct vs. indirect perception opposition necessarily fails to account for fine-grained semantic distinctions in languages that have more than two patterns available (e.g. Portuguese). Moreover, this direct/indirect contrast is clearly the first step and the main source for semantic shifts from perception to cognition, attention, obedience, evidentiality, etc. (cf. Ibarretxe-Antuñano 1999; Sweetser 1990). However, whether these shifts are specific to Indo-European languages or Western cultures remains unclear.

3. Questions

We welcome papers describing and/or analyzing the syntax of perception verbs in any language(s), especially those focusing on clausal complementation, potentially in comparison with other verb classes (e.g. causatives) addressing the following /related questions:

I. *Sense-modality and morphosyntactic complexity*
    1) Does the sense-modality hierarchy regulate morphosyntactic complexity cross-linguistically?
    2) Are there differences across different sensorial modalities?

II. *Complementation patterns*
    3) What clausal complements are possible cross-linguistically and why?
    4) Do all perception verbs accept all kinds of clausal complements?
    5) What kinds of meanings are associated with different complement types?

III. *Semantic shifts and typology*
    6) What are the attested semantic shifts in this domain beyond Indo-European languages?

7) Are there interactions between typological lexicalisation patterns and clausal complementation patterns?

8) Are there patterns of language change? How do different clausal complements emerge? Does their change follow the typological predictions?

We encourage submissions from typology and/or comparative studies, as well as language-specific case studies from all kinds of theoretical approaches, discussing the lexicalization and complementation of perception verbs, their semantic shifts and/or diachronic changes, as well as the syntax-semantics mapping of their complements, especially from understudied languages/language families.

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