

The mirative evidential is neither surprise nor contradiction, but discovery

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Mirativity, a category generally defined as indicating surprise at an unexpected realization (DeLancey 1997, Peterson 2013, Torres Bustamante 2013, Rett and Murray 2013), routinely appears expressed by morphemes that encode indirect evidential categories (e.g., in Turkish, cf. Aksu-Koç and Slobin 1986, in Hare, cf. DeLancey 1997, a.o.), despite frequent arguments that the two notions are distinct (Aikhenvald 2012). The link between mirativity and indirect evidentiality is also instantiated by the particle *ra'e* in Guaraní (Tupian; Paraguay, Argentina, Bolivia and Brazil). *Ra'e*, described as “non-expected evidential marker” by Tonhauser (2006) and considered to be various types of past in earlier sources (“perfect or pluperfect” in Guasch 1956; “past” in Gregores and Suárez 1967, 144), has both the evidential meaning of inference from visible results (cf. (1)) and the mirative meaning of surprise (cf. (2)), often overlapping.

- (1) O-u Pablo ra'e.
2ACT-come Pablo RA'E
'Pablo came.' [the speaker sees a trace of Pablo's arrival; infelicitous if the arrival was witnessed]
- (2) ¡Rei-kove nipo ra'e!
2sg.ACT-live PART RA'E
'[So] you are [still] alive!' [the speaker (tongue-in-cheekly) doesn't expect the hearer to be alive]

Recent formal treatments of mirativity relate the at-issue proposition to a set of alternatives that are considered more likely (cf., e.g., Torres Bustamante 2013, Simeonova 2016) or to previous expectations (Rett and Murray 2013). We claim that what Guaraní “non-expected evidential” *ra'e* marks is simply the acquisition of evidence at the time of evaluation (cf. (3)), and claim that countered expectations or alternatives are independent components of meaning introduced by other elements in the clause.

- (3) $\llbracket ra'e \rrbracket^w = \lambda t.\lambda P$.the speaker acquires evidence at t that is sufficient to assert that P in w

Such formulation allows us to account for the fact that the speaker's discovery can be anchored in a time other than the present, as in (4), which, in line with previous work on Bulgarian (Smirnova 2013) and Korean (Lee 2012) evidentials, could be called Evidence Acquisition Time (EAT).

- (4) A-sẽ-rõ-guare trabaho-há-gui la partido o-pá-ma ra'e
1sg.ACT-exit-when-PAST work-place-from the game 3ACT-end-already RA'E
'When I exited work, [it turned out] the game had already ended.'

- (5) $\llbracket \text{the game ended } ra'e \rrbracket =$ the speaker acquires evidence at t^* that the game ended at some previous time t' , where t^* is set by the temporal adjunct when I exited.

Note that though EAT is immediately subsequent to topic time in (4), this is not always the case:

- (6) Context: the phone rings for John, and I, believing him not to be around, do not call him to take the call. I'm later told by a co-worker that John just left. I exclaim:

¡Oi-mé-ngo ko'á-pe upé-rõ-guare ra'e!
3.ACT-be-PART here-in that-when-PAST RA'E

“So [now I learn that] he was here then [when they called him]!”

- (7) $\llbracket \text{he was here } ra'e \rrbracket =$ the speaker acquires evidence at t_0 (utterance time) that he was here at t^* , where t^* is set by the temporal adjunct then.

The definition of *ra'e* proposed in (3) gets us its indirect evidential reading for free. In Guaraní, the requirement that evidence be indirect only holds with bounded eventualities such as (1); with unbounded eventualities, evidence can be direct, as in (2), and only the speaker's discovery of such evidence is conveyed. Note that P in (3) is asserted to be actual in w , and therefore true in the present or past, if we assume futures to be modal (cf., e.g., Copley 2009). In a sentence of the form “ p *ra'e*” with bounded p , p is complete before the evaluation time, but the evidence for its truth only becomes available at the evaluation time (utterance time in this case), and thus can only be indirect. This provides a motivated explanation for cases like (2), in which a purported indirect evidential is used in the presence of direct evidence, which have been treated as exceptions to the requirement of indirect evidence motivated by the mirative use of the evidential (Rett and Murray 2013) or marked uses of the evidential (Peterson 2013). Indirect evidentiality, therefore, far from being distinct from mirativity, follows from its definition in (3), something that we claim applies also to better-known examples such as those from Turkish and Bulgarian.

Following Simeonova (2016), we model the counter-expectation in the mirative as arising from the generation of alternative propositions that are considered more likely than the at-issue assertion, and maintain that in Guarani this aspect of mirative meaning may be modulated independently from the discovery encoded by *ra'e*. More specifically, Simeonova claims that in Bulgarian and Turkish the expectations consist of the alternatives generated by focus (as exemplified in Guarani for verum focus by (8) and for contrastive focus in (9)); for a striking independent attestation of the relation between focus and unexpectedness see Bianchi et al (2016). These alternatives are the input to an operator that ranks them above the at-issue proposition by means of an epistemic base anchored in the speaker's beliefs (cf. (10)), and that in Bulgarian and Turkish is encoded by exclamative intonation. In Guarani, where focus is not always associated with a particular intonation, M_{op} is simply a covert focus-associated element. The exclamative intonation, if present, may express just how unlikely the actual situation is believed to be with respect to the alternatives.

- (8) a. $\text{ĩI-porã ra'e nde-ra'y!}$
 3.INACT-beautiful ra'e 2-child
 "Your child is beautiful!"
 Consultant comment: you suppose that the baby shouldn't be beautiful.
- b. $A_{\langle\langle s, \triangleright, \triangleright \rangle\rangle} = \{\text{Your child is not beautiful}\}$ (inspired on Simeonova 2016)
- (9) a. Pedro ngo la o-ú-va ra'e
 Pedro PART the 3-come-NLZ RA'E
- b. $A = \{\text{Juan came, María came, ...}\}$
- (10) $M_{op} = \lambda p_{\langle s, \triangleright \rangle}. \lambda A. \forall q \in A [\forall w' \forall w [q(w') \wedge p(w)] \rightarrow w' \geq w]$ (inspired on Torres Bustamante 2013)
 where \geq is an epistemic base ranking worlds according to their plausibility for the speaker

Our general conclusion is that what has been called *mirative* in descriptive studies consists of three distinct elements, which, though often concomitant, can be instantiated separately in a given language: (a) discovery, anchored in some evaluation time; (b) contradiction of a set of likelier alternatives that is constructed like focus alternatives, and (c) surprise itself, a gradable evaluative modal operator that is expressed intonationally in some of the better-known examples in the literature.

Some interesting further issues will be explored in the talk, including the possibility of anchoring the surprise on the perspective of somebody other than the speaker, the interaction between *ra'e* and modals, and the use of *ra'e* in questions, where what is introduced is the presupposition of a contentful or interesting answer, rather than any likelier alternatives. In all of these cases, separating the discovery from other associated meanings of miratives has significant advantages over alternative treatments. We further derive the apparently strictly temporal uses of *ra'e* that prompted the label 'past' in some descriptions.

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