

Seminar: “Linking the Psychological, Linguistic and Probabilistic Aspects of Surprise from a Cross-linguistic Perspective”

Tyler Peterson (University of Arizona)

The aim of this seminar is to triangulate the linguistic, psychological and cognitive properties of the words, structures, and utterances that reveal the *unprepared mind* of the speaker. The world is a dynamic place, and the processing of new information is a function of every day life. However, new information that is not easily assimilated into a person’s current situational awareness is often linguistically coded differently than that which can be adapted into this awareness. This coding, referred to in the linguistics literature as *mirativity*, is the linguistic reflex of what we commonly interpret as surprise. Under this definition miratives are abundant in everyday speech. For example, English has a wide variety of words and constructions that could be described using the label mirative. Example (1) are some of the linguistic options a speaker has for registering their surprise at Alvin’s unexpected arrival:

- (1) *Alvin made it!*
Surprisingly, Alvin made it.
Wow, Alvin’s here.
I’m amazed Alvin made it!
What a surprise Alvin is here!
etc.

Another prominent feature of mirativity is how it is often mediated to varying degrees by other semantic and grammatical categories. For example, in Gitksan (Tsimshianic) mirativity lacks many of the strategies that English has. Rather, the expression of surprise is dependent on the grammatical evidential *nakw*. As such, the sentence in (2) has two possible translations:

- (2) *nakw=hl witxw=s Alvin*
EVID=CND arrive=PND Alvin
EVIDENTIAL TRANSLATION: ‘Looks like Alvin is here.’
MIRATIVE TRANSLATION: ‘Alvin’s here!’

Under normal use, a speaker uses the indirect evidential *nakw* to encode that they have sensory evidence for the arrival of Alvin at a party, perhaps because they see his truck in the driveway. However, in certain contexts *nakw* has a mirative translation: the speaker was surprised at the arrival of Alvin.

What is known about surprise comes mainly from research programs in psychology and the cognitive sciences, where it claimed to be one of the core human emotions, along with happiness, sadness, anger, and fear. However, little is known about the role the language plays in the *presentation* of surprise. Likewise, mirativity is a linguistic universal: one of the major claims pursued in this seminar is that all languages have the means for coding surprise. While there are many detailed descriptions of mirativity in the descriptive and typological linguistics literature, we lack an understanding of *why* the features that underpin the myriad of ways it is realized both intra- and cross-linguistically express surprise. Likewise, while there are a handful isolated theoretical treatments of mirativity (many of which quite effective), they usually analyze mirativity in that particular language and considering only the grammatical features in that language. As such, there is

no unified theoretical explanation mirativity as a linguistic phenomenon. From this three main sets of research questions emerge that will be explored in this seminar:

1. What are the core properties of mirativity intra- and cross-linguistically? Are there any empirical generalizations or principles that can unify these?
2. There seems to be a consensus in the literature that mirativity is about the language of surprise; primary language data from my own research that targets mirativity confirms this. Would an understanding of what *surprise* is help us in understanding what mirativity is?
3. How can we explain mirativity, both empirically and theoretically, that makes the right predictions which can be tested in future studies?

In pursuing these research questions, two complementary goals emerge for the seminar. The first goal is to present the first empirical study and theoretical analysis targeting mirativity from a cross-linguistic perspective. The second goal is to create an interface that connects both research streams, such that the experimental and theoretical tools used to test the cognitive explanation of surprise can be used to examine its linguistic realization.

The central thesis of this seminar that **mirativity is the linguistic realization of the emotion of surprise**. This entails an understanding and explanation of the two terms that it uses – *mirativity* and *surprise* – and why they are connected. Because surprise is a psychological notion and mirativity is a linguistics one, a truly interdisciplinary approach is needed. As such, the seminar will have three main cores.

- I. Surprise from psychological, cognitive scientific, and probabilistic perspectives:** There is a considerable amount of literature in psychology and the cognitive sciences on surprise, as well as various information-theoretic (probabilistic) definitions of surprise. We can find points of contact between surprise as an emotion and the definition and analysis we develop for mirativity. The aim here is to give ‘shape’ to the category of mirativity.
- II. Empirical generalizations and representations:** There are many detailed descriptions of mirativity (and surprise) in the descriptive and typological literatures. One main generalization that can be drawn from these descriptions and data show is that mirativity can either be *entailed* by certain words, structures, and utterances (i.e. verbs of surprise or wh-exclamatives), or mirativity can be *implicated* by certain words, structures, and utterances (i.e. evidentiality). This defines what I call *non-parasitic* and *parasitic mirativity*, respectively. Interestingly, these words, structures, and utterances appear to share certain properties and characteristics cross-linguistically. These generalizations can guide our semantic and pragmatic representations of mirativity towards an analysis that unifies them.
- III. A theoretical explanation:** The parasitic/non-parasitic distinction, which is essentially an empirical generalization, is amenable to an analysis of mirativity as implicature: parasitic mirativity analyzes surprise as *conversational implicature*, while non-parasitic mirativity as analyzed as *conventional implicature*. I argue that this makes the right predictions via the standard tests for entailed and implicated meanings. It is also important to look at other theoretical analyses of the surprise-like qualities of certain kinds of syntactic structures (i.e. wh-exclamatives). These approaches will be evaluated and compared to the mirativity-as-implicature analysis presented in this seminar.