

THURSDAY INTERDISCIPLINARY COLLOQUIUM

Thursday 29/06/2023

16:15-17:45

Alma Frischoff, Tel Aviv University
Webb 103

Conjunctive Readings of Disjunction and Iterated Rationality Models

A sentence like (1a) is logically consistent with (1b) as well as with (1c). However, a listener who hears such a sentence is likely to conclude only (1c) and to consider (1b) as false. Inferences such as the one from (1a) to (1c) are called *scalar implicature (SI)*.

- (1) a. Mary ate an apple or a pear.
- b. Mary ate an apple and a pear.
- c. Mary ate an apple or a pear but not both.

There is a large body of both theoretical and empirical literature on SIs from recent decades. According to one family of theories, the so-called *grammatical approach* (see Chierchia 2004, Fox 2007, Chierchia, Fox & Spector 2012), SIs are logical entailments derived within grammar. According to another family of theories, the so-called *pragmatic approach* (with roots going back to Grice 1975 and Horn 1972), SIs are a pragmatic phenomenon that arises at the speech act level, driven by conversational principles.

My research focuses on a specific subgroup of pragmatic theories, which rest on game-theoretic ideas and formalisms (Benz 2006, Benz & Van Rooij 2007, Franke 2009, 2011, among others), and which are referred to as *iterated rationality models (IRMs)*, following Fox & Katzir (2021).

In recent work, Fox & Katzir (2021) characterize the crucial assumptions underlying these IRMs and define a simplified model which is based on these assumptions. However, they show that unlike the grammatical approach, this model – similarly to the other IRMs suggested in the literature – fails to derive conjunctive interpretations of disjunctive sentences as in the following inference:

- (2) Mary may eat an apple, a banana, or a pear.
- ↪ Mary may eat an apple and Mary may eat a banana and Mary may eat a pear.

Based on this observation, they present an argument in favor of the grammatical approach.

In my thesis, I suggest a possible solution to this problem by proposing a change in the reasoning strategy, through which the model derives these attested SIs. This change is based on a probability function that conveys an intuitive perception of overlap between messages and states while considering the different components composing the messages. The revised IRM resulting from this change broadens the model's predictions, as well as the basic assumptions that should be taken into account in the definition of IRMs. In particular, due to the proposed model's reliance on decomposing messages into their components, a syntactic mechanism may be necessary, implying that the model cannot be purely pragmatic. These results could shed more light on the dialog between the grammatical and the IRM approaches in the pursuit of a theoretical framework for explaining SIs.

Click [here](#) to see the colloquium program.