

# HOW DO LAUGHTER AND LANGUAGE INTERACT?

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## 1. Introduction

Laughter is a universal social vocalization characterized by rhythmic laryngeal and superlaryngeal activity. The sound of laughter varies within and between speakers, but maintains a reasonably stereotyped form, and follows rather specific production rules (Provine, 2000). Acoustic analyses of play vocalizations across several primate species suggest that human laughter is derived from a homolog dating back at least 20 MYA (Davila-Ross, Owren, & Zimmermann, 2009). Human laughter has evolved increased proportions of voiced components, and these features contribute to perceptual judgments of affiliation between speakers and positive affect (Bachorowski & Owren, 2001). But rhythmic characteristics also play an important role in judgments of spontaneity (Bryant & Aktipis, 2014) and playfulness (Nagy & Bryant, 2014). Laughter features might interact in interesting ways with language use that can reveal important aspects of its evolved function.

People laugh in conversation to achieve a variety of pragmatic goals (Flamson & Bryant, 2013), and laughter plays a complex role in negotiating relationships that goes well beyond its connection to humor (Provine, 2000). But the production of spontaneous laughter is likely generated by an emotional vocal system that is separate from the control of articulators during speech production—the so-called dual pathway model of vocal production (e.g., Ackermann, Hage, & Ziegler, 2014; Owren & Rendall, 2011).

## 2. Studies exploring the interaction of laughter and language

### 2.1. *Laughter signals play in discourse*

People tend to laugh immediately before and after using indirect speech in which speakers' intentions are not explicitly stated but rich meaning is strategically conveyed. Here I will describe recent research documenting the effect of laughter on the interpretation of verbal irony, a common form of indirect speech. Verbal irony utterances that included adjacent laughter were extracted from natural conversations between friends, and were then manipulated to either include the laughter or not. These utterances were played for listeners (no

listener heard the same utterance twice) and they were asked to rate the indirectness of the speakers' meaning. The presence of laughter increased listeners' judgments of indirectness (Exp. 1). The isolated laughs from these recordings were then played to a different group of listeners and rated for playfulness (Exp. 2). Judgments of playfulness were positively associated with the degree to which laughter increased judgments of indirectness across utterances in the first experiment. These data suggest that spontaneous laughter functions to signal play in social interaction, and sheds light on the relationship between pragmatics and nonhuman animal communication. Play vocalizations induced by tickling in great apes share similarities in both acoustic form and communicative function.

## **2.2. Laughter and speech production**

During conversation, the relationship between interlocutors shapes the way people laugh. For example, the interaction between speech production and laughter production is affected by affiliative status. I will describe recent work using the same corpus of spontaneous conversation recordings showing that, compared to established friends, people who had just recently met embedded laughter into their speech much more frequently (i.e., the laugh bursts constituted speech syllables), suggesting a greater tendency to produce laughs from the speech system as opposed to the phylogenetically older vocal emotion system. The speech system generates laughs with highly recognizable features, and is potentially indicative of social manipulation.

## **3. Conclusion**

These studies represent attempts to explore the role of laughter in signaling social intentions, and potentially cueing social manipulation. The function of human laughter is clearly connected to homologs in other primate species, and its incorporation into human linguistic communication, including pragmatic signaling, provides a fascinating example of how an ancestrally old trait can be integrated with more recent communicative abilities.

## **References**

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