

Multi-layered analysis of laughter

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This paper presents a multi-layered classification of laughter in French and Chinese dialogues (from the DUEL corpus). Analysis related to the form, the semantic meaning and the function of laughter and its context provides a detailed study of the range of uses of laughter and their distributions. A similar distribution was observed in most of the data collected for French and Chinese. We ground our classification in a formal semantic and pragmatic analysis. We propose that most functions of laughter can be analyzed by positing a unified meaning with two dimensions, which when aligned with rich contextual reasoning, yields a wide range of functions. However, we also argue that a proper treatment of laughter involves a significant conceptual modification of information state account of dialogue to incorporate emotive aspects of interaction.

1 Introduction

Laughter is very frequent in everyday conversational interaction—(Vettin and Todt, 2005) suggest a frequency of 5,8/10 min of conversation. Although we can easily recognize laughter, it is not a homogeneous phenomenon. Laughter can take various forms and occur in a variety of contexts. Attempts to understand the nature of laughter go back as early as Aristotle, frequently intertwined with theories concerning humour. There have been many proposals on the laughter types yet little agreement on how laughter should be classified. We believe that one reason for the lack of agreement is that there are several layers relevant to the analysis of laughter. Different classification systems and even types within systems in fact often relate to different layers of analysis. In what follows, we will initially present a brief critical review of studies on laughter types. Building on this, we propose a multi-layered analysis of laughter, including a novel analysis of the meaning of laughter and attempt to describe its various uses. We then present our corpus study in sections 4 and 5. In section 7, on the base of our data observation, we will try to ground our classification in a formal semantic and pragmatic analysis within the

KoS framework (Ginzburg, 2012).

2 Background

2.1 Existing taxonomies/classifications

Studies on laughter classification concern at least three areas: the sound, the context and the function¹. Studies on the sound of laughter analyze phonetic, acoustic, para-linguistic, kinesic and anatomical features e.g.(Poyatos, 1993; Urbain and Dutoit, 2011; Trouvain, 2003; Provine and Yong, 1991, for example)), or propose constitutive elements of laughter (Kipper and Todt, 2003; Trouvain, 2003; Bachorowski and Owren, 2001; Campbell et al., 2005; Tanaka and Campbell, 2014; Nwokah and Fogel, 1993; Ruch and Ekman, 2001, for example). Due to space constraints and pertinence we will focus on reviewing analyses on contextual and functional classifications.

2.1.1 Contextual classifications

Studies on context of laughter investigate the stimuli (triggers) and the position of a given laughter event in relation to other components in conversation (e.g. speech and partner's laughter). Studies on laughter stimuli distinguish those that are “funny” (though that in itself is a tricky matter to characterize) and those that are not. It has been reported that contrary to ‘folk wisdom’, most laughers in fact follow a stimuli that is not “funny” (Coates, 2007; Provine, 2004).

A second level of contextual analysis concerns the position of laughter in relation to laughter (or lack thereof) of a partner. With mildly differing parameters and timing thresholds, several authors distinguish between *isolated laughter* i.e. laughter not shortly preceded nor followed by

¹There are also proposals on the causes of laughter e.g. (Morreall, 1983; Owren et al., 2003; Bachorowski and Owren, 2001)

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