Salvatore Attardo,
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Prosody and Humor

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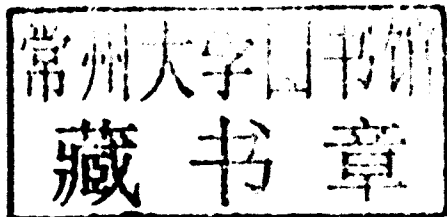*Edited by*

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Prosody and Humor

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Prosody and Humor
Edited by Salvatore Attardo, Manuela Maria Wagner and Eduardo Urios-Aparisi

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Prosody and humor

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1. Introduction

The purpose of this book is to gather several studies on the intersection of prosody and humor — a promising area of investigation, which has recently undergone a blossoming. The chapters in this book address more or less directly the issue of whether and how prosodic and multimodal features are used to "mark" humor (in a broad sense). As we will see the very idea of "marking" humor is under scrutiny, although this is a central theme of this issue. Furthermore, all the papers share a methodological commitment to empirical instrumental analysis (supplemented, to be sure, by human analysis and interpretation). Before we proceed to summarizing the chapters and discussing some broad implications of their findings, we need to pause to address an issue of terminology and to take stock of the literature on these topics.

1.1 A terminological caveat

Anyone interested in the study of humor is faced with a terminological problem, which may appear trivial at first, but that eventually becomes serious enough to require clarification. Humor research has standardized on the use of the umbrella term 'humor' to indicate any form of communicative behavior intended or interpreted as having the intention to elicit amusement, mirth, laughter, or associated feelings of exhilaration, the perception of the comical and similar states of mind. By definition, 'humor' is meant to encompass any form of such behavior, without any attempt at further differentiation. Under this term, humor encompasses most uses of irony. This is not to say that one cannot establish internal operational subdivisions, and study wit in 18th century England, for example. The same goes for irony and sarcasm: there are those who claim that the two are distinct phenomena,

but the general consensus is that sarcasm is an aggressive form of irony.[1] We generally do not differentiate between the two, as it is usually impossible to do so reliably in the intermediate cases. However, the difference may be reintroduced in a methodologically controlled way: for example, Cheang and Pell (this book) and Caucci and Kreuz (2012) examine specifically critical irony (sarcasm) as distinguished from "positive/humorous" (i.e., non critical) irony.

2. The state of the art

We can start with the observation that very little research has concerned itself in general with the prosody of humor. The available research is summarized and reviewed in Pickering et al. (2009). Conversely, there is a significant amount of literature on the prosody of irony. The central thrust of this research can be summed up as attempts to describe the "ironical tone of voice". More broadly, researchers try to describe how irony is "marked" including non-prosodic and even non-linguistic markers. We will briefly review the state-of-the-art of the study of prosody and humor, laughter, and then turn to irony.

2.1 Humor

Pickering et al. (2009) examined jokes (short humorous narratives ending in a punch line) and found that the punch lines were not marked prosodically — neither by changes in pitch, volume, or speech rate, nor by significant pauses. This negative finding is broadened to conversational (non-narrative) humor in Bertrand and Priego-Valverde, in Attardo et al., in Flamson et al., and to professional actors (Urios-Aparisi and Wagner). Other forms of marking (smiling, laughter) were found, but they are inconsistent.

2.2 Laughter

Laughter has attracted a significant body of work since the early work of Mowrer et al. (1987). In particular the work of Provine (1991, 1993, 1996a, b, 2000, 2004a, b; on Provine's work, see Ruch 2002), of Bachorowski and her associates (e,g., Bachorowski and Owren 2001; Bachorowski et al. 2001; Owren and Bachorowski 2003; Smoski and Bachorowski 2003), Trouvain (2001, 2003; Trouvain and

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1. The issue is further complicated by the fact that in American English at least there appears to be an age differentiation, whereby younger speakers use 'sarcasm' where older speakers would have used 'irony'. Cf. Nunberg (2001:91–93).

Schröder 2004), and Vettin and Todt (2004, 2005), Kipper and Todt (2005), Gervais and Wilson (2005), O'Connell and Kowal (2005, 2006) stand out, but Chafe (2007) is the most comprehensive work on the subject. This is not the place to review this literature, but let us note an aspect relevant to the articles in this issue: Provine's claim (2000) that laughter punctuates speech, i.e., does not occur within words or phrases, has been refuted (Nwokah et al. 1999; Chafe 2007).

2.3 Irony

We will primarily concern ourselves with phonological (and specifically pitch) and facial markers. There exist morphological, syntactic, lexical (e,g., Caucci and Kreuz 2012), and typographical markers as well (see Haiman 1998: 28–60; Attardo 2000), but we will not address those in this context. It should also be noted that the existence of an unmarked (deadpan) delivery is commonly assumed. Hancock (2004) reports that 76% of ironical utterances are marked, i.e., about 24% are produced with deadpan delivery.

2.4 Phonological markers

The literature on the markers of irony and sarcasm includes several studies on phonological markers of sarcasm. The most frequently mentioned are discussed below.

The most commonly noted index of ironical intent is intonation. The ironical intonation has been described as a flat (neither rising nor falling) contour (Milosky and Wrobleski 1994; Shapely 1987; Fónagy 1975; Myers Roy 1978: 58, quoted in Barbe 1995; Haiman 1998: 35–36). Schaffer (1982: 45) reports question intonation (i.e., rising) as a marker of irony.

Anolli et al. (2000) found that lower pitch indicated irony. Rockwell (2000) also found that a lower pitch was a marker of irony, among trained performers. Similarly, Haiman discusses "inverse pitch obtrusion" (i.e., the utterance of the stressed syllable "at a *lower* pitch than the surrounding material" 1998: 31) in English and German.

Muecke (1978: 370–371), Schaffer (1981), Adachi (1996), and Haiman (1998) report that an exaggerated pitch or extremes of pitch mark irony. Similarly, Attardo et al. (2003) claim that "exaggerated pitch marks sarcasm".

Haiman (1998: 30–41) discusses several other intonational patterns that can be used to indicate sarcasm: such as singsong melody, falsetto, "heavy exaggerated stress and relatively monotonous intonation" (Haiman 1998: 39) and separation by "heavy" (i.e., long) pauses of the words (Schaffer 1982: 45; Haiman 1998: 39, for Japanese and German). Muecke (1978: 370) reports the use of "softened voice".

Bolinger (1985: 127, 1989: 75–76) points to the use of rise-fall contours with ironical statements such as "is that so" or "you don't say", and low tones with statements such as "a likely story" or "I'll bet". Caucci and Kreuz (2012) also note that some lexical expressions seem to connote "sarcasm".

The use of a marked succession of prominent syllables is analyzed as "beat clash" by Uhmann (1996), and is argued to provide a cue to irony. Stress patterns broader than usual are also reported by several authors: Cutler (1974: 117), Myers Roy (1977: 58, quoted in Barbe 1995), Schaffer (1982: 45), and Barbe (1995: 76).

Several authors report that nasalization is a marker of ironical intent, e.g., Cutler (1974: 117), Muecke (1978: 370, who employs the term 'mycterism'), Myers Roy (1977: 58, quoted in Barbe 1995), Schaffer (1982: 45), Chen (1990: 28), and Haiman (1998: 30–31).

Speech rate may also be a factor, with Cutler (1974: 117) and Fónagy (1971: 42) suggesting that a slowed speech rate may be indicative of irony and several authors pointing to syllable lengthening as a possible cue (Myers Roy 1977: 58, quoted in Barbe 1995; Schaffer 1982: 45; Haiman 1998: 34 in Chinese and several other languages; Adachi 1996: 8, for Japanese).

Laughter syllables scattered in the utterance or preceding or following it have also been reported as markers of irony (Schaffer 1982: 45; Haiman 1998: 31). The literature on the use of laughter to mark humorous (in general) intention on the speaker's part is ample (see e.g., Jefferson 1984, 1985).

2.5 Facial markers

Among the facial signals of ironical intent the following have been quoted in the literature:

- Eyebrows: raised, lowered
- Eyes: wide open, squinting, rolling
- Winking (Muecke 1978: 368–369)
- Nodding (Caucci and Kreuz 2012)
- Lip tightening (Ibid.)
- Smiling
- Blank face (Attardo et al. 2003)
- Prosody-face incongruity (Pell 2005: 211)
- Gaze aversion: Williams et al. (2009) show that gaze aversion signals irony. This is not an upward "rolling of the eyes" (Attardo et al. 2003), but a sideways (horizontal) movement. In some case it was downward. Interestingly, Williams et al. find that gaze aversion was a decrease on the speaker's baseline, not an absolute factor. It is unclear whether speakers are intentionally signaling their

ironical intention or whether this is a case of what Ekman and Friesen (1969) would call a "leak" (i.e., an involuntary revealing of one's mental state).

2.6 Conclusions of the above discussions

One definite conclusion that can be drawn from these studies is that the proper mode of investigation for humor, irony, sarcasm, and related subjects is multimodality. Both Caucci and Kreuz (2012) and Attardo et al. (this book) stress the importance of multimodal analyses and in particular the significance of smiling as a marker of humor/irony. The interplay of visual/facial factors, intonational factors, and semantic and contextual factors is a wide open field that is obviously in need of much further research, as Attardo et al. (2003) already noted. The multimodality of humor can be connected to underlying cognitive processes. As Wennerstrom shows, a cognitive process such as "blending" underlies the prosody of "intonation jokes" and adds a humorous component to the lexico-grammatical structure of the jokes. Such cognitive processes are involved in other meaning-making activities such as metaphor that also use multimodal resources (see Forceville and Urios-Aparisi 2009).

We can state with a certain degree of confidence that the picture of whether and how irony is marked prosodically and behaviorally is complex — there is no easy one-to-one mapping, no univocal "ironical tone of voice". There may be only differential markings as Bryant and Fox-Tree (2005) and Attardo et al. (2003) have argued, or substantive markers may be associated with the aggressive aspect of sarcasm, as Bryant (this book) concludes. However, recent research using ERP (Event Related Potentials), such as electroencephalography, has shown an interesting lack of correlation between ironic prosody and its perception (Regel et al. 2006; Amenta and Balconi 2008).

There seem to be definite differences across languages: see Adachi (1996) for Japanese, Anolli et al. (2002) for Italian, Laval and Bert-Erboul (2005), Bertrand and Priego-Valverde (this book) for French, and Cheang and Pell (this book), for Cantonese Chinese. There are also differences across age groups: Capelli et al. (1990), Milosky and Ford (1997), and Laval and Bert-Eboul (2005) note that younger children rely more on prosodic cues. Whalen and Pexman (2010: 379) report that older children mode adopt (i.e., respond with irony to irony) more frequently, using prosodic and behavior markers. See also Meng (2006) for Chinese children.

3. The chapters in this book

The chapters in this book investigate the role of prosody and humor in a variety of settings: Languages studied include English, Cantonese, French, and Portuguese. The data of investigation range from reactions to recorded data, elicited humor in a laboratory setting, and recordings of spontaneous humor in business meetings in rural Brazil and in dialogues in France. In addition, authors point to the necessity of considerations in methodology, such as the type and quality of the data studied, the context of the specific situation, as well as the approach applied when studying prosody of humor.

In the chapter "Recognizing sarcasm without language: A cross-linguistic study of English and Cantonese", Henry Cheang and Marc Pell investigate if prosody alone can determine recognition of certain speaker intentions in the native language and in an unfamiliar language. The authors exposed 20 native speakers of English and 20 native speakers of Cantonese to recorded utterances in which native speakers of English and native speakers of Cantonese enacted sarcasm, sincerity, humorous irony, and neutrality. The subjects were then asked to judge the speaker attitude of the native language stimuli as well as the stimuli in the unfamiliar language. While native speakers of a language were found to be sensitive to sarcasm in their native language they only identified sarcasm in the unfamiliar language at approximately chance level. The higher level of recognition of other attitudes in the unfamiliar language points to the possibility that sarcasm is processed in a distinct manner.

Salvatore Attardo, Lucy Pickering, and Amanda Baker investigate the prosody and multimodality of humor in conversation in the chapter "Prosodic and multimodal markers of humor in conversation". The main research question the study addresses is, "Is conversational humor prosodically different from narrative, canned humor?" Their findings revealed no significant differences in speech rate, volume, and pauses between conversational humor and narrative humor or between the serious text and the instances of humor. The authors also conclude that multimodal analysis of conversational humor is crucial in order to interpret the data properly.

In "Prosody in spontaneous humor: Evidence for encryption" Thomas Flamson, Gregory Bryant, and Clark Barrett compare prosody in spontaneous humorous and non-humorous speech collected during monthly business meetings conducted in Portuguese in a rural Brazilian collective farm setting. Results confirm the authors' hypothesis based on the encryption theory of humor (Flamson and Barrett 2008) that speakers would not mark humor explicitly in spontaneous conversation but rather encrypt the information so that the audience is required to draw from background knowledge to show uptake. One possible explanation

for the lack of marking the authors provide is that by not marking humor and therefore relying on the common background knowledge, the speaker emphasizes his ties with the audience.

While most of the research on humor and prosody has focused on the punch line, in the chapter "Formulaic jokes in interaction: The prosody of riddle openings" Christy Bird analyzes the prosody of the initial wh-questions in riddles, and specifically in riddles versus conversations. Bird finds a significant difference in pitch characteristics between conversational wh-questions and wh-questions in riddles. Further analyses revealed that riddles were delivered with limited pitch variation across the utterance and at the syllable level. The author argues that the finding can be explained through discourse context, in particular by the fact that riddle questions do not require contextualization.

In "Verbal irony in the wild", Gregory Bryant proposes the need to use a form-function approach to the study of prosody. His analysis of spontaneous conversations reveals an enormous variation of speaking styles communicating ironic meanings. The chapter focuses on figures of speech such as prosodic contrast in pitch and volume and in laughter, in particular the so-called antiphonal laughter on the basis that their prosodic features are determined by their communicative functions. In his conclusions, Bryant proposes several lines of research to further prosodic research and humor.

Ann Wennestrom's "Rich Pitch: The humorous effects of deaccent and L+H* pitch accent" focuses on how two intonation patterns: the intonation of contrast, or L+H* pitch accent, and the intonation of given information, or "deaccent" contribute to the punch lines in jokes and their humorous effect. She analyzes six cases of so-called intonation jokes with punch lines that show both intonation patterns. The contrast between lexical and syntactical structure and the intonation creates an incongruity that triggers a mental search in the hearer's mind for discourse cohesion. She discusses this joke type and its contribution to humor within the framework of theme/rheme contrast, the processing cost, the *ad hoc* categories, salience, and a particular model of mental representation, blends. The author demonstrates how the study of intonation jokes extends the study of the field of humor to that of cognitive processes.

Roxane Bertrand and Béatrice Priego-Valverde's chapter poses the question "Does prosody play a specific role in conversational humor?" The authors use a corpus of annotated transcriptions of eight hours of audio-video recorded dialogues in French. Their purpose is to study humor and prosody in the framework of Conversation Analysis. Two discursive devices in which humor appears are described: reported speech and repetition. The first device, prosodic cues, was used to animate different characters and in particular to portray a character. The second, prosodic orientation through diverse prosodic resources, was used to

successfully construct humorous sequences. According to the authors, humor is created through an integration of a diversity of cues.

Urios-Aparisi and Wagner investigate the role of prosody, in particular pitch and pause, in conversational acted humor. The close analysis of instances of humor in the HBO series Sex and the City (SATC) shows how pitch and pauses are part of the prosodic bundle that can work at several levels in interaction with each other: potentially marking humor, turn changes or topic changes. The study confirms a lack of a clear connection of certain prosodic features that "mark" humor.

4. Implications for pragmatics

4.1 Prosody as a marker

The general approach to the study of the (alleged) ironical tone of voice and more or less implicitly to the prosodic and multimodal markers of humor has been that these are "markers" in the sense that they set the playful frame of humor (Bateson 1972; Dascal 1985; Dascal and Berenstein 1987: 144) thus allowing the hearer (in a broad sense) to identify the humorous intention of the speaker and therefore trigger the inferential work necessary to the processing of humor. This view is certainly correct. However, we feel that it needs to be reconsidered in the light of two issues: on the one hand, intentionality, presupposed by the idea that speakers using prosody to "mark" humor may be a matter of degree; on the other, speakers may be doing other "work" beside marking humor, when they engage in prosodic and paralinguistic "marking".

4.2 What does it mean to say that feature X is a "marker" of Y?

An issue brought about forcefully by the work of Williams et al. (2009) is the question whether the features commonly assumed to "mark" irony are in fact examples of "leakage". The term is used by Ekman and Friesen (1969) to indicate involuntary non-conscious behavior that escapes the speaker's control and allows an observer to reconstruct their inner state more or less against the will of the speaker. The difference from markers, which if not necessarily conscious are at least implicitly intended by the speaker to *facilitate* the recognition of the humorous/ironical intention, is clear and extremely significant. From a pragmatic perspective the absence of intentionality (be it consciously applied or merely implicitly so, for example because part of a tacitly known system of communicative competence) would relegate these unintentional correlates of irony/humor to the domain of ostensive communication (or natural meaning, to use Grice's 1957 terminology).

Finally, we should note another potential objection to the idea of "marking": it is likely that the low pitch found in Pickering et al. (2009) to correlate with punch lines is not a marker at all (in the sense of indicating the intentionality of the speaker) but merely a physical correlate of the punch lines motivated by their position at the end of paratones. This clearly negates the idea of intentional or even conventional marking, while leaving open the possibility of correlational marking.

A potential clue to intentionality of marking, in the case of smiling, is the Duchenne display, which reveals that the smiling is the sincere expression of amusement, rather than an intentional signal. However, it should be noted that detection of non-Duchenne smiles requires intensive training and is not available to the general population (Ekman and Friesen 1969). Likewise, discrimination between voluntary and involuntary laughter is not feasible (Ruch and Ekman 1981:428).

4.3 Prosodic and paralinguistic markers as eliciting affect

Bachorowski and associates "conceptualize antiphonal laughter as being part of an affect-induction process that promotes affiliative, cooperative behavior between social partners" (Smoski and Bachorowski 2003:329). "Antiphonal" laughter is so named precisely to exclude the intentionality presupposed by "reciprocal" laughter or the mechanical connotations of "contagious" laughter (Provine 1996b). Bachorowski and Owren (2001) found that voiced laughter elicited positive affect. As the results in this book show, laughter and smiling are the most common markers of humor. Bachorowski's results invite a re-formulation of the conceptualization of laughter as a "marker" of irony. Specifically, if laughter elicits positive affect, then the speaker is not so much marking something, but rather showing direct, ostensive evidence of his/her positive affect (Owren and Bachorowski 2003), thus helping the hearer feel similar affect and thereby facilitating a playful framing (Goffman 1967), or, as Bryant argues (this book), seek to achieve synchronous behavior. To put it differently, the speaker may not be marking anything (either in the intentional sense or in the weaker sense of conventionalized unconscious behavior) but merely "leaking" information. Much like if one runs for a mile, one will be sweating and flushed without any intention to "mark" or "signal" one's state. Needless to say, one can manipulate involuntary displays, such as panting or flushing, to signal deceptively that one is out of breath, for example. We would like to suggest, as a first approximation to clarifying this issue, to reserve the term "marker" for those behaviors that are used intentionally by the speaker to communicate the metamessage "this is humorous/ironical/sarcastic" or that are conventionalized to do so. We could then use indices (as in "humorous indices") to indicate those unintentional indicators of humor (such as spontaneous laughter,

gaze aversion, etc.,). Needless to say, a behavioral cue, such as laughter, can be ambiguous (i.e., be either a marker or an index).

4.4 Further research

It is an academic cliché that new papers stimulate further research, but in the case of this collection of papers, this is literally true. Cheang and Pell (this book) begs for the replication of its results using masking techniques; Attardo et al. (this book) is a preliminary study of virtually untouched areas. Flamson et al. (this book) and Cheang and Pell (this book), likewise point to the need of further study in other languages, to investigate how irony, sarcasm, and humor are marked is those languages. Wennerstrom's paper moreover opens an entirely new line of research — jokes in which the punch line hinges on prosody.

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