

Laughing about laughter: comparing conversational analysis, emotion psychology, and dialogical semantics

Jonathan Ginzburg

Université de Paris, CNRS, LLF
Laboratoire de Linguistique Formelle
UMR 7110
yonatan.ginzburg@u-paris.fr

Chiara Mazzocconi

Université de Paris, CNRS, LLF
Laboratoire de Linguistique Formelle
UMR 7110
chiara.mazzocconi@live.it

Abstract

That laughter invites laughter is a basic tenet of Conversation Analysis analyses of laughter, whereas emotion psychology analyses describe various emotive and social effects laughter exhibits relative to various phonetic parameters. We provide data concerning laughter responses to laughter which we argue show neither approach can explicate and more generally suggest they cannot offer a general account of laughter and related non-verbal social signals. We sketch how distinct kinds of laughter responses to laughter—along with a host of other kinds of responses—can be systematically analyzed within a dialogical semantics, which integrates illocutionary and emotive effects.

1 Introduction

As Gail Jefferson has emphasized laughter often gives rise to or invites laughter. In (Jefferson, 2004) she discusses example like (1), viewing it as an instance of her hypothesis that in ‘male’/‘female’ interaction (her scare quotes) the ‘female’ tends to start laughing only once the ‘man’ does. (Kohler, 2008) reanalyzes this example suggesting Philip’s laughter concerns his daughter’s short stay, whereas Lesley’s laugh empathizes with Philip:

(1) (Jefferson, 2004, p. 120):

1 Philip: She’s having three weeks
'n staying here one week
2 I[think (is it)]
3 Lesley: [Y e: a]
4 Lesley: [Yes
5 Philip: [eh-heh-he[h
6 Lesley: he-huh he-huh
7 Philip: Yes, ye[s.
8 Lesley: [S’pose she’ll be here
for Christmas, won’t she
9 Philip: Oh, yes, yes.

In (2) Bayern München goalie Manuel Neuer is asked whether his team will reuse in their next game the three-in-the-back defense that proved problematic in the game just played (3-2 against Paderborn), his brief, dismissive laugh implies they will not, which amuses the gathered journalists:¹

(2) Journalist: (smile: Dreierkette auch ‘ne Option?)
Manuel Neuer: fuh fuh fuh (brief laugh)
Journalists: heh-he-he-he (laugh loudly)

The examples in (1,2) illustrate that laughter is naturally followed by different kinds of laughter, which is a consequence of laughter’s ambiguity: two highly perceptive linguists disagree about the function of the second laugh in (1), whereas in (2) the first laugh communicates a negative answer, while the second laugh communicates amusement. On the face of it, this is not news for research on laughter or smiling, either for Conversation Analysis approaches (Jefferson, 2004; Glenn, 2003; Glenn and Holt, 2013) or for emotion-based accounts coming from social psychology and neuroscience (Niedenthal et al., 2010; Wood et al., 2017) since both types of approach recognize various things interlocutors can achieve using laughter/smiling (CA), or postulate multiple distinct functions (Emotion Psychology).

Our claim, however, is that although each approach brings important ingredients to the explana-

¹The report by Tim Brack in SZ is the following:
Ein Lachen kann sehr unterschiedliche Bedeutungen haben. Es kann herzlich sein, aber auch höhnisch. Als Manuel Neuer nach dem zittrigen 3:2-Sieg des FC Bayern gegen Paderborn lachte, lautete die klare Botschaft: nein. Es war sozusagen ein verneinendes Lachen. Der Torhüter war gefragt worden, ob die Dreierkette, die sich gegen den Tabellenletzten vor ihm aufgereiht hatte, auch eine Option für das Champions-League-Spiel gegen den FC Chelsea sei. <https://www.sueddeutsche.de/sport/bayern-paderborn-neuer-flick-1.4811661>
We thank Tim Brack for providing us with the audio for this example.

tory table, neither supports an adequate explication of these examples and more generally cannot support a general account of laughter and related non-verbal social signals. We argue that a semantic-pragmatic account that integrates laughter/smiling (and other non-verbal social signals) with verbal meaning enables a synthesis of such approaches.

The paper is structured as follows: in section 2, we discuss briefly CA and social psychology strategies for analyzing laughter. In section 3 we discuss the basic components for a semantic-pragmatic approach to laughter. We return to the initial examples in section 4.

2 Responding to laughter: two approaches

As (Glenn and Holt, 2013) explain CA associates laughables as ‘referents’ for laughter but explicitly assumes no semantics beyond this. ‘... Although laughter lacks semantic or linguistic content, variations in its production contribute to its communicative value (Glenn and Holt, 2013, p. 6); There is recognition of a variety of effects laughter can produce:

- (3) a. (same turn) a tension between what we say, how this could be interpreted by others and what we mean
- b. in terminal position can modulate a (potentially or incipient) disaffiliative action
- c. as a “post-completion stance marker”
- d. adjust the seriousness of its referent (Glenn and Holt, 2013, p. 6).

But in the absence of anything more than a ‘referential semantics’ in terms of laughables these remain an essentially arbitrary list of effects. Moreover, since CA avoids any explicit means of representing *emotion*, in saying that laughter can serve as a stance marker, it has no way to distinguish laughter like Lesley’s in (1) from verbal stance markers such as ‘yea’ and ‘mmh’.

In contrast, on accounts of smiling and laughter like (Niedenthal et al., 2010; Wood et al., 2017) emotional effects are reified. However, as with CA, the distinct functions postulated are not systematically related. Moreover, since the analysis is not integrated with an account of linguistic context an example such as (2), where an illocutionary effect of communicating negation to a previous utterance occurs, cannot be captured.

3 Laughter in dialogical semantics: a sketch

We sketch an approach initiated in (Ginzburg et al., 2015), further developed in (Ginzburg and Tian, 2018), where formal details can be found. The approach

1. explains laughter ambiguity parsimoniously, in terms of two distinct semantic meanings,
2. ... but allows an unlimited range of laughter episode types based on pragmatic reasoning,
3. captures emotional effects, so in particular distinguishes laughter from verbal back channels/stance markers,
4. captures illocutionary effects, so accounts for Neuer’s negation effect in (2).

3.1 Laughter Meanings

On the approach here, we postulate two basic meanings for laughter:

- (4) a. Pleasant($p, \delta, spkr$) given: a context that supplies a laughable p and speaker $spkr$, content: the laughable is pleasant for the speaker to a contextually given degree δ .
- b. Incongr(p, δ, τ) given: a context that supplies a laughable p and topos τ , content: the proposition that p is incongruous relative to τ (to extent δ).

Here one of the relata of incongruity is a topos τ , an inference rule that represents “congruity” (what is expected). We use the Aristotelian notions of *topos* and *enthymeme* (Breitholtz, 2014), where Topoi represent general inferential patterns (e.g., *given two routes choose the shortest one*). *Enthymemes* are the actual arguments conveyed in dialogue or other discourse which are drawing on topoi. In other words, they are applications of topoi in particular cases, e.g., *given that the route via Walnut street is shorter than the route via Alma, choose Walnut street*.

3.2 Cognitive States for laughing in dialogue

In order to capture emotional effects in parallel with illocutionary ones, we integrate Scherer’s component process model (CPM) of appraisal (Scherer, 2009) with the cognitive states in the style of the dialogical framework KoS (Ginzburg et al., 2015). This means that dialogue cognitive states track

various aspects of the emerging context, including turn ownership, shared assumptions (FACTS), questions under discussion (QUD), the visual field, moves that are in the process of being or have been grounded (Pending, Moves) and MOOD—a weighted sum of appraisals. Here MOOD represents the publicly accessible emotional aspect of an agent that arises by publicly visible actions (such as non-verbal social signals), which can but need not diverge from the private emotional state. Such cognitive states can represent both illocutionary updates, as in (5a-d) and emotion-based updates, such as (5d):

- (5) a. Ask/Assert QUD-incrementation: given a question q and $\text{ASK}(A,B,q)/\text{Assert}(A,B,p)$ being the LatestMove, one can update QUD with $q/p?$ as MaxQUD.
- b. QSPEC: this rule characterizes the contextual background of reactive queries and assertions—if q is MaxQUD, then subsequent to this either conversational participant may make a move constrained to be q -specific (i.e., either a direct answer or a sub-question of q).
- c. Accept move: specifies that the background for an acceptance move by B is an assertion by A and the effect is to modifyFACTS with p .
- d. Clarification question: if A's utterance u is in Pending, QUD can be updated with the question *What did A mean by u .*
- e. Positive affect incrementation of Mood: given the LatestMove being an incongruity proposition by the speaker, the speaker increments the (positive) pleasantness recorded in Mood to an extent determined by the laughter's arousal value.

3.3 Laughter Reasoning

We sketch some examples of functions that emerge from the basic laughter meanings via pragmatic reasoning:

1. **Affiliation:** Affiliative laughter arises as an inference from Pleasant laughter by resolving the laughable as the state where the speaker and addressee are *co-present*.

2. **Empathetic acknowledgement:** Empathetic acknowledgement of A's utterance by B laughing arises as inference from Pleasant laughter, assuming the topos *If it's pleasant for me that you said that p , then I agree that p* —A's utterance is the event pleasant for B.
3. **Superiority laughter:** In similar fashion, we can explicate the source of “mocking” and/or “superiority” laughter: A observes an event e which affects B negatively. Laughter can then be taken to reflect A's appraisal of e as pleasant.
4. **Irony:** Whenever a declarative utterance is made by A which involves a proposition p there are (inter alia) two possible understandings available (consequents of conversational topoi): with high probability: A asserts p , or with low probability: A intends to convey a content incompatible with p . Incongruity here involves a clash with the high probability topos.
5. **Question deflection:** laughter as deflecting a question can be analyzed as signalling a clash with standard conversational rule following a question. The conflicting topos in this case is the conversational rule *if A poses q , then either A or B utter a utterance conveying a direct answer.*

3.4 Coherent Responses to Laughter

In light of this, a variety of responses to laughter are possible:

1. **Laughter responses:** A's incongruous laugh about laughable p conveys the assertion that p is incongruous. B can accept this move—affirming p 's incongruity, by laughter or verbally, or both.
2. **Disagreement:** An incongruous laugh by A raises the issue of whether p is indeed incongruous. The issue can be discussed, without laughter by B, as exemplified by Jefferson's (6):

- (6) Bee: So the next class hhh!hh fer an hour and fifteen minutes I watched his ha:nds hh hh hhh
Ava: What's the matter with him?
Bee: hh t hhh he keh he doesn't haff uh full use uff hiss hha fingers
(Jefferson, 1979, example (12))

3. **Clarification question responses:** since incongruous laughter involves resolving the source of incongruity (laughable p and topos τ), a laugh can give rise to clarification questions, as discussed by (Mazzocconi, 2019).
4. **Frown responses:** (Ginzburg and Tian, 2018) propose to analyze frowns in terms of the following contents—NegRaise($p, q, \delta, spkr$): the frownable p gives rise to a question q ; this also yields a Mood update in which pleasantness affect is decreased. Hence, if B cannot share A's incongruity—conveying laugh (e.g., B is still wondering whether there really is an incongruity) gives rise to B's frown.

4 Revisiting the data

With respect to (1), we can (in principle) validate both Jefferson's analysis and Kohler's: we can analyze Lesley's laugh as sharing Philip's assessment of his daughter's behaviour as incongruous. In such a case both laughs have as content *Incongruous*(p, τ, δ), here τ could be posited as a topos to the effect that 'Children should maximize their vacation stays with their parents'. On Kohler's analysis Lesley's laugh expresses affiliation with Philip's utterance or laugh, via a pleasant laugh, as explained above.

With respect to (2), we view Neuer's response as an instance of question or rather suggestion deflection—communicating that the suggestion does not deserve consideration. Here the laughable is the journalist's utterance. A further inference from this is that since the suggestion put forward to possibly use the *Dreierkette* need not be considered, the *Dreierkette* will not be used. The journalists' laugh in this case is most plausibly analyzed also as incongruous, where the laughable is Neuer's response.

5 Conclusions and Future Work

That laughter invites laughter is a basic tenet of CA analyses of laughter, while describing but not *explicating* the distinct functions laughter can have. That laughter achieves various emotive effects (or has distinct functions) relative to various phonetic parameters is what social psychological analyses deliver,² though in a way that does not integrate notions of conversational context crucial for explain-

²Though see (Mazzocconi, 2019) for evidence that a straightforward acoustic form-function mapping is not viable.

ing its use in conversation. We have sketched how distinct kinds of laughter responses to laughter—along with a host of other kinds of responses—can be systematically analyzed within a dialogical semantics, which integrates illocutionary and emotive effects.

References

- Ellen Breitholtz. 2014. *Enthymemes in Dialogue: A micro-rhetorical approach*. Ph.D. thesis, University of Gothenburg.
- Jonathan Ginzburg, Ellen Breitholtz, Robin Cooper, Julian Hough, and Ye Tian. 2015. Understanding laughter. In *Proceedings of the 20th Amsterdam Colloquium*, University of Amsterdam.
- Jonathan Ginzburg and Ye Tian. 2018. Facial displays and their dialogical meanings. <http://esslli2018.folli.info/facial-displays-and-their-dialogical-meanings/>. Lecture Notes for course at European Summer School in Logic, Language, and Information, Sofia; revised version in resubmission under a different title.
- Philip Glenn and Elizabeth Holt. 2013. Introduction. In Philip Glenn and Elizabeth Holt, editors, *Studies of Laughter in Interaction*. Bloomsbury.
- Phillip J Glenn. 2003. *Laughter in interaction*. Cambridge University Press Cambridge.
- Gail Jefferson. 1979. A technique for inviting laughter and its subsequent acceptance/declination. *Everyday language: Studies in ethnomethodology*, 79:96.
- Gail Jefferson. 2004. A note on laughter in 'male-female' interaction. *Discourse Studies*, 6(1):117–133.
- Klaus J Kohler. 2008. 'speech-smile', 'speech-laugh', 'laughter' and their sequencing in dialogic interaction. *Phonetica*, 65(1-2):1–18.
- Chiara Mazzocconi. 2019. *Laughter in interaction: semantics, pragmatics, and child development*. Ph.D. thesis, Université de Paris.
- Paula M Niedenthal, Martial Mermillod, Marcus Maringer, and Ursula Hess. 2010. The simulation of smiles (sims) model: Embodied simulation and the meaning of facial expression. *Behavioral and brain sciences*, 33(6):417–433.
- Klaus R Scherer. 2009. The dynamic architecture of emotion: Evidence for the component process model. *Cognition and emotion*, 23(7):1307–1351.
- Adrienne Wood, Jared Martin, and Paula Niedenthal. 2017. Towards a social functional account of laughter: Acoustic features convey reward, affiliation, and dominance. *PloS one*, 12(8).