Humor as a magnifier for studying discourse and prosody interface

Béatrice Priego-Valverde , Laboratoire Parole et Langage
Roxane Bertrand, Laboratoire Parole et Langage, UMR 6057 CNRS
Laurent Prevot, CLLE-ERSS

Although humor is a widespread phenomenon in talk-in interactions, more formal approaches to dialogue (Anderson et al. 1991;Jurafsky et al 1997;Bunt 2009) tend to ignore or minimize it. This divergence is due primarily to different corpus choices. While interactionists focus on everyday conversation, formal and computational approaches focused on task-oriented dialogues that exhibit a restricted range of linguistic phenomena. In this contribution we aim at bringing together these two kind of approaches for studying corpus examples of talk-interactions. We show how standard analysis a little to say about these humorous phenomena and needs input from humor studies. On this ground we use humor as a filter or a magnifier for studying a range of discourse phenomena in which prosody is heavily involved.

Research on humor is driven according to several general questions: Why do we laugh so much in casual conversations (Chafe, 2007)? What are the functions of humor (Attardo, 1994)? What are the incidences of its apparition on the relationship of the participants (Priego-Valverde 2003)? But humor is not only an observable *per se*. It is also a great tool to describe and understand conversation (dys)functioning. As shown in (Priego-Valverde, 2005), humor can affect thematic continuity, and we will show in this presentation that humor may also affect discourse function and structure.

A crossed analysis of the examples (1) and (2) from such different perspectives might appear as an oversimplifying opposition on the approaches taken. However, humor is strikingly absent from formal and computational frameworks (Bunt, 2009;Jurafski et. al, 1997). Some very general and not so well defined categories are sometimes used but one might wonder how such general categories could be used to predict anything.[1] Our presentation will present more corpus examples requiring an analysis of the humorous dimension in order to not completely misunderstand them.

We can illustrate this point through a first example extracted from the Corpus of Interactional Data (Bertrand et al. 2008). A standard and somewhat naive analysis of (1) runs as follows. LJ-275 to 277 are straightforward assertions contributing to the story. The AP-326 backchannel provides some light positive feedback and prompts the speaker to continue the story. The LJ-278 assertive contrasts, at the discourse level, with LJ-277. At this point, AP acknowledges again but then seems to request some elaboration or clarification about the kind of "*normal relationship*" LJ has in mind. The request is made more precise by LJ-329 that takes the form of a standard clarification request (Purver, 2004). It is only at this moment that the standard naive analysis runs into some troubles as it fails to explain the lack of answer from LJ.

But such an analysis makes sense only if we remain focus on the information-seeking dimension of the exchange. But yet, AP switches progressively into a "non bona fide communication" (Raskin, 1985), producing first a backchannel (AP 326) and then a humorous utterance involving a "script opposition" (Raskin, 1985) between a professional script and a sexual script (AP 328-329).

Apart from missing the point of such frequent humorous subdialogues, the overall

standard analysis can be seriously. These failures may result in very bad performing systems whatever their precise task is (dialogue act identification, information extraction, dialogue management). However identifying both humorous twists and the interactional dimension of the discourse without a complete (and often too complex) semantic and pragmatic modeling of the kind proposed within standard formal approaches requires a rich analysis of prosodic cues (among other linguistic elements).

Numerous studies have shown the relevance of prosodic cues in discourse structure and turntaking organization. Prosody is intended here as the whole phenomenon related to pitch level, pitch register, syllable duration, accentuation, tempo. Focusing on the specific conversational humor we previously showed that this type of discursive activity combine several criteria and among them prosodic cues to emerge in discourse (Bertrand et Priego-Valverde forthcoming).

The second example (2) illustrates the importance of prosody when humor matters. As for the naive stantard analysis, AP's first contribution, in spite of being marked by various linguistics means and laughter, seems to be a continuation on LJ's series of informative assertions. The continuation goes on until AP-404, a comment on the previous turns, and LJ-323 that corrects AP- 401 assertion. But in a *non bona fide* communication, a humorous sequence is co-constructed by the participants who perfectly know the difference between IRAA and IRA and who laugh about the phonetic similarity. They go on with false assertions which have a sense only if we take into account the humorous dimension of the exchange.

In this example, prosody plays a crucial role from two points of view: (i) in a first part prosody is used to shift from an explanation (in a larger narrative sequence) to a parallel humorous sequence and, (ii) in a second part in making the co-construction of this sequence particularly salient.

Concerning (i) AP briefly switches from a recipient position (until this point AP only produced feedback or confirmation requests) to the main speaker position which initiates a new contribution with a specific global prosodic design (AP-402). From AP-401, AP seems to use another voice (loudness increase, emphasis on lexical material "travaille"/"work" and "IRA"). We also heard a hoarse voice associated with the laughing hearable in the voice. Indeed this shift is completely hearable by LJ who laughs (in LJ-321).

Concerning the second point, LJ also shows his *prosodic orientation* (Szcezpeck-Reed 2006) to the humorous tonality of AP in expressing a complement's turn in which prosodic cues exhibit the same pattern than AP (a strong lengthening of the last syllable or on the additional "euh", a very little modulation and slight falling pitch on the whole utterance, a similar duration of these successive utterances).

In 404, AP ends this humorous sequence through a meta-communicative signal produced with a different prosodic design, and a deny of the humorous nature of the sequence. Similarly LJ moves back to the serious mode in explaining once again the IRAA acronym (overarticulating the different letters).

As for our general approach, we believe that scrutinizing such humorous examples provide elements for generalizations about discourse and prosody in a broader context. As seen above, (2) illustrates a clear-cut humorous sequence with an opening and a closing marked by lexical and prosodic cues. Analyzing systematically these cases in which the span

of the humorous function is somewhat explicit should provide some further elements for defining macroscopic units (called sometimes *sequence, sub-dialogue, dialogue game,* etc..) even in a broader context that humorous sequences.

Similarly, cases of illocutionary force twisted by humor exhibit striking linguistic features (in particular prosodic ones). At this level too, we expect that a systematic and carefully study of a limited number of humorous examples will help to understand better discourse function coercion phenomena (like rhetorical questions) that have been studied for example in (Asher and Reese, 2005).

1. See however (Popecu-Belis, 2003) for a first attempt of integration of humor in a dialogue act tagset.

Examples (Transcription conventions, GAT, Selting 1998)

(1)   **Rapport normaux / normal relationship**

    LJ gpd_275 et bou- au BOUT d'un moMENT en fait → i(l) s'est trouVE qu'i(l) m'a conFIE un truc a` FAIRE qui ::

(0.4)

    LJ gpd_276 bon qui m(e) conv(e)NAIT a` peu !PRES !^ et i- : bon (0.5)

    LJ gpd_277 j'ai senTI, qu(e) ca s'adou- ciSSAIT,: et bon aPRES on a eu des rapports norMAUX, bon euh

(0.6)

    AP gpd_326 mh mh

    LJ gpd_278 euh mais au déBUT puTAIN j'é- j'étais MAL^ quoi je euh ::-

    AP gpd_327 mh mh

    AP gpd_328 normaux, → c'est-a`-dire euh :: hum (0.4)

    LJ gpd_279 @

    AP gpd_329 avec préservaTIF, - ou sans euh ::- (0.5)

    LJ gpd_280 oh PUTAIN <<ff> > @ ca y est t'es dedans la` @

(2)   **l'IRA**

    LJ gpd_320 euh son !PERE ! c'est lui qui diri- qui est archiTECTE : euh qui travaille a`

    LJ gpd_321 a` l'I.R.A.A:: euh : $Institut d(e) Recherche sur (l')Architecture, en

    AP gpd_401 a` l'I.R.A, *ah^ pff (0.3)*

    AP gpd_402 <<ff> > → i(l) !TRAVAILLE ! a` !L'I.R.A ! :: (0.4)

    LJ gpd_321a @ (0.3)

    LJ gpd_322 et I(l) → plasTIque euh ::

    AP gpd_403 m- ah @ et i(l) → POSE euh les détonaTEURS euh :

    LJ gpd_323 ouai- → IL est horloGER a` l'I.R.A. : @

    AP gpd_404 ah c'est pas drôle ca c'est pas

    LJ gpd_323a non c'est I.R.A.A. A. euh Archite- euh Institut d(e) recherch(e) s- sur l'Architecture Antique

    AP gpd_405 I.R.A ah

    AP gpd_405a oh putain

References

Anderson A., Bader M., Bard E., Boyle E., Doherty G., Garrod S., Isard S., Kowtko J., Mc Allister J., Miller J., Sotillo C., Thompson H., et Weinert R. Ås The HCRC map task corpus Åt. *Language and Speech* 34, 1991, p. 351-366.

Attardo S. (1994) *Linguistic Theories of Humor*, Berlin, New York, Mouton de Gruyter.

Asher N. and Reese B. (2006) *Prosody and the interpretation of tag questions.* Talk presented at Sinn und Bedeutung, 2006

Bertrand R., Blache P., Espesser R., FerreÅL G., Meunier C., Priego-Valverde B., Rauzy S. (2008) "Le Cid - *Corpus of Interactional Data* - Annotation et Exploitation Multimodale de

Parole Conversationnelle ", *Traitement Automatique des Langues*, vol. 49, no 3, 30 pages.

Bertrand R. & Priego-Valverde B. (forthcoming) Does prosody play a specific role in conversational humor? Special issue *Pragmatics and Cognition*.

Bunt H. (2009) 'The DIT++ taxonomy for functional dialogue markup'. In *Proceedings of the AAMAS 2009 Workshop "Towards a Standard Markup Language for Embodied Dialogue Acts* (EDAML 2009), Dirk Heylen, Catherine Pelachaud, Roberta Catizone, and David Traum, editors, Budapest, May 12, 2009.

Chafe W. (2007) *The Importance of Not Being Earnest: The Feeling Behind Laughter and Humor,* Amsterdam/Philadelphia: John Benjamins.

Di Cristo A., Auran R., Bertrand R., Chanet C., Portes C. & ReÅLgnier A. (2004) "Outils prosodiques et analyse du discours", *CILL 30*, nÅã 1-3, 27-84.

Greimas, Algirdas Julien (1966) *Sémantique structurale*. Paris : PUF. Kerbrat-Orecchioni (eds), 1988 : 69-81

Hirschberg J. (2002) "The pragmatics of Intonational meaning", in Bel B. & Marlien I (eÅLds), *Speech Prosody* 2002, Aix-en-Provence, 65-68.

Jurafsky D., Shriberg L. and Biasca D. (1997) *Switchboard SWBD-DAMSL Shallow-Discourse-Function Annotation, Coders Manual*, Institute of Cognitive Science Technical Report, 1997

Morin V. (1966) "L'histoire dro^le", *Communications* 8, 102-119.

Popescu-Belis A. (2003) - *Dialogue act tagsets for meeting understanding: an abstraction based on the DAMSL, Switchboard and ICSI-MR tagsets*. IM2 Project Report MDM-09, Sept. 2003 (V1.2, Dec. 2004).

Priego-Valverde B. (2003) *L'humour dans la conversation familière: description et analyse linguistiques*, France, L'Harmattan.

Priego-Valverde B. (2005) "Non-Cooperative Aspects of Humor: when a joke diverts the conversation to another topic", Oral communication in S. Attardo's panel, *9th International Pragmatics Conference,* Riva del Garda, Italy, 10-15 Juillet.

Purver M. (2004) *The Theory and Use of Clarification Requests in Dialogue*. PhD Thesis, University of London, 2004.

Raskin V. (1985) *Semantic Mechanisms of Humor*, D. Reidel Publishing Compagny, Dordrecht, Holland

Selting M. Ås The construction of 'units' in conversational talk Åt, *Language in Society*, 29, 2000, p. 477-517.

Szczepek Reed B. (2006) *Prosodic orientation in English Conversation*, Palgrave Macmillan.