

Cognitive and Emotive Empathy in Discourse: Towards an Integrated Theory of Mind

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Abstract

This paper presents an empirical qualitative analysis of eliciting, giving and receiving empathy in discourse. The study identifies discursive and linguistic features, which realize cognitive, emotive, parallel and reactive empathy and suggests that imitation, simulation and representation could be non-exclusive processes in Theory of Mind reasoning.

Keywords: Empathy; Discourse analysis; Theory of Mind.

Introduction

Studies indicate that empathy causes helping and pro-social behavior (Davis, 1994) and that lack of empathy is linked to anti-social behavior (Eysenck, 1981) and attitudes. Although empathy has serious impact on society and human development we still don't know how it actually works. Research on the functions of mirror-neurons and Theory of Mind point to the importance of imitation and understanding of other and own intention for development of social cognition (Iacoboni, 2005).

Besides neurosciences, discourse has been found to be a legitimate source of insight on the functions and nature of cognitive-emotional phenomena (Chafe 1994, Allwood 1996, Edwards 1997). This study explores how discourse can be used for the analysis of empathy. It utilizes transcribed conversation in order to map the linguistic realization and functions of empathy. I will be looking for linguistic features, which help us recognize eliciting, giving, and receiving of empathy in discourse and understand its interactive-cognitive dynamics, thus hopefully contribute to a future socio-cognitive modeling of the empathy process. The paper starts with definitions of the main concept, then observes an example of a successful empathic exchange, followed by analysis of cases of rejection of empathy, and at last summarize the identified discursive and linguistic features associated with empathy.

Definitions of Empathy

Empathy is defined by Mead as the "capacity to take the role of the other and to adopt alternative perspectives vis-a-vis oneself" (Mead, 1968); and by Hogan as the ability to take "the intellectual or imaginative apprehension of another's condition or state of mind" (Hogan, 1969). Reik (1949) describes four stages of the empathy process: (i) identification – projecting self into the other, (ii) incorporation – introjecting the other into self, (iii) reverberation – interplaying of own and other experience, and (iv) de-

tachment – withdrawal from subjective involvement and recourse to use of methods of reason. These stages may involve different Theory of Mind mechanisms, which may not be mutually exclusive: imitation, simulation and representation.

There is increasing evidence from neurosciences 'that the neural mechanisms implementing imitation are also used for other forms of human communication, such as language. Indeed, imaging data on warping of chimpanzee brains onto human brains indicate that the largest expansion between the two species is perisylvian. Functional similarities between the structure of actions and the structure of language as it unfolds during conversation reinforce this notion' (Iacoboni, 2005).

Empathy integrates reasoning and prediction of other and own intentions and actions both on planning and emotional level, which is again indicated by neuroscience: 'Additional data suggest also that empathy occurs via the minimal neural architecture for imitation interacting with regions of the brain relevant to emotion. All in all, we come to understand others via imitation, and imitation shares functional mechanisms with language and empathy.' (Iacoboni, 2005)

Davis (1994) distinguishes between cognitive and emotional (or emotive) empathy, which refers to empathy as attitude or taking the perspective of the other and empathy as emotional response to the emotions of the other, respectively. He also suggests a distinction between two types of emotional empathy: parallel empathy (PE) or empathy related to the other's feeling directed to a third person and reactive empathy (RE) or empathy to the other's feelings oriented towards it/her/himself (Davis, 1994).

Under stress people seek what Lazarus (1999) calls problem-focused and emotion-focused social support. Empathy is one of the resources available in the process of seeking and giving social support, whether it is predominantly emotional or predominantly problem-oriented. In this sense, empathy is a form of a coping strategy.

Data and Method

Empathy has been studied experimentally and theoretically, with short and long term perspectives (Stephan, 1999). Empathy is identified with interactive behavior such as empathic listening (Salem, 1982), openness, paraphrasing, and reflection (Fuslier, 1988). Heritage (2005) uses a conversation analysis method in his study of social

empathy interplay. Goodwin & Goodwin (1987) use ethno-methodology to study the realization of assessments in talk. Jefferson, Sacks & Schegloff (1987) examine the pursuit of intimacy.

In the present study we will use discourse and conversation analysis methodology in order to observe the relation between linguistic and discourse features and functions of empathy. Conversation analysis uses detailed study of specific and representative dialogue to isolate generalizable or not features and processes (Martinovski, 2006). Before conducting any meaningful statistical analysis and before modeling we need to understand the phenomena we are dealing with and one way to do that is through a sufficiently rich analysis, which will help us to extract the focal features, their function and organization (Martinovski, 2000).

The data types we used are:

- Friends' talk (Heritage, 2005).
- Talkbank Clinical data involve interactions between a healthcare provider and a patient: <http://xml.talkbank.org.:8888/talkbank/file/talkbank/Clinical/Holland/>.
- Role play of a negotiation in a battlefield clinic.

Analysis of Data

Allwood (1976) suggests that mental acts are directed at different kinds of objects of consciousness, which in our case are concepts such as intention, other, self etc. These objects may be accompanied by different attitudes or emotions, which can be reflected in the information structure of e.g. an utterance or in the voice or gesture. The background of these acts may consist of different degrees of Theory of Mind models of self and other. There can be different levels of consciousness, which can also be reflected in the linguistic realization of discourse, in the speech order, the tone, the gesture. Spoken language discourse is multimodal and thus invites realization on different levels of awareness or intentionality, which is reflected in Allwood's distinction between indication (when we convey information without intending to do so), display (when we intend to show something to somebody) and signal (when we signal that we are displaying something). These levels of consciousness can be traced in discourse (Edwards, 1997). Allwood distinguishes also between different types of agent of consciousness, namely individual or collective. In that sense, dialogue can be seen as a tool for collective thinking and focus.

Empathy is, in this context, a process of collective evaluation, appraisal and alignment. In interaction all the empathic stages and mental acts can be realized in sequence or simultaneously.

Elicitation, Giving and Acceptance of Empathy

The following example illustrates a successful 'empathic moment' (Heritage, 2005). The utilized transcription con-

ventions are: '[]' stands for overlapped speech; ':' stands for prolonged vowel; '=' stands for latching speech; '/' indicates pause; capital letters indicate emphatic speech; '+-' indicates cut-off; '()' stands for inaudible speech; '?' stands for rising intonation; '.' stands for falling intonation; ',' stands for continuing intonation. Each line in the transcription indicates an intonation unit; {0.9} stands for seconds of pause.

Example 1:

1. Joy: ye:-s I'm alright,
2. Les: oh: hh yi-m- you know I-I- I'm boiling about something hhhheh [1 heh hhhh]
3. Joy: [1 wha::t.]
4. Les: well that sa:le. {0.2} at- at . the vicarag {0.6}
5. Joy: oh ye[2 :s],
6. Les: [2 t] {0.6} u ih your friend 'n mi:ne wz the:re {0.2}
7. (): (h[3 h hh])
8. Les: [3 mmis] ter: R:,
9. Joy: (oh ye:s hheh) {0.4}
10. Les: and em: we really didn't have a lot'v cha:ng e that day becuz we'd been to bath 'n we'd been: christmas shoppin:g, {0.5} but we thought we'd better go along t'th'sale 'n do what we could, {0.2} we hadn't got a lot . of s:e- ready cash t'spe:nd. {0.3} t[4 hh]
11. Joy: [4 Mh].=
12. Les: =In any case we thought th'things were very expensive.
13. Joy: oh did you. {0.9}
14. Les: AND uh we were looking rou-nd the sta:lls 'n poking about 'n he came up t'me 'n be said Oh: hhello leslie, . still trying to buy something f'nothing,
15. Joy: PEG-> .hhhahhhhh! {0.8} oo[5 : : : LESLIE]
16. Les: PEE-> [5 oo:.ehh heh heh] {0.2}
17. Joy: PEG-> i:s [6 n 't he]
18. Les: REE-> [6 what] do you sa:y. {0.3}
19. Joy: PEG-> oh isn't he drea:dful.
20. Les: PEE-> eye:-:s: {0.6}
21. Joy: PEG-> what'n aw::f'l ma::[7::n]
22. Les: PEE-> [7 eh] heh-heh-heh
23. Joy: PEG-> oh:: honestly, I cannot stand the man it's \ just {no[8 :]}
24. Les: RPEE-> [8 I] bought well I'm gon' tell Joyce that,ehh[7 heh]=
25. Joy: [9 ()]=
26. Les: RPEE=[9 heh-heh he-e] uh: eh [10 eh hhhhh]
27. Joy: PEG-> =[10 O H : : : .] I do think he's dreadful
28. Les: PEE-> tch oh: dea-r
29. Joy: PEG-> oh: he r[11 eally i]:s,
30. Les: RPEE-> [11 he dra-]ih-he (.) took the win' out'v my sails c'mpletel(h)y .
31. Joy: REG-> I know the awkward thing is you've never got a ready a:n[12 swer have you. that's ri:ght,]
32. Les: REE-> [12 no: I thought'v lots'v ready a]nswers a:fterward[13 s],
33. Joy: REG-> [13 yes] that's ri::gh[14 t].

34. Les: RER-> [14 yes] .
 35. Joy: REG-> but you c'n never think of them at the
 ti:[15 me a: afterwards I always think. oh I should've said
 that. or I should've said thi]s.
 36. Les: RER-> [15 no:.no:. oh y e s e h- r i : g h t.] {0.7}
 37. Joy: REGE-> b[16 ut] I do:'nt think a'th'm at the ti:me
 38. Les: RERG-> [16 mm:]. ehh huh huh {0.8}
 39. Joy: oh:: g-oh 'n I think carol is going, t'the [17 meet-
 ing t'ni g h t,]

The empathy episode starts with an announcement of trouble on line 2. It is welcomed and elicited on line 3. This is followed by a narrative background on lines 4-13. Starting with an empathic narrative conjunction, turn 14 gives the punch line, which elicits empathy, both parallel and reactive, cognitive and emotional. Joy gives her rather emotional empathy on line 15 and Les implicitly accepts it on line 16. Then starts the separation of parallel and reactive empathy. On line 17, 19, 21, 23, 27, and 29 Joy gives a clear example of what is meant by parallel empathy i.e. she expresses a disapproval of the person by whom Les feels hurt in that way mirroring Les' dislike of this person's actions. These expressions of parallel empathy have also degrees; first it starts with a rhetorical question on lines 17 and 19, then the degree rises to clear assessments such as on line 21 and at last we have an assertive (e.g. 'honestly', 'I do think') and explicit formulations of subjective opinion, e.g. lines 23 and 27. Joy's parallel empathy is predictable and predicted by Les, in fact she motivates (line 24) her expression of a need of emotional support by pointing to Joy's disposition to the negative feelings they both share against mister R. At that point it is not even clear who gives the empathy, Joy or Les. On line 30 Les expresses her internal distress, which changes the character of the elicited empathy: on the next line 31 Joy performs a good example of the so called reactive empathy. This empathy type is realized here by the use of the generalizing pronoun 'you' and by a tag question followed by a confirmative assessment. The utterance functions as a display based on a representation of a personal simulation of what it is to be left speechless. The tag question is an elicitor of consent, which again turns the roles around: Joy is supposed to be the empathy giver but she often becomes the empathy elicitor as a form of empathy giving. Thus, being both the 'empathizer' and the 'empathee' is an important capacity in the process of informal discussion of social values and attitudes, all intertwined with associated and even negotiated emotions. On line 32 Joy exchanges the impersonal "you" with a reference to herself, which in a sense functions as voicing Les' internal discomfort and embarrassment for which she seeks empathy. This voicing is expressed as a quotation of internal dialogue. Thus Joy internalizes Les' inner state i.e. she displays reactive emotive empathy. On line 37 Joy has completely taken Les' internal position and talks about her own experiences of the same state of mind Les complains from. Les now functions both as a receiver and

a giver of empathy, the process has reached its climax and suddenly on line 39 Joy announces a completely new topic.

The empathy process in example 1 is fulfilled: there was elicitation, giving, and acceptance of empathy and there was also identification (e.g. line 31), incorporation (e.g. line 35), reverberation (e.g. line 37), and finally detachment (line 39). The verbalizations are at first more emotional and then become more cognitive as they turn to comparisons of experiences. In this empathy process both speakers verify, confirm, and reconfirm for each other the legitimacy of their experiences, values, and attitudes and in the processes they often mirror each other's verbal actions. The sudden change of topic at the end of example (1) and the repetitive turning of the roles in the process of empathizing suggest that the empathy process is rather ritualistic.

Rejecting Empathy

One may expect empathy to always be as successful as in example 1 but empathy is not always accepted which may be as much a source of trouble as lack of empathy. The next examples illustrate different ways of rejecting empathy (see also Martinovski et al., 2006).

Strategic rejection of cognitive empathy

In the following extract a military Captain has to convince the Doctor to move his clinic from the battlefield. The Captain (C) has introduced the request and now he has to deal with the reaction of the Doctor (D).

Example 2:

14. C: we have , we have [1 (xx)]
 15. D: [1 and WHERE] am i going to GO ?
 16. C: we have [2 definite+]
 17. D: [2 and HOW] am i going to GET there .
 18. C: i certainly understand your concerns sir , [3 but we have+]
 19. D: [3 all of a sudden] now you want me to MOVE , and now you're willing to give me HELP to move me out of here , when YOU wouldn't come here in the last year . // you understand the position i'm in .
 20. C: i do understand your position [4 sir ,]
 21. D: [4 i i]
 22. C: [5 but (xxx)]
 23. D: [5 i i have to get back .]
 24. C: [6 (xxxx)]
 25. D: [6 i have to get back to my patients .] I have to get back to my patients .
 26. C: [7 i understand that sir ,]
 27. D: [7 because I care] about my patients . all YOU care about is GIVING me more patients . / and i am NOT gonna gonna deal with this. if you want to send your commander back here , he can come in here , and he can take me by FORCE. and i will make SURE every camera see this . *now instead of* coming in and telling me to MOVE / MY PATIENTS out of here , WHY can't you

come in here to tell me that you're bringing me SUPPLIES . ANTIBIOTICS . BANDAGES .

In utterances 15, 17, and 19 the Doctor repeatedly takes the turn without waiting for the Captain to finish his turn; he verbalizes a list of issues and questions which need to be addressed and/or which make a decision difficult for him. At first, on line 14 and 16 the Captain tries to address the questions but in utterance 18 he signals understanding of the function of the questions without awaited answer as a call for display of empathy which he verbalizes in utterance 18. However, even this display of problem-focused (cognitive) empathy is ignored. In 19 the Doctor starts right after the Captain's continuous intonation and overlaps with the Captain's continuation. Does the Doctor react to the attempt to add a qualification ('but') or does he react to the expression of empathy? He might anticipate an argument and try to cancel it before it even starts. His utterance on line 19 expresses reasons to mistrust the Captain's empathy giving expressions by pointing to inconsistency of behavior. Also, in the same utterance the doctor himself elicits empathy by reformulating the Captain at the end of his utterance "you understand the position I'm in." This elicitation is more of a response to or a reception of the empathy given on 18 because it is formulated as a declarative sentence with falling intonation. It functions as an argument in the negotiation, as a motivation of reluctance to accept suggestion. In that sense it is a way of facilitating negotiation because it displays desire to be understood. Thus we may tend to believe that the overlap in utterance 19 is a reaction to the display of empathy rather than to the anticipation of an argument. On line 20 the Captain responds to the elicited cognitive empathy by repeating the elicitation expression of the Doctor and reformulating his own formulation in utterance 18. In this way, he attempts to create greater alignment of positions. However, he is again overlapped and in utterances 22, 23, 24, and 25 we have simultaneous speech: the Captain most probably continues his argument (this part not audible) whereas the Doctor signals desire to walk out from the negotiation in utterance 25 by repeating the same utterance twice, once as simultaneous speech and once after winning the turn. This rapid removal from the negotiation is met by the Captain with continued display of cognitive empathy, which is again completely overlapped by the doctor's expression of lack of trust and direct criticism in utterance 26. This last utterance is complex because it contains change of strategy and change of phase in the negotiation. The Doctor rejected empathy (utterances 15, 17, 19, 21, 23, 25, 27), motivated why (19, 27), displayed desire to walk out (25, 27), threatened with intentions to refuse cooperation and damage planned operation (27) and at last, starting with a topic initiating 'now' he stated conditions for further negotiation (27). In this sequence the rejection of empathy functions as a display of lack of trust, as a display of lack of

desire to be locked in a disadvantageous negotiation and as a bargaining method.

Antagonistic style of giving and rejecting empathy

Empathy can be rejected in a more explicit way. In the following example (4) we have an excerpt from a conversation between a patient (P) who suffered a stroke and a nurse (N). The patient has demonstrated anger especially before doing therapy, which he refuses to do. The patient suffers loss of memory, general discomfort, worry for his life, and quality of life. The nurse deals with the patient's uncooperative behavior. She intends to ensure the patient's cooperation with the medical personal in the future which she explicitly states in a few occasions during the long conversation. She has introduced the issue after an initial polite empathic chat and on line 65 below we see part of the patient's explanatory response.

Example 3:

65. P: mhm forget all about it because it don't make no difference. I mean it sounds silly to me and it don't matter what kind of methods I get anyhow.
66. N: you know what ?
67. P: hmm .
68. N: they do have a reason . but I have a feeling + .
69. P: I don't even want to know about it .
70. N: you don't even care, huh ?
71. P: uhuh no .
72. N: ok .
73. P: I got enough problems on my shoulders tonight. I try a little bit I got shoulders by / day by day shoulder to shoulder day . take it now I don't have time for that bull shit .
74. N: I think probably all they want to do is keep track of your improvement .
75. P: mhm honey who cares ?
76. N: well I know a couple people that care .

The nurse is faced with an angry avoidance and rejection of empathy. The rejection here is not realized with interruptions and cut-offs but it is verbalized as cut-off and explicit rejection (utterance 69 above), confirmations of rejections (71), imperative orders and swear words (73), and rhetorical questions (75) and ironic signals of elicitation of empathy (e.g. initial reference 'honey' preceding rhetorical question). The nurse is not offering emotional empathy and she is not giving cognitive empathy as the captain in example (2). She does not use any of the parallel or reactive empathy expressions we observed in example (1) above. Instead, she uses devices such as ritualistic questions (utterance 66 is an question which promises introduction of news or surprise, prepares the mind of the listeners to something unexpected or undesired but still true), guessing of mental state ('I have a feeling', 'you don't care', 'I think probably all they want...'), acceptance (utterance 72), personal formats and modal expres-

sions ('I think', 'I know'), mitigators or 'softeners' (such as 'probably', initial 'well', final feedback requests such as 'huh') and even rebuts (76). The initial 'well' in 76 is typically used preceding partial disagreement and qualification of statement, which has been provoked by other's utterance and/or understanding of an attitude. Thus the nurse's display of empathy is antagonistic which reflects her position as a caregiver: she needs to display empathy with the patient's state but also needs to display commitment to the patient's medical treatment. The patient's rejections of empathy are also antagonistic and at first seem to have no bargaining purpose. The patient displays lack of desire to negotiate but also lack of belief in sincerity and true care or at least lack of desire to display trust. In contrast to the previous negotiation where the doctor takes over control of the negotiation, here the patient rejects empathy as a rebuttal but does continue to engage in the conversation (the continuation is not displayed above) and does not interrupt the nurse, which contradicts his linguistic display of no desire to talk. In fact, this conversation continues for quite a while despite the explicit refusals, which suggests that the rejections of empathy do have some strategic value for the patient (which might be the reason why the nurse is reluctant to engage in a more emotive empathy episode).

Discussion and Conclusion

Empathy is described as a dynamic Theory of Mind process, in which cognitive, emotive and linguistic procedures and variables are mapped into each other. The observed realization of parallel and reactive empathy indicates that imitative, simulating and linguistically represented cognitive processes are occurring simultaneously in discourse. The dialogue functions as a tool for collective thinking, verification, and focus. This verification is of great importance for the development and the function of the individual in the social and discursive world. Empathy functions as a glue between interactants; it is a cognitive and communicative resource for inter-subjective alignment. Being able to take the role of the 'empathizer' and the 'empathete' is an essential characteristic of the empathic communication. Like any other communicative act, the act of empathy can be elicited (E), given (G), and received (R). The reception may be either acceptance or rejection. One may reject an act of giving of empathy or reject an act of elicitation of empathy. These functions of the empathy signs may be realized in phases and different degrees. For instance, a 'fulfilled' empathy episode starts with elicitation of empathy, continues with empathy giving followed by empathy receiving (see example 1). One and the same utterance can have all three functions at the same time: it could be an elicitation, an expression, and a response (e.g. line 35 in example 1). Multiple linguistic features realize it in particular sequences.

Elicitations of empathy are realized by narratives, 'walking out' moves, repetitive deontic declaratives, quot-

ing, exclamations, laughter, rhetorical questions with prolonged such as 'what do you say?'

Giving empathy, on the other hand, is realized by communicative acts such as answering questions, display of non-elicited empathy, repetitions of elicited empathy, ritualistic rhetorical questions, guessing of mental state, acceptance, rebuts. All these are realized with the help of discourse devices such as personal formulations of modal expressions, quoting, and mitigators or 'softeners'. In our data exclamations, extra-linguistic emotional expressions, rhetorical question, assertions, and assessments realize the displays of parallel empathy. Reactive empathy is verbalized in the material as voicing of other's mental states, comparing of inner experiences, and exchanges of generic and personal pronouns.

Rejection of given empathy is realized linguistically by discursive features such as refusal to release the turn, overlaps, interruptions, cut-offs, and simultaneous speech as well as by communicative acts such as explicit rejections, confirmations of rejections, rhetorical questions, imperative orders, irony, swearing, 'walking out' moves but also display of reception of given empathy followed by rejection.

We observe also sequences of features such as:

Rejection of empathy = final-initial overlaps + enumeration of questions -> contrastive narrative of other behavior -> topicalized declarative descriptions of other's actions (see example 2)

Rejection of empathy may be due to failed recognition of the rejector's needs and desires but it may also have strategic functions or it may be a combination of both.

There are also degrees for realization of empathy in e.g. giving of parallel empathy:

1st degree: rhetorical question (ex. Line 17, 19, ex. 1)

2nd degree: assessment (ex. Line 21, ex.1)

3rd degree: assertive with self-report (line 23, 27, ex. 1)

In the future, I would like to study further the possibility of developing an Integrated Theory of Mind, in which imitation, simulation and representation are simultaneously and/or non-exclusively functional in the dialogue processing of the homo sapiens sapiens brain. For that purpose, I intend to analyze more data, include non-verbal actions and explore further the mapping between Theory of Mind mechanisms and discourse patterns. One area of application (but also for verification) is to inform the formal modeling and simulation of human behavior in agent-based systems, where it would mediate agent interactions. Specifically, empathy and Theory of Mind modules could be incorporated within virtual humans, software agents that look like, act like and interact with humans within a virtual world (Rickel et al., 2002). Such incorporation will create a bridge between natural language/dialogue module

and task planning/emotion module (Gratch & Marsella, 2004; Mao & Gratch, 2004; Martinovski et al., 2005).

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References

- Allwood, J. (1996). Some comments on Wallace Chafe's "How Consciousness Shapes Language". *Pragmatics and Cognition*, 4(1).
- Chafe, W. (1994). *Discourse, Consciousness, and Time: The Flow and Displacement of Conscious Experience in Speaking and Writing*. Chicago: The University of Chicago Press.
- Davis, M.H. (1994). *Empathy: A social psychological approach*. Madison, WI: Brown and Benchmark.
- Edwards, D. (1997). *Discourse and Cognition*. London: SAGE Publications.
- Erikson, E.H. (1968). *Identity: youth and crisis*. New York: Norton.
- Eysenck, S. B. G. (1981). Impulsive and antisocial behavior in children. *Current Psychological Research*, Vol. 31-37.
- Fuslier, G. D. (1988). Hostage negotiation consultant: Emerging role for the clinical psychologist. *Professional Psychology: Research and Practice*, Vol. 19 175-179.
- Goodwin, C. and Goodwin, M. (1987). Concurrent operations on talk: notes on the interactive organization of assessments. *IPrA Papers in Pragmatics*, Vol. 1 No. 1 1-52.
- Gratch, J. and Marsella, S. (2004). A Domain-Independent Framework for Modeling Emotion. *Journal of Cognitive Systems Research*, 5(4), 269-306.
- Heritage, J. (2005) *Empathic Moments*. Talk at UCLA: California.
- Hogan, R.T. (1969). Development of an empathy scale. *Journal of Consulting Psychology*, Vol. 33 307-316.
- Iacoboni, M. (2005). Understanding others: imitation, language, empathy. In S. Hurley and N. Chater (Eds) *Perspectives on imitation: from cognitive neuroscience to social science*. Cambridge, MA: MIT Press.
- Jefferson, G., Sacks, H. and Schegloff, E. (1987). Notes on laughter in the pursuit of intimacy. In G. Button and J. R.E. Lee (Eds) *Talk and Social Organisation*. Clevedon, England: Multilingual Matters 152-205.
- Lazarus, R. (1999). *Stress and Emotion*. New York: Springer Publishing Company, Inc.
- Mao, W. and J. Gratch (2004). Social Judgment in Multi-agent Interactions. *Proceedings of the Third International Joint Conference on Autonomous Agents and Multiagent Systems*.
- Martinovski, B. (2000). *Repetitions and reformulations in court proceedings – a comparison of Sweden and Bulgaria*. Gothenburg Monographs in Linguistics. Department of Linguistics. Goteborg University, Goteborg.
- Martinovski, B., Mao, W., Gratch, J., and S. Marsella. (2005). An Integrated Theory of Mitigation. *Proceedings of Cog Sci 2005*, Stresa, Italy.
- Martinovski, B. (2006). Emotion, Language and Negotiation. *Proceedings of GDN 2006*, Karlsruhe, Germany.
- Martinovski, B., Traum, D. and S. Marsella. Rejection of Empathy in Negotiation. *Journal of Group Decision and Negotiation*. New York: Springer Publishing. (forthcoming).
- Mead, G.H. (1993). *Mind, self, and society*. Chicago: University of Chicago Press.
- Reik, T. (1949). *Listening with the third ear: The inner experience of the psychoanalyst*. New York: Grove.
- Rickel, S. Marsella, J. Gratch, R. Hill, D. Traum, and W. Swartout. (2002). Toward a New Generation of Virtual Humans for Interactive Experiences. *IEEE Intelligent Systems*, 17(4), 32-38.
- Stephan, W.G. (1999). The Role of Empathy in Improving Intergroup Relations. *Journal of Social Issues*, Winter.
- Salem, R. (1982). Community dispute resolution through outside intervention. *Peace and Change Journal*, Vol. VIII No. 2/3.