COMPUTER-MEDIATED COMMUNICATION AND SCHOLARLY DISCOURSE: FORMS OF TOPIC-INITIATION AND THEMATIC DEVELOPMENT

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1. Introduction

E-mail communication has attracted increasing interest not only in news media but also in the academic world during the last years, because it enables persons who live in different areas of the world to communicate quickly and easily. The increasing use of e-mail has been accompanied by investigations of various aspects of computer mediated communication (CMC) including organizational, social psychological, and cultural aspects and impacts of CMC (cf. Lea (ed), 1992; Garton/ Wellman 1995; Shields 1996; Jones 1995). In many of them, only single aspects of language use like the different interactive modes in multi-user-dungeons (MUDs), chat-rooms etc. (cf. Reid 1994; Baym 1995; Ruedenberg/ Danet/ Rosenbaum-Tamari 1995) come into the focus of attention. Others concentrate on specific textual features like "quoting" (Uhlirova 1994; DuBartell 1995), action sequences which are compared to face-to-face interaction processes (Ekhlund 1986), or on "improper behavior" like flaming (Lea et al. 1992). There are also investigations which show, that CMC as a whole can be viewed as a distinct variety (at least in its English "variety"), which is different from written as well as from spoken forms of English (Yates 1996; Collot/ Bellmore 1996; Gruber 1997a).

In this paper I report the results of a study in which I investigated different characteristics of language use of scholarly e-mail discussion lists. In order to do this I have to narrow the focus of my investigation and to define which kind of CMC I am dealing with. Korenman/ Wyatt (1996) list three interactional features of academic discussion lists, namely that communication is conducted electronically, sequentially, and asynchronously (Korenman/ Wyatt 1996: 227). However, these features seem not to be specific enough to distinguish academic discussion lists from other asynchronous forms of CMC. One important additional feature is, that discussions on academic lists are topically restricted, i.e. there are clear thematic restrictions what might constitute a discussion topic and what not. Another important characteristic (of all Internet discussion groups) is the many-to-many communicative mode, i.e. the fact that every message is simultaneously sent to every list subscriber. In order to become a subscriber of a discussion list a person has to send a "subscribe"-command to a certain e-mail (listserv) address. From this time on he/ she will receive all items which are distributed by the list. In linguistics, discussion lists exist for different linguistic subfields as well as for the whole area of linguistics (cf. below). According to an own informal survey the possibility of discussing theoretical and/ or methodological problems in certain linguistic subfields is the main advantage

subscribers attribute to these lists (about 40% of responses, cf. Gruber 1997a). Subscribers may remain "overhearers" of an ongoing discussions, or they may actively participate in them as well as launch topics of their own.

But there are two crucial differences between face-to-face conversations and e-mail discussions: (1) the communicative situation which is referred to by the metaphor "e-mail discussion" might be more accurately compared to the situation of a group of persons who are sitting in a dark cave: Anybody knows that there are some others and that they might (but must not) respond to one's own utterance. The achievement which participants have to accomplish is to formulate an utterance which conforms to a norm which is never discussed overtly. And the risk one runs if he/ she does not conform to this norm is simply to get no response and to be excluded from the discussion. Thus, list-subscribers have to decide collectively which contribution is relevant in the context of a certain discussion (list), and contributors who want to deliver a relevant contribution have to anticipate which message will be regarded relevant by the others. (2) Whereas in face-to-face conversations in most cases one speaker talks after the other (cf. Sacks/ Schegloff/ Jefferson 1974) and one turn refers only to a single previous one (cf. Markova 1990), in e-mail discussions different contributors may post messages which refer back to multiple previous ones, thus creating no linear sequence of interaction but rather a web of interrelated texts. Therefore, two questions will be addressed in the remainder of this paper:

- (1) How do successfully topic initiating posting differ from non successful postings?
- (2) How are thematic relationships between messages established and maintained in e-mail discussions?

2. Database and methodology

The database of my study comes from two linguistic discussion lists, the LINGUIST list and the ETHNO list. Apart from my personal interest especially in the discussions of the ETHNO list, methodological reasons are responsible for this choice.

The LINGUIST list is one of the oldest discussion lists in the area of linguistics and has several thousand subscribers. Discussion topics are not restricted to a special subfield but cover all areas of linguistics. The most relevant characteristic of the LINGUIST list in the context of this paper is the fact that it is a moderated list, i.e. all submitted messages are not automatically sent to all subscribers but are scanned by two moderators and grouped into various categories (e.g. "questions", "discussions", "jobs", "calls", "ToCs" etc.). This has various positive and negative consequences: (1) no offending messages ("flaming") are distributed and totally irrelevant contributions are rejected, (2) list subscribers are enabled to preselect messages and to filter out those which they are not interested in. Apart from these advantages, disadvantages also arise from the moderation, namely: (3) the preview and preselection of messages results in a delayed distribution of contributions, and (4) the grouped and "packed" distribution of messages (esp. in the "questions" and "discussions" categories) causes very long subject lines (thematic threads) which are often cut off, if they are displayed on an average computer screen. This means that subscribers have to open all messages of a certain content category if they are interested in specific contributions.

In contrast, the ETHNO list is not moderated. This means that all incoming messages

are directly delivered to all subscribers of the list. Thus, all advantages and disadvantages of moderation are missing, but I should stress that there are almost no personal arguments among subscribers either. Thematically, the ETHNO list is restricted to discussions and questions concerning ethnomethodology and conversation analysis. Conference announcements and calls for papers appear very rarely, and there are no job announcements.

Three discussions in these two lists were systematically investigated on the textual and intertextual level and provided the main empirical basis of my study. They took place during the time between July - October 1995. Two of them were conducted on the LINGUIST list (total: 49 messages; discussion 1 ("language & sex"): 16 contributions, discussion 2 ("language & dialect"): 33 contributions), one on the ETHNO list ("OJ-Simpson debate": 31 messages).

A multi method approach was used to analyse the data at different levels. On the macro level descriptive statistical procedures were applied in order to provide a global characterization of the three discussions and to investigate differences between the two lists. On the micro level a qualitative, discourse analytic approach was chosen to account for these differences.

3. Results

3.1. *Quantitative results*

In the first step I looked at how many messages discussants contributed to a discussion and how often others referred to their messages. These counts provide a first impression about (1) the activity of single contributors and (2) the relevance of their contributions as perceived by others. Table 1 shows the results of this analysis. "Communicative density" refers to the number of contributions a single discussant posted in a discussion, "referential density" refers to the number of references made to single contributors. The left-most column states the absolute number of contributions (and references to contributions respectively) single discussants posted in the respective discussion, the other columns show the (absolute and relative) counts of discussants who posted the respective number of contributions (or reactions)¹.

The results show that in each discussion one or two discussants dominate in the sense that they contribute far more messages than the others². In the first LINGUIST discussion

¹ E.g. line 2 for LINGUIST-discussion 1 is to be interpreted in the following way: There were 3 discussants who contributed 1 message each to this discussion (which is 18,75% of all contributions to this discussion) and there was one contributor who received only one reference (which is 16,6% of all references in this discussion).

² I did not break down the results by gender of participants, because the number of female participants in each discussion was too small to allow generalisations (from 6 participants in LINGUIST-discussion 1 only one was female; from 21 participants in LINGUIST-discussion 2 although only 1 was female (in three cases no definite decision about gender of the contributor was possible); in the ETHNO-discussion three from fourteen participants were female. Thus, the results presented here may reflect a male bias (cf. section 4).

two contributors provided together more than 68 percent of the overall contributions, and in the ETHNO-discussion one discussant sent approximately one third of all postings. The second LINGUIST-discussion shows a more balanced distribution: More than 40 percent of the contributions came from different contributors who sent only one message, but even here two discussants contributed more than one third of the messages. This shows at a very superficial level of analysis, that all the discussions under investigation seem to be dominated by single discussants.

The second measure, referential density shows how many references are made to discussants. Here we see that in the LINGUIST-discussion 2 more than half of the contributors are not responded to at all, whereas no discussant in LINGUIST discussion 1 and only two discussants in the ETHNO discussion are not responded to³. The results of these two discussions (LINGUIST 1, ETHNO) shows that here referential density is rather high, most of the contributors obtain more than one (and up to 10) responses.

Communicative and referential density can also be used to obtain a combined measure for each discussant, namely the difference between communicative and referential density. It expresses the "reciprocity" of the discussion, i.e. the relation between a discussant's discursive activity and the impact he/ she has, measured in terms of references made to his/her contributions. A value of "0" means that a discussant produces as many contributions as he/ she receives references, this can be coined a "balanced" relation between communicative and referential density. If a discussion is characterized by a high amount of speakers with 0 counts in this measure, it can be called a reciprocal (or balanced) discussion. If a discussant has a negative value on this measure, this means that he/ she contributes relatively few messages to a discussion, but these have a high relevance for the other contributors. The reverse case (i.e. a discussant reaches a positive value) means, that a contributor sends a lot of messages which receive not much attention by the others. Table 2 provides an overview of the reciprocity counts of the three discussion. Numbers in brackets show the counts if we apply a somewhat "looser" reciprocity criterion and include values of +1 and -1 in the Zero-category.

The analysis of the three discussions under consideration shows that only the ETHNO-discussion can be called "reciprocal" in the defined sense, i.e. most of the discussants receive as many references as they contribute messages to the discussion (the appendix shows the frequency counts for all three discussions), the loose criterion reinforces this impression. Although one discussant contributed nearly one third of the messages of this discussion he also received about one third of all the responses which occurred in this discussion.

³ One factor which might influence answering behaviour, and thus referential density, is the chronological order in which contributors receive responses to single postings. I.e. it is feasible that, due to different network connections, reactive postings with similar content may be received in a different chronological order by different subscribers. In this case the probability that responses are made only to the first of a sequence of similar postings is rather high and thus referential density might be influenced by network connections and not by the textual features outlined below (I owe this argumentation to Gertraud Benke).

	Linguist List: Disc. 1 (n of contributors: 6)				Linguist List: Disc 2 (n of contributors: 21)				Ethno List: Disc 1 (n of contributors: 14)			
	Comm. Density		Ref. Density		Comm. Density		Ref. Density		Comm. Density		Ref. Density	
absolute number of contributions/responses*)	f.	r. f.**)	f	r. f.***)	f.	r. f.**)	f.	r. f.***)	f.	r. f.**)	f.	r. f.***)
0	0		0		0		11	52.8%	0		2	14.28%
1	3	18.75%	1	16.6%	14	42.42%	1	4.76%	7	22.58%	3	21.43%
2	1	12.5%	1	16.6%	5	30.30%	4	19.0%	4	25.8%	5	35.71%
3	0		3	50.0%	0		2	9.52%	2	19.35%	3	21.43%
4	0		1	16.6%	1	12.12%	0		0		0	
5	1	31.25%	0		1	15.15%	1	4.76%	0		0	
6	1	37.5%	0		0				0		0	
10	0		0		0		1	4.76%	1	32.32%	1	7.14%
total	16	100.00%	6	100.00%	33	100.00%	20	100.00%	31	100.00%	14	100.00%

Table 1: Communicative and referential density in the 3 discussions

*) made by single contributors **) based on n of contributions ***) based on n of contributors

"Communicative density" = number of contributions a single discussant posted in a discussion

"referential density" = number of references made to a contributor

f. = frequency

r.f. = relative frequency

	n of contributors with negative reciprocity count	n of contributors with reciprocity count "0"	n of contributors with positive reciprocity count
LINGUIST Disc. 1	3 (2)	1 (2)	2
LINGUIST Disc. 2	4 (3)	3 (14)	13 (3)
ETHNO Discussion	3 (1)	8 (13)	3 (1)

Table 2: Reciprocity count/ discussion (between brackets: "loose" reciprocity count)

In contrast, both LINGUIST discussions show an unbalanced relation between communicative and referential density, both in the positive and in the negative direction. In LINGUIST discussion 1 it turns out, that both contributors with the highest communicative density have rather high positive reciprocity counts, which means that the other discussants do not refer to their contributions very often. On the other hand, there are two discussants with rather high negative reciprocity counts: They contributed only one or two messages respectively which were nonetheless highly relevant for the others. The negative reciprocity count suggests that these two contributors seemed not to be very interested in the discussion at all because they did not further participate. The loose criterion flattens this results but also shows that the whole discussion cannot be called "reciprocal".

In LINGUIST discussion 2 we find a surplus of contributors with rather high negative reciprocity counts together with a high amount of discussants who contributed only one message which was never responded to. This means that there are a few rather active participants who produce some contributions which are responded to by a lot of others, but that these active participants do not react to their responders in turn. In this case the "loose" reciprocity criterion distorts the results because if it is applied, all those contributors who sent only one message but did not receive any answer are included in the "reciprocal" category and thus create the impression of a rather balanced discussion. Therefore, it seems to be sensible to apply the loose reciprocal criterion only in those cases, where contributors posted more than one message in a discussion (or to abandon the loose criterion at all).

Generally, it can be said that both LINGUIST discussions do not show the characteristics of a discussion in the ordinary sense of the word but rather of a staged exchange of some central persons who are responded to by an audience who has only a marginal role.

A subtler quantitative analysis is possible if references between single contributions are investigated. This is especially interesting in respect to the qualitative analysis where linguistic properties of messages shall be investigated which might be responsible for their success or lack of success in introducing a topic or receiving a reaction. Table 3 shows the results of the quantitative analysis on the message level.

The two measures which were used here are "active" and "passive" reference. The number of *active references* of a message is the number of references it *makes to previous contributions*, the number of *passive references* is the number of references a certain contribution *causes in subsequent ones*. Once again the left-most column shows the absolute numbers of active or passive references which occurred in the data, the following columns display absolute and relative frequencies of the respective measures in the three discussions.

Comparing the three discussions we find again interesting differences: More than half of the contributions of both LINGUIST discussions did not receive any passive references, i.e. they were "dead ends" of the discussions (remember also the high amount of contributors who received no response in the second LINGUIST discussion, cf. above). In contrast, not even 25% of the ETHNO contributions did not cause a passive reference, this means that discussants in the ETHNO list seemed to produce contributions which were generally of higher relevance for their co-discussants.

Differences between the lists can also be found with those contributions which cause references (i.e. those contributions which have a passive reference count > 0). Whereas two thirds of the contributions in the ETHNO list caused 1 or 2 passive references only 30-40% in the two LINGUIST discussions showed a similar pattern of reference.

The relative low density of reference between contributions in the LINGUIST list can also be found with the active references. Almost three quarters of the messages in the LINGUIST discussions refer to only one previous messages which is true for only two thirds of the ETHNO contributions. On the other hand, 20% of the ETHNO messages refer to even more than two previous contributions. Thus, reference structure of the ETHNO messages shows that contributors in the ETHNO list make more and extended use of the possibility of multiple back reference which is provided by the medium (cf. below).

In general, the quantitative analysis reveals some interesting first results: In all three discussions under investigation "dominant discussants" could be identified, who contributed far more messages than others. In oral communication this finding would be an indicator that these persons try to control the interaction, especially the flow and development of topic. But this is only partly true for e-mail communication, because in this communicative genre "floor" is no scarce resource and anybody can contribute as much as he/ she wants. The crucial point for topic initiation and control in e-mail discussions is rather to formulate a message which causes many responses by others and thus influences the further flow of communication. Therefore passive references and reciprocity of interaction become crucial concepts of analysis.

ETHNO discussions are characterized by a high degree of reciprocity, i.e. a balanced relation between discursive activity of single discussants and the attention they receive from others. This parallels the interaction in this list to spoken discourse among equals (cf. Ng/ Bradac, 1993; Ng/ Brooke/ Dunne, 1995). At the same time, on the message level, ETHNO discussants seem to make more use of the special discursive features which are provided by the medium, i.e. multiple reference to previous messages.

	Linguist-List, Disc. 1				Linguist-List, Disc. 2				Ethno-List			
	passive ref./ message		active ref./ message		passive ref./ message		active ref./ message		passive ref./ message		active ref./ message	
absolute number of references*)	f.	r.f.	f.	r.f.	f.	r.f.	f.	r.f.	f.	r.f.	f.	r.f.
0	9	52.94%	2	11.76%	18	52.94%	1	2.94%	7	23.33%	2	6.67%
1	2	11.76%	12	70.59%	5	14.71%	25	73.53%	10	33.33%	20	66.67%
2	5	29.41%	3	17.65%	6	17.65%	8	23.53%	10	33.33%	6	20.00%
3	1	5.88%			4	11.76%			2	6.67%	1	3.33%
4					1	2.94%			1	3.33%	0	0.00%
5											1	3.33%
total	17	100.00%	17	100.00 %	34	100.00%	34	100.00%	30	100.00%	30	100.00%

Table 3: n of passive and active references/ message

*) made in single contributions

f. = absolute frequency

"active references" = number of references a message makes to previous contributions

r.f. = relative frequency

"passive references" = number of references which are made to a certain contribution

On the other hand, LINGUIST discussions show a rather unbalanced relation between discussants with some very active, central persons who do not receive much attention by other contributors, and "bystanders" who contribute very few, but in some cases extremely relevant messages. On the message level, LINGUIST contributions functionally resemble turns in oral communication which in many cases refer to only one previous turn. Thus, contributors of both lists seem to make different use of the medium. The qualitative section should bring more clarity into this picture.

3.2. *Qualitative analysis*

The results of the quantitative analysis provided the basis for the next step of a discourse analytic investigation of single messages in order to find linguistic indicators for the following kinds of contributions:

- initiating messages which successfully stimulate a new discussion
- initiating messages which fail to stimulate further discussion

3.2.1. *Topic initiation*

Many new topics in e-mail discussions do not start out of the blue but emerge from previous discussions. Nonetheless they are introduced by specific linguistic devices and are marked by the use of a new thematic thread (i.e. a "header") of the initiating message which sets them off against the previous topic.

3.2.1.1. Successful topic initiation

The following two examples are typical instances of successful topic initiating messages (to anonymize the contributions I follow a proposal of Herring (1996b) and do not quote the names of the authors of the messages I analyse, but use acronyms. However, I quote the exact date and discussion list, where the contributions were posted).

(1)

"In the continuing discussion of pronouns, I'm making a summary and a shift. The shift is spurred by the necessity to widen the orbit from pronouns to "sex and language", perhaps an inevitable transition.... I have three questions, each of which I provide some of my own views about

1) What are some of the parameters of and who (authors) do you look to for your idea that all history has been male dominated? (I personally resent this characterization.)....

2) Where does your concept of linguistic markedness come from, and on what basis do you establish a cause-effect relationship between patriarchy and markedness in pronouns?...

3) Finally, you propose that in all past history they've had "no concept of sex equality". There is an inherent chronocentrism (my term) in your indictment, but, notwithstanding, I'm somewhat sure you're talking about "rights" . "Rights", equal or otherwise, is a modern concept that is often muddled and sometimes useless if one considers, as I do, that the more important ends of life are happiness, inner peace, and freedom from fear --
 what good are abstract rights if one is miserable all the time?..."
 Thu, 03 Aug 1995, AL1, LINGUIST-List, disc. 1)

In (1) the author explicitly announces the end of the previous discussion ("I'm making a summary") and the beginning of new one ("<I'm making> a shift"). The necessity of introducing a new topic is justified by reference to the ongoing discussion ("to widen the orbit from pronouns to "sex and language"). Additionally, in his posting he reacts to a (private) e-mail he had been sent by the second "main contributor" of this discussion. He quotes parts for this message (cf. below) and uses the quotes as a starting point of his own considerations on the topic which culminate in the three questions cited above.

Presenting questions is a typical initiating move in e-mail discussions. Following the terminology of Ochs-Keenan/ Schieffelin (1976), I call them "questions of immediate concern". Although Ochs-Keenan/ Schieffelin state that formulating explicit questions to introduce a new topic is rather untypical in adult discourse, it turned out that explicit (and implicit) questions were the main device to introduce a new topic in e-mail discussions. This might be due to the specific communicative situation of e-mail discourse where communicators formulate messages (moves) for an audience they do not know, and, additionally, whose attention and interest they cannot take for granted (cf. above). Questioning seems to be an appropriate means to start a discussion because by asking a question a conversationalist (1) defines a thematic scope for the ongoing talk (in this sense the "questions of immediate concern" also express the points of view of the author which perspectives on a topic he/ she perceives as relevant, cf. below), and (2) establishes a conditional relevance (Levinson, 1984; i.e. an obligation for the addressees) for providing an answer. Thus, questioning is a stronger device for topic introduction than other possible moves. In contrast to oral communication, the questions of immediate concern, if successful, are not immediately answered by others, but their relevance is questioned in follow-up postings in many cases (cf. 2, below). Therefore, the constitution of a new topic takes some of the first moves in a beginning discussion and is an interactional accomplishment rather than the undertaking of a single contributor.

(2)

"...What is relevant is (a) the linguistic fact that languages that make any kind of gender or sex distinction in pronouns or verb forms or anything else, as a rule use the male or masculine forms as unmarked forms for persons of either or unknown gender in some constructions (which may differ from language to language in detail), and (b) the anthropological fact that all or nearly all human societies make social distinctions based on sex which go beyond reproduction, breast-feeding, and the like, and (c) the further anthropological fact that the male roles/activities are routinely PERCEIVED

as somehow superior, dominant, better, normative, whatever (regardless of whether they really ARE, which is a completely different issue).

SO what it all boils down to, again, is that I maintain that it makes no sense whatever to discuss the origin of the epicene he phenomenon in the context of the story of English prescriptive grammar, but only in the context of the way in which perceptions of sex roles have informed the structure of language (as of any other institution)."

CL1 (full name, H.G.) (LINGUIST disc. 1, Thu, 10 Aug 1995)

In this second posting (of which (2) presents the end) of the new discussion on "sex and language" CL1 (the author of the private e-mail which AL1 refers to in his initiating posting) comments on AL1's "questions of immediate concern" and restates those issues which are of interest for him in the context of this discussion. Note two important and typical features of this message:

(1) In line 1 CL1 invokes the "relevance" of questions (or statements) in relation to the general topic of discussion. This is a common rhetorical device at the beginning of e-mail discussions: Discussants interactively and explicitly decide which questions are relevant in the context of a certain topic (or a certain list) and which are not. In doing so they narrow the scope of the topic and focus the discussion only on certain aspects. This introductory phase of explicitly "setting" the topic, which would be rather unusual in informal face-to-face interactions might be due to two factors: (1) scholarly e-mail discussions are no mere "chit-chat" (although sometimes they seem to be), and it is a continuing concern of many lists to prevent subscribers from exchanging after-conference-chat etc. publicly on the lists; (2) the medium (resp. the communicative setting) requires that discussion topics are set up explicitly at the beginning of discussions to prevent discussions from becoming a series of digressions rather than a focussed exchange.

(2) The second characteristic of (2) concerns structure: Similar to (1) the text is highly rhetorical. In both extracts the point of view of the author (whether it is presented in the form of "questions of immediate concern" as in (1) or as statements as in (2) is positioned at the end of the message and presented as the result of the preceding sections. In (2) the author reformulates his considerations about which issues are relevant in the context of the emerging topic in the last paragraph, thus presenting an "elaborated" and a "short" version of the "relevant" thematic features, both introduced by metacommunicative statements ("What is relevant ..."; "So what it all boils down to is ..."). This textual structure could only be found in the beginning phase of e-mail discussions when contesting "questions of immediate concern" or accounts of "relevant topic treatment" were presented. It seems to indicate an interest of the authors to make their point of view as clear as possible and to "succeed" in the contest of differing approaches to the topic.

(3)

"The Filipino discussion was interesting, but even more interesting to me was the discussion of the English word "dialect".... My point is -- and I invite corrections if I'm wrong -- that at least the downgrading implicit in the term "dialect" as opposed to "language" started with an opposition between "written" and "unwritten"....

In most languages of the world, AND HERE'S A TOPIC FOR DISCUSSION, there is no lexical opposition of the type "language:dialect"....(Wed, 13 Sep 1995, AL2, LINGUIST-List, disc. 2)

(3) represents a "softer" form of topic introduction. Again the author begins his message with a metacommunicative, evaluating remark about the previous discussion ("The Filipino discussion was interesting ...") without explicitly announcing a topic shift. Rather he marks one subtopic as "even more interesting", thus, indirectly announcing (or proposing) a new topic for discussion. In the remainder of his message he does not posit explicit questions, but marks two of his assumptions as possible points of departure for a new discussion by means of metacommunicative remarks. In any event, both of these remarks can be viewed as paraphrased questions: In the first case ("my point is -- and I invite corrections if I'm wrong -- ...") he explicitly expresses uncertainty about the correctness of his assumption which could also be expressed by a tag question. In the second case ("AND HERE'S A TOPIC FOR DISCUSSION") he inserts an explicit invitation for discussion into an assertive clause. The use of upper-case letters underscores the relevance the author attributes to the discussion of his claim. Again, this explicit invitation for discussion may be due to the communicative situation of e-mail discussions. Speakers who want to initiate a new discussion have to make sure, that (1) (at least) some others recognize their attempt to start a new discussion and (2) present the proposal in a way which makes it relevant for others to react to their initiating posting.

In general, topic initiating postings show the three partite interactive schema which Herring (1996c) found for e-mail postings. But in initiating postings contributors put their main emphasis on the third part of the schema, i.e. the "appeal to other participants" (Herring, 1996c: 91). This is a consequence of the sequential position of these postings: As they explicitly aim at initiating a new discussion which is distinctive from a previous one, they aim at receiving as much passive references (i.e. relevance for reaction) as possible. Examples 1 and 3 show, that relevance for reaction can be established on two planes of communication: On the interactive plane it may be established by the use of questions and other explicitly reaction-demanding speech acts, on the thematic plane it may be established by providing interesting and relevant material for further discussion.

3.2.1.2. Unsuccessful topic initiation

I am now in a position to contrast successful topic initiating postings with those which did not stimulate further discussion although their authors aimed at discussing a new topic. Interestingly, during the time under consideration, only a few postings of this kind could be found. But these differ significantly from the successful postings and thus help to further clarify the properties which successfully initiating posting must have.

(4)

...The orthography of the Latin written variant was phonetical up to now, but now it is morphological, as to differ from still phonetical "Serbian" orthography, the difference only in alphabet being considered unsatisfactory. But as the people is used to the phonetical orthography, there is now the change in the pronunciation in order to fit the spoken word to ist new

spelling. All these changes, are now taking place very rapidly thanks mostly to the television and the press.

I should very much like to see a comment from an academically trained linguist on these, and since the rate of these changes is so great, to see these commented or discussed from time to time. (NL2, Mon, 02 Oct, LINGUIST, disc 2)

(4) represents the end of a rather long posting (approx. 1 page in print) which refers to a previous message from the "dominant contributor" of LINGUIST discussion 2. In his posting the author gives a detailed account of the linguistic situation in former Yugoslavia (especially of Serbian and Croat) before, during and after the war of the last years. He closes his posting with an explicit invitation for discussion. In this respect his posting parallels the previously analysed ones (esp. (2)). However, this message did not cause any reaction. This unsuccessfulness might be caused by the linguistic presentation of the topic.

The whole message is formulated in positive polarity, on no occasion does the author express any doubt about his position nor does he invite any counter positions, corrections etc. In short, there is no modalisation (Halliday 1994) of his point of view at all. He presents his account as if he would present anything which could be said about the topic and in fact the invitation for discussion at the end of the contribution appears to be somehow misplaced.

Thus, this form of presentation seems to have two consequences: (1) the author does not mark any possible points of discussion in his posting. Therefore, any proposition in his lengthy posting could be questioned in follow-up contributions, but this would cause a rather long phase of topic constitution. If we take into account the non-linearity of e-mail discussions, i.e. that in principle any list subscriber could react to this posting and adopt a different proposition of this message as a new (sub-) topic this might result in the creation of a variety of thematic threads which are only partly related to each other leading to anything but surely not to a new consistent discussion. (2) disagreeing⁴ with an unmodalized positive account is much more face threatening (Brown/ Levinson 1987) for the author of the original posting than agreeing with an expressed doubt and providing further arguments or evidence for a counter position which the author of the original posting him/ herself had invited. Thus, prospective discussants might be reluctant to disagree with a posting which is presented in unmodalised positive polarity because they might be afraid of offending the author.

(5) provides another example for an unsuccessful topic initiating message:

(5):

Dear subscribers:

To help in discussing "sex and language", I would like some feedback on were

(if anyplace at all) we should impose limits on words and ideas -- ie, impose

on ourselves benign self-censorship. That talking "about" taboo words and ideas is different from using them in their colloquial variations is a simple

⁴ which is the most productive reactive move in e-mail discussions (cf. Gruber 1997b)

distinction. *I have always felt that academia has been dishonest for lack of forthrightness in dealing with socio/psycho/sexual matters. Are there any topics that we can not talk about, and because we can not talk about them, you are unable to say what they are?*

Should, for example "jerk" or "female" be excluded because some of us might be offended, others potentially tittilated, by the ultimate body part references in their historical etymologies? *Please help, what are the limits of language in this forum in the discussion of "sex and language". What do you think should be and not be off limits?* What part does political correctness play? (Sat, 12 Aug 1995, LINGUIST, AL1, disc.1, emphases added)

(5) seems to be in heavy contrast with (4) at first sight, because it is full of markers of insecurity (cf. the passages in italics). However, this posting did not cause any reactions too. In this case the author presents the initiation of a new topic as a personal demand rather than a change which is caused by factual necessity of the topic under discussion. The whole message abounds with expressions of personal needs and interests ("Please help", "I would like some feedback" etc.). Contrary to the previous example the author of this posting does not present an account which is too assertive but he seems to impose on his audience to satisfy his personal interests. Thus, the aggravated invitation which he expresses in his contribution threatens the negative face of his audience insofar as they might feel forced to answer to his posting.

We are now in a position to summarize those features which are responsible for successful topic initiation: Successfully topic initiating contributions present a set of assumptions/ arguments with explicitly marked points which might serve as topics for further discussion. Questioning and other modalizing expressions (i.e. expressions of uncertainty, reduced factuality etc.) are the main marking devices for these points. Additionally, the introduction of a new topic (or a major topic change) has to be presented as being caused by some relevant problem which is topic-inherent and not as a personal demand or interest of the author.

3.2.2. *Continuing a topic*

Once a new discussion topic has been established, any list subscriber may join a discussion. Whereas in initiating contributions authors do not make any reference to previous postings or clearly mark the boundary between summarizations or references to a previous discussion and the introduction of a new topic, reactive contributions refer to one (or more) previous postings. Reactive postings show the canonical structure of e-mail postings Herring (1996c) describes:

- “1. link to an earlier message
2. expression of views
3. appeal to other participants” (Herring 1996c: 91)

where positions 1 and 2 can occur several times within one posting (i.e. one message can

refer to several previous ones). In this paper I want to concentrate on the different variants in which position 1 was realized in the postings of the three discussions. Reference to previous messages is facilitated by most e-mail software which allows to include and edit the message one is responding to. This practice of "quoting" is often viewed as the only way in which e-mail users refer to earlier contributions (cf. Wetzstein 1995; DuBartell 1995). However, this is not true for the discussion lists under consideration.

3.2.2.1. Direct quoting

(6):

```
"On the language/dialect discussion, AL2 (full name, H.G.) says:
> Date: Thu, 28 Sep 1995 16:35:00 PDT
> From: AL2 (login name, H.G.)
> Subject: Disc 2 (original thread name, H.G.).more
>
> might want to respond. I am particularly interested in corrections and
> additions to what I say about "Spanish", "castellano" and "Gallego"
below.
> ...
> A final thought on the above problem is that some people will
> argue on the basis of the standard that, say, there is no
> continuum between Spanish and Portuguese because "Spanish" means
> standard Spanish, also known by the "dialectal" name castellano,
> and Gallego, the Galician transition between Northern "Spanish"
> and Northern "Portuguese" is a separate language, not Spanish.
^^^^^^^^^^
```

This is indeed an awkward formulation. It presupposes, by negation, that Galician could be considered a dialect of *Spanish*. The use of the Spanish name "Gallego" for it, instead of the native Portuguese term "Galego" or either of the English translations Galician/Gallegan (both, by the way, derived from Spanish "Galicia" and "gallego") reflects a dubiously informed view about the nature of the native dialects of Galiza Portuguese..." (OL2, 6. Oct, LINGUIST-List, disc. 2)

(6) represents the beginning of a rather long reactive contribution which is highly relevant for the following discussion and causes a topic shift from the discussion of "language and dialect" in general to the discussion of the relationship between Spanish, Portuguese and Galician.

On the formal plane it is an example of "direct quoting", i.e. the inclusion of parts of a previous posting in the actual message. The resulting texts are combinations of texts originally written by the current author and text-fragments of previous authors, basically in the sequence: Theme + rheme as in any text. But in e-mail messages using direct quotations, the "theme" of an e-mail message typically comes from a previous message (and hence from another author), whereas the rheme is the genuine contribution from the current author. "Authorship" in the traditional sense therefore becomes a questionable notion, because in fact most reactive e-mail messages are composed from textual materials of different authors. Now, who is the author of a certain message? Of course the "rhematic" parts of a message are the new ones, which were created under the

responsibility of the author of the current text. But these rhematic parts do not make sense any longer if the "thematic" parts of a message are removed. Thus, reactive e-mail messages represent a subtle mixture of previous and actual textual material.

A second characteristic of reactive e-mail messages is that many contributions refer back to more than one previous message (cf. above), thus creating no linear connection between successive contributions but rather a web of interrelated texts, made up of sources which have been sent at different dates and from different places. The resulting complex pattern of reference between postings posits difficulties for discussants as well as for the "overhearing audience" if thematic connections between messages are not made explicit enough (cf. below). Thus, the explicitness (or implicitness) of connections between contributions provides also a measure for the extent of peer group formation in a list: If discussants are aware of the fact, that others (non-discussants but "readers") might also be interested in an ongoing discussion, they have to make the referential ties between different contributions explicit. If discussants presuppose that all other list- subscribers are familiar with all details of an ongoing discussion without further marking, this is an indication that they think of the list as a group with a high amount of shared background knowledge.

After this short aside I return directly to (5): Direct quotes are marked off from the "auctorial text" by means of an alphanumeric sign (">") at the beginning of each quoted line. In this case the author does not only quote the portions of text he refers to and comments on but also the software-generated parts of the message, i.e. date, sender, and subject line (thematic thread), which is rather unusual. But it guarantees that readers may find this previous posting in their own e-mail reader or even retrieve it from an ftp- or gopher-site where postings are stored. The use of the anaphoric forms "this" and "it" in the first two sentences of the auctorial text illustrates nicely the above mentioned tight relation between quoted and auctorial text. Both terms refer back to the whole portion of quoted text, thus weaving it inseparably into the whole of theme and rheme.

Direct quoting enables any receiver of a posting to (1) check whether the reference to a previous contribution is correct (and the current author is not commenting on a distorted representation of the point of view of his/her opponent) and (2) to trace back a discussion to its origins and thus enable receivers who did not follow a certain discussion from the beginning to join in at a later date. The use of direct quoting is a sign for the awareness of discussants that they are not only communicating with the author of the message(s) they refer to, but that there is a group of anonymous, silent "listeners" who might also be interested in the topic under consideration but who might not have followed the discussion from the beginning. This kind of reference between follow-up postings was most frequently used by discussants of the LINGUIST list but not in the ETHNO list where different forms of reference were used (cf. below).

On the ideational plane the use of the terms "awkward formulation" and "dubiously informed view" express a rather strong disagreement with the previous posting. Many disagreements in e-mail discussions showed unprelaced expressions of discrepant points of view which seem to contradict the system of preference for agreement, which has been often described by conversation analysts (Pomerantz 1984). Two factors might account for this findings: (1) as investigations of interaction in face-to-face conflict episodes has shown, preference for agreement is not as universally operative as (at least) some conversation analysts are inclined to think (cf. Bilmes 1988; Kotthoff 1993; Gruber 1996),

and, (2) the anonymous communication mode in CMC might foster the use of more explicit and uninhibited language, although this is an assumption which is up to now neither proved nor rejected (cf. Lea et al. 1992).

On the interactional plane disagreements which are followed by the position of the author (in the form of argumentations, assertions etc.) are productive reactive moves⁵. They provide the possibility for further reactions and stimulate the discussion. Interestingly, in many cases of disagreements the author of the initial posting does not react to the disagreement but others join the discussion. This is a marked difference to face-to-face situations where discussions and arguments take place between two persons in most cases even when more than two discussants are present (cf. Gruber 1996).

3.2.2.2. Indirect reference

The following example (7) shows a typical reactive posting in the ETHNO list.

(7):

"CE1 (first name, H.G.) asks how can we proceed if we reject probabilistic decision theory on the grounds that it is inadequate or incoherent.

However, the task is not to respecify the enterprise of subjective probability or figure out some alternative framework ahead of time. Maybe subjective probability theory is the only formal analysis ready to hand, but that doesn't mean we have to accept ist terms before starting to look, nor do we need to specify an alternative a priori framework in advance of inquiry. To insist on this would be to adopt a policy of constructive analysis quite antithetical to ethnomethodology, early and late, and also to conversation analysis.

Instead, at least from a CA point of view, the task is to look at the data to see how the participants manage things so as to produce what they and others orient to as a verdict, hung jury, mistrial, or whatever." (IE1, 8. Aug, ETHNO-List, disc. 1)

In the first sentence of this posting the author refers back to a previous message which he comments on in the remainder of his contribution. If we compare the kinds of reference in (6) and (7) we find marked differences. In (7) the author obviously does not use the built-in software function for replying but rather paraphrases the previous contribution. Additionally, he mentions only the first name of the author of the previous message without quoting any further information. This kind of indirect quotation was frequently

⁵ This might be due to the fact that most of the contributors to all three discussions under consideration were men. As Herring (1996a) reports there seems to be a preferred female style of list postings (the "aligned variant") which is mostly supporting to previous contributions and which seems to be the predominant productive move in female dominated discussions.

used by contributors of the ETHNO list. In the above example readers only learn that CE1 is the author of the previous posting and then a rough reformulation of a rather lengthy message follows. Readers have to know that CE1 is the first name of the "dominant contributor" of this discussion and additionally they have to have read all of his postings because CE1 sometimes posted several contributions a day.

Additionally, in ETHNO discussions thematic threads are not consistently used to mark discussion topics during the whole period of time they are conducted. Discussants rather use thematic threads in a playful manner to allude to actual political or societal events or to achieve ironic effects which are caused by the relation between thematic thread and content of a message⁶. Therefore, the ways of establishing thematic connections between messages (and thus the way in which coherence in a discussion is created) in the ETHNO list reveals that contributors are not concerned with "outsiders" who might join in a discussion at any time, but that they produce their messages only for an in group of discussant who have followed a topic from the beginning.

The remainder of example 7 is an instance of a mitigated disagreement. The introducing "however" is a typical marker for a "dispreferred second" (cf. Pomerantz, 1984) which signals that the following is not a (preferred) agreement but some other conversational move. Indeed, in the rest of the sentence the author rejects the view of the previous discussant which he had rephrased in the first sentence of his posting. In the remainder he offers an argumentation to justify his rejection and to formulate a new issue for discussion (last sentence). Thus, in principle, this posting has the same structure with "thematic" and "rhematic" parts which was discussed with (6), but its linguistic realisation is rather different.

Indirect reference can display different degrees of "accuracy" regarding the extent in which the content of the previous message is represented. Indirect speech is the subdevice which guarantees a rather close relationship between messages, whereas other forms like mentioning of topic, taking propositions or presuppositions from previous utterances, or simply mentioning a previous posting without giving any further information about its content establish only very loose connections between contributions. In the context of e-mail discussions the use of indirect quotation posits a problem for those readers who have not followed a discussion from the beginning or who have missed (or skipped) some contributions because it provides only minimal cues to identify the contribution the actual posting refers to.

(8) shows the interplay of different forms of indirect and direct quotation within one posting in the ETHNO list. It also an example for the "multiple" back references which were described as a characteristic of ETHNO postings in the quantitative section.

(8)

Dear Colleagues:

⁶ E.g. the ETHNO discussion which is under investigation here was referred to by the following thematic threads: "OJ Simpson trial: tv data query", "OJ Simpson trial as data", "OJ Simpson trial", "Practical juristic reasoning", "Pursuing controversy", "Respecifying subjective probability", "Analytic Topics", "The OJ Debacle", "Academic duels", "Addendum", "Simpson and the Reverend Bayes", "Real World Probabilities", "Another round...", "Another round...: On uncertainty".

Much to contemplate. A few comments on what we've got so far, if I've understood the several thoughtful remarks before us.

First and foremost, a clarification about my discourse about Bayesian inference (as this is raised by *KE1* (full name, H.G.) in his stimulating observations). Deriving from efforts in the philosophy of science to develop a rigorous 'logic of confirmation'...

LE1 (full name, H.G.) is surely correct when he remarks that "the issue of evidence in the Simpson trial is more an issue of defining sets over which

probabilities may be assigned...", and *IE1* (full name, H.G.) is surely right to insist that "uncertainty" in any ARTIFICIAL sense is not at issue:

we are all supposed to be discussing real-worldly matters (including the Bayesians!). (By the way, I can't concur with *JE1's* (full name, H.G.) comment that "every situation we face as humans are [sic] always 'uncertain' in a sense" - surely there are many circumstances in which practical certitude is a natural feature. (Wittgenstein's ON CERTAINTY alludes to several such..)

I must confess to a deep sympathy with *KE1's* (last name, H.G.) point about normativity: he asks a great question in the following: "But, how discrepant can any logic-in-use become within the normative context of rules that

govern trial conduct (or the meta-logic-in-use)?" I take one corollary of this to be: how far could credulity be stretched, arguments be inconsistently developed, etc., before one begins to doubt that a genuine TRIAL is being conducted? Empiricist criteria here cannot decisively SETTLE the matter - hence there are logical limitations to *IE1's* (last name, H.G.) invocation of the "relevance-to-participants" rule, and his (and others') insistence upon simply "looking at the data" to ascertain "how the

participants manage things" - if the "participants" employ mere prejudice, are beguiled by lousy argumentation, forget vital bits of evidence etc., then we're not going to be able to appeal to such instances

in formulating the meta-logic, to use *KE1's* (last name, H.G.) felicitous phrase. I'm still puzzling over these things, and hope to learn more from further contributions to the discussion. My thanks for what's appeared already.

CE1

(CE1, OJ Simpson debate, Wed, 9 Aug 1995)

In this posting the author refers to four previous messages (by *KE1*, *LE1*, *IE1*, *JE1*). Although he uses direct quotes from three of these, he does not provide the exact dates of these postings (which provides the only cue for finding and retrieving them afterwards) and it is not only these direct quotations which he elaborates on his comments (cf. his highly positive evaluations of *KE1's* previous posting throughout the whole contribution, however, *KE1's* actual words are only cited in a single sentence). Additionally, his quotations are generally shorter than the one in (6) and seemingly serve only the purpose to back his own considerations and to allow him to elaborate his point further. However, *IE1's* previous message is not quoted literally at all, although CE1 is referring to it. Instead the author of the actual posting rephrases *IE1's* posting in the form of indirect speech. The

first reference to KE1's previous message shows another frequent form of indirect quoting in the ETHNO list, namely the mere mentioning of a speech act ("KE1 in his stimulating observation"). This kind of quoting makes it nearly impossible for "overhearers" to identify the posting CE1 refers to.

Of course, both forms of quotation are similar to scholarly citation and discussion practice in academic papers and books, where the author discusses previous studies which are of relevance for the argumentation he/ she presents and thus enables his/ her readership to follow his/ her argumentation as well as to criticise it (i.e. he includes them into his discourse). However, in e-mail discussions, only direct quotations provide the full "reference" to previous postings, whereas indirect quotations, although they too resemble "follow-up" citations in other scholarly genres (i.e. citations which refer to a first "full" citation of a source), do not. Therefore, indirect quotations exclude many overhearers from the ongoing discourse.

In general, indirect reference and downgraded disagreements both display a view of ETHNO discussants towards fellow-contributors and the "overhearing" audience which is different from contributors to the LINGUIST list. As we have noticed above, indirect quotations make it difficult to join in a discussion after its very beginning and thus express a reduced concern for the demands of "outsiders". On the other hand, the use of downgraded disagreements is a face-keeping activity which reduces the interactional "threat" a disagreements posits for its addressee. Thus, downgraded disagreements display a concern for a positive relationship towards the fellow-discussants. Taken together, these two phenomena show that in the ETHNO list a tendency towards peer group formation can be found.

4. Conclusion

By way of closing I want to sum up the results presented in this paper and offer a general interpretation. The quantitative and the qualitative results presented here indicate differences as well as similarities among postings to the two scholarly discussion lists.

The quantitative analysis showed in both lists dominant contributors, i.e. participants who posted far more messages than others. However, on the LINGUIST list these dominant contributors did not receive much attention by other discussants whereas some participants who posted only one (or few) message were highly influential for the discussions. Additionally, many contributors in the LINGUIST discussions could be found who posted only one messages which was never responded to. Thus, LINGUIST discussions displayed an interactive pattern which can be characterized as "non-reciprocal", i.e. there is only a low correlation between discursive activity of participants and the perceived relevance of their contributions by others. Additionally, most of the (reactive) postings in the LINGUIST discussions refer to only one previous message.

On the other hand, the ETHNO discussion displayed a high degree of reciprocity, i.e. contributors received roughly as many references as they contributed messages to the discussion. Taken together with the result that there was a dominant contributor too, this might indicate that this person simply dominated the discussion more effectively than the dominant contributors in the LINGUIST discussions. But results show that in the ETHNO discussion those person who contributed only few (or one) messages received also

responses and that there were no contributors who posted only few message and received many responses. Thus, it is legitimate to state that the ETHNO discussion was reciprocal in comparison to the LINGUIST discussions. Additionally, on the ETHNO list contributors usually referred back to more than one previous posting, thus creating a higher density of communication than in the LINGUIST discussions.

Qualitative analysis also revealed similarities as well as differences among contributions to the two lists. Successfully topic initiating postings displayed the same characteristics on both lists. The main feature of the successful postings is the modalized presentation of possible points for further discussion. The most common modalizing devices are questioning, expressing doubts about one's own view, and overt invitations for discussion. The second main feature was the presentation of a discussion-proposal (or of problems) as motivated by some theoretical or practical academic problem but not as a personal inclination towards a topic. If initiating postings lacked one or both of these features they did not stimulate a new discussion.

Linguistic characteristics of reactive postings on the two lists differed in their linguistic characteristics. Two major formal devices for thematic cohesion between messages were found, namely direct and indirect quoting. Direct quoting involves the use of the built-in e-mail software function for replying which enables users to include and edit a previous message of another discussant. Indirect quoting can be realized in a variety of ways from indirect speech to the simple mentioning of a previous speech act. On the formal plane these two possibilities of establishing thematic coherence might be compared to different forms of discourse representation (Leech/ Short 1981), but on the functional plane they differ fundamentally: Whereas direct quoting enables all receivers of a contribution to find the previous posting to fully understand a reactive contribution and thus to join in a discussion later on, indirect quoting makes it more difficult to locate the previous message and to understand the ongoing interaction.

Direct quotations were found to be typical for LINGUIST discussions, whereas indirect quotations were representative for discussions in the ETHNO list. It was argued that these differences in quotation practices display differing attitudes of the participants towards the discussions and their fellow list subscribers. In the LINGUIST list, contributors are not only oriented towards their immediate fellow discussants but also to others who might not have followed the whole discussion and might want to find previous postings. In contrast, ETHNO discussants seem to gear their contributions mainly to their immediate fellow discussants and thus indirectly exclude others from the discussion⁷.

Taken together, quantitative and qualitative results seem to indicate that on both lists different group styles (Herring, 1996a) seem to have evolved, especially in respect to reactive postings. However, the LINGUIST style tends to be more "transparent" towards those list subscribers who might not have followed a discussion from the beginning whereas the ETHNO-style is not. This might be due to the fact that the general field of interest in the ETHNO list is more restricted than in the LINGUIST list, but this assumption is open for future research. One qualification might also be necessary: The results presented here might reflect a gender bias, because the vast majority of postings

⁷One might speculate that ETHNO-contributions demand more "cognitive flexibility" (Jones/Spiro 1995) from recipients, but the investigation of the formal properties of quoting practices on the ETHNO list reveals, that ETHNO contributions are mainly oriented towards an ingroup.

were contributed by male discussants (cf. section 3.1.) and as Herring (1996a) shows there seem to be two different styles of female and male postings to scholarly lists. This question might also be a stimulation for further research.

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Appendix

LINGUIST-List, Discussion 1

Author	Communicative Density (CD)	Referential Density (RD)	CD- RD
AL1	6	3	3
BL1	1	1	0
CL1	5	3	2
DL1	1	3	-2
EL1	2	4	-2
FL1	1	2	-1

LINGUIST-List, Discussion 2

Author	Communicative Density (CD)	Referential Density (RD)	CD-RD
AL2	5	10	-5
BL2	1	3	-2
CL2	4	3	1
DL2	1	2	-1
EL2	2	2	0
FL2	2	0	2
GL2	1	0	1
HL2	1	0	1
IL2	2	2	0
JL2	1	0	1
KL2	1	0	1
LL2	1	0	1
ML2	1	0	1
NL2	1	0	1
OL2	2	2	0
PL2	1	0	1
QL2	2	1	1
RL2	1	5	-4
SL2	1	0	1

LINGUIST-List, Discussion 2

Author	Communicative Density (CD)	Referential Density (RD)	CD-RD
TL2	1	0	1
UL2	1	0	1

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Author	Communicative Density (CD)	Referential Density (RD)	CD-RD
AE1	3	3	0
BE1	1	1	0
CE1	10	10 (+3 self referential)	0
DE1	1	2	-1
EE1	2	2	0
FE1	1	0	1
GE1	1	1	0
HE1	1	0	1
IE1	3	3	0
JE1	2	2	0
KE1	1	3	-2
LE1	2	2	0
ME1	1	2	-1
NE1	2	1	1