



THE QUARTERLY NEWSLETTER OF THE
LABORATORY
OF
COMPARATIVE
HUMAN COGNITION

Center for Human Information Processing
University of California, San Diego

Volume 8, Number 2

April 1986

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Due to a printing error, the Table of Contents on the front page of this issue is incorrect. The corrected version follows.

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Framing Discourse in a New Medium: Openings in Electronic Mail

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Much of the work within discourse analysis has concentrated, in the last decade or so, on the different strategies used by speakers to achieve continuity between otherwise temporally or spatially disjunct sequences of talk. In this tradition, the function of certain linguistic expressions is seen mostly, if not exclusively, as the retrieval of background information or the introduction of some new information, that might need to be recalled at some later point (cf. the papers in Givón, 1979; Givón, 1983). The presence of anaphoric or "dislocated" constituents is interpreted by the analyst as dependent upon the speaker's understanding of the hearer's cognitive accessibility to a given topic.

When we look at discourse not exclusively as the locus of exchange of information but also, and crucially, as one of the domains for establishing social relationships and more generally defining the social order in which we live, we realize that "discourse continuity" is only one small aspect of a more general phenomenon, namely, the creation and maintenance of a universe in which individuals and the events that are relevant to their lives are connected to one another in meaningful ways.

The creation of such meaningfulness is one of the greatest challenges that speakers-hearers, *qua* social actors, must face in constructing discourse units. The deconstruction of such work is an equally complex and difficult task for the analysts. One way of reducing some of the complexities is that of choosing a corpus in which the analyst's disadvantage corresponds to the participants'. The study of telephone conversation by Schegloff and Sacks (1973; Schegloff, in press) is one such example. The usual problem of accounting for the non-linguistic context is partly avoided by studying an interaction in which the participants themselves have no access to the on-going non-verbal behavior. In this paper, I have also chosen to document a system of communication in which some of the analyst's puzzlement in figuring out how to look at the data may be echoed by the

participants' preoccupation about how to use a new medium. The new medium I will be discussing is electronic mail (hereafter "E mail").

E mail is an asynchronous (i.e., non-real time) system of communication in which people who have an account on a computer system can send messages to other users of the same computer as well as to users of any other computer that is part of the same network. Such messages are stored in a "mailbox" and can be read by the recipients at any later point. (Users are told of the presence of new mail by a message that appears on the screen when they log in.) [cf. Bannon, 1986; Crook, 1985; Quinn, Mehan, Levin, & Black, 1983; Scollon, 1982].

Being in a new medium, E mail users must learn and test the properties of the system while at the same time coping with the more general needs of communicating and interacting successfully. As we shall see, one of the problems that users address is that of achieving discourse continuity. Users display a concern for constructing a universe of discourse that would be linked to other domains of interaction, through other media (e.g., face-to-face interaction), and to other aspects of the social identity of the parties involved (e.g., relationships other than those established or presupposed by the use of E mail). This kind of *inter-domain continuity* is common in other media as well. The issue is whether the manner in which such continuity is achieved differs from one medium to another. In particular, it is theoretically interesting to find out whether some of the properties of E mail shape or constrain the particular ways in which users try to establish continuity.

This paper is a first attempt at isolating some specific framing devices that novices and experts use to achieve continuity in E mail.

Data

This study is based on a corpus of several hundred electronic messages collected over a period of nine months (September, 1984 - May, 1985).¹ Most messages were exchanged between my students and myself in two courses I taught at Pitzer College of the Claremont Colleges. The first class was "Introduction to Linguistics," where E mail played a minor, albeit interesting, role. The second class, "Computers as Tools," focussed instead on the uses of computers in a range of con-

texts and electronic messaging was presented as both a topic and a tool. In addition to these messages, I also collected messages that my students and I exchanged during the same period with others connected to the "system" (i.e., a VAX 11/780 with VMS located at Harvey Mudd College). My data include as well audio recordings of most of the meetings with the computer class and some field notes on my non-electronic communication with my students.

All the messages are here reproduced in their original form, including spelling mistakes.

Openings

Inspired by the work by Quinn, Mehan, Levin and Black (1983) on the use of E mail for instruction, I was originally interested in comparing topic continuity across contexts and media. This project turned out to be much more complex than I had expected. I decided then to start by pursuing a more limited goal: I examined how novices and experts begin and close their electronic messages. This paper is a first report of my findings on the content and structure of openings in E mail. As we shall see, in openings, users display a common concern for achieving continuity with other contexts.

From conversation analysis (cf. Schegloff & Sacks, 1973; Schegloff, in press), frame analysis (cf. Goffman, 1974), and ethnographically oriented studies of verbal interaction (cf. Duranti, 1985), we have learned to pay attention to the structuring of beginnings and endings of social encounters and verbal exchanges. It has been said, for instance, that openings perform some important jobs in organizing human interaction.

One aspect of the compactness and density of openings is the multiplicity of jobs which regularly get done in them. One of these jobs is the 'gatekeeping' one, of working through in some coordinated spate of behavior whether or not some co-present persons are going to engage in a sustained episode of interaction on some incipient occasion or not; ... Another job that gets done in openings is the constitution or reconstitution of the relationship of the parties for the present occasion, whether the occasion is a first for these parties or involves a next encounter with a history to it. (Schegloff, in press)

We have thus learned that part of the multi-functionality of openings includes linking to the past and preparing for the future. We know very little, however, about the effects of different media on the organization of openings.

Openings in electronic messages seem, then, interesting places of departure for investigating the relationship between some communicative work that needs to be done and the constraints and requirements that a medium may impose on its users. The fact that E mail is a new medium gives us the unique opportunity to study how users might bring in information and expertise from other communicative domains while at the same time learning to exploit the specific properties of the medium.

Greetings

It has been said that E mail encourages a conversational style of writing (cf. Crook, 1985) and that, "Within the working environment, electronic mail lies between the phone call and the office memo with respect to its degree of formality." (Bannon, 1986, p. 448) When I looked at the first messages from my "Introduction to Linguistics" class, in which most people who sent messages were novices, the data seemed to confirm the "conversational nature" of electronic messages.² Despite the memo format of E mail (with the "From:," "To:," and "Subject:" lines), which does not particularly encourage greetings, these first messages displayed several instances of opening greetings, as shown in (1) - (3).

(1)

From: LANGUAGE 19-SEP-1984 13:21
To: ADURANTI
Subj: HI

PROFESSOR DURANTI, HI! I JUST WANTED YOU TO KNOW THAT I AM ONE VERY CONFUSED PERSON!!! I UNDERSTAND THE THINGS THAT YOU ARE SAYING IN CLASS, BUT LYON'S IS VERY CONFUSING TO READ. I AM GOING TO READ IT ONE MORE TIME, THEN I WILL PROBABLY BE IN YOUR OFFICE ON MONDAY MORNING. YOUR CLASS IS VERY INTERESTING. SEE YOU ON MONDAY.

[SIGNED]

(2)

From: LANGUAGE 19-SEP-1984 13:33
To: LANGUAGE

Subj: HELLO MR. DURANTI, I JUST WANTED TO THANK YOU FOR BRINGING ME TO THE COMP

[The text is truncated because the user tried to type the entire message at the Subject line, which allows only a limited number of characters.]

(3)
From: LANGUAGE 24-SEP-1984 13:43
To: ADURANTI
Subj: LINGUISTICS/LYONS

HI, PROFESSOR DURANTI! SORRY I DIDN'T
COME UP SOONER. I GUESS I'M JUST TOO
LAZY TO TAKE THE LONG TREK UP HERE FROM
POMONA. READ MOST OF CHAPTER 3 IN LYONS
[...]

[SIGNED]

I first thought that opening greetings were typical of novices, that is, of people who are new to the medium and have not yet mastered its properties. New users seemed to apply conventions learned in some other domain of interaction.

I soon discovered, however, that the use of greetings in the first message is not confined to novices. Expert E mail users also employ them. Example (4) is a message from an expert programmer and frequent E mail user trying to reach Michael Cole's students at UCSD:

(4)
4CCVAX::LANGUAGE 13-MAR-1985 11:04
To: [Long Address]
Subj: Hello from Pitzer College

Hi there! My name is James [LAST NAME], and I'm a student of Allesandro Duranti's. I'm testing out some mail routings for Mr. Duranti. I'll keep this short, since I don't know if it will get to you.

Thanks!
James

The same opening greeting is found in a second attempt (14 minutes later). Michael Cole's reply from UCSD to our first successful link up (on the 17th of March) also contains an opening greeting. I used greetings in my first message to another computer class at Pitzer (March 14) and one of the three students who replied to my message also started with greetings, shown in (5):

(5)
From: 4CCVAX::CG 8-APR-1985 15:02
To: ADURANTI
Subj: RETURN MESSAGE

HI PROFESSOR DURANTI! MY NAME IS
CLAUDIA [LAST NAME] AND I AM VERY MUCH
INTEREST & ED IN WHAT YOU AND YOUR CLASS
ARE DOING. [...]

Opening greetings in E mail remind us of openings in other contexts and through other media such as face-to-face encounters and telephone conversations. The use of greetings in E mail, however, shows a pattern of its own. In a telephone conversation, greetings tend to be used in the opening sequence of almost every call (cf. Schegloff, in press); in face-to-face interaction in American society, opening greetings are typically used at the first encounter in the day; they seem to mark "day units" (or even shorter units during the same day, especially when people meet again but in the context of a different setting or activity).

In face-to-face encounters, initial greetings, such as "Hi" are used to signal that the parties are willing or ready to interact with one another. This is typical, for instance, of service encounters: The cashier saying "Hi" implies that he or she will be dealing with your merchandise next and will be considering you as the main or preferred interlocutor. On some occasions, greetings may be exchanged even more than once within the same day. In E mail, instead, greetings mark the beginning of much longer units. In fact, in E mail, *after contact has been made* (which involves two turns: first message and reply to first message) *greetings tend not to be used again*, even when several days or weeks might have passed from the last message. They seem to signal the beginning of an interaction in a *new discourse domain* which, once established, does not need to be renegotiated every time. It would seem that senders assume a continuous availability on the part of the recipients that might be related to the asynchronous nature of the interaction (cf. Scollon, 1982). At the same time, as I will show in the next section, users do exhibit some concern about how to start subsequent messages when they perform certain kinds of speech acts.

Opening Address Forms

The format of E mail is such that (at least in the software used in this case) the receiver knows the intended addressee of the message (e.g., To: ADURANTI). Despite this feature of the

medium, users sometimes employ address terms in the opening line. There are three contexts in which opening address terms are found:

(i) They are used with opening greetings, as shown before, e.g., *Professor Duranti, Hi!*, in example (1);

(ii) They are used to select a particular recipient within a group. This is the case when, as shown in example (6), the "To:" line indicates more than one addressee (or, in some cases, a distribution list).

(6)
From: 4CCVAX::ADURANTI 28-FEB-1985 11:43
To: JL,ADURANTI,IC
Subj: are you guyst co connected?

Jim, do you have "[Ian's username]" as part of your distribution list? I remember you had "[wrong username]" instead. Is it fixed now?

Ian, have you been receiving messages from JL [=Jim]?

ADuranti

(iii) Finally, opening address terms are found in messages that tend to contain apologies or complaints, as shown in examples (7) and (8):

(7)
From: 4CCVAX::PV 27-MAR-1985 20:02
To: ADURANTI
Subj: life

Prof. Duranti,
This message is just to update you on what I have ben up to recently explain why I haven't been putting in a lot to the class recently. [...]

Cheers,
Peter

(8)
From: CW 28-MAR-1985
To: ADURANTI
Subj: IMPORTANT MESSAGE

PROF. DURANTI,

I HAVE TO LEAVE FOR A FAMILY EMERGENCY
AND I WON'T BE RETURNING FOR A WEEK.

[...]

THANK YOU FOR YOUR UNDERSTANDING,
[FIRST AND LAST NAME]

Messages that start with an address term tend to contain speech acts that imply some past or future break of expectations. In terms of Brown & Levinson's (1978) analysis of the politeness phenomena, they would seem to co-occur with face threatening acts. They are not all, however, examples of giving deference through honorifics (or titles + address term). There are also cases in which first name with no title is used. An interesting example is given by a student who sent three messages one after another. Only the second one, example (9) below, starts with the address term *Alessandro*. In that message, he is complaining about the amount of money he might have to pay to take a field trip to UCSD and is proposing to reconsider a plan proposed by me and already approved by the rest of the class.

(9)
From: 4CCVAX::MR 24-MAR-1985 15:04
To: ADURANTI
Subj: the trip to UCSD

Alessandro,

As you know I am an independent student here at Pitzer and although 8 to 10 dollars may not seem like alot of money it is a very damaging sum to me I think we need to take about it further.

This use of opening address terms is something that elctronic messages share with face-to-face interaction and certain kinds of handwritten messages. Although it is often found in cases where there has been or there is about to be a breach of expectations, I have also used it in congratulating students for something they had achieved (e.g., Jim, good job ...). In Brown & Levinson's terms, opening address terms seem, in some cases, to signal positive or negative politeness. From a different angle, one could say that the opening address term is a rhetorical device that frames the subsequent discourse as something special. Opening address forms might then be devices to signal a "stepping out" of the normal flow of discourse either to reframe something that has been done or give warning for something that is coming up, whether it be negative or positive.

Inter-Domain Continuity as a Strategy for Achieving Co-Membership

Another feature of E mail openings is the attempt to create or restate co-membership with the recipient. In these cases, *inter-domain con-*

tinuity is created by selecting features of activities, aspects of the social identity of the sender and/or addressee that point to a universe of discourse that transcends E mail.

In the messages I received from students in my "Introduction to Linguistics" class, for instance, it was common to have words, comments or greetings in a foreign language. This feature related to the subject matter of the class, in which, as common in linguistics classes, lectures and discussions made frequent use of examples from a variety of languages. Bringing up this feature was thus a way of tying the current communicative event to another type of event where we normally interacted. It was a way of *reminding* me of our shared history, a way of recognizing a common interest and in so doing achieving solidarity, co-membership.

(10)

From: LANGUAGE 20-SEP-1984 10:57
To: LANGUAGE
Subj: BUENOS DIAS SR. DURANTI.

I WENT TO THE BOOKSTORE YESTERDAY (19-SEP-84) TO PURCHASE THE OTHER TWO LINGUISTIC BOOKS AND THEY ARE STILL NOT IN, [...]

(11)

From: MO 26-SEP-1984 10:36
To: LANGUAGE
Subj: bon jour

My first language spoken at home was Spanish. My parents have been successful in teaching in teaching me their native language rather well. [...] I'm in the process of attempting to learn the French language, what are the chances of my learning and comprehending this third language as well as I have learned Spanish and English? What else besides learning the grammar rules of that language will help me to start thinking "FRENCH?" [...]

(12) (After I replied to her message)

From: MO
To: LANGUAGE
Subj: MERCI

Novices are here bringing in, within the E mail domain of discourse, pieces of some past history. They both rely on such past history and draw attention to it. The form and content of the message often evoke or explicitly bring up some features of interactional work or shared assumptions that had been established on some other prior occasion.

Code-switching is a well known strategy for establishing solidarity despite or beyond the social roles expected in the particular event (Blom & Gumperz, 1972). It is not surprising then that students would use it in sending a message to their teacher. What is interesting, in these cases, is not so much that code-switching took place, but which language is used, when, and why. Whereas the students in the introductory linguistics class used whatever language they knew, the students in my "Computers as Tools" class restricted their choice to Italian. This time the foreign language was used as a link to me as an Italian and not necessarily as a linguist professionally interested in *any* foreign language. Here are a couple of examples:

(13) (First message by a student who speaks Italian and has been in Italy. The assignment was to recount their previous experience with computers.)

From: 4CCVAX::RL 23-JAN-1985 14:37
To: ADURANTI
Subj: HOMEWORK1

BON GIORNO! COME STAI? I HAVE STUDIED BASIC AND LISP. HAVE ALSO TAKEN ARTIFICIAL INTELLIGENCE. I'VE OPERATED SEVERAL MICROCOMPUTERS. I USED BOTH THE BAX AND THE COMPUTERS AT POMONA FOR THEIR SPSS PROGRAMS. CIAO. [FIRST NAME]

(14)

From: 4CCVAX::RL 21-APR-1985 15:08
To: ADURANTI
Subj: c'e un problema

I received a message from [First and last name] that I felt was very negative. I'll forward it to you after this. It was my impression that the computer mail was intended for [sic] communicating and sharing ideas. Io non capisco questi Americani!

A Martedì, Bon Giorno, [FIRST NAME]

Example (14) is from a student (RL) who used at least one Italian word in 10 out of 14 messages he sent me. With one exception, *the placement of the foreign words was either at the beginning (in the subject line³ or in the opening greeting) or at the end of the message*, in some cases, in both places. Italian words functioned as *boundary markers*, linking the past and preparing the way to the future. They were also *metastatements*,

frames: a testimony of a continuous search for a solidarity that would go beyond computers and school. Such a goal is made particularly clear in example (14), in which RL forwarded to me a message in which another student cursed at him for producing too much garbage mail. Notice the typical bracketing with an Italian sentence in the subject line (*c'e un problema* 'there is a problem') and the final comment (*io non capisco questi Americani!* 'I don't understand these Americans!') Given that RL is himself an American, these last words must be explained as an attempt at creating a solidarity with me viz-a-viz his classmates. This is done by evoking a fictitious identity, by reminding me that he is more "like me" than "like them."

The Subject Line

The Subject line forces people to think meta-semantically. Addressers are expected to know what the message is about before typing the text. The communication model implied by the E mail format (with "Subject" before "Text") is one in which the message, or at least its "core" meaning, is assumed as already formed in the sender's mind before he encodes it into some linguistic form and through some particular medium. The question is whether in fact this model corresponds to the users'. The Subject line is thus an interesting place to look for how E mail users understand and exploit the framing slot offered by the system.

First, I found that novices use the Subject line in a somewhat different way from experts. It is not uncommon for beginners to assume that the Subject line is where one should type the message. Only later do they find out that the software is designed to accept in that slot only a limited number of letters. See example (2) above.

Second, the Subject line very rarely constitutes a good "summary" of what the messages contain. Some novices wrote "message" and others "Hi." Furthermore, only *one topic* is usually mentioned, despite the fact that most messages are about *more than one topic*.

Third, experts do not necessarily comply with the seemingly expected function of the Subject line. People who have communicated through E mail for quite some time use the Subject line more playfully and metaphorically than novices do. In general, experts seem more creative and

exhibit alternative notions about the functions the Subject line can serve. Examples of such alternatives are given in (15) - (20).

(15)
From: JL 4-FEB-1985 23:24
Subj: jeez!

(16)
From: LANGUAGE 7-FEB-1985 10:52
To: ADURANTI
Subj: This is beginning to piss me off...

Now my account doesn't work! Yow!!! I don't know what this problem is, because I just changed my password and [...]

(17)
From: 4CCVAX:JL 11-FEB-1985 22:14
To: ADURANTI
Subj: finally

Finally my account works. It looks as though they got VAX 4.0 working better... This is a test message.
[...]

(18)
From: DK "and part time galactic president..." 3-APR-1985 17:17
To: ADURANTI
Subj: :-==*==: ????

The thing next to my name is what is known as a PROCESS NAME. It is a name, other than your boring DK[...] type user name that you can change at will.
[...]

(19)
From: DK "and part time galactic president..." 3-APR-1985 22:20
To: ADURANTI
Subj: Strange lands... strange tongues...

[Follows message on how to connect with users on other nodes in the network]

(20)
From: DK "and part time galactic president..." 4-APR-1985 09:04
To: ADURANTI,CLASS.DIS
Subj: Toys, gadgers and other playthings...

If you wish [=wish], you may create a LOGIN.COM that will automatically do VAX type things [...]

The way in which the Subject line is used here indexes a more complex notion of communication than assumed by the software designers of

E mail. Rather than using it for describing what the message is about, experts often use it as a slot for displaying their attitude or for evoking the addressee's sympathy or interest. In such cases, the social meaning of language is often given precedence over its descriptive or referential power.

Conclusions

In conclusion, a number of interesting facts emerge from a first analysis of the use of framing devices in opening E mail messages:

- (1) Those who exchange electronic messages display an understanding of this form of communication as a *separate domain* from other everyday interactions. Specific framing devices are thus used (i) to establish the new medium as a viable channel for opening up communication in a new discourse domain (see the use of opening greetings in the first message), and (ii) to achieve continuity with other domains of interaction/universes of discourse (see the use of foreign words to evoke past or present co-membership).
- (2) Certain features of the system are sometimes ignored by users who, instead of relying on the information displayed by the E mail format (e.g., identity of the addressee as revealed in the "To" line), introduce framing conventions (e.g., opening address terms) found in other domains of interaction (e.g., face-to-face). Other times, an option offered by the system for efficient communication (*viz-a-viz* the Subject line) is reinterpreted as a slot for rhetorical discourse (*viz-a-viz* the use of metaphors).
- (3) Novices and experts display a different understanding of the use of certain features of the medium (*viz-a-viz* the use of the Subject line). Such differences imply a differential ability across users to manipulate or creatively violate the system. They also point to the limits of the software designers' predictions, given that the more familiar people become with the system, the more often they tend to violate the constraints set or suggested by the designers. According to Dreyfus, Dreyfus, & Athanasiou (1986), this is an ability typical of experts in general. What is interesting in the case of E mail is

the *ways* in which experts play around with the supposed norms. Such ways seem to suggest alternative theories of what particular features of the system should be used for.

One of the properties of any system of communication is its *complementarity*. It is tied to other systems which often use different media. Any medium must thus allow its users to link up with a world of experience and social life that exists outside of the particular interaction in which the particular medium is used. The way in which people will create such a link is the product of many factors. Some of these factors are the physical properties of the medium, whereas others have to do with the conceptual design of the message format. Some of the conventions used are imported or adapted from other domains. Some other ones are creative interpretations of the designer's suggestions. Like other, older media have already done, E mail may soon establish some sound forms of conventionality, which may be harder to violate. In the meantime, we are offered the unique opportunity to watch and discuss the constitution of a new form of communication. This paper has discussed some of the strategies that novices and experts use in framing their messages for their audience.

Acknowledgements

This is a slightly revised version of a paper I presented at the 84th Annual Meeting of the American Anthropological Association, Washington, D.C., December, 1985. A number of friends and colleagues offered helpful criticism of an earlier draft. In particular, I would like to thank the following people: Peg Griffin, Michael Cole, Elinor Ochs, Renato Rosaldo, Emanuel Schegloff, Wallace Chafe, Ronald Macaulay, René Coppieters, and Donald Brenneis.

Notes

¹For the purpose of this paper, I have closely examined 300 messages.

²The typical format for the username is first initial plus last name, e.g., ADURANTI, JSMITH. To protect the identity of the users, I have left only their initials. "LANGUAGE" is an account used by those students who, for some reason, were unable to get or use their own account. Brackets (()) mark information that I have added, omitted, or slightly altered to protect the identity of the E mail users.

³The fact that foreign words are found in the subject line should not be surprising. Given the format of E mail, the subject line was the first occasion/slot where the user/sender could start establishing common grounds/co-membership. (The subject line does in fact

constitute a potential problem for those who see E mail as an informal, interactive medium, given that it forces them to plan early on what they are going to talk about. Greetings are a solution to that problem.)

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Planning and Evaluating Culturally Sensitive Post-Secondary Programs for Deaf People

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In planning and evaluating an educational program, a starting point is the basic assumption that forms the operating basis for the program. An educational program for a specific population of people is based on certain perceptions of these people and their needs as well as the kind of program that is best suited to meet these needs. This paper will concern itself with the underlying assumptions that are used to build post-secondary programs for Deaf people. From all indications, it seems that the basic assumptions upon which programs for Deaf college students function at the present are valid but incomplete and limiting to program planners who try to use existing programs as models for establishing new programs.

An examination of these assumptions reveals the following: (1) Deaf people can be categorized with other disabled people; (2) Deaf people can be mainstreamed into post-secondary programs; and (3) Deaf people have certain basic support service needs that must be met in order for them to succeed in post-secondary institutions, which include sign language interpreters, note-takers, special counselors and special classes.

These assumptions are not only incomplete, but the way they have been interpreted may be inaccurate. They do not, for example, say anything about the duality of Deaf people. In recent years, it has become clear that Deaf people have a dual identity as a disabled group and as a cultural group using a different language. Therefore, it is necessary to add to the foregoing assumption (number 1) that Deaf people can be categorized with other disabled people, but they should also be recognized as a linguistic and cultural minority.

It may be that some post-secondary programs for Deaf people are operating under this revised assumption without knowing it. For instance, when a program includes a special consideration for the English skills of the Deaf students, it shows it recognizes tacitly that a difference exists between the language of the educa-