04. Transcription[1]: conventions for phonetic and pragmatic models (conversational). Contrasting impairment data. Corpus: CHILDES, PerLA.

0. Presentation

When the researcher embarks on the study of aphasia or any other kind of pathological speech (we will not go into the detailed arguments concerning this concept) the first requirement is to have access to samples of such speech, involving a series of demands that have to be addressed before the study can start in earnest: drawing up the corpus.

This section considers the needs that arise in the transcription of a corpus of oral language from aphasic speakers; these considerations come out of the compilation of the PerLA (*Percepción y Lenguaje Afásico - perception and aphasic language*) corpus[2], a project that has been underway since the year 2000 in Valencia University. Together with some issues shared by all linguists working with natural speech data (Serra *et al.* 2003), we found a few others that are associated with the specificity of the data and which require a response. To do this, we have taken advantage of the team's previous experience in compiling oral corpuses[3] (in nearly every case linked to pragmatics and conversational analysis) and we have also taken into account other transcription systems brought in from other traditions.

1. Transcription systems

1.1. The systems most used by psychologists

There are basically two transcription systems that are used for pathological speech in studies by psychologists and which are familiar to researchers: CHILDES and SALT.

Alongside these systems, aphasiologists might also want to use the notation systems developed by psychologists working on non-verbal communication; the most well-known is the system developed by Stokoe, Croneberg and Casterline (1965), which attempts to graphically code the queremes identified by Stokoe for American sign language. As we shall see, the aphasic

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[1] This topic is taken from "La transcripción del habla patológica" (The transcription of pathological speech), in Beatriz Gallardo and Montserrat Veyrat (Eds) 2004: *Estudios de Lingüística Clínica, II: Lingüística y patología (Studies in Clinical Linguistics II: linguistics and pathology), Valencia: Universitat.*

[2] The PerLA corpus (and this publication) are part of the research project entitled "Elaboración y análisis pragmático de un corpus de lenguaje afásico" (Compilation and pragmatic analysis of a corpus of aphasic language) (MCYT, BFF2002-00349).

Data capture was initially dependent on chance but was systematised following a Collaboration Agreement signed in 2002 with the Neurological Department of the Hospital Clínico Universitario de Valencia. We are extremely grateful to the team for their willingness to collaborate (Dolores Alonso, Raquel Chamarro, José Miguel Láinez and José Miguel Santonja). The neurologists offer patients with aphasia the chance to collaborate with us and, with those who wish to do so, we make a recording of the speaker in their home, normally with the participation of the *key interlocutor* (the person who interacts most with the patient in their everyday life). Although we have found extraordinarily receptive patients with maximum availability, it is not always easy to get them and their families to collaborate, as their personal circumstances are obviously very difficult. The customary lack of institutional aid for the rehabilitation process explains why, on many occasions, informants reject any attempt to collaborate with them, as they feel completely abandoned and that "they don't get anything in return". This means that we are doubly grateful to those aphasic speakers who did feel able to help us with our project.

[3] The PerLA team members have previous experience in compiling a number of corpuses of natural interaction: colloquial Spanish (Briz, Gallardo, Sanmartín et al. 1995), prison slang (Sanmartín 1998), children's conversation (Hernández and Fernández 1992), everyday exchange (Gallardo 1993a, 1993b, 1996) and sign language (Veyrat 2003). Cf. www.uv.es/perla

speaker's communication is based notably on non-verbal resources, leading to the need to sometimes consider notating some of these elements, such as the direction of gaze, facial expression, etc. In fact, some speakers resort to the over-exploitation of such resources (Ahlsén, 1999).

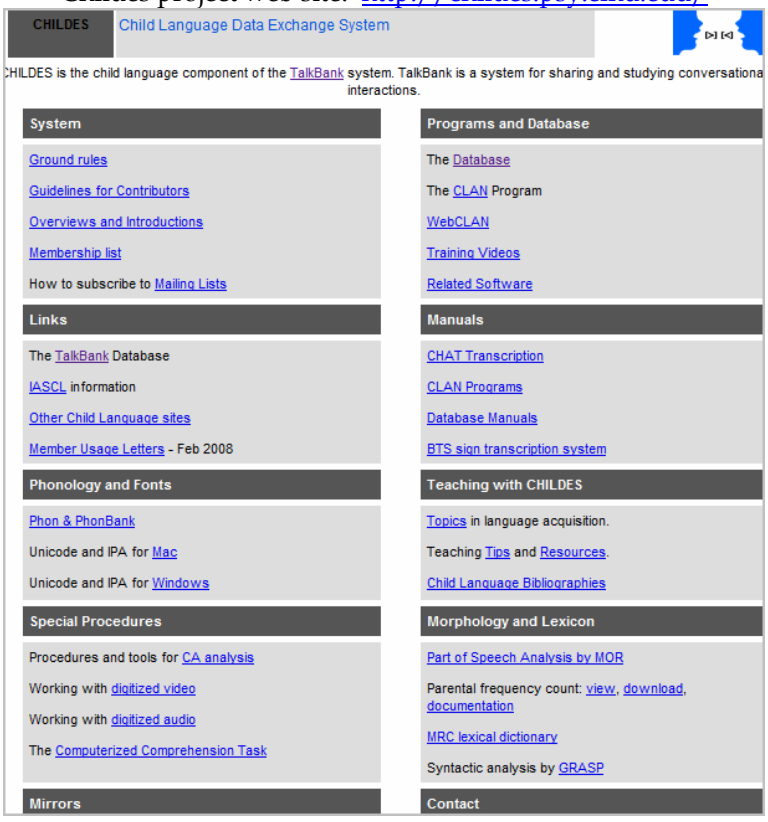
1.1.1. The CHILDES system

CHILDES (*Child Language Data Exchange System*) was originally developed in 1981 by the psychologists Dan Slobin, Willem Levelt, Susan Ervin-Tripp and Brian MacWhinney in the Max-Planck Psycholinguistics Institute, in Nimega, and from 1984 it was linked to the MacArthur Foundation in Chicago. It consists of three tools: the CHAT format of transcription and coding, the CLAN analysis programme and the database.
CHILDES has been used for transcribing a number of corpus; the following are available on the Internet:

- the CHILDES project database
- the TALK-BANK in Carnegie Mellon and Pennsylvania universities[4]

The *Koiné* group[5], from the general linguistics department in the Universidad de Santiago de Compostela, also uses this system for its children's language corpus, as do several other groups carrying out psychology research studies. This is, therefore, a well-established system that has demonstrated its validity in a number of studies; its creators' determination has also enabled the model to spread to universities and research groups throughout the world.

Childes project web site: http://childes.psy.cmu.edu/



[4] The *Aphasia* section includes three files with transcriptions by Audrey L. Holland (Univ. of Arizona) from the *Crosslinguistic Aphasic Project* (CAP) led by Elizabeth Bates (Univ. of California), and others.
[5] The *Koiné* group is led by Milagros Fernández Pérez; their corpus consists of 186 recordings (of approximately 20 minutes) of 60 children aged between 22 months and 4 years.

However, the conventions used do not always achieve the objectives set out in the *Manual*: clarity, legibility and ease (MacWhinney 2000: §2.5). The texts show a high presence of diacritics and markers and, although its purpose is to facilitate subsequent computer analysis by CLAN, its legibility is sometimes compromised. When we try to transcribe our corpus using CLAN and study some of the transcriptions available on the Internet, the following arise:

1. it is not easy to differentiate at first sight between transcribed text and comments from the transcriber; the distinction between the main tiers and dependent tiers is interesting in terms of theory, but it is unclear which cases resort to dependent tiers or in which cases comments on what has been said are placed along these principal tiers. The *Manual* states that dependent tiers can be added to the transcription as the researcher works with it[6], which means that the transcriptions are never completed. For us, as will be explained below, transcription and analysis are different objectives.
2. overuse of signs (sometimes including digraphs or trigraphs) such as @, *, +, /, %, lead to problems with legibility (bear in mind that the signs listed in the Appendix of this section are only a summary of the conventions). On the one hand, signs are proposed for phenomena with a minimum frequency of appearance in the transcriptions[7], and on the other hand, relevant aspects such as stress are omitted, or notation is considered to be indifferent (for example, the use or not of capital letters in morphological codes). This is because, as has been mentioned above, transcription is itself an analysis of what is transcribed , with no separation between both processes. As can be seen in the *Manual* produced by Brian McWhitney, the majority of the proposed signs respond to the process of analysis, not to transcription itself. It is, in summary, an "annotated corpus".
3. there are not always unique notations for the same phenomenon; for example, emphatic pronunciation can be registered by framing the text in angle brackets (<text>) or placing [!] at the end. This duality is counter-productive, as transcription systems should be economical. The lack of economy can also be seen in the excessive number of dependent tiers; in the cases such as the following, the comment line is completely redundant, as the transcription <xx xx> already indicates "cannot be understood":

```
*LOG: oye y tu como te llamas?
*JOP: <Joseph maria> [:llosep maria].
*LOG: ah@i si?
*LOG: pues el se llama patata y xx xx xx
%com: dice una frase que no se la entiende
```

From the transcription available on the web site, 06t-1.cha

4. The very high number of signs that are not letters contrasts with the non-use of typography (letter styles), a resource that would greatly facilitate textual clarity.
5. the great merit of CHILDES (together with its high degree of acceptance) is that it can be dealt with electronically using the CLAN program (*Computerised Language Analysis*) developed specifically by Leonid Spektor for the project.

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[6] "Additional coding is done principally on the secondary or 'dependent' tiers. As transcribers work more with their data, they will include further options from the secondary or 'dependent' tiers."

[7] For example, these are some of the possible notations for the dependent tiers (preceded by %): %act (actions of speakers), %add (addressee), %alt (alternative transcription), %cod (CLAN coding), %coh (cohesion mark), %com (comment), %def (definitions), %eng (translation into English), %err (error), %exp (explanation), %fac (facial), %flo (comlete reconstructed version), %gpx (gestures and proxemics), %int (intonation), %lan (language), %par (paralanguage), %sit (situation), %snd (sound), etc. In the face of this "inflation" we ask if it would not be better to simplify the system using more generic markers (%CNV: "non-verbal communication"; or the same %exp, %com).

6. another advantage is its flexibility, as the CHAT transcription format enables an alternative in the format of conversational analysis (CA)[8].

7. lastly, linguistic analyses incorporated into the transcription process are sometimes questionable, if not wholly arbitrary. For example, Chapter 12 of the Manual ("Speech Acts codes") provides a catalogue of 67 non-speech acts whose distinction sometimes appears to be somewhat impressionist. For morphology, 251 "universal morphological codes" are provided (Chapter 13: "Morphosyntactic coding") in which, for example, labels belonging to case grammar coexist ("*BEN: benefactive*", "*ACC: accusative*") and traditional morphosyntax ("*DO: direct object*", "*IO: indirect object*"). The impression given is that, by wanting to address the maximum number of possibilities for linguistic analysis, without committing to one single option or one type of language, this analysis is often reduced to a mere taxonomy. We therefore consider that, although any transcription process involves implicit analysis, transcription itself should be an isolated process, independent of any analysis, so that the corpus can be used *a posteriori*, in a coherent way and by researchers belonging to different traditions and/or who are researching different things. The corpus is, in summary, a legitimate object by itself.

[8] The following paragraph from the Manual (§1.12) illustrates the flexibility of the system: "The CHILDES system was not intended to address all issues in the study of language learning, or to be used by all students of spontaneous interactions. The CHAT system is comprehensive, but is not ideal for all purposes. The programs are powerful, but they cannot solve all analytic problems. It is not the goal of CHILDES to provide facilities for all research endeavours or to force all research into some uniform mould. On the contrary, the programs are designed to offer support for alternative analytic framework. For example, the editor now supports transcription in Conversation Analysis (CA) format, as an alternative to CHAT format."

Index of /data/Romance/Spanish

Name	Last modified	Size	Descri
Parent Directory		-	
Aguirre-zipped.zip	10-Sep-2008 19:24	2.2M	
BecaCESNo-zipped.zip	14-Aug-2008 22:55	2.8M	
ColMex-zipped.zip	10-Sep-2008 19:24	217K	
DiezItza-zipped.zip	14-Aug-2008 22:55	636K	
FernAguado-zipped.zip	10-Sep-2008 19:24	13M	
Hess-zipped.zip	14-Aug-2008 22:55	775K	
Irene-zipped.zip	10-Sep-2008 19:24	1.1M	
JacksonThal-zipped.zip	10-Sep-2008 19:24	1.6M	
Koine-zipped.zip	14-Aug-2008 22:55	2.4M	
Linaza-zipped.zip	10-Sep-2008 19:24	182K	
Marrero-zipped.zip	10-Sep-2008 19:24	1.0M	
Montes-zipped.zip	07-Sep-2008 23:07	306K	
Ornat-zipped.zip	10-Sep-2008 19:24	3.1M	
Romero-zipped.zip	14-Aug-2008 22:55	227K	
SerraSole-zipped.zip	14-Aug-2008 22:55	503K	
Shiro-zipped.zip	14-Aug-2008 22:55	1.5M	
Vila-zipped.zip	14-Aug-2008 22:55	569K	
Yasmin-zipped.zip	02-Jul-2008 17:22	527K	

Database in Spanish of the CHILDES Project (Sept. 2008)
http://childes.psy.cmu.edu/data/Romance/Spanish/
You can supplement the information on data encoding in Diez-Itza, E., Snow, C. and MacWhinney, B. (1999). The RETAMHE methodology and the CHILDES Project: notes for research and analysis of children's language. *Psicothema*, vol.11/3, pp. 517-530
http://www.psicothema.com/pdf/305.pdf

1.1.2. SALT

SALT (*Systematic Analysis of Language Samples*) was developed by J. F. Miller and R. S. Chapman (Miller and Chapman 1983) in the *Language Analysis Laboratory* in the University of Wisconsin-Madison. (see the Appendix for a summary of the conventions), connected with the *Department of Communicative Disorders* in the same university.
This system also shares the advantage of computerised handling, together with the simplicity of the conventions used, making reading and interpreting an easier task. One of its most evident characteristics is the high level of conditioning, as it was conceived for the English language, whose morphology allows easy segmentation by root and morpheme [9]. Here is a small fragment copied from the web site:

```
$ CHILD, MOTHER
+ Name: Marta
+ Gender: F
+ Context: CON
+ Activities: pictures, books, puzzle
- 0:00

M    está_lloviendo.
M    ¿ok?
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[9] Research into aphasiology (as in any language-related field) cannot ignore the typological peculiarities that characterise the languages being dealt with in each case. Apart from the inherent needs of transcription process, the description of symptoms (such as agrammatism and others) needs to consider the language morphology of the aphasic speaker, as the statements produced by the speaker of a fusioning language will most likely be different than the statements produced by another speaking an isolating language (to quote well-defined cases). From this point of view, work such as that of Paradis (1987), Bates and Wulfeck (1989) becomes especially interesting, as does that of Diéguez-Vide in the same volume, which accompany characterisations of phenomena with contrasting accounts.

```
M    está_lloviendo.
M    pasa la página.
=    C turns page
M    ok.
M    aquí dice te pongo las bota/s.
M    ¿qué eso quiere decir?
M    ¿qué el nene se está_poniendo las bota/s verdad que si?
C    sí.
M    mira las bota/s.
M    ¿ves que linda/s?
M    mira la araña.
```

As can be seen, the morphology is slightly annotated and the graphic appearance is very similar to that of CHILDES. One of the most striking differences between this and CHILDES is that it does not give free access, which obviously explains why it has not been widely disseminated and accepted[10].

1.2. The systems most used by linguists

In linguistic related studies there is a long tradition of notation systems for corpus linguistics; an initial distinction can be made arising from the interests for which the transcription is intended:

A) when the interest focalises phonological and/or phonetic issues, phonetic alphabets are used that have been developed in an *ad hoc* way by linguists; these obviously include the International Phonetic Alphabet (IPA), subsequent versions of which have been developed by the International Phonetics Association (the latest was in 1993). There is a system used by Spanish philologists, proposed by the Revista Española de Lingüística, that uses some graphemes in a special way.

In the early 90s, the SAMPA (*Speech Assessment Methods Phonetic Alphabet*) was developed from the IPA. It is a phonetic alphabet produced for reading by voice synthesisers[11]. It would seem that phonetic (and logopaedic) research needs a much lower corpus content than, say, pragmatic or morphosyntactic studies that require a corpus of considerable size. In any event, such transcriptions should be carried out according to the IPA.

H. Sacks (1935-1975)

B) when the interest focalises on pragmatic, psycho- or sociolinguistic issues, there are several transcription systems available, some of which have been developed by psychologists or sociologists who needed to use spoken data in their work (Sacks 1972; Goodwin 1981; Roger and Bull 1989).

In particular:

- the North-American ethnomethodological system (hereinafter referred to as AC). Many of the systems used by different schools are blends or adaptations taken from these conventions, such as

[10] Although the web site (http://www.languageanalysislab.com) promises "Coming soon" for links on transcription.

11 The SAMPA web site (http://www.phon.ucl.ac.uk/home/sampa/home.htm) states that SAMPA (X-SAMPA in its extended version) and SAMPROSA (a prosodic notation system) makes provision for all phonetic symbols in natural languages, which "*makes it possible to produce a machine-readable phonetic transcription for every known human language*". What sound engineers have yet to achieve is the inverse case, in which the machine "hears" and transcribes any sound from any know human language... This would no doubt be of immense benefit for transcription tasks (for problems with voice analysers in dialogue systems, see Torres 2006).

those used by the Lyon school of dialogic pragmatics (Dausendschön-Gay 1988: 282), the colloquial linguistics of the Val.Es.Co group (Briz *et al*. 1995), or the intercultural pragmatics of the CRIT group[12] (CRIT Group 2003: 15).

Ethnomethodological conversational analysis began when Harvey Sacks decided to use recordings of everyday conversation in his sociological studies. For this, Gail Jefferson developed a system of conventions that has been evolving and fine-tuning its capacity ever since.

Gail Jefferson (1938-2008)

[Learn more about Ethnomethodology by visiting Emmanuel Schegloff's web site and the Transcription Module

http://www.sscnet.ucla.edu/soc/faculty/schegloff/

and the web site on Gail Jefferson: http://www.gail-jefferson.com/index.html]

- with an exclusively linguistic approach, British discourse analysis tradition developed a transcription system in the 60s that has been used by the Birmingham and Nottingham schools. This model is interesting for its particular attention to prosodic data (Sinclair 1975; Coulthard and Montgomery 1981: ix).

Alongside these systems, corpus linguistics has developed a number of transcription models. In the Spanish-speaking field, together with CREA from the Academia (*Corpus de Referencia del Español Actual - current Spanish reference corpus*) there are several oral language corpuses in a number of universities (Llisterri 1997; Pérez Hernández 2002; Marcos Marín 2003; Briz *et al.* in print), for example[13]:

- ARTHUS (*Archivo de Textos Hispánicos de la Universidad de Santiago de Compostela - University of Santiago de Compostela archive of Hispanic texts*) led by Guillermo Rojo and Emilio Montero, 19% of which consists of oral samples,
- CUB: *Corpus de la Universidad de Barcelona (University of Barcelona corpus)*,
- the Instituto Universitario de Lingüística Aplicada (IULA - applied linguistics university institute) corpus, in Pompeu Fabra University,
- the *Corpus de Español Coloquial (colloquial Spanish corpus)* of the Val.Es.Co group in the University of Valencia, led by Antonio Briz,
- VUM: *Vernáculo Urbano Malagueño (Malaga urban vernacular)* led by Andrés Villena,
- CORLEC and CORAL ROM: *Corpus Oral de Referencia de la Lengua Española Contemporáneo (Spanish contemporary language oral reference corpus)* and *Corpus Oral de las Lenguas Romances (oral corpus of romance languages)* developed by the Laboratorio de Lingüística Informática (LII - computing linguistics laboratory) in Madrid Autónoma University,
- CLUVI: *Corpus Lingüístico de la Universidad de Vigo (University of Vigo linguistic corpus)* in the Seminario de Lingüística Informática (computing linguistics seminar).

[12] The CRIT group (*Comunicación y Relaciones Interculturales y Transculturales - Communication and Intercultural and Transcultural Relations*) was set up by researchers from the Universitat Jaume I in Castelló, the Universitat de València-Estudi General and the Instituto Cervantes.

[13] A further example of the lack of communication between research teams that would benefit from joint work is the parallel existence of Oral Corpuses recorded by computing engineers with an involved in developing dialogue systems. Better communication or the creation of inter-disciplinary teams would enable everyone's efforts to be considerably better channelled.

Many of these corpuses have been designed with an electronic format adapted to fit the conventions of some well-known computing programs, such as:

- TACT, *Text Analysis Computing Tools*, from the *Multimedia Centre for Learning in the Humanities* in the University of Toronto
- TEI[14], *Text Encoding Initiative*, put forward by the TEI Consortium, initially connected with the University of Virginia.

2. Transcription of pathological language

The previous section made a brief survey of different transcription systems, the majority of which were produced for "normal" spontaneous language. When dealing with subjects who are speakers with some sort of speech pathology, transcription becomes even more problematic, as the phenomena associated with orality (disfluency, restarts, oralised pauses, stammers, etc.) are present in much greater numbers, to the extent that recorded speech is reduced to a collection of these phenomena.

2.1. The demands of transcription

According to Cosnier and Kerbrat-Orecchioni (1987: 371) there are two imperatives for a transcription: that it should be readable and accurate.
The demand for readability explains why we opt for a non-phonetic, writing-related coding; although using the IPA could unify criteria, fluid "reading" of the corpus would demand specific training and may also require the transcriber to be so thorough that it would be impractical (except for specific phonology studies, evidently, which as a rule do not need very long transcriptions).

In principle, it would be desirable that, when a researcher reads the transcription they can easily interpret what was said and not miss any pertinent data.
But once this demand is accepted, the basic question is: what are the pertinent data? For example, when computing researchers draw up their Wizard of Oz Corpus, they delete the disfluencies, restarts, prolongations, etc. as the voice recognition module is not programmed to identify these structures[15]; but for natural speech analysis these phenomena are of great importance. Thus, the first problem thrown up by the demand for *fidelity* is that of identifying the phenomena to which the transcription must be faithful: should the end of an overlap be indicated?, should the listener's attention signals be noted?, should the intonation curves always be registered?, should the duration of a silence be timed?, in which cases should gestuality be included?, and the gaze?, how should laughter be recorded?, and whispering?, etc.
In fact, assigning pertinence to each of these features involves taking one particular theoretical and methodological view over another, this is why it is appropriate to insist that they are not trivial decisions. As Psathas argues in one of his studies on the ethnomethodological model (Psathas and Anderson 1990: 77), transcription should not be confused with either interaction or with "data":

[14] "Initially launched in 1987, the TEI is an international and interdisciplinary standard that helps libraries, museums, publishers, and individual scholars represent all kinds of literary and linguistic texts for online research and teaching, using an encoding scheme that is maximally expressive and minimally obsolescent." http://www.tei-c.org/Consortium/

[15] Only in very specific cases would any of these structures be entered as a recognisable item, but it is difficult to make an inventory of all occurrences of, say, an oralised pause, in order to subsequently classify them as possible "words" that the system can recognise (such as "eeeem") (Torres, 2006).

> *"the choice of particular transcription notation symbols becomes an important matter, as these may systematically provide the details that are made 'visible' by the transcript, especially for others who do not have access to the original recording. It should be noted, however, that the status of the transcript remains that of 'merely' being a representation of the actual interaction –i.e., it is not the interaction and it is not the 'data'. The original recordings, which (as we noted earlier) are not in and of themselves 'neutral' or 'objective' renderings of what actually occurred, and which we will henceforth nevertheless refer to as 'the data', remain unaltered. Any transcription made of these data can serve as a version of the data for particular analytic purposes. However, the final arbiter of the fidelity of transcription is not the skill or 'artfulness' of the transcriber, but rather the adequacy of transcription when compared with a direct listening/viewing of the original data."*

Once the pertinent features have been established, we should be thorough and not relax the recording threshold, as it is frequently tempting to miss an intonation that did not appear to sound normal, not record the gesture made by a participant, not linger on a particular overlap, ignore a prolongator, etc. Taking the classic ethnomethodological position, we would say that the analyst should place themselves in the situation of the receiver, and it would therefore be desirable to record in our text everything seen and heard by the listener.
As far as possible, we tend to produce transcriptions that are informative for various objectives; if the transcription keeps too closely to the prior research question (for example, a corpus to be produced exclusively for the study of verbal forms, or intonative structures, or topicalisation) we will miss out on the chance to share our corpus or to use it for other purposes at a later date. Despite the thankless and lengthy nature of the task (or perhaps because of it) the transcriber's approach should always be to take the long term view.
The second serious problem of the requirement for fidelity is that of the transcriber's inevitable subjectivity. This subjectivity is manifested in two ways:

- one related to the theoretical position implicit in every transcription system,
- and another related to the transcriber's personal skills.

Even in cases in which the transcriber is not the same person who will later carry out the analysis[16], the choice of features to be recorded involves, as argued above, a great many prior theoretical and methodological assumptions. These assumptions are present in the selection of data, as making recordings in the neurologist's consulting room or in the speech therapy session, is not the same as obtaining data from the everyday interaction between the speaker and their family, for example. In this sense we fully agree with Green, Franquiz and Dixon's argument (1997: 172), according to which:

> "*transcribing is a situated act within a study o program of research embedded in a conceptual ecology of a discipline (...) Transcribing, therefore, is a political act that reflects a discipline's convention as well as a researcher's conceptualization of a phenomenon, purposes for the research, theories guiding the data collection and analysis, and programmatic goals.*"

Such limitations, however, should not be seen as a shortcoming of the analysis, but as a result of the theoretical and methodological alignment that all research takes on board intentionally. As Müller and Guendouzi state (2002: 346) in their work on Alzheimer's discourse, transcription is

[16] This "multitasking" situation could perhaps be desirable for anybody investing time and effort in the transcription process, although it contravenes the norms of ethnomethodological practice. One of the objectives in producing the corpus is precisely that of making it available to other researchers. We agree that all researchers have to take on transcribing work at some stage, but in our view the requirement that "sharing data" means exclusively lending recordings to another researcher or research group, as suggested by AC, is excessively rigid: *"transcripts cannot be 'collected' as a way of amassing data for a net would-be researcher to use a primary source (for doing conversational analysis)... When researchers say they 'share' their data, what they typically mean is not that they have handed out a transcript, but rather that they have shared the original audio- or video-taped material"* (Psathas and Anderson 1990: 79).

> "*a complex process that is necessarily and deliberately selective, though flexible and cyclical. Transcribing provides a focus and a basis for the description of interactive patterns, familiarizes the analyst with the data, and becomes one of the vehicles through which analysis is transmitted to the reader.*"

This subjectivity, which could be called "epistemological", is accompanied, as previously stated, by "expert" subjectivity. Anybody who has attempted to transcribe natural speech has come across the difficulty in unequivocally decoding oral flow. Frequently, the same transcriber who reviews a transcription makes changes over and over again, or is surprised that their previous interpretation is so divergent from the current one. One way of countering these subjectivities is to filter transcriptions: when a transcriber has finished with a recording, a second transcriber reviews it, or if possible they analyse it together at a team meeting. These filtering or *contrasting* sessions within the team have a highly beneficial outcome.

It is possible that, in current linguistics studies, these two requirements (readability and fidelity) are joined by a third: *computational manipulation*. As already indicated, there are computing programs for handling transcriptions (CLAN, SALT, SAM-PA, TACT and so on) that make some more or less routine analysing tasks easier, including searching, grouping, counting, statistics, etc. Unfortunately, 80s and 90s corpus linguistics made recordings and transcriptions that did not always take this requirement into account, making them unusable today and wasting many hours of work and a great deal of effort. Although a computing format is not the priority aim of the PerLA project (amongst other reasons, for budgetary issues) we adhere to a set of transcription conventions that in the long run will enable the corpus to be adapted easily.

In summary, transcription should fulfil the following requirements:

1. fidelity (thoroughness and contrast)
2. readability
3. compatibility with computer manipulation.

2.2. Transcribing the aphasic corpus

In addition to the demands associated with any transcription, the specificity of the data we handle imposes other prior assumptions relating to the general consideration of neurogenic linguistic impairments.

1. *Perceptual approach*. The first of these assumptions has to do with our general conceptualisation of language (Hernández, in press) as a contextualised perceptual phenomenon. Our description and analysis of pathological speech cannot take isolated samples from laboratory situations as a starting-point: it is essential to obtain real data that has what the Montreal authors term "ecological value" (Vanhalle, Lemieux, Ska and Joanette 2000). From this standpoint, the pragmatic category most affected is conversational implicature. When a conversational interaction involves an aphasic participant, aphasia ceases to be a feature that is exclusive to this subject, as the principle of cooperation means that all participants (obviously, with more or less fortune or skill) try to adapt their interventions. Aphasia, then, is not a feature of one speaker, it affects the whole interaction.

2. *Representativity of the sample.* In unmarked cases (such as the corpuses of colloquial language, cultivated speech, etc. quoted above) we assume that the subjects are representative of established prototypes with sociological criteria. But speakers with aphasia show an extremely high level of heterogeneity that hinders the

consideration of a particular symptom or feature as being representative of a certain type of aphasia:

> "*An initial approach to the subject of verbal pathologies shows us, as perhaps the most significant aspect of this field of study, the huge heterogeneity with which impaired linguistic behaviour can manifest itself, or that has been assessed as such according to certain models. (...) the heterogeneity of impaired linguistic behaviour does not refer only to the many syndromes through which it shows itself, but also to the unanimously accepted fact that individual behaviours can show a high degree of inconsistency or mood swings*". (Hernández 2002: 175)

We therefore try to collect as broad a corpus as possible, by recording everything we can. The typical situation we look for is that involving both the aphasic speaker and the "key conversational partner" (Whitworth, Perkins and Lesser 1997), that is, the person from their immediate family with whom the aphasic speaker has the closest relationship. In the majority of cases this is the spouse. The researchers present during the recording normally have the intention of playing as small a role as possible, but the situation is completely unpredictable (which is also true of any conversation). Frequently, our hosts' expectations are that we are going to interview them and so they wait for our questions in silence. Sometimes, our lead-in strategies fail completely and there are long fragments during which the conversation exchange appears not to gel.

3. *Concept of corpus and transcription*. As argued previously, the corpus is not always an implicit analysis of material, but an objective in itself (we therefore reject the CHILDES system's "never-ending transcription" and ethnomethodology's "untransferable transcription", Gallardo 2003).

2.3. Conventions

The system of transcription being used in the PerLA corpus is described below. It takes on board the adaptation carried out some time ago (Gallardo 1993a, 1993b) of the conventions drawn up by Gail Jefferson for conversational analysis (Sacks, Schegloff and Jefferson 1974) together with other suggestions put forward by the Val.Es.Co. group (Briz *et al.* 1995 Briz and Val.Es.Co. group in press) and some others conceived specifically for these data.
Contextual information, such as participants, their personal data, details of the medical diagnosis, place of recording, etc. are provided on a record card kept separately from the transcription, unlike the CLAN and SALT systems, or the CORLEC, that show this data in the first lines. In CHILDES these first lines (or "headers") may be:

- compulsory: start, participants, end
- constants: age, sex, date of birth, education, social and economic status, transcriber, program version, dependent, source, group, language, stimuli, observations
- changing: activities, situation, date, place, length of the recording (in length of tape and in time), comments and "gems"[17] (start and end).

Transcription from the CHILDES Corpus[18]

```
@Begin
@Participants: AIN aina target_child, LOG logopeda examiner
@Group: control
@Impairment: ELM
```

[17] The CHILDES "gems" are linked to the GEM program, which is part of CLAN.
[18] See the Appendix for the conventions of this system.

```
@Sex of AIN:  femenino
@Age of AIN:   4;11
@Birth of AIN: 13-JUL-1992
@ID:     2.2.411.2.1=AIN
@Language:     español
@Date:   10-JUN-1997
@School: CEIP Cinto Verdaguer
@Tape Location: Baix Llobregat
@Logopeda:     no tiene
@Coder:  martap
@Filename:     01c-4.cha
@Time duration :  00 :40 :58 – 1 :23 :03
@Frame duration: 1890-3412
@Room Layout : la imagen es clara, y se sitúa en un aula con un armario
         detrás; la cámara sólo enfoca a la niña y la mesa que tiene delante;
         no se ve a la logopeda.
@Warning:      Aina es muy tímida, y tarda en mucho en responder a la
         logopeda; además, habla muy bajo.
```

This is the record card template in use to date; it is attached to one of the first pages of the presentation:

IDENTIFICATION DATA:

Subject no.:					
Initials:		Sex:		Age:	
Accident date:		Recording date:			
Diagnosis:					
Relation to key conversational partner:					
Education or previous profession:					
Bilingual:					
Details of communication situation:					

Nearly all the items included appear in the contextualising "headers" in systems such as CHILDES and TEI. As can be seen, we have not taken into account some of the data that appears in CHILDES, as they do not directly affect subjects' linguistic production (although they may affect the recording and its subsequent transcription).

Change of speaker. Each participant is identified with an initial; in the majority of cases we use E. for the interviewer ("entrevistador") and P for the patient, although we are aware that these labels do not always reflect reality. The other conversational partners normally identify themselves by means of their functional relation to the patient (A for a friend - "amigo", H for offspring - "hijo", M for husband - "marido", etc.). In the rare cases in which the conversational partner cannot be properly identified, we refer to them as "?".

```
001    E.   ¿i ahir va estar en la doctora del Cli- en Dolores?
002    P.   ¿en mi casaa?
003    H.   noooo/ [en la DOCTO]RA
004    P.              [°(aay)°]
005    H.   que anàrem al Clínic
```

From the PerLA Corpus, JFG: 001-005.

As the above example shows, each speaker's turn is numbered, so as to easily locate transcription fragments (we do not number lines as this would give rise to changes according to paper size and margin settings). The basic unit is the speaking turn, independently of its duration and of the syntagmas or speech acts included within it. This is a basic difference with the CHILDES[19] and the SALT systems, which segment into smaller units, closer to Halliday's *informative units*[20], phoneticists' *melodic units* and *phonic clauses*[21], or *breathing groups* (Jaffe and Feldstein 1977). Consequently, a change of line does not necessarily mean a change of speaker:

```
M    aquí dice te pongo las bota/s.
M    ¿qué eso quiere decir?
M    ¿que el nene se está_poniendo las bota/s verdad que sí?
C    sí.
M    mira las bota/s.
M    ¿ves qué linda/s?
M    mira la araña.
M    mira.
M.   una araña.
M    la araña te va a picar.
M    ¿ok?
```

Fragment from SALT

The internal segmentation of the turn is done with slashes (/) indicating pauses; conventional punctuation signs such as full stops or commas are not used and upper case letters are reserved for emphasis (and, of course, for personal names; abbreviations are noted in lower case letters: "samu", "uci").
As far as turn taking is concerned, the following phenomena should be mentioned: the immediacy of the turn change (compared to cases in which there are planning pauses, or of turn taking), overlaps and interruptions and their resolution. The usual AC criteria are followed to indicate overlaps (square brackets) and maintaining turn in case of superposition; the sign § is added to mark a smooth transit, with no perceptible pauses:

Notation	Meaning
§	immediate succession ("overlapping") between two utterances by different speakers. With a typographic space on either side.
=	maintenance of a turn by one speaker in an overlap (inside the square bracket: [=).
=	maintenance of a turn by one speaker in an overlap (inside the square bracket: [=).
[	place where an overlap begins.
]	place where an overlap ends; this is not always easy to ascertain, particularly in the case of collaborative turns.

For example:

[19] CHILDES talks about "utterances": "CHAT requires that there be only one utterance on each main line" (§6.3).
[20] For Halliday (1985: 38) the phonic clause corresponds to the thematic level or structure, while the tonal group is the basic unit in the informative structure.
[21] Navarro Tomás (1948: 41): One phrase of a certain length can be divided into a greater or lesser number of units, depending on the particular intention with which its sense is activated in each case. The increase in units is prompted by highlighting and valuing the semantic elements in the phrase. Logical and emotional circumstances influence this decision. As a particular idiomatic element, the feeling of the predominant measure or beat in each languages rhythmic structure also has an influence.

```
051    H.  ¿cómo que nada de nada?/ va/ no digas que=
052    M.  [no s'ha d'enfadar]
053    H.  [= nada de nadaa quee/ cuando quieres
            charras §
054    M.          § claro que sí// eso es lo que tiene qu'hacer↑
055    H.  que conmigo charras un montón §
056    M.                              § eso es lo que tiene qu'ha[cer]
057    E.                                                         [claro]
058    M.  cuando una cosa quiera expresar/ o una idea quiera expresar/ entonces/
              si nooo la comprendemos a la primera↑/ ella tiene que insistirnos
              para que nosotros/ podamos comprenderla
059    P.  hueeey/ vaaa
060    M.  sí síi/ ha de insistir/ mira/ eso es lo que quiero/ y si una vez no↑/
              vuelves a insistir/ oye/ que lo que quiero↑ es esto/ para que te
              comprendamos perfectamente/ que tú cuando- [que tú sabes]
061    P.                                                 [¿tú vas a vore (xxx xxx
              xxx)(⇒ E.)?
```

From the PerLA Corpus, JFG: 051-061.

Pauses. Pauses made by the speaker during their turn are recorded, with a general interpretation of their duration (timed or measured by a sound program):

Notation	Meaning
/	short pause, less than half a second.
//	pause that varies between half and one second.
///	pause of one second.
(5.0)	pause of five seconds; timed in cases where the transcriber interprets the pause as particularly important.

Given the difficulties speakers sometimes have (not only aphasic speakers) to construct their intervention, the appearance of restarts and self-interruptions is quite frequent. These pauses of vacillation or restructuring are marked with a dash:

Notation	Meaning
-	pause within a turn, due to restarts, restructuring or self-interruptions.

These are frequent phenomena in the colloquial speech of all kinds of speakers. The authors of Val.Es.Co (Briz *et al*. in press) argue that in colloquial speech:

> *"alongside simple vacillations caused by external causes (lack of skill, forgetting a word, etc.) restarts are sometimes caused by a plan, whether informative (the speaker wants to specify or better explain what they have not yet finished saying) or of attitude*".

But in aphasic speech the most frequent explanation for restarts is, precisely, an external one, basically due to problems with lexical access or of syntactic integrity:

```
108    H.  ¿no t'acuerdas?
109    P.  ((¿yo que se a- enfer- que tenía algo?))
110    H.  sí// y te fui a dar una aspirinaaa- una aspirina nooo-uuun eeeh- un
              antibiótico// y entonces/ estabas yaaa que te había da(d)o el
              infarto// y luego llamamos al samu/ que vino el samu/ ¿no t'acuerdas?
```

From the PerLA Corpus, JFG: 108-110.

The transcription does not qualify the type of pause (lapses, intervals; Gallardo 1993b) it merely reproduces it. As you will see, interesting additional information can be gleaned from the melodic curves surrounding such pauses. Arrows are used to mark tonal inflections that are

particularly interesting or that contradict normal intonation in some way (we do not place a typographic space in front of the toneme, but after it):

Notation	Meaning
→	suspended intonation.
↑	ascending intonation.
↓	descending intonation.

Vocal and paralinguistic features. There are a number of voice aspects that may be pertinent. For example, pronunciation in a softer tone of voice, or louder than may be considered normal for participants in the conversation; the signs °( )° and upper-case letters are used respectively. The case may also occur that certain utterances or fragments are spoken in an almost breaking voice, either because the speaker becomes emotional, or because the topic triggers some kind of stress; this is marked using asterisks: *( )*.

Notation	Meaning
°( )°	spoken in a very low voice, almost a whisper; sometimes utterances "said to oneself".
UPPER-CASE	spoken in a very loud voice.
aa	long or suspended tone (if in a final position, the toneme is not placed as it would be redundant)
( )	spoken strangely: broken, with effort or upset.

Other pronunciation factors can be affected, either by the relaxation or speed typical of colloquial speech (aspirations, vocal elisions); when non-grammatical shortenings take place, the omitted phonemes are transcribed in brackets. In contrast, when the speed slows down to facilitate understanding, bold lettering is used and each syllable is separated:

```
057    T.          [a ver]/ ¿probamos otra vez?
058    P.   sí §
059    T.       § el río lleva mucha aguaaa/ porque hoy ha llovido
060    P.   me cuesta mucho/ se me pierdee//[((todo el día))]
061    T.                                   [(xxx xxx)]
062    P.   a ver/ me lo diceh más len[tee↑]
063    T.                             [sí-ii]
064    P.   y yo te sigo§
065    T.   §y tú me sigues
066    P.   a ver
067    T.   el rí o↑
068    P.   el río↑
069    T.   lle va mu cha a gua→
070    P.   lleva mucha agua↑
071    T.   por que HOY↑
072    P.   porque hoy ha lla-llovido mucho
073    T.   vaale// mucho sobraa/ pero (b)ueno
PerLA Corpus, CHB.
```

Italics are reserved for fragments in direct style (in conversational narratives, for example) or for metalinguistic use, generally what linguistics terms repeated discourse:

Notation	Meaning
p(e)ro	reconstruction of a fragment that has not been said by the speaker.
h	aspirations.
m'han dicho	elisions by syntactic phonetics and speed of speech.
dí ga me/ lo que ve/ en es	bolding is used to mark "syllabised" speech, in which the speaker talks with special care; can occur in a word or a sentence and all syllables are separated.

ta fo to *cursive*	fragments of direct style or repeated discourse.

Sometimes the speaker's diction is particularly difficult (especially in patients with Broca's aphasia) and the transcriber is unable to reproduce what they are hearing. Brackets are used in these cases, single when nothing can be understood, and double brackets when the transcriber makes a suggestion:

Notation	Meaning
(xxx xxx)	undecipherable fragment, apparently two words.
((la doctora))	doubtful transcription; the transcriber suggests a possibility but is not sure.

Non-verbal communication. One of the differentiating characteristics of aphasic speech is that it rests on gestuality; some gestures should be recorded as they are essential for understanding what is happening in the interaction. There basically two possible ways to transcribe them: to use a parallel explanatory text (such as footnotes) or to insert the description of the non-verbal communication into the transcribed text.
In principle, and except in the case of very elaborate movements, we believe that gestuality should preferably be described in the text itself, using brackets and small capitals. For example, many deictics and illustrative or regulating gestures are explained in this way[22], as well as paralinguistic elements of the type (LAUGHTER), (COUGHS), or (HUMMING). Sometimes the movement is made several times, the repetition is shown as a superscript R:

Notation	Meaning
here (TOUCHES FOREHEAD)	gestures and non-verbal elements that clarify the intervention.
here (TOUCHES FOREHEAD)	the superscript R means that this particular gesture is made repeatedly.

```
027    T.   ¿pierdes el hilo de lo que ibas a decir↑/ o es que te equivocas en la
               palabra?
028    P.   no no nooo/ que no-queee/ de aquí (MANO IZQUIERDA EN LA SIEN  HACIA LA FRENTE)R
               se me va
029    T    ¿se te va lo que estabas [tratando]=
030    P.                            [sí/ sí/ sí]
031    T.   = de decir?
PerLA Corpus, CHB: 027-031.
```

The gaze is a particularly important form of non-verbal communication. Various interesting attempts have been made to transcribe it in the ethnomethodological tradition; Goodwin (1981) uses a continuous upper line to show the speaker's gaze and a lower line for the listener. We have opted for using an arrow and the initial of the participant being gazed at:

Notation	Meaning
(⇒ E.)	the speaker looks at conversational partner E.

[22] "*Illustrating gestures: There are a number of non-verbal acts directly related to speech or that accompany it and that serve to illustrate what is being said verbally. They can be movements that accentuate or emphasise a word or a sentence (...). Regulating: There are verbal acts that maintain and regulate the entire process of speaking and listening between two or more interacting subjects. They give the speaker clues that they should continue, repeat, give more details, hurry up, etc.*" (M. Knapp 1980).

In summary, we seek a system that is easy for the reader to understand and that includes the pertinent features for pragmatic analysis.

Notation	Meaning
001	transcription turn.
E.:	the turn belongs to the speaker identified as "E".
§	immediate succession ("overlapping") between two utterances by different speakers.
=	turn maintained by a speaker in an overlap.
[	place where an overlap begins.
]	place where an overlap ends; this is not always easy to ascertain, particularly in the case of collaborative turns.
/	short pause, less than half a second.
//	pause that varies between half and one second.
///	pause of one second.
(5.0)	pause of five seconds; timed in particularly relevant cases.
-	pause within a turn, due to restarts, restructuring or self-interruptions.
→	suspended intonation.
↑	ascending intonation.
↓	descending intonation.
°( )°	spoken in a very low voice, almost a whisper; sometimes utterances "said to oneself".
UPPER-CASE	spoken in a very loud voice.
aa	long or suspended tone (if in a final position, the toneme is not inserted as it would be redundant)
( )	spoken strangely: broken, with effort or upset.
p(e)ro	reconstruction of a fragment that has not been said by the speaker.
h	aspirations.
m'han dicho	elisions by syntactic phonetics and speed of speech.
dí ga me/ lo que ve/ en es ta fo to	bolding is used to mark "syllabised" speech, in which the speaker talks with special care; can occur in a word or a sentence and all syllables are separated.
cursive	fragments of direct style or repeated discourse.
(xxx xxx)	undecipherable fragment, apparently two words.
((la doctora))	doubtful transcription; the transcriber suggests a possibility but is not sure.
here (TOUCHES FOREHEAD)	small capitals show gestures and non-verbal elements that clarify the intervention.
here (LAUGHTER)^{R}	the superscript R means that this particular gesture is made repeatedly.
(⇒ E.)	the speaker looks at conversational partner E.

Apart from these conventions, we use footnotes for specific cases in which, in the transcriber's view, some sort of explanation is required; for example, changes in the communicative situation, detailed observations in respect of proxemics or gestuality, or sometimes for comments relating to the change in coding (given the fragmented discourse of these speakers and the typological proximity of the two languages normally used, Spanish and Catalan, it can be very difficult to give an opinion about which language is being used in each turn).

Appendix: summary of conventions used by the systems quoted[23]

The CHILDES CLAN format

The CHAT format (and in parallel, the CLAN program) has two levels of complexity: minCHAT and midCHAT. The conventions of midCHAT are summarised here, taken from the Manual available on the Internet, but regrouped according to our criteria.

Notation	Meaning
HEADERS	
@Start	first line (bare header).
@Participants	participants are detailed using codes consisting of three upper-case letters, e.g. LOG, PAC.
@End	last line of the transcription (bare header).
*XXX	what was really said by each speaker (main lines), the lines are filled with clauses, not with interventions or turns (there can be successive lines by the same speaker).
@Dependent	for the type of observations to be included (phonological, non-verbal, etc.); these are dependent lines in respect of the main lines.
@Age of XXX	child's age (e.g. 2;6.14).
@Date	recording date.
@Birth of XXX	child's birth.
@Coder	coder's name.
@Education	XXX's education level.
@Coding	CHILDES version used (no longer applicable).
@Sex of XXX	child's sex.
@SES of XXX	XXX's social and economic status.
@Group	"impairment group" vs. "control group".
@Impairment / Control	abbreviation identifying another child in the impairment / control group.
@Font	initially, Monaco9 or Courier-New13.
@Language	language used by the child.
@Stim	indicates that there are stimuli for the production triggered.
@Transcriber	transcriber's name.
@Warning	observations made by the transcriber relating to the state of the recording, the absence or presence of certain phenomena, etc.
WRITING	
. ? !	basic signals for end of utterance.
, ,,	marking sentence junctures, but without strong prosodic value; the double comma precedes the added questions.
-? -! -. –‘. -,.	final melodic surroundings: ascending (-?) exclamatory (-!), descending (-.), ascending-descending (–‘.) and descending-ascending (-,.).
-, -_ - -‘ -:	non-final melodic surroundings: suspended intonation (-,), descending (-_), low (), ascending (-¿) or prolonged (-:).
/ // ///	syllabic intensity accent marks.
:	phonic prolongations.
::	pauses within a word (“bana::nas”).
# ## ###	empty pauses.
#0_5	pauses of 0.5 seconds.
+	anacoluthon, incomplete construction.
+/.	interruption.
+//.	self-interruption.
+”/.	direct style in narratives.
+^	faster speed than normal.

[23] The AFI and the SAMPA are not included here, since, as has been said, phonetic notation falls outside our field of interest.

+<	overlap with previous utterance.
< >	start and end of an overlap.
+,	self-termination of the interrupted utterance.
++	collaborative turn completing that of the other speaker.
[“]	metalinguistic use of a word or syntagma.
[=text]	explanation of a deictic or similar appearing in a main line.
José	upper-case letters are only used for personal names and, in English, for the first person pronoun.
xxx	unintelligible words in a main line.
yyy	unintelligible material in a main line, detailed in a %pho line.
www	untranscribed material that has a dependent explanatory line %exp.
&	reconstructed form, the transcription of which is not entirely clear (CLAN does not recognise it as a word).
[?]	the transcribed word is the one considered to be the "best option" by the transcriber.
()	elided sounds: "p(e)ro".
0word	omitted word, "replaced" by the transcriber.
0*word	omitted word causing agrammaticality.
00word	ellipsis.
0	a main line that reflects an action not accompanied by speech.
[=! text]	paralanguage: [=! shouts].
<text>	emphasised fragment (also with [!]).
%	comment lines for the main lines (dependent tier). Can refer to phonetic, non-verbal questions, etc. ("%com", "%pho").
%pho	phonological clarification dependent line, transcribes specific fragments phonologically.
%exp	observations on an extralinguistic item.
%tim	observations on pauses, rhythm, etc.
%mor	observations on morphology.
Markers	
@c	ending indicating that the word in question is a form invented by the speaker "bingbing@c" (a specific lexicon file is created).
@b	ending indicating that the word in question is mumbled ("abame@b").
@d	ending indicating that the word in question is a dialectic form.
@f	ending indicating that the word in question is a specific family word.
@fp	ending indicating that the word in question is filling an oralised pause (filled pause).
@i	ending indicating that the word in question is an interjection.
@l	ending indicating that the word in question is a letter.
@n	ending indicating that the word in question is a neologism.
@o	ending indicating that the word in question is onomatopaedic.
@p	ending indicating that the word in question is a phonologically clear form.
@pr	ending indicating that the word in question entails a repetition ("it's a,it's a@pr").
@s	ending indicating that the word in question belongs to the speaker's second language.
@sc	ending indicating that the word in question is pronounced as a simple schwa (“I@sc”).
@sl	ending indicating that the word in question is uttered in sign language (“apple@sl”).
@sas	ending indicating that the word in question is pronounced and signed ("apple@sas").
@si	ending indicating that the word in question is pronounced singing (“eayeayoh@si”).
@t	ending indicating that the word in question is "test word" (“wug@t”).
@u	ending indicating that the word in question reflects a "Unibet" phonetic transcription.
@x	ending indicating that the word in question is to be excluded in the frame of certain research (“uh@x”).
@wp	ending indicating that the word in question is wordplay ("goobarumba@wp").
@g	ending indicating that the word in question is a special form in general use ("gongga@g").

SALT CONVENTIONS

Notation	Meaning
$	presents the participants in the interaction in the first line of text (e.g.: $ Child, Speech Therapist).
N	an initial identifies the speaker in each line; lines are filled with clauses, not with interventions or turns.
+	lines on the subject (age, sex, context).
-	time information marks ("-2:00").
:	pauses between utterances by different speakers (for example, pause of 5 seconds: ": :05").
;	pauses between utterances by the same speaker (for example, pause of 5 seconds: "; :05").
=	transcriber's comments.
.	end of statement or commentary (full stops are not used in abbreviations).
!	end of exclamatory utterance.
?	end of interrogative utterance.
~	intonation note.
^	interrupted utterance.
>	self-interrupted utterance.
( )	oralised pauses, restarts, repetitions, interjections.
< >	overlaps.
/	morphological limit mark.
/s	plural ("kitten/s")
/z	possessive flexion ("dad/z")
/s/z	plural and possession ("baby/s/z")
/ed	past simple; compound tense participles are not marked ("love/ed" but "is loved")
/3s	third person singular form; irregular forms are not marked ("go/3s" but "does")
/ing	verbal flexion; the gerund is not marked in compound tenses ("go/ing" but "went swimming")
/'nt /'t	negative contractions; irregular contractions are not marked ("can/'t" but "won't")
/'	verbal tense contractions: /'ll, /'m, /'d, /'re, /'s, /'ve ("I/'ll", "we/'ve")
*	omission of a word or part of a word
/*	omission of a compulsory morphological limit ("The car go/3s fast")
X	X for an unintelligible syllable or word, XX for a fragment of indeterminate duration, XXX for a complete utterance that is not understood
{ }	comment within an utterance that may or may not be non-verbal communication: "C lookit {C points at the box}" or "C {nods}"
[ ]	codes marking words or utterances; normally placed immediately after the word or utterance, with no blank spaces
[EW]	error in a word: "he were[EW:was] with me"
[EU]	error in an utterance: "we had to then math class[EU]"
|	identifies the root of a word; its use is recommended only in cases of neologisms or invented words: "he goed | go[EW:went] by hisself | himself[EW:himself]"
spelling	contractions and colloquial forms with a fixed transcription: BECAUSE ("cuz" o "cause"), AIN'T, ATTA, BETCHA, DOCTOR, DON'T, GONNA, GOTTA, HMM, HAFTA, HI, HUH, LET'S, LIKETA, LOOKIT, MHM ("yes"), NOONE, NOPE, MRS, MS, MR, OOP, OOPS, OOPSY, OURS, OH, OOH, OK, OUGHTA, PSST, SPOSTA, TRYNTA, USETA, UHHUH ("yes"), UHUH ("no"), WANNA, WHATCHA, YEAH, YEP, YOURS.

AC CONVENTIONS

The ethnomethodologists' system was basically designed by Gail Jefferson for her transcriptions of Harvey Sacks' classes. However, the changes in a number of later published versions explain how we sometimes consign two ways of indicating the same phenomenon. The version summarised below is based on Sacks, Schegloff and Jefferson (1974) and Schenkein (1978). In terms of computer media for the AC model, there is a transcription model (available on the Internet) prepared by Harrie Mazeland, from the *Centre for Language and Cognition* in the University of Groningen in Holland, which provides a template incorporating various frames specifically prepared for AC conventions (see http://www.let.rug.nl/~mazeland).

Notation	Meaning
[	place where an overlap starts.
]	place where an overlap ends.
=	contiguous utterances, pronounced without a perceptible pause between them; also marks the continuity of a turn I that was partially overlapped by a turn II.
(0.6)	interval or silence of 0.6 seconds.
(.)	a barely perceptible pause.
-	a barely perceptible pause ("umm- my mother said it"), in restarts, self-interruptions, etc.
((pause))	pause of indeterminate length. Also: (...).
:	vocal prolongations ("I ju::ss can't come").
.	descending intonation.
,	suspended intonation, or slightly ascending.
?	ascending intonation, not necessarily in questions.
!	strong intonation, not necessarily in exclamations.
italics	italics for slight emphasis.
italics	italics and bold for greater emphasis.
ITALICS	italics and upper-case for maximum emphasis.
hhh	sighs.
.hhh	aspirations.
(( ))	phenomena simultaneous with speech, of various kinds: sound "((cough))", extraverbal "((telephone))", or paraverbal "((humming))".
( )	doubtful fragment for the transcriber.
↓→↑	arrows were initially used with metadiscursive value, to mark fragments of the transcription that were of interest to the analyst; they have later been used as intonation markers because of their high "iconic" value.
syllable	a heavily accentuated syllable is underlined.
CÁLLAte	upper-case letters indicate a louder tone of voice.
°(text)°	fragment pronounced in a lower tone of voice, almost a whisper.