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Volume 62

Sound Patterns in Interaction: Cross-linguistic studies from conversation
Edited by Elizabeth Couper-Kuhlen and Cecilia E. Ford

Sound Patterns in Interaction

Cross-linguistic studies from conversation

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Prolixity as adaptation

Prosody and turn-taking in German conversation with a fluent aphasic

Peter Auer and Barbara Rönfeldt

A characteristic feature of so-called fluent aphasics' speech is their prolixity. In traditional approaches to aphasia, this prolixity is taken to be a symptom of the impairment. Starting from an adaptationist perspective, we argue in this paper that prolixity is better understood as a way of coping with word-finding problems. We identify one particular interactional-prosodic format – diminishing of loudness in one intonation phrase and loud restart in the beginning of the following – which, on the one hand, is a strategy of the aphasic to hide his word-finding problems, and on the other hand a hindrance to turn-taking. We argue that impeding turn-taking in a position in which the non-impaired co-participant's cooperation would be particularly helpful for mutual understanding underlies the categorization of the aphasic's verbal behavior as prolixic.

1. Introduction: Prolixity as an adaptive strategy in aphasic speech

In this paper, we attempt to combine two lines of interest: the interest of interactional linguistics to elucidate (*inter alia*) the linguistic resources employed for turn-taking in conversation and the aphasiological interest in one particular deficit ascribed to fluent (Wernicke) aphasics,¹ i.e. their prolixity. From the perspective of their non-impaired co-participants, but also according to the diagnosing physicians, turn-taking in conversation with fluent aphasics is problematic. Non-impaired speakers feel they cannot get a word in edgewise; their aphasic partner seems to 'ramble on' without giving them a chance to get a turn. Physicians speak of an "uncontrolled outpouring of speech" (see below). Both lay and professional judgments imply a deficiency which has to do with a conversationalist's unwarranted claim to the floor. It seems reasonable, then, to have a closer look at turn-taking practices in conversations with apha-

sics which might underly such negative ascriptions in order to come to a more technical description.²

We will argue from within an adaptationist framework of aphasiological research, assuming that many characteristics of aphasic speech are not a direct effect of the impairment, i.e., a specific cortical brain injury, but rather the result of the aphasic's adaptation to this impairment.³ This assumption, among other things, explains the enormous variety of aphasic speech; each aphasic finds his or her own way of dealing with the language deficits. As a rule, however, these techniques are not invented out of nowhere. Rather, they are known and used by non-impaired speakers as well. However, aphasics transform, sometimes expand and often remodel their unimpaired conversational practices in adapting to their impairment.

We will argue that what is perceived as fluent aphasics' prolixity is (at least in part) the product of their attempts to cope – in a face-saving way – with word-finding problems by concealing them. In the following, we will make this claim more concrete by analyzing one particular speaker who recurrently uses a prosodic format which preempts turn-taking and particularly other-speaker repair at a point where the aphasic speaker is unable to produce a semantically central component of his turn. The format enables him to camouflage this problem of lexical access, by keeping the turn and proceeding to a 'next point' without providing a space in which the problem could be solved collaboratively.

The speaker – Mr. P, as we will call him here – was 67 at the time of the recording and a trained chemist. Before retirement he had been a sales manager in a big chemical company. The data we will discuss are part of an entry interview which took place four months after the stroke (which led to his aphasia) in a rehabilitation center near Hanover. In entry interviews, the aphasic is usually asked about the background of his or her illness and the way in which s/he perceives his or her aphasia. Technical issues also are on the agenda (such as setting up a training programme).

Mr. P speaks standard German with a Rhineland (Riparian) accent. He is a so-called fluent aphasic, with prosody fully intact. His comprehension also seemed to be unaffected at the time when the recording was made. He was usually able to get across what he wanted to say. What is more, although he engaged in many self-repairs and although there were quite a few hesitation markers in his speech, these repairs did not seem to differ from non-impaired repair in impromptu speech due to their fluent production. Only when listening closer did one discover numerous word-finding problems, and semantic and phonemic paraphasias.⁴

According to a clinical assessment taken three months after Mr. P's stroke (i.e., one month before the interview), his aphasia was classified as a mildly graded Wernicke's. The diagnosing physician explicitly mentioned Mr. P's prolixity, stating that "in conversational contexts (other than in formal testing) strategies of controlling his verbal output are only poorly developed. The patient reacts to verbal mistakes with uncontrolled outpouring of speech" (our translation). Here, Mr. P's prolixity is considered to be part of his aphasic impairment.

Mr. P himself was aware of this prolixity as well but talked about it in somewhat different terms, as the following longer extract from the conversation (which also gives a first impression of the speaker's deficits and his strategies to overcome them) shows:

Extract 1⁵

- 01 P: das ist ehm eh (1.0)
it is uhm uh (1.0)
- 02 es Ist eben SCHWER,
it is difficult
- 03 einen <<p>einen> sachbesp (--) verHAND; (--)
an an examp (--) fant; (--)⁶
- 04 P: [einen] <<len> SACHverhalt>
a fact
- 05 T: [mhm]
uh=uh
- 06 T: ja
yes
- 07 P: zu beSCHREIBen.
to describe.⁷
- 08 T: ja=a
yeah
- 09 P: und dazu grauch <<all>braucht> man bestimmt
and for that you mee⁸ need definitely
- 10 wenn es ein SOLcher <<p>(eh/ein) solches THEma ist,>
when it is such a such (uh/a) topic
- 11 da brAUcht man eine REIhe von (--) WORTen;
then you need a range of words

- 12 die <<p>ÜTzen sind;>
which are (?)⁹
- 13 die (--) TYPisch sind für solche dinge.
which are typical for such things
- 14 .h die muß man Haben?
.h you have to have them
- 15 .h nich wenn es um politische [hier] solche dinge
.h don't you, when it's about political [here] such things
wie das
like that¹⁰
- 16 T: [ja=a
yeah
- 17 P: (eben) .h <<p>nich> da mUss man nicht RAten
don't you you don't want to have to guess
müssen, (--)
there, (--)
- 18 WELTanschauung. (---)
weltanschauung. (---)
- 19 T: hm=hm
uh=uh
- 20 P: <<p>nich oder> (su ?) demokraTIE;
do you, or (?) democracy
- 21 kommuNISMus;
communism
- 22 nich;
you know
- 23 wenn ich das <<len>LANGsamer tUe?
when I do it more slowly
- 24 <<len, dim>denn GEHT das einigermaßen.>
then it works okay more or less
- 25 T: hm=hm
uh=uh
- 26 P: nich aber wenn ich das=eh (---) SCHWETT oder ZÜgig
VORtragen mÖCHte,
you know, but when I want to present it (---) (?)¹¹ or smoothly

- 27 T: ja
yeah
- 28 P: .h <<p>und DEShalb auch eh zur folge,
.h and because of that also as a result¹²
- 29 .h dass man sÄtze konschtruIERT>;
.h that you construct sentences
- 30 eh <<pp>die NICHT schön sind: . nich.
uh which aren't nice. you know.
- 31 SELten;<<cresc>sell=eh längen längelange lange> SÄtze
seldom;¹³ sel=eh lengths length long long sentences
[undsoweiter]
and so on
- 32 T: [hm=hm]
uh=uh
- 32 P: .h furchtbar das: SOLLte man ja nich.
.h horrible. you shouldn't do that.
- 34 P: =man sollte möglichst präZA: präZÄse präzise .h eh
<<pp>dinge vOrtragen;
you should present things as prece precece¹⁴ precise uh as possible;
- 35 das ist die FOLge davon,
that's the result of that,
- 36 T: hm=hm
uh=uh
- 37 P: nich <<pp> ()
you know ()
- 38 <<ff> SCHWafeln>.
waffling
- 39 <<dim> dAs ist das richtige WORT.
that's the right word
- 40 T: ja=a
yeah
- 41 P: <<f>SCHWafeln;>
waffling
- 42 T: =sie kommen DAdurch;
you get

- 43 dass ihnen wörter FEHlen und sie dann Andere wörter
because you can't find words and then you look for other words
[SUCHen] so?
instead yeah
- 44 P: [<<f>SCHWafeln]>
waffling
- 45 P: =ja
=yeah
- 46 (1.5)
- 47 T: hm=hm
uh=uh
- 48 P: nich *das ist=eh nicht das problem ist=.h,*
you know, *that is not the problem is=.h*¹⁵
- 49 eh dass ich die zusammenhänge nicht (einer) REIthe
bringen konn;
uh that I *con't*¹⁶ bring the connections (a)¹⁷ row;
- 50 das NICHT? .hh
not that? .hh
- 51 sOndern (--) ich brAUche ja WÖrte und eh (--)
begriffe beSONdere.
rather (--) I need words and uh (--) *terms special.*¹⁸
- 52 [nich]
you know
- 53 T: [hm=hm]
uh=huh
- 54 P: das sind denn oft SCHWIERige worte mAnchmal; (1.0)
these are then often difficult words sometimes;
- 55 .h eh:m:h<<p>die einem nicht zur verFÜgung stehen.>
.h uh:m: which you don't have at your disposal.
- 56 <<all><<p>[aber] ich MUSS das ja nicht.
but I don't have to (do) that
- 57 T: [ja=a]
yeah
- 58 T: ehm (---) sie haben Eben gesagt,
uhm (---) you just said,

- 59 sie HAM die wörter nicht;
you don't have the words;
60 so IST es ja irgendwie nicht. nă?
somehow this is not the case. is it?
61 (1.0)
62 P: .hh (---) <<decr>ich habe sie DANN
.hh (---) I have them
63 wenn ich=hhh
if I=hhh
64 aber ich KANN das nicht.> .h
but I can't do that .h
65 ich müßte <<len>ganz langsam> SPREChen,
I would have to speak extremely slowly
66 <<p>als wie nen beKLOPPter nich>
like I was a loony you know
67 <<p, chopped> [als] wenn man denn>
as if you then
68 T: [ja=a]
yeah
69 P: .h <<len>dann kommt das langsam>
.h then it comes slowly

Mr. P is well aware of the fact that he tends to 'waffle', and suffers from the fact that he cannot say things precisely. But for him, in contrast to the view of the diagnosing physician, this 'waffling' is not a phenomenon in its own right but rather related to his word-finding problems. In order to talk about certain topics, such as politics, he argues, one needs a certain vocabulary; since he cannot access these words, he would actually need to pause and speak very slowly. This, however, would not be a good solution since it would make him lose face (cf. Rönfeldt & Auer 2002): he would sound 'like a loony' (*wie nen Bekloppter*). The alternative for him is to 'waffle', producing 'long sentences' which keep him talking although they are deplorably imprecise; but while he is talking he can try to access the word in question.

Taking the speaker's perception seriously, we searched our data for possible links between turn-taking and the speaker's word-finding problems. In doing so, we were struck by a recurrent pattern which, we believe, can give us a hint of how the two are interrelated. The pattern essentially relies on prosody and

is also known from non-impaired speech where it is used differently, however; it consists of a reduction of loudness at the end of one (candidate) intonation phrase (which may be accompanied by other prosodic features) and a sudden increase of loudness (again often accompanied by other prosodic features such as pitch reset) at the beginning of the following. For short, we speak of the *diminuendo & forte restart* format.

2. The format: *Diminuendo & forte restart*

The format in question essentially makes use of loudness. Some preliminary remarks on this parameter are therefore necessary, since it is only rarely analyzed in detail in interactional linguistics. During the production of an average IP (intonation phrase), loudness always varies according to the metrical status of the syllables contained in it (i.e., accented syllables are louder than non-accented ones), and also according to the segmental materials making up the syllables. In addition, as Laver (1994:505) points out, loudness shows a "declination" over the course of the intonation phrase not unlike its pitch declination. This means that the loudness envelope of the phrase exhibits an overall pattern of reduction until a loudness 'baseline' is reached in the end. Reduced loudness may therefore cue the termination of a TCU (turn-constructional unit).

However, the speaker may also manipulate loudness and thus diverge from the unmarked pattern in order to reach some kind of conversational effect, for instance by inverting the unmarked loudness pattern (starting in a piano and ending in a forte voice). A reduction of loudness over the course of an IP which exceeds what is normally expected will also be perceived as salient.

In addition to these IP-internal manipulations, loudness may also be used to (un)link adjacent IPs, by lowering or raising the baseline (i.e. the loudness 'register') or by narrowing or widening the loudness span ('range'). Loudness shifts between IPs are often said to mark topic shifts and parentheses, i.e. new topics are contextualized by forte restarts and parentheses¹⁹ set off against surrounding talk by reduced loudness. Often, expansions of turns in a topic fade-out are also reduced in loudness (as well as pitch range).

Goldberg (1978) argues that "amplitude shifts"²⁰ indicate an utterance's sequential "affiliation" with its precedent. In particular, she is able to show that lowered amplitude is a characteristic feature of answers, while new question/answer sequences start out with an upward shift of loudness on the question, i.e. the first position in the sequence. Couper-Kuhlen (this volume) also

pursues a sequential line of analysis, but explicitly discusses the evidence for and against a topic-related interpretation as well. Unlike Goldberg, she does not look at loudness in isolation, but at the combination of increased loudness and pitch reset in the beginning of certain IPs. She shows that this constellation of features is not used for new topics which are being reached stepwise, and that sequential disjunctions can also be marked in such a way.

Loudness shifts are relevant cues for turn-taking. French and Local (1983) provide evidence that competitive incomings in simultaneous speech are marked by an increase in loudness (in concurrence with other features such as higher pitch). Local and Walker (in press) identify *diminuendo & forte restart* as one of a bundle of features through which "abrupt joins" between TCUs are constructed. Their description of loudness variation comes very close to the prosodic mechanism which we will describe in the following section, but the time frame in which loudness is manipulated in "abrupt joins" is usually very small (sometimes just two syllables).

Taken together, many studies suggest an iconic relationship between loudness and (claimed) conversational 'newness' or relevance. This iconic relationship underlies the marking of contrastive and emphatic accents, but also of focus accents and accents in general; it also underlies loudness manipulations for new topics and new (sequences of) activities. Speakers who (in simultaneous speech) insist on keeping or getting the floor by the same token claim relevance for what they have to say. On the other hand, the low loudness of topic fade-outs, of asides and parentheses, of non-competitive simultaneous talk but also of de-stressed syllables on the lexical level of metrical structure, mark elements of low relevance which are either predictable or less central to the argument. However, the studies referred to in this section also make clear that loudness is only one parameter among many (most prominently pitch) which take part in this process.

A convenient framework for the analysis of prosodic signals in conversation is that of contextualization as developed by Gumperz (1982; also see Auer 1995, 1996). Contextualization cues are indexical, non-referential features of language which conversationalists use (often redundantly) in order to create the adequate context in which their utterance needs to be understood. Among them, prosodic cues play a prominent role.

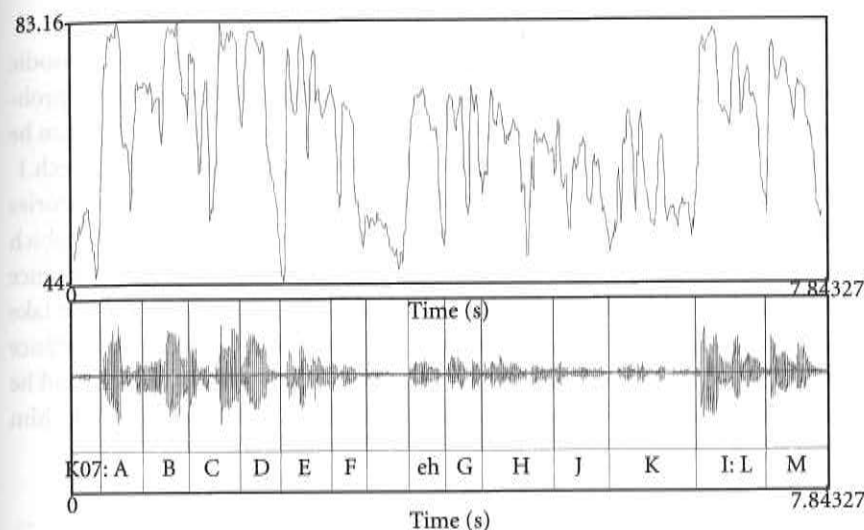
As an example of the working of loudness as a contextualization cue, consider the following extract from a conversation among non-impaired, adult native speakers of German (also with a Riparian accent). Speaker K07 employs loudness reduction in order to relinquish the turn (*diminuendo*) and speaker I claims the turn by increasing loudness in her next utterance (*forte restart*).

Extract 2. Interview with a resident about the regular floods along the river Rhine

- 01 I: ham se dann beKANnte oder so
do you then sort of know people
- 02 die dann noch MEHR von betroffen sind?
who are affected ((by the flooding)) even more
[...]
- 03 k07: [(ja SICHer die ganze STRO:SS)
(yes of course, the whole street)
- 04 die [SPARKasse zum beispiel
for instance the savings bank
- 05 i: [...]
- 06 k07: die sin am ERSten am pumpen
they are the first to pump
- 07 i: ja
yes
- 08 k07: die spArkasse pumpt immer als ERStes
the savings bank is always the first to pump
- 09 und dann auch hier die RUHR
and then here the 'Ruhr' as well
- 10 das ist die straße die hier am RHEIN entlang läuft
that's the street running alongside the Rhine
- 11 die sind alle apoTHEker
they are all pharmacies
- 12 alle sind die noch VOR uns am pumpen
all of them are pumping before us
- 13 da LAUFen dann die SCHLÄUCHE aus m keller raus-
then the hosepipes run out of the basements
- 14→ <<dim> da sIEht man wie die eh da aus dem KELLer
rauskommen die schlÄUche und die pUmphen alle.>
then you see how they uhm come out of the basements, the hosepipes
and all the pumps.
- 15→ i: <<f>kAnn man sich dagegen verSICHern?> ((etc.))
can you insure yourself against it?

Loudness in lines 14–15 was extracted instrumentally and is displayed in Figure 1.

After the interviewee has talked about the annual flooding at some length, the extract begins with the interviewer's question whether there are neighbors who are affected even more than the interviewee. The interviewee answers that the savings bank and the pharmacies on 'Ruhr street' set their pumps in motion before the water reaches her house. In line 12, this answer is complete. The interviewee adds some details, describing the situation (pumps, hoses). This part of the turn is marked by a very noticeable reduction of loudness, clearly visible in the loudness/intensity extraction. The interviewer picks up this contextual-



Loudness extraction for lines 13–15 (in decibel, upper part):

- A = da laufen dann
B = die Schläuche
C = ausm Keller
D = raus
E = da sieht man
F = wie die
G = da aus dem
H = Keller rauskommen
J = die Schläuche und die
K = Pumpen alle
L = kann man sich dagegen
M = versichern?

Figure 1.

ization as a topical fade-out and smoothly takes over the turn, starting a new (sub-)topic by asking another question (insurances against floods). Her turn-beginning is marked by a forte which stands in clear contrast with the previous utterances by K07, underlining her claim to the floor.

Cases such as this also occur in the conversation between Mr. P and his therapist, i.e., there is evidence that Mr. P actively uses diminuendo for contextualizing turn exit (cf. for instance lines 23–25 in Ex. (1)).

3. Diminuendo & forte restart as an adaptationist strategy in aphasic speech

Against this background, let us now consider some uses of the same prosodic pattern of diminuendo (& forte restart) in which adaptation to amnesic problems is an issue. (For reasons of space, only a small number of examples can be discussed; the phenomenon is considerably more frequent in Mr. P's speech.)

The context in which the first example occurs is one of the usual stories elicited in first interviews, i.e. the story of how the stroke happened which caused the patient's aphasia. As it turns out, it was during the night, and since neither Mr. P nor his wife realized that he had had a stroke, they did not take Mr. P to the hospital until the morning of the next day. In the crucial utterance (lines 18ff.), Mr. P wants to argue that too many hours went by which, had he or his wife been aware of the stroke, could have been employed to help him recover more easily.

Extract 3

- 01 P: etwa nachts um zwei U=UHR?
at about two o'clock a.m.
- 02 T: ja=a
yeah
- 03 P: <<all>ich bin EINGeschlafen wIEdEr?
I fell asleep again?
- 04 =ich hab das nicht also so (1.0) das nicht?
geMERKT?
I didn't really (1.0) well like not notice it?²¹
- 05 T: hm=hm
uh=uh

- 06 P: ich (wUsst) dass mal WAR,
I (knew) that (once/sometime) was²²
- 07 und meine frau hatte sowas geHÖRT,
and my wife had heard something like that
- 08 .h <<len>aber wir haben nicht verMUTet;>
but we didn't suspect
- 09 .h dass es SOWas <<decr>gewesen wäre>>; nich
that it would have been something like that; you know
- 10 T: hm=hm
uh=uh
- 11 P: <<all>ich bin (viel) WEItergeschlafen;
I fell (ol) on sleeping²³
- 12 =(ha?)> EINGeschlafen;
=(ha') fell asleep
- 13 und=eh
and=uh
- 14 T: hm=hm
uh=uhm
- 15 (1.5)
- 16 P: nich so IST das
you know, it's like that
- 17 <<len>Etwas=eh>
something uhm
- 18 sind VIEle stUnden ins lAnd <<all>(gelungen/
gejungen->)
NANG²⁴: (es) sind viele Stunden ins Land gegangen
many hours went²⁵ by
- 19 <<len,dim>wieman wahrSCHEINlich,>
NANG: dieman wahrscheinlich
like²⁶ one would probably;
- 20 <<dim>eh sofOrt (genu)>
uhm immediately (use)
- 21 <<f>WENN> mans gewUsst hätte.
if one had known
- 22 T: ja
yes

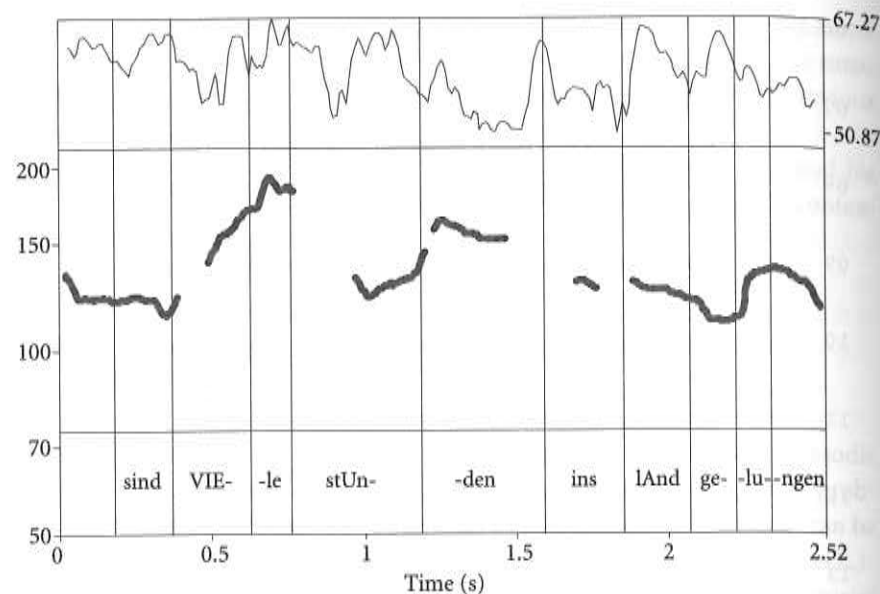


Figure 2.

The relevant diminuendo is in lines 19/20 *die man wahrSCHEINlich; eh sofort (genu)* ('which one would probably; uhm immediately (use)') and the forte restart (by the same speaker) in line 21 *WENN mans gewUsst hätte* ('if one had known'). Let us have a closer look at the prosodic details of these utterances.

After P has stated that he 'went asleep again' (11, 12), his 'and' (13) announces a continuation of the narrative, which however, he does not produce. P's hesitation marker after the *und* is responded to by the non-impaired speaker with a continuer (*hm=hm*, 14); a relatively long silence of 1.5 seconds follows. P adds a formulaic *nicht, so ist das* (16), which retrospectively attaches to his previous utterance. An erratic *etwas* ('something') and a further hesitation marker (*eh*) (line 17) foreshadow a new turn component, which starts in line 18 with the following IP (see Figure 2).²⁷

The IP consists of three accent groups, the first and second of which have a rising pitch movement phonetically realized in the rhythmically stressed syllables (*vie-* and *stun-*) and a high syllable following it (*-le, -den*). The third accent group (*land gelungen*) has only minimal f_0 -movement. The internal structure and boundedness of the IP is additionally established by declination both of the bottom line of the contour (constituted by the accent syllables) and by the top line of the contour (constituted by the non-accented syllables following the

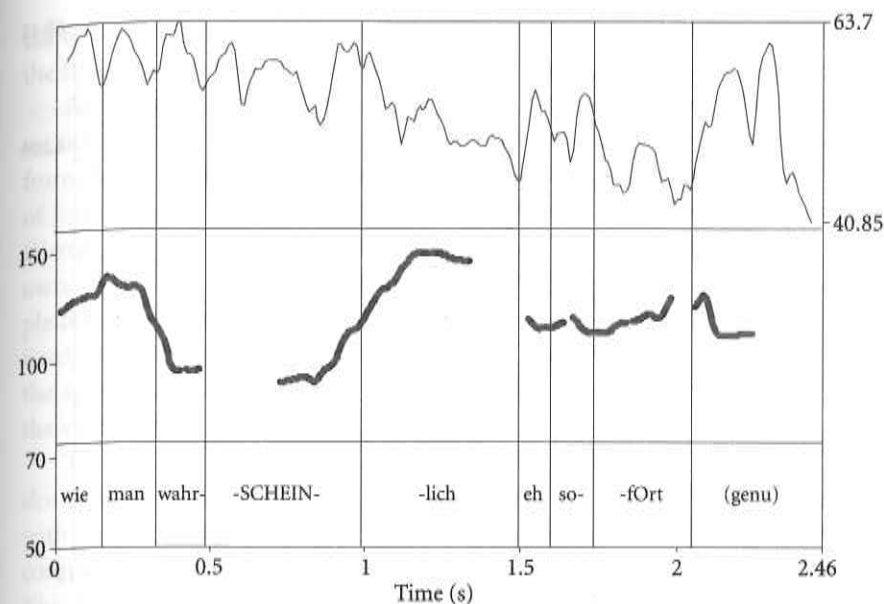


Figure 3.

accent syllables). The non-terminality of the contour is established by the fact that the speaker does not reach the bottom line of his pitch range (see the following examples), by an accelerando on the last two syllables and by the fact that the third accent group does not show a distinct final contour movement but rather remains hovering at mid-level.

This IP, which thus projects further talk by the same speaker, is indeed followed by another utterance linked to it very smoothly, i.e. without pausing (lines 19, 20) (Figure 3).

The IP *wie man wahrscheinlich* begins exactly on the f_0 -level of the last non-accented syllables of the preceding IP and has another low-rising accent on *SCHEIN-*. The declination line of the previous IP is continued from *vie-* over *stun* and *land* to *schein*, i.e., there is no pitch reset. The nucleus (*-scheinlich*) is lengthened, closing the IP but projecting another IP to follow.

The following three syllables *soFORT (genu)* are crucial for deciding if the utterance can be heard as potentially closing the turn. One very salient feature of the utterance in lines 19/20 as a whole is that loudness diminishes radically during its production; there is a dramatic drop already in the IP *wie man wahrscheinlich*, but even more so between this IP and the following syllables *sofort (genu)*. For a recipient who is tuned in to this contextualization strat-

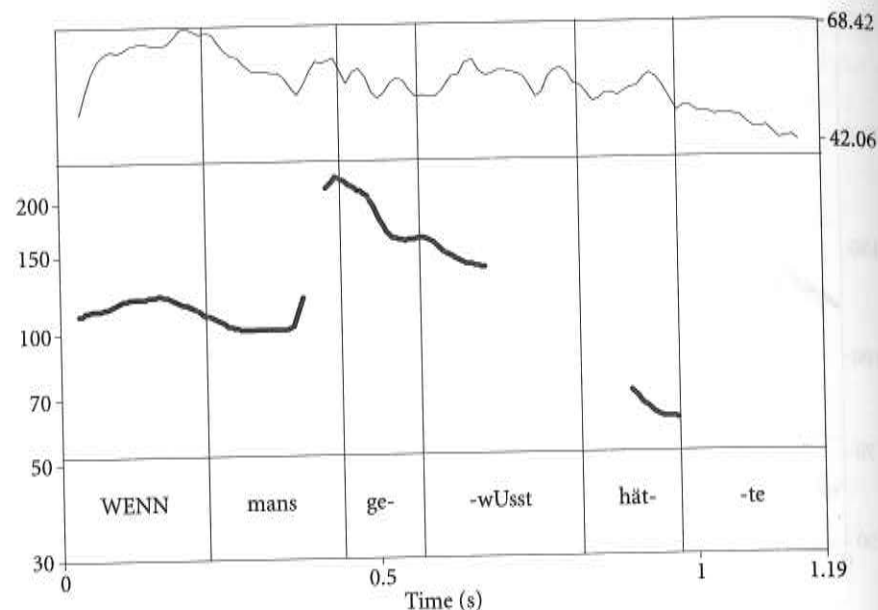


Figure 4.

egy, the dramatic lowering of loudness would suggest that the speaker's turn is about to be completed. Pitch seems to support this interpretation in one aspect: f_0 falls on (*genu*), indicating a terminating contour boundary. But the syllable (*nu*) is cut off (glottal closure) and extremely short: it therefore does not display a full nuclear pitch movement. (To see this, the nucleus may be compared to the nucleus of the preceding IP *-scheinlich*, which shows full nuclear pitch movement and additionally IP-final lengthening.) Since no full nuclear pitch movement can be identified, the IP sounds incomplete with respect to pitch, although loudness reduction suggests completion.

As it turns out, no turn-taking takes place, but the speaker adds another IP (line 21) (Figure 4).

The prosodic make-up of this IP is emphatic, with an initial stress on a metrically unaccented conjunction (*wenn*); emphasis is also achieved by the high rise on the unaccented syllables *mans ge-* between the low level onset and the downstepped fall on the nuclear syllable *-wusst*, which results in an extreme modulation of pitch between 87 and 205 Hz within a small amount of time. Initial stress makes the IP appear like an early start; the extra accent on its first syllable sounds as if it were meant to cut off the last syllable of the preceding IP (although this is not actually the case). The IP is marked as turn-final by a pitch

fall to the bottom line, and once more by a reduction of loudness all through the IP. Only after this IP does the recipient provide feedback.

After this brief description of the prosodic make-up of Mr. P's utterances, we now turn to Mr. P's grammar and lexical choices. His formulations show, from the very start, certain derailments which become aggravated in the course of lines 18–20. The first IP (line 18) syntactically represents a main clause. Disregarding its beginning, which would require a detailed discussion of its own, the first major divergence from German grammar occurs in the participle form of the intended verb *gehen*, i.e. *gegangen* (which is predictable in the fixed expression *ins Land gehen*, 'to pass'). This form is not fully available to the speaker and is replaced by [gəlonən], which sounds like the participle of the verb *gelingen* 'to succeed in'.

The next IP (line 19) syntactically represents a relative clause with *stunden* as its head. Instead of being introduced by the relativizer *die* (co-referential with *stunden*), the speaker uses the comparative particle or temporal/modal conjunction *wie* – another semantic or, more likely, phonemic paraphasia. The divergence between syntactic and prosodic structuring achieved by the prosodic break after *wahrscheinlich*, where the emerging syntactic structure is still incomplete, suggests a hesitation. The next IP (line 20) is spoken in such a low voice that it is not clear whether Mr. P indeed says *sofort genu*; if we accept this reading, he is presumably aiming at the participle *genutzt* 'used'. The word is broken off, and so is the syntactic structure of the relative clause, which lacks the finite verb we would expect to occur in this position (in this case: *hätte*, the past conditional of the perfect, formed in German by the participle and a finite form of the auxiliary *sein* 'to be' or *haben* 'to have'). The semantics of this turn as a whole remain vague and can only be inferred from the larger context, i.e. that those hours which went by after the stroke could have been used for rehabilitation measurements if the stroke had been recognized sooner and medical treatment given.

The formulation of the final IP (line 21), syntactically a dependent (conditional) clause, is unproblematic for Mr. P.

How can the reduction of loudness in lines 19/20 and the forte onset in line 21 be interpreted? Mr. P arguably faces a problem of lexical access concerning the word *genutzt*. Therefore, a central part of his argument (that too much time elapsed which could have been used for treatment after his stroke) remains vague. Exactly in the syntactic position in which his amnesic problems would become evident (in the production of the finite verb in the relative clause *die man wahrscheinlich...* 'which one probably...'), he manipulates loudness in such a way that the final part of the unfinished IP almost disappears in pianissimo.

After that he resets loudness to a high level and continues with a subordinated if-clause which shows many features of prosodic emphasis.

Two aspects are noteworthy. First, the speaker diminishes loudness, where the most relevant information can be expected, i.e. in the nucleus of the IP. And second, the speaker reduces loudness although no turn-transition seems to be intended. On both accounts, Mr. P's behavior runs counter the expected pattern.

Before proceeding to an explanation of this pattern as an adaptive strategy which can be (mis-)interpreted as prolixity, let us look at some further examples.

Extract 4

- 02 <<p>denn STINKT uns dAs. nich [das]>
then we are pissed of. you know it
- 03 T: [ja]
yes
- 04 P: <<dim>ist halt AUch die faMILie und so.>
is also the family and so on.
- 05 =<<f>ICH> muss SAgen;>
=I have to say;
- 06 .hhh das hat <<dim>mich sehr ge ?e ?e ehn>
.h this really ???ed me
- 07 <<f>UND AAChen?>
and Aachen?
- 08 .h eh IST zwar eh für mich eh leichter zu erREICHen?
.h uh it's uh easier for me to get to uh indeed?
- 09 .hh aber es sind AUch sechzig FÜNfzig kilomEter.
but even that is sixty fifty kilometers.
- 10 T: hm=hm
uh=uhm

In this extract, Mr. P talks about his decision to come to the rehabilitation center in which the interview took place. He chose this clinic over the Aachen rehabilitation center and the Aachen university hospital, so as to avoid having to stay without his family for seven weeks.

The diminuendo occurs on line 6 (see Figure 5).²⁸ It follows a formulaic *ich muss sagen* 'I have to say' (line 5) which clearly projects another turn compo-

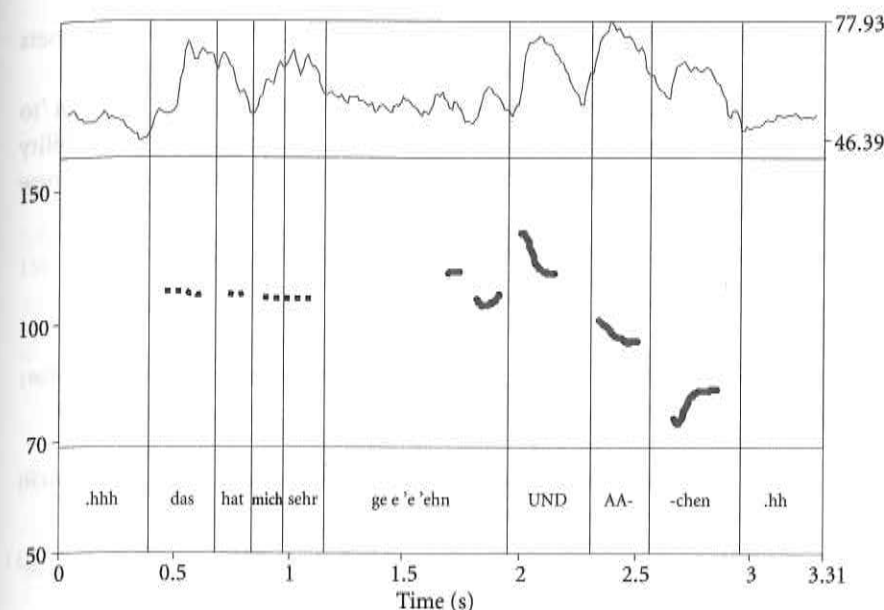


Figure 5.

nent – the complement of 'to say' – both syntactically and prosodically. After a long in-breath, the speaker starts to formulate this projected construction, which turns out to be a verb-second main clause of the type *das hat mich sehr geXXX-t* (for instance, *das hat mich sehr ge-stör-t* 'I really disliked that'). This construction remains syntactically and semantically incomplete: the participle form – which in this construction should close the sentence – is never produced fully but is broken off after the participle prefix *ge-*. Instead of the verb stem, Mr. P produces a series of three or four dummy syllables, mainly consisting of a glottal stop and a schwa each.

The prosodic cues in this utterance are once again ambiguous. On the one hand, loudness decreases through *das hat mich sehr*, and drops a good deal more on the dummy syllables, suggesting that turn transition might become an issue. The low pitch on these syllables may also support this interpretation. On the other hand, the utterance has no nuclear pitch accent and therefore lacks a minimum requirement for a full intonation phrase. Once more the semantically central focus syllable is problematic because Mr. P cannot access the relevant lexical item, and it disappears in pianissimo.

The forte re-start on *und Aachen?* (line 7) in this case introduces a new subtopic. As in the first example, Mr. P puts a great deal of energy on a

metrically weak conjunction (*und*, line 7; cf. the loudness curve), he resets intonation, and his intonational range increases.

As in the first example, the semantically decisive word (perhaps *stören* 'to disturb' or *ärgern* 'to annoy') is not accessible to Mr. P; its non-accessability is covered under a diminuendo and the immediate juxtaposition of a new utterance.

The same pattern is found in the following extract:

Extract 5

- 01 P: und HIER <<decr>kommen ja auch immer Andere> .h ehm
<<p>proBLEme (können) ja eh eh eh in den theRAPIEN
MÖglichkeiten>;>
and here other .h uhm *problems*²⁹ always come (*can*) uhm uhm uhm in
the *therapies* possibilities;³⁰
- 02 <<cresc>die ja hIER (--) sind (-) DANN größer>; (1.3)
which of course here greater are then;³¹
- 03 eh eh wenn es in der <<f>GRÖSse> gibt,
uhm uhm if there is in the size;³²
- 04 T: ja
yeah
- 05 P: als das in AACHen.
than the one³³ in Aachen.
- 06 <<dim>die Aachener,
those ((people in the clinic)) in Aachen
- 07 machen ja im grUNde,
basically do
- 08 dAnn nur ta->
then only *tha*
- 09 <<f>vielleIcht intensIver.>
possibly in a more intensive way.
- 10 T: ist NUR für die sprAchtherapie. ja.
it's only for language therapy. yes.

The diminuendo occurs on the IP in line 8, the restart in line 9 (cf. Figure 6).³⁴

Once again, the utterance on which the diminuendo is realized is syntactically and semantically incomplete; in this case, the direct object noun, presumably *Therapie* 'therapy', is not fully accessible, and only realized deficiently

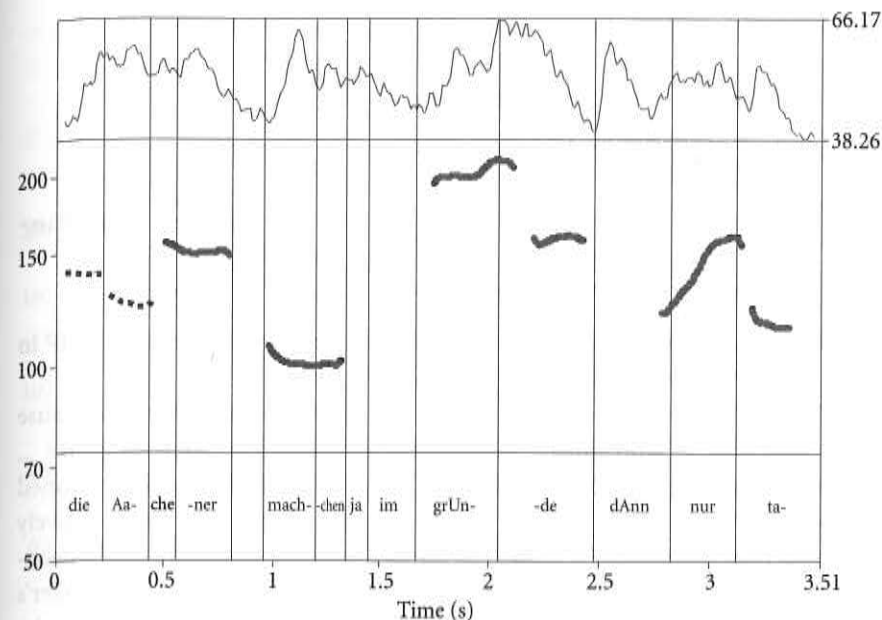


Figure 6.

by a dental stop and a following low vowel ([ta]). As often, Mr. P segments his utterance into small IPs each of which displays a typical rising pitch movement on the accented syllables (also cf. Ex. (3)). The first two of these small IPs – *die AACHener* and *machen ja im GRUNde* – have strong nuclei marked by pitch movement and loudness. In contrast, the third IP starts with a semantically unmotivated stress on *dann*, the onset.³⁵ But afterwards, loudness is reduced and reaches its minimum on the syllable [ta], the fragment of the noun phrase in focus position. Once more, a syntactically and semantically incomplete utterance is marked by a diminuendo. Once more, there is no pitch movement on the clipped syllable. The IP is therefore both incomplete (no nuclear pitch) and is marked as terminated by loudness. The following IP resets intonation and loudness to forte.³⁶

A final example shows a slight variant of the pattern; here the focus constituent is lacking completely:

Extract 6. Topic: Expropriation of East German land owners after the war and the difficulties the German government faces after reunification in recompensating them while doing justice to the new owners as well

- 01 P: ich möchte (-) NICHT in der <<pp>(ha)> äh dieser
 LEUTE sein,
 I wouldn't like to be in these people's *sh*³⁷ eh .h
- 02 .h <<dim>die DAS äh> (---)
 who this uhm
- 03 <<f>NICH>=<<dim>das war (-) für dEUTsch (--) für die>
 für unsere reGIerung (--) war das bequEm,
 you see=for German³⁸ for for the for our government it was easy

The diminuendo occurs on the syntactically incomplete utterance in the IP in line 2, the forte at the beginning of line 3 (cf. Figure 7).

Massive turbulences occur after Mr. P begins a subordinated relative clause frame (*das eh...* 'who uhm...', presumably leading up to something like ... *entscheiden müssen* '...have to decide on it'). This syntactic frame is abandoned after only two syllables. In terms of prosodic structure, we find a relatively unspectacular decrease of loudness on *die das*, but also continuous pitch declination over the whole of the utterance (including a narrowing of the speaker's pitch range), both of which can be taken to signal turn completion. On the

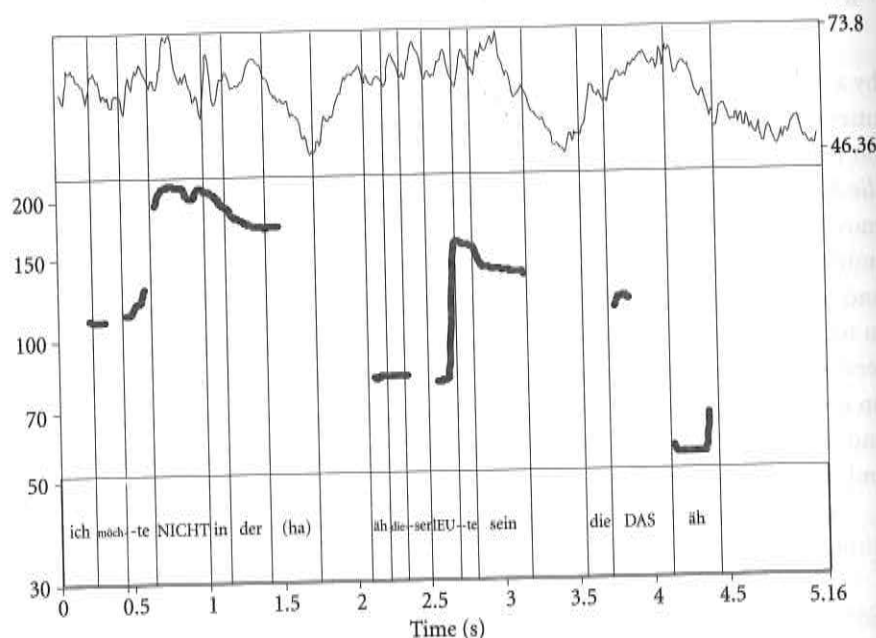


Figure 7.

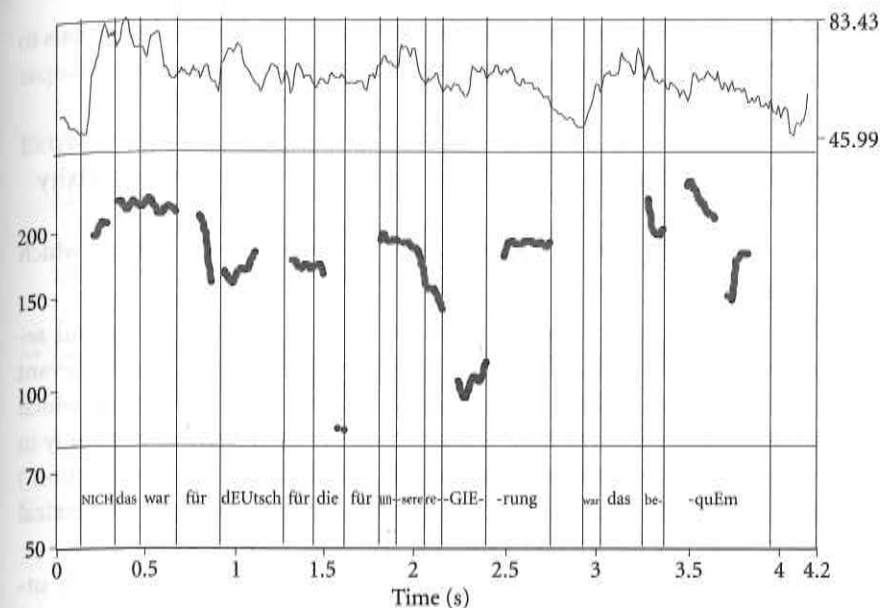


Figure 8.

other hand, in addition to incomplete syntax, there are also prosodic signals contextualizing non-completion; once more, there is no nuclear pitch movement, and the speaker produces a hesitation marker *äh* as a turn-holding device after having abandoned the syntactic frame of the relative clause. Other than in the previous examples, the speaker does not even manage to produce a fraction of the intended word in focus position. The unsuccessful IP is abandoned in low voice, and a small (filled) silence occurs. After that, pitch and loudness are reset in a new IP (cf. Figure 8).

The loudest part of this IP is the IP-initial 'tag' *nich*, which is part of the subsequent IP intonationally but attaches to the previous one pragmatically. The rephrasing of the tag question with the next IP is quite typical for this speaker (see also Ex. (3), line 16); for Mr. P it may be a way to 'get started' in a new construction. Note that a tag invites listener feedback and thereby presupposes some complete semantic (if not syntactic) unit the recipient can respond to. In the present case, however, the utterance preceding the tag is incomplete and cannot be responded to since its central semantic component is lacking. Note also that the rephrased tag leaves no space for the production of a continuer (or for turn transition) between the 'tag' and the subsequent TCU, other than in overlap with the aphasic's next IP. The speaker treats his

preceding utterance as if it was complete by attaching a tag to it, but he fails to give to the recipient a chance to deal with this 'complete' utterance.

4. Discussion: Adaptation to aphasia and its interpretation as prolixity

We have isolated a format in the speech of a fluent (Wernicke) aphasic which has the following features:

- a. The speaker produces an utterance which remains syntactically and semantically incomplete. The lacking part is pragmatically the most relevant (rhematic) one, i.e. the prosodically prominent part of the word on which the sentence focus is realized. It may be absent completely or exist only in fragments. (In the latter case, the cut-off is marked by glottal constriction.) The reason for this incompleteness is, in all likelihood, a problem of lexical access caused by the speaker's aphasia.
- b. Despite this word-finding problem in the most central part of the utterance, the IP is contextualized as turn-final by a (sometimes dramatic) decrease of loudness (*diminuendo*), and optionally by other turn-yielding prosodic signals such as a reduction of pitch range and declination. The closure of the utterance may also be underlined by a tag question following it. This contextualization is contradicted, however, by the lack of the (full) focus syllable and the incomplete nuclear pitch movement which follows from it.³⁹
- c. No turn-taking takes place. Rather, the current speaker continues. In the subsequent TCU/IP, he resets pitch and, above all, loudness on the first syllable of the next IP, often to a level well above the beginning of the previous contour, thereby contextualizing his continuing claim to the floor. In this new utterance, an expansion of the turn which is grammatically dependent on the prior unit may be produced; sometimes, a new sub-topic is initiated.

We suggest that from the aphasic's point of view, this pattern makes sense in the following way. He encounters some problem of lexical access when approaching the focus constituent; reduced loudness conceals this problem and 'hides away' a linguistic derailment or failure. It is not intended as a turn-yielding signal. Rather, the *diminuendo* is, for this Wernicke aphasic, first of all a way of dealing with his word-finding problems in a (relatively) face-saving way – an important issue for him, as his own description of his impairment in Ex. (1) shows.

He may succeed in self-repairing the concealed word-finding problem subsequently, as in the following sequences taken from Ex. (1) above:

Extract 7

- 11 da brAucht man eine REIhe von (--) WORTen;
then you need a range of words
- 12 die <<p>ÜTzen sind;>
which are (?)
- 13 die (--) TYPisch sind für solche dinge.
which are typical for such things

Extract 8

- 02 es Ist eben SCHWER,
it is difficult
- 03 einen <<p>einen> sachbesp(--) verHAND; (--)
an an examp (--) fant; (--)
- 04 P: [einen] <<len> SACHverhalt>
a fact
- 05 T: [mhm]
uh=uh
- 06 T: ja
yes
- 07 P: zu beSCHREIBen.
to describe.

The problem of access which is presumably responsible for the replacement of *typisch* by the neologism *ützen* in Ex. (7) is self-repaired successfully line 13. Equally, the derailments in Ex. (8), line 3, are self-repaired in line 4. The problem items are marked by reduced loudness in both cases, but at least in Ex. (8), turn-taking is not an issue since the *diminuendo* and self-repair occurs within the trajectory of an emergent syntactic pattern not yet completed at that point.

An alternative way of dealing with one's word-finding problems would of course be to expose them as in the following sequence, also taken from Ex. (1):

Extract 9

- 29 .h dass man sätze konschtruiERT>;
 .h that you construct sentences
- 30 eh <<pp>die NICHT schön sind: . nich.
 uh which aren't nice. you know.
- 31 SELten; <<cresc> sell=eh längen länge lange lange>
 seldom; sel=eh lengths length long long sentences
- SÄTze [undsoweiter]
 and so on

In this case, the word search for *lange Sätze* is accompanied by a crescendo. It is obvious that such a way of exposing amnesic problems emphasizes the aphasic's stigma and is difficult to handle in a face-saving way. It is therefore rare in Mr. P's speech.

Concealing a stigma is not an obvious function of the diminuendo & forte restart pattern for the non-impaired co-participant, however. Two aspects are important from her perspective. First, reduction of loudness, as shown in Section 2, contextualizes stretches of talk for which low relevance is claimed by the speaker. Producing the semantically most central part of an IP in a low, even mumbling voice contradicts the contextualization value of loudness. Second, the lacking or incomplete focus constituent renders this utterance more or less incomprehensible and calls for repair. Since the format occurs around syntactic closures, the recipient may construe the diminuendo as a turn-yielding signal, as it is known from sequence and topic closure. Repair is therefore due now, and preferably done by the speaker himself (preference for same-speaker repair, cf. Schegloff et al. 1977).

While this expectation is met in examples such as (7) or (8), it is not in (3)–(6). Here, the speaker restarts in a loud (forte) voice with a topically progressive utterance. In this restart, the speaker neither repairs the abandoned fragment, nor does he provide space for the recipient to initiate repair. Rather, he moves away from the problem item as if there was no problem. The diminuendo & forte restart pattern thereby minimizes the face-threat to the speaker not only by concealing the problem item but also by precluding other-repair. It keeps the aphasic in control of the situation, but at the expense of the recipient who experiences the situation as one in which s/he has no chance of assuring understanding. For her, the format means that she cannot get a word in edgewise.

Notes

1. Aphasia is a central language impairment caused by a cortical lesion after completed first language acquisition.
2. There is only a small number of studies on turn-taking in Wernicke aphasics; see especially, Schienberg and Holland (1980), Ferguson (1998) and Wilkinson et al. (2003), who do not, however, address prosodic issues, which will play an important role in our analysis.
3. For this adaptationist framework, see, among others, Heeschen and Kolk (1994), Heeschen and Schegloff (1999), Rönfeldt (1999). In these papers, the adaptationist argument is applied to syntactic deviance ('agrammatism') in non-fluent aphasics' speech.
4. Paraphasias are word-level substitutions on the basis of semantic or phonemic similarity with the target item.
5. Transcription follows GAT throughout; cf. Selting et al. (1998). It is extremely difficult to translate aphasic speech into another language since the type and amount of deviation from non-impaired, adult, native German cannot be rendered properly. We have marked all deviations from non-impaired, adult, native German with italics in the original and in the translation. Since this patient has comparatively few problems, his paraphasias are usually transparent. Non-transparent cases are marked by simple brackets () in the translation. The nature of the paraphasias or other derailments is explained in a footnote where necessary. By "deviation" from non-impaired, adult, native German we always mean that the structure in question is impossible, not only in standard German but also in all dialects and substandard varieties of German. It should be noted that aphasic speech cannot be compared to second language "learners' grammars" (interlanguages). Individual aphasics' paraphasias are unstable; a word which may be impossible to access in one case may be available without problem in another case or may elicit a different paraphasia in a third case (see Blanken et al. 2004).
6. Two paraphasias while searching for the word *Sachverhalt*; the first seems to be a semantic paraphasia combined with phonological problems (*Sachbeispiel?*) but is broken off; the second is a phonological paraphasia (*verhand* instead of *verhalt*).
7. The English translation mirrors the original German word order, which conforms to non-impaired adult native German in this case.
8. Phonological paraphasia: *grauch* instead of *braucht*.
9. Paraphasia, perhaps a blend of *typisch* (typical) and *nützlich* (useful).
10. The syntactic structure is broken off here. This type of break-off will be analyzed in more detail below. The pre-nominal modifiers *politische* and *solche* (adjective and determiner) show the inverse order of non-impaired adult native German.
11. Paraphasia, structure unclear (perhaps elements of *schnell* 'fast').
12. Non-impaired, adult native German requires an apodosis in the *if/then*-construction.
13. Semantic paraphasia, intended meaning unclear.
14. Phonological paraphasias in accessing the word *präzise*, first one broken off.

15. An ungrammatical apo koinu construction with *das problem* as the koinon. In (colloquial) non-impaired, adult native (modern) German the koinon cannot be assigned two different syntactic functions.
16. Phonological paraphasia, *konn* instead of *kann*.
17. The obligatory preposition (*in*) is lacking.
18. Postposed adjectives are impossible in non-impaired, adult native German.
19. Schönherr (1993) shows, however, that parentheses are not always marked by loudness reduction.
20. More precisely, she measured peak amplitudes and compared them across utterances. It should be mentioned here that the relationship between signal amplitude and perceived loudness is unclear, as has often been commented upon in the literature (cf. Laver 1994: 501–503).
21. Word order in the original is unproblematic, the translation mirrors the course of production.
22. Intended meaning unclear.
23. The verb *weilerschlafen* (other than *einschlafen*) requires the auxiliary *haben*, not *sein*. The speaker corrects this mistake in the following line. *Weilerschlafen* is a semantic paraphasia of *einschlafen*.
24. NANG = Non-impaired, adult native German.
25. Phonemic paraphasia.
26. Phonemic paraphasia *wie* for *die*.
27. Acoustic measurements were made using PRAAT. They show signal amplitude (middle), loudness in decibels (above, scale to the right), and pitch movement (logarithmically scaled, below, scale to the left).
28. Pitch extraction on *das hat mich sehr ge-* is not possible here due to the speaker's (creaky) voice quality. It has been added manually.
29. Presumably a semantic paraphasia, since the target word seems to be *Möglichkeiten* 'possibilities'.
30. Mr. P seems to be aiming at a compound *Therapiemöglichkeiten* which, however, cannot be formed with the plural noun *Therapien* but only with singular *Therapie*.
31. Wrong word order (NANG: *die ja hier dann größer sind* or *die hier sind dann ja größer*).
32. Intended meaning unclear.
33. The antecedent for this anaphoric pronoun is unclear.
34. Pitch on *dann* was added according to auditive analysis since no extraction was possible.
35. This semantically unmotivated stress on *DANN* may already foreshadow a word-finding problem; the rallentando realized on it can be heard as a hesitation signal.
36. Due to overlap with the co-participant, no acoustic analysis is possible on this IP.

37. The syllable *ha* possibly is an attempt to approximate the noun *Haut* (lit. 'skin', here metaphorically used in the idiom *in jemand's Haut stecken* 'be in somebody's shoes'); the non-availability of the noun is also reflected in a hesitation marker following it.
38. The uninflected adjective not preceded by an article is ungrammatical in non-impaired, native adult German (possible: *für die deutsche...*).
39. The TCU as produced by the aphasic therefore is not "overlap-ready" yet (in the sense of Wells & Macfarlane 1998).

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The 'upward staircase' intonation contour in the Berlin vernacular

An example of the analysis of regionalized intonation as an interactional resource*

Margret Selting

The form and function of the Berlin 'upward staircase contour' is described as a regionalized resource for the organization of interaction in German. After the auditory and acoustic description of the form of the contour, its use in two sequential contexts is analyzed: in lists and biographical story telling. It is shown that the staircase contours are always used within a three-component structure in which a projection component is followed by a detailing component with 'upward staircase' contours which hold the turn and project a closure of the three-component structure. The study suggests that at least some conversational tasks are organized in regionally specific ways.

1. Interactional Linguistics and regionalized prosody

The object of this study is an analysis of the use of a regionalized intonation contour in conversations between speakers of a regionalized variety of German, the Berlin vernacular. The analysis aims at describing the form and function of the focused-on contour in talk-in-interaction. The formal analysis aims at the phonetic description of the contour. The functional analysis aims at a description of the usage of the contour in its conversational sequential contexts and in particular at the reconstruction of the role it plays in the achievement of practices, actions/activities or sequences in conversational interaction.

This study is intended as a contribution to work in Interactional Linguistics (see, e.g., Couper-Kuhlen & Selting 2001). It relies on the assumption that "linguistic structures are both emergent in interaction and heavily context-sensitive, in that their use reflects – and may even contribute to creating – conversational structure" (Couper-Kuhlen & Selting 2001:5). Furthermore,