

# Constructing meaning through prosody in aphasia<sup>\*</sup>

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Despite a vocabulary that consists of only three words *Yes*, *No* and *And*, Chil acts as a powerful speaker in conversation. He does this, embedding his limited lexicon within larger contextual configurations in which different kinds of meaning making processes including prosody, gesture, sequential organization, and operations on his talk by his interlocutors create a whole that goes beyond any of its constitutive parts. This paper explores the role played by prosody in this process. It focuses on how Chil is able to build varied action that is precisely fitted to its local environment by using different prosody over similar, and at times identical, lexical items, here pairs of *No*'s. More generally it argues that analysis of human action should focus on the interdependent organization of diverse meaning making resources.

## 1. Introduction

This paper focuses on how human action is built by bringing together different kinds of resources which mutually elaborate each other. Such a perspective is relevant because within contemporary academic research different aspects of the plurality of phenomena implicated in the organization of action in human interaction – lexis, syntax, prosody, sequential organization, gesture, tools, co-present bodies, structure in the environment, indexical organization, etc. – are investigated separately by a range of different disciplines (various schools of linguistics, conversation analysis, cognitive science, gesture studies, etc.). Each gains theoretical leverage by extracting a partial from the larger whole found in actual instances of interactive action, for investigation as a nicely-bounded, self-contained system in its own terms.

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While not contesting the analytic control gained by such a strategy, the present paper will investigate two intimately related issues. First, do participants themselves in fact treat their actions as being constructed through the simultaneous use of multiple resources that provide very different kinds of structure? Despite the way in which it is common to gloss pragmatic actions with simple lexical terms, such as “request” or “greeting”, and thus treat the action being investigated as a homogenous, self-contained whole, are actions in fact semiotically heterogenous in their organization? In other words, are participants systematically building action by assembling them from diverse resources with very different kinds of properties? Second, can the power and organization of even very simple human action in interaction be adequately described within frameworks that focus on single systems in isolation? Alternatively, do the diverse resources implicated in the organization of an action interact with each other to create a whole not found in any of the individual parts, and is this central to how the action is understood, what it is doing, and how it is adapted to the changing contingencies of unfolding context?

These issues will be investigated in this paper by focusing on the actions of a man with severe aphasia, Chil. Because of the severe limitations of his productive vocabulary (basically 3 words) his ability to construct action by combining his restricted lexicon with other meaning making resources, including prosody and gesture, emerges with particular clarity. It will be argued that even when his lexicon remains relatively constant (for example the repeated use of *No no*), he is able to assemble quite varied action packages by bringing together resources with diverse semiotic properties.

## 2. Prosody within contextual configurations

One point of departure for the perspective taken in the current paper is earlier work (Goodwin 2000) where I argued that human action is constructed and responded to within constantly changing contextual configurations built through the simultaneous use of structurally different kinds of semiotic phenomena in alternative media (semiotic fields, including the stream of speech, the visible body and structure in the material environment) that mutually elaborate each other to create wholes that go beyond any of their constituent parts (Goodwin 2000: 1490).

The current paper will examine the powerful place that prosody occupies within such contextual configurations. I will be investigating only a few aspects of prosody, such as variations in pitch over limited lexical structures. However, consistent with the argument about contextual configurations above, I very clearly recognize that what I am glossing as prosody, is itself composed of many different kinds of mutually elaborating phenomena, which make different contributions to the intelligibility of utterances and actions. This is powerfully demonstrated by other papers in this volume. Moreover, while I will focus on Chil’s creative use of specific resources, I am not suggesting that the practices being described are specific to either him as a person, or to

particular kinds of aphasia. Instead, as is clearly revealed by the way in which his interlocutors are able to make sense out of what he does, his situation provides a tragic opportunity to focus on general practices used by human beings to build meaning and action in concert with each other in the midst of unfolding interaction.

This paper is a contribution to a growing body of research in a number of different fields, including interactional linguistics, the study of prosody in interaction, video analysis of interaction, anthropological linguistics, functional linguistics, gesture studies, and conversation and discourse analysis that is focusing on how diverse phenomena are used by participants within interaction to construct the details of the actions they are engaged in together (Anward 2005, Auer 2007, Couper-Kuhlen and Ford 2004, Ford et al. 2002, Haviland 1998, Heath and Luff 2007, Hindmarsh and Heath 2000, Leon 1998, Ochs et al. 1996, Selting 2008, Streeck 2009, Thompson and Couper-Kuhlen 2005, and many more). Chil's ability to make meaning in concert with others provides a powerful example of what Linell (2009) analyzes as the dialogic organization of both the mind and language.

### 3. Chil & his capacities and resources

In 1979, when Chil was 65 years old, a blood vessel in the left hemisphere of his brain ruptured. He was left completely paralyzed on the right side of his body and with a vocabulary that consisted of only three words: *Yes*, *No*, and *And*. Despite this he continued to function as a powerful actor in conversation, and indeed had an active social life in his community, going by himself to a coffee shop in the morning, doing some of the family shopping, and so forth.

How is it possible for someone with a three-word vocabulary to act as a consequential, indeed powerful speaker in conversation? Note that all three of Chil's words establish particular kinds of links with other, nearby talk. Thus, a major use of *yes* and *no* is to construct what conversation analysts call Second Pair Parts (Sacks 1992, Sacks et al. 1974). First Pair Parts, such as questions and requests, make it relevant for their addressee to produce a particular kind of action next. What the subsequent speaker says in that position will be heard and understood with reference to the contextual frame created by the First Pair Part (for example as agreeing or disagreeing with what was just said). Despite its lexical poverty, if viewed in isolation, a *yes* or *no* by Chil can be heard as participating in the construction of a complex statement by virtue of the way in which it can build upon, and invoke as part of its own semantics, the far richer structure provided by another speaker's prior talk (Goodwin 2007b). Chil becomes a competent actor by building talk and action in concert with others, a process that requires the systematic organization of language within a public environment.

Despite the limitations of his vocabulary Chil retains an extensive repertoire of other semiotic resources. First, his understanding of what others are saying is excellent. Second, he has very expressive prosody, which he produces over both his *yes*'s and *no*'s and over

“nonsense” syllables such as *duh*, which seem to be spoken precisely to carry relevant prosody (Goodwin et al. 2002). Third, though completely paralyzed on his right side, Chil uses his left hand to produce a varied and important range of gestures, including pointing (Goodwin 2003b, Goodwin 2006) and hand shapes displaying numbers (Goodwin 2003a). Fourth, by living at home with his family and caretakers in the town that has been his community for almost forty years, he inhabits a world that is not only meaningful, but which can be recognized in relevant ways by those around him. He can thus use actions such as pointing to invoke meaningful phenomena in powerful ways. However, as will be seen below, his inability to accompany that pointing with relevant language can produce puzzles. Finally, unlike many people suffering from aphasia, Chil’s timing as a participant in interaction is rapid and fluid. This may in fact be a by-product of the severity of his impairment, since he does not spend extensive time trying to find and produce words.

#### 4. Building action by combining multiple semiotic resources

Chil’s catastrophically impoverished vocabulary is tied to a similar impoverishment in syntax, specifically his inability to speak utterances in which individual lexical items are organized into larger, syntactically complex wholes. He can produce units in which different numbers of *Yes*’s and *No*’s are combined (*No No, no no no, yes no* etc.), but that marks the limits of his ability to combine morphemes into larger wholes.

It will be argued that despite his limited vocabulary Chil has powerful combinatorial resources that he uses to flexibly construct relevant action.

I will begin by investigating in some detail the resources Chil uses to build action in Figure 1. In my analysis I will focus on how different kinds of semiotic phenomena, including linguistic structure in the stream of speech, prosody, gesture, embodied participation frameworks, and relevant structure in the environment are used in conjunction with each other to build relevant action. Figure 1 thus includes, in addition to a transcription of the talk,<sup>1</sup> images showing gesture and body position. Images give the reader a clear sense of what Chil’s gestures look like, which is what is most central to

1. Talk is transcribed using a slightly modified version of the system developed by Gail Jefferson (see Sacks et al. 1974: 731–733). The following symbols are used:

- talk* – emphasized
- . – falling pitch
- ? – rising pitch
- , – continuing pitch
- : – lengthening
- – cut-off
- ((*comments*))
- (1.0) – pause of 1 sec duration
- ° – low volume
- [ – beginning of overlap
- [

the present analysis. I have tried to indicate the boundaries of each gesture with vertical lines marking approximately where each gesture begins and ends, joined by a horizontal line that marks the gesture's duration with respect to the talk in progress. This method of transcription does not encompass some phenomena that are central to some important work in contemporary gesture analysis, but is sufficient for present purposes. At the beginning of line 5, Chil places his hand over his bowl, and then during the 0.6 second silence that follows thrusts the hand forward, away from him. As Chuck starts to talk in line 7, Chil begins a second gesture, moving his hand from the bowl to point in front of him (cf. video file [GOO-Grapefruit.mov])



*Chil has just finished eating, in the bowl on his lap,  
a grapefruit ordered from Florida;  
His son, Chuck, is visiting from California*

1 Chuck: Mmm:  
2 (1.4)  
3 Chuck: **Mmm. Good** Dad.  
4 (0.4)  
5 Chuck: Nyuh.  
6 (0.6)

7 Chuck: Had enough?

8 Chil: Ni na n o.  
9 Chuck: Di ya want-

10 Chuck: Want me ta **get** some. (0.2) No  
11 Chil: Ni nuh

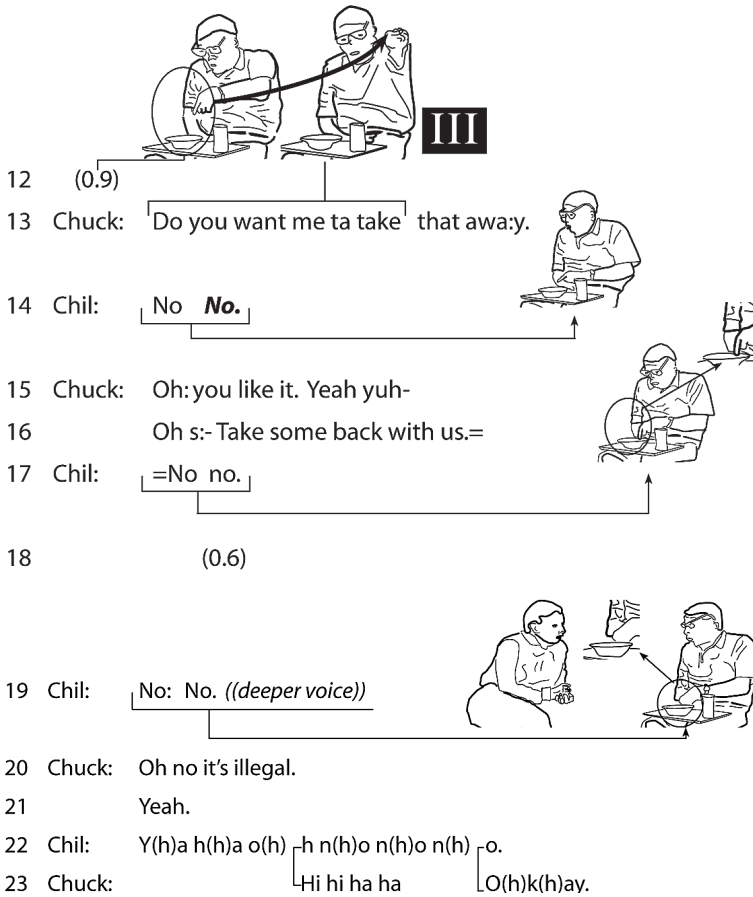


Figure 1. Building Action

#### 4.1 Chil's pointing

My focus in the present paper is on Chil's use of prosody. However, even a cursory look at the images in Figure 1 reveals that Chil is making extensive use of pointing gestures here. To give the reader a clear picture of what is happening in this sequence, and prepare the ground for looking at his prosody, it is useful to briefly describe these gestures and how they are interpreted by Chuck (Goodwin in press).

Three times in Figure 1, at lines 5–6, 8–9 (with the second point held through line 11), and at line 12, Chil produces pairs of linked gestures. In each case the first gesture points at the bowl on his lap. Chil then immediately moves his hand from the bowl to shoulder height to produce a second gesture where he is visibly pointing toward

something in front of him.<sup>2, 3</sup> Through the way in which the second gesture is visibly linked to the initial one, it shows Chuck that what was indicated in the first gesture should be used as a point of departure for making sense out of the second. This provides some demonstration that Chil is able to combine signs in ways that display something like a topic (the first gesture) comment (the second gesture) structure. Despite his absence of language, Chil does in fact possess the ability to combine signs, here gestures, in ways that suggest that they are being organized into sign chains, i.e. an ordered combination of signs that goes beyond any of its parts in isolation.

#### 4.2 Combined signs that are recognized as action without being understood

In the absence of conventionalized language Chuck is not able to figure out what is being predicated about the bowl. However, he does recognize, and respond to, the ordered pair of gestures as an action requesting that he do something with the bowl. Chuck's inability to decipher these signs, and figure out what exactly Chil wants him to do does not undercut the fact that Chuck attributes not only communicative intentions, but also semiotic agency to Chil.

These gestures arise within an embodied participation framework constituted through the mutual orientation of Chuck and Chil's bodies. Such arrangements create a multi-party interactive field within which other kinds of sign exchange processes, such as talk and gesture, can be organized as communicative action (Goodwin 1981, Goodwin 1984, Goodwin 2007a, Kendon 1990). The gestures are thus publicly constructed, through spatial and sequential placement, as sequences of action directed to Chuck.

#### 4.3 Working sequentially to accomplish understanding

Chuck does indeed treat Chil's linked gestures as requests for Chuck to do something. After each set of gestures Chuck immediately proposes to Chil a candidate version of what activity the gestures might be requesting (in line 7 the first set of gestures are treated as a display that Chil is finished, something that can make relevant cleaning up, in lines 9–10, the redone gestures are treated as a request for more grapefruit, in line 13, the third set of gestures is formulated as a request to remove the bowl, etc.). In each case Chuck's guess is rejected, typically with some version of *No* spoken twice (lines 8, 11, 14, 17, 19). The prosody over these rejections will be examined in more detail below. The repetition of Chil's two-part pointing gestures in Images II and III of Figure 1

2. I am using the term *gesture* to describe Chil's pointing, although in a number of important respects, what occurs here is unlike most human gesture. Space considerations forbid further discussion of this here. Space also makes impossible detailed presentation of the grounds for treating these gestures as linked, but see Goodwin (2003a).

3. What is also interesting here, but cannot be discussed in the space given, is the way in which Chil directs Chuck's attention to the bowl.

emerges systematically through this process. Chil's *No*'s rejecting Chuck's candidate understandings are accompanied by renewed points which help sustain the relevance of the action by showing Chuck that he should continue trying to grasp what Chil is attempting to say through the gesture. They also indicate resources – what precisely is being pointed at – that Chuck should use to understand Chil.

Each time Chil says *No* he is understood as objecting to specifically what was said in the immediately prior utterance that his current reply is tied to. Through their sequential organization as replies, Chil's *No*'s indexically incorporate into their own structure the talk produced by the prior speaker (see also Du Bois 2007: 149), a sequential process that greatly expands Chil's semantic power.

#### 4.4 What Chil was trying to say and how his signs display this

Two minutes later Chuck asks someone where his wife Candy is, and finds that she is out walking the family's dog on a street behind the house, right where Chil was pointing. Chuck now recognizes that with his linked pointing gestures Chil was asking Chuck to offer Candy some of the delicious grapefruit from Florida he had just sampled. With hindsight, the topic-comment structure of Chil's linked pointing gestures makes perfect sense. With the first point Chil topicalizes the grapefruit, and with the subsequent gesture he indicates that it should be offered to someone positioned within the trajectory of the point. He has constructed an image of the desired offer through a simple but elegant combination of two signs into a coherent image of the proposed action. However, in isolation his indexical signs remain ambiguous to Chuck, who is unable to figure out what they refer to. In Peircean terms, Chil is using his pointing gestures as a sign for a specific object, the offer to Candy. However, though Chuck recognizes that Chil is using signs, he is unable to recover that object. If Chil could produce a conventionalized sign, such as the name Candy, none of the work found here would be necessary.

Even though Chuck does not understand what Chil is trying to say, Chuck treats him, as demonstrated through the actions he produces in response to Chil's gestures, as someone who is using signs to try to say something. In Goodwin (in press) both this recognition that someone is using signs to build action, even when what these signs refer to cannot be understood, as well as the ability to construct such sign complexes in the first place, is investigated as a primordial instance of semiotic agency (see also Duranti 2004).

## 5. Chil's prosody over his own talk

### 5.1 Chil's prosodic proficiency

Despite Chil's almost complete loss of the ability to speak lexico-syntactic signs, he nonetheless retained rich, expressive prosody. Indeed, his family and many of his



interlocutors considered his prosody completely comparable to that of a fully fluent speaker.

This fact would seem to indicate that prosody and the ability to produce and combine conventionalized signs through language are in fact structurally different kinds of semiotic processes, which are intimately linked to each other within the act of speaking. This has in fact been strongly demonstrated in research on prosody within Interactional Linguistics by scholars such as Couper-Kuhlen and Selting (Couper-Kuhlen 1996, Couper-Kuhlen and Ford 2004, Selting 1996, 2000, 2008). The present paper uses such a perspective as its point of departure, and contributes to the insightful line of research for the study of prosody within emerging talk-in-interaction begun by Couper-Kuhlen, Selting and their colleagues (Couper-Kuhlen 1992, 1994, Couper-Kuhlen and Selting 1996a, 1996b, Selting 1992, 1994, Selting and Couper-Kuhlen 2001).

Consistent with the organization of prosody as having distinctive organizational features within the larger ecology of practices and resources implicated in the organization of language, there is a well-known differentiation in the effects of brain damage to different brain hemispheres. People who suffer damage to the right hemisphere sometimes retain the ability to produce syntactically correct sentences, but lose much of their prosodic ability, something that also has consequences for their ability to express emotions, and for how they engage in social interaction. Chil's profile is exactly the opposite.

## 5.2 The mutual elaboration of different kinds of meaning-making practices

All of Chil's utterances are built through the simultaneous, dynamic interplay of at least two structurally different kinds of semiotic processes. Borrowing a distinction made by Bateson (1972), Chil's catastrophically impoverished digital resources, the sharp contrast between *Yes* and *No* made possible by his restricted lexicon, are continuously intertwined with very rich, varied, and expressive analogic signs, his prosody. All of Chil's utterances, and utterances in general, are composite structures, built through the interplay of structurally different kinds of semiotic processes that mutually elaborate each other. Chil's rich prosody is a most important component of his combinatorial resources, and contributes to his ability to build action by combining different kinds of signs into meaningful wholes. Through prosody, Chil's limited vocabulary becomes capable of participating in the construction of richly varied utterances and actions. Chil's *No*'s in Figure 2 below provide one example.

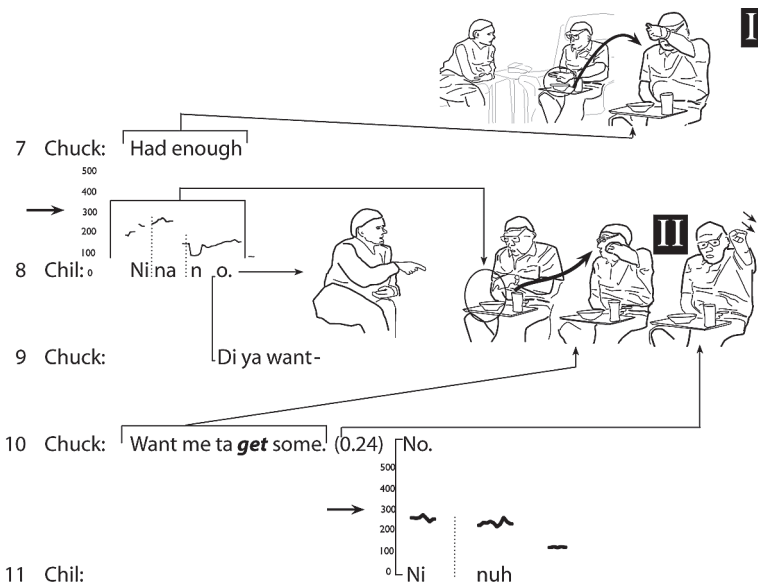
Chil's utterances, and their prosody, are organized with respect to a developing sequence. In Figure 1 there is an extended effort, over multiple turns, for Chil to say something to Chuck, and for Chuck to try to grasp what that is. This larger activity, and the sequence through which it is developed, constitutes a major context for the prosody of individual utterances.

### 6. The epistemic ecology of a restricted semiotic environment and its consequences for the progression of action

Crucial to the organization of this activity is the differential positioning of the participants. Drawing upon distinctions developed elsewhere (Goodwin 1981: 149–166, Goodwin 1987), Chil is a Knowing speaker (K+) telling something to someone, an Unknowing recipient (K-), who doesn't yet know what Chil wants to tell him.

However, while Chil and Chuck are positioned within such a complementary Knowing ↔ Unknowing relationship, the structure of their situation differs in important ways from that of fluent speakers telling stories. In such a storytelling situation, the Unknowing recipient is able to immediately recognize and make use of the conventional signs being used by the teller, and the story can move forward. In contrast to this, Chuck is not able to properly understand Chil's iconic and indexical signs.

As can be seen in Figure 2, Chil's responses in lines 8, 11, 14, 17, and 19 are spoken with a variety of different pitch contours. The scale used to display pitch height from 0 to 500 Hz is the same in all of the phonetic analyses above the utterance lines in the transcript<sup>4</sup>, with 0 placed at the level of the transcription of the talk. To make visual comparison easier, an arrow highlighting each pitch display is always placed at the 300 Hz mark. A vertical dotted line intersecting the pitch track marks the division between syllables.



4. The software Praat (<http://www.fon.hum.uva.nl/praat/>) was used for pitch analysis.

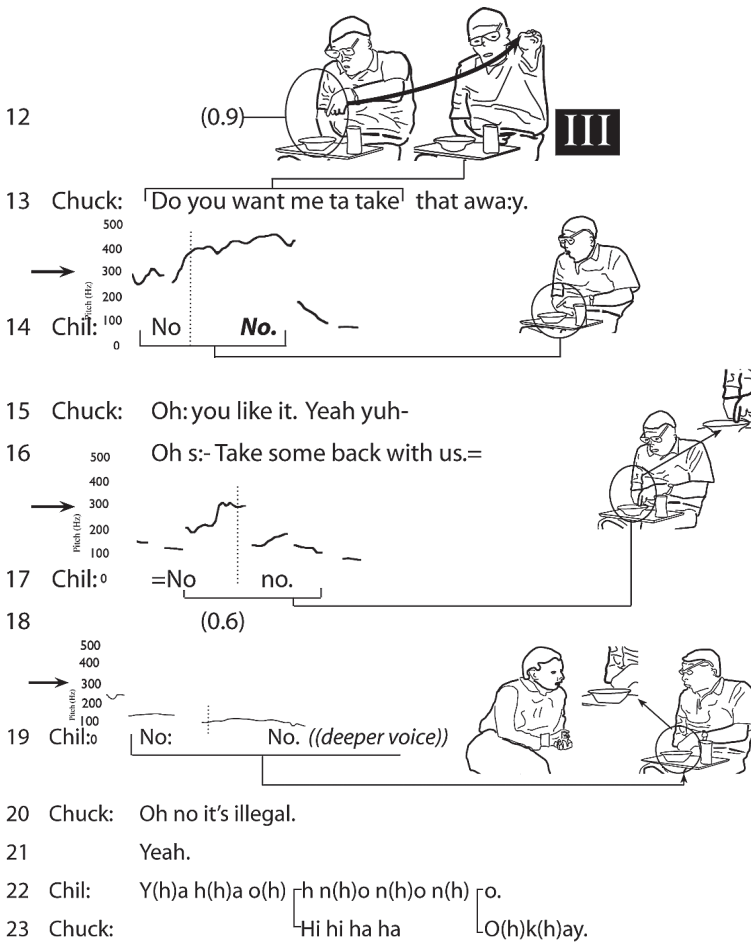


Figure 2. Varied Prosody

7. Building varied action by combining rich prosody with limited gesture and vocabulary

7.1 A first contextual configuration

Chil constructs quite different kinds of action by combing rich and varied prosody with limited, indeed almost identical lexical structure, essentially variants of double *No*'s.<sup>5</sup> Line 8, after Chuck's first attempt to decipher Chil's first gesture complex, displays, in part through its high initial raise, which may be an indication of affect (cf, e.g., Selting

5. Line 8, which begins with a rapid *Ni na*, has three syllables.

1994), that Chuck doesn't understand what Chil is trying to tell him. Simultaneously Chil points toward the bowl, and thus directs Chuck's gaze and attention toward the gestural complex that Chuck should use to remedy his lack of understanding.

Chuck in line 10 does respond to this, but immediately produces another incorrect gloss. As can be seen in the second image of Chil tied to the beginning of line 10, while Chuck is talking Chil keeps his arm extended in the gestures that continue to point toward the area in front of them, but moves his head to gaze at Chuck. At the end of Chuck's gloss, the place where Chil could accept what Chuck has just said, Chil does not do so. Instead, he not only continues to hold his arm in the pointing gesture that makes a subsequent response relevant rather than returning to home position, but he intensifies that gesture with a series of short stabs that continue over and past the *Ni nuh* in line 11. At the same time he moves his gaze from Chuck to gaze in the direction of his point, further marking that action complex, and what is being pointed toward, as what Chuck should attend to if he is to produce the response that Chil is seeking. Chuck takes this ensemble of non-vocal action into account. He displays recognition that his gloss has been rejected with a *No* that occurs before, and overlaps, Chil's lexical rejection with *Ni nuh*.

The continuing relevance of Chil's earlier action is visible in the organization of what happens in a number of different ways. First, essential elements of the action produced over line 8 recur in the activities that organize line 11. Thus the pitch of the two syllables that make up line 11 is at approximately the same height as the pitch over the first two syllables that began line 8 (approximately 250 Hz). Second, gesturally, the raised extended point is a redoing of the pointing gesture that occurred over line 7. There is moreover selectivity in the re-use of gesture in the second move in line 10. When Chil rejects Chuck's gloss here, he does not redo the initial point to the bowl, perhaps treating that as not problematic, but instead emphasizes that Chuck should focus on what is being indicated by the second point. Third, both insistence and visible frustration at Chuck's inability to understand what Chil wants to tell him, are displayed by the clipped syllables without a terminal contour in line 11, and by the insistent short stabbing movements of his outstretched finger. Indeed his strong, rhythmic movements here might constitute a version of prosody in a non-vocal medium. Finally, despite the fact that Chuck has produced a coherent reply in line 10 to Chil's earlier action, Chil has not relaxed the body position that he assumed as a speaker there, and thus is treating his initial action as not having come to completion by being closed with an appropriate response.

Line 14 is another two-unit *No*. Its prosody is very different from anything that has gone before, and this seems to be especially important here. Each of the two *No*'s that make up his utterance is produced in a different way. The first *No* is quite short, approximately 0.26 seconds. The pronunciation of the second takes almost three times as long, 0.68 seconds. The maximum pitch over the first *No* is higher than any of his prior *No*'s (323 Hz, versus 268 Hz for line 8 and 273 Hz for line 11), and this seems to help Chil mark

as particularly salient his disagreement with what Chuck has just said. Chil's pitch then takes a very noticeable escalation during the second *No*, reaching a height of 463 Hz.

The construction of line 14 as a whole, with its variation in how each of its two *No*'s is spoken, great variation in the duration of each syllable, and its marked pitch changes which reach considerable height before finally descending, and which are quite different from any of his earlier turns, all give this utterance a very strong affective valence and display a strong oppositional position to what has just been said. Impressionistically, it seems to display strong objection, in fact outrage, at what Chuck has just proposed (taking the fruit away). Indeed, this two-syllable action with its rise-fall contour may provide an interesting parallel to what Golato and Fagyal have described for *ja^ja* in German, which they argue allows its speaker to indicate to the addressee "hold on, you didn't get it." (Golato and Fagyal 2008: 241), a reading of this pattern that is entirely consistent with what is occurring in the present sequence.<sup>6</sup> From a slightly different perspective, the length of the second *No* allows Chil to extend the time during which his opposition is visible, almost to dwell on it.

It seems clear that Chil is displaying objection to not only this action ("don't take my bowl away"), but more crucially to Chuck's inability to provide an appropriate frame for interpreting what Chil is trying to say. Chuck hears it this way. He begins his response with a classic change of state token (Heritage 1984), *Oh*, and thus displays that what Chil has just said has led him to abandon the assumptions that led to the gloss he produced a moment earlier in line 13.

Line 17, which objects to Chuck's *Ohs*: *Take some back with us*, does not display the outrage of line 14, and is far more neutral as an objection. Each of the two *No*'s is spoken for approximately the same length of time. The first ends with moderate to high pitch (306 Hz) while the second drops noticeably (a maximum of 184 Hz before ending at 77 Hz). Taken as a whole the utterance reiterates Chil's continuing objections to what Chuck is saying (this is most salient in the higher pitch at the end of the first *No*), without, however, marking this objection with as strong an affect as found in line 14.

Chil ends line 17 by looking down at his left index finger pointing into the bowl on his lap. His posture can be seen in the image attached to line 17 in Figure 2. One import of this postural configuration, which will stand in contrast to what occurs next, is that Chil's body displays that the bowl remains relevant to the organization of the current action, and is something that Chuck should take into account in his work to build the next action that Chil is seeking.

## 7.2 Saying something different by building a new contextual configuration

Like so many of Chil's utterances in this sequence, line 19 is built with two *No*'s. However, though again displaying disagreement with what Chuck has said, it constructs an action that is completely unlike anything that has gone before. Instead of coming

6. I am indebted to Dagmar Barth-Weingarten for drawing this to my attention.

immediately after an incorrect gloss by Chuck, it follows, after a noticeable silence (0.6 seconds), something that Chil himself just said in line 17. Lines 17 and 19 are almost identical in their lexical structure: Each is constructed in its entirety with two *No*'s. However, as shown by Chuck's gloss in line 20, which gets Chil's immediate agreement, Chuck interprets line 19 as saying something completely different from line 17, and indeed all of Chil's other utterances and associated gestural complexes. Rather than trying to get Chuck to recognize that he wants Candy to be offered some fruit, Chil's talk here is treated as drawing attention to a serious problem with Chuck's candidate gloss in line 16. Chuck lives in California, a state that prohibits the importation of citrus fruit from outside the state. Bringing some of this fruit back to California would thus be, as Chuck says in line 20, illegal.

What resources does Chil use that enable Chuck to recognize what is being said here in spite of the fact that Chil can't speak the necessary words?

Lexically, line 19 (a two-unit *No*) is hardly different from most of Chil's earlier turns. One might be tempted to argue that the *No*'s in line 19 are understood simply by treating them as operating on the last thing that Chuck said, which was a proposal to bring fruit back to where he lived. However, while this is certainly important in eventually enabling Chuck to recover what Chil is objecting to, it is by no means sufficient. Indeed, Chil himself didn't recognize the problem with California in line 17, his first response to what Chuck said. There, through both his unproblematic prosody and by again pointing at the bowl, Chil was clearly and visibly doing another version of his earlier actions objecting to Chuck's gloss of the linked gestures.

Just before speaking in line 19, Chil withdraws his finger from the bowl and lifts his head up to look directly at Chuck (see the image to the right of line 19 in Figure 2). He is no longer gesturally producing a sign indexing the bowl, as he did in all of his earlier utterances, but is instead focusing exclusively on Chuck, the source of the problematic utterance. The bowl and the point toward the region in front of them have disappeared from the sign complex and contextual configuration he is now constructing for Chuck.

Prosodically, Chil speaks the *No*'s in line 19 with a completely new, very expressive prosody. The pitch track in Figure 2 indicates this in only the most imperfect way. However, it can be seen that his pitch drops dramatically. After the initial nasal sound that begins the first *No* in line 19, the highest pitch that his first *No* reaches is 142 Hz. The second *No* descends further, with a maximum pitch of 118 Hz and a minimum of 78 Hz. Chil's pitch in this utterance is far lower than in any of his earlier turns. The utterance is also spoken with a very deep, sonorous voice. As Chil speaks his second, lower *No*, a noticeable quiver can be heard in his voice (see Ford and Fox this volume).

Impressionistically, what Chil seems to do here is display a shift in deontic, affective and epistemic stance toward the talk he is producing for Chuck. This is indexed by a very clear change in prosodic parameters. Epistemically, Chil treats what is now being said as something that he expects his addressee to unproblematically recognize. Simultaneously, he assumes with strong affect the deontic position of someone like a judge laying down the law to a person who has proposed committing a violation. By attaching this

new prosody to his double *No*'s, he produces what Bakhtin (1981) and Goffman (1981) have described as a layering of voices (cf. also Deppermann 2007, Georgakopoulou 2007, Günthner 2007). Within the framework of Goffman's (1981) concept of footing, Chil is using the shift in prosody to inject a new *Figure*, a typified authoritarian character, into the talk by acting as the animator or sounding box of an utterance (the authoritarian *No*) that belongs to someone else. Since the imagined author/principal of the utterance is not a concrete individual known to the participants, but a category, it could be said to constitute a category-animation (Deppermann 2007: 336). Faced with this new constellation of mutually elaborating displays which strongly contrast with the way in which Chil built his previous actions, Chuck in line 20 is able to suddenly recognize a problem with what he just said (proposing that fruit should be brought back to California, line 16), indeed the problem that Chil also discovered and expressed in line 19.

## 8. Chil's timing

Timing in interaction is central to its organization. Talk is constructed not only through what is said, but equally through how participants construct their own character, competence, moral worth, skill, aliveness to each other and the events they are engaged in, etc. A crucial component of this process is the ability to respond with appropriate timing to the actions of others. Various aspects of timing, including the sequencing of turns to each other, for example gaps and other delays, overlap, smooth no-gap no-overlap transitions (Sacks et al. 1974), and delays of various types within turns, such as word searches (Goodwin and Goodwin 1986), have received considerable attention within conversation analysis, linguistic anthropology and related fields.

For the moment it is relevant to note three aspects of Chil's timing within interaction. First, he is extraordinarily rapid and fluid in the ways in which he produces his own actions and juxtaposes them to the actions of others. Note the rapidity with which he produces both turns at talk (lines 8, 11, and 14) and gesture in Figure 2. On other occasions he interrupts someone in mid-utterance with a *No* to disagree with what they are saying (Goodwin 2007a). In this rapid, fluent timing, Chil differs from many right hemisphere aphasics who considerably delay their emerging utterances through extended efforts to find and pronounce words. Such delays have strong effects on the character of the interaction and the engagement of participants within it. While Chil's interlocutors may be puzzled, they are rarely bored or feel that the unfolding flow of interaction has been put on hold. Paradoxically, the severity of Chil's linguistic deficits, the almost complete lack of vocabulary, may have helped him to position himself as a very alert, alive interlocutor.

Second, Chil displays an ability to coordinate the timing of his gestures to structure in his talk that is comparable to that of fully fluent speakers. Moreover, as noted earlier, Chil's gestures frequently work to provide an account for the *No* he is speaking. The timing of the gesture with respect to specific elements of the talk is one of the

practices Chil uses to establish this sequential relationship, that is, to show his addressee that the gesture should be used to grasp why a particular *No* is being spoken. In other words Chil uses temporal juxtaposition to bind different kinds of signs to each other, and position them in a relationship of mutual elaboration, in which each is used to help understand the locally relevant meaning and action import of the others.

Third, while Chil's individual contributions are produced with superb timing, the unfolding flow of the interaction as a whole, something similar to what conversation analysts describe as progressivity within turns (Schegloff 2007), is disrupted and delayed as participants put considerable work into figuring out what Chil meant with a particular sign complex. Until this is resolved in some way, or abandoned, the sequence of action that Chil is attempting to initiate through use of these signs cannot move forward. In brief, Chil produces action with rapid, fluid timing, but the organization of larger sequences of action is delayed because of Chil's inability to rapidly convey to others precisely what he means.

### 9. Building action within a rich semiotic ecology

Figure 3 provides a brief summary of the resources Chil uses to build action in this sequence. Some of these resources, such as the organization of cooperative semiosis, are described in more detail in Goodwin (in press).

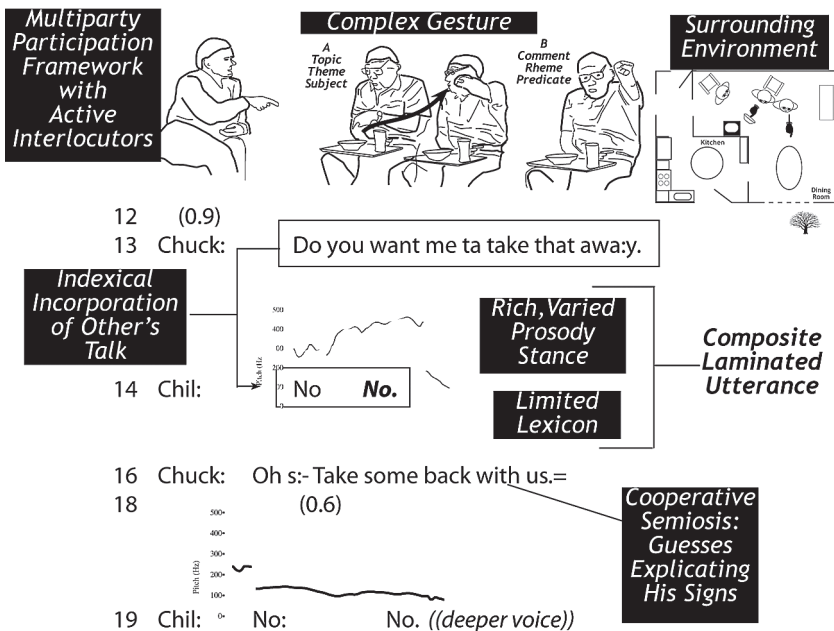


Figure 3. Contextual Organization of Chil's Action



First, while Chil has an extremely limited lexicon, the words he does use, (*Yes* and *No*) allow him to indexically incorporate the talk of others into his own actions. Second, rather than standing alone, Chil's words are linked to prosody. His utterances (and utterances in general) thus have a laminated<sup>7</sup> structure. While Chil's lexicon is poor, his prosody is rich. The way in which prosody and lexico-syntactic structure mutually elaborate each other to create a whole that is greater than any of its parts provides Chil with the resources that enable him to build varied, locally relevant action. Third, Chil has the ability to build complex, multi-part gestures, and these are indeed incorporated into the structure of his utterances, for example as accounts that attempt to provide reasons for why what the prior speaker is saying is being rejected, while suggesting alternatives. His success with these actions is limited by the fact that he can only use iconic and indexical signs in their construction. Fourth, with these gestures, and in other ways as well, Chil can invoke the resources provided by a meaningful environment. Fifth, Chil's actions are embedded within multi-party participation frameworks, constructed through the visible mutual orientation of multiple actors. Such frameworks create environments where other kinds of sign exchange processes can flourish. They also indexically ground the signs produced within these frameworks, something that is especially important for an actor such as Chil, since iconic and indexical signs constitute a large and important part of his semiotic repertoire. Sixth, Chil and his interlocutor(s) are using signs organized through processes of cooperative semiosis, with each sign becoming a locus for operations on it by others. Rather than simply addressing a hearer defined by the ability to decode linguistic signs, Chil is working reflexively with cognitively rich interlocutors, who use whatever signs he produces as a point of departure for further work and inference of their own. In the talk responding to what Chil has done, the interlocutor typically produces a candidate understanding of what Chil is trying to say, which Chil can then reject, accept or modify. Seventh, despite his lack of lexis and syntax, Chil participates in this process with fluent, indeed exquisite, timing. In brief, Chil is building meaning and action within a complex semiotic ecology.

#### **10. Actions as populations of complementary, mutually elaborating signs that make possible the variety required to build relevant moves within continuously unfolding environments**

An issue raised at the beginning of this paper was whether Chil's catastrophically impoverished linguistic syntax meant that he lacked the ability to build utterances by

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7. The concept of lamination is taken from the way in which Erving Goffman used this term in his classes at the University of Pennsylvania while developing the analytic framework for the deconstruction of the speaker that eventually appeared in *Footing* (Goffman 1981). As a laminated entity, the person speaking in the current interaction could be animating another, quite different person, as a speaker in a strip of reported talk, while simultaneously taking up a stance toward that party and what she was being quoted as saying.

combining separate signs into novel, complex wholes. The materials examined here provide one answer to that question. First, they offer a clear demonstration that both Chil's vocabulary and his ability to combine lexical units into larger syntactically structured wholes are indeed severely restricted. Chil's non-lexical syllables also appear to be quite limited. What appears massively on transcripts of his talk are a range of *Di*'s, *Dih*'s, *Duh*'s, and *Da*'s. Moreover, though Chil can and does produce utterance units that contain variable numbers of syllables, in the sequences examined here two-syllable units were both very common and quite important.

However, despite his severe restrictions in lexical and syllable structure, Chil is able to use this basic two syllable template to build powerful, highly varied action. Chil constructs action by combining unlike phenomena – lexical structure, prosody, gesture, other forms of embodied action, and on occasion structure in the environment, – into complex wholes where each limited sign elaborates, and is elaborated by, the others to which it is tied within local action packages. There is great merit in focusing analysis on well-bounded, internally coherent self-contained domains, such as syntax, prosody, gesture, the genetic code, language as a formal, self-contained system, etc. However, in natural systems crucial processes are frequently organized through patterns of action that move across the boundaries of analytically separate modules to accomplish consequential courses of action. Further difficulties arise if one tries to locate all phenomena of interest not only within a single domain, such as language, but also entirely within the mental life of isolated, self-contained individuals. Within such analytic frameworks (which are in fact frequently used to diagnose the abilities of aphasics, as well as the linguistic competence of fluent speakers), Chil's competence to build action by combining different kinds of signs and incorporating structures produced by others, such as syntactically rich sentences, into his own action, disappears.

As an actor Chil is embedded within this continuously changing web of unfolding contextual configurations (Goodwin 2000, Kendon 2009: 363). Though he lacks the ability to produce most symbols, he is acting within a world of action structured through their presence. Chil is able to tie to, and incorporate into his own action, symbols constructed by others. He is thus able to intervene into the unfolding flow of action and reshape it in ways that allow him to accomplish what he wants to say and do.

Chil's *No*'s in Figure 2 provide a simple example of this process. Lexically they are all very similar, and at times identical (lines 14, 17, 19), and as a species of action, they can all be described as disagreeing with what his interlocutor has just said. However, such a gloss, or attempt to focus analytically on just those features that define a common class of action, not only misses, but renders invisible, the great range of variation in these *No*'s with respect to both their composition, and the diverse forms of consequential action they in fact produce. Through the way in which each *No* ties to different strips of talk produced by his interlocutor, each in fact says and does something different. Because Chil's prosody is rich and expressive, comparable to that of a fully fluent speaker, compositionally Chil's *No*'s do not stand alone as bare lexical items but instead, through prosody, they construct a range of diverse forms of action.

Hence, what one finds here is a population of diverse, though related actions which are being organized not by the lexical and syntactic structure of the talk alone, but instead through the juxtaposition of diverse semiotic resources within an ecology of meaning-making practices being sustained through the coordinated actions of multiple participants. The utterances and other forms of action emerging within this ecology are continuously changing, through systematic transformation of the contextual configurations they emerge from. From a Peircean perspective, action is being constructed as a continuously unfolding chain of interpretants, each building from the prior and providing the point of departure for the next. The structures involved in this process are populations of related forms (for example signs marking disagreement) coupled with considerable and relevant variation because of the diverse materials and structures incorporated into each actual instance of the form. This variation makes possible precise adaptation to the local environments where each instance of superficially similar and at times identical linguistic tokens (Chil's double *No*'s for example) are being used to accomplish different, relevant tasks. The practices Chil uses are not unique to him, but instead drawn from the repertoire available to speakers in general for shaping utterances to precisely fit the constraints and contingencies of specific emerging environments. By building action in this way Chil is transformed from the almost mute participant implied by his catastrophically impoverished expressive vocabulary into a powerful, and at times, eloquent speaker.

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