

Pointing and the Collaborative Construction of Meaning in Aphasia

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This paper both investigates social practices used to build meaning when one participant lacks the ability to produce language, and questions the notion that pointing is a simple, primitive technique for doing reference. A sequence in which a man able to speak only three words initiates a line of action by pointing is used to demonstrate that pointing is constituted as a meaningful act through the mutual contextualization of a range of different kinds of semiotic resources including the body, talk, the phenomenal structure of the field being pointed at, and the reflexive coparticipation of the addressee.

How can someone able to speak only three words engage in meaningful discourse? This paper will examine the use of **pointing** gestures by a man with severe aphasia. A central locus for the act of pointing is a situation that contains at least two participants, one of whom is attempting to establish a particular space as a shared focus for the organization of cognition and action. Within such a field pointing is constituted as a meaningful act through the mutual contextualization of a range of semiotic resources including 1) a body visibly performing an act of pointing; 2) talk which both elaborates and is elaborated by the act of pointing; 3) the properties of the space that is the target of the point; 4) the orientation of relevant participants toward both each other and the space that is the locus of the point; and 5) the larger activity within which the act of pointing is embedded. The catastrophically limited speech production of the man with aphasia vividly demonstrates how the ability of both participants and analysts to easily, indeed almost transparently, find meaning in gesture is very much a situated accomplishment. Without the semiotic shaping of both space and the act of pointing provided by a rich language system this man and his interlocutors must go to considerable work to establish where he is pointing (e.g. the location and conceptual structure of the space that is the target of the point) and what he is trying to say with an act of pointing. On the other hand, precisely because he has such limited ability to produce speech (though he has excellent ability to understand the talk of others), this man makes extensive use of points toward spaces already sedimented with meaning in his lifeworld as a way of trying to say something to others, the catch of course being that all of these spaces can be seen and understood in multiple ways. What is required to understand this process is study of how a complex visual field that must be parsed and understood in a congruent fashion by multiple participants is structured and elaborated through language, pointing and mutual action.

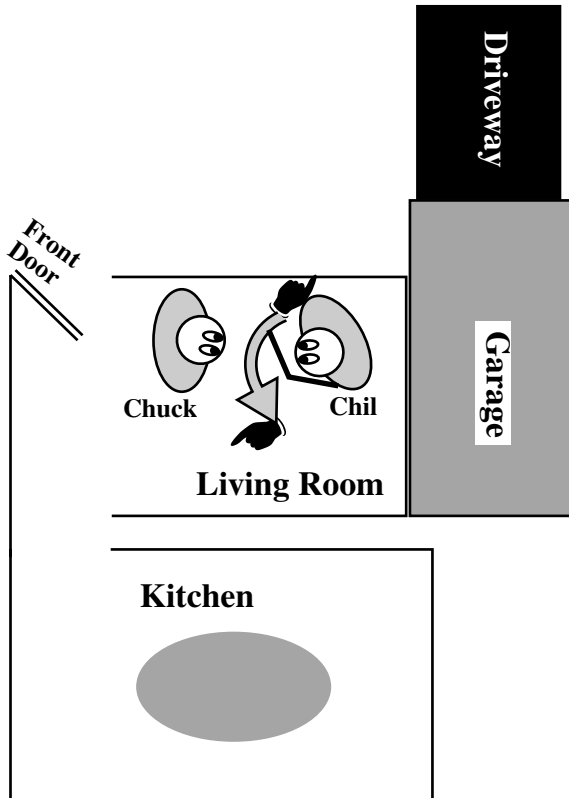
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1. The Situation and Sequence to be Examined

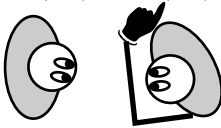
Chil is a man in his late seventies who has almost completely lost the ability to speak because of a stroke in the left hemisphere of his brain. While he has excellent, though not perfect, comprehension of what others say, his basic spoken vocabulary consists almost entirely of three words: *Yes*, *No* and *And*. These are supplemented by rich expressive intonation and some gesture with his left hand, the only arm that he can move. Despite these very severe restrictions in the ability to produce language Chil is a skillful, enthusiastic conversationalist who leads a rich social life, going to Starbucks for coffee on his electric scooter by himself, doing much of the family shopping, engaging in long phone conversations with his children, meeting with friends for lunch, etc. He can and does make himself understood to both intimates and strangers. How is this possible without the ability to produce language? His situation provides a tragic opportunity to probe the interactive practices used by human beings to build meaning through talk-in-interaction.

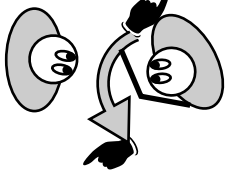
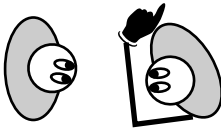
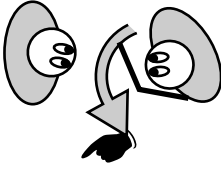
The present paper will focus on his use of pointing. Pointing has been frequently been treated as simple, indeed primitive technique for doing reference, a way of directly indicating “things” in the immediate environment that avoids the complexity of formulating what is being indicated through language. Thus in a passage that constituted the point of departure for Wittgenstein’s (1958) critique of the unproblematic use of ostensive definition to link language to objects in the world, Saint Augustine (1996, I.8) stated that “When they (my elders) named some object, and accordingly moved toward something, I saw this and I grasped that the thing was called by the sound they uttered when they meant to point it out.” It would thus seem an ideal communicative resource for Chil, and indeed he does make extensive use of pointing. However problems with the notion of pointing as unmediated direct reference have been noted by philosophers such as Quine (1971) and Wittgenstein (1958). Chil’s situation provides an opportunity to look in detail at some of the practices used by participants in interaction to accomplish reference, meaning and action through pointing, and the part that language does or does not play in that process.

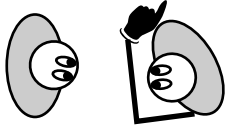
In the following Chil and his son Chuck are sitting in the living room of Chuck’s house. Chil’s wife Helen, and Chuck’s wife Candy have gone shopping. Chil points toward the window with his index finger, then moves his hand in an arc in front of him, and ends with a second pointing gesture. It eventually becomes clear that Chil is using his moving hand anchored by points at each end of its arc to ask Chuck to help carry packages in from the car when their wives return from shopping:



Once one knows what Chil is trying to say his pointing gesture seems transparent. The initial point locates the place where the car full of groceries will be, the movement of hand traces the path Chuck should take from the front door through the hall, and the final point specifies the end of that path, the kitchen. However, when this gesture occurs Chuck isn't able to figure out what Chil is trying to say through it, and indeed doesn't even realize that Chil is pointing toward phenomena in the local surround. Instead of talking about moving things to the kitchen, initially Chuck asks Chil if he wants to go somewhere in the car (lines 14-15 below). It requires an extended sequence, in which Chil both replays his gesture and makes new ones, and Chuck produces a series of queries and guesses, for example in line 30 asking if one of the gestures is meant to represent reading a newspaper, before Chuck, at lines 43-44, is at last able to determine what Chil is pointing at:

- | | | |
|---|--------|-------------------------------------------------------------------------------------|
| 1 | Chuck: | °now Okay |
| 2 | | Whaduh you uh, (0.3) need (0.2) Dad? |
| | |  |
| 3 | | (1.2) |
| 4 | Chil: | eh du r'h |
| 5 | Chuck: | ^l Mom en Da:d? |
| 6 | | Candy? |
| 7 | | (0.5) |
| 8 | Chuck: | Do I hear them? |

- 9 Chil: No. No.
 10 Chuck: No.
 11 (1.0)
 12 Chil: Dih dih dih. Dih Duh.

 ((Does Gesture Twice))
 (0.2)
 13
 14 Chuck: Going somewhere.

 In the Car?
 (0.2)
 15
 16
 17 Chil; No. no.
 18 (0.4) ((New Gesture Starting from Point Hand
 makes Arc down rather than horizontal))
 19 Chuck: Is it about Mom?
 20 ((Chil makes a series of looping gestures
 starting from his knee
 and moving toward his right shoulder))
 (0.5)
 21
 22 Chil: Ye:: No.
 23 (0.2)
 24 Chuck: Candy?
 25 ((Chil makes another looping gesture
 with the back of his hand facing Chuck))
 (0.4)
 26
 27 Chil: No.
 28 ((While making another looping gesture
 Chil gazes toward his hand
 which is being held with it's back facing Chuck))
 (1.0)
 29
 30 Chuck: aw: the newspaper?
 31 (0.2)
 32 Chil: °n | °
 33 Chuck: Is this reading? ((Quoting Chil's look at
 backhand gesture))
 (0..4)
 34
 35 Chil: No.
 36 Chuck: Is it, today's shopping expedition
 37 (0.4)
 38 Chil: Ye: :s.

 (0.6)
 39

- 40 Chuck: What did they get?
41 (0.4)
- 42 Chil: No no.
- 
- 43 Chuck: Help them carry=
44 =everything i n.
45 Chil: ^lYeas. ^lYes. ^lYeah.
46 Chuck: ^lYeah. ^lyeah yeah
47 Chuck: I'll I'll *certainly* do that.
48 Chil: *Yeas Yeas*
49 Chil: eh dih da:h
50 Chuck: Yeah I will.

2. Using Semiotic Structure in the Environment to Build Meaning with Minimal Resources

Chil's pointing constitutes a point of departure for the task of accomplishing reference and action, not a solution to that task. By pointing Chil leads his interlocutor to produce a series of proposals about what he might be pointing at, and how that might be relevant. If Chil rejects a proposal further guesses are produced. Sometimes this process fails. However in most cases, including the present one, the sequence comes to an end, and successful reference is accomplished, when Chil at last accepts one of the proposals. This is a difficult, sometimes tiring process. However guessing sequences like this (in which Chil uses many resources in addition to pointing) are what make it possible for him to accomplish relevant meaning by tying his action to the talk of others (Goodwin 1995).

Why is pointing simultaneously so difficult and so useful to Chil? Some of the practices and phenomena implicated in his pointing will now be briefly examined. Chil inhabits a world that is already richly sedimented with meaning. Rather than having to build signs of his own he can utilize semiotic structure that is already present in his environment. This can occur in a number of different ways. Perhaps the most crucial is Chil's ability to use the **talk** of others to formulate the details of what **he** wants to say. As his interlocutors provide guesses which he accepts or rejects he embeds his limited semantic repertoire within their rich vocabulary, in essence utilizing their voices to speak his talk. In addition to the language abilities of others Chil is also able to draw upon meaningful material structure in his surround. Thus by simply pointing at the thermostat in his living room he can indicate a line of action that he wants pursued, e.g. to have the house temperature raised or lowered, or to have the furnace turned off. Pointing is thus crucial to Chil since it provides a way of calling the attention of others to relevant phenomena in their environment.

Why then doesn't Chuck immediately see that Chil is pointing from the driveway through the front door and hall and into the kitchen? The hall and kitchen are right in front of their noses.

3. Reflexively Going Beyond Provided Signs

Consider in more detail Chil's initial point out the window. To successfully make sense of this point Chuck has to find something that is literally not there: the absent

car with its shoppers who are now in another part of town. How does he do this? As the place where the car is housed the garage and driveway (where the car will be unloaded) are linked to the car through the participants' habitual knowledge of the organization of the spaces they dwell in. Rather than transparently pointing to some visible prelinguistic "thing" in the environment, the act of pointing presupposes a space already endowed with meaning through a history of cultural practices. Moreover, the interlocutor that Chil requires is not someone who simply decodes a message (e.g. the traditional model of the hearer in linguistics and speech act theory), but is rather a reflexively aware, active co-participant who uses what Chil is bringing to his or her attention as a point of departure for trying to figure out how that might be relevant to a projected course of action that Chil is trying to make visible. Ideally Chuck will go beyond the point and its target to figure out that Chil is calling his attention to the shopping expedition. Rather than passive hearers Chil requires culturally situated, cognitively rich co-participants who are actively going beyond the limited signs he produces to locate relevant, though unstated, actions and events. These processes of inference are then checked and calibrated through the formulation of proposals to Chil, leading to the characteristic sequences through which Chil is able to say something meaningful through not only the mouths, but also the cognitive activity, of others.

4. Coordinating Multiple Semiotic Fields

The status of the driveway as an indexical tie to something that can't actually be seen is to some extent shaped by the precise way in which Chil uses his body during this point. Investigation of this requires an analytic framework that locates the visible act of pointing not just in the finger (or other body part) doing the pointing, but rather within a larger **participation framework** that encompasses other elements of the pointer's body, the interlocutor, and the setting and activity in which they are embedded. The canonical locus for the act of pointing is a situation that contains at least two participants, one of whom is attempting to establish a particular space as a shared focus for the organization of cognition and action. This means that a pointer must attend to not only what he or she is trying to indicate, but also the actions of the interlocutor, e.g., to determine if the addressee is orienting to the current action, and/or the space being indicated, how that party is taking this into account for the organization of subsequent action, etc. Similarly, the addressee is typically faced with the task of using something in one spatial field — the pointer's body — to locate something in a different spatial field, the target of the point. Rather than just looking somewhere, co-participants engaged in pointing are faced with the task of coordinating multiple visual fields, including both the region being pointed at, and each other's bodies. Moreover different kinds of phenomena in these separate fields can elaborate and contextualize each other. Thus by looking toward some space, especially a space that is simultaneously being indicated by a point, a speaker can show an addressee that he or she should also look toward this space, which is being formulated as the current locus of visual attention. However in that points can also be made toward spaces that are not currently visible (or toward spaces that do not for some other reason require actual current gaze), the absence of gaze by the speaker toward the space being pointed at can show the hearer that they are not expected to gaze there either. A pointing finger is lodged within a larger hierarchy of structurally different kinds of embodied displays. When Chil makes his initial point toward the window, he keeps his gaze focused on his interlocutor, and does not look out the window himself. What's being pointed at is not being shaped as something that should or possibly can be looked at now. And indeed, initially Chuck does not try

to use the pointing finger to actually locate something in the surround, but instead keeps his gaze focused on Chil while producing proposals about absent people that Chil might be indicating (“Mom and Dad? Candy?” lines 5-6). When these aren’t treated as successful he does look outside while producing a different formulation (“Do I hear them?” line 8) which would make current gaze relevant. However Chil immediately rejects this, and rather than searching further, Chuck immediately returns his gaze to Chil. Thus not only the speaker’s point, but also his gaze and orientation, can be used by an addressee to help determine precisely what set of practices (e.g., should the addressee shift gaze toward the region indicated by the point and initiate a search, or should gaze remain on the pointer) are required to build an appropriate response to the current point.

5. Multiple Targets and Activities Within a Complex Domain of Scrutiny

There are crucial additional complexities to the notion that an addressee can simply use a pointing finger to locate what is being pointed at. In essence this model treats the finger, or other pointing device, as establishing a vector which the addressee can follow until his or her gaze encounters the target of the point. However, this leaves open the question of how the addressee recognizes when the target has in fact been found. For example, on one occasion Chil pointed to his side. His interlocutor followed the vector established by the finger to the first object it appeared to intersect and proposed “phone?” When this was rejected he guessed the Christmas tree behind the phone, and then the couch behind that, all of which were also rejected. He finally correctly guessed the car in the garage beyond the wall, and that Chil was proposing that they take a trip. On another occasion Chil was sitting in his recliner with his feet up watching the television. He pointed in front of him and his son went to the television and asked if he wanted the set repositioned. After this was rejected it was eventually established that Chil was pointing not at television, but at his foot positioned between his finger and the screen, and that he wanted the laces on his shoes loosened. In short, rather than transparently locating a **target**, a point specifies a **domain of scrutiny** a region where the addressee should begin to search for something that might count as a target. As the examples just noted demonstrate, a single domain of scrutiny can contain a variety of different possible targets. Moreover different targets are embedded within, and thus indexically invoke, alternative **activities**. Unlacing is something that can be done to shoes, but it is senseless with reference to television sets. This situation is further complicated by the fact that a single target can participate in multiple activities which may or may not overlap with the activities possible for other targets in the domain of scrutiny. On one occasion, as he was finishing breakfast with his son, Chil pointed at something on the table, a space that contained numerous potential targets: different kinds of food, newspapers, pills, etc. His son initially offered him a bagel, then offered to clean up the table, but it was at last determined that Chil was in fact pointing at the newspaper and wanted information about movies they might go to.

In attempting to figure out where Chil is pointing in all of these examples, Chuck is not simply trying to locate the target of the point, e.g., successfully accomplish reference, but is simultaneously attempting to locate the **action** Chil is performing, e.g., does he want to something to eat, or the table to be cleared, or movies to be checked. The way in which seeable targets are each embedded within webs of recognizable activities is central to this process. The term **activity framework** can be used to refer to a candidate target, such as bagel, a shoe or a newspaper, and the webs of recognizable activities within which that target is embedded. While different

targets make relevant different activity systems, e.g. bagels but not newspapers are eaten, each target is embedded within multiple activities which can overlap with activities appropriate to another target, e.g. both leftover bagels and newspapers are things to be put away when the table is cleared after breakfast. Moreover the entities that can serve as the targets of points can themselves be quite complex activity frameworks, such as the newspaper which contains within it news, comics, ads, pictures, movie and television schedules, etc. Clearly, much of the difficulty that Chil's interlocutors face arises from the fact that he cannot produce language to accompany his points which can specify and formulate what he is pointing at and wants his addressees to locate. The apparent transparency of pointing in the conversation of fluent speakers arises in part from the way in which the activity of pointing and the talk that accompanies it mutually elaborate each other. Moreover the ability to shape what is to be seen through language demonstrates how the target of a point is not a simple, physical "thing" but an entity that is structured through the intersection of a range of different kinds of semiotic practices. In other data (Goodwin in preparation), an archaeologist uses talk to formulate exactly the same patch of dirt as three quite different kinds of entities (a "problem area," "a stripe" and "a plow scar") within the space of a few seconds.

Chil's situation demonstrates that the difficulty of recognizing what is being pointed at is not simply a theoretical issues for analysts (c.f., Quine 1971) but a genuine practical problem for participants. It takes considerable effort for Chil's interlocutors to figure out what entity and action he might be trying to make visible through a point. The multiplicity of entities that might count as legitimate targets of a point sheds some light on why Chuck might not immediately see Chil's moving finger as pointing toward the hall and kitchen in front of them.

In addition to the spatial (where is Chil pointing) and semiotic (what kind of entity is being pointed at) ambiguity of Chil's points, they also have a crucial contingent temporal organization. Once the pointing sequence has been completed it is possible, indeed easy, to construct a retrospective narrative in which one describes Chil as pointing toward the driveway and the kitchen, and to demonstrate how these spaces link together into a coherent course of action. However, at the time the point is being made Chil's interlocutor faces an open-ended array of quite disparate possibilities, each of which implicates an alternative future trajectory of action. Analysis must maintain how participants act within a situation structured by the real presence of such multiple possibilities for future action, in part by focusing on the practices they use to resolve events through sequences of interaction with each other.

6. Anchoring Frames

One technique used repetitively by Chil to help others disambiguate a range of alternative possibilities consists in breaking the task up into smaller components. If one piece of the puzzle can be collaboratively established it can be used sequentially to provide a frame for the interpretation of subsequent action. Thus once Chuck's proposal that what he is searching for deals with "today's shopping expedition:" (line 36) gets an enthusiastic affirmation (line 38), he rather quickly interprets two subsequent lateral sweeps ending with a point toward the kitchen as being about carrying the packages. His only incorrect guess "What did they get?" (line 40) after the frame has been established also uses the shopping expedition as a point of departure. However without the public establishment of such a frame the quite similar

gesture that occurs in line 12 is queried as “Going somewhere? In the Car?” (Lines 14-15).

At the beginning of the exchange being examined here Chil seems to be attempting to establish such a frame. Thus initially he holds his finger pointing toward the window in place even after Chuck makes a first incorrect guess “Mom en Da:d? Candy?”. Note that what Chuck says is in some sense accurate, i.e., Mom and Candy are the shoppers, but it does not actually formulate the relevant activity, the shopping expedition. However when Chuck then turns to look out the window, Chil drops the point and begins a range of other gestures. The absence of a relevant frame makes it difficult for Chuck to even scan these gestures appropriately. Chil’s first new gesture is the lateral sweep that ends in a point toward the kitchen. Note that this, unlike the point out the window, is a compound gesture built through the simultaneous juxtaposition of a range of different kinds of gestural resources. Thus in addition to the point which emerges midway through the gesture there is the sweep from the door to the kitchen. It appears that Chuck focuses on the movement component of the gesture, while ignoring the point, and thus proposes “Going somewhere. In the Car?” (lines 14-15). In the absence of a simultaneous construal of what the gesture is doing, prototypically through talk, even seeing the gesture (e.g., what components of the moving hand and arm to take into account) becomes a problematic task. The framework necessary to describe how participants see a relevant event in a moving hand thus has to encompass not only the body of the pointer and phenomena in the surround that are being construed as relevant to the actions of the moment, but also a developing sequential frame for the production and interpretation of action.

7. Conclusion

This paper has used Chil’s situation to probe how pointing is an inherently interstitial action, something that exists precisely at the place where a heterogeneous array of different kinds of sign vehicles instantiated in diverse semiotic media (the body, talk, phenomena in the surrounding scene, etc.) are being juxtaposed to each other to create a coherent action package. The heterogeneity of phenomena implicated in even a single act of pointing poses a range of methodological and theoretical problems. Why then study pointing? A primordial site for the organization of human action, cognition, language and social organization consists of a situation within which multiple participants are building in concert with each other the actions that define and shape their lifeworld. In this process they make use of both language and the semiotic materials provided by their setting (tools, objects sedimented with meaning and activity, culturally defined spaces, etc.). The issues posed for the analysis of action in such a setting involve not simply the resources provided by different semiotic systems as self-contained wholes, but also the interactive practices required to juxtapose them so that they mutually elaborate each other in a way relevant to the accomplishment of the actions that make up the setting. Pointing provides an opportunity to investigate within a single interactive practice the details of language use, the body as a socially organized field for temporally unfolding displays of meaning tied to relevant action, and material and semiotic phenomena in the surround.

If analysis focuses on the individual participant or utterance Chil’s ability to build relevant meaning and action becomes a mystery. However that mystery disappears when investigation shifts from the isolated utterance to the organization of the ecology of sign systems which have evolved in conjunction with each other within the

primordial site for human action: multiple participants using talk to build action while attending to the distinctive properties of a relevant setting. Chil can use the meaningful structure of his environment, gesture and the ability to affirm or reject the proposals of his interlocutors to speak through their voices. His power to say something relevant and consequential resides not within himself alone, but instead is embedded within a social ecology of meaning making practices organized through ongoing processes of human interaction.

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