

Bibliographic note:

The paper below originally was published “electronically” as a multimedia discussion paper at an early and now long defunct website, organized by John Overton and Doug Glick, the Language-Culture List, (<http://www.cs.uchicago.edu/l-c/archives/subs/haviland-john/>), on April 22, 1996. Because of several recent requests I have reconstructed the original text and illustrative stills from otherwise unedited old files, although the compressed video clips, mentioned in Jürgen Streeck’s comment, which was published along with the paper (and is also included below, along with a couple of other comments by Stanton Wortham and Will Kelly, of which I found ASCII versions in the same old archive where I found my own text), are now lost except on original videotapes I cannot now take the time to re-edit. I make this version available for what, if any, historical interest it may have. What has become of other papers originally from the Language-Culture List I cannot say.

John Haviland, Udine, 17 June 2016.

Pointing, gesture spaces, and mental maps

John B. Haviland

Reed College

Introduction

One way people display their knowledge about space is by pointing, using a gesture to indicate a place, or a thing in a place, or perhaps a thing moving from one place to another. Haviland (1993) argues that storytellers speaking the Australian language Guugu Yimithirr (GY) assiduously orient pointing gestures in the “correct” compass directions. What GY speakers and their interlocutors know about space¹ is thus made plain in their gestures. This chapter² examines spatial gestures in a different speech tradition and argues that the spaces in which gestures are performed both reflect and constitute, as an interactive mnemonic medium, people’s representations of the spaces they inhabit, know, and talk about.

Consider two exemplary utterances³ which appear to include “pointing” gestures. In the first, my compadre P, a Tzotzil-speaking cornfarmer from Chiapas, Mexico, tells about a

¹ Levinson(1992) explores some cognitive underpinnings of GY linguistic practices, and de León (1994) discusses aspects of their acquisition.

² A longer, multimedia version of material presented here can be found at <http://www.cs.uchicago.edu/l-c/archives/subs/haviland-john/>.

³ Tzotzil examples in this essay are transcribed with an abbreviated practical orthography, largely based on Spanish.. Guugu Yimithirr is written in a standard Australianist practical orthography.

roadside *cantina* he used to visit as a boy. He compares its size to that of the house next to which we are sitting, extending an index finger in a seemingly unproblematic act of immediate physical deixis: he appears to “point” at the house.

{1} Tzan Tzan

9 . yech smuk'ul chk i na chk li`e

(It) was the same size as this house here.



Figure 1: “This house right here”

Transcript lines are accompanied by a free English gloss, and by gestural descriptions, which are synchronized with the transcript. L,R,H,N,S,E, and W are abbreviations for left, right, hand, north, south, east, and west respectively. Where a transcript line is accompanied by gestural drawings, numbers (on the drawing and set in synchrony above the transcript line) indicate the illustrated moments of a movement.

Next, Maryan describes the route he used to take from the hamlet of Nabenchauk in highland Chiapas to the distant resort town of Cancún where he was working to pay off his debts. He has gotten his listener as far as Palenque, a town along the way.

{2} M405 (Edit 1: 29.31.27-29.42.03)

248 nopol xa li palenke

Palenque is close by.



Figure 2: “Palenque is close.”

Maryan’s index finger points slightly downwards and roughly north from where he sits in a house patio in Nabenchauk. In the context of his assertion that “Palenque is close” Maryan apparently means to “point” “at” “Palenque.”

Pointing seems a straightforward matter: you stick your finger out in the appropriate direction, perhaps saying some accompanying words, and your interlocutors follow the trajectory of your arrow-like digit to the intended referent. Nothing could be simpler--and nothing could be farther from the truth.

Directional precision in language (and gesture)

One complication to the simplicity of pointing may be the demand for directional accuracy. People in many different societies, speaking such languages as Warlpiri (Laughren 1978) or GY (Haviland 1979c) in Aboriginal Australia, Austronesian languages like Malagasy (Ozanne-Rivierre 1987), American Indian languages like Wintu (Pitkin 1984), Assiniboine (Farnell 1988), or Tzeltal (Brown and Levinson 1993) are reported to keep careful track of cardinal directions, recorded in locational expressions in speech. The linguistic details vary, but frequently people use lexical roots for cardinal directions to describe things and events as points or vectors in the appropriate divisions of the horizontal plane.

There are, unfortunately, rather few descriptions of usage of the spoken reflexes of these terminological systems,⁴ still fewer of the *visible* constituents of linguistic interactions in such languages. My work on GY narrative provides one example of how gestures, too, can be precisely oriented by compass directions. Farnell (1988, 1994) gives another for the Assiniboine.

Gestural accuracy and linguistic precision

Haviland (1993) compares two narrative performances, separated by several years, in which a Hopevale storyteller recounts how he and a companion once had to swim three and a half miles to shore through shark infested seas after their boat capsized. Careful spoken discrimination of cardinal directions in these GY narratives is matched by a parallel directional

⁴ An exception is Evans (1996).

precision in gesture, although sometimes conceptual transpositions are required to maintain this precision.

A particularly dramatic case of “oriented” gestures in these GY narratives involves no explicit pointing but is an example of what Sotaro Kita has dubbed “motion direction blends”-- gestures that portray the manner⁵ of a motion, but combine it with a specific orientation. The boat in question was caught in rough seas, and strong winds flipped it over in the water. On two separate tellings the narrator illustrated how the boat capsized with different motions, but in both cases he kept the orientation constant, showing that the boat rolled over from east to west.

Keeping oneself cardinally oriented is a communicative convention, a rule of proper GY with both a verbal and a gestural expression. These GY facts raise several questions, which this essay begins to address. If cardinal directions can be recovered from talk, they must figure in the “mental representations” of the spatial configurations that are thus expressed. Moreover, the narrative transpositions to which I turn at the end of the essay suggest that these putative “mental maps” of what “interlocutors know” about spatial arrangements must be dynamic and shiftable (see Bühler 1982, Hanks 1990, Haviland 1991, Engberg-Pedersen 1995). How are such transpositions managed and successfully communicated?

In languages like GY there is considerable linguistic support for directional precision, as evidenced by the obligatory and ubiquitous use of cardinal direction terms in all kinds of GY talk. Thus the orderly gestural practices of GY speakers are mutually reinforced by the insistent use of spoken compass terms. By contrast in many other languages, among them Zinacantec

⁵ See Talmy 1985.

Tzotzil, explicit directional terms occur rarely if at all in everyday talk. Do oriented gestures occur within such a different kind of linguistic tradition?

Gestural typologies and language

For ordinary interactants, gesturing is part of talking, and one learns to gesture as one learns to talk (see, for example, Bates, Bretherton, Shore, and McNew 1983) The organization of gesture is inextricably (though problematically) related to linguistic structure, as studies of the relative timing of gesture and talk suggest (e.g., Birdwhistle 1952, 1963, Kendon (1980, 1988, Schegloff 1984). McNeill (1985,1992) bases an entire psycholinguistic program on an argued conceptual codependence between gesture and speech. There may be evolutionary connections between speech and gesture, since language has evolved in the context of face-to-face interlocutors, and Armstrong, Stokoe & Wilcox (1995) find in structural elements of gesture the roots of syntax. An apparent chain of development also links spontaneous gesticulation (perhaps grounded in early motor-activity, e.g., reaching and grasping [Carter 1975]) to gestural “babbling” (Petitto & Marentette 1991) and spontaneous signs, and given appropriate communicative conditions, to systems of home sign (see, for example, Goldin-Meadow 1991), alternate sign-languages (Kendon 1988), sign-language pidgin, and ultimately to full-blown (sign) language (Kegl, Senghas, & Coppola in press).

Moreover, at the level of functional interdependence, deictic gestures both substitute for and supplement spoken deictics (see Marslen-Wilson et al. 1982; Levelt et al. 1985). Several analytic consequences follow. First, as part of the interactive repertoire available to

interlocutors,⁶ gesture-with-speech is a vehicle of communication not only for propositional purposes but for the coordinated social action whose characteristic domain is ordinary conversation. Second, the indexical properties of gestures are potentially as central to their import and effectiveness as are those of words, since word and gesture conjointly index the spatio-temporal context of the speech event.

Typologies of gesture⁷ often involve two broad cross-cutting dimensions: *representationality*, and *convention* or *autonomy*. The first dimension concerns how bodily movements that accompany speech are alleged to depict the referential content of an utterance. Some gestures seem tailored to the “meaning” of speech, whereas others appear to be aligned to other aspects of talk.⁸ The second dimension of autonomy concerns the degree to which gestural

⁶ Kendon (1994) argues that gesture has an unavoidable and naturally exploitable communicative role. Compare Goodwin and Goodwin, C. Goodwin 1986, Moerman (1990), and Streeck (1993). But contrast, Krauss, Morrel-Samuels, & Colasante (1991).

⁷ Typologies on quite different principles are possible; Wilkins (1997) describes a native Arrente classification of manual gestures, for example.

⁸ McNeill and his associates (McNeill and Levy 1982; McNeill 1985; McNeill, Levy, and Pedelty 1990; Cassell and McNeill 1991), drawing on the classic proposals of Efron (1972[1941]), propose a classificatory scheme which distinguishes “iconic” and “metaphoric” gestures which bear a relation of resemblance to aspects of utterance content, “deictic” gestures which index referents both concrete and abstract, and “beats” which seem to be non-representational. See also Ekman and Friesen 1969, and McNeill 1992.

movements are *ad hoc* fleeting creations of the moment, inextricably tied to concurrent speech, as opposed to more or less conventionalized, “language-like” signaling devices in their own right, independent of verbalization, possibly both “glossable” and “quotable” (Kendon 1983, 1988b, 1990a, McNeill 1987).

The notion of conventionality in gesture is too complex to treat here. There are surely elements of gestural form, even in “pointing,” that make the line between symbolic (conventional) and indexical modes of signaling problematic.⁹ However, a central and striking element of “conventionality” in GY gesture is the apparent “fixity” of direction that accompanies pointing. When a gesture portrays location or motion, it must in a variety of ways preserve cardinal directions.

Although such a gestural convention may seem exotic, one reflex of the convention is probably widespread. GY speakers frequently point to the part of the sky where the sun would be visible at a certain hour to refer to the corresponding time of day. In a similar way, but using a very different pointing style, my Zinacantec compadre describes returning to a place where he had left a sick and dying horse. When he says, “it was getting late” (see {3}), he glances up at the place the sun would have been, (see Figure 3.) providing a kind of gestural metaphor for time that relies on the true cardinal direction, or local geography, to evoke the afternoon sun.

⁹ The possibility of formal/functional links between gestures and the meanings they encode complicates the dichotomy between gesticulation and emblem or sign. See, for example, Calbris 1990; Haviland 1991b, and Kendon’s recent work (e.g., 1995b) on recurrent hand shapes in Italian gesticulation.

{3}. Setel

12 ju:ta mal xa k'ak'al u:n

Damn, it was already getting late.



Figure 3. “It was getting late.”

Nonetheless, it is not a gestural convention in my dialect of English that pointing gestures be oriented by the compass, perhaps not even to talk about sunset or sunrise. Directional precision is thus a somewhat unexpected overlay to “conventionality” in gesture not captured by standard typologies.

Pointing and indexicality

Gestures are frequently classified by a familiar Peircean trichotomy. Unlike **emblems**, which are symbols or conventional vehicles of meaning, **iconic** gestures (McNeill 1987) are said to depict (by virtue of resembling in some way or other) entities in narrative. “**Deictic**” or “pointing” gestures, on the other hand, are not representational but instead act as Peircean

indices, picking out their referents by virtue of a shared spatio-temporal proximity with them. Indeed, pointing gestures are the canonical and for many theorists the ontologically primeval indexical signs. (Etymology enshrines the fact that we generally point with our *index* fingers, though people may use other body parts.¹⁰)

Reference is characteristically anchored in the speech event through such indexicals as pronouns, tenses, demonstratives, and so on. However, it is supposed, one can refer equally well (if not better) by showing as by saying. Accordingly deictic gestures can replace rather than merely accompany referring expressions. Levelt et al. (1985) consider it distinctive of certain deictic gestures that “they can be obligatory in deictic utterances” (Levelt et al. (1985), p. 134).

“Deictic terms like ‘there’ or ‘that’ . . . require the speaker to make some form of pointing gesture, for example, by nodding the head, visibly directing the gaze, turning the body, or moving arm and hand *in the appropriate direction*” (*ibid.*, emphasis added).

But *which* is “the appropriate direction”? As Wittgenstein (1958) points out, ostension itself relies on what he calls a “custom.” There is the famous example of the sign-post in Wittgenstein’s discussion of rules.

“A rule stands there like a sign-post.--Does the sign-post leave no doubt about the way I have to go? Does it shew which direction I am to take when I have passed it; whether

¹⁰ For example, see Sherzer (1972).

along the road or the footpath or across country? But where is it said which way I am to follow it; whether in the direction of its finger or (e.g.,) in the opposite one?”¹¹

The direction of a pointing gesture can, as in ASL, start out as arbitrary but once established become both significant and enduring. Bellugi and Klima (1982:301) describe some functions of pointing in ASL as follows:

“If a referent (third person) is actually present in the discourse context between signer and addressee, specific indexical reference is made by pointing to that referent. But for non-present referents that are introduced by the speaker into the discourse context only ‘verbally,’ there is another system of indexing. This consists of introducing a nominal and setting up a point in space associated with it; pointing to that specific locus later in the discourse clearly ‘refers back’ to that nominal, even after many intervening signs . . .”

A pointing gesture, like any indexical sign, projects a surrounding context or space--let's call this its “gesture space”--within which it can “point.”

“[E]very sign insofar as it signals indexically . . . serves as the point-from-which, or semiotic origin of a presuppositionally/entailing projection of whatever is to be understood as context” (Silverstein 1992:6).

¹¹ Wittgenstein (1958), section 85. Lest this seem like a mere philosopher's niceity, consider Sander Adelaar's (p.c.) anecdote about speakers of Chamic languages during World War II and the Western soldiers who pointed to a far off spot, asking for a place name, only to be given the name of the spot directly *below* the outstretched finger.

Note that this is a *conceptual* projection; one may point in “real” physical space, but pointing conjures up a space oriented and populated by conceptual entities. How far an indexical sign projects, how wide or detailed the projection is, are central empirical questions.

As philosophers have been at pains to argue, what there is to point *at* is (at least ontologically) a variable thing. When an interactant “points” “at” “something,” how structured and how detailed a space that something entails (or that pointing presupposes) is neither constant nor fixed in advance. Moreover, a sequence of pointing gestures does not necessarily produce a coherent space, within which contiguous gestures may jointly be understood to point. Any coherence to the space delimited by such a sequence of indexical signs is *itself* a projection (of the indexical fact of the contiguity of the gestures), and thus the result of interpretive efforts.

Presupposing/entailing

Pointing gestures, like other indexical signs, may thus be placed along a continuum from relatively presupposing to relatively creative (Silverstein 1976b). Where a present and “directly” perceivable referent is the target of a pointing gesture, it is relatively presupposable: its existence, as well as its location and other salient characteristics, may be taken for granted in the speech context. You can exploit presupposable features of the actual location of a co-present referent, thus rendering the interpretability of your gesture dependent on those presupposed features. (In the absence of other information, your interlocutor must share knowledge of geographical and perhaps other relevant facts if she is to identify your gestures’ referents correctly.) A gesture that “points at” such a presupposable entity simply inserts it, and its relevant features, into the current universe of discourse.



Figure 4: “I was a young fellow.”

“I was a young fellow,” says JB, pointing to his own chest (see Figure 4), “frightened of nothing.” He characterizes his carefree attitude when he defied fate by swimming to shore from the capsized boat. JB’s gesture draws upon the immediate environs of the speech event, within which deixis presupposes (usually observable) targets, such as local objects, geographical features, and here the speaker himself. Such a space is “anchored” because the presupposable loci of such perceivable entities are immediately given in relation to the current origo, the here-and-now of the interlocutors. You locate the things you point at where they actually are. Such a situation is perhaps the primeval home that theorists imagine for deictic gestures.

This relatively presupposing strategy for pointing gestures may be adopted for narrated spaces as well. JB and his companion faced a long swim through rough seas from the capsized boat. JB describes the situation with a sweeping gesture to his left (Figure 5)--that is, southwest.

He says, “You couldn’t see the beach to the south; well, (it was at a distance of) three mile(s) and a half.”



Figure 5: “Three mile and a half.”

JB, sitting at modern Hopevale, indicates the three and a half miles to the beach at Bala by pointing not in some arbitrary direction, and not northeast to where Bala actually lies from where he sits, but southwest-- calculating from his narrated perspective near the capsized boat. He thus presupposes his interlocutors’ knowledge of the geography he is describing and their ability to transpose themselves to a narrated origo from which can be projected known (presupposable) landmarks, including the named spot on the beach.

Relatively creative pointing gestures

Other pointing gestures--often those directed “towards” non-present “objects”--can by contrast be relatively creative. When your gestures themselves help create their referents, entail their existence for discursive purposes, you can often put those referents where you want them. Indeed, it may be that the “pointing” gesture depends in no way on the location of a referent. The location may be discursively irrelevant, and the “pointing” gesture may have only an individuating function. In such a case it may not be necessary to refer again to the same entity, so it matters little where you pointed “at” it; and if you do have to refer to it again, the initial baptismal gesture has established a locus to which you can return.

In {4}, a Zinacantec man describes how he once met a supernatural demon called *j`ik`al* ‘blackman.’ The man tried to grab the creature, which ran away. The narrator illustrates how the *j`ik`al* fled (Figure 6), and hid behind the cross in the man’s patio (Figure 7), both times using pointing gestures. The conversation took place far from the village where the confrontation occurred. The locations indicated by the man’s gestures appear to be creative choices of the moment, not derived from the geography of the actual events. Thus the pointing gesture in Figure 6 arbitrarily creates a locus for the hiding demon, a locus that is then taken up and gesturally elaborated when the house cross is mentioned.

{4} j`ik`al1

1.....2.....
42 a; i -0 -jatav un
CP-3A-run_away PT
It ran away

1. Turn face to right and sight to spot some distance away, then return gaze to front
2. Right arm extends out in point to R (SW), then back to rest at knee.



Figure 6. "It ran away."

As he describes the event, the speaker surveys the local scene to gauge how far the demon ran, pointing to his right to where the blackman fled after he tried to grab it. In his next utterance the narrator establishes a more definite locus.

{5} j`ik'al (cont.)

3.....

4.....a....b

44 a; te i -0 -bat yo` pat krus -e

there CP-3A-go where back cross-CL

It went there behind the cross.

3. Look quickly out R again, then back

4. R arm lifts out R and slightly to front, (a) circles anticlockwise, index finger slightly down, (b)

moving all slightly L and held



Figure 7. "Behind the cross."

.....5..... 6.....

46 a; k'al yo` krus ali te vechel krus ta
 as_far_as where cross uh there sitting_on_base cross PREP

(It went) there to sit by the cross where...

5. R arm still extended, fingers drop to expose back of hand, in anticlockwise circling motion

6. Circling motion of R hand repeated, then arm withdrawn to rest.

47 ch -av-il onox li j -krus k'al tana
 ICP-2E-see nonetheless ART 1E-cross as_far_as afterwards

Where my cross is still today, you know.

The gesture depicted in Figure 7 combines both the oriented pointing that locates the cross relative to the place where the *j'ik'al* originally fled (in Figure 6), with a hand shape (and circling motion) evidently intended to convey the spatial relationship encoded in the Tzotzil expression

ta pat krus ‘behind the cross.’ The gestures here literally create their referents to populate the illustrative graphic space.

Gesture spaces

These two strategies for constructing indexical gestures involve different principles for calibrating the immediate local space of the speech event with the gesture space where the conceptual entities “pointed to” reside. In relatively presupposing pointing, the location pointed at can be derived from coordinating the space referred to (i.e., the space conceptually containing the referent) with the immediate space (where the gesture is physically performed). In relatively creative pointing, a location is selected in the local scene, as it were, arbitrarily. The gesture “creatively” entails the referent’s existence by “placing” it within the referent space, and it imposes a structure on that space--including a location for the referent where such location is relevant--with certain possibilities for subsequent reference.

There is a further consequence of the choice between these two pointing strategies. Suppose that one explicit aim of a stretch of discourse is to establish relations, spatial and otherwise, between referents. An arbitrary map, populated by means of relatively creative deictic acts of reference, may produce arbitrary interrelationships. Or it may invoke principles other than the geometries implied by “actual” geographic location. Referent X may (in the real world) stand north of referent Y, but I may put my “pointed-at” X and Y in some other relationship--X to the right of Y, or higher, or lower (and there may be no need for a single, consistent solution). On the other hand, a gestural map that presupposes actual geography can directly exploit actual, presupposable, geographic relations, although certain principles of

transformation or rotation, zooming, and resolution may need to be invoked both to keep things straight and to achieve the required level of detail.¹²

However, choosing between relatively presupposing and creative strategies is presumably not itself an arbitrary matter. It may depend on a further convention between interlocutors, or, indeed, on a communicative tradition, part of the “culture” of a linguistic community. My dialect of American English favors relatively creative solutions for referential gestures, “locating” referents more or less wherever they happen conveniently to fall. For GY speakers by convention the solution is highly presupposing. It was the suspicion that Zinacantecs, despite having little overt linguistic support for precise orientation in spoken Tzotzil, also were relatively presupposing in the orientation of their gestures that prompted this closer look at Zinacantec pointing.

In addition to local and narrated gesture spaces, Haviland (1993) distinguishes a further interactional space, defined by the configuration and orientation of the bodies of the interactants (see Kendon 1990b). Interactional space usually comprises the intersection of the hemispheres of action and attention that project forward from the bodies of the interlocutors, especially the speaker. This space has a privileged interactional character, being conjointly available to interlocutors for gesticulation. Interlocutors in a sense create this space by virtue of their interaction; they do not find it in the local surround but carry it with them.

¹² See Haviland (1991). Habel (1990) employs the notion of resolution to model people’s knowledge of the Hamburg train system.

Although interactional space in principle can also come with cardinal directions attached, Haviland (1993) shows that even in GY discourse it is here that gestures are frequently emancipated from the compass. This is the area within which a speaker locates “absent” referents creatively and refers to them subsequently. Interactional space may thus be free from fixed cardinal orientation.

Furthermore, when narrative recounts scenes of interaction, narrators may also quote “free” gestures, thus invoking narrated interactional space: a space in which narrated interaction is located. If interactional space is unanchored by cardinal directions, then narrated interactional space may be similarly emancipated.

To repeat, in this parlance a “space” is simply the projected spatial context for an indexical sign, the signs of interest being the loosely defined “pointing gestures” which supposedly require at the very least spatially locatable referents. Since gestures flash by evanescently, so do their projected spaces. Thus the different kinds of gesture spaces--really complementary dimensions of projected spaces which may, in fact, be laminated one on top of another--are swiftly instantiated and sometimes just as swiftly discarded in the interactive flow, though rarely does an entire space disappear without leaving some usable residue. It is the multiplicity of gesture spaces, and the shifting between them, that belies the alleged simplicity of “pointing” gestures as primitive referential devices. It is also what makes pointing gestures rich evidence about spatial knowledge--social, interactive, and individual.

Mental map or externalized mnemonic?

The notion of mental map implies an internalized conceptual structure, abstracted perhaps from external, physical space, but subject to various manipulations and characterizable through linguistic categories. The interactive practices of Mayan Indians and Australian Aborigines suggest that although physical (“real”) space can be the object of linguistic and cognitive processing, it also may serve as a tool for such processing, a medium upon which cognition may be externalized. In particular, when conversants are actively trying to construct or agree about spatial relationships, space itself can be a mnemonic through which knowledge of land, terrain, and territory can be (re)constructed and (re)calculated. The gesture spaces of conversation constitute an interactively available, indeed, interactively constructed, analog computational device for working out spatial and other sorts of relations. Gestures, which directly exploit this spatial medium, consequently assume a special importance in such conversations.

Older GY speakers, like the narrator of the shipwreck story, show great (if quite unconscious) precision in orienting their gestures--comparable to an equal precision in the use of spoken directional terms. The same sort of gestural accuracy can occasionally be observed in the speech of much younger people, even those who liberally mix English into their GY, or who almost entirely eliminate spoken references to the cardinal directional system. One such younger man, GC, does not use spoken directionals, for example, in pseudo-experiments like retelling books or video scenarios, although older GY speakers frequently do. When it comes to his own tribal country, however, he tries to maintain careful orientation, in both word and gesture. GC is currently reclaiming rights over land expropriated by both Government and other Aboriginal groups. (See Haviland 1997.) As a result, even otherwise innocuous interactions have been transformed into proving grounds for his traditional territorial claims.

GC is a fluent GY speaker, but one who has spent time away from the community, speaking English. He is thus out of practice with his native language, though for political reasons he cultivates its use in appropriate contexts. He describes a site on Lizard Island, part of the traditional clan territory at Cape Flattery which he has inherited from his patriline. The site is named after the barb of a giant stingray. According to tradition, it was also the spot where men of his lineage should be christened so as to insure their success at hunting. GC has recounted the story from the perspective of the island, which lies east of the mainland Cape Flattery camp. GC sits with his back to the east facing his interlocutor in the west. He has come to the point in his story where the ancestral figure who speared the giant stingray now turns west toward the mainland to await the birth of male children. At line 4 of fragment 6, GC points clearly to the west (see Figure 8), at the same time saying first “to the east,” then “to the north,” and finally, with a confirmatory nod at line 6, “to the west”--the word which, to judge by his oriented gesture, he was searching for.

{6}. Gordon2a

1 g; well ngathi nhaamu==:unh

" grandfather that -ABL

Well, then my grandfather . . .

1:.....a.....b

2 nyulu said well alright

3SgNOM *** " ***

He said, "Well, alright."

1: RH up in open C, rises to mid chest at a, drops at b.

2:..... 3:.....

3 ngathu ganggal yii nhangu

1sgGEN child here 3sGEN

My child here--

2: gaze up W staring

....a....b....

4 nagaar

east+R

in the east--

3: RH starts up, two index fingers pointing, W at a, high W at b.



Figure 8. West (or is it East?) to Cape Flattery.

.....c

5 gunggarra

North+R

in the north--

3 (cont.) RH circles into body and drops to rest at c.

4:

6 guwaar . balga==:ya

west+R make -REF+NPAST

in the west, (my child) will be born.

4: Gaze high west, head rises slightly staring and falls.

7 m; Cape Bedford?

At Cape Bedford?

[

5:

8 g; ngayu-

1SgNom

"I ---"

5: RH rises to chest height, palm in, fingers out S, circles clockwise and up

GC's interlocutor, knowing the geographical relationships involved, is confused by GC's words, and he hazards two incorrect guesses (at lines 7 and 10) about the place GC is talking about. Both GC's subsequent pointing gesture at line 9:6 (see Figure 9), and his verbal confirmation at line 11, shows that GC was perfectly clear about the relative positions of Lizard

Island and Cape Flattery even if he couldn't quite find the correct term. His own hand, mnemonically pointing west, may have helped him with the word search.

..... 6.....7

9 gaari

No.

6. Segues into RH indexes point, palm face in, up high W, back to rest.

7. Gaze meets M, slight nod.

.....

10 m; McIvor

At McIvor?

11 g; dingaal

At Cape Flattery.



Figure 9. At Cape Flattery.

Tzotzil narrative and oriented gestures

Tzotzil-speaking Indian peasants in the highlands of Chiapas, Mexico, also display precise bodily orientations to space despite the comparative lack of linguistic support for such precision. There are, in Tzotzil, only underdeveloped devices for talking about cardinal directions, when compared with the morphologically hypertrophied and ubiquitous cardinal direction terms in GY. Indeed, although the ancient Maya are celebrated for their calendrical and astronomical achievements, modern day Zinacantecs have paltry lexical or grammatical resources for talking about cardinal directions. East and west are simply “place where the sun rises” and “...sets,” or--reflecting an overall inclination of the territory dominated by the central Chiapas highlands (on the east), and the lowland Grijalva valley (on the west)--simply *ak'ol* ‘up, upland’ and *olon* ‘low, lowland’ (de León 1994). Talk about direction is dominated by local geography rather than by celestial absolutes,¹³ and directional terms are infrequent in ordinary conversation.

It may thus seem somewhat surprising that Zinacantec Tzotzil speakers appear to maintain a division in gesture space that roughly parallels the division between directionally anchored local space and free interactional space I have described for GY. Finding that

¹³ Gossen (1974) notes that Chamulans conventionally denote north as “the side of the sky on the right hand” and south as “. . . on the left hand” (p. 32). Zinacantecs often simply refer to either direction as *ta k'atal* ‘sideways.’ Brown and Levinson (1993) describe the cognate “uphill” and “downhill” system in neighboring Tenejapa Tzeltal, where the denotations are rotated 90 degrees (“uphill” denotes south).

Tzotziles, too, have their anchored spaces pushes one to search for the conceptual support that using such spaces in gesture might require.

Peasant agriculturists whose livelihood depends on intimate knowledge of the lay of the land, and especially people like my compadre P who spent his youth leading mules on trails crisscrossing the highlands, have good reason to maintain detailed and precisely oriented mental maps of their territory. Knowledge of routes and geography, not unlike knowledge of plants (see Laughlin and Breedlove 1993), grows naturally from tromping the trails. Older Zinacantecs are encyclopedias of place names, botanical and topographic lore, paths, routes, water holes, creeks, and settlements over a wide area that extends far beyond municipal boundaries.

Detailed knowledge of geography and terrain may have begun to fade when younger men took to trucks and buses after the arrival of the Pan-American highway in the early 1950s. However, although micro-geographic knowledge may have narrowed, the scope of Zinacantec macro-geographic knowledge has expanded. Because of economic changes in Mexico, Chiapas Indians once relatively isolated from the pressures for outmigration that have long characterized much of rural Mexico have begun to leave their communities in search of work. Zinacantecs have always traded throughout the region, but more and more individual Zinacantecs now travel far from their municipality, sometimes never to return.¹⁴

My compadre Maryan described to me the route he took when, burdened by crushing debts, he fled his village and sought work in the resort city of Cancún, far from his highland

¹⁴ See Haviland (1989b), and de León (1991) for recent Zinacantec labor migration to the United States and Mexico City.

Chiapas home. Although aspects of Maryan's story have great ethnographic interest, I have deliberately ignored them here to concentrate on how Maryan carried with him to Cancún a system of directional orientation which he exhibits gesturally as he talks.

At the beginning of Maryan's performance--in which he tells me how to get to Cancún from the village of Nabenchauk where we sit--he shifts his sitting position so that the line of his shoulders runs precisely East-West. Once made conveniently available by this shift, cardinal directions in pointing seem to remain constant and significant.

Maryan describes leaving Nabenchauk and proceeding to San Cristóbal. He accompanies his words (shown at {7}) with a slow rising gesture pointing out and up to his right, due east. (See Figure 10.)



Figure 10: Nabenchauk to San Cristóbal

{7} Nabenchauk to San Cristóbal

1 2-3... (*high and retract*)

81 tuk' onox ya`el cibata ali ta

I would go straight to .. hh ...

82 li ta . ta Jobel xkaltike une
to . . . San Cristóbal, as we say.

The route leaves San Cristóbal and heads for another spot on the Pan-American highway called Rancho Nuevo. As Maryan describes reaching that point, his vertical flat hand, still pointing east, moves downward (see Figure), apparently indicating “arrival.”



Figure 11: Arriving at Rancho Nuevo.

{8} Getting to Rancho Nuevo

m0036 (1) 2 (rise and down to rest)

84 m; va`i un ali ja` xa li ta-

So then, when we . . uh . . .

RH up...rest

| *out again to R*

85 yo` jtatik ali . rancho nwevo une

when we get to where Rancho Nuevo is.

From that point one “turns to the side” {9} and continues toward the next major town, Ocosingo. Maryan’s expression with the verb *-k’atp’uj* means simply ‘turn aside’; it makes no further specification of direction.

{9} Turning sideways.

m0040 1 2-----3... (*high and stretch further*)

87 m; ja` xa cik'atp'ujotik ec'el xi to cibatik .

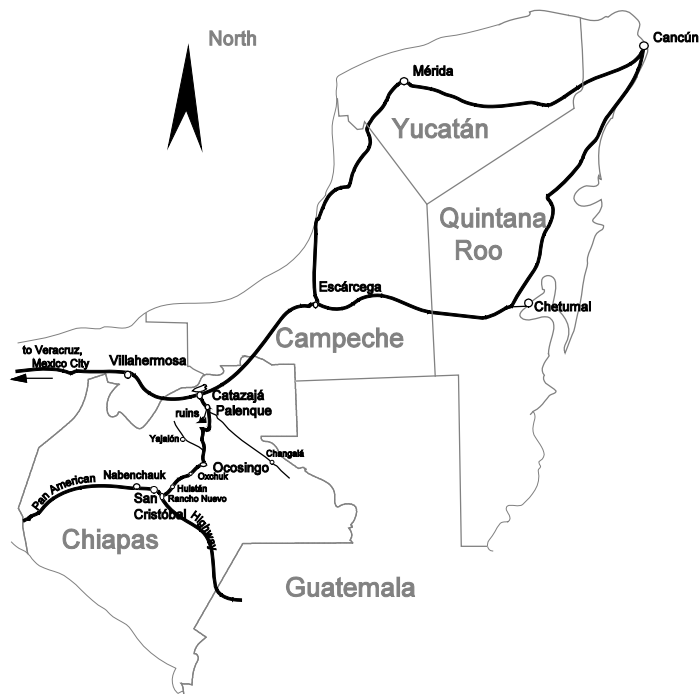
that's where we turn away to the side and we go this way [towards Ocosingo].

However, Maryan’s gesture at this point, shown in Figure 12, does indicate that the direction involved is slightly east of north. He makes a pushing motion, first turning his palm to face north with the fingers slightly cupped, and then extending the hand outward in front of him (to the north-northeast), and finally extending his fingers.



Figure 12: "Turn to the side."

One of the illustrations with which I began (Figure 2) is drawn from a later segment of this same route description. Maryan has located himself discursively at a crossroad just south of Palenque. His left arm is extended fully in front of his body, with the pointing finger angled slightly downward and to the right--a position that he holds as he says "Palenque is close." The gesture is clearly transposed, in a now familiar way. From the discursively established crossroad, Palenque lies roughly NNW, the direction he now points. He has thus constructed a narrated space, over which he laminates the here-and-now of the conversation which supplies the required cardinal orientation.



Map 1: A German map of southeastern Mexico

If you look carefully at the compass directions of all Maryan's pointing gestures in this route description, you can construct a map which can be compared to, say, a German map of the same territory.

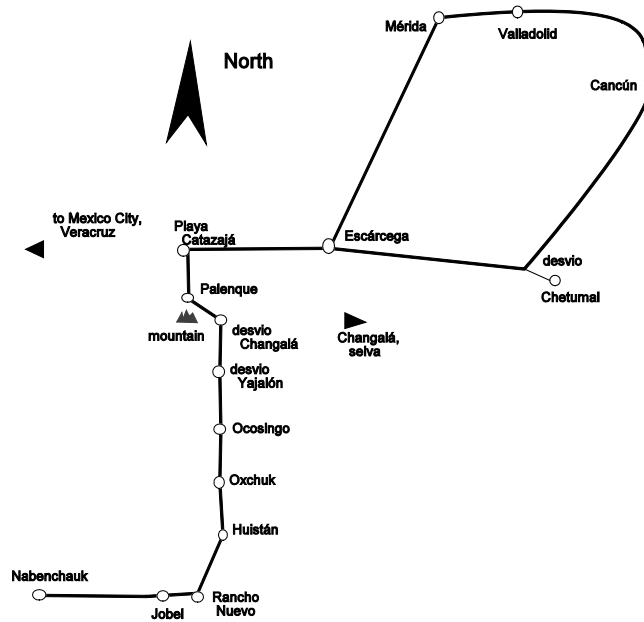


Figure 13: Maryan's virtual map, Nabenchauk to Cancún

I have schematized a “pointed” “map” of Maryan’s Nabenchauk-to-Cancún route in Figure 13. (The distances represented are only approximate interpretations of the accompanying gestural sweeps.) Comparing this virtual map with a standard roadmap in Figure 1, it is clear that Maryan’s directional sense, though somewhat normalized, is close to that of European cartographers.

Notice that Maryan’s representation gives considerable local detail, naming many nearby locations, especially within the state of Chiapas, and becoming less detailed the farther he gets from home. Such differential density in representation is reminiscent of comparative findings about such externalized “maps”,¹⁵ although it is hard to say whether this reflects Maryan’s

¹⁵ See Gossen (1974a), who argues that as distance from Chamula increases, so do time, alienness, and danger in Chamulan ideas about the world.

geographical knowledge or constraints of the interactive situation (where he expected his interlocutors to know more about nearby places in Chiapas than about distant points in Quintana Roo).

Maryan's gestures show directions as he proceeds from each named point to the next. However, such a point-by-point mapping of the route, if not corrected by spot sightings on unbroken roads, might be expected to produce cumulative error.¹⁶ To judge by the ultimate tracing of paths, Maryan does not seem to have been misled by the fact that a road may leave a town in one direction, only to head ultimately in another.

As an added bonus, in a later route description to Lourdes de León, Maryan drew a map in the dust.¹⁷ Figure 14 is my reconstruction of the drawing that resulted.

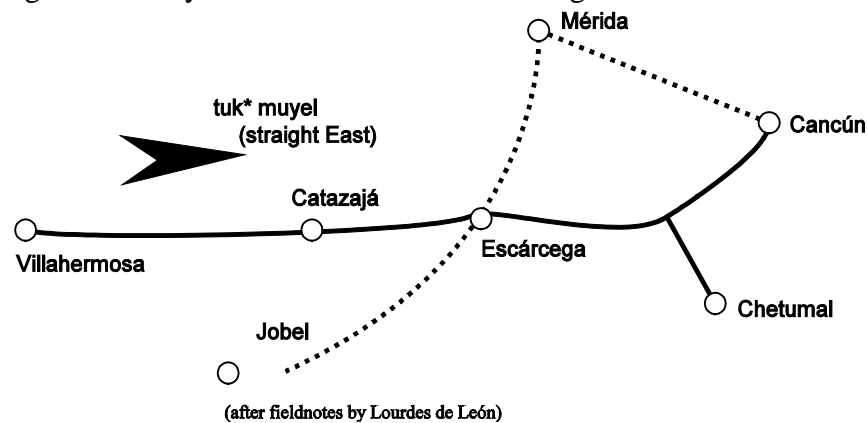


Figure 14: Maryan's map in the dust

¹⁶ The observation is due to Stephen Levinson.

¹⁷ I am grateful to Lourdes de León for sharing her fieldnotes. The solid lines in Figure 14 appear on de León's sketch; the dotted lines I have supplied on the basis of the videotape.

These diagrams suggest that Maryan has constructed for himself an accurate representation of this macro-space, which he displays in carefully oriented gestures. Although in the whole conversation he makes hardly any spoken reference to cardinal directions, in his gestures he tracks his progress across the landscape with great precision.

Transposition: movement among spaces:

The theoretical continuum between relatively creative and relatively presupposing indexes, imported from words to pointing gestures, is complicated in practice by “indirect” or mediated links from indexed referent to intended referent. A narrator may, for example, point at a copresent interlocutor to refer either directly to that person as a protagonist, or indirectly through links of kinship or historical association to some other person or entity. More globally, pointing gestures may indicate referents which are entirely absent, at least in the immediate physical surround.

Furthermore, skilled narrators can exploit different inter-transposable spaces, switching rapidly among them. The other gesture with which I began (Figure 1), illustrates the speed with which speakers engineer (and interlocutors evidently absorb) such transpositions. P describes a roadside *cantina* where the muleteers used to drop in for a drink. Using props presented by the house patio in which we sit, he evokes this imaginary space in a remarkable sequence.

First he uses the microgeography of his own house compound, where we sit, to establish a link between the physically copresent path and gate in local space--the entrance to the *sitio* (Figure 15)--and a narrated gate at the roadside bar (Figure 16).



Figure 15: "By the path"

{10} Tzan, tzan, tzan

1 2 4.....

1 pi . . oy te . ali ti` be ya`el chk li`e

There was a gate there, just like here

1. Gaze out to right, focus on path?
2. Right hand up from knee, points with index finger to N. *{there}*
4. Right hand moves back W, returns E, fingers curling inwards. *{like this}*

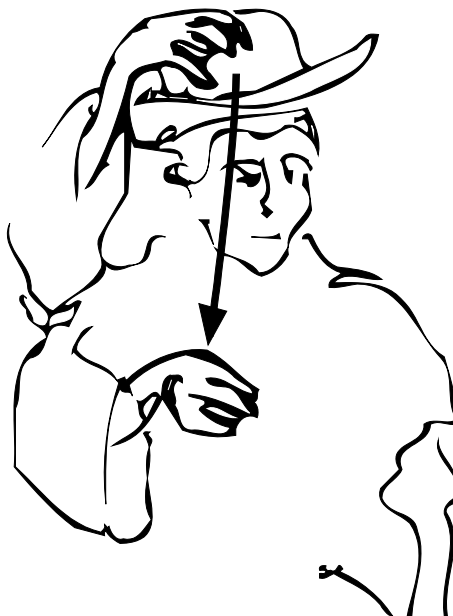


Figure 16: A gate with a door

5 6
2 te jun . pwerta lek

There was a . proper door.

[

5. Right hand moves higher to above head level, (head turns back and down to middle). *{one}*

6. Fingers down, hand raised, bounces down twice with palm down as gaze returns to me. *{door}*

6'

4 pi ta ti` be

at the entrance.

6': Right hand starts to drop, rises slightly in loose hand, down to knee. *{gate}*

In this transposed space his gestures point at an imaginary fence and gate: the *tey* ‘there’ to which he points with the gesture shown as [8] in line 7, and the *ti`be* ‘gate’ which he represents with gesture [10] in line 8.

.....8.....9....

7 p; oy tey nakal krixchano un

There were indeed people living there.

8. Cupped hand palm down, arm still extended, taps once up and down out [N].

{living there}

9. Right hand points down quickly, then (b) curls back in ->SW to position in

front of face *{people}*

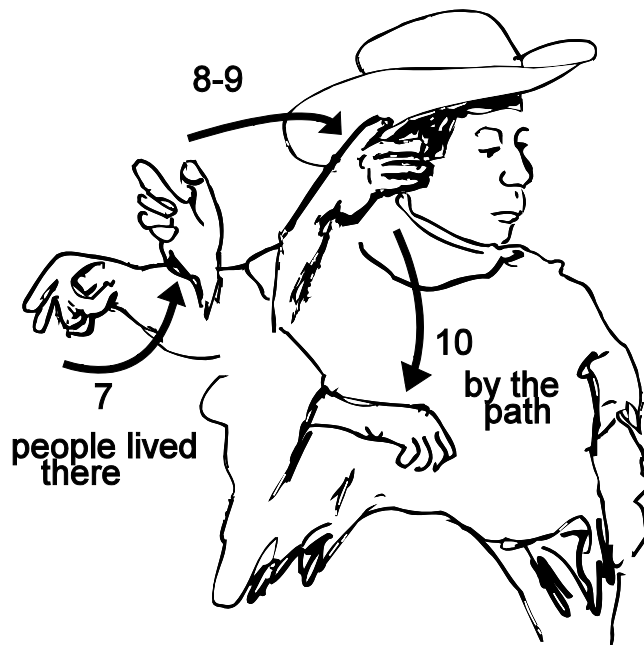


Figure 17: “A gate by the path”

.....10
8 ta ti` be
beside the path.

10. Hand flat, vertical down and up motion (gaze to hand). {gate}

Swiftly, however, he brings his gesture back to the current “here and now,” in order to point, at [11], line 9, directly at the kitchen house beside which we are seated. “*That* house [whose gate I can point to in transposed narrative space] was the same size as *this house* [which I can point to here].” (Refer back to Figure 1.)

11a 11b
9 . yech smuk`ul chk i na chk li`e
(It) was the same size as this house here.

11a. Right hand crosses to SW, and gaze also.

11b. and points to kitchen house, before returning to rest. {size}

Within a complex utterance he thus moves from immediate local space to a narrated hypothetical space, laminated over the former and deriving its structure therefrom, and then swiftly back again. A seemingly simple gesture points at once to a local building and to a narrated roadside bar long disappeared.

Lamination of spaces

The seemingly unproblematic notion of direction itself turns out to be unexpectedly complex. Even location by cardinal directions is not “absolute” but relational, depending on a



reference point from which a direction can be projected. Furthermore, the phenomenon of transposition makes clear that this reference point, far from being firmly anchored in the default here-and-now of the speech moment, can shift radically.

A particularly dramatic case comes from the sequence in which Maryan describes the topography of the area around the town of Palenque, which is located on a flat coastal plain, running north from the central Chiapas mountain range. The famous Palenque ruins sit in the foothills of this range, in an area covered by dense jungle. He explains exactly where they are.

Figure 18: One starts at Palenque

As we have seen, Maryan describes how one gets to the town of Palenque, and then, gesturally, he locates himself *there*. His gesture shown in Figure 18 establishes, in our shared mnemonic interactional space, the spot that will count as Palenque. That is where the trajectory he is about to describe starts.

{11} M0413: 92.27 13.36.05-14.11.17

RH starts out from rest

| 1---2----RH moves rapidly back, and

| gaze back over R shoulder

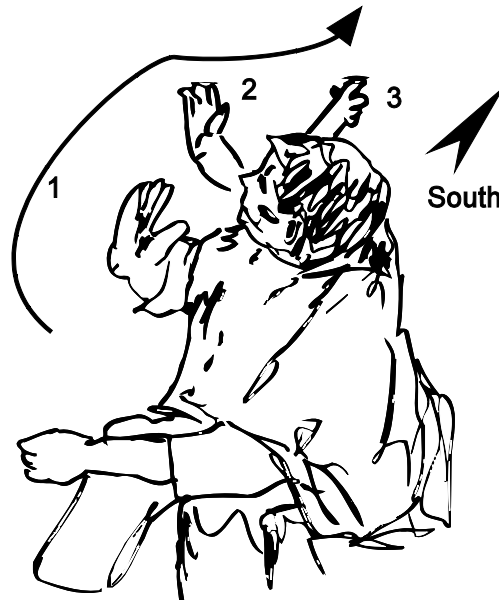


Figure 19: (the ruins) are this way.

Suddenly he turns around rapidly to his right and makes an expansive gesture over his right shoulder (i.e., slightly to the Southeast--see Figure 19).

{12}. M0414

1-----2--

256 m; ali mi jtatik i Palenke

If one gets to Palenque

-----3.....

gaze back to me

|

257 xi ckom xi to vi

(the ruins) are located this way.

He then says “(the mountains, i.e., the ruins) are located this way.” After turning back to the front, he again turns to the south-west, in a further gesture.

{13}. M0416

gaze starts back over R shoulder

| 1 (*points twice*)

then rapidly back to rest

gaze front

260 k'u ca`al yocob

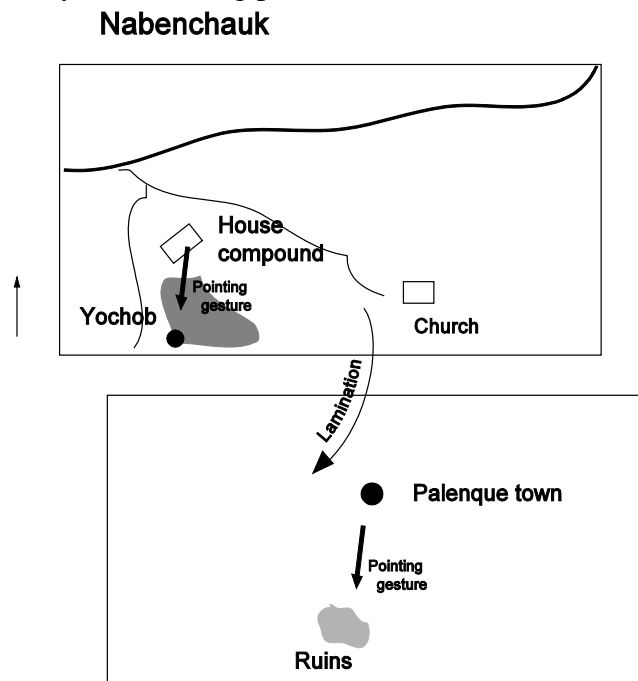
like the (Nabenchauk) sinkhole.



Figure 20: like the sinkhole

At line 260 (Figure 20) MA turns to point straight south, at the same time focusing his gaze on a stand of rocks across the Nabenchauk lake, a place called *yochob* ‘sinkhole.’ Now his mental

calculations are made plain. (1) Transpose yourself to the town of Palenque. (2) From *there* look that way [South]. That's where the mountains are. (3) Bring yourself back to Nabenchauk. It's the same *direction* as the sinkhole from *here*. To follow the entire performance requires that the interlocutor superimpose a map of the local terrain onto the narrated spot and then calibrate positions in the latter by recalculating positions in the former. (See Map 2.)



Map 2. Transpose Nabenchauk onto Palenque.

In this spectacular feat of mental gymnastics, both location and direction are transposed, and it is the presumed constancy of compass directions that calibrates the lamination of two different spaces, one local and one narrated.

Morals

Space, no matter how immediate or unproblematically accessible it may seem, is always itself a construction, conceptually projected from not only where we are, but who we are and what we know. Gesture makes use not of “raw space” but of this projected conceptual entity. Gestures employ spaces for the characteristically dual ends of discourse generally: both to represent states of affairs, and to manipulate states of affairs. Let me suggest three sorts of conclusion: methodological, conceptual, and ethnographic.

First, the study of gestures recommends itself as ethnographic method. To unravel even apparently simple “pointing” gestures requires cognitive and socio-cultural insight: about what entities exist to be pointed at, about how to reconstruct referents from indicated locations, about why an interactant points at all (as opposed to using some other referential modality). Indeed, gestures are fleeting but accessible cognitive exhibits, playing out with the body the actions, referential and otherwise, that constitute discourse.

Second, an adequate understanding of even supposedly primeval pointing gestures requires surprisingly complex conceptual tools. My metaphor for these conceptual tools has been the “gesture space,” distinguishing a local space which is relevantly anchored (for example, by cardinal directions, independent of the entities that may populate it), from interactional space whose orientation may be irrelevant or determined solely by the relative positions of interactants. Entities in both spaces can be indexically signaled with both gestures and other deictics.

Narrated spaces are laminated over these immediate spaces, substituting for the here-and-now a narratable there-and-then. Narrated entities can in turn be denoted by indexical devices,

including “pointing” gestures, whose referents must be iconically mapped from one laminate onto another.

A narrated space can be anchored on a discursively established origo and laminated over local space so as to inherit the latter’s cardinal orientation, thereby allowing referents to be located by their indicated positions, presupposably, as when relative narrated positions are (a) known to interlocutors or (b) recoverable by inference (for instance, the motion of the capsizing boat). On the other hand, what is narrated may itself be (narrated) interactional space, established discursively and providing an autonomous locus of reanimated narrated interactions.

All of these “gesture spaces” can be complex constructions from knowledge that is at once geographic and social. Their lamination both enables and relies upon conceptual links that go well beyond any unproblematic spatial givenness. At the same time, the immediacy of the space that interactants share offers a vehicle for externalizing, onto the body and its surround, calculations of place and spatial relationships that might otherwise be difficult both to conceptualize and to communicate. Both Zinacantecs and GY speaking residents of Hopevale inscribe ethnography on geography. Space itself, whether represented or simply inhabited, has an indelible social quality not captured by either topology or topography. Gesture exploits this quality of the very space it uses as its vehicle, also incorporating, indirectly, the socio-historical evolution of spaces.

In GY country, knowledge of land traditionally involved orientational precision. As ties to land have faded in importance, such precision has also declined. Recent legal possibilities for land rights have fostered a resurgence of interest in local practices of reckoning space, which calibrate directionally anchored spaces with socially populated conceptual universes. In

Zinacantán, local models of space have been exported to faraway universes, both social and spatial, perhaps contradictorily domesticating distant and dangerous places by transposing them onto the here and now.

References Cited

- Armstrong, David F., William C. Stokoe, and Sherman E. Wilcox, 1995. *Gesture and the nature of language*. Cambridge: Cambridge University Press.
- Bellugi, U. and Klima, E., 1982. "From gesture to sign: deixis in a visual-gestural language." In Robert J. Jarvella and Wolfgang Klein (eds.), *Speech, Place, and Action. Studies in Deixis and Related Topics*. 297-314. Chichester: John Wiley.
- Birdwhistle, Ray L., 1952. *Introduction to Kinesics*. Louisville, Ky.: Louisville University Press.
- Birdwhistle, Ray L., 1963. "The kinesis level in the investigation of the emotions." In P.H. Knapp (ed.), *Expressions of the Emotions in Man*. 123-139. New York: International University Press.
- Brown, Penelope and Levinson, Stephen C., 1993. "Uphill" and "downhill" in Tzeltal." *Journal of Linguistic Anthropology*, 3(1):46-74. Also, working paper no. 7, Cognitive Anthropology Research Group, MPI for Psycholinguistics, Nijmegen, The Netherlands, 1991.
- Bühler, Karl, 1982. "The deictic field of language and deictic words." In Jarvella, R. and Klein, W. (eds.), *Speech, Place and Action*. 9-30. Chichester: John Wiley..
- Calbris, Genevieve, 1990. *The semiotics of French gesture*. Univ. of Indiana Press.
- Carter, Anne L., 1975. "The transformation of sensorimotor morphemes into words: a case study of the development of 'more' and 'mine.'" *J. Child Lang.*, 2:233-250.
- Cassell, Justine and David McNeill, 1991. "Gesture and the poetics of prose." *Poetics Today*, 12(3):375-404.
- Goodwin, Charles, 1986a. "Between and within: Alternative sequential treatments of continuers and assessments." *Human Studies*, 9:205-217.
- de León, Lourdes, 1991. "Space games in Tzotzil: creating a context for spatial reference." Working paper no. 4, Cognitive Anthropology Research Group, MPI for Psycholinguistics, Nijmegen, The Netherlands.
- de León, Lourdes, 1994. "Exploration in the acquisition of geocentric location by Tzotzil children." *Linguistics*, 32:857-884. Paper presented at CARG, MPI for Psycholinguistics, Nijmegen, Jan. 20, 1992. .

Dixon, R.M.W., 1972. *The Dyirbal Language of North Queensland*. Cambridge: Cambridge University Press.

Efron, D., 1972 [1941]. *Gesture, race and culture*. The Hague: Mouton. (Reprinted from *Gesture and Environment*, New York: King's Crown Press).

Ekman, P. and W.V. Friesen, 1969. "The repertoire of non-verbal behavioral categories: Origins, usage, and coding." *Semiotica*, 1:49-98.

Engberg-Pedersen, Elisabeth, 1995

"Point of view expressed through shifters." In *Language, gesture, and space*, Karen Emmory & Judy S. Reilly (eds.), pp. 133-164. Hillsdale, N.J: Lawrence Erlbaum Associates.

Evans, Nick, forthcoming. *Kayardild grammar*. Ms.

Farnell, Brenda, 1988. "Where mind is a verb: sign talk of the Plains Indians revisited." Paper presented to the AAA meetings, Phoenix, AZ., Nov. 20, 1988.

Fauconnier, G., 1984. *Espaces mentaux: aspects de la construction du sens dans les langues naturelles*. Paris: Les Editions de Minuit.

Foster, George M., 1948.

Empire's Children, The People of Tzinzuntzan. p. 237. Smithsonian Institution Inst. of Soc. Anth. Publ. #6.

Goldin-Meadow, Susan, 1991. "When does gesture become language? A study of gesture used as a primary communication system by deaf children of hearing parents." In K.R.Gibson and T. Ingold (eds), *Tools, language and cognition in human evolution*. Cambridge: Cambridge University Press.

Goodwin, Charles and Marjories Harness Goodwin, 1992. "Context, activity, and participation." In Peter Auer and Aldo di Luzio (eds.), *The Contextualization of language*. Pp 77-99. Amsterdam: Benjamins.

Gossen, Gary H., 1974a. *Chamulas in the world of the sun: time and space in a Maya oral tradition*. Cambridge, Mass.: Harvard University Press.

- Habel, Christopher. "Formalization of the spatial inventory." Paper presented to the Workshop "Space, Time, and the Lexicon," Max-Planck-Institute für Psycholinguistik, Nijmegen, Nov. 8, 1990.
- Hanks, William F., 1990. *Referential Practice*. Chicago: University of Chicago Press.
- Haviland, John B., 1979a. "Guugu Yimidhurr brother-in-law language." *Language in Society*, 8(3):365-393.
- Haviland, John B., 1979c. "Guugu Yimidhurr." In R.M.W. Dixon and Barry Blake (eds.), *Handbook of Australian Languages*. I:27-182. Canberra: Australian National University Press.
- Haviland, John B., 1989. "Tztamik ta lume, asta k'u cha'al bu chak' sat te` (Desde el suelo hasta la fruta): la migración y la información en el discurso tzotzil." Paper presented to annual meetings of the Sociedad Mexicana de Antropología, Mérida, 18 Oct. 1989.
- Haviland, John B., 1991. "Projections, transpositions, and relativity." Paper prepared for Wenner-Gren conference on Rethinking Linguistic relativity, Ocho Rios, May 3-11, 1991. Working Paper: Cognitive Anthropology Research Group, Nijmegen. (In Gumperz, J.J. & Levinson, S.C. (eds.), *Rethinking Linguistic Relativity*. Cambridge University Press, in press.)
- Haviland, John B., 1991c. "Xi chbat ta lok'eb k'ak'al "It goes towards the sunrise": Sculpting Space with the Body." Ms. Cognitive Anthropology Research Group, MPI for Psycholinguistics, Nijmegen, October, 1991.
- Haviland, John B., 1993. "Anchoring, iconicity, and orientation in Guugu Yimithirr pointing gestures." *Journal of Linguistic Anthropology*, 3(1):3-45. Also, Working paper No. 8, Cognitive Anthropology Research Group, Max-Planck Institute for Psycholinguistics. Nijmegen, The Netherlands. 1992.
- Kegl, J, A Senghas, and M. Coppola, in press. "Creation through contact: sign language emergence and sign language change in Nicaragua." In M. DeGraff (ed.), *Comparative grammatical change: the intersection of language acquisition, creole genesis, and diachronic syntax*. Cambridge, MA: MIT Press.
- Kendon, Adam, 1983. "Word and gesture." Paper presented at Fifth International Conference on Culture and Communication, Philadelphia (March 1983).
- Kendon, Adam, 1988. *Sign Languages of Aboriginal Australia*. Cambridge: CUP.

- Kendon, Adam, 1988b. "How gestures can become like words." In F. Poyatos (ed.), *Cross-cultural perspectives in nonverbal communication*. 131-141. Toronto: Hogrefe.
- Kendon, Adam, 1990. "Gesticulation, quotable gestures, and signs." In Michael Moerman and Masaichi Nomura (eds.), *Culture Embodied, Senri Ethnological Studies, no. 27*. 53-78. National Museum of Ethnology, Osaka.
- Kendon, Adam, 1990. *Conducting Interaction*. Cambridge: Cambridge University Press.
- Kendon, Adam, 1994. "Do gestures communicate?: a review." *Res. on Lang. and Soc. Interaction*, 27(3):175-200.
- Kendon, Adam, 1995. "The Open Hand: Observations for a study of compositionality in gesture." Paper presented at the conference "Gesture," organized by Adam Kendon and David McNeill, Albuquerque, July 1995.
- Krauss, Robert M., Palmer Morrel-Samuels, and Christina Colasante, 1991. "Do conversational hand gestures communicate?" *J. of Pers. and Soc. Psych.*, 61(5):743-754.
- Laughling, Robert M. and Dennis Breedlove, 1993. *The flowering of man: a Tzotzil botany of Zinacantán*. Washington, D.C.: Smithsonian Institution.
- Laughren, Mary, 1978. "Directional terminology in Warlpiri." In Thao Le and Mike McCausland (eds.), *Working Papers in Language & Linguistics*. Number 8:1-16. Tasmanian College of Advanced Education (Newnham).
- Levelt, Willem J.M., Graham Richardson, and Wido La Hei, 1985. "Pointing and voicing in deictic expressions." *Journal of Memory and Language*, 24(2):133-164.
- Levinson, Stephen C., 1992. "Language and cognition: the cognitive consequences of spatial description in Guugu Yimithirr." Working Paper #13, Cognitive Anthropology Research Group at the Mac Planck Institute for Psycholinguistics, Nijmegen, October 1992.
- Marslen-Wilson, W., Levy, E., and Tyler, L.K., 1982. "Producing interpretable discourse: the establishment and maintenance of discourse." In Jarvella, R. and Klein, W.(eds.), *Speech, place, and action*. 271-295. Chicester: John Wiley.
- McNeill, David, 1985. "So you think gestures are nonverbal?" *Psychology Review*, 92(3):350-371.
- McNeill, David, 1987. "So you *do* think gestures are nonverbal! Reply to Feyereisen (1987)." *Psychological Review*, 94(4):499-504.

- McNeill, David, 1992. *Hand and Mind: What gestures reveal about thought*. Chicago: University of Chicago Press.
- McNeill, David, and Elena Levy, 1982. "Conceptual representations in language activity and gesture." In R. Jarvella, and W. Klein (eds.), *Speech, Place, and Action*. 271-295. Chichester, England: Wiley.
- McNeill, David and Justine Cassell, to appear. "Abstract deixis." *Semiotica*,
- McNeill, David, Elena T. Levy, and Laura L. Pedelty, 1990. "Gestures and speech." In Geoffrey R. Hammond (ed.), *Advances in Psychology: Cerebral control of speech and limb movements*. 203-256. Amsterdam: Elsevier/North Holland.
- Moerman, Michael, 1990. "Studying gestures in social context." In Michael Moerman and Masaichi Nomura (eds.), *Culture Embodied: Senri Ethnological Studies No. 27*. 5-52. National Museum of Ethnology, Osaka.
- Ozanne-Rivierre, Françoise, 1987. "L'Expression linguistique de l'orientation dans l'espace: quelques exemples Océaniens." *Cahiers du LACITO*, 2:129-155.
- Petitto, L.A. & Marentette, P., 1991.
- "Babbling in the manual mode." *Science*, 251:1483-1496.
- Pitkin, Harvey, 1984. *Wintu Grammar*. Berkeley: Univ. of California Press.
- Poyatos, Fernando, 1983. *New Perspectives on Nonverbal Communication*. Oxford: Pergamon Press.
- Sherzer, Joel, 1972. "Verbal and nonverbal deixis: the pointed lip gesture among the San Blas Cuna." *Language and Society*, 2(1):117-131.
- Silverstein, Michael, 1976. "Shifters, linguistic categories, and cultural description." In K. Basso and H. Selby, (eds.), *Meaning in Anthropology*. 11-56. Albuquerque: Univ. of New Mexico Press.
- Silverstein, Michael, 1992. "Metapragmatic discourse and metapragmatic function." In John A. Lucy (ed.), *Reflexive Language*. 33-58. Cambridge University Press.
- Streeck, Jürgen, 1993. "Gesture as Communication I: Its Coordination with Gaze and Speech." *Communication Monographs*, 604:275-299.

Talmy, Leonard, 1985. "Lexicalization patterns: semantic structure in lexical forms." In Timothy Shopen, (ed.), *Language typology and syntactic description*. 3:57-149. London: Cambridge University Press.

Wilkins, David P., 1994. "An Arrente space game." Poster, Cognitive Anthropology Research group, MPI for Psycholinguistics, Nijmegen.

Wilkins, David P., 1994. "Handsigns and hyperpolysemy: exploring the cultural foundations of semantic association." Ms., Cognitive Anthropology Research Group at the Max Planck Institute for Psycholinguistics, Nijmegen.

Wilkins, David, 1997

"Four Arrente manual points." Ms., Cognitive Anthropology Research Group, Max Planck Institute for Psycholinguistics, Nijmegen.

Wittgenstein, Ludwig, 1958. *Philosophical Investigations*. Oxford: Blackwell.

Review of "Pointing, Gesture Spaces, and Mental Maps", by John Haviland

Jürgen Streeck
The University of Texas at Austin

1. Appreciation

In this brilliant and beautifully written paper, John Haviland gently moves us another step away from a Tarskian universe in which we used to communicate with one another by anchoring our sentence-tokens in a physical space-time around us, in which words signified by corresponding to worlds that were already in existence. He shows us that the worlds that we inhabit are spoken and gestured into being, that they are made by the very indexical practices which presuppose them, that their construction and maintenance is an ongoing achievement of the most commonplace, humble, and unnoticed linguistic and bodily habits. It is one thing to suggest--as so many "interpretive" theorists have done--that we live, act, speak, and point--not in a primeval, brute, "physical" world, but in a world that is endowed with meaning and memories. It is quite another to reveal the procedures by which these meanings and memories are *a c t u a l l y* inscribed upon the landscape, to reveal how the communal mental map is being made as it is laminated with local spaces from within spaces of interaction. Haviland's study is an exemplary demonstration that it is possible to document real and relativistic "ways of worldmaking" . (Goodman, 1978) in moments of videotaped interaction.

Haviland's paper is a milestone in the study of gesture, as anyone familiar with this field of research will see. "De-naturalizing" pointing, Haviland demonstrates that it is in fact an embodiment of highly specific, socio-historic forms knowledge (and not independent of the linguistic system) and thus a site for studying such cultural knowledge. Pointing gestures are among the practices by which culturally shared "mental maps" are projected onto and inscribed upon the environments in which we navigate; they are among the means that we use to transform physical spaces into known-in-common, "storied" places.

This work, although unique in its approach, is thus in line with other recent anthropological work that describes local cultures as sets of practices by which "senses of place" are produced (Basso & Feld, to appear).

2. Gesture spaces

Of particular importance, I believe, is Haviland's insightful distinction of four different "gesture spaces": local space, narrated space, interactional space, and narrated interactional space (and the laminations and transpositions connecting them). This set of distinctions replaces an obviously insufficient two-fold dichotomy between "real space" (and "real pointing", what H. calls "relatively presupposing" pointing gestures) on the one hand, and "symbolic space" (and "symbolic pointing", what Quintillianus called gestural "pronouns" and H. calls "entailing") on the other: according to this older view, we either point to a location and mean to direct our interlocutor's attention to it, or we point to a location between us to set it up as a symbolic entity for further reference. Haviland, however, shows that we use both local and interactional space-their concrete, physical features-as "props upon which cognition may be externalized". He writes that local space and interactional space, that is, "the spaces in which gestures are performed both reflect and help to constitute, as a kind of interactive mnemonic medium, the representations that people construct and maintain of the spaces they inhabit, know, and talk about". Although both are physical, real, and concrete, local space and interactional space have drastically different affordances for being used as cognitive and communicative props: local space is the specific place where we are and that we know about; interactional space is constituted through the use of abstract, generic practices (of orienting our bodies, looking at one another or away, and so on) that we carry around with us. Cognition and communication are distributed across both of them, and the symbolic potential that we gain from them-for example, for the construction of narrated spaces-is dependent upon their joint use and interaction. Thus far, they have often been lumped together as "physical context of the encounter".

By introducing spaces as "mnemonic media" and establishing local space as a conceptual landscape, Haviland also subverts the distinction between symbolism and perceived reality, discourse and physical context, speaker and material world that has been lingering on in much research on interaction and discourse. There is now a long history of inquiry eliminating the mind-body dichotomy: we admit the body as a medium and source of knowing and include it among the resources from which communicative forms and interactional spaces are fashioned. But we still tend to position this communicating body outside the real, tangible, experienced world of places, objects, and artifacts within which real

bodies always operate. The real world "around" and "outside" the interaction is still for the most part construed as a universe that we can refer to and represent, and symbolism is conceived as about, not of, the material world. By making us see that the house by which the speaker is sitting--or the place where the sun sets around here--are not just objects to point or refer to--and to reason and talk about--but "graphic models to think with" (Stewart, 1996: 38), Haviland explains how it is possible that the speaker, in pointing to it, is effectively pointing to "a narrated roadside bar now long disappeared". Materialism is thus given its proper place in our epistemology--just as much as gesture is given its due place in the production of socially shared knowledge and "interactional text". Moreover, Haviland does not construe local spaces as static, culturally bounded entities, but analyzes them--and the indexical and symbolic practices deployed in them--within the contexts of shifting socio-political forces that affect: by remembering and re-deploying the GY system of directional terms, GY speakers reclaim the land as it is known and used by them.

Then there is the core phenomenon itself of which Haviland gives such a penetrating account in this paper, the GY system of spatial orientation and "cardinal knowledge" and its display in the linguistic system and gestural practice. Not being an expert in deictic systems, I only want to emphasize the importance of the fact that Haviland describes how deixis is actually done--which in itself is a major achievement, given scarcity of such accounts (Hanks, 1992). But I wonder why it is so exceedingly difficult to grasp the GY system, why the task seems to require "mental gymnastics", as Haviland himself suggests. Where, after all has been said, does JB point as he narrates how he swam to the beach? What does it mean that he gestures south where south would be if one were on the boat? Calculating the answers might be facilitated if Haviland had given his account from the recipient's perspective: what exactly is the listener asked to know and imagine as he understands the pointing gestures? In his account of Maryan's account of his trip to Palenque (where he addresses the reader in the second person), he very much succeeds in making me, the reader, perform the cognitive operations that Maryan is asking of me, the would-be Tzotzil listener. It appears that those accounts of communicative practice which align the perspectives of reader and participating listener/observer succeed best in making unfamiliar cognitive practices as they are employed in the interactions of members of distant cultures, transparent to us.

The GY system appears "difficult" and "exotic" in a similar fashion as the

the Trobriand navigation system that Hutchins has described, a system in which the sailing boat is conceived as fixed in cardinal space-and the islands move. But pointing, deixis, and navigation can entail shifting "indexical grounds" (Hanks) and origos also in more familiar places. In conversations in post-reunification Germany, for example, we often find that the local space in which the conversation takes place is referred to as both "here" and "yonder" (drueben)--choices which indicate whether the speaker locates the origo in a unified or a divided country. This, in turn, is bound up with shifting indexical grounds of personal reference (what is the presupposed indexical ground of an "us"?) and thus constitutes a component of everyone's identity work after reunification. Interestingly, such indexical references to place and person are recurrently treated as problematic: there is an abundance of repair (Grit Liebscher, p.c.). To routinely conceive of "this speech situation" from two dichotomous perspectives--and to fashion a common one from reciprocal perspective-takings--appears to be a cognitive feat that indeed requires more complex operations than are routinely presupposed by the German system of spatial and personal deixis. Commonly in such repair segments, the origo is exhibited in some fashion.

3. Indexicality, iconicity, and tactility

Haviland's study exemplifies how important it is that we properly understand the indexical underpinnings of all symbolic practices, and how much this understanding benefits from the work of (Peirce, 1995 (1940)); (Quine, 1960); (Garfinkel & Sacks, 1970); (Schegloff, 1972); (Silverstein, 1976); and (Hanks, 1990), among others (including Haviland himself). Without understanding indexicality we cannot grasp how it is that utterances (and gestures, etc.) are made meaningful by being embedded in a world that is known in common, and at the same time bring about worlds that can be known in common. The indexical groundings of our talk and gestures enable us to rely upon the world as we know it to make sense of our talk and gestures, and at the same time constitute the world as a place that is imbued with language, meaning, and memory.

However, at one point in his paper (which is not at all central to his analysis), Haviland seems to re-naturalize gesture. In the section on "iconicity and representationality" he cites with apparent approval McNeill's (and Peirce's) view of iconic gestures (signs) as motivated by similarity, a resemblance between signifier and signified. However, representation or, more precisely, "representation-as" (which is what

"iconic" gestures do, whatever referential functions they may serve at the same time, if any), cannot ever be explained by similarity, as (Goodman, 1976 (1968)) has shown: quite simply, similarity is a symmetrical relation, representation is not. The workings of descriptive gestures (as I prefer to call them) are as much rooted in indexical relations as those of pointing gestures. When we see a speaker describe an object with a gesture we must in the first place be able to see the motion of the hands as an abstract version of an action; our common knowledge of handlings furnishes the indexical ground for such seeing. But this knowledge--our knowledge of handle-ables--also furnishes the indexical ties to the objects of such handlings which in turn enables us to see the gesture as a representation, not of an action, but a thing (or its affordances, dispositions, and other properties). It is in this fashion--not because of any similarity (could a stone at rest ever resemble a gesture?)--that we are able to understand gestures as descriptions of physical, cultural objects.

Iconic gestures, no less than pointing gestures, are imbued with local cultural knowledge. But this knowledge may be of a slightly different kind, gained in a world full of objects, arrangements resulting from planful action or entropy, and "tactile reminders" of prior experience. The interaction spaces and local spaces that Haviland describes include a house and a couple of chairs, but they are otherwise devoid of material objects like so many other conversational arrangements that we tend to investigate. In our daily experience, however, local space is almost always full of things of all sorts which often enough encroach upon or are imported by us into our interaction spaces. In settings full of activities, matter, and tactility we will more clearly see the many indexical roots of representation: simply by touching an object we can establish its interactional significance; moving it we can establish relationships to other things; handling it we can make some of its thus-far hidden properties known; and by producing an abstract--that is, gestural--version of the handling with the thing no longer in our hands, we can refer back to it, to its features, or to features of other things of its kind (Streeck, in press); (LeBaron, to appear). The indexical ordering of our world through gesture, and the embedding of gesture in the known-in-common world, has roots "below" gesture, in the practical involvements of our hands with the material world (Streeck & LeBaron, 1995). Our hands know the dispositions of things in our specific, local world, and they know how to do things with them; our eyes know what doings and things look like. And we use the known-in-common world of real, material objects and actions as well as its gestured versions in much the same way in which we or GY may use the

landscape, that is, as "graphic models to think with". Making gestures that are derived from handlings we "lamine" worlds of objects onto narrative and interactional spaces, often in a metaphorical fashion (for example, when the completion of a turn is coupled with a virtual act of "handing over").

An account of iconic gestures that regards practical action as an indexical ground of gestural representation (instead of naturalizing iconicity as similarity) is, of course, fully compatible with Haviland's views, because it completes his project of de-naturalizing gesture: it would eliminate the last residue of correspondence theory from his account.

4. The technology

Finally, a note on the communicative experience itself--reading and responding to Haviland's study "over the Net". I approached this experience with the curiosity of someone engaged in multimedia writing (to CD-ROM), but with no previous experience in scientific communication on the WorldWideWeb (I was "ethernetted" only a few weeks ago). My main question was how useful it would be--and how cumbersome--to download videotape, because my own interests in using the technology is centered around its affordances for visual communication. Having seen some Web pages that use thumbnails and miniscule video-clips as "teasers", I had recently grown skeptical because it appeared that, for some time to come (until, that is, many of us have access to extra-high bandwidth cables), the Web can be little more than a marketplace full of little advertising boxes, a panopticum of complex identity-badges rather than a medium of distributed thinking and data-analysis.

I like the "oral" features of this discourse, the assumption that there are anonymous but specific others who are on the other end of the line and share the tangible and visually memorable experience of John's text "in the o-space" (Kendon) of our virtual "F formation". I kept everything electronic (i.e., I did not print out the paper nor my response). I downloaded all 20 or so videos--a task that I distributed over three days. Transfer rates varied between 3 k/sec in the morning and 14 k/sec in the late afternoon.

There is of course the issue that the specific nature of these pointing gestures--their orientation according to cardinal directions--makes flat digital video-images on a computer-screen that can face in any direction

particularly problematic. What one wants is a clear textual exposition and, hopefully, a life enactment by John Haviland oriented in the correct cardinal directions. The videos, undoubtedly, achieve a minimal "being there" effect, but they do not necessarily enhance our intellectual grasp. This could be quite different, however, if Haviland's object were, say, motion gestures. In their case, our natural and specialized languages often prove to be inept tools for rendering the hand-movements with adequate resolution.

Another issue is the optimal combination of representation and notation devices. Having seen the videos, one finds the graphic images of the speakers redundant--and the frequent need to re-establish contact with the server makes seeing them cumbersome (it is more helpful to have them incorporated in the text--like most of the maps are). I also find the transcript difficult to read, in part because HTML does not distinguish between fonts (or so I believe), and we therefore cannot see at a glance whether a line of transcript represents speech, body action, or grammatical information. But finding an optimal combination of representations and notations for embodied interaction is a task for all of us who want to make this technology work for us. (Editing the video clips so that no black appears at either end would be helpful: programs such as Movie Player use the first frame to make a thumbnail--which thus comes out black. Thumbnails help in locating clips that are otherwise labeled by numbers.)

Initially, I had been committed to keeping this communication entirely "virtual", by only reading Haviland's text on the screen. But the scrollbar frequently seemed to extinguish parts of the text from my memory. It was not until I held the entire text in my hands and altered it with my own tactile reminders and cognitive artifacts that I could grasp it in its full intellectual complexity. And without my ability to physically return to them whenever I wanted, the great beauty and clarity of so many of Haviland's sentences would perhaps have been lost on me.

5. References

- Basso, K., & Feld, S. (Ed.). (to appear). *Senses of Place*. Santa Fe, N.M.: School of American Research Press.
- Garfinkel, H., & Sacks, H. (1970). On formal structures of practical actions. In J. C. McKinney & E. A. Tiryakian (Eds.), *Theoretical Sociology* (pp. 338-66). New York: Appleton Century Crofts.

- Goodman, N. (1976 (1968)). *Languages of Art* (2 ed.). Indianapolis: Hackett.
- Hanks, W. (1990). *Referential Practice: Language and Lived Space among the Maya*. Chicago: University of Chicago Press.
- Hanks, W. F. (1992). The indexical ground of deictic reference. In C. Goodwin & A. Duranti (Eds.), *Gesture: Cultural Processes in Social Interaction*. Cambridge: Cambridge University Press.
- LeBaron, C. D. (to appear). *Gestures Made Meaningful*. *Research on Language and Social Interaction*.
- Peirce, C. S. (1995 (1940)). *Philosophical Writings*. New York: Dover.
- Quine, W. V. O. (1960). *Word and Object*. Cambridge, MA: The MIT Press.
- Schegloff, E. A. (1972). Notes on a conversational practice: formulating place. In D. Sudnow (Ed.), *Studies in Social Interaction*. New York: Free Press.
- Silverstein, M. (1976). Shifters, linguistic categories and cultural description. In K. Basso & H. Selby (Eds.), *Meaning in Anthropology*. Albuquerque: University of New Mexico Press.
- Stewart, K. (1996). *A Space on the Side of the Road*. Princeton, N.J.: Princeton University Press.
- Streeck, J. (in press). How to do things with things: Objets trouvés and symbolization. *Human Studies*, 1996.
- Streeck, J. & LeBaron, C. (1995). What gestures know. Paper presented at the Conference "Gestures Considered Cross-Linguistically", Linguistic Society of America Summer Institute, Albuquerque: University of New Mexico, July.

Jurgen Streeck
Dept. of Speech Communication
The University of Texas at Austin
Austin, TX 78712-1089
phone: (512) 471-1955
fax: (512) 471-3504

Many thanks to John Haviland for his excellent paper, to Jurgen Streeck for his review, and to John Overton and Doug Glick for arranging it all.

I am sympathetic with the project of "de-naturalizing" essentialist conceptions of space and the apparent transparency of deictic gestures. Haviland's paper is so impressive largely because of the subtle complexities he catalogues in the various sociocultural and pragmatic processes that actually constitute apparently natural space. He certainly convinces me that we as analysts cannot rely on folk essentializations of space or deictic gestures.

I wonder, however, what to do about the fact that people (including ourselves, in less analytic moments) do essentialize. Although the meaning and effects of their gestures are constituted by the sorts of complex processes Haviland describes, people often think of those gestures -- or perhaps the practices that the gestures habitually operate in -- as naturally pointing to pre-existing space. (I suppose that we can now say, from an analyst's point of view, that they are wrong.)

But in many human affairs what people think affects the interpretation and outcome of their actions. So my question is this: how can we include an account of folk essentializations into our de-naturalizations of apparently transparent deixis and other language use?

Stanton Wortham

Dear L-C Members:

I am writing to comment on a point made by Streeck in his review of Haviland's recent article on gesture. Streeck claims that Haviland "seems to re-naturalize gesture" through making recourse to the notion of iconicity. He writes that Haviland "cites with apparent approval McNeill's (and Peirce's) view of iconic gestures (signs) as motivated by similarity, a resemblance between signifier and signified," then notes:

representation or, more precisely, "representation-as" (which is what "iconic" gestures do, whatever referential functions they may serve at the same time, if any), cannot ever be explained by similarity, as (Goodman, 1976 (1968)) has shown: quite simply, similarity is a symmetrical relation, representation is not.

Peirce would have no disagreement with this. Semiosis is a triadic relation. As a consequence, for any semiotic analysis it is necessary to analyze at least the following: (1) which of Peirce's three categories of being a sign will be taken to be a sign of, that is, whether the sign is a sign of qualitative potential (rheme), an existent (dichsign), or a general (argument); (2) the relation between the sign and its object, whether this is a qualitative similarity (icon), an existential relation (index), or general connection (symbol); and (3) the relation between the sign and its interpretant, whether that which makes the sign a sign is a quality (qualisign), an existent (sinsign) or a general mediating link (legisign). It follows from this that an analysis of a moment of semiosis requires an analysis of all three moments. Moreover, these are just the elementary considerations. Complex signs bind together in moments of semiosis, combinations of simpler signs.

Therefore the relation between the sign and its object only exists as part of the triadic relation between sign, object and interpretant. It is not given outside of this relation. This is true for iconicity as well as indexes and symbols. If, in a moment of semiosis, the interpretant does not apprehend a relation of qualitative similarity between sign and object, then there is no iconicity. In addition, the imputation of a relation of iconicity may be dependent on a strictly conventional legisign relation between the sign and its interpretant. Therefore iconicity should

never be considered a relation of "natural" transparency. As Peirce argued at length, and as Haviland also notes, the object never speaks for itself; rather, interpretive work is required as the condition for the possibility of grasping a sign as an icon. This may be what Peirce sometimes called the ground of the interpretant. Therefore there is no "residue of correspondence theory" to extirpate, and to claim that iconicity relies on interpretive work is in no way to contradict Peirce but rather to confirm his arguments.

Goodman's work may have been post-Morris, but if Goodman's argument has been accurately characterized by Streeck then he would have to be considered pre-Peircean.

Forgive me for bringing up a minor point, but as has been mentioned on other discussion groups, if a point is made and permitted to stand without additional commentary, then on that list it comes to be considered effectively true for all practical purposes. Given that a number of people on this list make extensive use of Peircean approaches, it seems important to remain clear about what may and may not be attributed to him.

Yours,

Will Kelley
kel9@midway.uchicago.edu