Ac'on

and

Embodiment

Hopscotch

Flight Instruction

The Accomplishment of Social Action

Semiotic Fields

- Semiotic Fields
  - speech
  - gesture
  - posture
  - painted hopscotch grid
  - etc.

- Lexical content of talk
  - chiriona
  - el cuarto
  - el quinto

Using syntax to highlight a contrast

- Y tu vas en el CUATRO,
- No vas en el QUINTO

Action embedded in Activity

- The activity of hopscotch involves movement through a domesticated space.
- Blue blocks Yellow’s movement.
- Invasion of personal space, interruption of activity.
- A challenge!

Doing work with pronouns

- Y tu vas en el CUATRO,
- No vas en el QUINTO
Participation Framework

- A public field of mutual orientation
- The participation framework is part of the interactive ground from which meaningful actions emerge and within which they are situated.

Other semiotic fields are active in the participation framework

- The handshapes seem to add no new information. What are they doing?
- Notice how the hand is positioned in Yellow's face. Insisting.
- See how the hand is flipped over for the number five.
  - Another way to emphasize the contrast between going in four and going in the fifth.

Mutual elaboration of

- action
- talk
- gesture
- body position
- body orientation

Participation Framework is

- an ongoing contingent joint accomplishment
- Not under the control of any one actor
- Undoing the challenge?

Change of contextual configuration:

Indexing the grid

- A semiotic structure that provides frameworks for building actions that could not exist without it:
  - jumps
  - outs
  - fouls
  - etc.

Semiotic structure in the environment:

the grid
## The Collaborative Multimodal Construction of Meaning

How to recover from approach to stall in the Boeing 737 NG

### Field trips

<table>
<thead>
<tr>
<th>Region</th>
<th>2005</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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| Field Notes |

- [Image of airplane and cockpit]
- [Image of a group of people in a cockpit]
- [Image of a map showing flight routes]
- [Image of a training session]

### Revenue Flights

- Number of flights: [Table of numbers]
- Number of observed pilots: [Table of numbers]
- Hours observed: [Table of numbers]

### FFS Training

- Number of flights: [Table of numbers]
- Number of observed pilots: [Table of numbers]
Utterance Types in the Wild

- Multimodal utterances
- Collaboratively constructed utterances
  - Verbal Continuations
- Collaboratively constructed multimodal utterances

#1: FLAPS 5
20° Bank
- Start: Flaps 5. FLAPS 5 speed
- N1 45% (approx 1 knot/sec decel)
- Establish 20° bank (PF check VSI, ALT, PLI)
- Stick shaker
  - Smoothly apply MAX Power (PM adjust to GA)
  - Level wings, do not change config, retract SB
  - Power comes up, apply nose down trim
  - Airspeed increases, lower pitch to 5 - 6°
- Approaching FLAPS 5 speed - 65%
- Finish: FLAPS 5 speed

I: (reading) PM verifies thrust is set, monitors attitude and airspeed.
(PM raises his left hand and spreads his fingers and thumb), calls out any trends towards terrain.

Relations between Gesture and Speech

<table>
<thead>
<tr>
<th>Semantic Relation</th>
<th>Grasped</th>
<th>Offset</th>
<th>Local Affiliation</th>
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I: Lean the wings!
  - [aeroplane roll attitude with right hand palm down]
PF: Hmmm
I: right
I: don't change your flap or landing gear configuration!
  - [raises fingers of right hand and move to right]
PF: Hmmm, hmmm
I: retract Speedbrake
  - [drop hand to table; Point out]
Retract Speedbrake
  - [right hand reticulating; move forward and down]
Hopefully that's ok (0:1) not gonna be a problem (1)
  - [raise right hand up to right, then drop to table]
P: (PF shakes his hand side to side)
I: ... difference between Boeing and (Company X)’s procedure.
PM: yes...
I: ... not applying any more trim.
PM: back pressure only...
I: ... nose down...
PM: ... mke, yes...
I: ... imagine...
PM: We always manage to keep our trim...
I: ... recover...
PM: ... keep trim...

PM: But a, it’s realistic the Boeing way. (0.5)
I: But a, it’s realistic the Boeing way.
PM: It’s very difficult...
I: ... impossible to keep our trim...
Mutual elaboration of talk and gesture.

- Gesture, talk, printed words and objects all have different representational affordances.
- Gestures may enter into relations of mutual elaboration with a variety of other semiotic resources in the activity system.
  - As co-expressive speech and/or as lexical affiliates.
  - And across participants.
- Very complex semiotic fields emerge from interaction.

Collaborative construction

- The production of multi-author multimodal utterances with precise temporal and conceptual alignment indicates that the participants inhabit jointly imagined worlds.