Constructing and Coordinating Representations in Multiple Gesture Spaces

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Conversational / Narrative View of Gesture Space
“can be visualized as a shallow disk in front of the speaker, the bottom half flattened when the speaker is seated … the fore-aft dimension is shorted”
Gesture Space
(McNeill 1992: 86)

Representational gestures
(iconic)
Gesture Space
(McNeill 1992: 86)

Pointing gestures (deictic) are spatially inflected in the direction of objects to which they refer (Kendon 2004: 312).
Alignment of Gesture Spaces

(Özyürek 2000)

“across”

“throws him out”
Viewpoint

Character-VPT
life scale
mimetic
subjective characterizer

Observer-VPT
model scale
analytic
objective depicter
Situated Activity View of Gesture Space
Mutual Orientation

“a multi-party interactively sustained space that provides a framework for common orientation and the production of meaning” (Goodwin 2000: 88)
Mutual Orientation

Orient toward:
- each other (faces)
- shared conception
- depiction in the air (or on a surface)
- inscription
- speaker’s body (= other bodies)
- proximal object (in reach)
- distal object (in view or beyond)
- direction in space
Environmentally Coupled Gestures
(Goodwin 2007)

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Gestures “couple” with
Distributed Cognition

- Cognitive processes involve the propagation of representational states across representational media (internal and external).
  - Humans make material patterns into representations by **enacting** their meanings.
  - Representational states are propagated by bringing media into **coordination** with one another.

- Cultural practices orchestrate low-level cognitive processes to produce high-level cognitive outcomes.
A Functional System for Finding Cardinal Directions

Q: Which way is:
- north?
- south?
- east?
- west?

A: cardinal directions linked to local geography

Steps
1. Hold watch flat (like a compass).
2. Align hour hand with sun.
3. Bisect angle with 12:00 ⇒ points S.

Limitations
- Northern hemisphere
- Sunrise to sunset
- Adjust for DST (13:00)

Material Structures
- Analog watch
- Visible sun

Cognitive Models
- Cardinal directions
- Clock time
- Bisecting angles

Brought into coordination through body (eyes & hands)
The Data
The Communicative Situation

Location: Beach in Anglet, France
Time: 13:45 (1:45 pm)
Speaker: Lifeguard
Problem: Teaching other lifeguard (holding camera) how to use FS to find directions
Resources: Sandy beach
Sun & surroundings
Wristwatch (digital)
Body
Speech

Note: Speaker bisects angle with 14:00 rather than 13:00 DST.
What Needs to be Represented

- Elements:
  - cardinal directions
  - watch face
  - hour hand
  - reference (14h)
  - angle
  - bisector
  - \textit{sun}
  - surroundings

- Sequence of Actions:
  1. Hold watch flat
  2. Align hour hand with sun
  3. Form angle with reference
  4. Bisect angle
  5. Trace path to surroundings to locate south
  6. Find other directions
Four Gesture Spaces

Sand

Surroundings

Different: scales, orientations, affordances

Watch

Air (personal GS)
Examples
1. Diagramming the System
you see, it is not this time here

It is, I dunno, it’s… 12 o’clock

the little hand

here, and then

the big one, you can forget

you imagine the
the second hand towards 14 o’clock

14 o’clock in summer and in winter it’s 13 o’clock

the bisector of this angle

here

in this case, if it’s 14 o’clock

and 14 o’clock
the bisector is here

that gives you south

here you have the south

there the north
2. Re-representing in Different Spaces
you’ve got 7
[S: why have you got 7 there, why there?]
because your little hand is here
when it’s 19 o’clock (when it’s 7 o’clock)
when it’s 7 o’clock, in the morning, or 19 o’clock

you’ve got the little hand (on the 7)

the little hand is at the bottom

it is here

you’ve got 1-2-3-4-5-6

the little hand, your little hand, it is..., it’s at the level of the 7
in the evening

[rubs out 7]

down in the valley

when it is, when it’s 19 o’clock

you’ve got the 7 here
3. Linking Spaces / Enacting Performance
At 16 o’clock it’s about *there* [S: yes]

when you have 16 o’clock, when it’s 16 o’clock, for example

you extend

the little hand

so you turn

when it’s 16 o’clock
it's on the 4

(taking off watch)
when it’s 16 o’clock your hand is on the 4...

the 4, well, you’ve got the 3 here

and the 4 is about there

so you put your little hand... toward there [S: yes]

your 14 o’clock
14 o’clock is here

you have the little hand

you’ve got it there

you have (the) second imaginary one that goes toward 14 o’clock

you’ve got it there

(the bisector of the two, so…)

uh… you’ve got the angle
divide the angle therefore there the south
Summary

• Bodily action is structured by:
  – The demands of the **communicative situation** *(teaching)*
  – The elements and actions that compose the **functional system** *(what is being taught)*
  – The affordances of the available **representational media** (resulting in many **environmentally coupled gestures**)
  – (Monitoring of the swim area = another activity)
Summary

• Multiple gesture spaces:
  1. Sand: “human scale,” inscribable, durable, yet immobile
  2. Watch: small, repositionable, “stands for” analog watch
  3. Surroundings: given, circumscribe area, beyond reach
  4. Air / Personal GS: “human scale,” (vertical), conventional

• Linked by:
  – Analogy (for re-representations)
  – “Transposed” gestures (maintained handshape, repeated form)
  – Gesture holds + head/gaze shifts (e.g., from watch to horizon)
  – Gestures that cross space boundaries (e.g., sweeping hand)
Selected References


