

Origins of Human Communication

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Lecture 2: The Co-operative Communication of Human Beings

Human co-operative gestures emanate from skills and motivations of shared intentionality.

- ⇒ Human beings are inordinately co-operative: evolutionary anomaly
- ⇒ Communication: "whites of the eyes" analogy; share info

2.1. Machievellian vs. Vygotskian Intelligence

- Ape cognition adapted for competition
 - Early studies of ape ToM in co-op. paradigm => failure
 - Studies of Hare et al. (2000, 2001) in comp. paradigm => success
 - Hare & Tomas competitive Obj Choice (Lecture 1)
 - Apes und. perception, goals, acts (+knowledge, not false beliefs)
- Human cognition, in addition, adapted for co-operation & cultural life
 - Shared Intentionality: (i) Skills = shared ('we') goals/intentions, attention/knowledge; (ii) Motivations = helping, sharing
 - Co-operation: apes in Melis et al '06 collaborate; in W&T '06 help
 - but no shared goal in Warneken & T in press (videos)
 - but no comm. during collaborative actions
 - Social Learning: apes have some skills of social learning
 - but human imitation, instructed, & normative learning (video)
 - Communication: e.g., pointing gesture
 - hypothesis: co-op comm. key also to collab. & soc. learn.

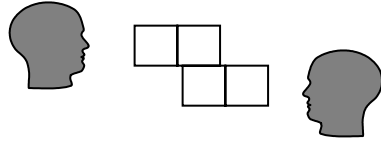
2.2. Human Pointing Fundamentals

- By itself, pointing is nothing!
- Table 1a examples: if you look over there, you'll know what I want (mindreading)
- Characterizing gestures: Table 1b examples
- The JA frame: common ground (diff levels a la Clark)
 - no frame = no meaning (although 'crying child' example)
 - different frames = different meanings (ex: bucket as location or as plastic)
 - **perspectival**, in a sense
 - must be **shared** (ex: plastic as fetish) => common ground
 - can involve **absent referents** ('missing belt' example)
- Communicative act: **3 levels of intentions** (+ indiv. goals)
 - Social intention (motive, speech act goal):
 - requestive: that you do X [to help me]
 - informative: that you know X [to help you]
 - expressive: that you feel X [so we can share, id w/ one another]
 - also: greeting; gratitude; guilt; & other **expressives?**
 - referent = my feeling [but no pointing!]
 - Communicative intention: that we know together that I am attempting to communicate - so that you will attend to the referential act and thereby infer my social intention [mutually manifest, public => hidden authorship]
 - co-operative effort that you understand (Clark)
 - Referential intention: that you attend to my referent and to my expression of motive [either may be omitted in familiar context, e.g., dentist]
 - pointing directs other to referent spatially
 - expression of motive by face, voice, body
 - Individual Goals: many layers

- to persuade, to insult, to deceive; but also to get/eat apple

2.3. Model Based on Primitives

- Figure 1



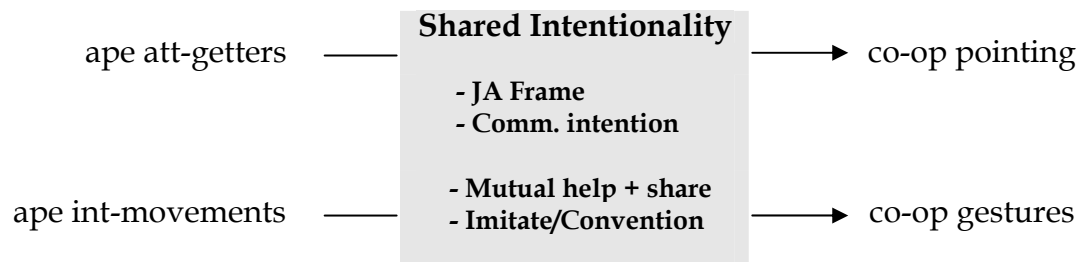
- Primitives of co-op communication:
 - Basic primate perceptual & cognitive skills => *world*
 - logic of intentional/rational action (+ causality) => *reasons*
 - Persons: *I, You, We*
 - Psychological States: (i) *do*, (ii) *want/goal/intend*, (iii) *see/attend/know*, (iv) *feel*
 - Basic Schema = *I want: we know: I want: you do/feel/know X*
 - Assumption of Helpfulness: *help = I want: [you see:] world = your goal*
 - generates both relevance inferences and obligations
- Most general communicative motives = helping and sharing
 - Request Action/Info (Get Help): *I want: you help me*
 - Offer Action/Info (Help): *I want: I help you*
 - Express/Share: *I want: we do/feel/know X*
 - Specialty Motives: greeting, thanking, apologizing
- Return to apes in object choice
 - Hare & T competitive object choice => apes und. goal of reaching
 - Also: Herrmann & T "Don't!" experiment => und. behavioral prohibitions
 - No:
 - (1) joint attentional frame (JAF) for reference
 - (2) und. of ['we'] communicative intention for relevance
 - (3) und. of motive to help by informing
 - So, not missing und. of intentionality, but shared intentionality
 - Human evol.: declarative and informative pointing when shared

intentionality (and imperatives become co-operative)

2.4. *An Evolutionary Fairy Tale*

- Stage 1: *Homo*: Imitation of tool making; conformity norms
 - also: analysis of rational action: decision-making (Gergely et al., 2002)
 - quantitative, not qualitative, difference to apes
- Stage 2: *Homo sapiens*: Shared Intentionality
 - Mutualism - indirect reciprocity [reputation] - strong reciprocity [norms]
 - Selection for collaborative activities [many mutualistic]
 - Social-cognitive skills: shared goals, intentions, attention
 - Social-cognitive motivations
 - helping => indirect reciprocity [reputation > gossip] => strong reciprocity [social norms for helping]
 - sharing: identify w/ others of group, bonding/intimacy, gossip
- Co-operative Communication
 - Making public desires and knowledge in co-op. communication
 - relevance based on assumption of helpfulness
 - Imperative: C advertises request for help
 - A responds b/c enhances reputation for helpfulness
 - C thanks b/c enhances reputation as advertising partner
 - Informative: C advertises own helpfulness (w/r/t providing info.)
 - A accepts help (& thanks in some cases)
 - Expressive/Sharing: C & A bond, identification [gratitude, greeting, etc.]
 - Social norms on helpfulness = public obligations
 - A cannot ignore invitation to communication [or insane]
 - C&A cannot not help when low cost [or anti-social]

- Attention-getter to co-op. pointing => JAF (triadic) + comm. intention (we)
 - New motives to help and share => offering, informing, sharing
 - Individ. imperative to co-op imperative: C & A mutually helpful
- Int. movment to co-op. char. gesture: => JAF (triadic) + comm. intention (we)
 - imitation => convention



- Transition to linguistic symbols
 - Characterizing gestures (for actions & absent refs) => observed from outside JAF ('spear' ex., esp. children) and imitated as symbols
 - Points turn into demonstratives and other deictics

2.5. Summary: Human Co-operative Communication

- Humans communicate by publically expressing their thoughts, feelings, desires
 - Assumes a generally helpful social world [norms]
 - Assumes social world concrned w/ reputation & group cohson => gossip
- Shared intentionality infrastructure: (i) Skills = shared ('we') goals/intentions, attention/knowledge; (ii) Motivations = helping, sharing
- Pointing most basic form of co-op comm. [char. gestures for actions & absent refs]
- Possible foundational role of co-op. comm. in other forms of Shared Int.: collaboration & cultural learning (esp. instructed and normative learning)

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Table 1a. Some observed examples of adult pointing.

1. It's over there.
2. Let's go in this direction
3. Don't forget that.
4. You dropped that.
5. Look at that!
6. Could I have that?
7. Put it here.

Point + insistent	In airplane, one person points to two empty seats for another person down the aisle. Gloss: "Here's two empty seats together!"
Point + neutral	I give a book to another person as a gift." Since this was unusual, she asked why. I pointed to a stack of five other copies on my desk. Gloss: "I have a bunch of them so you may as well have one".
Point + neutral	Standing in line at the bank, one person points for another in

	the adjacent line to a scarf she has inadvertently dropped on the floor. Gloss: "You dropped that."
Point + stern	On a river bank next to a noisy waterfall, a person hands me a book up (I am on top) for safekeeping as she climbs up. She points to the tip of a pencil protruding from the book. Gloss: "Don't let this fall out".
Point + neutral	In a bar, to a bartender, a person simply points to his empty shot glass. Gloss: "I'll have another".
Point + questioning	In airplane, I am standing up idly near the bathrooms. A man approaches and points to the bathroom door with a quizzical expression. Gloss: "Are you waiting for the bathroom?"
Point + neutral	In airplane, the flight attendant asks me if I want tea. The guy next to me had asked for some a few minutes before (he was now distracted), and so I simply point to him. Gloss: "He'll take you up on your offer".
Point + questioning	In lecture, I cannot find the place on the handout referred to by the lecturer. I look quizzically onto my neighbor's handout, and she points to the correct place on her handout. Gloss: "What you're looking for is here".
Point + insistent	One person to another in line, informing them of a gap in the line ahead of them. Gloss: "Hey. Move up."
Point + apologetic	I approach my parked car and a truck has it blocked in. I look to the driver with an apologetic expression (shoulders shrugged and facial expression) and point to my blocked-in car. Gloss: "Sorry, but you have to move to let me out".
Point + questioning	Maitre'd: should I put your name on this list?