

Communication in Cultural Dynamics

Yoshi Kashima

Melbourne School of Psychological Sciences





Enduring system of shared meanings, a repository of meaningful symbols, which provides structure to experience.

Triandis (1972), Geertz (1973)

Process of production and reproduction of meanings by concrete actors' activities in particular contexts in time and space.

Cole (1996), Rogoff (2003), Wertsch (1991)

Central Questions of Cultural Dynamics and Social Structuration Behaviour Culture

How can individuals' particular meaning-making social activities with other individuals in situ can collectively generate something enduring over time, which may be called a context-general system of meaning and social structure?

How Do You Approach Cultural Dynamics?

Neo-diffusionist approaches (e.g., Campbell, 1975; Dawkins, 1976; Cavalli-Sforza & Feldman, 1981; Boyd & Richerson, 1985; Sperber, 1986) to cultural dynamics:

- *Generation of variability/introduction of new information* in cultural information within a population
 - Drift

MELBOURN

- Invention
- Importation
- Social transmission (or diffusion) of cultural information within a population
- Adaptive cultural information tends to be retained and become widespread in a population, and prevalence of cultural information in a population (i.e., how many people have it available and accessible in their minds) determines its group characteristics.

Kashima (2008) Personality and Social Psychology Compass (also see Mesoudi, 2009, Psych Review)





Kashima (2016). Current Opinion in Psychology

Types of Social Transmission

Tomasello, Kruger, & Ratner's (1993) distinction among three types of social learning.



Tomasello et al. (1993). BBS



Grounding Model of Cultural Transmission

Grounding Model of Cultural Transmission

- Collaborative aspect of social transmission based on H. Clark's (1996) model of language use.
- Communication typically happens as part of a joint activity.
- Communication (i.e., social sharing of meaning) involves grounding
 - establishment of *mutual understanding about and acceptance* of meaning among the interactants.
- Grounding is a *collaborative activity* among the interactants.



- Adding a mutual understanding about and collective acceptance of new information to the <u>common ground</u> to the extent necessary for the current purpose.
- Typically involves a conversant's *presentation* of an idea and other conversants' *acceptance*.

Adam: Gary bought a ring. (Presentation) Ben: For Mary, isn't it. (Acceptance)

 Acceptance provides Adam with evidence for Ben's understanding, i.e., <u>epistemic mutuality</u>



- Grounding is likely to result in *shared reality* (e.g., Echterhoff, Higgins, & Levine, 2009; Higgins, 1992).
- The sender of the information ends up believing in the grounded information (Saying-is-Believing: e.g., Higgins & Rholes, 1978; Echterhoff, Higgins, & Groll, 2005; Echterhoff, Higgins, Kopietz, & Groll, 2008).
- The receiver of the information is also likely to share the same belief.



What information is grounded?

Adam:	Gary bought a ring.
Ben:	For Mary, isn't it?

Focal information

Information that the interactants are talking about

- "Gary bought a ring for Mary."
- "Mary and Gary are getting married."

Relational information

Information about the interactants

- "Adam and Ben are friends."
- "Adam and Ben are friends of Gary and Mary."

Presuppositional information

Information presupposed by the focal information

"Men take an initiative in courtship."



Presuppositional information, if it pertains to *social facts* (e.g., Searle, 1995), tends to construct and reconstruct the social reality that it describes.

If social facts are about social groups, it can describe (1) target outgroup, (2) ingroup, and (3) intergroup relation.



Grounding and the Construction of Social Reality



MELBOURNE Mixed motive joint activity and grounding

An alleged rape case (Edwards & Potter, 1993, p. 30) The defence lawyer (C) cross-examines the prosecutor's main witness (W).

- C: (Referring to a club where the defendant and the victim met) It's where girls and fellas meet isn't it?
- W: People go there.
- C: And during the evening, didn't Mr. O (the defendant) come over and sit with you?
- W: Sat at our table.



Grounding Model of Cultural Transmission



Kashima, et al. (2007)

Grounding is a collaborative activity

- Interactants work together to ground information.
 - Not perfectly cooperative, but most joint activities are mixed motive situations.
- Grounding information that is hard to communicate can disrupt coordination.

Bottom-up mechanism: Common code and interactive alignment

THE UNIVERSITY OF



Based on Pickering & Garrod (2013). Behavioral & Brain Sciences



Bottom-up alignment of common ground





Top-down mechanism: Joint intention drives grounding

- Joint intention (we-intention) an individual's intention to participate in a joint activity (e.g., Bratman, 1992; Gilbert, 1989; Searle, 1995; Tuomela, 2005).
- Joint intention for a joint activity entails a requirement for coordination.
- Grounding is a sub-joint activity subsumed under a joint intention's hierarchical structure.



Top-down mechanism



Low level

Agent's "action identification" (e.g., Vallacher & Wegner, 2012) shifts within the hierarchical representation of the intention. If the joint activity is proceeding smoothly, it stays at the higher level; if the joint activity is disrupted, it goes down to a lower level where a difficulty is encountered.





Generalized Common Ground





Constructing Common Ground



Stimulus
$$\longrightarrow$$
 1st \longrightarrow 2nd \longrightarrow 3rd \longrightarrow 4th \longrightarrow 5th

Simulating the social transmission of information



Stereotype Formation

- 3 dimensions of 3 levels each are combined to construct 27 (=3x3x3) aliens.
- Each alien was associated with 6 attributes (traits), randomly sampled from a total of 28 attributes.



Fig. 1. Aliens' possible features for each category dimension (top panel) and example trainingphase display showing an alien stimulus with its associated attributes (bottom panel).



Information becomes more structured over generations

- Extent of "structure" was measured in terms of the number of shared attributes when two alien exemplars could share up to 2 features.
- Transmitted information became more "structured".
- This should enhance memorability of the exemplars.





Transmissibility of information increases over generations

- How accurately can the t+1 th generation reproduce the information transmitted from the *t*-th generation?
- Later generations were able to reproduce more accurately the immediately preceding generation's information.





Forming a Culture of Conflict

- Neutral story about disputes between two groups.
- One serial reproduction chain was told to take the role of friends of one of the group; the other was told to be neutral.
- 4 generations.



Fig. 2. Perception of relative negative traits (outgroup – affiliated group), by condition and chain position.

Lee et al. (2014). JESP, 54, 68-72.



Constructing Generalized Common Ground



Referential Communication

- A dyad was given the same list of objects.
- One person (director) drew a picture about an object in the list, so that the other (matcher) could identify what the director was drawing.
- They repeated this over several blocks (see right for "cartoon").

List of Items to be Communicated

Theatre, art gallery, museum Robert De Niro, Clint Eastwood Drama, Soap opera, Cartoon Television, Computer monitor Loud, homesick, poverty



Garrod et al. (2007). *Cognitive Science*, *31*, 961-987.



- SD-F: the same person stays on as the director, but the matcher gives no feedback.
- SD+F: the same person stays on as the director, but the matcher gives feedback.
- DD+F: the pair take turns to act as the director and matcher.



From a dyad to a community

- A dyad (or a small group) can make an explicit agreement to perform a certain behaviour (a kind of "pact" or "promise").
- However, can a group of people who do not interact with each other simultaneously (i.e., a community) develop a norm?



- A similar task was done by a dyad as well as a "community" of 8 individuals.
- In the community condition, 4 dyads were constructed from a "community", and they engaged in this communication game with different partners for each block.
- Different communities developed very different systems of communication (i.e., descriptive norms).





	0 × 11- 2	-2-	7
3		2	8
5	-6	3	5
T Contraction of the second	A 8	4	6
Community drawings at Round 1		Community drawings at Round 7	
		1	1.
%e ஜ ⊙	a [*] ∏ ²	6	***************************************
k ₹ S		*0 I	***************************************
		R 3	*o 2



Micro-Macro Linkage in Cultural Dynamics





Pfau et al. (2012) Physica A



Co-evolution in Physical, Social, and Cultural Spaces



Pfau et al. (2012) Physica A



Can culture help the evolution of cooperation?



Cooperation evolves when cultural transmission is highly accurate – overimitation...







-- Avg. players per game -+- Fraction of cooperators --- Number of cultural regions



Common Ground and Reproduction of Culture and Social Structure

Common Ground and Grounding

CGC information: Smooth and easy grounding

- Joint intention stays at the high level of joint activity (e.g., Wallacher & Wegner, 2012); grounding remains a relatively effortless process
 - -Successful knowledge transmission
 - -Increased mutual liking

CGI information: Disrupted and difficult grounding

- Joint intention comes down to a lower level of joint activity (Wallacher & Wegner, 1987), i.e., sub-joint activity of grounding
- Grounding becomes a deliberative, and more intentionally controlled process



What if CGC or CGI information is presented? – verbal grounding

Gary the Footballer

Gary is an Australian rules footballer. He and his mates drank and drove, and were caught by police.

	Central	<u>Peripheral</u>
Consistent	4	4
Inconsistent	4	4

Lyons & Kashima (2001)



Examples of CGC and CGI Information

CGC:

Gary and his mates drank beers in the car. Gary abused the police.

CGI:

Gary bought flowers for himself. Gary listened to classical music on the radio.



"Gary and his mates drank several beers in the car"

- P: He's driving down the road with his mates and he's drunk.
- A: OK.



"Gary switched on some classical music in the car"

- P: So Gary likes classical music?
- A/P: Yeah, he likes classical music.
- P/A: Yeah, it sounds sort of-
- A/P: It's weird.
- P/A: Yeah, 'cos it doesn't seem to fit with the rest of his personality.
- A: Yeah.



% of Immediate Grounding when SC or SI Information is Presented





What if CGC or CGI information is transmitted? – nonverbal mimicry

Italian participants watched a videotaped interview in which an interviewee expressed SC vs. SI views about English, Germans, and Spanish.

The interviewee touched face and crossed legs.

Mimicry is a "social glue" (Lakin et al., 2003).

Participants mimicked the transmitter of SC information more than SI transmitters.



Castelli, Pavan, Ferrari, & Kashima (2009) JESP



Why do people present CGC information?

Situated Functional Account

- CGC information = uninformative, but help build social relationship (Brown & Levinson, 1987)
- •CGI information = informative, but less socially connective
 - high transaction cost
- Informativeness-Connectivity Dilemma
- Should we communicate informative information or socially connective information?



Perceived Characteristics of Information

Social Connectivity		
Social bond	91	.13
Friendly	70	32
Likeable	88	18
Interesting/entertaining	78	.29
Informativeness		
Explanation/justification	.29	.77
Surprising/unexpected	.50	.66
Informative	16	.91
Relevant	.21	.95

Clark & Kashima (2007) JPSP

Informativeness-Connectivity Dilemma

SI information is more informative, but SC information is more socially connective.

Stereotypicality and informativeness

Stereotypicality and social connectivity



Depending on the nature of the joint activity (i.e., what type of goal is important, task performance/informativeness or social connectivity), CGC or CGI information is more likely to be communicated.



When stereotype is seen to be widely endorsed



Clark & Kashima (2007) JPSP



When stereotypes are seen not to be widely endorsed

When people were told that their community doesn't endorse stereotypes, they did not communicate SC information as much (it reduced an SC bias.





Narration Segment







Kashima, Lyons, & Clark (2013). AJSP



Discussion Segment

Central Area









Relevance

- Whatever is relevant for the joint activity tends to be grounded
 - -Relevance for task
 - -Relevance for social relationship regulation

Emotion

Social sharing of emotion



Everything flows, nothing stands still.

Standing on a river-bank he said: it is what passes like that, indeed, not stopping day, night.

Heraclitus (540BC-480BC)



Confucius (552BC-479BC)

















Culture as a set of socially transmissible information that

- can potentially influence cognition, affect, and behaviour
- available in a population
- **Cultural Comparisons**
- Differences in distribution of cultural information across populations

<u>Cultural Dynamics</u>

• Stability and change of distribution over time







Enduring system of shared meanings, a repository of meaningful symbols, which provides structure to experience.

Triandis (1972), Geertz (1973)

Cultural comparisons by and large necessitate this conception of culture.

Valuable for bringing out relatively stable cultural differences in central tendencies.

Culture as Signification Process

Process of production and reproduction of meanings by concrete actors' activities in particular contexts in time and space.

Cole (1996), Rogoff (2003), Wertsch (1991)

Vygotsky and Bachtin inspired cultural psychology, which is concerned with the interiorization and exteriorization of culture.

Valuable for highlighting change and development.

Stability is not a forte.



Culture comparison in psychological tasks and cultural artifacts – relatively stable cultural differences

Meta-analyses: Oyserman, Coon, & Kemmelmeijer (2002) Psych Bull; Morling & Lamoreaux (2008) PSPR

Culture priming – situational variation and flexibility

Examples: Trafimow, Triandis, & Goto (1991), Brewer & Gardner (1996), Hong et al. (2000), Oyserman et al. (2009)

Meta-analysis: Oyserman & Lee (2008) Psych Bull

Stable macro-level cultural differences and fluctuating micro-level cultural processes: how do we reconcile?

Kashima (2009) in Wyer, Chiu, & Hong (Eds.)



Selectionism



Heterogeneous cultural ideas and practices

Less adaptive cultural ideas and practices are "selected out".

- Lost in memory
- Lost in transmission

More adaptive cultural ideas and practices are reproduced in transmission and action.

Environmental Challenges and Cultural Adaptation

