

Culture as Interpersonal Process

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Abstract

Culture is often construed as a set of static schemas or concepts shared by people. Intuitively appealing as it may be, this conception of culture fails to bring out its dynamic making and remaking. This paper outlines a theory of cultural dynamics that puts interpersonal processes as the engine of microgenesis of culture. Taking neo-diffusionist culture metatheory as its starting point, it regards the transmission of cultural information between people as a central mechanism of cultural evolution. In this view, most of the cultural transmission occurs as an unintended consequence of a joint activity; culture acts as a tool for interpersonal coordination, which enables and constrains the performance of the joint activity. The paper has two main objectives. First, I will bring out what may be called fluency-perturbation dynamics in which interactants perform a fluent joint activity using culture as a coordination device, by illustrating the dynamic process that ensues when this fluent interpersonal process is perturbed even by a minor culture inconsistent event. Second, I will postulate a representational structure of “we-intention” (Tuomela, 2007) for a joint activity and an ideomotor theory of social coordination (Prinz, 1997), which is designed to account for the fluency-perturbation dynamics.

Keywords: cultural dynamics, social coordination, joint activity, joint intention, fluency-perturbation dynamics

Culture is often construed as a pattern of ideas, practices and artifacts shared by people. This working conception of culture serves us well under most circumstances. When we fly from one part of the world to another, as we move from one terrain to another terrain of a continent when we travel, or even when we cross the Harbor Bridge from one side of Sydney to the other, we see subtle, and sometimes not so subtle differences in landscape, street design, architecture, dress code, mannerism, and so on. As we notice these differences between social settings and people that populate them, we say this culture is different from the other. Indeed this is the kind of conception of culture that Edward Burnett Tylor (1871/1996) gave as the first definition of culture in anthropology: “Culture or Civilization, taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man (sic) as a member of society (p. 1).”

Social psychological approaches too often take a similar stance in conceptualizing culture. In typical cultural research, two or more groups of individuals are sampled from different parts of the world (or different ethnic groups within a country), experimental procedures or psychological measures are administered to observe behavior, and sample differences are compared. This is a quasi-experimental design in which the grouping variable is “culture” (e.g., US vs. Japan, China). One of the central domains of cultural comparative research has been individualism and collectivism. Using this as an example, one can illustrate the recent research trend in culture and psychology. Since the publication of two *Psychological Review* articles on both sides of the year 1990 (Triandis, 1989; Markus & Kitayama, 1991), more than two decades of *cultural comparative* research has generated a voluminous literature. This has mapped out the distribution of

values, attitudes, beliefs, and behavior around the world although knowledge about different world regions are somewhat skewed with much heavier emphasis on North America, Western Europe and East Asia.

Nonetheless, when one begins to wonder how those cultural differences came into being to begin with – that is, the question about the formation, maintenance, and transformation of culture over time, or what I call *cultural dynamics* – much less is known (see Kashima, 2000a, for a discussion about conceptions of culture). Recent research points to several contributors to cultural dynamics of individualism and collectivism. One is *migration*, that is, physical movements of human individuals, and its concomitant movements of genetic stock (Chen, Burton, Greenberger, & Dmitrieva, 1999) and stable individual difference characteristics (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006; Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009). Another is *ecological factors* such as climate (Kashima & Kashima, 2003) and prevalence of infectious diseases (Schaller & Murray, 2008). These are macro-level processes that are aimed to explain the global distribution of psychological characteristics; however, this is largely silent on micro-level social psychological mechanisms that are critical to the generation, spread, and retention of cultural characteristics.

Social Psychology of Cultural Dynamics

These micro-level psychological mechanisms have been the primary focus of Kashima and his colleagues' (see for reviews, Kashima, 2008; Kashima, Klein, & Clark, 2008) research. Inspired by George Herbert Mead's (1934) symbolic interactionism and Vygotsky's sociocultural approach (Cole, 1996; Vygotsky, 1978; Wertch, 1985), and

most directly informed by Clark's (1996) psycholinguistics of language use, they regard social interaction as central to the micro-genesis of culture. Believing that a social psychology of cultural dynamics can gain insights from close examination of the process of transmission of cultural information in situ, Kashima et al. adopts the perspective on culture that takes seriously the *process* by which non-genetically coded information is transmitted and shared in concrete context of social interaction.

This perspective is broadly located in a cluster of theories about cultural evolution including Donald Campbell's (1975) evolutionary epistemology, Richard Dawkins's (1976) meme theory, Cavalli-Sforza and Feldman's (1981) and Boyd and Richerson's (1986) dual-inheritance models. According to this view, culture consists of information that is generated randomly by mutation, transmitted through social learning, and retained by natural selection, so that non-adaptive information is selected out or lost for the pool of cultural information. Whereas some may call these views Darwinian cultural evolutionary theories, emphasizing their assumption that the Darwinian mechanism of random generation and selective retention underlies cultural dynamics, I tend to call them neo-diffusionism (Kashima, 2008), stressing the mechanism of cultural diffusion or the spread of culture. Either way, the meta-theoretical core of this cluster of ideas is a combination of diffusionist thinking in the early 20th century (e.g., Rivers, Smith) and functionalist thinking that followed from it (e.g., Malinowsky). Cultural information is generated in some fashion somewhere, transmitted from one person to another, and kept in circulation among people because it has not been maladaptive or served some adaptive functions of psychological, social, or some other sorts.

Nonetheless, Kashima et al.'s perspective differs from the existing research on cultural evolution (e.g., Boyd & Richerson, 2005), and adds to and complements it in focusing on the micro-level mechanisms by which cultural information is transmitted and retained. Most of the neo-diffusionist theories take the transmission of culture as largely unproblematic, and regards it as something that happens by imitation or unspecified forms of generic social learning. However, social psychological approaches to culture are naturally equipped to examine the social interaction process implicated in cultural transmission. Social psychology of cultural dynamics is to macro-anthropological theories of cultural evolution just as micro-biology of genetic transmission is to biological theories of evolution. One exception is Sperber's (1996) epidemiological perspective, which is complemented by the relevance model of communication (Sperber & Wilson, 1995), which further develops Grice's (1975) well known theory of collaborative approach to meaning and maxims of communication. However, Kashima et al.'s approach takes social collaboration even further than Sperber's by emphasizing a coordinated and dynamic nature of social communication and interaction. It is in this regard Herbert Clark's (1996) grounding model of language use critically informs social psychological investigations of cultural dynamics. In the following section, the grounding model of cultural transmission (Kashima, Klein, & Clark, 2008) is outlined.

Grounding Model of Cultural Transmission

According to the grounding model, cultural transmission occurs mainly as part of *joint activities* that people engage in. Joint activities are fuzzy categories of human activities that involve at least two people. They include such formal occasions as job

interviews and academic lectures as well as informal ones as dinner table conversations and small talks at a workplace. A joint activity is usually localized in time and space, so that it has a starting point and an end point in time, and takes place at a specific location in space (though this could be cyberspace!). It is also socially constrained, in that its participants are usually specified. Participants of a joint activity share a joint goal that they intend to pursue, and engage in their parts (or roles) of the joint activity, so that the successful performance of each part by the right person at the right time allow them to achieve the joint goal.

As the interactants coordinate their individual actions to move towards their joint goal, they make use of a variety of tools. A number of them are physical objects – natural objects like stones and sticks or cultural artifacts like hammers and even computers; however, others are less tangible tools such as language or other forms of *semiotic* tools (Holtgraves & Kashima, 2008), which are used to represent information. Culture acts as a semiotic tool for coordinating the interactants' actions and achieving their joint goals. This is because culture is part of their *common ground*. Roughly speaking, common ground is a set of information that is actually shared and also perceived (or taken for granted) to be shared among the actors of the joint activity. The actors can refer to common ground to describe and explain what they mean, so that others can understand their intended meaning.

Nonetheless, when the exchange of information in a joint activity is examined more carefully, this has turned out to be an intricate and dynamic coordinated joint activity in its own right. Clark's (1996) model suggests that this occurs in two steps, *presentation* and *acceptance*, in which new information is presented by one actor and

accepted by others. Acceptance can take a variety of forms, from a simple nod or “a ha” to repeating back the presentation, a more complex rephrasing, or even a further elaboration of presented information. It needs to be given in a coordinated way in relation to a presentation, so as to act as evidence that the receiver of the presentation has understood the presented information. Furthermore, in the process of presentation-acceptance exchanges, there is no guarantee that information that an actor initially intended to present is accepted by the receiver. It can be modified or negotiated before it is eventually accepted by all parties. At times, the absence of explicit query or dissent can act as evidence of acceptance. The process of establishing a mutual understanding of information *to the extent sufficient for the present purpose* is called *grounding*. Thus, grounding is a subsidiary joint activity by the participants of the joint activity.

Several observations are in order here. First, note that joint activities are performed for some purpose defined by joint goals. These goals include task performance (e.g., hiring, firing, teaching, learning) and social regulation (e.g., forming, maintaining, strengthening, or severing social relationships). Task performance and social regulation are two types of goals that are always present, albeit in different proportions, even in formal task performance contexts (e.g., lecturing, job interviews) and informal social occasions (e.g., conversation over a coffee, conversation at a pub). Second, the grounding criterion of “mutual understanding” is a rather weak requirement, which is only for the present purpose defined by the joint activity. So, for a job interview, details about one’s qualification may need to be grounded thoroughly; however, for a chat on a commuter train, they are not going to be so important. This makes grounding not so much an activity designed to achieve perfect transmission of information, but rather jointly

regulated by a satisficing decision criterion in the service of the joint goal that the actors are pursuing in their joint activity.

In sum, cultural information is transmitted in a joint activity through grounding. At the beginning of the joint activity, the interactants have their common ground that they actually share and perceive to share. Culture constitutes part of this common ground, and acts as a semiotic tool for grounding new information in pursuit of their joint goals. As the interactants continue their joint activity, more new information is grounded and added to the common ground, which continues to expand until the joint activity comes to an end. Thus, common ground is an ever expanding set of information that is shared and perceived to be shared by the interactants.

Stereotypes as Cultural Information

From the grounding perspective, Kashima and his colleagues' research has focused on the transmission of cultural stereotypes (e.g., Clark & Kashima, 2007; Kashima, 2000; Lyons & Kashima, 2003) as an example of cultural information. In this view, information likely to be communicated through generations of transmission within a large-scale collective – likely to be presented in communication and likely to be accepted and retained for future use in a large number of grounding processes – is likely to become part of the culture of this collective. In line with this reasoning, Schaller, Conway, and Tanchuk (2002) showed that information that is more easily communicated tend to become part of an ethnic group's stereotype in North America especially if people tend to talk about the group.

To experimentally simulate such information transmission, they used Bartlett's (1932) method of serial reproduction, in which a stimulus is transmitted from one person to another, who in turn transmits it to a third, and so on in a chain of communication. Bartlett found what he called *conventionalization* in his work. That is, information consistent with the convention of the people who are involved in a serial reproduction tends to be retained in the communication; unfamiliar information tends to be dropped or modified to be more in line with the familiar conventional knowledge. Kashima (2000b) used a story that contained information consistent and inconsistent with gender stereotypes (stereotype consistent, SC, and stereotype inconsistent, SI, information) in serial reproduction chains, and found that, although more SI than SC information was transmitted early in the chain in some case, SC information eventually dominated the transmitted story towards the end of the communication chain. This tendency was called a stereotype consistency (SC) bias. If SC information is seen as more conventional than SI, this bias is very much in line with Bartlett's conventionalization. To put it differently, communications tend to favor the *reproduction* of culture, rather than its change.

This finding accords well with the grounding model of cultural transmission, which suggests that information in line with the interactants' common ground is more easily grounded than information unrelated or contrary to common ground. Nevertheless, the grounding model gives further insights into more social psychological mechanisms of cultural reproduction. Information that is expected and unexpected on the basis of common ground presents an informativeness-connectivity dilemma. Culturally unexpected information is likely to be informative because it gives new information, but also unlikely to be socially connective because it challenges a shared cultural worldview

and cultural identity. Culturally expected information is likely uninformative, but socially connective (Clark and Kashima, 2007, provided evidence for gender stereotypes).

Depending on the relative importance of informativeness and social connectivity for the joint activity that the interactants are engaged in, culturally unexpected vs. expected (i.e., SC vs. SI) information is more likely communicated.

Empirical research largely supports this line of reasoning. Lyons and Kashima (2003) examined the effect of sharedness of stereotypes on the transmission of stereotype relevant information in serial reproduction chains, and showed that unless stereotypes are part of the common ground of those who are involved in the serial reproduction chains, a SC bias does not occur in serial reproduction chains. First, they constructed an artificial stereotype of a fictitious group called Jamayans. In one condition, everyone in a communication chain learned this stereotype and also told that others that they communicate with have also learned the stereotype, whereas in the other condition only some learned the stereotype, but others had the opposite stereotype. A SC bias emerged in the shared, but not in the unshared, condition.

Second, they replicated the shared condition, but this time, one half of the communication chains were told the community that they belong to does not endorse the Jamayan stereotype, whereas the other half were told the community endorses it. Again a SC bias emerged when the communicators believed their community endorsed the stereotype, but it disappeared when they thought the community did not endorse it. Subsequently, Clark and Kashima (2007) replicated this finding with a real life stereotypes, suggesting that information that is believed not to be commonly endorsed within a community does not have any advantage in its reproductive processes.

Finally, Clark and Kashima (2007) showed that SC information is seen to be more socially connective than SI information, and perceived social connectivity is the critical variable that can explain greater perceived communicability of SC, relative to SI, information. In fact, more socially connective SC information survived longer in communication chains within serial reproduction.

All in all, this research program suggests that, in line with the grounding model, people communicate SC information, and thus unwittingly contribute to the maintenance of their culture (i.e., stereotypes) in the long run, primarily because SC information serves a social integrative function, that is, people are likely to feel socially connected with each other when they are sharing information consistent with what they already share. More broadly, when grounded information is seen to be shared in a large-scale collective, that information is likely to become part of the culture of the collective. Once this is achieved, it is likely to persist in the large-scale collective. Social psychological mechanisms involved in the grounding process are critical in the cultural dynamics of cultural reproduction.

Nonetheless, Kashima's (2000) finding that more SI than SC information was communicated initially is somewhat at odds not only with Bartlett's findings of conventionalization, but also with the general idea that stereotype consistent information is more socially connective. It is true that this finding is consistent with the person memory research, in which people were found to recall more SI than SC information due to more elaborative processing of SI information motivated by a need to make sense of the unexpected SI characteristics exhibited by a protagonist in the story (e.g., Stangor &

MacMillan, 1987). However, this raises some question about the effect of SI information, or culturally unexpected information, on the grounding process.

Fluency-Perturbation Dynamics in Cultural Transmission

The grounding model of cultural transmission asserts that grounding is a joint activity that requires coordination among interactants. It is when a transmitter of information plays his or her part of presenting information in coordination with a receiver who appropriately gives evidence of acceptance that the interactants can achieve their joint goal of attaining a mutual understanding. The grounding model suggests that information more easily inferred from information in common ground can be more easily grounded. This is because if an interactant presents easily inferable information, other interactants are likely to be able to comprehend it on the basis of the common ground, and accept it more readily. However, if an interactant presents information that is difficult to infer from their common ground, other interactants may have difficulty comprehending it, or may even query the information's veracity or worse dismiss it as false.

What are the implications of this line of reasoning for the transmission of cultural information? One implication is that culturally familiar and expected information that is likely to elicit easy and smooth coordination among interactants. This is because culture is part of common ground, information that is shared and taken for granted to be shared; it is information that is part of people's shared reality (e.g., Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996). This type of information should be processed easily, eliciting the cognitive feeling of *fluency*. However, when culturally unfamiliar and unexpected information is presented, it may be met with the subjective feeling of

disfluency, some sense of cognitive conflict, or *perturbation*, which throws a spanner into the works of the well oiled, but complex and perhaps delicate machinery of social coordination.

In other words, as long as transmitted information is generally in line with culture, grounding is likely to be fluent and smooth, resulting in smooth operations of the micro-level cultural transmission mechanisms, maintaining the culture like business as usual; however, culturally unexpected information may disturb the interpersonal coordination and micro-level cultural transmission process, bringing about a local perturbation to cultural reproduction.

Evidence of Fluency-Perturbation Dynamics

There is some evidence for fluency-perturbation dynamics of cultural reproduction in the current literature. Aforementioned classical research on person memory, where SI information tends to receive greater cognitive attention than SC information, can be understood as a cognitive perturbation in cultural reproduction. In addition, research on conversation about stereotype relevant information shows that not only cognitive, but more conversational time is devoted to SI than SC information (Ruscher, Cralley, & O'Farrell, 2005; Ruscher & Hammer, 1994; see Ruscher & Hammer, 2005, for a review). Nonetheless, this work did not examine the grounding process directly.

Verbal Perturbation in Cultural Transmission. More recently, Kashima, Lyons, McIntyre, and Clark (submitted) have examined grounding processes in conversational serial reproduction. In their Experiment 2, they found evidence that grounding is

perturbed by SI information. First of all, when people were given a sufficient time conversing about a story and its protagonist who exhibited SC and SI behaviors, they divided their conversation into two clearly identifiable segments: narration and discussion. First, in the narration segment, a person who had received a story before narrated it to the other who had not. Then, the discussion segment followed, in which the conversant discussed about the protagonist on the basis of the story that they had now been in their common ground. In this discussion segment, the interactants engaged in more elaborate grounding processes for SI than for SC information. They asked more questions about SI information, dwelt on it more, and commented on it in more occasions. On the other hand, SC information was grounded quite easily often even without an explicit acknowledgement. One may expect that the greater elaboration on SI information in conversation may result in a greater likelihood of transmitting SI information in the long run. However, this was not the case. In the long run, SC information predominated their conversations. Although in the first conversation, similar amounts of SC and SI information were reproduced, more SC than SI information was reproduced by the third conversation.

This finding provides an interesting insight into the dynamics of cultural reproduction. Imagine that serial reproductions are occurring within a social network that connects a large number of people. Each interaction in conversational serial reproductions can be thought of as one transaction over an edge (or a line) that connects two people. When one focuses on this local transaction within the global social network, there is evidence of culture in flux. The interactants explore the implication of information that challenges their culture (i.e., SI information), conversationally dissecting

it to comprehend and presumably assimilate it into their shared cultural world.

Nonetheless, this local perturbation does not have a global effect – information that is in line with shared culture (i.e., SC information) is reproduced and therefore culture is reproduced and maintained in the long run in other parts of the social network. The local instability coexists with the global stability in cultural dynamics.

Nonverbal Perturbation in Cultural Transmission. Is there any evidence that the nonverbal aspect of the social coordination is also perturbed in the grounding processes? It is well known that synchronized nonverbal behaviors and mimicry are signs of well coordinated social interaction (Chartrand & van Baaren, 2009, for a review). Interactants who show synchronized nonverbal behaviors with each other tend to have greater rapport (Bernieri, 1988; Grahe & Bernieri, 1999). Not only do people non-consciously mimic nonverbal behaviors of their interaction partners, but also do they regard their interactions with mimicking partners as more smooth, and tend to like them more (Chartrand & Bargh, 1999). People tend to behave more prosocially to those who mimic them (van Baaren, Holland, Kawakami, & van Knippenberg, 2004; van Baaren, Holland, Steenaert, & van Knippenberg, 2003). If culturally unexpected information perturbs social coordination, it is possible that people stop mimicking each other when SI information is presented.

Indeed, Castelli, Pavan, Ferrari, and Kashima's (2009) finding suggests that this is the case. Italian participants viewed a videotape of a female actor expressing stereotype consistent or inconsistent views about English, German, and Spanish people in a fictitious interview. In the stereotypical video, English were described as reserved with a unique sense of humor, Germans as organized and hardworking, and Spanish as outgoing and

open-minded, whereas the opposite of these views were expressed in the counter-stereotypical video. In both the videos, the actress touched her face and crossed her legs a number of times. The participants were told to view a video, so that they can respond to questions later. In the meantime, their nonverbal behaviours were observed. The participants were found to mimic the actress much less while viewing a video where the actress communicated SC information than while viewing a SI video.

In light of the importance of social coordination in social learning, Castelli et al.'s finding has an intriguing implication for cultural dynamics. Macrae, Duffy, Miles, and Lawrence (2008) showed that people who interacted with an experimenter who mimicked them (in the form of synchronized hand movement) performed better on incidental memory tasks than those whose experimenter did not mimic them. Here, the experiment was introduced as an examination of hand movement in sync with a metronome. A female experimenter presented common words such as stamp, spoon, and shirt ostensibly to disrupt the hand movement. In one condition, she conducted the experiment with a participant while moving her hand synchronously with the participant's, but the experimenter did nothing in another. After this phase of the experiment, a different experimenter took over the procedure, and the participants were asked to recall those incidentally presented words, and also to identify from a set of photographs the previous experimenter from the initial phase of the experiment. In the condition where the experimenter synchronously moved her hand with participants, they recalled more words and identified the experimenter more accurately. Disrupted social interactions are likely to disrupt the transmission of cultural information.

Summary. Both verbal and nonverbal behaviors show that cultural transmission and therefore cultural reproduction is perturbed when culturally unexpected information is presented in social interaction. Even innocuously counter-cultural information such as the ones used in these experiments can disrupt the dynamics of cultural reproduction.

Potential Explanations

A theory of small group dynamics (Arrow, McGrath, & Berdahl, 2000) and ideomotor theory of cognition (e.g., Dijksterhuis & Bargh, 2001; Prinz, 1997) can be combined to construct a framework in which to consider possible explanations for the fluency-perturbation dynamics.

First of all, people's behaviors in a joint activity where cultural transmission occurs can be thought of as being controlled by each interactant's intention to engage in the joint activity (Arrow et al., 2000). This intention can be translated to something like, "I intend that we engage in this joint activity" or "We intend that we engage in this joint activity." Intention as conceptualized in theories of reasoned action (Fishbein & Ajzen, 1975) and planned behavior (Ajzen, 1991) would suffice for the current purpose. This intention has a hierarchical structure which involves a high level of action identification (Vallacher & Wegner, 1987) such as *to engage in the joint activity* (e.g., "do my part of this job interview") as well as other lower levels of action identification including *social coordination* (e.g., "I perform appropriate actions in response to the interaction partners' actions"; more specifically, "accept an utterance in response to a presentation).

One caveat is due here. Some theorists view this type of intention as no different from an individual intention to perform his or her action (Bratman, 1999; Grosz &

Hunsberger, 2006) whereas others view it as a special type of intention that involves a “plural subject” (Gilbert, 2000) or a “we-intention” (Tuomela, 2007). However, the details of this debate are largely immaterial in the current discussion.

Second, some versions of ideomotor theory can handle the micro-management of social coordination (e.g., Prinz, 1997). According to this view, a common representation that integrates an ideation and a motor behavior is used to comprehend others’ action and also control one’s own motor behavior. Mimicry – performing an action that mirrors another person’s action or *behavior matching* – is typically explained as a kind of priming effect of this representation. An interactant perceives an interaction partner’s nonverbal behavior, which activates the ideomotor representation, which then activates the interactant’s motor program to produce a similar mimicking behavior.

It is interesting to point out that social coordination often requires complementary or non-matching behavior, rather than mimicry or matching behavior. Take turn-taking in conversation as a necessary aspect of grounding. One interactant needs to wait and perform a non-matching, complementary behavior while another interactant takes the floor and produces utterances. Thus, a simple and inflexible common ideomotor representation would not be able to handle the social coordination needed for grounding, but presumably common ideomotor representations themselves need to be hierarchically organized under a high-level representation that includes a social coordination goal under which complementary classes of ideomotor representations are included.

At any rate, in combination, the joint intention-ideomotor coordination model can explain the fluency part of the fluency-perturbation dynamics. The intention to engage in a joint activity specifies the goal of the joint activity, as well as the individual part of this

activity including what its goal is, how to approach it, how to act in response to other partners' actions, and the like. The current state of affairs in the joint activity monitored against this intention as in any self-regulatory system. As long as everything – including a high-level goal pursuit and low-level social coordination – goes as intended, the intention is activated at the high level – “we do this joint activity” – just as action identification theory (Vallacher & Wegner, 1987) suggests. This state of affairs generates the subjective experience of fluency and “smooth” interaction. The processing of culturally expected information is just one instance of such smooth social coordination.

However, culturally unexpected information can present an obstacle to the carrying out of the intention to perform a joint activity, which gives rise to a subjective experience of “difficulty” and a signal that the business is not going as usual. This changes the level of action identification to a lower level of the intention hierarchy (e.g., “Now this is something I haven't expected; how can I understand this, and how should I coordinate my action in relation to my partners'?”), and engages the cognitive resources to activate self-regulatory processes.

At this point, it is possible to construct at least two different classes of models to explain the perturbation part of the dynamics. One class of explanations would invoke the activation of a conscious process as a main cause of perturbation. It would suggest that, instead of the non-conscious activation of a social coordination goal, under which habitually performed coordination behaviors such as mimicry are organized and activated, a more conscious explicit strategy represented as an intention “to comprehend unexpected information” is activated to coordinate the grounding process. This intention does not contain the typical social coordination goal as part of the hierarchy, and

therefore mimicry stops. The other class of explanations would invoke cognitive resource depletion as a main cause of perturbation. It suggests that an effort to comprehend and ground culturally unexpected information depletes the cognitive resources, which feed and fuel the ideomotor mechanisms that manage micro-social coordination. Because the ideomotor social coordination mechanisms cease to operate (basically because of the lack of resources to operate them), mimicry stops.

One way or the other, a critical question for cultural dynamics, especially, for an understanding of the fluency-perturbation dynamics, seems to be how joint intentions and social coordination are organized in humans.

Conclusion

Despite the great advances made in cross-cultural comparative research, complementary research programs of cultural dynamics need to be contemplated more seriously. If cultural anthropology examines macro-processes of cultural evolution, which explain how different cultures have come to be distributed around the world, social psychology can make a critical and disciplinarily central contribution to the micro-processes of cultural dynamics, which examine processes of cultural transmission in particular contexts. As was noted earlier, anthropology of cultural evolution and social psychology of cultural dynamics are homologous to evolutionary biology and microbiology of genetic transmission.

In fact, social psychological analysis of cultural transmission builds on the core business of social psychology, namely, examination of social influence. However, the traditional research on social influence has been largely built on the mass communication

model of communication. This model takes the familiar source-message-audience structure, in which a message sender with certain characteristics (e.g., attractiveness, expertise) who sends a persuasive message to an audience, who may take a cognitive shortcut or engage in greater deliberative cognitive processes, to evaluate the message and may or may not change their beliefs, attitudes, and values. Although this has brought an important insight on social influence processes, this line of work seems to be silent on some of the critical aspects of cultural transmission, that is, what type of information is likely to be produced in social settings to begin with. Furthermore, it fails to address a social process of meaning negotiation between the sender of information and its receiver, in which new information may be generated.

The grounding model of cultural transmission attempts to redress the shortcomings of the existing model of social influence by bringing out the process of information generation and negotiation as a central feature of cultural transmission process. By directing theoretical attention on the interpersonal process of meaning generation and exchange, it has shown that the micro-genesis of culture tends to be more reproductive than innovative; however, it also helped identify a micro-level local perturbation in cultural reproduction. Termed the fluency-perturbation dynamics in cultural transmission, culturally unexpected information is presented in the grounding process, it tends to produce both verbal and nonverbal perturbations in the well oiled operation of complex and dynamical processes of social coordination, thereby further stifling the transmission and retention of culturally unexpected information. This tends towards cultural maintenance at the global level. In this paper a potential social cognitive mechanism for the fluency-perturbation dynamics was outlined, which combines a theory

of small group dynamics that regards people's engagement in group activities as controlled by their joint intention and an ideomotor theory of social coordination.

In taking the micro-level perspective on cultural evolution, a social psychology of cultural dynamics can shed light on the interplay of social cognitive and interpersonal processes by which complex culture, which is a hallmark of human beings, can be formed, maintained, and transformed in their on-going participation in the dynamic social process.

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