tions of books and reading that are not instantiated in their interactions with children, but in order to move the children away from their perhaps preferred sensorimotor representation of books (books are to be sucked, pulled apart, stacked, and thrown") toward the shared reading format, the adults adjust their actions in order to create the possibility of a shared understanding of the situation. I would interpret the shared book interaction as an unambiguous instance of "instructed learning" in the terms of Tomasello et al.'s theory. They appear to interpret these events as instances of "adult task simplification," which they call "scaffolding." To quote:

> Instructed learning as we define it involves more than the child's learning by means of adult task simplification. Whereas in scaffolded learning children *learn about* the *task* [emphasis added], with the adult in the background providing help, in instructed learning children learn about the adult specifically, about the adult's understanding of the task and how that compares with their own understanding. **(sect. 2.2, para. 2)**

What is problematic in this quote is the absence of a coherent theory of meaning. The notion that the child can learn about the task directly suggests an empiricist epistemology in which meanings exist in the outside world waiting to be discovered. The contextualist approach that Tomasello et al. invoke suggests, in contrast, that meanings are constructed in communicative exchanges that necessarily involve intersubjectivity. This incoherence in the underlying theory of meaning needs to be addressed in future formulations of the theory.

Tomasello et al.'s attempt to unpick the development thread has many more features to it (e.g., pbylogenetic analysis) than I have been able to address here. With regard to human ontogenesis, a focus on the concepts of intersubjectivity and teaching within a theory of language discourse (e.g., Bruner 1990; Wertsch 1991) may provide the basis for formulating a theory of cultural learning without reductionist tendencies.

Questioning assumptions about culture and individuals

Barbara Rogoff, Pablo Chavajay and Eugene Matusov
Department of Psychology, University of California, Santa Cruz, CA 95064

This is a daring and provocative article that takes on the classic question of what makes humans human. It argues that cultural learning is the distinguishing feature, and proposes a distinction between three types of capacity for learning from others. However, this account of cultural learning seems to be based on unexamined and problematic assumptions about the nature of the relation between individual and cultural processes.

The approach taken by Tomasello et al. separates the roles of individual and culture, leading to questions about the 'impact" of culture on individuals and how individuals "acquire" culture. It is not necessary, however, to assume a boundary between individual and cultural processes, and to do so, we argue, limits the ways scholars can understand how individual and cultural processes function. It is revealing that Tomasello et al. equate the concepts of internalization and their reading of the concept of appropriation as used by Rogoff (1990). where the concept of appropriation was introduced specifically to argue against the assumption system of internalization, which separates individual and culture.

Briefly, the internalization model assumes that individuals are separate elements that may be influenced by other people (also elements) and by cultures (also elements). individual and cul*ture* are conceived as separate and inherently static collections ofobjects, so the approach requires positing ways that culture or social things "transmit" skills and knowledge to the individual (producing change from outside), or that the individual "acquires' social or cultural things (producing change from inside). Tomasello et al. take the latter approach, proposing that the mechanism is what they call "cultural learning" - acapacity (that some have and others do not) to take the perspective of social partners.

In contrast, the appropriation model does not separate individual from cultural processes as elements requiring links to relate them. Instead, the appropriation approach uses activity (rather than individual characteristics or moves) as the unit of analysis, arguing that individual. interpersonal, and sociocultural processes constitute each other and cannot be separated (see Rogoff, in press). As people participate in activities involving other peopie and cultural practices, they develop and their participation changes. In the appropriation model there is no boundary between the individual and the rest of the world, and there is no need to posit a link between elements; rather, the focus is on understanding processes of participation in shared activity.

The internalization model in which culture and individual are separated leads to problems at the level of cultural processes, interpersonal processes, and individual processes in Tomasello et al.'s account. The view of culture that is presented is a reduction of culture to societal tools and social partners, with no consideration of culture as human activity involving organized processes. There is little mention of communities or of institutions except in a footnote indicating that considering the institutionalization of human practices would take the authors far beyond their current aims.

The target article presents an ordered series of **the kinds of** social interaction the authors consider to be cultural. [1] However, all three kinds of 'cultural" learning focus on separate individuals involved with another person. The progression begins with interaction in which the learner is active and the social world passive (imitative learning), to interaction in which a partner is active and the learner is passive (instructed learning), to interaction in which both are active but their roles are still separate efforts to take the perspective of the other (which the authors call collaborative learning). In none of the types do the authors consider social relations in which people contribute inseparable efforts to shared endeavors.

The ordering of certain forms of social interaction as more "cultural" than others reveals culturally bound assumptions about social interaction, evident in the primacy given to dyadic, intentionally instructional interaction and the exclusion of arrangements between people. Tomasello et al. explicitly exclude arrangements of the social environment as being cultural because they attribute responsibility for making sense of the environment to the individual when no explicit instruction occurs. Although individuals carry great responsibility for learning from social arrangements, it seems odd to exclude such arrangements from being cultural. We agree with Whiting's (1980) view that a primary cultural role of caregivers is deciding about the activities in which children participate and with whom. Tomasello et al.'s focus on instructional intent makes their system inapplicable to other cultural systems.

Their claims that instructional and focused interaction is the norm for children's learning overlook well-known observations to the contrary in many cultural communities. In many communities, individuals are embedded in cultural systems ofactivity; children's learning of cultural ways can occur (and often does) by means of observation and eavesdropping if cultural arrangements for children allow them to participate in the mature activities of their community (Heath 1983; Ochs 1988; Rogoff 1990; Rogoff et al., in press; Schieffelin 1991; Ward 1971).

We find Tomasello et al.'s characterization oflearning through imitation to be particularly troubling, although they do make interesting distinctions between imitation, mimicking, and emulating. Their characterization of learning through imitation seems to portray learning through observation as a relatively unskilled interpersonal approach to learning. However, learning through observation seems to involve very skilled

management of attention by children as well as sophisticated and responsive support for children's efforts by adults and others in the group present (Rogoff 1999; Rogoff et al., in press).

To resolve the dilemma of how individuals internalize culture, the authors rely on children's "theory of mind" and 'capacity" for perspective-taking to make the connection. They claim that cultural learning in its highest forms involves individuals "getting inside" the heads of others, so to speak, or at least making use of the words of others to regulate their own behavior and understa3ding.a Tomasello et al. regard use-of-other-people's-words-to-regulate-oneself as evidence of attention and understanding, but they do not seem to notice that it is only when people are having difficulty with a task that such talking to oneself is likely to occur. People who really understand a shared activity may simply begin to take on greater responsibility for managing the activity; if they resort to repeating others' instructions to them it may indicate that they attended but did not really understand the process.

We prefer an approach that examines how children's involvement in cultural activities changes with the developmental processes of the children, their partners, and their communities in shared activities, rather than an approach based on internalization of social or cultural objects. Nonetheless, we applaud Tomasello et al. for offering a provocative and Ear-ranging account.

NOTES

1. If there were space we would argue with the effort to put the different kinds of social interaction on any single, directional scale.

2. The authors attempt to include nonverbal symbols as regulators, but their effort draws attention to their reliance on symbols as somehow external to the shared activity, to be lifted and imported for the use of the individual.

Cultural learning is cultural

Bernard Schneuwly

Faculté de Psychologie et des Sciences de Education, Université da Genève, CH-1227 Carouge, Switzerland

Electronic *mail: schneuwl@fapse.unige.ch*

Cultural learning in itself is not cultural; its forms and contents are universal: This is the implicit consequence of Tomasello et al.'s model. It thus seems coherent that they refer-to Piaget (1985) and to Karmiloff-Smith (1986) – possibly his most interesting successor – to understand the way complex systems of "human cognition" like 'the various systems of mathematics and the various grammars of human languages that have been created by human cultures" are constructed. Tomasello et al. in fact do no more than add a social component to the cognitive development saying: Pay attention to the fact that children need another person to construct their own cognitive mechanisms. This facilitates construction (this is the weak Piagetian formulation one can already find in the final remarks of Piaget and Inhelder's 1966, p. 123); or this is necessary for it (which is the social psychological version represented by authors like Doise and Mugny (1979) or Perret-Clermont and Brossard (1985) referenced by Tomasello et al.). From this point of view, the forms of interaction are universal and so are the contents of learning (look at the examples of collaborative learning given by Tomasello et al.: conservation tasks and abstract moral judgement tasks). Culture is in fact absent from this model of cultural learning. Note that this kind of cultural learning is easy prey for 'information processing" approaches which can, by enlarging their scope to include some social aspects, easily integrate the purely formal interactions described by Tomasello et al.

The model presented, though bringing to the fore important general aspects of human learning compared to higher forms of animal learning, is insufficient to characterize real cultural learning, such as the learning *of culture* in *cultural forms*. The main reason lies in the choice of the unit *of analysis* which for the authors is 'what the individual organism brings to the process of enculturation.' Human beings do indeed have the higher learning potentials (Schneuwly, in press) for this process, the most important being precisely that the forms of learning are open and varied because the means and forms of enculturation are themselves results of enculturation and are not provided by organisms. This means that the unit of analysis for modeling cultural learning can in no case be the individual organism. It has to be a triangular structure that combines the learner (for instance the child), the contents to be learned (i.e., culturally constructed ways of behaving in and knowing reality) and the technical and psychological tools necessary to appropriate contents, mediated by teachers (parent, older child, sibling, or whatever else) and their practices.

Already in the stage where, according to Tomasello et al., imitation is its only manifestation, learning is cultural in the sense just described. As shown, for example, in Moro and Rodriguez's (1991) analysis of the baby-object-child triad in children aged 7 to 13 months, there is an intricate and changing relationship – between the contents (in this case the object signification of certain toys), the means created during interaction mainly by adults (*ad hoc* semiotic systems) and the actions and reactions of children – a relationship that can in no way be grasped in terms of the concept of imitation, all the less so as the specific form this complex interaction takes is in itself defined by cultural practices.

The higher forms of learning are even more dependent on cultural practices. Learning to write in a modern society is very different, for example, from learning in a more traditional medieval society (for a general history see Ludwig 1988) and this has important consequences for mental functioning. The forms of learning are dependent on the contents (e.g., writing for religious purposes or for use in some situations in daily life, Besnier 1991; or as an abstract tool for thinking, Olson et al. 1985), on the forms written texts take in history, which are the tools for mastering writing (Schneuwly 1992), and on the relationship students and teachers establish with each other and with writing in an institution such as public school compared to a traditional society where writing is completely embedded in the oral tradition (Clanchy 1979).

Cultural learning is itself a product of culture; its means and forms are constructed at the same time as culture; it can therefore only be analyzed by using the triadic structure as unit of analysis where culture is present in contents; in tools, and in teaching and learning practices. This does not mean there is a mechanical conditioning of development by teaching/learning; on the contrary, as Vygotsky puts it, "There is a process of teaching/learning; it has its own structure, its linking, its logic of development; and there is in the mind of each learner taken individually a sort of internal network of processes which, although they are provoked and put in motion during teaching/learning, have their own proper logic of development" (1985, p. 269; our translation). The relationship between these two logics is at the *core* of a psychology of cultural learning

Predispositions to cultural learning in young infants

Colwyn Trevarthen

Department of Psychology, The University of Edinburgh. Edinburgh EH8 9JZ, Scotland

Electronic *mail: colwyntrevarthen@edinburgh.ac.uk*

Tomasello et al.'s theory of cultural learning and its origins has revolutionary implications for all human sciences. Tbe authors. experts in ape communication and child language, show how human learning needs shared attention and "perspective-taking," a kind of intersubjectivity absent in apes and impaired in autism (Trevarthen 1989). Unfortunately, the authors do not