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Rethinking Linguistic Relativity

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Javanese respond to them. That's crazy! That can't be what's going on. I'm not sure you can ever have a Javanese response to Javanese art if you're not Javanese—maybe you can if you spend ten years there, but you can't do it by watching a *wayang* show. So then there's the question of annotations, and trying to figure out how to get the real stuff across. There's a lot of concern about that.

RH: You've written extensively on other conceptions of selfhood, of personhood. A few minutes ago you used the phrase "self-representation." Do you think that's what they're up to?

CG: In that case, not individually, but yes—they're interested in the representation of Indonesia as a collective self.

RH: Do they think of it in those terms?

CG: Yes, explicitly. That's what it's all about. They want to establish in foreign eyes, and also in their own, an official cultural identity.

RH: Is the desire to have an official cultural identity something that is absorbed from Western ways of thinking?

CG: I suppose to some degree it is, but it's very alive in Indonesia, because there's now a civil religion called Pancasila which is an attempt to do exactly that—to create a rather Javanized version of an all-Indonesian culture. There have been debates about this going back to the 1920s and 1930s, between extreme traditionalists—that the new Indonesia should be represented in terms of 2,000 years of tradition—and extreme cosmopolitans—who want to join the world of modern societies as quickly as possible. That debate continues. Java, of course, has had a couple hundred years of colonialism, more than most places have. For the Outer Islands it's a bit less. The trouble is that there isn't one thing that they all go back to. Some Javanese would like to go back to Majapahit, but the Sumatrans are not too happy about that idea!

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## Rethinking Linguistic Relativity<sup>1</sup>

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A Wenner-Gren Foundation international symposium entitled "Rethinking Linguistic Relativity" was held in Ocho Rios, Jamaica, May 3–11, 1991. The meeting brought together scholars from seven nations and a range of disciplines including linguistics, anthropology, education, cognitive psychology, developmental psychology, and cognitive science. The original idea of lin-

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guistic relativity, variously attributable to Humboldt, Boas, Sapir, and Whorf, was that the semantic structures of different languages might be fundamentally incommensurable, with consequences for the way in which speakers of specific languages might think and act. On this view, language, thought, and culture are deeply interlocked, so that each language might be claimed to have associated with it a distinctive world view.

This idea captured the imagination of a generation of anthropologists, psychologists, and linguists, as well as members of the general public. It had deep implications for the way anthropologists conduct their business, suggesting that translational difficulties might lie at the heart of their discipline. But the idea seemed abruptly and entirely discredited in the 1960s by the rise of the cognitive sciences, which emphasized the commonality of human cognition and its basis in human genetic endowment, in part building on Piagetian universals of human development. This emphasis was strengthened by developments in linguistic anthropology, with the discovery of significant semantic universals in color terms, the structure of ethnobotanical nomenclature, and (arguably) kinship terms.

However, there has been a recent change of intellectual climate in psychology, linguistics, and other disciplines surrounding anthropology, as well as in linguistic anthropology, towards an intermediate position in which more attention is paid to linguistic and cultural difference—such diversity being viewed within the context of what we have learned about universals. New work in developmental psychology, while acknowledging universal bases, emphasizes the importance of the sociocultural context of human development. In sociolinguistics and linguistic anthropology there has also been increasing attention to meaning and discourse and a growing appreciation of how interpretive differences can be rooted as much in the systematic uses of language as in its structure (a point made decades ago by Dell Hymes).

It therefore seemed opportune to reopen the classic issues and connect them to modern developments. The conference organizers had a grand vision, which went something like this: Linguistic relativity is a hypothesis about meaning—that the meanings expressible in one language may be incommensurable with those expressed in another. Very little is known about substantive semantic universals, and the demonstration of universal patterning in a few domains such as color terminology carries no necessary general implications. But regardless of how universal linguistic categorization turns out to be, recent developments in the theory of meaning show that “meaning” is not fully encapsulated in lexicon and grammar, which provide only schematic constraints on what the speaker will be taken to have meant in a particular utterance. A large part of the burden of interpretation is thus shifted to theories of use. Some important principles of the use of language may plausibly be argued to be universal (e.g., Grice’s “maxims of conversation” and their associated implicatures and the turn-taking and repair systems described in conversation analysis).

But others seem much more clearly culture-specific (e.g., rules for producing and interpreting utterances in British crown courts). In that case, aspects of meaning and interpretation are determined by culture-specific activities and practices. Those activities and practices are interconnected in turn with the larger sociopolitical systems that govern and are in turn in part constituted by them: particular divisions of labor and social networks provide differential access to such activities and the associated patterns of language use.

In this way, the organizers hoped to build an arch from the classic Whorfian issues of the relation of grammar to thought to consideration of language use in sociohistorical perspective. One keystone in the arch was the phenomenon of deixis or indexicality, whereby words like *I*, *now*, *here*, polite pronouns, and so on, have their interpretations specified by the circumstances of use. This necessarily anchors meaning and interpretation to the context of language use and thus to wider social organization. Issues of linguistic relativity are in this way directly related to the variable structuring of contexts.

Linguistic relativity is connected, Whorf argued, to the linguistic and cultural determinism of habitual thought patterns. Therefore the second keystone to the arch is the idea, now an undercurrent in a number of disciplines, that “cognitive processes” cannot be fully located within the individual. Edwin Hutchins (unfortunately unable to attend the symposium) has made the point ethnographically by showing how the crew of a ship acts as a collective data-gathering and decision-making machine even though no one member of the crew has an overall picture of the situation at any one moment in time. Again, an abacus user’s calculations are in some sense partly “outside the head,” the procedures partially encapsulated in the device itself. Jack Goody has emphasized that literacy confers a technological advantage not just by overcoming the limitations of time and space associated with speech but also by allowing the externalization of cognition, that is, making available for post-hoc examination certain aspects of thinking and thereby facilitating a new multidimensional manipulation of what is in the oral-auditory channel a linear medium. Even in societies of the simplest technology there are systems of mnemonics, including special speech genres, and decision making (divination, etc.). Indeed, students of social interaction argue that interpretations of utterances are jointly arrived at by a step-by-step process revealed in interactive discourse, so that what an utterance ends up as meaning cannot always be attributed to a single speaker.

More generally, one can argue that there is a very special kind of domain of discursive practice and externalized cognition that lies in some sense between the inner life of the mind and the outer world of objects and behavior, partaking of both. This is a domain peopled by objects and events of weird and perplexing ontology, such as “intelligent objects” or conceptual tools (matrices, abaci, computers) and the whole range of symbolic human action and interaction. Such objects and events

are philosophically perplexing because their essence is both physical and ideational (witness philosophical debate on the nature of "artificial intelligence" or intentional behavior).

The social sciences were founded on Durkheim's argument that the irreducibility of social facts made psychological reductionism impossible, and we have inherited a legacy of division and, indeed, a tendency to reductionism in opposite directions towards the psychological or the social. The new recognition of a middle ground, this domain of externalized cognition, which essentially partakes of both the psychological and the social, promises to overcome a dichotomy that has always left "social facts" in an ontological limbo. It is the externalization of cognition in physical objects, social interaction, and language use that makes possible the learning and socialization of new individuals in a language and culture. By the same token, it is the study of this domain that gives the ethnographer access to another culture (and indeed gives analysts empirical access to the life of the mind in their own cultures). The domain of externalized cognition is the crucible in which language, thought, and culture are melded in social interaction, each bringing intrinsic constraints of its own to the characteristic local alloy. Intrinsic cognitive constraints (universals of human thought) and intrinsic linguistic constraints (i.e., nontrivial linguistic universals) are one set of forces operating on the domain of externalized cognition, but equally there are sociohistorical forces, constraining or making available activities, special uses of language, and "knowledge technologies" (such as literacy or computing devices) which may fundamentally alter the nature of the domain. Social forces also determine differential access to such advanced cognitive manipulations (through schooling, training, or restrictions on the use of such cognitive tools). It is important too to remember that humans entertain crucial concepts (e.g., "guilty," "not guilty") whose application can only be determined by a social procedure embedded in a political institution, which acts like a distributed information-processing device.

How did the grand design fare when scrutinized by experts from the various disciplines gathered together at the conference? Only moderately well—but then, after all, "moderately well" for such a broad sweep of ideas across so many disciplines perhaps counts as success.

The conference began with a reassessment of the classical formulations of linguistic relativity and the associated claim of linguistic determinism of thought and then progressed to possible relativity in the use of language and thus to the sociohistorical conditioning of linguistic resources and their use. Initial discussion focussed on the idea that the linguistic categories that our language forces us to use mould our conceptual categories. Extreme versions of linguistic determinism hold that a specific language constrains thinking and perception in particular directions, which add up to a culture-specific world view. This no longer seems tenable for a number of reasons: first, there is evidence of many kinds for significant universals in language, perception, and cogni-

tive development; secondly, the argument, experiment, and analysis in favor of it no longer seem convincing; thirdly, there are many indications that there are multiple modes of thinking, some of which are independent of language. Nevertheless, some weaker kind of influence of language on thinking is by no means ruled out; the problem is to find some way of investigating it.

John Lucy (anthropology, University of Pennsylvania) argued that Whorf's opinions had in fact been systematically misunderstood, even by those psychologists and anthropologists in the 1950s who sympathetically tried to test them. Whorf emphasized the "undercurrent" of systematic grammatical distinctions that run across a number of grammatical paradigms and their effects on habitual thinking. Modern tests of his hypotheses have been much more atomistic, focussing on specific semantic domains (e.g., color) defined extralinguistically—not at all, Lucy argues, in the spirit of the original proposals. Studies should focus on grammatical features (or their "covert" correlates) whose frequency of application forces habitual distinctions. They should also be carried out in a strictly controlled, comparative experimental way on at least two contrastive languages simultaneously. In his own work, he has tried to show how, in contrast to English count nouns, which presume a form and unit, all Yucatec Mayan nouns are much more like English mass nouns, coding only substance, not form or unit. Sorting experiments seem to show that this does indeed have systematic effects on how speakers of each language perceive and conceptualize objects. Lucy went on to argue (as Dell Hymes, Charles Frake, and others had before) that there might also be a kind of linguistic relativity at the level of language function and use.

Cognitive psychology as a whole remains highly resistant to the suggestion that there could be systematic cultural effects in thinking, but different views are held in developmental psychology. Dan Slobin (psychology, University of California, Berkeley) offered a reformulation of the linguistic-determinism hypothesis which provided one of the main foci of the symposium: instead of holding that language determines thought, it seems much preferable to talk in terms of "thinking for speaking," that is, to argue that the coding categories of a specific language force a speaker to engage in a specific kind of on-line thinking. Slobin and collaborators have carried out a series of experiments in a number of languages (including Hebrew, German, English, Spanish, Turkish, Mandarin, and Japanese) in which children of three years and up are shown a story told only in pictures and asked to verbalize it. Each language may require subtle conceptual distinctions, for example, in verbal aspect or definiteness of nouns, that are simply missing from the grammatical inventory of others; speakers may be able to make the same distinction periphrastically or by implication, but mostly they don't (Slobin's statistics even suggest that children slowly learn *not* to do this). The result is a deep-seated training of speaking-for-thinking that shows up in the systematic misanalyses that the adult learner of a second language tends to exhibit.

Slobin was cautious: languages force a certain way of thinking *while speaking*. He was dubious whether there is any carryover from the on-line thinking required by a particular language to patterns of thinking in general. Other participants were more deeply sceptical about linguistic determinism of thought. Paul Kay (linguistics, University of California, Berkeley) argued that there really was very little one could infer from perspectives encoded in language to ways of thinking in general. He intended the following argument as a *reductio ad absurdum*: if you can show that a single language encodes two or more different and incompatible ways of apparently “conceiving” the same event or process, then either the speakers of that language are schizophrenic or one simply can’t draw the conclusion that any deep-seated “conceptualization” is involved in the first place. His examples included the fact that English-speakers seem to hold incompatible ideas about referring, as shown by hedges of contrasting sorts like *technically speaking* vs. *strictly speaking*, and that the verbs *buy*, *sell*, *pay*, etc., “visualize” the commercial transaction from different viewpoints (cf. *A bought the X from B; B sold the X to A; A paid B for the X*, with different agents and patients). Some participants quarreled with the interpretation of the examples (but there seemed to be no shortage of good ones). Another possible objection, as Lucy pointed out, is that Kay’s argument does not deal with the kind of grammatical features that Whorf emphasized. Others refused to see the argument as a *reductio* (as Kay had resignedly predicted!): since (as Pascal Boyer reminded us) much human thinking may be compartmentalized by subject matter (“domain-specific,” in the current jargon), global consistency of conceptualizations may not necessarily characterize human thinking. Perhaps English-speakers are happily Whorfian and schizophrenic! More moderately, one might take the line, argued by Herb Clark, that there are conventional perspectives that show up in the language and are at least the *conventional* way of looking at things.

Kay’s arguments were intended as a cautionary tale. Janet Keller (anthropology, University of Illinois, Champaign-Urbana) also had such a tale, this time ethnographic. After studying blacksmithing for some time with Charles Keller, she had come to the conclusion that there are some kinds of activity that are mediated by an essentially image-driven kind of thought rather than a linguistically categorized mode of thinking. She argued for parallel, modular kinds of thought—language-based, image-based, motor-based, emotion-based, etc. In this broader conception of human thinking, linguistic determinism will play at best a small role. One might agree with the image Keller projected but disagree with the arguments. It turned out, for example, that the blacksmiths in question are hi-tech specialists who take orders over the phone from experienced collectors and negotiate the exact kind of desired product verbally. They do this partly in terms of an expert vocabulary but partly in loose terms (*heavy*, *sleek*, etc.) that somehow seem to do the job (Keller suggests a “translation” into images). The magical process whereby “loose

talk” somehow can serve to specify exact detail has become a central concern of current theorizing in linguistic pragmatics, where it is now taken to be the basic kind of language usage. Perhaps, then, blacksmithing talk is not so special and not such clear evidence for thinking-without-words. Still, the example was compelling and remained a base to touch throughout the symposium.

A number of papers dealt with spatial language and conceptualization across cultures. This was not entirely by chance, because the domain of spatial conceptualization seems central to human cognition, clearly with a basis in the human visual and motor apparatus, and therefore subject to strong universal constraints. However, it is also a domain in which culturally derived distinctions are likely to play a significant role in habitual discrimination and orientation.

Stephen Levinson (Max Planck Research Group for Cognitive Anthropology) reported on collective work that seems to show that cognitive scientists have overestimated the cross-cultural commonality of spatial conception, assuming the universality of linguistic expressions similar to the English spatial prepositions (*in*, *on*, *at*, *in front of*, *behind*, *to the side of*, etc.). For example, speakers of Guugu Yimidhirr (an Australian language first described by Haviland) make do without any of those concepts, instead employing an elaborated cardinal-point system. Thus *Bill is standing in front of the store* has to be expressed in terms glossing, as appropriate, *Bill is standing (say) north of the store*, and similarly for microlocations. To employ the system, all speakers have to be absolutely oriented at all times, and since all spatial descriptions have to be accompanied by such cardinal-direction specifications, speakers will also have to dead-reckon and to memorize scenes with cardinal directions attached for future description. On the face of it, this looks like a knockdown case of linguistic (or cultural) determinism of thinking well beyond Slobin’s thinking-for-speaking: computation of orientation and location and additional requirements on memorized detail penetrate deeply into thinking-in-general. Levinson argued that one should look for such cases, where a particular linguistic practice clearly has far-reaching cognitive consequences beyond the moment of speaking.<sup>2</sup>

Levinson went on to describe the spatial system in the Mayan language Tzeltal (currently under investigation with Penelope Brown) that also fails to fit the kind of generalization that linguists and psychologists have confidently made about universals of spatial description. Tzeltal locative description forces the speaker into a choice between a large set (ca. 300) of verbal roots that precisely encode shape, angle, and disposition of the subject (one cannot just say “The bowl is on the table” but is forced to specify whether the bowl is right way up or upside down, has an open mouth or a more restricted one, etc.). Thus Tzeltal-speakers are forced into elabo-

2. One might, though, want to argue that it is not so much the *language* that determines the cognitive consequences as a cultural practice that is also reflected in the language.

rate shape/disposition distinctions at the level of thinking-for-speaking. On the other hand, the language lacks the projective spaces associated, for example, with English *to the front of* and *to the left of* (instead, one can specify that objects are in contact with specified parts of other objects). The absence of *left* and *right* as relational spatial locutions seems to correspond with an "invisibility" of left-right inversions reflected in informal experiments. Thus such a system may have some real perceptual consequences (rich perception of shape and relatively poor perception of spatial relations between nonadjacent objects). Various participants were sceptical that much could be inferred from left-right failings, to which all humans seem prone to various degrees; but, as Lucy pointed out, from a Whorfian point of view, either the absence of the perception of left-right inversions is significant in Tzeltal or the presence of the left-right distinction in English is even more striking—the sceptic can't have it both ways!

It was clear in the symposium that it is going to take more than such ethnographic examples to make a convincing case for psychological claims about linguistic determinism, in however mild a form. Melissa Bowerman (Max Planck Institute for Psycholinguistics), reported on psycholinguistic work showing that children at a remarkably early age (18 months or earlier) are already attuned to language-specific differences in spatial description. For example, in English we talk both of rats (as spontaneous agents) running *into* boxes and of agents (causatively) putting rats *into* boxes; but in Korean the *into* concept (or its equivalent) is subsumed in the verb root in the causative cases while being expressed by a separate word in the spontaneous-motion cases. Further, in Korean the spatial concepts built into the causative roots crosscut the spatial concepts expressed by English *in* vs. *on*; instead there are verbs that express "tight attachment" vs. "loose fit": so whereas we see a "natural" affinity between putting the lid *on* the jar and putting the jar *on* the table, Korean forces the distinction between making the lid *attached* to the jar vs. putting the jar in an *unattached* contiguity with the table.

Bowerman's findings about how early children master the distinctions in the native language run counter to much received wisdom in developmental psychology. The picture derived in large part from Piaget suggested that children acquire prelinguistic concepts of space, which are then mapped more or less directly onto the language (a picture consistent with much recent theorizing in the cognitive sciences). But Bowerman argued that the linguistic distinctions made by different languages crosscut so deeply and are learned so early that this cannot be the whole picture; rather, the native-language distinctions seem to guide the child's development, focusing on particular conceptual distinctions. Her work, together with Lucy's, raises far-reaching questions about the underestimation of culture- and language-specific factors in psychological theory.

Granted that cultural factors may play a significant role in the structure and content of human cognition, if all the essentials of culture are universal there is no

argument from cultural/linguistic determinism of cognition to cognitive relativity. Two participants took strong lines on cultural universals. Len Talmy (cognitive science, State University of New York at Buffalo) proposed that we entertain the idea of a special mental faculty "hard-wired" for the acquisition of culture, a *culture-acquisition device* (modelled on Chomsky's language-acquisition device). Such a device would predispose the child to notice certain kinds of behaviors and presume certain kinds of abstract conceptual generalizations, which amount to universals of culture. Our conscious access to these processes is very restricted, giving rise to secondary rationalizations (ethnotheories of culture, including sociologies) that may have little to do with the actual processes involved in the acquisition of culture.

Talmy usefully articulated an extreme form of cognitive reductionism of culture which left many participants aghast. Anthropologists do, however, need to come to terms with the very different epistemological and ontological assumptions current in cognitive science and articulate their own positions much more carefully than they have in the past (Goodenough's definition of culture as the set of ideas necessary to "pass" as a native, for example, opens the door to cognitive reductionism). That is why the organizers attached some importance to developing the idea of a middle ground between the mental and the physical, of culture embodied in, especially, human interaction. Talmy's own position was vulnerable to the attack that whereas Chomsky's language-acquisition device had at least an initially plausible module of acquisition (language as a discrete mental object),<sup>3</sup> there is no corresponding mental entity "culture," since absolutely everything a native member of a culture does is imbued with a cultural manner.

Pascal Boyer (anthropology, King's College, Cambridge) also took a strong line against cultural relativity, more in the tradition of the strong mental universalism associated with recent developments in French anthropology (most recently especially with Dan Sperber). Stripped of the skillful sugar-coating intended to make his ideas anthropologically palatable, his argument was that if we can find significant universals among the most "culturally relative" things we know of—religious ideas—we have more or less crucified cultural relativity. He then proceeded to argue that religious ideas are, in large part, just ordinary pancultural ideas, with just a dash of culture-specificity thrown in. Anthropologists tend to focus on the oddity of the small culture-specific element, ignoring the commonality of the rest of the system. The common background, he argued, lies in human reasoning about intelligent agents: we are cognitively predisposed to distinguish such agents and make special kinds of teleological inferences about them. The cultural dash of sauce consists in particular assumptions about the nature of supernatural agents (physical proper-

3. Though it has always been controversial among linguistics and psychologists.

ties such as invisibility, behavioral predispositions, etc.). The two together—a developed set of inferential principles about agents and some slightly peculiar and noteworthy agents—make just the kind of package that “grabs” the attention (following the theory of relevance in Sperber and Wilson 1986) and thus gets culturally transmitted.

Talal Asad (anthropology, New School for Social Research) and other participants objected that such an account of religion scarcely holds for the developed theologies of the major religions and scarcely does justice to the moral and affective implications of systems of religious ideas. Nor, on the face of it, does it even satisfactorily distinguish religion from science (where commonsense principles mingle with outlandish ideas).

Talmy's and Boyer's mentalist explanations for cultural transmission were countered by two participants (Jean Lave and Elinor Ochs) who sought to locate cultural acquisition and learning in social interaction and activity. Both speakers argued for a reconceptualization or recasting of the basic issues, with Lave introducing the notion of social practice as the site of learning and Ochs arguing that to account for cultural acquisition we have to set aside the traditional reference-centered view of language.

Lave (education, University of California, Berkeley) argued, following extensive work on literacy and apprenticeship in Liberia and the U.S.A., that current learning theory is much too focussed on the ratiocinative self and fails to attend to the social practices in which cultural ideas are, as it were, embodied. The tendency to see learning in this way, as abstract ideas transmitted from master to acolyte, should be seen in sociohistorical perspective as a reflection of our own socio-polity and its ideology. Lave came under fire from cognitive-science participants, who pressed her on how concepts could be embodied in practices and not just, where they wanted them, in the head. She responded with examples of how people work things out for themselves by manipulations of physical objects (e.g., calculate 45° slivers of cake by superimposing two sets of cross-cuts). Keller's earlier example of the blacksmith's imaging in iron was once again relevant. An apprentice blacksmith, wordlessly instructed by example, has more than an internal visual image of the desired product to learn; he must also experience and acquire a whole process of tactile and motor coordinations that may have little conceptual representation. Where now are we to locate the cultural idea? We could locate it in the image in the master smith's mind and presume that the image is transferred to the apprentice (much as Keller seemed to argue). But we could say that the cultural idea does not reside there at all; after all, the apprentice may visualize the end product in a quite different way and still reproduce acceptable copies. Instead, as Lave presumably would, we could hold that the idea is embodied in the lump of iron itself, together with the processes that produced it. (Incidentally, much of what archaeologists do would seem to be based on an acceptance of ideas as embodied in things.)

Ochs (applied linguistics, University of California, Los Angeles) also took the position that culture is learned through its embodiment in practice—especially, she argued, linguistic practice. She outlined an ambitious theory of socialization through the medium of language. She claimed that many linguistic elements are Janus-faced, performing the task of contributing to propositional statements on the one hand but simultaneously, through inherent indexicality, constituting moves on the level of discourse and social interaction, on the other. The concept of *indexicality* here is the wide Peircean one, the idea that there are certain aspects of signs that direct the attention to the environment of the speech event, and it played a central role in the arguments of a number of the participants. Ochs tried to formulate some general constraints or patterns that characterize these socially laden indexicals. One of her more interesting ideas was that most such indexicals work indirectly, by virtue of indicating the speaker's *stance* or attitude (modal or affective) towards the proposition expressed. Then, at second remove, the assumption of a particular stance may suggest a specific social action or relationship. For example, the English modal hedge *maybe* might index speaker's epistemic uncertainty and then, indirectly, deference to addressee, or it might index speaker's deontic indecisiveness (*Candy after supper, maybe!*) and thus indirectly signal authority over addressee. And so on, for a wide range of particles, grammatical elements, prosodic features, etc. Ochs tried to generalize about the kinds of markers thus employed and their social effects and claimed that one may detect strong universal patterns underlying culture-specific tendencies to exploit these patterns to different degrees. She suggested that the human ability to acquire and transmit culture might quite largely depend on this shared universal complex of associations between stance markers, on the one hand, and social actions and relationships, on the other. Human in-built implicit understanding of these indexical relations between stance and social life provides children with a means to construct the learning environment in which the rest of culture can be acquired. Linguistic relativity in this regard would then be closely circumscribed by universal tendencies.

Och's position on the social valence of language can perhaps be placed as intermediate between two earlier traditions. The one, associated with Gregory Bateson, early paralanguage investigators (Ray Birdwhistell and others), and later social psychologists, attempts to find distinct channels for social information in human communication. Thus one hopes to isolate social markers or indices. The other tradition, eloquently argued by Edmund Leach, is that such “ritual” information is carried not by particular acts or events but by the *manner* in which all acts are performed (much sociolinguistic theory, e.g., research on politeness, falling here). Thus one cannot isolate social markers or indices, since the social information lies in the modulation of every action throughout its course. Ochs's position here would seem to be very close to Gumperz's, but whereas she empha-



sizes individual linguistic indices, he suggests that a constellation of "contextualization cues" indexes a whole social frame of interpretation, which in turn may lead to inferences about individual participants' states of mind.

With these background discussions on cultural relativity and universals and on the way in which culture is acquired through its externalization in practice and social interaction, the conference moved on to consider how the context and discourse dependency of language interpretation might require a new perspective on linguistic relativity. Linguistic relativity, at least in the Whorfian formulation, is a hypothesis about the intrinsic mismatch in the expression of meaning across languages. Whorf thought about meaning in terms of the semantic content of grammatical and lexical elements, but theories of meaning have progressed a great deal since then—one of the greatest changes being an increasing recognition that linguistic meaning resides not only in lexico-grammatical content (semantics) but also in background principles of use (pragmatics). The phenomenon of indexicality forces the recognition of the role use plays in meaning. The meaning or at least the interpretation of certain words depends on who says them where and when. Recently, the suspicion has grown even among formal semanticists (by trade reluctant to recognize the role of context) that indexicality is rampant throughout language (consider words like *even* or *local* or *ago*). Perhaps all references to things have a kind of in-built temporal-spatial localization relevant to the time and place of speaking (consider *I used to like the picture in the hall*: only contextual information will help to tell you whether I mean the picture now hanging in the hall or since banished to the bathroom, etc.). The dependency of meaning on contexts and discourses, with all their apparent specificities, would seem to imply weak linguistic relativity.

Now, if indexicality is rampant throughout language, and if the interpretation of such indexical items depends on local practices and principles of use, we have to look at the idea of linguistic relativity afresh. Even if there were complete semantic isomorphism on the level of grammar and lexical meaning (e.g., if the whole world spoke English), we could still have linguistic relativity at the level of interpretation. So how culturally relative are principles of use? There was surprisingly little discussion of this at the conference, largely because we don't really know. There are very few studies of any depth of the pragmatic systems of "exotic" languages, what few there are being well represented by participants at the conference. Ochs, Levinson, Haviland, Clark, Hanks, and Gumperz, at least, all made strong assumptions about the universality of various principles of use, while some of them also emphasized the cultural specificity of other usage principles. Only Gumperz dealt specifically with discourse-level interpretive differences across linguistic and cultural contexts.

William Hanks (anthropology, University of Chicago) argued that deictic systems, although clearly exhibiting similarities across languages, are to a significant extent

constructed over time through culturally specific, situated practices. He reported on what must be the most detailed study of any deictic system, the system of (especially) spatial deictics in Yucatec Maya. In terms of the kinds of distinction lexically encoded, the system does not look especially exotic, with terms for *here*, *there*, *this*, *that*, etc. Less familiar are a set of suffixes ("terminal deictics") which combine with the lexical deictics to indicate modes of access between participants and the deictic referent—e.g., tactual vs. visual vs. auditory (thus *he'el 'voilà'* combines with *-a* [direct access] to mean *Here it is* [tactual presentative]). Hanks argues that the distinction between the lexical deictics and the terminal suffixes mirrors a functional distinction: the suffix indicates what kind of background information the addressee should access in order to interpret the lexical deictic (thus *he'el-a* involves monitoring of the tactile world, but *he'el-o* directs attention to the visual mode: *Lo! See it here!*). The suffixes also indicate whether to focus on the speaker, the sociocentric zone of the speaker-addressee, or the addressee's zone.

The suffixes thus serve the general purpose of directing the interpreter's attention to specific search domains, but they do not alone suffice to individuate a referent. The addressee must take into account the socially structured distinctions thus invoked. For example, the socio-physical world is structured in terms of domestic spaces of various kinds; in extended-family housing clusters, subunits will have distinct but unmarked plots of land—such a boundary being, say, immediately pertinent to the interpretation of *here* vs. *there*. On top of that, one must take into account that the nature of the boundary will differ according to whether the viewpoint is that of consanguines or affines. Thus the interpretation of a deictic item is intrinsically bound up with cultural distinctions and practices, and Hanks drew on Bourdieu's concept of *habitus* (as did Gumperz and Lave) to make the point. Within the field of deictics at least, Hanks made it seem incontestable that one is dealing with a kind of linguistic relativity at the level of interpretation.

John Haviland (Reed College/Max Planck Research Group for Cognitive Anthropology) took the theme of indexicality farther. It has long been noticed (e.g., by Jakobson and Bühler) that deictics are context-sensitive not only in that their referents are picked out relative to a context but also in that the very context can be shifted away from the current context-of-speaking. Thus, in *John wondered what he should say now* the word *now* refers not to the speaker's present but to the present of John's wondering. This phenomenon of "transposition," which has also been studied by Hanks, was the focus of Haviland's presentation. What he showed, through a series of transcribed examples, is how pervasive in natural discourse such transpositions are and how enormously intricate and multilayered they can be. For example, an Aboriginal speaker of Guugu Yimidhirr, telling a story, gestures north, exactly as the protagonists on a particular beach must have done when referring to a boatwreck out at sea; thus we are transposed away from the context



of utterance to the protagonists' context at that moment in the story; then, mentioning a new protagonist, the storyteller gestures to have him coming down the beach towards the other protagonists, and we are transposed to *his* point of view, looking east. Finally, to make sure his listeners have understood the identity of the man, he is identified by a gesture to the workplace of his son of the same name—but this gesture is now in the frame of the *speaking context*. Thus in a few lines and a few transitory gestures we have three “spaces” of interpretation invoked and slipped between, almost invisibly but crucially for the interpretation. Haviland's examples from three cultures left the distinct impression that one requires long-term socialization in local knowledge and practice to catch such fleeting clues to essential elements of interpretation. Again, this amounts to a *de facto* cultural relativity of interpretation. But Haviland was also keen to make the point that there would seem to be universal processes of transposition at work: the sorts of “spaces” shifted between and the kinds of linguistic and gestural clues to such switches seem to be limited.

John Gumperz (anthropology, University of California, Berkeley, and Max Planck Research Group for Cognitive Anthropology) pursued the theme of how frameworks essential to interpretation can be invoked by the communication itself. He outlined his notion of a “contextualization cue,” in effect a special kind of indexical which in combination with a cluster of other such cues invokes a specific kind of activity when interpreted in the light of grammatical and lexical knowledge. Such cues thus indicate how an utterance is to be understood and what its rhetorical role in a sequential discourse is. As had Haviland, he showed how subtle and fleeting such cues are and how bound they are into local discourse practices by analyzing a collaborative storytelling episode. But he concentrated on the analysis of what was introduced above as a hypothetical case, the situation in which speakers of the same grammatical/lexical system (e.g., English) have distinct systems of indexical interpretation. On the basis of long-term studies, he argued that many speakers of English from the Indian subcontinent utilize distinct sets of contextualization cues from those employed by English-speakers in England, where both reside. Concentrating on interview situations with bureaucratic “gatekeepers,” Gumperz discerns two ways in which contextualization cues can be culturally relative. First, the signalling media, the linguistic triggers, may themselves be different across cultures and even across speakers of the same language from different social networks. For example, speakers of Indian English highlight parts of an utterance in a different way—using pitch register and/or loudness shifts that extend over an entire phrase while standard British English-speakers use syllable accent. Secondly, the content that is signalled—whether the global framework of the activity or the more local turn-by-turn rhetorical point—may significantly vary. For example, the Indian English-speakers tend also to have a different concept of a “gatekeeping” interview, assuming that it should be con-

ducted more in the manner of a petition to a benevolent magnate (compared with the British expectation that one should make a case for one's rights under the rules).

Gumperz argues that such interpretive differences can create huge understanding gulfs which may have direct consequences for how individual participants fare in an interaction. It is as if contextualization cues invoked the very framework of interpretation, much as Ochs's stance markers are held to constitute the social matrix for culture-learning, so that small “misfires” at this level create massive misunderstandings at other levels, whether referential or social. Gumperz hints that the mastering of such cues and their meanings is dependent on deep immersion in a social network and in social relationships of the “friendship” type. The psychologists present questioned whether there might not be a “critical period” for the acquisition of such cues, drawing attention to the difficulty of adult second-language acquisition in just such subtle areas, but that would not be inconsistent with the requirement also for a special kind of social interaction experience. The social anthropologists wondered to what extent “gatekeepers” by virtue of their social role may be obliged to require applicants to show that they know the local rules—that is, whether such interviews are partly a test of real or adopted ethnicity. But Gumperz argues that it is in the nature of complex social structures to engender diverse social networks, which then acquire linguistic specializations that breed interpretive barriers. He thus views the fundamental linguistic relativity at this level as a universal by-product of complex social organization and universal principles of contextualization cueing.

The idea that linguistic knowledge and practice might be fractionated and differentially distributed through a community, yielding local linguistic relativities, found unexpected support from a psychologist. Herb Clark (psychology, Stanford University) argued that the classical picture of linguistic relativity, in which we and (say) the Hopi inhabited different linguistically constructed worlds, failed for the simple reason that it was based on the wrong theory of meaning. Instead of thinking of meaning as inherent in words through arbitrary meaning conventions, one should think of lexical meaning as an outcome of collaboration over a naming or referring practice, with the result that different collaborators may settle on different meanings. An interactionally derived solution to such a referring problem may then provide a precedent for the next occasion—and so we have a “convention” to call an X a “Y,” but such a convention is always localized to a network or community (following the analysis of the philosopher David Lewis). Thus the word *murder* may have different stabilized meanings for lawyers, Catholic anti-abortionists, and feminists, who participate in different social networks in the same speech community. And we constantly invent “nonce” terms, knowing that our interlocutors will try to infer the reference that we have in mind by scanning background associations that may be specific to the participants, as in *She's very New York* or *I macintoshed my vita*. Furthermore, where we do find stabilized conven-

tions they may be not so much conventions of meaning as conventional ways of conceiving things that run across a series of words: for example, we talk of eye-glasses and pants as coming in pairs, the Dutch view them as coming singly, and new kinds of pants (Bermudas, hot pants) will always be plural in English but singular in Dutch.

It follows that we can't think of a "world view" as inherent in a language, somehow detached from all the practices established for its use. The same point had earlier been made by focussing on indexicals (by Hanks, Haviland, Ochs, and Gumperz), where the meaning is intrinsically connected to use. But Clark's argument would make the relativization of meaning to use entirely general. On this account, meaning is also relativized to collections of persons who have the same background of experience and associations. By adopting a theory of the collaborative nature of meaning (itself un-Whorfian), one would seem to end up adopting an extreme form of linguistic relativity. But this view needs to be taken together with intrinsic psychological constraints on interactive processes of meaning determination, for example, on what interlocutors will find a naturally salient solution to a nonce concept, and, indeed, together with universal linguistic constraints on semantic structure.

Clark and Gumperz emphasized how practices which determine linguistic interpretation are differentially distributed in a community. The point was also made with extraordinary ethnographic material by Elsa Gomez-Imbert (C.N.R.S., Paris). She has been doing linguistic and anthropological work (with Stephen Hugh-Jones, Cambridge) in the Vaupes basin of northwestern Amazonia. The area is well known for its linguistic exogamy (a man must find a wife who speaks a different language). These facts challenge presumptions about the whole conception of linguistic relativity as based in the association of one "tribe," one culture, and one language. However, Gomez drew attention to a number of misconceptions in the sociolinguistic literature. Some corrections for the record: a few language-groups are divided into exogamic subunits; women continue to speak their native languages throughout their lives to everybody; children are raised speaking their mother's language, then switch to their father's language from about age six and thus are raised bilingually; the preferential marriage exchange system makes it likely that a boy will marry a girl from his mother's language group, who speaks his own developmentally first language, although his socially first language is his father's. This helps to explain how linguistic exogamy is possible across major language boundaries.

What happens to languages in such intimate contact? Could linguistic relativity—semantic nonisomorphism—occur under such conditions? And if so, is linguistic determinism of conceptual categorization possible even amongst systematic bilinguals? Gomez focussed on the relation between the genetically unrelated Arawakan and Tukanoan families of languages in the domain of animal classification. It seems that the

animal taxonomies across such languages are at least nearly isomorphic, despite the scarcity of cognates. However, the grammatical systems and in particular the systems of classification encoded in numeral/nominal classifiers are extremely different. The Tukanoan languages use nominal shape-based classifiers only with inanimate nouns but in many grammatical contexts; the Arawakan languages use such classifiers with both animate and inanimate nouns in more restricted grammatical contexts. The shape distinctions made are also different in part. Underlying the application or nonapplication of classifiers there seems to be a different semantics for nominals. Nouns that take classifiers seem to be viewed as mass nouns or collectives, the classifiers serving to individuate them (compare Lucy's interpretation of Mayan). The evidence for this is that, for example, in Baniwa (an Arawakan language) a species of pig that roams in bands requires a classifier, but a bigger species that wanders solo (along with other salient individual animals) does not. There are thus conceptual underpinnings to the classification system.

What happens historically over long periods of contact? Gomez looked in detail at one language, Kubeo, that seems intermediate: it is a Tukanoan language but has Arawakan-like nominal classifiers on animate nouns. Investigations reveal that Kubeo has a peculiar history: it is spoken by the descendants of Arawakan-speakers who moved into Tukanoan territory and adopted a Tukanoan language. They now practice linguistic exogamy with Arawakan speakers of the language that they probably originally spoke (Baniwa) as well as with other Tukanoan language-groups. Their nominal classification system is grammatically Tukanoan except for an overlay of the Arawakan system squeezed into novel grammatical interstices. Above all, Kubeo-speakers classify animals, except the very salient individuals, although the system is not quite isomorphic with that of Arawakan languages like Baniwa. Gomez concludes that what we have here is the preservation of a conceptual scheme carried across from an Arawakan into a Tukanoan language, where it is regrammaticalized. The conclusion would be that even in such intensely multilingual communities, it is possible to maintain distinct conceptualizations of domains attached to specific languages. This conclusion contrasts, for example, with work by Gumperz and Wilson in India that has suggested that in such circumstances languages tend to acquire grammatical and semantic isomorphism, with "token" surface differentiation. Kay had argued that the conceptual perspectives encoded in language must be relatively trivial, because speakers of one language hold inconsistent perspectives; Gomez's data would suggest that even when distinct conceptualizations are in the same (multilingual) "head," they can be powerful enough to force the restructuring of an adopted language.

The Vaupes situation dramatically illustrated Gumperz's and Clark's point that linguistic relativity is semantic diversity not simply across localized tribes or nations but across geographical and social space. Pam

Wright (anthropology, Wenner-Gren Foundation) made a plea for a historical perspective on conceptualizations of a domain (recalling, e.g., the older work by Trier and others on changing structures of semantic domains within a single language). As exemplar she chose the conceptualization of their own ethnicity by a people radically buffeted by history, the Caribs, deported in steps across the Caribbean by colonial powers. She tried to reconstruct the sets of opposing labels for ethnic units and “kinds” of persons at three different times—pre-Columbian, early colonial, and present. The structure of distinctions was motivated by quite different sociopolitical forces at these different points (e.g., the accumulation of contrasting ethnic groups through the slave trade and later importation of indentured labor). Wright showed that one could hardly divorce the study of such terms from the historical-political situations to which they are a response.

The effect of sociopolitical forces on cognitive life can perhaps most directly be seen in the introduction of new knowledge and communication technologies. Goody's argument that literacy confers cognitive advantages intrinsic to the two-dimensional spatialization of a linear medium can be read as claiming that literacy has universal effects, “levelling” cultural and linguistic relativity. Akinaso argued that whereas the technology may have intrinsic advantages, as with any tool the degree to which its potentialities are exploited depends on local social conditions. He spoke from a peculiar position: born in a remote part of Nigeria free of Islamic influence, he was himself illiterate till age 12 and can recount how a few persons introduced literacy, for specific reasons and with specific effects, into his natal village. He now bridges worlds, one where written words play a marginal role as *aide-mémoire* to practical activities or petitions to politicians and another where the very soil tilled is the written word.

Do knowledge technologies level cultural relativities in the same way that (say) the proliferation of new armaments enforces a uniformity in military strategy? Akinaso urges caution—old technologies (e.g., oral rhetoric, mnemonic systems) can perform some of the same functions as the new, while new technologies can fail to be fully exploited or, alternatively, find novel uses. Thus the effects of literacy are not uniform across societies, and even within a social system one can find many different kinds of exploitation of the medium. It follows that one has to allow for cultural relativity in the exploitation of technologies that have potentially universal enabling effects.

Asad, in a summary comment on the symposium's accomplishments, pointed out that the express attempts to introduce social factors had hardly got the attention they deserved. Too much of the discussion, he felt, focussed on individual thinking. Since the data consist of human vocalizations and actions, one must retain the larger picture of situated social action or risk lapsing into the psychological reductionism that some of the papers tried hard to avoid.

What has all this to say to general anthropology? An-

thropology is, like philosophy, a generalizing discipline, and just as in philosophy speculative domains turn into empirical sciences, so in anthropology there is a tendency to yield to other disciplines any empirical specialisms that may emerge in the study of mankind. Since the rise of highly technical and successful formal approaches in linguistics, there has been a corresponding decline in anthropological interest in language. It is simply hard to compete with the specialists, and only a small band of linguistic anthropologists attempts to do so. But it is important for anthropologists to know what the linguistic specialists do *not* know—where not much progress has been made in the last 20 years or so. And the great gap here is the comparative study of meaning: we know almost nothing new, save in a few domains, about lexical semantics from a systematic cross-linguistic point of view, very little about indexical systems, almost nothing empirical about cross-linguistic tendencies in pragmatics. Introductory textbooks on semantics and sociolinguistics point to the celebrated Berlin and Kay color universals, implying that we could do a Berlin and Kay on any domain whatsoever—whereas, as Kay pointed out in the symposium, color is a unique domain because it is one of the few for which the peripheral perceptual system can be shown to be hard-wired. There are no general lessons from the universals in color, even taken together with those in ethnobotany and kinship. In effect, the data against which to measure the linguistic-relativity hypothesis still hardly exist, and the general anthropologist can continue to play an important role in describing “exotic” systems of classification and usage and bringing them to the attention of the specialists, while linguistic anthropologists are in a unique position to question and construct incipient theory about universal properties of meaning and interpretation. Anthropologists also need to demonstrate for colleagues in other disciplines to what extent meaning and interpretation are dependent on specific local cultural practice.

Anthropologists celebrate cultural difference, and perhaps in doing so they exaggerate it; but it is a useful antidote to tendencies in cognitive science, where culture and often language are treated as invisible, not as mediators between the mind and the world. Working out the differences in presuppositions between anthropological and cognitive-science ways of seeing things is a precondition to establishing worthwhile dialogue. Linguistic issues will always be central to this dialogue, although, as Maurice Bloch has pointed out in the 1990 Fraser Lecture, the issue of learning and the organization of knowledge offer further points of common interest. (Bloch would like to dethrone language, on the basis that culture is not transmitted through explicit linguistic instruction; but Ochs's point that culture is transmitted indexically on the fly, while people are simultaneously talking about other things, undercuts his position.)

Asad reminded the symposium that translatability is central to anthropology and that that issue more or less coincides with the question of linguistic relativity. The symposium seemed to establish that these issues, al-

though transmuted, are still as live as they were before they were banished by an ideologically rather than empirically based tide of rationalism and universalism.

## Human Population Relationships in the Late Pleistocene<sup>1</sup>

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Two contrasting models dominate debate on modern human origins. The recent-African-evolution model postulates an African origin of modern people, followed by expansion of this new species throughout Eurasia between approximately 115,000 and 30,000 years ago (Stringer and Andrews 1988, Stringer 1990). According to this model, archaic Eurasian hominids (particularly the Neandertals) were replaced by this expansion and made no significant contributions to modern Eurasian gene pools. The multiregional-evolution model explains modern human origins as the result of a complex interplay of gene flow, drift, and local selection acting on an interconnected web of Old World lineages extending back to *Homo erectus* (Wolpoff, Zhi, and Thorne 1984, Wolpoff 1989, Smith, Falsetti, and Donnelly 1989). Multivariate analyses of Late Pleistocene human frontal bones from Africa, Europe, and the circum-Mediterranean, combined with assessments of other aspects of the cranial vault and face, suggest that human populations in these regions between 150,000 and 60,000 years ago, particularly around the Mediterranean, were to some degree interconnected. Because some of these were Neandertals and others are considered to have been early "modern" humans, these results do not support a simple replacement model for modern human origins in Eurasia.

North Africa and the Mousterian-associated remains from Djebel Irhoud (Morocco) are particularly important to this debate but are rarely discussed in detail. The proximity of the Moroccan coast to Europe via the Strait of Gibraltar, the circum-Mediterranean link to the Levantine corridor, and shared continental connection to sub-Saharan Africa make these remains critical to the evaluation of replacement vs. multiregional models for the emergence of modern humans. While some

have denied the existence of Neandertal apomorphies in the Djebel Irhoud remains and considered them anatomically modern (Hublin and Tillier 1981, Hublin, Tillier, and Tixier 1987), others have pointed to the presence of occipital bunning (Ennouchi 1962) as indicating specifically European Neandertal influence and found the form of the supraorbital torus suggestive of that in both European and western Asian Neandertals (Simmons 1990, Smith n.d.). Still others (Bräuer 1984, Stringer and Andrews 1988, Stringer 1990) consider the Djebel Irhoud crania part of an indigenous African transitional group between more archaic and early modern Africans. It has been argued that this establishes bunning and, presumably, the aforementioned torus form as aspects of the African morphological pattern (Stringer n.d.). However, among archaic humans in the western Old World, bunning has been documented only in Europe, where it is extremely common among Neandertals (and earlier specimens like Biache), and at Djebel Irhoud. Bunning is not characteristic of other representatives of the African transitional group or of the earliest "modern" African specimens. Given this pattern and a supraorbital torus shape (*not* size) like that of Eurasian hominids and different from that of other members of the African transitional group (Simmons 1990, Smith n.d.), it seems likely that these aspects of the total morphological pattern in Djebel Irhoud are Eurasian, not African, in origin.

The possibility that new electron-spin-resonance dates from Djebel Irhoud might push the age of the hominid remains from this site back to as much as 150,000 years ago (Stringer, personal communication) could perhaps lead to alternative interpretations of the pattern just discussed. Since this date would potentially make the Djebel Irhoud hominids older than "typical" European Neandertals, it could be argued that they introduced bunning and the associated supraorbital torus shape into Europe or that these features are simply homoplasies and have no evolutionary significance. While both of these interpretations are possible, neither represents the most logical explanation, in our opinion. If one assumes, for example, that bunning is a heterochronic process (cf. Trinkaus and LeMay 1982) and thus is a reasonably complex developmental feature, it is difficult to view its appearance in geographically adjacent regions as the result of independent origins (homoplasy) rather than some degree of contact. This is particularly true since bunning is not a characteristic feature of other broadly contemporaneous hominids in western Asia and Africa. Furthermore, we think it likely that these features passed from Europe into North Africa. However, even if the direction were reversed, the implication is the same; African and European populations were not reproductively isolated from each other during this time period. This supports our basic point that the population dynamics during the early late Pleistocene in this region of the world were quite complex.

Frontal bones are chosen for the analyses presented in this report because (a) much larger samples are available than for complete skulls or other cranial elements and (b) frontal form is an excellent reflection of overall cra-

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