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LANGUAGE AND WORLD VIEW

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INTRODUCTION

We open the current essay with a necessary problematization of the terms of the title assigned us by the editors of the *Annual Review of Anthropology*, which we have preserved precisely for this rhetorical purpose. On the one hand, the traditional notion of "language" dissolves as formal linguistics rarefies its object into a small set of constraints on the possibilities for autonomous syntactic structure, while semiotics and the theory of "discourse" advanced by Foucault (58) erase the privilege of specifically linguistic signifiers in a universe of mediating signs and practices. On the other hand, "world view" [Humboldt's (95) *Weltanschauung*], has served anthropology as a term for the philosophical dimensions of "cultures" seen as having a degree of coherence in time and space (174, 175; also 113a). Today, with our confidence in the coherence, integration, and political innocence of cultures long lost, a term from the high-water mark of bourgeois "German ideology" must be problematic.[1] "World view" also suggests reflection and mastery of a repertoire of forms and meanings, neglecting the way culture is shaped in everyday practices below the threshold of awareness. Today, both theoretical inclination and the ethnographic data force us to admit the fragmented and contingent nature

[1] The historical roots of Western interest in "language and world view" in the work of Vico, Herder, and Humboldt are discussed in 64:Ch.2; 107, 147, 159, and 166.

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of human worlds, as opposed to their "wholeness" and persistence. Thus, where "world view" would once have served, "ideology" is often heard, suggesting representations that are contestable, socially positioned, and laden with political interest.

Within these new frameworks linguistic anthropologists and scholars in related disciplines are returning to classical questions about the relationships between language and other forms of knowledge and practice. (See the citations in footnote 3; also 96, 112, 167, 176, 177; and ethnographic studies: 41, 68, 69, 89, 117, 144, 149, 168, 223). Our essay first sketches some conceptual fundamentals and then aims to correct certain widespread misrepresentations of the positions of Boas, Sapir, and Whorf. We then review the revival of interest in these three scholars, highlighting several important reinterpretations of their work that are producing new research programs.[2]

"LANGUAGE" AND "NONLANGUAGE"

Problematic in the first instance is the separation of "language" and "nonlanguage" such that these can be then "related" one to another. The notion of the "linguistic" versus the "nonlinguistic" eludes contemporary cultural anthropologists. Bloch (15), for instance, argues that what is most important about cultural knowledge cannot be represented in what he takes to be the terms appropriate to the discussion of language—such as "rules." Bloch is apparently unaware that contemporary linguistics conceptualizes speech production as the exemplar par excellence of "embodied," "expert" knowledge (also see 208). In this the discipline returns to a position advocated by Sapir (186) for whom the tacit, "aesthetic" quality of the form-feeling of actors for their culture meant precisely that pattern in culture was like pattern in language.

There is no prima facie way to identify certain behaviors—or better, certain forms of social action—as linguistic and others as cultural (cf 72). Even the most formal and minute aspect of phonetics—syllable timing—completely interpenetrates the most identifiably nonlinguistic, unconscious part of behavior—the timing of body movements and gestures (see 46, 47; also 30, 114, 165, 195). Thus "language" and "culture" cannot be neatly separated by distinctions like "structure" versus "practice." Further, "meaning" can only be known in another language through social action and speech, and the relevant units for analyzing these in another culture can only be worked out through their language. The entire intricate calibration is undertaken by the ethnographer in the field, often in an intuitive way. The process finally yields a report (usually) in the ethnographer's native language. So language, culture, and

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2 Hill (87) takes a slightly different approach to these questions, emphasizing issues not treated here. The timeliness of the issues discussed here can be gauged by a recent discussion on the electronic mailing list, *Linguist*, which drew about 40 responses, including substantive discussions by N. Besnier, W. Kempton, A. Manaster-Ramer, and B. E. Nevin.

meaning have inextricably contaminated each other in the course of doing ethnography.

LINGUISTIC RELATIVITY IN THE THOUGHT OF BOAS, SAPIR, AND WHORF[3]

The stance of "linguistic relativity," a term coined for the cross-cultural epistemology of the Boasian tradition by Sapir, is often taken to be a "hypothesis" that linguistic patterning at every level exhibits unconstrained variation, such that each language must be approached entirely on its own terms (106:96). We maintain that "linguistic relativity" as proposed by Boas, Sapir, and Whorf is not a hypothesis in the traditional sense, but an axiom, a part of the initial epistemology and methodology of the linguistic anthropologist. Boas, Sapir, and Whorf were not relativists in the extreme sense often suggested by modern critics, but assumed instead a more limited position, recognizing that linguistic and cultural particulars intersect with universals (64:9; see 204 for a nuanced discussion of Boasian ethnography as "cosmography," focusing on Sapir's intellectual style.)[4] Boas, Sapir, and Whorf all recognized that kinds of cognitive organization quite general to human beings might underlie the capacity for language. Thus Boas wrote that "in each language only part of the complete concept that we have in mind is expressed" (18:43), recognizing, if only implicitly, that there is a domain of conceptual organization that pre-exists language. While Sapir regarded culture as "a historically derived, shared gestalt of patterns" (64:11; cf 4, 204:87ff), he also sought the mechanisms by which individuals appropriated and configured such patterns, turning to the "personality psychology" of his day in the absence of a developed cognitive psychology. Whorf, almost echoing Boas, suggested that a pre-linguistic stratum organized linguistic and cultural experience, "a universal ... way of linking experiences which shows up in laboratory experiments and appears to be independent of language—basically alike for all persons" (235:267; see 134, 194:27–28; compare 28:51ff).

Scholars approaching anew the relationship between language and world view today problematize the formulation of linguistic relativity with an increasingly sophisticated understanding of what kinds of linguistic phenomena are likely to be universal aspects of human psychobiology, and regard this as a positive development (79). As we have noted, in doing so they do not depart radically from the Boasian tradition. And the sophistication with which they evaluate the status of proposed universals owes much to Whorf, who was

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[3] For our summary, we are indebted to a series of recent rereadings of Boas, Sapir, and Whorf, including 1, 2, 3, 7a, 28, 31, 56, 57, 60, 64, 75, 99, 104, 129, 131, 132, 133, 194, 204; and to historical works on Boas and Sapir, including 37, 38, 81, 82, and 211.

[4] None of these scholars formulated "relativity" as a discontinuity between primitive, pre-rational, or "folk" thought and "modern" thought; this distinguishes the linguistic-anthropological tradition from "relativism" in modern social philosophy (cf 91).

acutely conscious of the cultural roots of the language of science. While admitting the likelihood of such universals, most anthropological students of language insist that the epistemological and methodological foundations of the linguistic research through which putative universals are identified must be subjected to reflexive scrutiny, for—a profoundly "Whorfian" point—it is entirely possible that these foundations are artifacts of Western linguistic ideology. Thus they leave open the possibility that some "universalism" and the associated idea of biological innateness may be a product of an essentializing ontology, deriving from practices of referential objectification in European languages (13, 76, 200).[5] Becker proposes that to think of our glossing of other languages as a form of access to "pure meaning" rather than as a set of metaphors is to develop an exuberance of English: "the exuberancy of thinking of logical categories as reified 'things'" (12:142). Even the act of transcription itself is, for Becker, the political imposition of our own "language games" on the forms of life of speakers of other languages. Most linguistic anthropologists take a more moderate position, criticizing specific "universalist" programs while admitting the likelihood of dimensions of language where exuberances and deficiencies between distinct codes are minimized, such as abstract conditions on the relationships between anaphora and their antecedents (29), or the extensions of terms for living kinds (5), and where our attention should turn to similarity.

Boas, Sapir, and Whorf all limited their claims about the power language had over thought to specific, highly habituated, forms. Boas focused on the "selective power" of obligatory categories of grammar (104). Sapir emphasized unreflective, idiomatic expression (184) and wrote extensively about the alienation that might come with scholarly consciousness of pattern (88). Whorf restricts the linguistic phenomena of relevance to the habitual "fashions of speaking" (234).[6] The idea of "linguistic relativity" in the writings of Boas, Sapir, and Whorf must be contextualized historically. In their time a naive and racist universalism in grammar, and an equally vulgar evolutionism in anthropology and history, were lively intellectual forces. Boas (18) criticized grammarians for their tendency to see the system of categories of Indo-European in Native American languages, and argued that it was critical to identify grammatical patterns by criteria internal to the language. Like his contemporary,

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[5] Compare biologist Ernst Mayr (156:41), who attributes essentialist thinking in evolutionary theory to category formation and grammatical definiteness in English.

[6] Notice that the "effability" of language (108), the possibility of translating utterances of a language into any other (194:27), is not at issue here. The translatability argument is pushed to its logical extreme by Davidson (39), who argues that were two languages so radically incommensurate that translation is impossible, speakers of one would not recognize that speakers of the other were speaking at all. Since Boas's, Sapir's, and Whorf's theses rest on habitual uses of language rather than on radical untranslatability, Davidson's contention is tangential to theirs. Hunt & Agnoli (96) propose that the translatability argument be rephrased in terms of processing effort: In principle, a statement in one language can be translated into a statement in another. Nevertheless, such a translation might render a natural, easily processed statement in the first language as a clumsy, unmanageable statement in the other.

Ferdinand de Saussure (192), Boas observed that grammatical meaning could only be understood in terms of the system of which it is part. Sapir also warned against the temptation to treat language as a set of labels on a pre-existing, noncultural (or "objective") world. Such a move would inevitably lead to treating linguistic and cultural forms as reflexes of timeless, universal meanings, which could only prevent the ethnographer or linguist from understanding formal patterns in another culture or language. The famous passage from "The status of linguistics as a science" (187) needs to be understood in this light:

> It is quite an illusion to imagine that one adjusts to reality without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the 'real world' is to a large extent unconsciously built up on the language habits of the group. No two languages are ever sufficiently similar to be considered as representing the same reality. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached (187:162).[7]

Sapir's phrase "real world" is an ironic reminder that the naturalized world of our everyday experience is no more culturally unmediated than that of any other culture. His insistence that it is "to a large extent unconsciously built up on the language habits of the group" prefigures Raymond Williams's (239) characterization of language as a "constitutive material practice."

By the middle of the 1950s, a scholarly folklore grew around Sapir and Whorf that hardened "linguistic relativity" into the familiar formula that treats language, thought, and meaning as three discrete, identifiable, and orthogonal phenomena (194:3–19).[8] This formula rests on a category error that identifies language, thought, and culture with the institutional fields of linguistics, psychology, and anthropology respectively. Such an error does considerable violence to the integrative thrust of the program Sapir and Whorf shared with Boas as they worked with him to create the modern disciplines of anthropology and linguistics. Boas (18), carving out an intellectual rationalization for anthropology as a science, argued for attention to the "unconscious patterning" in language as a guarantee of objectivity regarding "fundamental ethnic ideas," as a source of relatively pristine evidence of areal-geographic connections between peoples, and as evidence for the organization of categories in thought itself, in both culturally specific and universal senses. Sapir's famous "different worlds" quotation appears in a frankly polemical context, in an address in which he argued for the necessity of a linguistic component in the social sciences. Against the trend of his times, Sapir moved increasingly away from viewing language, culture, and personality as autonomous systems. In the

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[7] Compare Antonio Gramsci (78:323), who like Sapir, was influenced by the philosopher Benedetto Croce.

[8] See Alford (2) for a lucid history of the hardening of intellectual positions on Whorf during the 1950s.

middle 1930s, during the period when he moved to Yale University to attempt the founding of a broad interdisciplinary program in the social sciences (38), he appeared rather to regard such a view as an unfortunate consequence of the intellectual immaturity of the disciplines of linguistics, anthropology, and psychology, respectively (see 190:592). Like those of his teacher Sapir, Whorf's writings cut against the grain. In an era when a leading figure suggested in the pages of the *American Anthropologist* that much could he accomplished without fluent knowledge of a field language, Whorf insisted on the continued importance of language difference—particularly difference in grammatical patterning—to ethnography.

Almost invariably, textbooks and reviews refer to a "Sapir-Whorf Hypothesis." Yet, just as the Holy Roman Empire was neither holy, nor Roman, nor an empire, the "Sapir-Whorf Hypothesis" is neither consistent with the writings of Sapir and Whorf, nor a hypothesis. As Grace (77) has pointed out, the rhetoric of "hypotheses" and "variahles" makes sense only within a view of language as a map of nonlinguistic reality. From such a point of view, Grace suggests, it is impossible to understand Whorf's work as anything other than a sort of failed attempt at a hypothesis. Yet such a view of language is hardly found within linguistic anthropology, rendering mysterious the universal perpetuation of this representation.

Note, however, Schultz's caution against a monological assimilation of Whorf's work to any single modern point of view. Schultz (194) holds that positivist science and literary interpretation were in profound tension in Whorf's writings, and suggests that attempts to assign them entirely to an "interpretive," "social-constructionist," or "ethical" tradition [as in the work of Fishman (56), Alford (1,2), and Grace], is as wrong-headed as attempts to read Whorf only as a scientist. Schultz argues for a Bakhtinian interpretation of Whorf's work as a polyphonic (and even paradoxical) dialog between the voices of positivistic science and poetic interpretation.

It is wrong to believe that the idea of language, culture, and thought as separate variables is somehow validated by the well-known insistence of Boas and Sapir on the separation of race, language, and culture. Statements like Sapir's (183:218–19) that "the drifts of language and culture [are] noncomparable and nonrelated processes" have no direct relevance to any hypothetico-deductive "operationalizing" of a hypothesis of linguistic relativity. Instead they argue against a contemporary tendency to naively assign "language" and "race" to archaeological remains. Further, Whorf did not use hypothetico-deductive language; nowhere does he speak of "dependent" or "independent" "variables," although his mathematical training would have made him thoroughly familiar with such locutions. Instead, the "linguistic relativity" of Boas, Sapir, and Whorf is an axiom (cf 2:87). As with other working assumptions, such as "the arbitrariness of the sign," it can only be judged on the basis of the extent to which it leads to productive questions about talk and social action (61), not by canons of falsifiability. Yet the Boasian tradition does not pre-

clude subcultural universals, as Boas and Sapir implicitly and Whorf explicitly recognized. Nor does it exclude cross-cultural and cross-linguistic laws of patterning. The modern debate over "linguistic relativity" has consistently confused assumptions with research findings, axiom with hypothesis.

In a narrower sense, however, a set of claims is being advanced: that grammatical categories, to the extent that they are obligatory or habitual, and relatively inaccessible to the average speaker's consciousness, will form a privileged location for transmitting and reproducing cultural and social categories. Grammatical categories will play a key role in structuring cognitive categories and social fields by constraining the ontology that is taken for granted by speakers. Such an approach is hardly unique to linguistic anthropology. It has been proposed independently of the Boasian tradition by philosopher W. V. O. Quine (169; see also 137) in his declaration that "entification begins at an arm's length," influenced by syntactic category and definiteness. A substantial body of experimental evidence supports the critical role that major syntactic categories play in the acquisition of word meanings (22, 73, 109, 141, 148, 219, 231, 232). The narrow interpretation of the Boasian tradition would also fit well with a theory of "structuration," of the sort proposed by Giddens (74:121), in which structure is at once an emergent property of social interaction and constitutive of the interaction. Grammatical categories would structure the cognitive and social fields at the same time as they are themselves the sedimented outcome of long histories of interaction (cf 45). Linguists working on the discourse basis of syntactic categories (e.g. 70, 92, 93, 94, 224) have begun to explore the process of category formation, though strategically underplaying the importance of hard cognitive constraints. Anthropologists have explored how grammatical categories project social positions and relations, especially for the pragmatics of person (48, 49, 59), and the types and hierarchy of social agents (9: Ch.4; 45, 199, 205). The processes by which grammatical categories structure cognitive and social fields, or "Whorfian effects" (112, also 96), have not been tied into an integrated theory, both because of disciplinary boundaries and because the scholarly folklore has diverted attention from the narrow interpretation of Whorfian effects proposed above. The following section illustrates Whorfian effects, using a familiar example.

WHORFIAN EFFECTS: ENGLISH GENDERED PRONOUNS

The structure of gender in the third-person pronouns of English provides a politically saturated example of a Whorfian effect. Although they make up a relatively small part of the way gender distinctions are reproduced through the language, the third-person pronouns have received disproportionate attention as the focus of conscious prescriptions since late in the 18th century. The example illustrates the complexity of interaction among the tacit structure of the categories, the cognitive prototypes associated with each category, the

pragmatics of their use, grammatical prescriptions, and the tacit cultural frameworks and explicit ideologies associated with the categories. The gendered pronouns of English have been the focus of conscious prescriptions for at least 200 years, so they also illustrate the complexity of interaction between conscious domination-and-resistance and tacit hegemony. This summary draws especially on research by Waugh (230) on the categorial hierarchy of the system, McConnell-Ginet (157) on prototype effects for incumbents of roles designated with related gendered categories, Bodine (19) on the history of prescriptive responses to the category system, and Silverstein (202) on the interactions among grammatical structure, pragmatics, and ideology. (See also 20:93–98, 32:218–24, 116, 150–152, 155, 209, 214.)

Figure 1 uses the non-object, nonpossessive forms to stand for all personal pronouns. The + value for each feature is the defining feature of the opposition and the more focused semantically. The Ø feature is systematically ambiguous, between an interpretation in which the + value is denied (a "–" value) and an interpretation in which it is merely not asserted. From a structural point of view, *she* has the interpretation [+FEMALE], while *he* can be understood as either [ØFEMALE], with no assertion of gender, or [–FEMALE], that is, "male." Each feature that is higher in the tree sets up a context for an obligatory choice between values of the feature that is one step lower.

A focal property of the system in Figure 1 is that *he* can be used in an indefinite sense (the default value or "Ø-interpretation") (when the sex of the referent is unknown or irrelevant), or in an inclusive, generic sense, as in *Everyone in New York State is entitled to an abortion if he wants it* (example from 230:305). The problems with setting the default value to "masculine" are well known: Each pronoun indexes a category that is associated with a cognitive prototype or paradigmatic instance. The paradigmatic instance of *he* (ex-

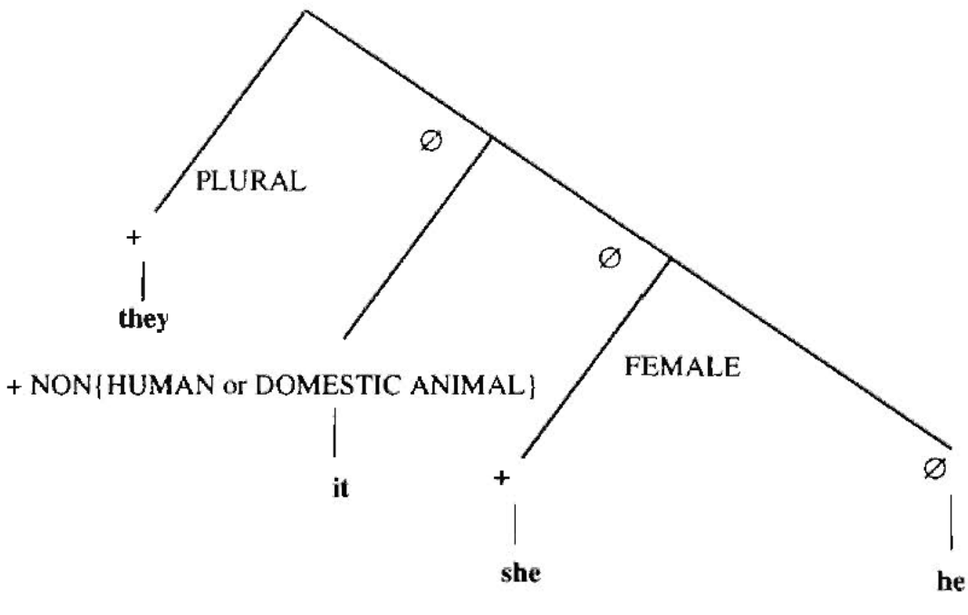

Figure 1 "Traditional" categorial distinctions in third-person pronouns, English

cept in the example above), of course, is male. Even generic uses of *he* evoke a male prototype. In addition, for pragmatic reasons, "indefinite" *he* will normally be interpreted as male. These associations are made habitually by speakers, below the threshold of consciousness. Here is a straightforward Whorfian effect, in which the structure of a system of grammatical categories affects the social ontology posited by the speakers.

Prescriptive remedies for the difficulties that these associations produce were suggested as early as the late 18th century (19, 8:190–216). No fewer than 65 neologisms have been coined for a neuter singular pronoun since the middle of the 19th century. Among other options, for political reasons many speakers adopt *they* as a neuter singular. For theoretical or political reasons, some speakers choose to use *she* in a generic interpretation, and some alternate between the *he* and *she*. The most common solution is to use *they* as a neuter singular. This has always been a pragmatic option available to speakers who were choosing to conceal the sex of the referent. Other speakers have been socialized exclusively to a pronoun system in which the default third person pronoun, singular or plural, is *they*—a system distinct from, and probably older than that in Figure 1. Use of singular *they* was attacked by prescriptive grammarians in the middle of the 19th century. [A British Act of Parliament prohibited the usage within that body, requiring use of the generic masculine instead (19:131-33)!]

Prescriptive suggestions for a neuter or gender-inclusive pronoun include using *it* to refer to humans. This proposal probably fails because the distinction between *it* and the other third person pronouns projects a more deeply ingrained cultural postulate than the distinction between plural and nonplural, a distinction between humans (and some domestic animals) as potential social agents and all other referents of nouns. To maintain a culturally more central distinction in the pronoun systems, many speakers of English are giving up (or have given up) a more peripheral distinction (cf 119:169-70).

The example shows how a system of obligatory grammatical categories has cultural implications. The system naturalizes and reproduces categories of social action. The articulation of the grammar of pronominal gender with the categories of humanness and social agency stabilizes the grammatical representation of gender by restricting possible changes of the grammatical system and, in turn, the system of cultural reproduction. The directness of the Whorfian effect is partly obscured by the tension between internal determinants and external normative pressures, both establishing and eroding the generic masculine (202). Although it is an arena of conflict, the category system continues to function in everyday contexts even for speakers who are examining and purposefully remodeling their behavior, for, even as one part of a category system is brought into conscious contention, other parts remain in place unchallenged. The category system creates a particular cultural hegemony, the unquestioned acceptance, by both men and women, of men as a normative, unmarked category of person (cf 163). The hegemonic structure is reproduced below the

speaker's threshold of awareness, unconsciously, but is challenged from above the threshold of awareness, consciously. The different systems move back and forth across the threshold of consciousness, occasionally emerging into direct, purposive conflict.

RETHINKING THE "SAPIR-WHORF HYPOTHESIS"

We turn now to a review of the most recent major readings of the work of Boas, Sapir, and Whorf. Most of this scholarship deals primarily with the writings of the latter, although the work of Sapir has been of special interest for Friedrich. The main source for interpretations of Whorf is the posthumous collection by John B. Carroll (236), especially, "The relation of habitual thought and behavior to language" (234), the only essay that Whorf prepared in his lifetime for an audience of fellow linguists.[9] Before turning to the work of other scholars, we begin with a favorite emphasis of our own.

Boas, Sapir, and the Significance of Sound Patterning

Lucy states that nowhere did Boas "give detailed discussion or exhibit much enthusiasm or conviction about the possibility of language influencing thought" (131:81). This ignores one of the most penetrating discussions of such influence in the history of linguistics, Boas's 1889 article "On alternating sounds." [An important discussion of the significance of the paper is found in Stocking (211).] The relationship between sound patterning and sound categorization was also the site both of Sapir's most significant contributions to modern structuralism and his most convincing evidence for the relationship between linguistic and cognitive patterning (185, 186, 189).

Boas (17) showed that the apparent instability or alternation of sounds in American Indian language data illustrated not the imperfections of primitive languages but the fact that even trained scholars could not reliably hear a system of sound distinctions different from that in their own language. Boas thereby foreshadows one of the most profound lessons of Whorf's work: that the languages of Western scholars, as much as any others, impose their patterns on their speakers. Boas points out the embodied and habitual nature of sound production: As speakers master production and perception, they simultaneously formulate a classification to which new sound types are assimilated. Werker (233) has shown that exposure to a native language shapes phonetic discrimination early in life. While all children are born with the potential to make any kind of sound discrimination that is possible in a human language, between six and twelve months of age their ability to make discriminations that are not present in their native language is sharply reduced. This reduction

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9 Space precludes careful attention to recent reconsiderations of Whorf's analyses of Hopi. See 130, 142, 143, and 229.

is not a loss of auditory sensitivity but a "language-based reorganization of the categories of communicative sounds" (233:58), and may be related to the infant's developing comprehension of the native language. These phonological effects are instances of "categorical perception," in which linguistic categories establish thresholds that regulate perception (112; 96:381; 83a). Kuhl et al (118a) show that the phonological effects of categorical perception can be observed in infants as young as six months old.

Sapir's concept of "phonemic" pattern specified with great precision the systemic source of the categorial effects identified by Boas: the "inner configuration" of the sound system within which sounds acquired functional significance, expressed in patterns of phonotactic distribution, conditioned variation, and contrast. Sapir argued that categorization and formal patterning in phonology were aesthetic experiences for speakers, forms of "art" where the pronunciation of a sound was like the accomplishment of a step in the dance (Sapir 185:35). This recognition of an aesthetic "form-feeling" for language foreshadows a contemporary concern with sound patterning as a significant and neglected form of human experience, a concern to which we return below.

Lucy's Reformulation

John Lucy (131–133, 136) has attempted to breathe new anthropological life into the "hypothetico-deductive" reading of Whorf, thereby challenging our contention of the unlikely nature of such a project within today's linguistic anthropology. His concern is an operationalization of a "Whorf hypothesis" that is consistent with Whorf's own linguistic practice. Lucy complains that previous hypothetico-deductive work has moved from its Whorfian roots by decentering "language" in favor of "cognition," making the former a dependent variable. Lucy (131, 132) emphasizes that implementation of Whorf's analytic project requires recognition of linguistic patterning on a large scale, as in Whorf's demonstration of the habitual ways of speaking about time as an "entity" in European languages. This example shows that covert and overt principles of categorization in language may exhibit multiple unexpected linkages, and we cannot understand the impact these may have on a speaker's categorization of experience until their complexity is fully grasped. Lucy also attempts a new conceptualization of Whorf's term "reality," in order to avoid a naive realism that almost invariably turns out to be ethnocentric. Lucy (133) argues that "reality" must be explicitly "linguistic reality," defined against a universal grid, such as Silverstein's (205) referential hierarchy of types of noun phrases. Further, Lucy argues that a genuinely "Whorfian" ethnolinguistic project must be rigorously comparative, identifying the full penetration of particular linguistic patterns in at least two languages and comparing their impact on speakers.

Lucy's research, comparing Yucatec and English, focuses not on culture [although he praises Whorf for attention to the cultural resonances of grammatical patterning (131, 132)] but on thought, which he understands as an

"autonomously constituted cognition" (131:83). Lucy (133) finds three major types of noun phrases in both English and Yucatec, characterized in terms of universally applicable noun-phrase features: Type A [+ANIMATE, +DISCRETE], Type B [−ANIMATE, +DISCRETE] and Type C [−ANIMATE, −DISCRETE]. English grammar requires pluralization of Type A and Type B noun phrases, while Yucatec grammar does not require pluralization at all. Instead, the grammar of Yucatec requires "unitization" (the process seen in English "a," "the," and "piece of") when noun phrases are counted. Analyzing descriptions of line drawings by speakers of the two languages, Lucy confirmed that the grammatical patterns are in fact reflected in ways of speaking, at least in the experimental context. Experiments using recall and sorting showed that English speakers were more likely to be sensitive to number than to substance, while Yucatec speakers were the opposite. Lucy argued that this result was related to linguistic patterning: English speakers presuppose unity centering on form, and find number changes interesting and noticeable, while Yucatec speakers presuppose substance and are thus somewhat indifferent to number; this is consistent with their characteristic grammatical strategy, which is not pluralization of units, but unitization of substances.

As groundwork for his own study, Lucy (132) develops a series of critiques of earlier studies of linguistic relativity (also see 96:379–81), which we exemplify with his discussion of research on color terminologies, a body of work that is often said to have accomplished a "universalist" refutation of Whorfian "linguistic relativity" (14, 111, 113, 140, to list only a few landmarks in an enormous literature).[10] Lucy's (132) important new contribution to a critical tradition (cf 84, 85, 153, 180, 238) argues that the "universalist" results of this color-terminology research are largely consequences of conceptual and methodological choices. First, researchers on color terminology equate "thought" (represented as acts of categorization and memory) with "processing potential," in contrast to Whorf's own emphasis on the actual and habitual. The operational goal of strict comparability across subjects and languages forces a reduction to decontextualized and purely denotational usage. Individual lexemes are studied without reference to their grammatical properties or structural relationships in the lexicon. Lucy argues that precisely the domain of investigation, "color," with its parameters of hue, brightness, and saturation, is constructed within the English language. Many languages in fact have no general word for "color." The imposition of this English category renders impossible the identification of other categories and parameters, for instance the Hanunóo dimension of "reflectance" or the Zuni distinction between yellow as a result of process and yellow as intrinsic. Finally, and consistent with a general tendency in cognitive psychology, cross-cultural similarities in the experimen-

10 Lucy also develops a critique of the problematic work of Bloom (16) comparing Chinese and English counterfactuals. (See also 6, 7.)

tal results are referred not to possible methodological artifacts or to patterns of communication in the research task (cf 71, 135) but to biopsychology. Thus language becomes the dependent variable, and the initial "Whorfian" trajectory of color research is reversed. Lucy does credit this tradition for serious attention to methodology, and it continues to be an important site for research on categorization (cf 138, 139, 140).

Cognitive Linguistics and the Large-Scale Structure of Language

In the last decade "Cognitive Linguistics" (linked to some degree with linguistic work in "Cognitive Anthropology") has developed two dimensions of the neo-Whorfian research program recommended in Lucy's programmatic statements: exploration of the large-scale patterning of grammar in particular languages, and the development of a theory of linguistic cognition. Most so-called "cognitive linguists" see their project as emerging from contemporary theoretical linguistics, but in self-conscious opposition to a number of important assumptions of the latter (cf 36, 50, 55, 103, 120, 125–127, 164, 181, 216–218, 237).

Cognitive linguists take formal linguistic discontinuities to index underlying conceptual discontinuities. Thus, the boundaries of denotation of a linguistic element are held to coincide with the boundaries of a cognitive schema (23, 34, 54, 120, 170, 215, 242). Chafe (27) has suggested that intonation units may be surface indices of the packaging of consciousness in short-term memory (see also 240, 241). Strauss (213) suggests that syntagmatic continuities and discontinuities at the thematic level in argumentation and narration may suggest underlying continuities and discontinuities in the organization of cognitive schemas. Langacker (125, 126, 127) argues that such schemas take the form of images. G. Lakoff (120, 122–124) has argued for the pivotal role of metaphor in constituting cognitive schemas. Lakoff argues that his invariance hypothesis—"Metaphorical mappings preserve the cognitive topology [that is, the image-schema structure] of the source domain" (121:54; cf 24)—allows his metaphorical models to be linked to Langacker's grammatical images, with the latter characterizing the topology of source domains.

While cognitive linguists have admitted that their work can be linked to the Whorfian tradition, they have not emphasized cross-linguistic relativity (but see 120:304–37). Instead, Langacker (125) points out that although his grammatical theory clearly permits the possibility that the habitual ways of speaking in different languages are organized around different systems of imagery, he believes that the actual behavior of speakers reflects a constant shifting of point of view, rather than construction of a few habitual images. Kay (110) has also urged attention to the fact that a language can encode more than one point of view at a time, as with the "Fregean" implications of the English hedge "loosely speaking" (which implies that there exists a form of speech that is

"exact" vis-à-vis the world), versus the "Putnamian" implications of the hedge, "technically" (which suggests a "baptism" of appropriate usage by experts).

Cognitive linguists have not been much interested in culture. Quinn (172) attacks Lakoff for neglecting the cultural locus of metaphor. She finds that eight metaphors virtually exhaust the figurative strategies used by American English speakers she interviewed about marriage. She suggests that this occurs because their choice of metaphors is motivated by a cultural scenario about marriage, not by underlying image schemas rooted in bodily experience of space. The cultural scenario, not the metaphors themselves, plays a constitutive role in representations of, and reasoning about, marriage. Quinn suggests that cultural differences are only understandable if this is the case: The knowledge of cultural scenarios is shared, but, unlike bodily image schemas of the type suggested by Johnson (105), it is not universal.

Friedrich (67, see below) and Turner (227) criticize the single-mindedness with which both cognitive linguists and interpretive anthropologists have concentrated on metaphor to the exclusion of other forms of figuration. Turner turns several classic studies on their heads by showing that the narrow focus on metaphor mystifies the semiotic figuration of social forms such as totemism. His study and Friedrich's (67) theory of interlocking master tropes have the potential of transforming the analytical apparatus of cognitive linguists into a framework of sufficient power to elucidate cultural figuration.

Slobin (206, 207) endorses a limited neo-Whorfian position that derives from explicitly comparative study. In a cross-linguistic survey of children's narrative strategies using pictures as stimuli, Slobin and his colleagues found that from an early age children who speak different languages talk about identical pictures quite differently, in a way that seems to reflect habitual ways of encoding experience in their languages. Slobin suggests that many distinctions used by speakers (such as aspect, definiteness, and voice) seem to have no function other than to be expressed in language: They are not present in experience. Slobin endorses the Whorfian position that languages are not neutral coding systems, but instead are "subjective orientations" to experience. Nevertheless, he proposes that these orientations may be limited in their impact, active only while we are "thinking for speaking."

Cognitive Linguistics is often vulnerable to the critique of "linguacentrism" (132). Rather than relating patterning in language to patterning in nonverbal cultural or cognitive practice, linguacentric research relates a pattern in one form of linguistic organization to a pattern in another. Thus in Slobin's work the independent variable is grammatical patterning, while the dependent variable is narrative strategy. These are both "linguistic" phenomena. Supposed "cultural" scenarios, as in the work of Quinn (170–172) or Sweetser (215) are based entirely on linguistic evidence, with no nonverbal attestation of these generalizations. Where "cultural" evidence for a frame or scenario is proposed, it is usually anecdotal, as in Fillmore's (53) example of children who were astonished to see an adult peel a grapefruit and eat it "like an orange."

Silverstein's Semiotic Reading of Whorf

In contrast to the tradition that organizes the study of the relationships among language, culture, and thought in hypothetico-deductive terms, the remaining "neo-Whorfian" work that we discuss is largely semiotic or interpretive. Although Silverstein (198, 200–203, 205) occasionally speaks of "science," he intends by this the conduct of linguistic analysis in rigorous comparative structuralist terms. He does not talk about "independent" versus "dependent" variables. Instead, he argues that "the total linguistic fact, the datum for a science of language, is irreducibly dialectic in nature" (202:220). Centering his work in Peircian semiotics, Silverstein places pragmatics and semantics on an equal footing, privileging the nonreferential, especially the indexical, functions of language equally with proposition and reference. Silverstein refocuses Whorf's "habitual thought and behavior" as "ideology" (also see 65, 222). "Linguistic ideology" enters into complex feedback relationships with pragmatic practice and grammatical form. In a related project, exploring the circumstances under which such feedback is especially likely or unlikely, Silverstein takes up Boas's interest in the relative "consciousness" of patterning in language and culture, developing preliminaries to a theory of sites for conscious reflection on patterning in language (201).

Silverstein (200) sees the suggestion of a systematic relationship between "the grammatical structure of the language" and an "ideology of reference, an understanding at the conceptual level of how ... language represents 'nature'" (p. 202), as Whorf's most significant contribution. Silverstein argues that Whorf's insight is crucially dependent on his development of a new inventory of analytic tools (especially, the distinction between overt and covert grammatical categories) through which grammatical systems can be rigorously identified. Once identified, systems of grammatical categories can be seen to be "referentially projected" by speakers to produce "objectifications," notions like form, substance, time, and space. These are rooted in complex continuities and discontinuities in the structure of language, but are attributed by speakers to the nature of experience.

Silverstein's research goal is to generalize Whorf's insight "from the plane of reference to the whole of language function" (200:94). He argues that Western linguistics has tended to reduce all semiosis to reference. The problem is then to reverse this ideological project by developing a fully scientific and comparative theory of language function, which will recognize that indexicality, not reference alone, lies at the core of language use.

Silverstein has explored the empirical implications of his theory in several case studies: of speech act theory as a manifestation of English linguistic ideology (200), of Javanese honorifics in pragmatic and linguistic-ideological perspective (cf 48, 49), of the linguistic ideology of gender in English (202), and of the pragmatic ideology of Chinookan (203).

Rumsey (179) develops Silverstein's ideas in a particularly suggestive ac-

count of the interaction of structure, usage, and linguistic ideology. In English, he identifies at least two grammatical patterns that distinguish "wording" from meaning: the grammar of reported speech, which distinguishes direct discourse (faithful to wording) from indirect discourse (faithful to meaning); and the distinction in textual cohesion, identified by Halliday & Hasan (80) between reference, the use of discourse anaphors that implicate identical meaning (as in "Raylene told her very best friends. Then Bruce told them"), and ellipsis, a text-forming relationship that implicates identical wording (as in "Raylene told her very best friends. Then Bruce told his"). English linguistic ideology distinguishes meanings, properties of the world, from wordings, properties of talk. In contrast, in the Australian language Ungarinyin there is no distinction between direct and indirect discourse (and, in fact, the representation of "locutions" is not clearly distinguished from the representation of propositional attitudes such as wants and beliefs). Nor is there a formal distinction in Ungarinyin textual cohesion that might distinguish wording and meaning. Ngarinyin people, when discussing language, do not distinguish between talk and action, focusing instead on the social effects of words and seeing them as strongly connected with their referents. Rumsey suggests that the distinct linguistic ideologies of English speakers and speakers of Ungarinyin are closely linked to the formal patterning in these languages, mutually determining one another [although Rumsey hints that, since "a rudimentary formal opposition between direct and indirect discourse [has been present] from ancient times" (179: 357) in European languages, the linguistic pattern may be prior].

Perhaps the most probing and detailed working out of Silverstein's (202) proposal of an irreducible dialectic among structure, practice, and ideology is Hanks's (83) account of the relationship among the formal encoding of deictic elements in Yucatec, the practices of spatial reference among its speakers, and Yucatec cosmology. By characterizing reference as a form of practice, Hanks is able to develop a particularly subtle account of Yucatec usage. Hanks argues not only for the pragmatics of the referential, but also for the structure of the pragmatic, emphasizing that the effects of indexicality can be seen not as purely emergent but as schematized through the practice of speakers who repeatedly invoke indexical frameworks in accomplishing reference.

Ochs (161, 162) joins Silverstein in emphasizing the importance of the indexical functions of language: Such indexes can inculcate appropriate sociocultural dispositions in the course of language socialization (162:92; see also 193). Especially significant are indirect indexes. Ochs suggests that the contextual dimension of affect, along with the dimension of epistemological disposition (as manifested, for instance, in evidentials and hedges), are used cross-linguistically in the indirect indexical function, to constitute social identities and categories. Thus, Japanese affective usage (in the particles *zo*, *ze*, through which men express strong affect, and *wa*, through which women express hesitant affective disposition) indirectly constitutes gender. Samoan

evidential usage indirectly indexes the realm of phenomena about which one can speculate, precisely not including the thoughts and feelings of other people. Thus Japanese children acquire a folk theory about the aggressiveness of men and the gentleness of women, and Samoan children acquire a folk epistemology that characterizes other people's minds as inaccessible and perhaps socially irrelevant entities. However, Ochs (161,162) emphasizes that children are active participants in socialization, such that indirect indexicality is not irrevocably deterministic.

Friedrich's "Poetic Imagination"

The second major neo-relativist reading of the classic sources within the interpretive and semiotic fold is that of Paul Friedrich (62–64). Friedrich argues that Whorf's neglect of the unique individual and of poetic language reflects his scientific and pragmatic roots; Sapir, with his emphasis on the aesthetic feeling for language and on the genius of poets, can inspire a new kind of linguistic relativity. In a neo-Sapirian formulation the unique individual imagination must take a central place, alongside structure and context, in a new relativism that will give as much privilege to the relatively indeterminate and chaotic dimensions of language as to the dimensions of structure and formal constraint. A relativism thus configured, Friedrich argues, is likely to give deeper insights than one focused exclusively on grammatical patterning, since poetic language is the most important locus of differences between languages (see also 10, 11, 102, 221, 240).

In operationalizing (if this is the appropriate word for the project of a scholar whose linguistic practice increasingly takes poetic form; cf 66) his understanding of the poetic and indeterminate aspects of language, Friedrich (67) has recently proposed a theory of five master tropes, arguing that overemphasis on metaphor in anthropology is impoverishing our understanding of the figurative power of language. Of special interest for our topic is his suggestion that these imply characteristic "entanglements" with extra-linguistic understandings. Thus "image tropes" resonate with primary senses of qualities, such as the sense of redness. Tropes of mood are involved in the emotional and epistemological foundations of understanding. Formal tropes resonate with the formal and statistical properties of the world, as in fractal forms. Metonymic tropes are particularly "political," engaging with part-whole relationships in nature. Analogical tropes (these include metaphor) create new relationships among language, thought, and reality.

The figuration of language extends to the iconics of sound itself. Languages vary in the degree to which they exploit sound icons. They may do so both at the systematic paradigmatic level and at relatively inchoate levels that cannot be characterized in systemic-linguistic terms, yet may have clear resonance with affective and cognitive patterning among speakers. Recent studies of such phenomena are available (e.g. 9:Ch. 4; 42–44, 52, 146:Ch.8; 160, 220). These studies, which find that sound patterning resonates intricately with conceptual

patterning, evoke the early Boasian work on sound configuration and cognition (see above and 182, 188). Here the configurations are loose associational networks, rather than closed paradigms.

By studying relatively indeterminate dimensions of language and culture, they also present the sharpest challenge to date of the assumption, shared by cognitivist and interpretivist alike, that pattern consistency pervades cognitive and cultural systems. Studies like these, along with those of DeBernardi (40), showing how Malaysian Chinese religious practices fail to synthesize into a single self-consistent master discourse, and of Leavitt (128) on the emotionally charged, linguistically marginal "infralanguage" of Kuamani spirit possession, effectively rescue their ethnographic subjects from an overly focused emphasis on intellectual order and open up the possibility of exploring the more chaotic and inchoate sides of language and social life.

Sherzer's "Discourse-Centered Approach to Language and Culture"

Building on Hymes's development of Whorf's notion of "fashions of speaking" (97, 98; also 100, 101), Sherzer (196) challenges the priority of "grammar" in favor of "discourse." Sherzer suggests that a "discourse-centered approach" will move away from the virtual patterning of grammar, constituted by difference, or by large-scale patterning of covert and overt categorization, toward a more concrete and immediate domain, about which he is deliberately vague. However, among the major meanings of "discourse"—patterning beyond the level of the sentence, Foucaultian systems of rarefaction and restriction that are ideologically constituted, and emergent, immediately contextualized and contextualizing, linguistic usage—Sherzer aligns himself with the last. He argues that to center linguistic anthropology in discourse, "the broadest and most comprehensive level of linguistic form, content, and use" (Sherzer 196:305), "enables us to reconceptualize the Sapir-Whorf hypothesis, because "discourse ... is the nexus, the actual and concrete expression of the language-culture-society relationship. It is discourse which creates, recreates, modifies, and fine tunes both culture and language and their interesection ..." (Sherzer 196:296).

Sherzer finds these processes to be most vivid in artistic and poetic speech. This emphasis links the "discourse-centered approach" to the work of Friedrich, but there are also important differences: The poetic tradition elaborated by Sherzer (196, 197), Urban (228), and others such as Caton (25, 26) is the formal one, centering on Jakobson's theory of parallelism, while Friedrich emphasizes the unstructured, chaotic, and emergent. Urban (228) sharply problematizes "individuality" as a cultural phenomenon, while Friedrich gives "individualism" independent theoretical privilege as the site of "imagination."

In addition to Sherzer's own illustrations, an example of this kind of approach is Mannheim's (145) study of semantic parallelism in Southern Peruvian Quechua verbal art, which finds that verbal art plays a role essentially

similar to grammatical categories in the Boasian tradition. Semantic parallelism constrains the variability of word meanings by ensuring that they are learned relationally, rather than individually. Ramanujan (172a, 173) finds an entire landscape taxonomy embedded in the classical Tamil poetic tradition, reproduced through poetic imagery, and mapped onto an affective "interior landscape." From the position of a ritual novice, Trix (226) shows how Bektashi Sufi ritual knowledge is transmitted through, and shaped by, the poetry that is its vehicle. Verbal art is thus a medium through which lexical meaning, imagery, and religious knowledge are reproduced and transmitted, sometimes by the conscious appropriation of a poetic tradition and sometimes by the unconscious appropriation of the resources of a linguistic code.

The most elaborate conceptualization and exemplification of the discourse-centered approach is developed by Urban (228). Urban argues that discourse must have priority over culture conceived as an abstract system of meaning, because discourse is public, and because it is both sensible (actually occurring and manifested in sound distributed in space and time) and abstract and intelligible (in that speakers must interpret moments of discourse based on historically specific networks of stylistic similarities and differences). In Shokleng, a language of Brazil, speakers have ideologized stylistic similarity and difference. Their ideology of historical continuity is expressed in close similarities between myth recitations by different speakers over many years. Their emphasis on similarity at the level of discourse, Urban suggests, is accompanied by a high tolerance of difference at the level of grammar and lexicon; this latter finding challenges Silverstein's (201) suggestion that ideological attention will be focused on maximally segmentable and referential linguistic elements. The Shokleng ideology of continuity and similarity contrasts with an ideology of continuity and difference in the Northwest Amazon. Pascal Boyer (21) also posits a communicative basis for cultural tradition. Both Boyer and Urban place the concrete moment of discourse at the center of analysis, but only Urban develops a sense of the intricate dialectic between what is "sensible" and what is "intelligible." Urban's emphasis on the "sensible" is related to the exploration of the concrete power of figures of sound reviewed above.

CONCLUSION

An era in which the study of the relationships between patterning in language and patterning in other dimensions of human knowledge and experience emphasized universal relationships is giving way to a more balanced distribution of scholarly attention. Now those relationships constructed within the terms of particular languages and cultural systems of usage and ideology can be approached with new sophistication. This sophistication includes increasing openness to universals among those influenced by a tradition of "axiomatic relativism," balanced by a healthy critical attention to the cultural foundations of linguistics itself. It includes careful studies of the roots of the relativist

tradition by a wide range of scholars, shaping new research programs. It joins an appreciation for cultural persistence to increasingly sophisticated conceptualizations of the contested and historically contingent nature of cultural knowledge and its reproduction. It moves away from a rigid dichotomization of structure and practice, focusing instead on their complex interactions.

Sapir (184:153) stressed the "formal completeness" of language, in which "all of its expressions, from the most habitual to the merely potential, are fitted into a deft tracery of prepared forms from which there is no escape." It is because of the formal completeness of languages that they seem so compelling to their speakers and become powerful vehicles for the reproduction of cultural knowledge and social relations. No doubt we write this review prematurely. In the next few years new empirical work, framed within new syntheses of the diverse strands of neo-relativist thought, will help us understand how language shapes, and is shaped by, the nature of our knowledge.

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