ON DISTINGUISHING LANGUAGE-LINKED SEMANTICS FROM CULTURAL KNOWLEDGE

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A still popular anthropological usage - that of referring to 'persons-in-the-culture' - has the effect of making 'culture' nearly synonymous with 'society'; it may well have been originally motivated by the fashion of focusing attention on those aspects of culture in a given society that are shared by persons in that society. This fashion or perspective continues and thereby coexists with a new fashion or perspective, according to which 'culture' is equated to 'cultural knowledge'. This partly - rather than entirely - parallels the recent practice in linguistics of describing language in terms of interiorized knowledge. For different reasons, anthropologists now occasionally pair 'language' in the singular with 'cultures' in the plural when characterizing a given society, or even more than one society.

Some anthropologists regard the language in a society to be a relatively monolithic, relatively autonomous object of study. The culture in the same society can never be regarded as quite so monolithic or autonomous, since at the very minimum of cultural differentiation - for the most culturally homogeneous society - there is always a division of labour between men and women, and this entails a division of cultural knowledge. Hence more than one culture exists even in an egalitarian society in which a single language is spoken; and complex societies are for the most part plural societies.

Some anthropologists regard personality to be inextricably associated with selection among cultural roles that are available in a particular society; but it must be admitted that the language of the same society can be analyzed without reference to individual differences. Individual or idiolectic differences are taken to be superficial because they do not reflect differences of interiorized knowledge of the grammar among speakers of the same language. Hence, any willing

speaker can serve to exhibit such interiorized knowledge anywhere - i.e.,
at home or away from home. But no single informant away from home can
be expected to provide adequate information about the different kinds
of cultural knowledge that are selectively interiorized by others who
play different social roles from his own in his native society.

Knowledge of different ecological niches in the total land use of
a given society is likewise unevenly distributed among persons-in-the-
culture. Thus, an ethnographer might have to find different Hopi
individuals to obtain answers to many questions relevant to land use
beyond the villages and their associated farmlands, as (1) how to
identify edible and medicinal desert plants? (2) where to obtain
cottonwood roots and how to carve Kachina dolls from them? (3) where to
find trees suitable for house beams and how to organize a party to
transport them to the village? Some Hopi who have experience in going
off the mesas on gathering expeditions might lead the ethnographer to
desert plants; others might lead him to cottonwood canyons; still
others to the mountains in search of trees for making house beams.

On the one hand, 'ethnography at a distance' is necessarily
ethnography without ecology, and with little reflection of social role
variability, since it depends on sampling cultural knowledge from a
low number of persons-in-the-culture who are visitors or refugees,
away from the society in which they were reared. It would have been
impossible for Roy Rappaport to have obtained the information he
reported in his *Pigs for the Ancestors* by 'ethnography at a distance'
which, however, did permit Ruth Benedict to produce an extraordinary
ethnography of Japan (*The Chrysanthemum and the Sword*) without visiting
Japan. Her visit was precluded by the special circumstance of war;
'ethnography at a distance' is the kind of ethnography that is done
when there is no other option.

On the other hand, 'linguistics at a distance' is often regarded
as optional, so long as native speakers away from home are available.
When we worked briefly with a native speaker of Nukuoro who came to
visit in Hawaii, we realized that we were not as greatly disadvantaged
with this kind of 'linguistics at a distance' as we would have been had
we attempted to gain insights by 'ethnography at a distance' from a
single informant. This is surely relevant to the distinction between
'language' and 'cultures': a single native speaker of Nukuoro can
represent every native speaker's knowledge of the Nukuoro grammar more
reliably than he can represent the total range of cultural knowledge
of a couple of hundred Nukuoro now living on a far distant island
classified by anthropologists as a Polynesian Outlier.

For the training of graduate students in anthropology, 'linguistics at a distance' (with native speakers brought to universities to serve as informants) has flourished for almost three generations since Franz Boas initiated the practice; but Boas refrained from offering training in 'ethnography at a distance' with imported informants.

The main thrust of anthropological training and subsequent professional research in the Boasian tradition has consistently recognized the feasibility of approaching the language of another society 'at a distance', and the necessity - for the reasons already suggested above - of approaching its cultures by ethnography-on-the-spot. This same generalization is taken for granted by anthropologists working in other traditions, as, for example, those now investigating societies in Oceania. Here occasionally Neo-Melanesian or some other pidgin can be learned 'at a distance', even though speakers of the first or native languages of Oceanic societies are less commonly available away from their native societies. But, despite different traditions in anthropology, there is surprising unanimity in the avoidance of 'ethnography at a distance' and in the acceptance of 'linguistics at a distance'. In the Malinowski tradition of functional anthropology, as well as in the Margaret Mead tradition of accounting for the development of persons-in-the-culture (from their infancy when they acquire pre-adult cultures to their old age when they continue to acquire adult cultures), as well as in the British Social Anthropology tradition of accounting for the network of social relations, there is a common emphasis on observation and participation in field work. Hence, ethnography-on-the-spot is even more imperative, while attesting all cultural knowledge in the native language of the society is less imperative than in the Boasian tradition. And in the revival of the 'culture area and natural area' tradition in ecological ethnography, what a person-in-the-culture says appears to be less relevant than what he does.

Neo-Melanesian or some other pidgin is optionally used as a lingua franca for gathering most of the verbal information reported in Oceanic ethnographies. Two examples are representative of many: the ecologically oriented *Pigs for the Ancestors*, already mentioned, and the famous socialization ethnography of a generation ago, Whiting's *Becoming a Kwoma*. The ethnographers who wrote these books had the option of studying pidgin English 'at a distance'; both used pidgin English for most of their field work, and both became incipient bilinguals in the first language of the societies they were investigating only near the end of their investigations in New Guinea.

The question now arises as to why the definitional paradigm of culture which began before Victorian anthropology,

and is currently being debated in reactions to Marvin Harris' *Rise of Anthropological Theory*, fails to take cognizance of the basis for the rejection of 'etnhography at a distance', despite the acceptability of 'linguistics at a distance'.[1] Cognizance of this problem began to be taken only after mid-century. Before then, linguists generally accounted for the manifestations of language without reference to the anthropologist's definitional paradigm of culture while anthropologists generally listed language among many other cultural rubrics. Franz Boas distinguished language as the part of culture of which people have less conscious awareness than they have of the other parts of culture. Even the pseudo-reasons given by persons-in-the-culture for observing marriage rules, for refusing to tell myths in the summer, and the like, were said to be 'secondary rationalisations'; but, it was said, the same persons can neither state the rules nor give reasons for observing the rules that they actually follow in speaking their native languages.

Previous objects of study under the general rubric of culture were efficiently summarised by Kroeber and Kluckhohn in a score of enumerative definitions offered by representative anthropologists up to 1952. Language is explicitly included in only a few of the enumerative definitions; but in no single definition of culture is language deliberately excluded. The definitional paradigm that classified language as part of culture diffused to the other social sciences in the first half of the 20th century. Though the problem of stating just how language is related to 'the rest of culture' remained unresolved, the inclusion of language as one of the major rubrics of culture was not unmotivated. Its inclusion is crucial to any definition of culture which claims that though all humans have culture, other animals do not; its inclusion implies that whatever may be said about the biological basis of language may also be said about the rest of culture. Thus, it is virtually impossible to keep a human being from acquiring a language, but literally impossible to teach other animals to speak; hence, culture in its biological though non-verbal basis was also held to be uniquely human. The rejection of the notion that culture is the exclusive property of man is quite recent.

If all aspects of culture were species-specific for *homo sapiens* - as was maintained until mid-century - then of course language, as one part of culture, would also be so. But if - as appears to be the case in the second half of this century - culture is not the exclusive property of man, while language is demonstrably so, then the motivation for the definitional inclusion of language in culture is thereby weakened. But the difficulty of relating language to culture remains with us and, as we now think, has to be faced as a genuine difficulty -

a difficulty that must search for resolution in some other framework
than that of a definitional paradigm of inclusion (or of exclusion,
for that matter).

Anthropological discussion in the first half of this century was
inclined to regard apparent difficulties in the definition of culture
as apparent paradoxes, and then to seek some sort of definitional
consensus. Though a consensus might be reached, the paradoxes remained;
for example, man makes culture, but only after culture makes man. That
is to say, culture transforms a pre-human animal into a human animal -
'the passive porter of a cultural tradition' - whose behaviour is
guided by a design for living which pre-exists in the particular society
in which he is sexually recruited. Culture begins creatively since
'man makes himself'; but (after the creation) man is at the mercy of
culture. There is a whimsical paradox in all statements of this kind
in which man is viewed both as the creator and the victim of culture,
including language. Related to this, but even more difficult of
resolution, is another paradox. Although the grammar of a particular
language (as an object of study) can be explored in great detail without
reference to the culture`of the society in which the language is spoken,
the ethnography of a particular culture (as an object of study) cannot
be explored autonomously - that is, without reference to what is
verbalised in the society under investigation. Despite paradoxical
difficulties of this sort, Kroeber and Kluckhohn were able to arrive
at a definitional paradigm of culture that concludes, by mid-century,
an epoch characterised by a general consensus among anthropologists
whose differences could be stated as a mere matter of selecting what to
emphasize: different objects of possible study within cultural and
social anthropology.

Because most anthropologists had agreed to define language as a
part of culture, it did not seem anomalous to include linguists as
members of anthropology departments. At the beginning of the second
half of this century, Kroeber was able to say that every major
anthropology department in this country included a linguist on its
staff.[2] At the same time, the then rapidly expanding linguistic
departments never - or hardly ever - planned to have anthropologists
on their staffs. This non-reciprocal practical situation may in some
way reflect non-reciprocal theoretical expectations of the two
disciplines, especially in respect to the main object of study of the
other.

Language, as characterised in the Kroeber-Kluckhohn definitional
paradigm, is an object of study classified as one of the cultural
subfields among an ever-increasing number of others in anthropology.

The theoretical expectations that are (or once were) wholly acceptable in any special subfield of culture would then seem to be (or to have been) extendible to others. Examples of such shifting or extension of theoretical expectation or explanation from one subfield to another within anthropology are here designated as 'special theories' to distinguish them from 'general theories' which occur in broader frames of reference, as in bio-anthropology.

Since special theories relate one subfield to other subfields - of which there are many - they naturally outnumber general theories which are formulated to show some connection between apparently disparate or otherwise autonomous fields of study. Thus, the connection of protein structure to DNA, as related in Watson's *The Double Helix* and in Asminov's *The Genetic Code*, is a molecular-biological connection between the generally autonomous fields of biology and physics.

The formulation of special theories does not require the convergence of information from two apparently unrelated fields of study; but special theories do nevertheless involve the detection of previously undetected co-variance, or relationship of some other sort, between aspects of the same object of study or between interdependent subfields that may be traditionally studied by different specialists. Two examples follow in which special theories originating in the language subfield of anthropology have been extended to other cultural subfields - though confidence in the first of these is currently waning.

The first example concerns a special theory which was anticipated by the recognition of universal *phonetics* - empirically in connection with last century decipherment of cuneiform and hieroglyphic inscriptions, after being recognised as a possible concept since 1688. Selection of sounds from the whole repertory of human sounds was not enough to capture what Sapir called the psychological reality of the *phonemes* in a particular language; to capture that called for a phonotactic arrangement of the sounds which a particular language selected in order to distinguish their contrastive from their complementary distributions - a type of arrangement that turned out to be also applicable to morphology. This implied that phonemicising might be a prerequisite to further analysis of a language, and thereby led to the strongest claim in phonemic theory - namely, that the phonemes of a language could be determined without reference to other aspects of the language. Until autonomous phonemics came under a cloud of criticism in linguistic circles, it was quite popular in anthropology to analogise from the phonetic-phonemic distinction in the sounds of language to an etic-emic distinction in culture, with the theoretical expectation that the psychological reality of patterning in almost any

isolable cultural system - games with explicit rules, ceremonies with implicit rules, verbal arts and even social behaviour in part or as a whole - could be determined from the distribution of its cultural alternatives.

The second example concerns componential analysis, now flourishing with new vigour; it currently contributes to the understanding of semantic aspects in language, and to an appreciation of cultural knowledge that can be determined by folk-taxonomies. Under certain conditions both language-linked semantics and cultural knowledge of persons in-the-culture can be tested empirically - for the former, when semantic interpretations are validated by syntax; and for the latter, when lexical items from folk-taxonomies are shown to occur in sentences which explicate appropriate behaviour.

There is an interesting consequence of the lack of agreement as to whether or not language (the object of study for linguists) or culture (the central object of study for anthropologists) should properly be taken as autonomous fields of study. The consequence is a certain indeterminateness as to whether to formulate general theories (if language can be accounted for autonomously) or special theories (if language is part of culture). Both the title for the 1967 edition of Kenneth Pike's book, *Language in Relation to a Unified Theory of the Structure of Human Behavior*, and the fact that Pike is a linguist rather than an anthropologist, suggests that a general theory rather than a special theory is intended. In Pike's *Unified Theory* book, the model of the unified theory is taken from linguistics; in the case of the earlier *Patterns of Culture* book, discussed below, the model is taken from an existential philosophy of culture - without any reference to the languages of the societies.

A low number of linguists on whom anthropologists have been able to impress an enduring influence - as in the well known case of Malinowski's influence on Firth, and in the less known case of Franz Boas' influence on Leonard Bloomfield - have joined company with a large number of anthropologists who have been known to give serious attention to the formulation or contemplation of un-unified special theories that lay claim to revealing what holds language 'and' culture together (i.e., what holds language 'in' culture).
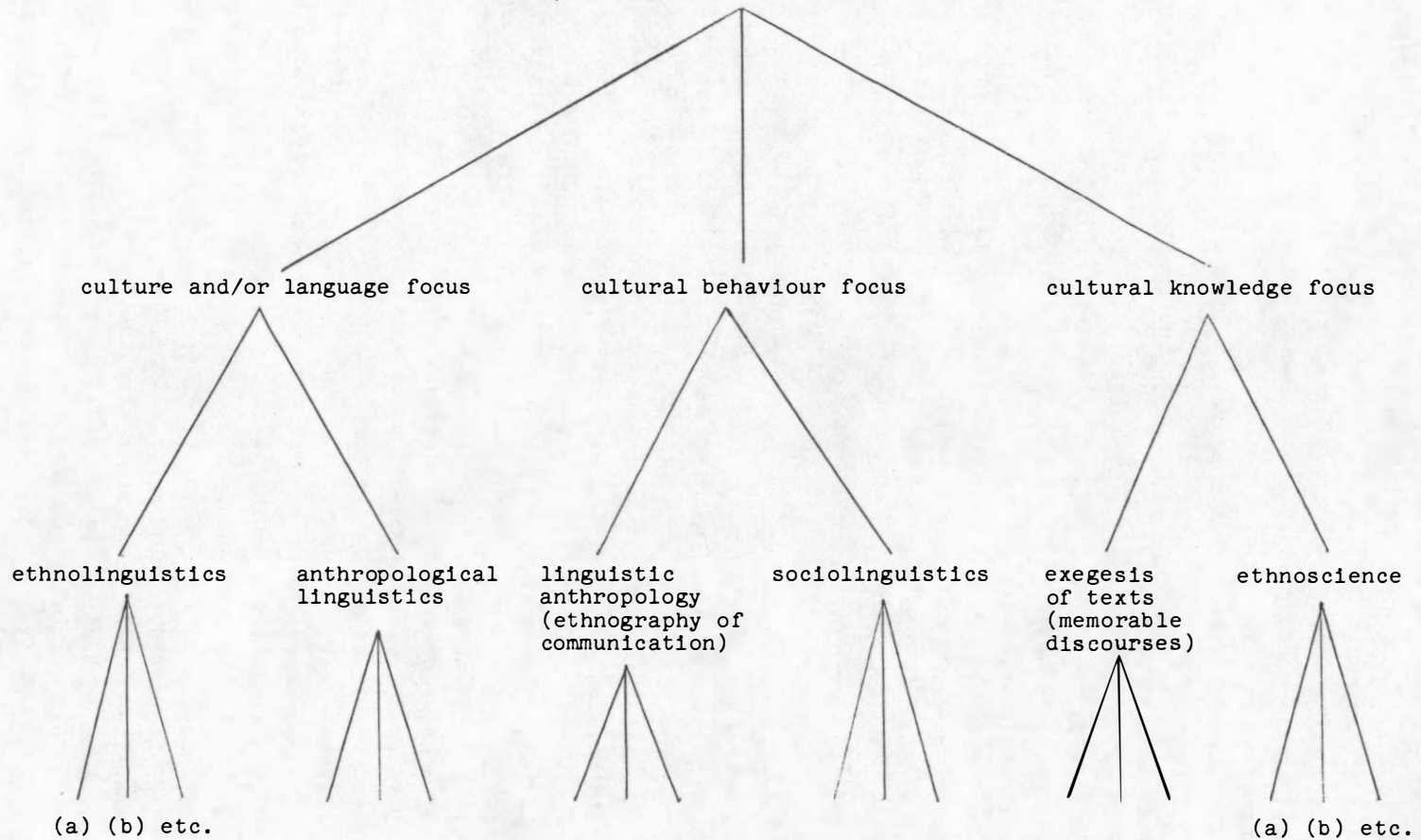
Such special theories tend to give rise to various subfields within psychology, sociology, and anthropology that are variously labelled and generally identified suggestively by their labels (except for *psycholinguistics*, which is discussed separately below). Thus, *sociolinguistics* suggests concern with a special theory of 'systematic co-variance of linguistic structure and social structure', but the same

subfield label also suggests an unrestricted inquiry into 'the relations between language and society'; these suggestions are explicitly stated by Bright and Lieberson, respectively. Sociolinguistics can be paired more or less synonymously with *context of [social] situations* or *Neo-Firthian* linguistics.

So also, there are synonymous or nearly synonymous labels - at least three pairs - which are widely used for subfields in anthropology: (1) *ethnolinguistics* or *anthropological linguistics*; (2) the recently launched but still largely programmatic subfield of *linguistic anthropology* or *ethnography of communication*; (3) *ethnoscience* or *the new ethnography* which is directly concerned with eliciting cultural knowledge from persons-in-the-culture. All three pairs of labels for subfields may be subsumed under a single cover-term such as sociolinguistics; or else, if sociolinguistics is taken in the narrower sense of the sociology of language, all may be subsumed under *pragmatic* or even *hyphenated linguistics*, since all deal pragmatically with interconnections of functions (in the Peircean sense) and since each label combines two terms which might be hyphenated. Instead of merging subfields in this way, some prefer to differentiate them; then each label is regarded as a homonym representing more than one subfield. For one example, *ethnolinguistics* may represent either (a) anthropological philology, as in the comparison of spoken Hopi, chanted Hopi, and words in Hopi songs, or else (b) folk-linguistics, as a special kind of folk-taxonomy in ethnoscience. For another example, *anthropological linguistics* can be used as a synonym of ethnolinguistics (a), above, but also used as the name of a subfield of linguistics (rather than of anthropology) in which a willing and highly sensitive native speaker works in collaboration with a linguist in a cooperative search for an intuitively acceptable grammar of a language without a long literary tradition.

The unnamed terminal nodes in the following tree diagram are meant to show that all the terms on the pre-terminal node level - from ethnolinguistics to ethnoscience - can be regarded as homonyms, each with a discontinuous referent range: (a), (b), etc.

pragmatic subfields of anthropology and
sociology that involve the use of language

culture and/or language focus   cultural behaviour focus   cultural knowledge focus

ethnolinguistics   anthropological   linguistic   sociolinguistics   exegesis   ethnoscience
                      linguistics   anthropology   of texts
                                           (ethnography of   (memorable
                                           communication)   discourses)

(a) (b) etc.   (a) (b) etc.

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Since the diagram as a whole represents subfields in anthropology and sociology, the search for interconnections of functions differs slightly according to the size of the society studied - generally small in field work done by one or two anthropologists, but generally large in field studies conducted by a sociologist in command of a staff. The latter makes more use of sampling techniques and statistical sophistication than of direct observation and participation. The results are nevertheless much the same, irrespective of the size of the society studied: language turns out to be a more or less reliable index of the interconnections among functions studied. And the interconnections, once detected, are often presented as a verification of some theory or hypothesis, or even as its expression - that is, an expression of a special rather than of a general theory.

Curiously enough, the same hypothesis can be classified as either special or general: (a), as a special theory by anthropologists who hold that the detected interconnections exist between subfields of anthropology; and (b), as a general theory by linguists and psychologists who hold that the same interconnections exist - if they do exist - between disparate major fields whose objects of study in linguistics and psychology can otherwise be accounted for autonomously.

A well known case in point is an unresolvable paradox, the psycholinguistic paradox, which is usually identified as the Sapir-Whorf hypothesis, Weltanschauung, World View, or linguistic relativity. What is paradoxical about this hypothesis is that it reverses cultural determinism part way; that is, the inverse hypothesis of language determinism is combined with a partial acceptance of cultural determinism. Even if the Sapir-Whorf hypothesis had claimed that linguistic relativity was more powerful than cultural relativity (which it did not), anthropologists could afford to regard the claim as nothing more than a gentle collision between two special theories, while linguists and psychologists would, instead, regard the claim as an absurd general theory. This explains why Osgood and others conclude their 1954 monograph, *Psycholinguistics*, on a satirical note: "...Hoijer has described a correlation between the Navahos' grammatical preoccupation with movement and their nomadic life; again, it would seem absurd to conclude that the Navaho took to a nomadic way of life *because* their language happened to have this grammatical characteristic."

Each kind of determinism has a long history, but in the anthropology of this century there is no doubt that the 'culture molds language' view was espoused in Boasian ethnolinguistics at the turn of the century before the proponents of the Sapir-Whorf hypothesis had their say. What they did finally say was that language previsions our perception of

reality - correlated in some vague way with cultural behaviour as part of reality.

This claim became a rallying point for many controversial conferences and continuing seminars which were attended by psychologists and linguists, as well as by anthropologists. For the experimental psychologists, empirical testing of the cognition of speakers in the American Southwest was expected to give birth to psycholinguistics as a new research area. For the linguists who engaged in the controversy, the critical interpretation and revision of the Sapir-Whorf hypothesis was expected to lead to a revolutionary general theory that would show the connection between thinking and talking. For the anthropologists, the controversy turned out to be less strenuous, for an interesting reason.

Anthropologists expected no general theory would emerge; they took it for granted that the controversy was about two special theories which happened to be, for the moment, colliding - but unnecessarily so. How could a language-determined World View be in conflict with the culture-determined World View? The latter was so pervasive in the thinking of anthropologists, and so much taken for granted, that it did not seem worth emphasising, even in the title of a popular book, as Clyde Kluckhohn's *Mirror for Man*, whose thesis is that man sees himself and his surrounding world in terms of his culture. That anthropologists were insensitive to the apparent conflict - at the time that the language-determining hypothesis was most strongly juxtaposed to the culture-determined World View - can only be accounted for by the widespread acceptance of the definitional paradigm in which language is taken to be a part of culture; hence the relativity involved can be taken to be a homogenised language-culture relativity.

But, then, how does language play its part in this relativity? Is language the part of culture that previsions reality, as Sapir put it? Or is language the part of culture which can be safely omitted when the integrated wholes of cultures are being characterised, in the Ruth Benedict fashion? In her *Patterns of Culture*, the Kwakiutl of Vancouver Island are said to see themselves in a Dionysian mirror, while the Pueblo Indians of the American Southwest see themselves in an Apollonian mirror. But in neither cultural mirror can one detect any indication that language contributes to the cultural image. It must be their shared configuration of culture that makes the Pueblo Zuni and the Pueblo Hopi indistinguishably typical of Apollonian civilisation. One can infer that differences among languages are not taken to be relevant to samenesses in Apollonian culture from what is left unmentioned in *Patterns of Culture* - for example, the well known lack of

relationship between the languages of the two chief examples of Apollonian culture (Uto-Aztecan Hopi being as unrelated to Zuni as English is to Basque).

LANGUAGE ACQUISITION AND INTERIORISATION OF CULTURAL KNOWLEDGE

That tenet of the definitional paradigm which includes language in the rest of culture may make for relaxed thinking in anthropology, but it does not cast much light on the tenebrous difficulties reviewed in the first half of this paper. Criticism of the language-is-part-of-culture tenet before mid-century could not be very effective, so long as upholders of anthropological principles responded to such criticism without facing the issue - by reiterating and defending the main points of the tenet. And such an authoritative defense as Harry Hoijer's (in the then widely read *Anthropology Today*) was unanswerable under the old habit-associational-mirroring theory of language acquisition, since under this theory both verbal and non-verbal culture were supposed to be acquired in the same way and at the same time.[3]

Records of stimulus and response, reward and punishment (social pressures) constituted basic data which were interpreted to support a global learning theory whose strategy called for observation of 'the other one'. In psychology, 'the other one' could be equated, in large degree, to non-human animals studied in laboratories. In anthropology, 'the other one' could be equated almost entirely to persons-in-the-culture of other societies than those in which the anthropologists were socialised. It was expected that focusing on 'the other one' would guard against anthropomorphic bias in psychology, and against ethnocentric bias in anthropology.

After mid-century, this learning theory which (a) provided the same explanation for language acquisition and cultural socialisation was met head-on by (b) the maturational-resonator-triggering theory of language acquisition, and the resulting collision - unlike the collision between culture-determinism and language-determinism in the Sapir-Whorf hypothesis - was neither gentle nor paradoxical. Theory (b), as presented by Eric Lenneberg in *Biological Foundations of Language*, can explain the acquisition of one's first language in a preliminary way, while theory (a) cannot.

That is to say, the normal two-to-four-year-old resonates effortlessly to the sound system of any natural language in his environment, and becomes intelligible to others in producing sounds from that system - and all this with uniform success, despite great differences in language stimuli available to different children. Roughly during the same period but extending up to teen age, other aspects of grammar that

the child acquires are triggered by the language in the environment to undergo an evolvement in the healthy child - an evolvement that does not develop effortlessly beyond teen age, despite apparent exceptions (e.g., enrichment of semantic features that are added to the semantic features previously acquired, and extension of stylistic innovation associated with additions of lexical items). It can be said, accordingly, that everything which is explained as ontogenetic evolvement by the maturational-resonator-triggering theory of language acquisition is preliminary to semantic enrichment and stylistic innovation.

Attention is now directed to the fact that this language acquisition theory, though unquestionably explanatory, is at the same time preliminary, because it does not go beyond the first two phases of language evolvement discriminated, except to point out the negative factor of deterioration of acquisitional capability in the third phase. That there is a prelanguage phase of development in the growing infant is denied by some, but for the wrong reasons. However, from what is known in the socialisation and personality formation literature, it seems highly probable that some culture is interiorised in the prelanguage phase. And of course culture continues being interiorised in the postlanguage phase of development which begins when the individual approaches and enters physical maturity - when the prior human capability of effortlessly acquiring any natural language in the environment deteriorates.

The preliminary theory of language acquisition, as reviewed and evaluated by Eric Lenneberg, provides a clear-cut scale of ontogenetic evolvement on which to localise the different ways in which culture is interiorised as cultural knowledge in each of the three phases; the preliminary theory thereby motivates the hypothesis that cultural knowledge may be distinguished from language-linked semantics - at least in the first and last phases of the language maturational scale. From the middle phase alone (the period between the prelanguage and post-language phases of development), it is most difficult to distinguish between cultural knowledge and language-linked-semantics because much - but by no means all - of the individual's cultural knowledge is being interiorised in the same decade (two to twelve years, inclusive) in which other aspects of semiotics are acquired, including language-linked semantics. A perspective for inferring what goes on in this middle phase of development is, in part, provided for by the flanking phases, especially by the earlier flanking phase.

CULTURE WITHOUT LANGUAGE

Study of the earlier or prelanguage phase would seem to offer the clearest indication of how cultural knowledge, without language, can be interiorised if language is acquired by maturation following readiness to sit up, to crawl forward and to begin walking; cultural knowledge of some sort is gained before there is a readiness to talk.

Of course, up to mid-century when one's first language was thought to be a system of vocal habits that needed practice and reinforcement - habits which could be taught - every postnatal production of sound would be taken as a practice exercise that constituted a necessary prerequisite for later production of articulate speech. In this older view the on-set of language acquisition was supposed to begin with the utterance of any pre-articulate sound. Thus, the production of vowel-like sounds (cooing) might be taken to be a prerequisite for producing the 'da-da' kind of reduplicated sequences of consonants and vowels (babbling), and the latter as a prerequisite for the production of articulate sounds in words and sentences.

In fact, however, the on-set of pre-articulate sound can preceed the 'birth cry'. Six month old fetuses have been known to produce sounds - before delivery - when air enters a ruptured sac; and in premature birth, the underdeveloped fetus can also produce the 'birth cry'. So also, hearing is certainly functional before birth; it is known experimentally that fetuses can respond to loud sounds.

The point here, of course, is that there is a prenatal completion in growth of the hearing mechanism as well as of the mechanism for vibrating vocal air. The organs of speech are viewed as a reed instrument by Leonard Carmichael and others in our society, and as a hogan by a native language teacher in Navajo society. As one looks into the door (open mouth), one sees first the side curved walls of the hogan where men and women sit, and beyond that one sees the medicine man at the very back of the hogan; the vocal cords are likened to the reed of a musical instrument (in the Carmichael metaphor), and to the lid that flaps up and down on top of the exhaust pipe of a diesel engine (in the modern Navajo metaphor).

The instrument or the engine for talking in humans is ready to operate even before the birth of a baby, but the baby's brain will not be ready to be triggered into operating the machine until almost two years after birth. Neither teaching nor cajoling, neither reward nor punishment can accelerate the maturation of human language acquisition.

In this sense, the period of gestation and the first two post-natal years are without language. In only a few societies, including our own, do mothers attempt - in vain - to stimulate the maturational

process of language acquisition. In all known societies, however, mothers and mother surrogates - and their uncles and their aunts - attempt to mold the child's culture; such attempts are surely not all futile.

Culture, without language, is being interiorised in the first two years of the process of becoming a Kwoma in New Guinea, becoming an Eskimo in the Arctic, becoming a Hopi in the Southwest, becoming a Maori in traditional New Zealand, becoming a working class rather than a middle class Englishman in London - in short, the process of becoming a person-in-the-culture in any society, simple or complex, begins before the becoming person resonates meaningfully to the language in his society.

The process is no doubt significant, but obscurely so, because the cultural knowledge which the pre-language child gains is not generally a straightforward anticipation of the pre-adult culture that persons gain during the decade in which they interiorise the language of their society. In that phase, however, pre-adult culture, with language, more clearly anticipates adult cultures, up to a point in aging; but beyond that point the person-in-the-culture may resume the cultural attitudes which he first experienced, without language. Though the process of this is quite obscure, examples of a resumption in old age of the first interiorised cultural stance are easy to come by; we cite three separate examples below which show the 'arc of life' to be much the same at both ends, but different in the middle (Hopi, American, Japanese), and one example in which such an 'arc of life' typology is replaced by a straight-line typology, the culture interiorised in the pre-language phase being continued symbolically, and without inter- ruption, in the cultures interiorised in the language acquisition phase and in the post-language phase (Alor). But we do not cite parallel examples of how the cultures in a society influence the development of an individual before birth.

This is because practically nothing is known about how the cultural behaviour of parents in the period of gestation may effect anything but the health of the postnatal child. In this period, societies differ greatly, without ill effect: some permit and others prohibit coitus during pregnancy; some encourage pregnant women to relax and others to work, and so on. On the other hand, the mother's diet or pathological condition in pregnancy may be non-beneficial to the fetus. The unborn child of a mother suffering from insufficient food or certain path- ological conditions may be born with a nutritional deficiency, with narcotic addiction, with venereal disease or other defects.

A little more is known about how the postnatal child, without language, interiorises his first culture. It seems easier to find good examples in which the culture gained during the pre-language phase is contradicted or counter-commanded by the pre-adult culture interiorised in the language acquisitional phase than to find examples of a smooth continuity between the two phases. If the culture without language is very permissive, it is sure to be followed by a culture, with language, that is restrictive; and vice versa.

The Hopi example shows a permissive culture interiorised in the first phase, a restrictive culture in the second, and then a return to a permissive culture in old age. Thus, the Hopi child is toilet-trained but gently so; when he is old enough to crawl, he is encouraged to go in the direction of the door or, in pleasant weather, to crawl outside beyond the door of the house before he empties his bowels, while Hopi with language learn to go to the latrine area at the edge of the village mesa. The self-image of being a priviledged person is soon to be replaced by a self-image of being a naughty person - as soon as the little Hopi understands what /qa hópi/ means (literally, *not Hopi*), for he is thereafter told that he is /qa hópi/ whenever he deviates in the slightest from proper Hopi behaviour.

There is no apparent difference between boys and girls in the formation of the Hopi child's self-image during the pre-language phase, but pre-adult boys are expected to be more deviant than pre-adult girls, and more given to temper tantrums. Later, in the post-language phase, Hopi men are less given to quarreling and malicious gossip than are Hopi women.

The self-image of being a priviledged person rather than a scolded person is gradually resumed later, as Hopi men and women become old; for the Hopi, in fact, the prime of life does not end but begins with aging.

The prime of life for us, according to Ruth Benedict - 'the high point of freedom and initiative' - begins when one sets up a household of one's own, and ends with aging, with the loss of one's energy, and with the consequent resumption of dependency. Our dependent children, without language - in the generation before Dr. Spock influenced parents to be more permissive - were weaned early and otherwise denied their natural impulses by being restricted to feeding and sleeping schedules. The 'arc of life' for this generation is typologised as a period of freedom and initiative flanked by two periods of restriction, youth and old age.

An inverse 'arc of life' - i.e., a mirror image of the arc characterising some American families - is typologised for the Japanese culture which is portrayed in *The Chrysanthemum and the Sword*: a prime of life period of conformity to social pressures, flanked by earlier and later periods of freedom from shame and social pressures. The baby is toilet-trained quite early, but with little social pressure; the mother begins by anticipating that the child is ready and then, holding him in her hands outside the door, she stimulates him by whistling low and monotonously. Later in life, men and women over sixty resume a culture that is unhampered by shame.

In thinking about culture without language, we tend to emphasise the possibility of discontinuity - between (a) cultural knowledge gained in the pre-language phase, and (b) cultural knowledge gained in the next phase when language is acquired - in order to balance the impression left upon us by psychoanalytic literature and by some of the anthropological literature that gives emphasis, instead, to a smooth transition between (a) and (b). Aside from the extravagant claims made in national character studies, some good ethnographies give this kind of emphasis in interpretation. In general, the notion is that whatever the baby becomes used to continues to be accommodated, arbitrarily and symbolically, in his subsequent pre-adult and adult cultures.

Thus, Cora DuBois' Alorese babies, after the first week, are given adult food as fast as they will take it, and they are also nursed freely when opportunity permits. But within two weeks after birth, mothers return to their regular garden work, leaving their babies at home (in the general case). The feeding of the baby by a mother surrogate is unsatisfactory, with the consequence that babies are fairly hungry part of the time; in one anecdote, the mother surrogate goes to the field where the mother is working to announce that she is going off to play, leaving the baby at home, unattended.

When little children are able to move about, but still without language, they are left to play near the house or in the dance place of the village, where no one feels responsible for feeding them or feels disturbed when they cry.

Only after language is acquired does a sex difference develop in the cultures of boys and girls. But this difference is primarily related to their different orientations to the production and consumption of food.

In adult culture, a 'hungry period' is recognised annually; during this month or two grown-ups do not actually go hungry, but are still symbolically hungry, for lack of preferred foods. Adults make frequent reference to famine periods, even though actual food shortages are known to have occurred only twice in the preceeding generation.

DuBois' interpretation of all this is that the unrealistic concern over food scarcity has a psychological origin - an expression of infantile deprivation. There is thus, in Alor at least, a smooth continuity between childhood experience of actual hunger and culturally interiorised adult attitudes toward food, as for example in the obsessional attitude of the Alorese toward not wasting food.

LANGUAGE-LINKED SEMANTICS

The Sapir-Whorf hypothesis will be shown to be untenable if empirical research on language universals turns out to support the theoretical claim that such universals do really include everything in language-linked semantics (i.e., leaving aside what is language-particular). Then the residue (i.e., whatever is not included among the universals) can be regarded as sporadic phenomena which turn up, interestingly enough, in widely scattered parts of the world among unrelated languages, thereby precluding explanations of their non-universal similarities in either areal or comparative method linguistics. These phenomena and the language-particular features contained in every language can be left over for subsequent recovery from the investigation of the majority of languages of the world, after the language universals have been established from the investigation of well-known languages which constitute a small minority of the world's languages. Whether well known, or being examined for the first time, every language can now be viewed as a tapestry into which are interwoven language-universal and language-particular aspects of sounds, syntax, and semantics.

This is perhaps enough to identify, with crude simplicity, one of the complex arguments being currently controverted in the general framework of transformational-generative grammar - the T-G model, for short. Two preceding models of grammar - the Boasian model and, for want of better labels, the combinatorial or structural model - have deeply influenced the emphasis and even the shape of most of the grammars published in this century that were based on field work in anthropological linguistics. But currently the T-G model is exerting an influence of a magnitude comparable to that exerted by the two preceding models. And one of the apparent weaknesses of the earlier models, in their quite different ways of handling semantics, is in danger of being continued in the T-G model.

Grammars written under the influence of the Boasian model, as in the successive volumes (since 1911) of the *Handbook of American Indian Languages*, made a distinction in language-linked semantics between obligatory and optional grammatical categories - between categories that have to be marked in every occurrence of a noun or verb, as gender

in Algonquian languages (animate or inanimate), and categories that may
be introduced optionally in the formation of some verbs or nouns, but
not in others. Particles were commonly recognised as a third major
class of words - words which were vacuously translated; particles are
only now beginning to be studied as seriously as nouns and verbs were
studied in the decades when the Boasian model flourished. Grammars
following the Boasian model could account for the highly productive
obligatory categories more adequately than the optionally occurring
categories because the dictionary was treated separately rather than as
a part of the grammar. Rules constraining or permitting the optional
categories would today - now that we are wise after the fact - be stated
in terms of their lexical associations. But yesterday the dictionary
of a language was as Sapir put it, not to be confused with the grammar
of a language; the dictionary was, as Bloomfield put it, the repository
for irregularities, and the grammar for regularities (rules).

The schism separating dictionary from grammar was apparent in the
Boasian model, but came to be explicitly formulated, as just indicated,
only later when grammars began to be written under the influence of the
structural or combinatorial model, as in *Linguistic Structures of
Native America* (first published in 1947). The structural model de-
emphasised the earlier distinction between obligatory and optional
categories of grammar, but gave new emphasis to a new goal: to state
comprehensively all the combinatorial possibilities in the phonology
and morphology of a given language in which the phonology was defined
as a system of possible positions of sounds, and the morphology as a
system of possible positions of morphemes (complementarity in positional
possibilities reducing the number of units recognised, and contrastive
distributions increasing the number of recognised phoneme and morpheme
units). The sounds and their constellation into phonemes were accounted
for without meaning, while the morphemes and their constellations into
words and sentences were accounted for with word-oriented meaning. The
irony of stating the combinatorial possibilities of words in the
grammar, and the comprehensive meanings of words in a dictionary that
was not part of the grammar, did not entirely escape the attention of
structuralists. Rather, this reflected their confidence in accounting
for formal combinatorial possibilities with great precision - the
proper job of the linguist - and their stance that the meanings
associated with most forms were not precisely known, and could not be
so known until anthropologists became as objective and scientific in
identifying all the modalities of social relationships as biologists
had become in identifying their terms. A favourite expression of this
structuralist attitude was the example of 'horse', identifiable

biologically as *Equus caballus*, beside the meanings of words like 'friend' and 'enemy' which had to remain imprecise.

Dictionaries prepared by linguists in the Boasian decades, as well as in the subsequent structuralist period, are still used profitably by comparativists seeking cognates in the investigation of linguistic prehistory, and by anthropologists interested in particular domains of cultural knowledge. But since such dictionaries (of which the Franciscan Fathers' *Ethnological Dictionary of Navaho* is a brilliant example) do not distinguish between cultural knowledge and language-linked semantics, they confuse rather than clarify the search for semantic universals.

Grammars now being written under the influence of the T-G model no longer suffer from the great weakness of the preceding two models (that of sharply distinguishing the grammar of a language from its lexical resources). Once the lexicon is included as part of the grammar, the opportunity to distinguish between language-linked semantics and cultural knowledge becomes apparent. But the opportunity has not been grasped, so far. We give below three critical reactions to the continued convergence of the two separable kinds of meaning - Bar Hillel's to the Katz and Fodor treatment of *bachelor*, and ours to one of Auden's poetical insights, and to one part of Chomsky's *Language and Mind*.

In the Katz and Fodor treatment, *bachelor* appears in a tree diagram at the apex node which dominates successive levels of intermediate nodes labelled by appropriate semantic features as + *human*, - *human*, + *male*, and so on; these in turn dominate terminal nodes for a man who is not yet married, for a seal which is without a mate in the mating season, for a person who obtains the lowest academic degree, and for one or two other referents. Bar Hillel questions whether an academic degree should count as an inherent referent of *bachelor* - as a language-linked semantic feature - since there are countries in which the bachelor's degree is not awarded; use of *bachelor* in such a way in such countries would be for a non-existent cultural referent. Hence, part of what Katz and Fodor count as language-linked semantics in the English language belongs instead to cultural knowledge.

The poet, W.H. Auden, writes in his preface to essays by *Protestant Mystics* that when a three-year-old asks 'What's that?' upon first seeing an unfamiliar animal, and is told that that's a zebra, he must believe it - even if the answer is not true - else he will not learn the language. If this reflects a stroke of insight, it is relevant to the association of (a) belief and (b) increase in cultural knowledge, but not relevant to (a) belief and (b) a maturational increase in language-linked semantics. Belief in what he is told does not accelerate nor

disbelief decelerate the two-to-four-year-old's acquisition of language. It is, however, not easy to come upon good expressions of disbelief in children of this age, since they are pervasively credulous. Yet their consciousness of heavy adult irony and verbal pretending is sometimes echoed, as though in recognition of the possibility of disbelief. For example, a three-year-old, returned to the safety of his sand box, dribbled grains of sand, smiled knowingly, and said repeatedly 'birdy sand' - this in allusion to our having said 'birdy noise' as we drove the then badly frightened little boy through a countryside filled with the din of chirping crickets. We pretended the chirping was made by birds familiar to him, rather than by unfamiliar crickets, but he could not be comforted until he felt himself to be out of danger, when he could afford to express his disbelief of our pretending by pretending himself: 'birdy noise' is to cricket noise as 'birdy sand' is to the non-dangerous sand you play in.

Like other normal children this little boy was not deterred from acquiring a particular language (English), with its language-linked semantics just because he was given wrong information about the label for cricket chirping, and much else. The grammar which he recreated from the haphazard examples available to him turned out, as though by magic, to be virtually identical to the grammar recreated by his peers who had been exposed to quite different sets of haphazard examples. The magic that makes this possible is being explored in the genetics of acquisitional capabilities, including the acquisition of language.

At the moment more is known about what acquisition by maturation will not explain than what it will. It will explain how children acquire language-linked semantics and much else - but perhaps not every-thing that is verbalised. There is no longer any doubt that triggered maturation enabled the little boy mentioned above 'to understand new sentences and to produce a new sentence'; but there is reason to doubt that it required him to utter the new sentence 'on an appropriate occasion' (*Language and Mind*; quotes from p.23).

In other words, there is now solid evidence, such as that adduced by Lenneberg, that language is acquired maturationally; but the relation-ship of maturation to enculturation, to subsequent socialisation within roles and statuses, and to the whole question of cultural appropriateness remains conjectural for the most part. It remains almost entirely conjectural for the part of cultural appropriateness which appears - or fails to appear - in the pre-adolescent enculturational period, after the onset of language. Appropriateness in language involves that part of cultural knowledge which is linked to verbal performance rather than to linguistic competence, but the light that linguistics hopes to

contribute to the still dark areas of cognition will be more apt to find
focus in the area of language-linked semantics associated with competence
than with performance.

It is intuitively obvious - but not trivial - that a distinction
can be made between language-linked semantics in this sense, and cultural
knowledge associated with cultural appropriateness. The average patient
shares with his physician the language-linked semantics of their common
language, but does not share the physician's cultural knowledge.
Though the shared language-linked semantics of the two were acquired
before they reached adolescence, the distinctive cultural knowledge of
the physician was gained after his adolescence. Social anthropology
gives so much emphasis to the communitas, in Victor Turner's sense - to
the common sense of appropriateness in a particular society or even to
human society as an integrated whole - that it tends to underestimate
the differences between appropriateness peculiar to cultural roles and
cultural statuses within a given society. That is to say, it tends to
underestimate the differences in cultural knowledge which begin to be
interiorised before adolescence but after the maturational period in
which the child recreates the basic rules of a grammar which he may
follow for the rest of his life. He may replace the basic rules of one
language with those of another, but will find complete replacement
increasingly difficult after adolescence. Yet he will not even begin
to be seriously trained in some kinds of cultural knowledge - say in
vocal music - until after 'change of voice', after adolescence.

Linguistics, as characterised by modern anthropologists engaged in
ethnoscience ethnography, is the subfield of cognitive anthropology
which deals with cultural knowledge and aspects of appropriateness.
Linguistics, as characterised by modern linguists inspired by the major
insights of the biological basis of language, is 'the subfield of
psychology that deals with aspects of the mind', or in other words,
a 'particular branch of cognitive psychology' (*Language and Mind*; quotes
from pp.24 and 1). These characterisations are not contradictory.
Though cognitive anthropology and cognitive linguistics are equally
concerned with cognition, only cognitive anthropology is relevantly
concerned with the question of appropriateness.

1. In the linguistic literature devoted to autonomous linguistics we
fail to find any reference to the anthropologists' rejection of
'ethnography at a distance' but can cite two excellent examples of the
practice of 'linguistics at a distance', given by Canstantino in
adequate historical perspective. Descriptive study of Philippine
languages in the American Period of occupation was dominated by two
American linguists, Blake and Bloomfield, neither of whom ever visited
the Philippines.

   Blake extracted data from printed sources which were mostly in the
Philippine languages; he announced that his grammar of Tagalog (1925)
was based 'on the works of the best Spanish grammars, checked and
verified by the reading of numerous texts'. This is, of course, the
general procedure followed in the investigation of dead languages -
derivation of grammar from texts and from structural restatement of
earlier grammars, but without benefit of native speaker for ancillary
eliciting.

   Bloomfield announced that his grammar of Tagalog (1917) was 'the
first scientific analysis of the structure of Tagalog'. Though he too
must have examined the 'best' Spanish grammars, he certainly did not
produce a structural restatement of them. Instead, he practiced an
entirely different kind of 'linguistics at a distance' - derivation of
grammar from texts, but with the benefit of ancillary eliciting made
possible by the residence of an educated speaker of Tagalog at the
University of Illinois while Bloomfield was teaching there.

2. Kroeber said this in the context of his Foreword to the Dell Hymes
Reader (p.xix): "...among Sapir's students, represented by passages in
this book, there were some who took anthropological degrees and now hold
linguistic positions as well as linguists now in anthropology departments.
One might add that all major institutions of learning in the United
States regularly include a linguist in the anthropological staffs".

3. The defence amounted to stating (in the context of the 1952
International Symposium on Anthropology) some triumphs of ethno-
linguistics; these are here summarised as seven claims: (1) culture,
including language, is a 'design for living' shared by a 'group' within
a society, if not by the whole society, in contrast to the 'random
collection of discrete acts, possessed by individual animals and not
shared...'; (2) language is acquired by learning - the habit-associ-
ational-mirroring kind of learning - exactly the same kind of learning
that can account for the acquisition of 'any other aspect of culture';
(3) language growth is as cumulative as is cultural growth; (4) lexical
inventories of different cultural domains are reliable indices of on-
going cultural behaviour; (5) lexical inventories can be stratified
chronologically and thereby provide matrices for matching cultural
sequences; (6) the motivation of Sapir's 1921 warning ('never make the
mistake of identifying a language with its dictionary') was to
distinguish the products of language - and the dictionary is a product
of language - from the structure of language; (7) the different languages
that different peoples speak determine their sensory perception and
their habitual modes of thought - in short, the claim of the Sapir-Whorf
version of linguistic relativity (Weltanschauung), exemplified by
anecdotes involving Chiricahua Apache, Navaho, Eskimo, Hupa, Wintu,
Hopi, and Standard Average European languages. (SAE includes English,
French, German and some other Indo-European languages, but possibly not
those in the Balto-Slavic branch of that family.)

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are a few felicitous phrases which we quote without direct
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