# CHAPTER 9. INTEGRATING ETHNOGRAPHY AND FIELD LINGUISTICS

## 9.1. The neglect of ethnography

In this chapter I discuss ways in which culture and language can interact that go beyond standard sociolinguistics and in which the ethnography of communication can affect the formal grammar of the language, as per the Boas quote in __ above. The point is that the linguistic field researcher must be an observer of culture, not just language, and she must keep a careful record of the connection between cultural contexts and uses of different constructions. Let' get a feel for what is at stake here by considering a classic example from Sapir:

Sapir (1921,172) writes of the need to understand the 'genius' of each language. By this Sapir refers to that which makes each language unique, the essential core of a language, that part less subject to historical change (a sort of Heraclitus-inspired question of what changes vs. what remains). Judging by his intellectual output, Sapir was always concerned with what Everett (2004) refers to as 'coherent fieldwork', i.e. fieldwork that integrates specific phenomena in the larger cultural context and the background of the researcher. Sapir's concern was with difference, the *relative* value of a given language, as opposed to seeing it merely as an exemplar of one variant of an absolute Universal Grammar. One good example of what I mean is found in a study he undertook of Nuu-Chah-Nulth (then known as Nootka, Wakashan, Canada) consonant alternations. In this language, as Sapir (1915, 181) observes, there are extremely interesting consonantal alternations that cannot be explained grammar-internally.:

> *"It is possible and often customary in Nootka to imply in speech some physical characteristic of the person addressed or spoken of, partly by means of suffixed elements, partly by means of 'consonantal play'. Consonantal play consists either in altering certain consonants of a word, in this case sibilants, to other consonants that are phonetically related to them, or in inserting meaningless consonants or consonant clusters in the body of the word. The physical classes indicated by these methods are children, unusually fat or heavy people, unusually short adults, those suffering from some defect of the eye, hunchbacks, those that are lame, left-handed persons, and circumcised males."*

Sapir exemplifies this 'consonantal play', concluding that to understand the grammar of a language, we must therefore understand the culture in which that grammar is found. Sapir's study of Nuu-Chah-Nulth is well-known, of course. This is the kind of study that illustrates the solid connection between culture and language, though it is only a single connection between one rule of phonology and culture. Perhaps it has failed to exert modern influence because it is considered to be a marginal example.

But the main reason that Sapir's and others' studies of of these connections have failed to influence theoretical grammar as they might have because in the mid-50s, as discussed in chapter 1, linguistics underwent a conceptual change, from a discipline concerned with documenting, describing, and explaining observed language behaviors in terms of linguistic and social structures and dynamics (e.g. variation and change), to one in which the primary focus was on inferred mental structures and abstract principles supposedly common to all human languages. This is a priori neither good nor bad, simply a change of interest. The change, as stated in ___ above, has produced some of the most exciting scientific results in the history of the study of language.

However, a posteriori, there have also been nontrivial implications to this change in focus. One is a reduced emphasis on fieldwork as the natural activity of linguists. But another is the near complete lack of attention given to culture and its relation to language, a full rejection in practice of the views of Boas and Sapir cited above. And with this change has come a loss of any truly evolutionary perspective on language, in particular, a loss of the idea that individual languages might follow different evolutionary paths, adapting to different cultural-social niches.

9.2. Ethnography, Cognition, and Grammar

The purpose of this chapter is, therefore, to equip the fieldworker for beginning field research on the culture-language nexus. As a conceptual point of departure, let's consider Table 1 below, which lays out some of the potential connections between language, cognition, and culture, all of which are ultimately necessary to an understanding of language (which one could, but need not, equate with Chomsky's () E-language) and grammar (Chomsky's () I-language):

Table 1

| CONSTRAINT RELATIONSHIP | SAMPLE RESEARCH PROGRAMME |
|---|---|
| 1. *cognition* → *grammar* | Chomsky's Universal Grammar |
| 2. *grammar* → *cognition* | Linguistic Relativity (Whorf, Lucy, etc.) |
| 3. *cognition* → *culture* | Berlin & Kay (1969) on colour terms |
| 4. *grammar* → *culture* | Urban's (1991) work on discourse-centred culture |
| 5. *culture* → *cognition* | Anthropological research on semantic fields |
| 6. *culture* → *grammar* | ETHNOGRAMMAR; individual forms structured by culture (e.g. evidentials or Sapir 1915) |

This table is clearly inadequate because, among other things, it is two-dimensional. A three-dimensional display would indicate connections between all three domains (cognition, culture, and grammar) simultaneously. Nevertheless, it provides a useful basis for discussion, so let's consider each of the rows in Table 1 in turn.

We can situate a good deal of modern linguistics and anthropology relative to this table. For example, simplifying tremendously, the shift in linguistic research focus that Chomsky was rightfully credited with moving the focus from Cell 6 to Cell 1. And the questions raised by the relationship in Row 1 are indeed fascinating. How *does* cognition constrain language (whereby 'cognition' in Chomskyan theory has traditionally focused on the properties required of the initial state of the part of the mind responsible for language-learning). This is a vital question, obviously.

Row 2 highlights research which examines how linguistic structures, lexical structures, constructions, etc. can affect thinking. The idea is old (much older than Whorf, for example) and in some senses obviously true. There are many tasks we engage in that are affected by language, as numerous researchers have shown. Nevertheless, I think that the usefulness of linguistic relativity has been overstated in much current research. Research on this relationship is exemplified today in the work by Lucy (), Levinson (), and their colleagues, among others.

Row 3 again interprets 'cognition' as static, the built-in mental parameters for distinguishing colors which affect how cultures categorize their world. So the way that cultures classify and identify the colors of the world around them is seriously constrained by color-perception biology, i.e. static cognition (what is known or given in the brain and that underlies behavior).

Row 4 indicates the research on the effects of language on cultural values. So, for example, Urban (1991, --) has argued that a high percentage of passives in the discourse of a language, themselves resulting from independent structural constraints, can affect the cultural concept of 'hero', producing heroes that are better known for what happens to them (they are the Undergoer subjects of passive clauses) rather than for what they do (if they were instead Actors of active clauses). This is fascinating research that linguists by and large show no interest in – a result, in my opinion, of the shift in interest in most linguistic training and research since the mid-50s.

Row 5 indexes research on how cultural values can affect how members of the culture think about the world. An example of this kind of research can be found in Seeger () and related research where, say, types of body adornment are at once a reflection of cultural concepts (communication in Seeger's () ground-breaking study of Suya/Kisedje)) and how members of society come to value or use the relevant body parts (ears, lips, tongue, etc) in communication. Another example is Bradd Shore's excellent 1996 study, *Culture in mind: cognition, culture, and the problem of meaning.*

Row 6 indicates the kind of research that I have been doing for the past few years, namely, the effect that the culture can exercise on grammar. My interest is in whether culture can exercise an architectonic effect on the grammar as a whole (and I conclude that it can, Everett (2005)). A different, but very important, approach to this problem is found in Enfield (2003), Sapir (1915), and other studies where convincing evidence is adduced that culture is responsible for particular structures, constraints, or rules in a grammar.

Rows 3, 4, and 6 are areas of potentially rewarding research by the linguistic fieldworker with a background in ethnology. But these of course do not exhaust the possible domains of research in linguistics, they simply list some salient interdisciplinary connections.

## 9.3. Content of an ethnography of communication

Perhaps the single most important broad topic of relevance for linguistic-cultural connections is the 'ethnography of communication'. References in this regard include Hymes (1974), Saville-Troike (2003), Gumperz (1986), and various others. Specific research topics in the ethnography of communication are many, but some of the more prominent ones are:

(9.1) Topics in the ethnography of communication (see Saville-Troike 1982, 51ff)

a. Communication and social structure
b. Language and culture
c. Rituals and communication
d. Phatic language and cultural relationships
e. Varieties of language
    Registers
    Social and regional dialects
    Different languages
    Channels of communication

Let's consider these briefly, as examples of some of the kinds of connections between language and culture have been shown to be productively studied by linguists interested in the causal-connection between the two. First, under communication and social structure we may consider such topics as the nature and types of discourses associated with different social roles (e.g. those in political power, those without power, those with specialized roles, e.g. shaman, physician, pastor, official spokesperson, etc.). A simpler way of putting this issue is 'Who says what and when do they say it?' This can impinge on studies of pragmatics, semantics, and even morphology and syntax (use of different moods, evidentiality markers, etc. according to type of discourse and discourse utterer), but clearly to study these manifestations of language requires cultural observation and understanding. Ultimately, the ethnography of communication, like all studies involving a member of one group studying members of another group, involves attempting to move from an *Etic* perspective to an *Emic* perspective (Pike (1967, ); see also Headland ()). That is, if we understand a particular ethnography of communication we shift from the perspective of the outsider to an understanding of the perspective of those within the system, group, culture, etc. Item (--b), language and culture, is a more specialized type of study, one that I have come to refer to as Ethnogrammar, and I offer a case study of such a study from Everett (2005) in ___ below. Other areas of () are less difficult to see the point of, so let us close this introductory discussion by considering what it means to study 'varieties of language'. Recall the accounts in chapter ___ above about my monolingual demonstrations with speakers of Kisi and Nepali. Both revealed the need to understand varieties of language. In the Kisi demonstration I conducted at the annual meeting of the Linguistic Society of America in (), I noticed that most of the word endings from the female language teacher differed from those of the male language teacher. During the demonstration I noticed this, but of course I had no way of knowing why the forms of her words were different. It might have been a women's dialect; it might have been social register (a woman addressing an unknown and older male – me), it might have been something else. It turned out to be something else – Kisi was not her native language! She simply didn't know the endings. That can be a trivial observation, but it requires understanding of who is who in the community and under what circumstances people learn or use different languages. In the Nepali case, the differences in the woman's responses to my questions, as opposed to the male Nepali language teacher, were in fact a matter of register. I was older and a stranger, so she used the formal register with me. To understand different choices of languages and registers (and by 'understand' I mean more than simply observing that they exist as I have done here) requires observation of the culture. The importance of understanding different varieties of language in analyzing the grammar of a given language can perhaps best be seen via a case study of discourse channels in Pirahã, to which I now turn.

As pointed out in Everett (1982) Pirahã phonology cannot be fully described or understood without a knowledge of how it interacts with culture. There are other examples from Pirahã phonology. Let me present two of the strongest, in ascending order of importance for coherence.

Imagine that a language could have various systems/modalities of sound structure, beyond its phonetics and phonology. And then consider the possibility that one modality can affect another, but not necessarily via constraint-rankings or rules, the standard devices of phonological theory proper. If so, then to understand the sound system of language, **L**, at any level (e.g. 'what happens' or 'what native speakers know

when they know the sound system of their language') we must look carefully at the modalities of expression made available via an ethnography of communication and not merely at a supposed universal formal apparatus. Corollaries of this scenario might include, e.g. the appearance of new roles for old constraints (e.g. mode-faithfulness of segments being highly ranked to mark syllable types; syllables are maintained, a form of prosodic faithfulness, in order to parse the larger speech stream, not merely to enhance the perception of segments; and thus arguments for syllables may go beyond phonotactics and segmental enhancement and the syllable may have roles not envisioned by the so-called 'phonological hierarchy'). If this were true, the coherent fieldwork would evolve from a curiousity or desideratum to an imperative. Is there such a case? Indeed. Consider the following facts about Pirahã phonology, beginning with its phonemes.

Table One
Pirahã Phonemes

**Consonants () = missing from women's speech**

| | | | |
|---|---|---|---|
| p | t | k | ? |
| b | | g | |
| | (**s**) | | h |

**Vowels**

| | | |
|---|---|---|
| i | | |
| | | o |
| | a | |

The first thing to notice about Table One is that the segmental inventory is one of the smallest in the world. The next is to recall that it includes allophonic sounds found in no other language, subject to cultural constraints. The third is that the /s/ is in ()s because it is not found in women's speech, but only in men's.

Though this is one of the simplest segmental phonemic inventories in the world (the women's inventory does seem to be the simplest known), we should juxtapose alongside this simplicity, the complexity of Pirahã's prosodies. Pirahã's stress rule is a good place to begin, since it is well-known.

This rule, from Everett & Everett (1984), is considered one of the more complex and unusual stress rules in the literature, mainly for its phonological consequences (rather than, say, any difficulty in stating or recognizing it):

(9.2) Pirahã stress rule: stress the rightmost token of the heaviest syllable type in the last three syllables of the word.

The phonetic basis of 'heaviness' in (1) is just this: Voiceless consonants are always longer than voiced consonants and there are five syllable weights based partially on this contrast:

(9.3) Pirahã 's five syllable weights: CVV>GVV>VV>CV>GV

Pirahã is a tonal language, as well. But stress, tone, and syllable weight vary independently in the language. To see this, I will just review one simple set of examples, in (3), from Keren Everett (1998). In the examples in (3), tone is independent

of stress. ´ = high tone; no mark over vowel = low tone. The stressed syllable is marked by **!.** There are no secondary stresses (7=glottal stop).

(9.4) a. **!**tígí 'small parrot'
b. **!**pìgì 'swift'
c. **!**sàbí 'mean, wild'
d. **!**7ábì 'to stay'
e. tíi**!**híí 'bamboo'
f. 7ì**!**tì 'forehead'
g. tì**!**7í 'honey bee'
h. tí**!**hì 'tobacco'

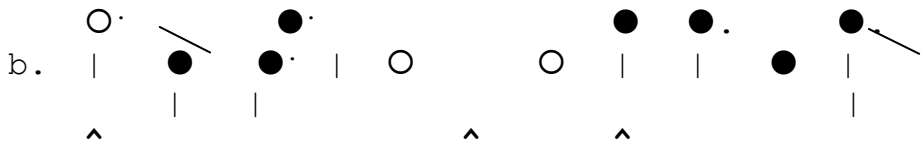
Thus alongside Pirahã's extremely simple segmental phonology, it manifests an extremely rich set of prosodies. This leads us to ask a reasonable question, namely, does the language exploit this differential complexity in any way? Indeed, as Everett (1985) describes it, Pirahã communication makes crucial use of the CHANNELS in (4), below, where Hymes (1974) defines a channel as 'sociolinguistically constrained physical medium used to carry the message from the source to the receiver'. The four principal modalities or channels in Pirahã after 'normal' speech are:

| (9.5) *CHANNEL* | *FUNCTIONS* |
|---|---|
| a. **HUM SPEECH** | Disguise<br>Privacy<br>Intimacy<br>Talk when mouth is full<br>Child language acquisition relation |
| b. **YELL SPEECH** | Long distance<br>Rainy days<br>Most frequent use – between huts & across river |
| c. **MUSICAL SPEECH** ('big jaw') | New information<br>Spiritual communication<br>Dancing, flirtation<br>Women produce this in language teacher sessions more naturally than men. Women's musical speech shows much greater separation of high and low tones, greater volume. |
| d. **WHISTLE SPEECH** (sour or 'pucker' mouth' – same root as 'to kiss' or shape of mouth after eating lemon) | Hunting<br>Men-only (as in ALL whistle speeches!)<br>One unusual melody used for aggressive play |

Example (9.5) is illustrates how prosodic information in Pirahã is exploited to create these channels. The inventory in Table One above, also partially shows how little

the segments contribute to the total set of phonological information in a given Pirahã word. In (5) we see that the phrase in (5a) has the quasi-musical representation in (5b), the basis for the channels just summarized.

(9.6) a. **kái?ihí?ao -?aagá gáihí**
paca poss/exist-be there
'There is a paca there.'

b. 

All channels must include the information in (5b), though only the consonant and vowel channel needs to include the information in (5a). The notes represent syllables, with 'ties' indicating unbroken falls/rises in whistle speech.

In the musical form in (5b) there is a falling tone, followed by a short low, with a preceding break in the whistle (where the glottal stop would have been in **kai*?i*hi**), followed by another short break (where the **h** would be) and a short high tone, and so on. Thus, the syllable boundaries are clearly present in whistle (humming, and yelling) channels, even though the segments themselves are missing. The syllable in this case indicates length, offers an abstract context for tone placement, and the overall word is stressed according to syllable weight (see Everett (1988) for details). The syllable in these cases is vital to communication in differing channels, primarily in parsing the input.

But does the discovery of channels like this imply any causal interaction between culture and grammar? Or are these channels outside the grammar proper? Notice that these channels rely crucially on the syllable weights and stress rule in (1) and (2) above. So, if nothing else, they help account for what is otherwise an anomalous level of complexity in the stress rule. Yet the facts cut deeper than this. Consider the following example of what Everett (1985) calls the 'sloppy phoneme effect' :

(9.7) **tí píai ~ kí píai ~ kí kíai ~ pí píai ~ ʔí píai ~ ʔí ʔíai ~ tí píai, etc. (*tí tíai, * gí gíai**, ***bí bíai**) 'me too'

(9.8) ʔ**apapaí ~ kapapaí ~ papapaí ~** ʔ**a**ʔ**a**ʔ**aí ~kakakaí ~(*tapapaí, * tatataí, * bababaí, * gagagaí**) 'head'

(9.9) ʔ**ísiihoái ~ kísiihoái ~ písiihoái ~píhiihoái ~kíhiihoái ~** (alternations with /t/s or involving different values for [continuant] or [voicing] are unattested) 'liquid fuel'

Pirahã allows a tremendous amount of variation among consonants, though not for the features [continuant] or [voice]. This can be accounted for, but only if we refer to Pirahã's channels. The ungrammatical examples in (6)-(8) show that the features [continuant] and [voice] are linked in the sense that they may never vary in the effect. Only place features may vary. With no reference to channels this is without explanation. But in light of the channels this follows because [continuant] and [voice] are necessary for stress placement (Everett (1988)) which in turn must be preserved in every discourse channel, or the constraint in (9) is violated:

(9.10) *Constraint on functional load and necessary contrast* (Everett (1985)):
a. Greater Dependence on the Channel → Greater Contrast Required
b. Lesser Dependence on the Channel → Less Constrast Required

Notice that I am not claiming that the absence of variation for different values of [continuant] is predicted by 'channels' alone. This case in fact demands that we further investigate the connection between [continuant] [voice]. There is no claim that ethnography replaces phonology! But I am claiming that without the study of channels and their role in Pirahã culture, not even an understanding of Pirahã's segmental phonology is possible.

The lesson for the field researcher and theoretical linguist to be drawn from these examples is just this: first, language and culture should be studied together; second, as a modality-dependent channel, phonology may be subject to constraints that are (i) language specific and (ii) grounded not only in the physical properties of the instantiating modality (the phonetics) but also or alternatively on the culture-specific channels of discourse employed. This is a very important result because it shows that the 'interface conditions' of the HUMAN COMPUTATIONAL SYSTEM, in Chomsky's (1995) terms, may range beyond PF and LF, if we define an interface system as a system setting bounds on interpretability for $HC_L$. Such examples also show how coherent fieldwork can be useful for theory. Thus not only the fieldworker, but also the phonologist must engage the language as forming a coherent whole with culture. And this in turn entails more culturally informed fieldwork.

Before turning to another case study from Pirahã, on Ethnogrammar, it would be worthwhile to conclude this particular section with a consideration of some methodological suggestions for studying ethnography of communication.

## 9.4. Methodology for ethnogrammatical studies

Some suggestions in Saville-Troike (1982, 108ff) include the following:

(9.11) Methodological suggestions for the ethnography of communication:
a. identify recurrent events
b. analyze these events, examing their function, form, and relationships between different constituents.
c. examine the relationship between these events to other speech events and to the society and culture in which they occur.

For example, one might study the use of whistle speech on the Canary Islands. One variety, Silbo Gomero is used in and around La Gomera. In relation to (), each use of whistle speech is thus an event. Some questions that might be asked about these events are: When is it used? Who uses it? What are the constraints on its intelligibility? (e.g. Can two people understand Silbo under any circumstances or does a topic of conversation need to be established first to provide context?) How many other channels of discourse are there among speakers who use Silbo? Are there contents or types of discourse in which the people prefer to use Silbo? Are the contents or types of discourse in which the people prefer not to use Silbo? What are the phonetic details of Silbo and how is it possible (since the language it is based on is not tonal, does it use inherent segmental frequencies as a basis, intonation, etc.)? How does it relate to the consonant and vowel channel (i.e. normal speech)? etc.

We now move to consider a different type of connection between language and culture, namely, Ethnogrammar.

Ethnogrammar

Enfield (2002,3) makes the important observation that "Grammar is thick with cultural meaning". Enfield defines ethnosyntax (part of ethnogrammar, in my conception of the latter as including ethnosyntax, ethnophonology, ethnomorphology, and ethnosemantics, among other possibilities) as "... the study of connections between the cultural knowledge, attitudes, and practices of speakers and the morphosyntactic resources they employ in speech..." And "This field of research asks not just how culture and grammar may be connected, but also how they may be interconstitutive, through overlap and interplay between people's cultural practices and preoccupations and the grammatical structures they habitually employ." To better appreciate the nature of what is meant by 'Ethnogrammar' let's consider another case study from Pirahã, one that has received a good deal of attention from linguists, anthropologists, and the popular media, the connection between 'immediacy of experience' and the group's cultural and grammatical structures. Following this, I conclude the chapter with methodological suggestions on the investigation of Ethnogrammar.

Everett (2005) notices the following facts about Pirahã:

(9.12) Pirahã facts in need of explanation by anyone's account:

a. Pirahã lacks number, numerals, or a concept of counting.
b. Pirahã lacks color terms.
c. Pirahã lacks syntactic recursion.
d. Pirahã has the simplest pronoun inventory known and evidence suggests that Pirahã's entire pronominal inventory may have been borrowed (see Appendix Two).
e. Pirahã has no perfect tense.
f. Pirahã has perhaps the simplest kinship system ever documented.
g. Pirahã has no creation myths – its texts are almost always descriptions of immediate experience or interpretations of experience; it has some stories about the past, but only of one or two generations back.
h. The Pirahã in general have no individual or collective memory of more than two generations past.
i. Pirahã people do not draw, except for extremely crude stick figures representing the spirit world that they (claim to) have directly experienced.
j. Pirahã has no terms for quantification, e.g. 'all', 'each', 'every', 'most', 'some', etc.
k. The Pirahã are monolingual after over 300 years of regular contact with Brazilians.

Some examples of this follow:

LACK OF NUMBER, NUMERALS, AND COUNTING

(9.16) **hiaitíihí hi kaoáíbogi bai -aagá**
Pirahã people he evil spirit fear -be
*'The Pirahã are afraid of evil spirits.'* OR *'A Pirahã is afraid of an evil spirit.'* OR *'The Pirahã are afraid of an evil spirit.'* OR *'A Pirahã is afraid of evil spirits.'*

(9.17) **kó'oí, kóhoibiíhai, hi píai, 'aáibígaí, hi**
name name he also, name 3

**píai, hi koabáipí**
also, he die
*'Kó'oí, Kóhoibiíhai, and 'aáibígaí died.'*

(9.18) **báigipóhoaá 'i 'óooí kobai -baaí**
name:f she tarantula watch -intensely
*'Báigipóhoaá watched the tarantula(s) closely.'* (this can refer to one woman named 'Báigipóhoaá or several)

LACK OF NUMERALS

There are three words in Pirahã that are easy to confuse with numerals, because they can be translated as numerals in some of their uses.[51] These are listed in (9)-(11):

(9.18) a. **hói** 'small size or amount'
b. **hoí** 'somewhat larger size or amount'
c. **bá a gi so** 'lit: cause to come together (loosely 'many')
touch-causative associa -tive nominalizer

Some examples which show how Pirahã expresses what in other cultures would be numerical concepts:

(9.20) a. **tí 'ítíi'isi hói hii 'aba'áigio 'oogabagaí**
I fish small pred. only want
'I only want {one/a couple/a small} fish.' (NB: This could not be used to express a desire for one fish that was very large, except as a joke.)
b. **tiobáhai hói hii** 'small child/child is small/one child'

(9.21) a. **tí 'ítíi'isi hoí hii 'oogabagaí**
I fish larger pred. want
'I want {a few/larger/several} fish.'
b. **tí 'ítíi'isi báagiso 'oogabagaí**
I fish many/group want
'I want {a group of/many} fish.'
c. **tí 'ítíi'isi 'ogií 'oogabagaí**
I fish big want
'I want {a big/big pile of /many} fish.'

[51] The 'translation fallacy' is well-known, but field linguists in particular must be ever-vigilant not to be confused by it. Bruner, Brockmeier, and Harré (2001, 39) describe it as the supposition that there is only one human reality to which all 'narratives 'must in effect conform – be they fiction or linguistic theories, say. Throughout this paper, I will urge the reader to be on guard against this – the mistake of concluding that language x shares a category with language y if the categories overlap in reference.

There are likewise no ordinal numbers in Pirahã , e.g 'first', 'second', etc. Some of the functions of ordinals are expressed via body parts, in a way familiar to many languages:

(9.22) **ti 'apaí káobíi 'ahaigí hi tíohió'ío/gaaba káobíi**
1 head fall same generation he towards me/there stay fall
*'I was born first then my sibling was born.'* (lit: *'I head fall sibling to me/there at fall.')*

The two expressions in (14), **tíohió'ío/gaaba**, are interchangeable in most contexts. They refer to both intermediate points in a succession of participants, events, etc. or to the final position. But we need to be clear on one thing, namely, that the word 'head' does not really mean 'first', not if we assume that 'first' derives its meaning partially in opposition to 'second', 'third', etc. but overlaps with 'first' in referring to something 'at the beginning of a spatial or temporal sequence'.[52]

The Pirahã language has no words for individual fingers, e.g. 'ring finger', 'index finger', 'thumb', etc. They occasionally refer to their fingers collectively as 'hand sticks', but only when asked by an insistent linguist. By the same reasoning, there is no word for 'last'. Moreover, they do not point with individual fingers. If they use any part of their arms for pointing, they tend to extend a flat hand, turned sideways, or an open palm facing up or down. More often, they point, as is common around the world, with their lower lip or jaw, or a motion of the head. When discussing a large quantity/number of objects, they do not make tallying motions on individual appendages, etc. If they use gestures, they hold the flat hand out, palm down, varying the distance between hand and ground to indicate the size of the 'pile' or amount under discussion. However, a seated Pirahã man or woman (though women rarely do this) occasionally will extend both feet and hands, with toes and fingers also extended to indicate a large number of individual items (they would not do this in my experience for a non-individuated quantity, such as manioc flour, but rather for bags of manioc flour, etc.). Other than these gestures, there is no other use of body parts, objects, or anything to indicate a concept of 'tallying'.

Very suprisingly (see Davidson () and Wierzbicka () for the predictions that such quantifiers will be found in all languages), there are no quantifier terms like 'all', 'each', 'every', 'most', 'few' in Pirahã. There are also no 'WH-quantifiers' per se.[53] To appreciate this, let us consider the examples in (15)-(18), to see the closest expressions Pirahã can muster to these quantifiers:

***ALL***

(9.23) **hiaitíihí hi 'ogi -'áaga - ó pi -ó**
Pirahã people he big -be (permanence) -direction water
**-ó kaobíi**

[52] Part of the conclusion of this paper, agreeing with Gordon (2003), is that much of Pirahã is largely incommensurate with English and so translation is simply a poor approximation of Pirahã intentions and meaning, but we do as well as we can do.

[53] One reviewer suggests that these Pirahã words *are* quantifier words, but have different truth conditions from their English counterparts. But having different truth conditions just means have different meanings in this context so if it could be shown, as I do here, that they have different truth conditions then they are different words. Period.

-direction entered
*'All the people went to swim/went swimming/are swimming/bathing, etc.'*

***MOST***

(9.24) **ti 'ogi -'áaga -ó 'ítii'isi 'ogi -ó**
I big -be(perm) -direction fish big -direction

**'i kohoai -baaí,**
she eat -inten.

**koga hói hi hi -i kohoi -hiaba**
nevertheless small amount intens. intens. -be eat -not
*'We ate most of the fish.'* (lit: 'My bigness ate (at) a bigness of fish, nevertheless there was a smallness we did not eat.'

Example (9.25) is the closest I have ever been able to get to a sentence that would substitute for a quantifier like 'each', e.g. 'each man went to the field'.

***EACH***

(9.25) **'igihíhi 'ogiáagaó 'oga hápii; 'aikáibaísi, 'ahoáápati**
man he bigness field went name, name
**pío,**
also,
**tíigi hi pío, 'ogiáagaó**
namehe also bigness
*'The men all went to the field,* **'aikáibaísi, 'ahoáápati, tíigi** *all went.'*

***FEW***

(9.26) **gáta -hai hói hi -i**
can -foreign object small intens. -be
**'aba -'á -ígi -o 'ao -aagá**
remain -temp -associative location possession -be (temporary)

(**'aba'áígio** can often be translated as 'only', though I give its full morphological breakdown here to show that it is not really equivalent in meaning to 'only'. Nor does it share the full range of meanings of 'only')

**'agaoa ko -ó**
canoe gut -direction
*'There were (a) few cans in the foreigner's canoe.'* (lit: smallness of cans remaining associated was in the gut of the canoe')

There are two words, usually occurring in reference to an amount eaten or desired, which by their closest translation equivalents, 'whole' **báaiso** and 'part' **gíiái** might seem to be quantifiers:

(9.27) a. **tíobáhai hi bá -a -i -so**
child he touch-causative -connective -nominalizer

'whole'

**kohoai -sóog-ab -agaí**
eat -desiderative -stay -thus
*'The child wanted/s to eat the whole thing.'* (lit: 'Child muchness/fullness eat is desiring.')

b. **tíobáhai hi gíi -ái kohoai -sóog**
child he that -there eat -desiderative
'part' (in the appropriate context)

**-ab -agaí**
-stay -thus
*'The child wanted/s to eat a piece of the thing.'* (lit: 'Child that there eat is desiring.')

In (19) **báaiso** and **gíiái** are used as nouns. But they can also appear as postnominal modifiers:

(9.28) a. **tíobáhai hi poogaíhiaíbáaiso kohoai**
child he banana whole eat

**-sóog -ab -agaí**
- desiderative -stay -thus
*'The child wanted/s to eat the whole banana.'* (lit: 'Child banana muchness/fullness eat is desiring.')

b. **tíobáhai hi poogaíhiaígíiái kohoai -sóog**
child he banana piece eat -desiderative

**-ab -agaí**
-stay -thus
*'The child wanted/s to eat part of the banana.'* (lit: 'Child banana piece eat is desiring.')

Aside from their literal meanings, there are important reasons for not interpreting these two words as quantifiers. First, their Truth Conditions (see chapter ___ above) are not equivalent to those of real quantifiers. For example, consider the contrast in (21) vs. (22):

Context: Someone has just killed an anaconda. Upon seeing it, (21a) below is uttered. Someone takes a piece of it. After the purchase of the remainder, the content of (21a) is reaffirmed as (21b):

(9.29) a. **'áoói hi paóhoa'aí 'isoí báaiso**
foreigner he anaconda skin 'whole'

**'oaboi -haí**
buy -relative certainty
*'The foreigner will likely buy the entire anaconda skin.'*

b. **'aió hi báaiso 'oaob -áhá; hi 'ogió**
affirmativehe whole buy -complete certainty 3 bigness

**'oaob -áhá**
buy complete certainty
*'Yes, he bought the whole thing.'*

Now, compare this with the English equivalent, where the same context is assumed:

(9.30) a. STATEMENT: He will likely buy the whole anaconda skin.
b. OCCURRENCE: Piece is removed (in full view of interlocutors).
c. STATEMENT: %He bought the whole anaconda skin.

It simply would be dishonest and a violation of the meaning of 'whole' to utter it in (22b). But this is not the case in Pirahã, (21b).

Next, there is no truly quantificational-abstraction usage of **báaiso** 'whole':

(9.31) ***Ti 'ísi báaiso 'ogabagai, gíiái 'ogi -hiaba.**
1 animal 'whole' want, piece want -negative
*'I prefer whole animals to portions of animals.'* (lit: 'I desire (a) whole animal(s), not piece(s).')

Sentences like (9.32) cannot be uttered acceptably in the absence of a particular pair of animals or instructions about a specific animal to a specific hunter. That is, when such sentences are used, they are describing specific experiences, not generalizing across experiences.

It is of course more difficult to say that something does not exist than to show that it does exist, since in the former instance a skeptic can always reply that you have not looked hard enough. Nevertheless facts like those discussed in this discussion, in the context of my nearly three decades of regular research on Pirahã, lead me to the conclusion that there is no strong evidence for the existence of quantifiers in Pirahã.

ABSENCE OF RECURSION[54]

With regard to recursion, as mentioned in ___ above, there are two varieties, where I claim that Pirahã lacks either type. I repeat these here:

(9.32) A → AB

(9.33) a. A → BC
b. B → DE
c. C → AF

The lack of rules like (1) explains why Pirahã lacks the following:

[54] Everett (2005) was not always clear on which of these was in focus. Due to space limitations, I only gave evidence against (1), even though (2) is the principal claim. In work in progress, I tighten up the arguments (thanks to suggestions from David Pesetsky and David Adger) so as to rule out system recursion as well, thus strengthening the case *against* the view of 'creativity in human language' advocated in Hauser, Chomsky, and Fitch (2002).

(9.34) Coordination:

a. [NP John and Bill] came to town yesterday.

b. [S [S I saw [NP Mary, Sue, and Willy] [PP in town and at the mall] and [S I saw some other people too]].

(9.35) Disjunction:

a. Either [NP Bob or Bill] will come.

b. I had [NP chicken or pork], some white meat.

(9.36) Embedding:

a. I doubt [S whether they will come].

b. John says [S that Bill thinks [S that Mary will agree [S that Sue should come too]]].

(9.37) Basic phrase structures:

a. I came [PP with the Pope].

b. [NP The big man] got sick.

c. The [AP very big] man got sick.

(9.38) Semantic scope requiring embedding:

a. He didn't say it was raining.

b. He will not say if he is coming.

Everett (2005) argues that these facts follow from the constraint on 'immediacy of experience' in ():

(9.39) *Immediacy of experience expression in Pirahã*: Declarative Pirahã utterances contain only assertions related directly to the moment of speech, either experienced (i.e. seen, overheard, deduced, etc. – as per the range of Pirahã evidentials, as in Everett (1986, 289)) by the speaker or as witnessed by someone alive during the lifetime of the speaker).[55]

[55] The original formulation was: "Grammar and other ways of living are restricted to concrete, immediate experience (where an experience is immediate in Pirahã if it has been seen or recounted as seen by a person alive at the time of telling), and immediacy of experience is reflected in immediacy of information encoding—one event per utterance." David Adger (personal communication) rightly points out that I will need to

To use an old term of anthropology in a new framework, the constraint in () is in effect a cultural *taboo*. If this proposed taboo were the correct way of looking at what is going on, it would automatically and exactly capture the facts that were listed in Everett (2005), i.e. the *lack of*:

(9.40) **Embedding**: since embedded sentences are not assertions (Cristofaro (2003)), they cannot be used. To avoid these, the grammar of Pirahã will not have rules of the type in (2) above. This will explain all the anti-recursion effects in the paper.
(9.45) **Number & numerals**: These are skills that have both immediate application and wider application, ranging beyond immediate experience. Since the latter uses would violate the cultural principle in (3), however, these are not available in the grammar (interestingly, counting and numerals involve recursion, which could be taken as additional evidence that Pirahã lacks recursion).
(9.46) **Relative tenses**: These involve assertions defined in terms other than the moment of speech. So when I say in Pirahã 'When you arrive, I will go', as I show in Everett (1993), both 'arriving' and 'going' are defined relative to the moment of speech, (however, one could argue that relative tenses involve recursion and so are for this reason unavailable). More complex tenses would violate (2).
(9.47) **Kinship terms**: All kinship terms are related directly to the one speaking (the controller of the 'moment of speech', i.e. ego) and none are defined in terms of other relations (i.e. no kinship terms involve recursion, e.g. grandfather, grandson, etc.).
(9.48) **Color terms and quantifiers**: Color terms and quantifiers can identify immediate experiences, as can numbers, but, like numbers, are avoided by the grammar because they also entail a significant component of ranging beyond immediate experience.
(9.49) **Myths and fiction:** These violate the evidentiality constraint in (3).

One reader of Everett (2005) wondered why, if the above is correct, Pirahã has nouns, since there could be, for example, abstract nouns, i.e. ranging beyond immediate experience. This objection doesn't follow, though I see the point. First, Pirahã does lack abstract nouns. Second, it cannot do away with the (semantic) category of nouns, because all languages must have terms that represent entities and terms that provide information about them. Pirahã is a language, so cannot get by without noun-like elements.

## 9.6. Linking Ethnography and Grammar

Whether or not Everett () is right about capturing all these facts under the single generalization in (), the Pirahã facts nevertheless provide strong evidence for the importance of investigating the culture-language nexus as part of fieldwork. Let us therefore consider some methodological suggestions for investigating this connection. First, I suggest a few questions that might lead to a methodology.

(9.50) Pre-methodological ethnogrammatical questions:

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discuss how this applies to modality.

a. Are there irregularities that have no obvious structural explanation?
b. Are there examples 'free variation', i.e. where there are choices between two structures which are not constrained by the structures or the grammar, in so far as can be determined?
c. Are there unusual facts about the cultural events, values, or explanations that involve principles or phenomena that at any level look similar to principles operative in the grammar?

As to the methodology that follows from such questions, Enfield (2002, 14ff) offers some cogent and very important considerations and suggestions for the study of ethnogrammar. First, he recommends that the fieldworker "Examine specific morphosyntactic structures and/or resources and make explicit hypotheses as to their meaning." Second, following development of this and related methodological considerations, he raises the crucial issue of 'linkage', namely, how can we establish a causal connection between facts of culture and facts of grammar? I turn to this directly. Before doing this, however, I want to point out what seems to be the biggest lacuna in the study of ethnogrammar, whethere in the studies in Enfield (2002) or elsewhere. This is the effect of values, especially cultural taboos like () above, in restricting both culture and grammar. That is, previous studies, like those in Enfield (2002), while reasonably focusing on meaning, which is after all a principal contribution of culture (i.e. guiding its members in finding meaning in the world), fail to consider cultural prohibitions or injunctions, however deeply or shallowly embedded in the community system of values. The Pirahã example of this section is evidence that such values should also be considered in ethnogrammatical studies. However, before we can draw any conclusions at all about ethnogrammar in a given language, we need to consider the vital issue that Enfield refers to as 'linkage', i.e. the establishment of a causal connection between culture and language. That is, how can we convince someone or, at least, effectively argue that property ***p*** of culture **C** causally determines feature ***f*** of grammar **G**? According to Clark & Malt (1984), cited by Enfield (2002, 18ff) there are four prerequisites to establishing linkage between culture and language:

(9.51) Culture – grammar linkage prerequisites
a. Empirical grounding
b. Structure independence
c. Theoretical coherence

And also (9.52):

(9.52) Avoid circularity

A circular argument in ethnogrammatical studies would be to claim that a particular linguistic feature is simultaneously determined by an aspect of culture and evidence for that aspect of culture (so, for example, 'The language has evidentials because the culture values empirically-based reasoning.' And then 'We know that the culture values empirically-valued reasoning because it has evidentials'). The way to avoid this is to first establish, using *nonlinguistic evidence*, particular values or meanings in a certain culture. Next, using *noncultural evidence*, establish the meaning and structure of the relevant linguistic examples. Finally, show how linking the two

provides a conceptually and empirically (in terms of predictions where possible, or explaining independent domains such as historical change) superior account of the facts that leaving them unconnected.

Ethnogrammatical studies thus range from showing that, say, a language has honorifics because of a severe social structure, or a particular set of kinship terms because of its restrictions on marriage, to (what most researchers have overlooked), the kinds of global, architectonic constraints on grammar from, e.g. *taboos* like () above.