

Cognition, communication, and readiness for language

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This review article discusses some problems and needs for clarification that are connected with the use of the concepts culture, language, tool, and communication in Daniel Everett's recently published book, *Language: The Cultural Tool*. It also discusses whether the idea of biological readiness and preparedness for language (rather than grammar) can really be disposed of as a result of Everett's very convincing arguments against a specific genetic predisposition for the syntactic component of a grammar. Finally, it calls into question whether Everett really is true to his professed ideology of scientific ideographical pragmatism.

Key words: Cognition, communication, comparing languages and cultures, evolution, readiness for language, tool metaphor

1. Introduction

Perhaps the main claim of Dan Everett's multifaceted book is that we have no specific genetic predisposition for language or perhaps more precisely for the syntactic component of a grammar. There is no language organ given by genetics, in a uniform manner, to all members of the human species. This is not a new position. It was fairly common before the writings of Noam Chomsky and has all along remained a minority position among linguists and cognitive scientists. However, Everett pulls together many sources and types of evidence for this position in a way that is very convincing.

Since I have shared Everett's view on this issue for a number of years, I will not discuss his main claim, which I agree with. I will, however, consider some issues that are related and point to a need for specifications or modifications of the claim. The second main claim of the book is that language rather than being a genetically given organ of the mind is a cultural tool. It is the meaning and possible consequences of this claim that I will mainly be discussing in my review.

2. Language, culture, and tool

The title of Everett's book, *Language: The Cultural Tool*, presupposes that we are already acquainted with the fact (or claim) that languages are cultural tools. Are we? Perhaps we are not. Since all three concepts, language, culture and tool, are complex concepts, the claim might be true in some sense and less true in another. Here, definitions of the three concepts would have been helpful. Everett tells us how other researchers have defined "language" and "culture" but not really how he would define the notions himself. The notion of "tool" is left undefined. Starting with culture, I will discuss all three notions and point to some problems and needs for clarification. I will also discuss some other concepts that play an important role in Everett's analysis, namely "communication" and "cognition".

2.1 Culture

2.1.1 View of Culture

Everett quotes two definitions of culture provided by Edward Tylor and Clifford Geertz:

Culture, or civilization, taken in its broad ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society. Edward Tylor (quoted on pages 48 and 202).

[A]n historically transmitted pattern of meanings, embodied symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetrate and develop their knowledge about and attitudes toward life. Clifford Geertz (quoted on page 202).

Everett does not fully agree with either of these definitions, since they according to him put too little emphasis on values and they don't allow for dynamics and evolution. In several places, he provides his own view of culture but does not really give a definition; e.g., he writes (p. 48), "A working definition is that living culturally is sharing a similar set of ideas and values" (p. 169), "Culture is a set of values that originate in cognitive links produced by the interactive relationship between members of a society" (p. 169), or "Culture is about values and meaning" (p. 299).

A definition of culture is obviously important to the claim that language is a cultural tool. For example, if language is a cultural tool, does that mean it is not a natural tool? This depends on how you conceptualize the relation between culture and Nature. Both of the definitions of culture discussed by Everett are fairly narrow definitions of culture, at least if we look at the list of definitions of culture compiled by Alfred Kroeber and Claude Kluckhohn in 1952. Both of them, as well

as Everett's own remarks on culture, take their basis in culture as a collective mental phenomenon with some allowance for patterns of behavior and action.

Whatever definition is chosen, it would be good if it would make it relatively easy to relate to word structure and other structural phenomena in language, since this is part of what one expects if language is a cultural tool.

None of the descriptions (a definition is also a description) mentions the aspects of communal living, such as artifacts and other traces in Nature that are important in a broader definition of culture. In this broader sense, agriculture could be said to be the prime example of culture. Culture in this sense is always "cultivated nature" and if we apply this to language as a cultural phenomenon, then language is also "cultivated nature". If we use the tool metaphor, language will be a tool which like all other tools and artifacts has both natural and cultural aspects. Thus, it is both a natural and a cultural tool.

Convention is a concept which is closely related to culture. In fact, conventions are a presupposition both of cultures and of languages. It is therefore desirable to characterize them in some way. Everett does this in terms of "agreements" and "contracts" (p.206). However, both "agreements" and "contracts" would lead to a much more limited notion of convention than is required. There are very few linguistic and cultural phenomena for which we really have agreements and contracts. To be adequate, Everett must therefore dilute the two notions and, after a long discussion of linguistic and cultural examples, he leaves the reader without really having defined or explained in what sense we are to take "convention" and in what sense we are to relate it to culture.

2.1.2 *Culture, language, and meaning*

Let us now consider some of the claims that Everett makes about the relation of language to culture. "There can be no culture without language" (p.187). Is this really true? Can animals not have culture, i.e. non-nature given shared habits (bird dialects) without having language? Probably they cannot have culture without communication, but if we assume that communication always involves languages, this would lead to a very diluted notion of language.

On p.240, in spite of the claim just cited, Everett provides a list of cultural "values" that children can acquire without language, i.e. "when to sit still, when to be quiet, how to express affection, what kind of clothes to wear, the length and intonations of verbal interactions, how to hold and manipulate your body, interpersonal etiquette, attitudes towards death, trustworthiness, barter and exchange, kinship systems, two-dimensional and three-dimensional objects. Since the claim that children can acquire all of these types of ability, which all seem culture dependent, without language, is a bit surprising, it is a bit disappointing that no evidence is given for the claim. If Everett were right about his claim that language is not required,

should it not lead to a modification of the claims concerning the power of language as a cultural tool and the claim that there can be no culture without language?

In fact, sometimes Everett also separates language from “the other side”, when on p. 239 he writes that not all language processes are acquired culturally. This is also somewhat surprising, since we are then not really told which language processes he has in mind, nor how they are acquired.

Everett also claims (p. 169) that “culture brings meaning from the world”. It is not clear what this statement means, but perhaps it means that there can be no meaning without culture. Does this have the consequence that if animals have no culture, they have no meaning? But don’t the indexical and iconic signs (cf. Short 2007 and page 5 below), that probably are used by animals provide meaning? If they do, which seems likely, should we for this reason presume that animals also have culture or should we conclude that meaning can be produced in Nature without culture?

2.2 Language

2.2.1 *View of language*

Everett cites three definitions of language. According to the Merriam-Webster on-line dictionary (p. 31): language is “a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures or marks having understood meanings”.

Henry Sweet (p. 31): Language is “the expression of ideas by means of speech –sounds combined into words, words are combined into sentences, this combination answering to that of “ideas into thoughts””.

Bloch and Trager (p. 31–32): “A language is a system of arbitrary vocal symbols by means of which a social groups cooperates.

Chomsky (p. 32): “A formal language is a (usually infinite) set of sequences of symbols (such sequences are “strings”) constructed by applying production rules to another sequence of symbols, which initially contains just the start symbol.”

Everett finds all three of the definitions unsatisfactory; Sweet’s since it is too narrow and does not allow for sign language, Bloch and Trager’s because it is too wide and would make baboon grunts a language, Chomsky’s because it has no reference to meaning. He likes Merriam-Webster’s definition best but, again, gives no definition himself. However, he provides a summarizing formula (p. 35): Language = cognition + culture + communication.

Although it is a little difficult to know what the “+” sign means in terms of relations between cognition, culture and communication, it is worth noting that communication involving cognition and culture can be achieved without symbols, using only icons and indexes, in Peirce’s sense (cf. Atkin 2005 and Short 2007). So

here it seems that Everett has a wide notion of language. In other places, however, he gives other evidence of having a view of language that is more narrow and strongly influenced by written language (cf. Linell 2005; The written language bias in linguistics.).

On p. 119, Everett writes “Language contains nothing exactly like an index”. However, the words *this*, *that*, *here* and *now* are all indexical in Perice’s sense. In linguistics they are mostly called “deictic”, from the Greek δείξις *deixis* “display, demonstration”, but often also “indexical” from the latin word *indicō* (“point out, show”), i.e., they signify by pointing or contiguity (closeness). To say that they have a “physical correlate” leads to a definition of “index” that is probably both too narrow and too wide. The claim that language has no indexes leads to (or possibly presupposes) a fairly narrow view of language, excluding “conventional indexes” and “conventional icons”, sometimes also referred to as “symbolic indexes”, “indexical symbols” and “symbolic icons” or “iconic symbols”, depending on the degree of conventionality of the sign. In fact, on p. 122, Everett gives several examples of both types: long sentences contain complex information (conventional index) and speaking about Pirahã babies in high pitch (conventional icon).

Another example is when, on p. 178, he claims that all human meanings can be communicated by the use of only a small range of consonants, intermixed with three or more vowels. This reflects a non-communicative view of language, where the role of prosody and communicative body movements for emotions, stress, interaction and management is forgotten.

Further, Everett, throughout the book, thinks that words are more basic than morphemes and are the building blocks of language. “Words (rather than morphemes) are forms for concepts, phrases are forms for modified concepts..., sentences are forms for thoughts and groups of sentences, paragraphs or discourses are forms for expressions of multiple thoughts”. He also writes: “Words are the starting point of the T-grammar because everything else in a grammar is built on words. Words are kept inside our mental dictionary” (pp. 141–142) and “A primary building block would be the ability of humans to invent words. Without words there is no language” (p. 157), as well as “Once we have meanings and concepts, most of these are turned into signs, principally words. Words are stored in every normal human’s long-term memory” (p. 193).

This view leads to problem already with words like *books*. Is this one concept or two concepts? Is there not a difference conceptually between *book* and *books*? For example, that *books* but not *book* denotes either “a set of discrete book entities” or “an action, taking place at the same time as a designated reference time, usually the time of the speech situation”.

Everett also has a fairly conventional, non-contextual view of word meaning, in spite of later realizing the importance of contextual background information

(p. 204). Words “have more functions than to merely express definitions” (p. 107). Except for in actual definitions, do they ever have this function?

He also claims that words in language without a writing system have literal meaning. But no attempt is made to clarify this highly obscure notion, which has its origin in the exegesis of sacred texts and not even in this context has a clear sense, not to speak of its status in multimodal linguistic communication, where there are no dictionaries which purport to codify “literal meaning”. For example, on page 127, Everett equates denotational and “literal meaning”. Does this mean that metaphors have no denotation? Words are also more different in function than perhaps is convenient if they are to be basic building blocks — “Every noun is a generalization about things” (p. 243). This is not true of proper names, which are also nouns. And the claim that “every verb is a generalization about events” is not true of verbs like the copula, auxiliary verbs and modal verbs or static verbs like ‘exist’ or ‘belong’ (p. 243).

As we have seen above, Everett in addition espouses the idea that we have a “mental lexicon” (p. 142), but nowhere discusses the relation of this “mental lexicon” to a “mental encyclopedia”, a discussion, which if it had been carried out could have added more arguments to the idea that linguistic ability rather than being a separate organ of the mind, involves a particular way of organizing cognition.

2.2.2 *The role of context*

Another consequence of Everett’s relatively narrow view of language is that, in spite of sometimes stressing the importance of context, he at other times, seems a little unaware of the influence of the general but sometimes radical role of context in relation to what is left out and explicitly marked and said in languages (pp. 196 ff). In spoken Swedish, 40% of all utterances have no verbs (see below and Allwood (2005)). The word *Che* in Chinese can mean *I eat* or *you eat* or *he eats* etc., depending on context. Context is made use of systematically in most languages but in different ways. Context often allows for more “elliptical” constructions than “armchair reflections” on grammaticality will allow.

So even in English (not only in Pirahã), the verb of saying can disappear (e.g., in stage instructions):

Batman to Robin: Hello Robin.

The non-contextual perspective also leads to a neglect of the role of one-word utterances and gestures in conversation. As much as 24% of all utterances in dialog are one-word utterances and 40% lack verb (cf. Allwood 2005). A neglect of facts such as these, easily leads to an over emphasis of the role of verbal syntax. So ironically enough, even though Everett wants to downplay the necessity of recursion in

verbal syntax, he has still taken over a view of language and communication that is characterized by what Ragnar Rommetveit and Per Linell have called “the written language bias in linguistics” (cf. Linell 2005).

In line with this fairly traditional non-contextual view of language, on pages 50 and 55, Everett claims that ambiguity and vagueness are defects of language, yet in other places he claims the opposite (pp. 221–224). Here Everett claims that it is useful to be ambiguous and vague, where this earlier has been seen as a “defect of language”. Perhaps this is evidence that his view of language is changing and is not static.

2.2.3 *Language, function, and form*

One kind of evidence for a functional, pragmatic view of language is encapsulated in the claim that function influences form. For example, Everett writes, on p. 6: “the function of language shapes its form”. Although many examples of such influences can be found, many examples where there is no apparent influence from function can also be found, e.g. why does the interrogative mood (order of words, inflection, particles, intonation) or negation (inflection, particles, lexical items, word order) in different languages have so many different shapes? Presumably, the functions of asking questions and negating are fairly similar across languages. In other cases, there might have been a clear function originally, historically, but this function has become opaque over time, so that today synchronically there is not much evidence of the function any more. Everett, does not discuss counter examples of this sort, but instead seems to hold on to a fairly strong synchronic version of the thesis that function influences form, which, however, is not really examined critically.

Everett gives several examples of how function modifies form (pp. 25–27), but all of them concern duration (length), perhaps not the most convincing of formal properties. For example, he claims that longer expressions have more information (p. 106). This might be correct in many cases, but not always. The number π (≈ 3.14) is very short, but contains fairly complex information. The expression *yes, yes, yes, yes* is five times as long as *yes*, but hardly contains five times more information.

2.3 Comparing languages and cultures

Everett holds that all cultures and languages are of equal ecological value: “But the fact that all languages are equal does not mean that they are all equally complex or equally versatile. What I mean here by ‘equal’ is the fit of each language to its cultural niche, as a result of standard human intelligence and evolution. Languages fit their cultural niches and take on the properties required of them in

their environments (p. 234)". They might be of different complexity, but they are all best for their particular ecological niche.

Since languages are not directly linked to biology, the differences in complexity that exist between languages are due to cultural rather than biological evolution. However, at the same time, drawing on Richerson and Boyd (2004), Everett claims that culture can influence biology (p. 19), "In fact there is evidence that culture can affect genes, thus enriching the process of natural selection", "the process of cultural evolution has played an active, leading role in the evolution of genes". If the latter is true, it remains entirely open (and possible) whether some of the differences between languages (for example, in complexity) could be linked to genetic differences between the speakers of the languages.

2.4 Tools

2.4.1 *View of tools*

Everett provides no definitions of 'tool' but we may note that the term *tool* belongs to a semantic field, where there are several other terms, like *instrument* and *means*, perhaps, in some circumstances, these terms would be more adequate than tool. How close to tools are really specific features of languages, such as nominal gender, case, definite articles, etc.? Some languages have them and others don't. If these features are serving specific cultural purposes in the languages and cultures that have them, what are these purposes, and are we allowed to conclude that these purposes don't exist in the cultures that don't have them?

2.4.2 *The tool metaphor and comparison of languages*

One of the main claims in Everett's book is that language is a "cultural tool". A problem with a strong reliance on a metaphor is that you do not know how seriously you are allowed to take the metaphor. For example, it is common to evaluate tools and claim that some are better and some are worse for a given purpose. It is also common to develop tools and to throw away the old tools without much regret.

Everett, on the other hand, does not really want to compare languages, since each language is supposed to be unique (pp. 318–319). Everett also thinks that all languages are of equal value, since each language is a tool to solve the "unique" ecological needs that exist in the culture it is associated with. So we presumably should not compare languages A, B, C with regard to, for example, their ability to facilitate talk about color, mathematics, complex kinship, or philosophy of mind, and as a result of our comparison come out with statements claiming that language A is much better than language B regarding talk about color, mathematics, philosophy of mind and kinship relations. No language is better than another if regarded in its unique ecological niche.

Language as a tool is, thus, very unlike other tools, where the normal procedure is to compare and evaluate and on the basis of the evaluation choose the best tool with no regrets about the tools that were left behind. In general, we would probably not want to make a special point of remembering that each saw, hammer or axe is unique to its particular historical situation (even if it is true that they were unique in some sense) and claim that they for this reason cannot be compared to other saws, hammers or axes. Neither would we probably want to say that the loss of a particular type of saw is a loss to humanity. Perhaps languages are not really tools or only tools in some respects. Perhaps other terms like *instruments* or *means* are just as adequate, or even more adequate, to capture the implicit means — ends relationship languages often serve in relation to the various activities in a culture.

Another problem with the claim that each language is unique and equal to all other languages from the point of view of its ecological niche can be brought out by the following analogy. Earlier in my life, my family used to arrange a ski race, usually as part of celebrating Easter eve in the Norwegian mountains. The problem was that really only one person was happy at the end of the race, namely the winner. So we devised a more tolerant and pragmatic solution. Each participant was competing in his/her own exact age group. In this way, all participants could be seen as winner in their own age groups and everyone was happy. A possible problem with the solution was that it had seriously diluted the meaning of the word “race” or “contest”. A race or contest where everyone is guaranteed to win is hardly a race or contest in the normal sense of the word.

Similarly, a comparison where every language is declared to be best in its specific ecological niche and therefore equal to all other languages is hardly a comparison and the evaluation is not really the result of a comparison but of an a priori postulate that each language is unique and most well suited to its ecological niche.

Everett also shows his skepticism concerning evaluations based on a comparison of languages through another argument. On p. 286, he claims that languages are equal in expressive power since they can change and incorporate what they need (e.g., linguistic recursion, for example from another language):

I want to emphasize that finding evidence that recursion or some other grammatical characteristic is missing or present in a given language tells us nothing about the overall complexity or worthiness of that language. Languages incorporate what they need to, according to the demands of their cultural niche. As the niche changes, the language can also change (p. 286).

In order not to make comparison difficult and perhaps a little pointless, this could possibly be better described as all languages are potentially equal, since they can change.

But perhaps we should take the tool metaphor more seriously and consider whether languages can be more or less similar to tools. Are some languages more tool-like than others? An affirmative answer to this question is actually fairly natural. The more invented a language is, the more tool like it seems to be. So it is very natural to think of so called computer languages (Fortran, Algol, Lisp, C, Java) as tools for programming computers. It also seems natural to think of the language of botanical classification or chemical formulae as a tool.

However, as we approach so called natural languages with languages like Esperanto, Volapük, Neo and Ido, some of the tool-likeness becomes weaker. And when we actually consider natural languages, such as Pirahã, Danish or English, the tool-likeness is still weaker. Even though parts of “natural languages” are sometimes explicitly invented by clever authors, translators or language academies like “Svenska Akademien” (the Swedish Academy”), they are in some sense clearly less tool-like than Fortran, Lisp, Neo or Esperanto. Possibly, the sense is that they are not invented to the same extent, but have often evolved organically and naturally in interaction between Nature and culture, sometimes with esthetic goals that are in no obvious way connected with the pragmatic usefulness that usually characterizes tools.

Let us now turn to a concept that has been presupposed in our discussion of all the three concepts discussed above; “culture”, “language” and “tool”, namely “communication”.

3. Communication

3.1 View of communication

Everett accepts the “conduit metaphor” of communication and uses Shannon and Weaver’s “transfer” based definitions (pp. 50, 56–58). He seems unaware of the criticism of this notion, to the effect that it makes the recipient too passive and leads to a neglect of the creative interpretation and interactive feedback contributions of an active co-communicator.

The Shannon and Weaver view of communication is a red thread throughout the book (pp. 118, 142, 161, 170, 215, 221, 280) and generally leads to a neglect of the view that face-to-face communication involves a “multimodal bidirectional flow of information” in favor of a telephone inspired perspective, where communicators are transmitters and receivers of symbols. Although Everett has indicated distance to the Chomskyan view of a formal language as a set of strings of symbols, this is still too close for comfort.

The Shannon and Weaver account of communication probably also has the effect of over emphasizing the role of the brain and down playing the role of the

rest of the body in communication. Co-activation and alignment between two or more communicators on low levels of awareness and intentionality are not really part of Everett's (or Shannon and Weaver's) view of communication. Rather, communication is seen as aware and intentional transmission of information from one brain to another (p. 58).

His acceptance of the passivity of the recipient implicit in the "transmission" model of communication also makes him think that the meaning of contributions to dialog are transmitted rather than co-activated and shared, thus adhering to a view of dialog and communication as a sequence of alternate auditory monologs, rather than as interaction, where meanings are co-constructed multimodally by the participants.

Possibly as a consequence of this, Everett underestimates the power of spoken language communication and assigns the possibility of editing and rhetoric to written language, while forgetting the advantages interaction and mutual co-construction give (p. 276).

Everett also underestimates the fact that, even today in western societies, people can live by telling stories (p. 278), e.g., TV sofa professionals and professional lecturers and that repetition does not only take place in spoken language, compare the role repetition often plays in newspaper articles (pp. 278–279).

In line with this, Everett claims that (p. 237) "Phatic communication carries little if any real information". What is "real information"? Is information about social bonding, emotions and attitudes not "real information"? Again, the impression is that Everett, in spite of professing the opposite, has a non-communicative view of language and as a result of this also has a more limited perspective, than is necessary and desirable, on language as a communicative tool.

Another problem is that Everett does not clarify what he sees as the semi-otic basis for communication (index, icon or symbol). For instance, he claims that communities develop prior to communication. But is this really possible? It seems more likely that communities developed as a result of indexical and possibly iconic communication between higher primates.

A final remark is that the term "coherence" (p. 60) is perhaps not the only or even the best way of talking about functional-relevant sense in communication. As a matter of fact, it is a little unclear what "coherence" means outside of logic (where it means absence of contradiction) and it is not too difficult to imagine coherent discourse that does not make much sense. So, suppose that A, on a sunny day says to B "If it is sunny, the sun shines. Today it is sunny so the sun shines.". This utterance is coherent and even true, but does not really make much sense in the situation. The reason, among other things, is that the utterance is not really adjusted to factors like relevance to A's and B's motivation and the purpose of A's and B's joint activity, which probably will not be that they are engaged in a lesson on syllogistic reasoning.

4. Language, speech, and multimodality

It is part of Everett's outlook on language that speech has no privileged status, so on p. 174, there are a number of claims concerning the equality of speech and sign language, i.e., that sign is as quick as speech, that speech and sign don't involve separate neuronal networks and probably also that gestural signs are symbols (words) and can be used for sharing information with the same degree of complexity as speech symbols (words). But no evidence is given. In fact, all of these claims are still somewhat contested and contestable empirical issues, where the final answers are not available yet.

In a similar vein, Everett assumes that speech and language are logically distinct (this is difficult to understand, since speech is a kind of language, like dachshound is a kind of dog). As evidence, he mentions, among other things, whistle language. This is not very convincing, since all whistle languages, as far as I know, build on properties of speech, either tones, as in Everett's examples, or vowel formants, as in the case of the whistle language on the island of Gomera. He then claims that speech and language have influenced each other. This is hardly surprising, since speech is a kind of language.

On p. 125, Everett writes "Language is flexible because it has no particular channel as part of its design." If this were true, then languages based on taste, smell, touch or sense of temperature should be as common as languages based on hearing and vision. But they are not. In fact, of the four senses mentioned, only touch has really been used at all (Braille). There seems to be a clear preference for hearing and vision. And, in fact, there is also a preference for hearing over vision, since for all hearing humans, spoken language is preferred over signed languages, even if some groups of hearing humans have gestural signed languages as an auxiliary language. For deaf people, signed languages are preferred over spoken language, even if, after the introduction of cochlear implants, also many deaf people seem to prefer spoken language.

The fact that gestural language or touch language or some other mode of communication can be used instead of spoken language does not mean that we have no genetic readiness for speech. It only means that our brain is plastic enough to allow us to develop compensatory mechanisms when the linguistic modality we are mainly ready for, i.e. speech and hearing, for some reason is not available.

It might also be true that speech is not the basic or most important mode for all types of communication; touch might be more important for expressions of love and aggression, facial gestures might be more important for expression of emotion and head movements for feedback and coordination etc.

Everett also thinks speaking is unimodal, acoustic. No mention is ever made of the multimodality found in the "McGurk" effect (the fact that our observation

of lip and jaw movements through multimodal integration seems to influence what speech sounds (phonemes) we actually hear, or of how gesture and speech in general are coordinated holistically to form integrated content, cf. McGurk and Mac Donald 1976 and Wright and Wareham (2005).

In line with this, Everett claims that we do not mix modalities, “we do not mix hand gestures with consonants and vowels to produce words”. Perhaps not, but we do mix auditory perception of consonants and vowels with visual perception of lip and jaw movements in order to hear what is being said (the McGurk effect) and we do mix deictic words like *that*, *this*, *here* and *there*, with pointing gestures to specify reference. We mix a friendly voice with friendly words and a friendly smile. Face-to-face communication is normally multimodal, making use of several modalities simultaneously.

5. Language, communication and cognition

Let us now turn to what Everett calls the “cognitive platform for language”. Here Everett describes a number of cognitive features and abilities that he claims are used in language. One of the issues here (p. 163) is the extent to which the “components” of the “cognitive platform of language”, i.e., intentionality, background, theory of mind, figure-ground, contingency judgments and consciousness, are mutually exclusive? Isn’t figure-ground a special case of the workings of “intentionality”? Isn’t “ground” a special case of “background”? Are not stored “contingency judgments” part of the “background”?

A clarification of “intentionality” is needed (ibid.). Do both words and mental acts have intentionality? Or do words have intentionality only by being associated with mental acts? Is Everett trying to make “intentionality”, the same as “intentionality”? Does a word like “ouch” have intentionality? If so, what is it about or directed at? Is not consciousness involved in all the components? How do we know that the list is complete and that these are the most crucial components.

Since the components are not really put to use in a theory of communication or language production and language perception/understanding, it is hard to evaluate possible answers to the above questions. For example, is consciousness always involved in communication? Are not subconscious communicative processes possible, both on the production and on the recipient side, in communication? Most theories of communication would allow this, especially regarding indexical and iconic signs.

Linked to the above issues is the question of how unique human cognition is. On p. 166, it seems that Everett is saying that “consciousness”, “background”, “theory of mind”, and “contingency judgments”, but not “intentionality”, are unique to

humans? They are claimed to be “building blocks” of language” which “came to exist after hominids came on the scene”. However, most of these cognitive abilities seem possible to attribute to other animals than humans. For example, why is having a culture necessary for claiming that an animal has consciousness or intentionality or can relate to “background”? Why isn’t ability to relate to memory enough? Are not many animals able to do this, when they are able to find their way home, e.g. magpies finding their way to their nest etc.? However, these statements run against other passages where animals are ascribed more cognitive ability.

Everett also claims that “animal communication” in the wild uses no signs (p. 118). Using the Peircean analysis of signs, we can see that this cannot be true for indexes, they use indexes all the time (e.g., ants and bees leaving trails to food). They probably use icons, as in deceptive behavior and it’s unclear whether they have conventional behavior, as can be seen in the dialects of bird song that certain birds have. In the first two cases, the source of these signs is Nature rather than “a particular cultural history”. Later (p. 121), however, Everett realizes that animals might have signs, but he does not actually tell the reader which alternative he in the end believes.

Another issue regarding cognition is that Everett takes it for granted that we think in concepts (pp. 142, 203). Can this really always be taken for granted? Is the flux of indexical, iconic and symbolic information stored in our memory and appearing in our thoughts really only conceptual?

When it comes to the relation between culture, language and thinking, Everett describes, somewhat inconclusively, in Chapter 10 — “Language, culture and thinking”, how the Pirahã, can handle color and make kinship distinctions in relation to choice of marriage partner, without having support for this in their language. He also has an interesting discussion of thinking, recursion and expressive power. For example, he writes that (p. 262) English and Walpiri have different expressive power and he also writes that (p. 294) English and Pirahã are different in expressivity because of recursion. He then, however, notes that recursion in thinking and recursion in language might not have a one-to-one correspondence. The Pirahã might think recursively even if their language does not have syntactic recursion. All of this seems to show that the power of language over thinking is not so strong after all. But after a discussion of three positions with respect to linguistic relativity; “strong”, “weak” and “very weak”, Everett does not really tell us his own position. Is it “weak” or “very weak”?

6. Evolution

Everett cites convincing evidence to the effect that there is no specific language gene and that language is not modularized and localized in a specific location in

the brain. However, he recognizes that humans seem to have developed greater ability to process, produce and perceive the fine grained differences in sound that are needed for speech. We have also seen that it is difficult to point to any function outside of speech that this ability could have. If we combine this ability with the ability of human beings to associate fine-grained meanings and concepts with the sound differences in a symbolic (i.e. non-indexical and non-iconic) manner and notice that no other species probably has the same ability, it does not seem impossible that this ability is facilitated by genetic predispositions. Parrots can perceive and produce human linguistic sounds, but probably cannot associate these sounds with meanings and concepts. In this connection we note that Everett partly agrees when on pp. 240–241 he says that humans and dogs are different because of biology with respect to language categorization and linguistic support of categorization.

As already mentioned, Everett believes that cultural factors can influence human biological evolution (pp. 41 and 42; “Modern examples of culture changing genes are not hard to find”). If this is correct, if culture can change genes, why cannot language (the need for distinct production and perception of speech, the need for complex modality neutral cognitive information (meaning, concepts)), which after all is a cultural phenomenon, also do this? In fact, sometimes Everett comes close to at least partly claiming this, (p. 171) “our anatomy changed for vocal speech”, but then a few lines later he writes “none of the part of the vocal apparatus evolved primarily for language”. In order for the latter claim to be credible, we really have to know exactly what the non-communicative, non-linguistic functions were of all the changes of the vocal tract. Again on p. 176, he writes: “our ears and their inner workings have co-evolved with our sound-making system, it is not surprising that we have evolved to make and be sensitive to a relatively narrow set of sounds that are used in speech. Hearing and producing speech sounds are two vital evolutionary adaptations found universally in all healthy humans.” One might say that this shows an ambivalent attitude.

The fact that our linguistic abilities are not neatly localized in the areas pointed out by brain researchers like Broca or Wernicke, but rather usually consist in interaction of several brain areas should not surprise us, if our linguistic ability, to a much greater extent than has been earlier assumed, consists in multimodal coordination of planning, production, perception, understanding and thinking. We might claim that it is for this complex coordination of cognitive abilities with a special reliance on speech organs supported by visible communicative body movements that we are genetically predisposed.

A view of this type could be compatible with a claim that we are genetically predisposed for a purpose driven complex coordination of abilities, which would be the basis for our problem solving ability and general intelligence (p. 96), which could then be seen as an “apriori ability”, somewhat more complex than the “apriori

knowledge” Everett is arguing against. To some extent perhaps Everett overlooks this possibility because of the broader coverage of the English term “knowledge”, which covers not only “true, justified belief” (know that), but also abilities, skills and capabilities (know how). The sketched view would also be compatible with the fact that genetic predispositions in general are easier to imagine in relation to abilities than to “true justified beliefs”.

The suggested view would involve a genetic facilitation of linguistic communication and language supported thinking, but it would be a genetic facilitation of a different sort than that which has focused on a language as a verbal, syntax oriented modularized organ of the mind.

In fact, we could take the ambivalent attitude Everett manifests toward linguistic universals as support of the sketched view. As part of the argument against a genetic predisposition for language, he claims that there are no (or very few) universals of language, but in spite of this suggests several possible universal or near universal (p. 194) features (even if neither he nor anyone else has still investigated more than a small percentage of the world’s 6 800 languages). Among the claims we find:

- i. All languages have nouns and verbs.
- ii. All languages tell stories.(Is it the language or the speakers who tell the stories?)
- iii. All languages have hierarchical relationships.

Everett then claims that the occurrence of the universals follows from the make-up of our vocal apparatus, the basal ganglia and other biological components. Is not this a biological basis and readiness for speech that is not shared by other species?

As a matter of fact, some of the other examples that Everett discusses could also be used to support the view of language as cultivated Nature and suggestion for a genetic readiness sketched above by analyzing a little further some potential similarities (p.257) between the phrases used for color in Pirahã, and words and phrases which are the etymological origin of color word in other languages (e.g., red = blood color or green = leaf color), in this way throwing light on how similarities between languages can occur as a result of similar interaction between culture and Nature.

Another issue concerning biological facilitation of language concerns how much learning is involved in acquiring a language. Everett argues against Chomsky’s “poverty of stimulus” argument by noting that no one has ever shown that languages are incapable of being learned (p. 101), presumably because most humans, if not all, have learned a language, so Chomsky’s claim is impossible to test. However, something is missing in this argument. Who is the agent of learning? Is it humans or some other species? If any other species than humans are

tested, presumably they will not be able to fully learn a human language, even if they are capable of learning some small part of it. It therefore seems strange not to recognize the unique human ability to learn languages as a species specific readiness for the complex cognitive-behavioral ability to learn and use a language.

7. Instincts

By defining “instinct” as an ability that is manifested without a period of learning, it becomes fairly easy to show, for example, that there is no language instinct. In spite of the definition, some instincts, like the “learning instinct”, (p. 185) seem to be affected by learning since we gradually learn how to learn.

Rather than assuming a “language instinct”, Everett wants to show (p. 218) that “most of human language, its forms and function, result from the interactional or social instinct proposed by Aristotle, in conjunction with various features of the real world”. This is a praiseworthy ambition, even if some work remains to be done. However, it is a little unclear why Everett thinks that an “interactional instinct” is better than a “social instinct” or, for that matter, a “communication instinct”. It does not seem entirely obvious how one would choose between these alternatives (p. 187). At any rate, it seems reasonable to claim that there is an interactive or communication instinct and it also seems reasonable to claim that even if interaction or communication are instincts, this instinctual ability can be modified by learning, as can most other abilities for which there is an innate basis. Thus, perhaps the definition of instinct should be modified to something like “an ability that is at least partly (rather than fully) manifested without a period of learning”.

This view of instincts can also be used to modify the discussion in Chapter 1 of whether language “just grows” or is learned. If language is cultivated Nature, as suggested above, perhaps it can both be learned and naturally develop. Compare the following abilities (some of which might be claimed to be instinctual), which all to varying degrees combine “natural development” with learning:

- i. learn to be breast fed (some babies have to be taught this)
- ii. learn to eat
- iii. learn to crawl
- iv. learn to walk
- v. learn to whistle
- vi. learn to sing
- vii. learn to talk
- viii. learn to swim
- ix. learn to dance

Everywhere there is a genetically given basis, which to a greater or lesser extent develops in interaction with the environment (learning), i.e. more or less cultivation of naturally given abilities.

8. American perspective

Although the book, in general, has a completely acceptable level of scholarship, I will now turn to some remarks on the perspective and accuracy of some of the claims that are made.

As is perhaps natural (or rather cultural), Everett's book sometimes has a fairly American perspective. On page 32, Everett writes of Noam Chomsky; "no individual in history has had greater intellectual impact on the study of language than Chomsky". This is a little surprising since Everett seems to agree with very few, if any, of Chomsky's ideas. Only time will tell, but what about Panini (500 B.C.), Dionysios Thrax (200 B.C.), Ferdinand de Saussure, Otto Jespersen (beginning of the 20th century), Louis Hjelmslev and Ludwig Wittgenstein (mid 20th century). All of these individuals have stood the test of time much longer than Noam Chomsky.

Chomsky is also claimed to have pioneered the attempt to link a scientific theory of human language to the nature of the human mind (p. 66). This is not correct; there have been very many such attempts before Chomsky, all the way from Aristotle: Medieval speculative grammar, Port Royal grammar and several attempts in the 19th century. To say that these previous theories were not scientific is question begging. When it comes to basic parts of speech and syntactic functions, Western linguistics has not changed very much since the Middle Ages.

The claim that "It was in America, not in Europe, that the field of descriptive linguistics was born" (p. 235) is doubtful, given that historical linguistics is descriptive and that synchronic linguistic descriptions, including dictionaries and grammars had been produced by Europeans (often missionaries), since the 1500's.

There is also very scant reference to the historical origins of the hypothesis of "linguistic relativity" in Germany with scholars such as Herder, Humboldt and Boas. Instead, Sapir and Whorf are portrayed as the main heroes (p. 255).

9. Historical accuracy

Sometimes Everett's historical accuracy leaves a few question marks. On p. 117, he claims that Saussure was the first to discuss the "linguistic sign". In fact, words as signs and other signs were discussed both in the Greek (Aristotle, Stoics) and

Indian tradition (e.g., the Sphota theory, cf. Robins 1967:140), in the medieval European logical and grammatical tradition (e.g., terminist logic, Occam's sign theory), and by Charles Sanders Peirce, before Saussure. The ideas of Peirce on "semiotics" and Saussure on "semasiology" were probably without any direct connections to each other, but Peirce preceded Saussure, rather than vice versa (pp. pp. 117–119) and developed a more complex semiotic theory than Saussure, containing among other things the three basic sign types "index", "icon", and "symbol".

On p. 161, Everett claims that Husserl was the first to recognize that all our thoughts are directed at something. Is this correct? What about Brentano and the medieval theory of intentionality?

On p. 228, Everett claims that all languages in Europe, except Finnish, Basque and Hungarian, are Indo-European. However, the list is longer and includes the Sami languages, Estonian, Turkish, Ingermanian and other Finnish languages in Russia and claims are made about linguistic homogeneity in Europe 6000 years ago, for which no evidence is presented (p. 228).

On p. 235 in a footnote, there is hasty bracketing of non-American and non-European linguistics. Panini and other Sanskrit phonologists and grammarians were very advanced. The Arabic tradition of Sibawahi had a better grasp of spoken language than had the European or American tradition.

On p. 236, Everett overemphasizes the role of psychology for European linguistics. Philosophy was more important than psychology and Durkheim's sociology was very important for Saussure.

On p. 325, an incorrect account is given of the development of English as a case of isolated development from German, totally neglecting the influence of Danish and Norwegian Vikings as well as of the Normans, leading to a process of mixing and creolization between 1066 and 1350.

10. Concluding remarks

10.1 Agreements and disagreements — reconciliation?

Although agreeing with Everett's claim concerning the lack of support for the view that there is a specific genetic predisposition for the grammatical aspects of language as an organ of the mind and with his claim that language, in some sense, is a cultural tool, this article has argued for a modification of both the claim concerning a biological predisposition for language and of the sense in which language is a cultural tool.

Concerning a biological predisposition for language, I have argued that there does seem to be a species specific readiness for fine grained vocal sound

differentiation both in production and perception and for an association of complex information of different sorts (affective, epistemic, factual, abstract etc.) with the resulting fine differences in vocal sound, both segmental and supra segmental and that this association makes possible a holistic processing and purposeful use of a combination of indexical, iconic and symbolic information both in thinking and communication.

Secondly, I have argued that the claim that language is a cultural tool should be specified and modified in several ways:

- i. Shannon and Weaver's "telephone transmission" based analysis of communication should be replaced by a face-to-face based analysis, where communication involves a bidirectional, interactive multimodal flow of information.
- ii. This should then be combined with a more communicative, interactive and multimodal notion of language, which would allow several new ways of exploring the instrumental functions of language.
- iii. The analysis of culture should be made less "mentalistic" and generally seen as "cultivated Nature", incorporating artifacts and other types of traces in Nature, supporting patterns of thinking and behavior.
- iv. There should be an analysis of "tools", possibly differentiating tools from other instruments and means; relating "language as a tool" to different types of purposes, goals and functions. Specifically, more analysis is needed of language as an instrument for the different types of social activity that are found in different societies and cultures.

If the suggested changes and modifications are combined, we will have an analysis of "language as a cultural tool" which will not exclude "language as a natural tool" and which will furthermore be compatible with language as a tool of communication and interaction in different social activities.

10.2 Linguistics and science

Finally, I would like to make some comments on the view of science and especially linguistics that Everett presents toward the end of the book. Given his interest in the description and documentation of all the languages and cultures on Earth, it is a little disappointing that Everett does not to greater extent reflect on how this might best be done. Instead he seems to presuppose that this should be done the way it has mostly been done historically, i.e. (p. 306) mainly by producing dictionaries and grammars and providing a writing system. New ideas such as e.g. using digital platforms for aided self — documentation or "crowd sourcing" (cf. Allwood 2006) are not considered.

On pp. 317–318, Everett presents what one is tempted to call an “apologetic philosophy of science” — a tolerance of lack of theorizing, where we are to accept exceptions to theoretical claims as of equal value to theoretical principles. This leads to an “ideographic” (rather than “nomothetic”) view of science (pp. 318–319), where individual facts are seen as unique and of equal value to theory. This is then combined with a “pragmatic” ideology, where “truth” is replaced by “usefulness” as a goal of science and several incompatible scientific theories are allowed to coexist in a spirit of political liberalism and tolerance. Unfortunately, truth is not usefulness. There can be useful theories that are not true and there can be true descriptions and perhaps even theories that are not useful. An additional problem here is that there can be many types of usefulness. We can mostly ask: Useful for whom, for what purpose? We will usually get several different (perhaps not even compatible) replies.

Perhaps in the end a theory that is “truly useful” can only be a theory that is true. But if this is so, why not search for truth in the first place?

In fact, Everett, in spite of his ideologically pragmatic, liberal, relativistic philosophy of science, also affirms the importance of truth (p. 320), where he is calling for “accuracy of narrative — telling the best and most complete story about the facts”. This sounds like a traditional truth seeking philosophy of science.

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