The Interaction of Linguistic Theory, Linguistic Description and Linguistic Documentation

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1. Background

Over past two decades, interest in the state of the world's linguistic heritage has increased dramatically, such that there is now a considerably greater effort being put towards language development in situations where such development is a viable proposition. In cases where development or stabilization is no longer feasible, for example due to reduced numbers of speakers, documentation of such languages is still nonetheless desirable, as means of preserving both the unique linguistics structures that might exist in these languages, as well as the cultural and other forms of knowledge embodied in them. Accordingly. research programmes have been established by existing funding agencies, such as the DOBES programme of the Volkswagen Foundation (Germany), or the Documentation of Endangered Languages program set up by the National Science Foundation in the USA. Other organizations, such as the EMELD consortium have also come into existence with the aim of coordinating efforts towards universal standards. This interest in endangered languages has also brought on a number of 'knock-on' effects: increased recognition and understanding of the relationship between language and culture, and language and knowledge. In addition, there have been important developments in methodological issues, procedures involved in fieldwork, the availability of increasingly sophisticated software tools and in particular documentation techniques, to the point where it is now fair to say documentary linguistics has arisen as a new sub-discipline within linguistics. This topic is the focus of our attention in this presentation.

Our own collective interest in work on endangered languages goes back several years, beginning in the mid-1990s with Connell's work in the Mambila region of Nigeria and Cameroon, and the recognition or discovery that several languages in that region were spoken by just a handful of speakers, with yet others having a speaking population in the 100s only. Documentation and 'salvage' work is ongoing in the region. Under the auspices of the DOBES programme, Gibbon, Connell, and Ahoua carried out work in Ivory Coast on Ega, contributing to documentation standards in that programme and generally, via DOBES and EMELD. The collaboration between

Akinlabi and Connell, together with Ndimele at UniPort, working on Defaka and Nkoroo has come about through funding from the NSF. The present paper develops our interest in the relation between data and theory in the context of the new developments in documentation standards referred to above. These developments raise interesting questions about the relationship between documentation, as it has come to be known, and description, and linguistic theory. In particular, we address questions such as 'what is or should be the input to theory building?', and 'can the contents of a documentation (as opposed to traditional descriptive linguistics), serve this purpose?' We look first at what is meant by 'documentation' in contrast to 'description', continue with a discussion of the nature of linguistic theory and theory building, and then address the relationship between documentation and linguistic theory.

2. Documentation or description?

The current and growing importance of language documentation as a distinct activity within linguistics, and as an activity that is distinguished from descriptive linguistics, is due in large measure to the increased recognition of the need to address the situation of endangered languages. Two German linguists, in particular, have been especially influential in developing this view of documentation, Christian Lehmann (e.g. 1999; 2001a, b; 2002) and Nikolaus Himmelmann (e.g. 1998, 2006). Our characterization here of the differences between descriptive linguistics on one hand, and documentary linguistics on the other, and the importance of making a distinction between the two, largely follows the views of these two scholars. In brief, the collection, organization, transcription, and translation of primary data comprises linguistic documentation, and the result of such work is a language documentation. The processing of linguistic data to produce a grammar or a dictionary, among other possible materials, in such a way that underlying patterns in the data are revealed constitutes descriptive linguistics, the result of which is a language description. Since this distinction is still relatively new, and since many scholars continue to use the terms 'language description' and language documentation interchangeably, we develop its rationale in more depth in the following paragraphs.

2.1. Data collection and language documentation in linguistics
We agree with Lehmann (2001: 2) that, as in any other empirical science, a first step in any linguistic work devoted to a language is data collection. And in linguistics, as in other empirical

sciences, the status of the individual datum has been accorded a relatively low status; the individual datum is not generally of interest in and of itself, but only as representative of a class of data sharing particular characteristics; data are considered or assumed to be easily reproducible, so data collection is accorded a correspondingly low status relative to the theoretical ends they serve. Language, however, as the object of linguistic research, is unlike the objects of other scientific endeavours. Language is rooted in a speech community, in its history and its culture, and is at the same time a part of that history and culture; as such a language is a living object. In so far as this is true, each language is unlike any other language; linguistic data are not easily replicable, and utterances even of a living language are not replaceable at will. Data from an extinct language are irreplaceable. One implication of this is that linguistic data should be treated with a degree of care and dignity not typically given to data in linguistics (let alone other empirical sciences), where theory has been of the utmost importance. This however, is not to suggest that data collection is in and of itself a sufficient goal, nor should data collection be seen as equivalent to documentation. It is entirely possible, and perhaps all too frequently the case, that collected data may be inaccessible, in the sense that it is poorly organized, insufficiently annotated, or in other ways difficult to use for all but the person who collected it. As touched on below, and discussed in detail by scholars such as Bird & Simons (2003), Himmelmann (1998, 2006) and Lehmann (2001, 2002), a documentation includes a considerably wider range of material than is normally included when one thinks of 'data collection' in linguistics, and documentation involves organizing and annotating data in such a way that it is accessible to others. (It goes without saying that data should be shared, indeed made publicly accessible, rather than be permitted to languish; this is especially true in instances of endangered language data.)

2.2 Language documentation and language description

What then is documentation, and how does it differ from data collection on one hand and, as suggested already, from description on the other hand? As a starting point, Lehmann (2001: 5) draws attention to the etymology of the word, where the Latin term *documentum* can be glossed as 'a thing for teaching', so that with respect to language, a documentation involves creating (and archiving) record of linguistic material that may serve to teach others about the language. The primary purpose of a documentation, then, is "to represent the language for those who do not have direct access to the language itself", independent of the motivation of the user Lehmann (2001: 5). That is, it may serve as the basis of orthography development, the production of a dictionary or grammar, or teaching primers, as well as providing language materials for linguistic analyses at different levels. This implies (requires) a deliberate and specific organization of the

data collected, together with a high degree of representativeness of the structures of the language (at all linguistic levels), how it is used in as wide a range of contexts as possible, and the role(s) that it plays in its society. In the context of current work on endangered languages, it must be borne in mind that a documentation also needs to serve these purposes in the potential "permanent absence of native speakers", in the evocative words of or collegue Dafydd Gibbon; the data contained in it are irreplaceable. These characteristics make it clear that a documentation it is quite different from collections of data, which are often focussed on a particular topic and/or purpose, and constructed without thought to more general accessibility.

Now until recently, and still in much current usage, the terms 'language description' and 'descriptive work' have been used to describe activities that included both data collection and some degree of analysis and presentation of linguistic data. The term 'descriptive linguistics' has been used in opposition to 'formal linguistics', the latter referring to work that is in its orientation theoretical and formal, while the former refers to an informal presentation of the facts of a language often considered to be outside the confines of particular theoretical framework. (This is not to suggest that such work is 'atheoretical' or 'pretheoretical', as is sometimes claimed. Even to render spoken data in transcribed form following, say, the conventions of the IPA, is to accept a particular theoretical view of language. (See Dryer, 2006 for a presentation of what he and others refer to as 'Basic Linguistic Theory'; more on this below)

As Himmelmann (1998: 165) points out, descriptive linguistics has also come to be associated with work on under- or undescribed languages, little known languages, and by extension has also been taken to mean the 'documentation' of a language. As such, the two terms, description and documentation, have frequently been used interchangeably, and linguists doing descriptive work on a language have often assumed they are 'documenting' that language.

But, while this may be true in a certain sense, it is not documentation of the sort described above, nor is a documentation as described above a description of a language as one expects, for example, of a descriptive grammar or an exposé of the phonology of a language. A description of a language, is an account of the system underlying the data. The nature of a language description is determined on one hand by the nature of human language and its components, and on the other by system (or sub-system) of the individual language in question, as well as by the methodological perspectives taken on it by the researcher/analyst. A description is, therefore at a different level, a meta-level, with respect to a documentation (cf. Lehmann 2001, section 4), and

is from this perspective distinct from a documentation.

To summarize thus far (and to quote again from Lehmann (2001), a documentation is an activity (or its result) that,

> "gathers, processes and exhibits a sample of data of the language that is representative of its linguistic structure and gives a fair impression of how and for what purposes the language is used. Its purpose is to represent the language for those who do not have access to the language itself."

whereas a description of a language is an activity (or its result) that,

> " formulates, in the most general way possible, the patterns underlying the linguistic data. Its purpose is to make the user of the description understand the way the language works." (Lehmann, 2001: 7)

These differences can be presented in tabular form,

Documentation	Description
specific	general
concrete	abstract

Or, as Himmelmann (1998: 174) puts it,

A language description aims at the record of *a language*, with 'language' being understood as a system of abstract elements, constructions and rules which constitute the invariant underlying structure of the utterances observable in a speech community. A language documentation, on the other hand, aims at a record of *the linguistic practices and traditions of a speech community*. Such a record may include a description of the language system to the extent that this notion is found useful for collecting and presenting characteristic documents of linguistic behavior and knowledge. A record of the linguistic practices and traditions of a speech community, however, is much more comprehensive than a record of a language system since it includes many aspects and much information commonly not addressed or found in a language description.

It will, however, also be apparent that the distinction between documentation and description is not as clear cut as this formulation might suggest. Ideally, a documentation would precede a

description, that is, the two activities are separate, as the documentation constitutes the primary data that serves as input to a description. It will be clear from the foregoing that a documentation is not simply a collection of raw data, but that it presupposes a degree of analysis, that is, a description. At a minimum, a tentative, or basic, phonemic and morphemic analysis (description) is required and, particularly in working with endangered languages, such analyses are not always available; many such languages have had no work at all done on them, so the two, documentation and description, must to a certain extent proceed in tandem.

So, there has traditionally been a tendency to treat the two activates as being the same, part and parcel of one overall project. And as Himmelmann points out, this view has been strengthened by the practice common in theoretical work in general linguistics to base hypotheses and claims on the analytical constructs of descriptive work: "entities derived from a sample of primary data … and not on individual primary data (1998: 170). In other words, theoretical linguistics typically treats a descriptive statement as primary data, as a 'fact'. We might at this point ask whether a theory based on a distillation or a sample of the primary data, rather than these data themselves is reliable; can it be descriptively adequate, or explanatory?

On the other hand, if documentation and description are separate activities, as argued by Himmelmann and Lehmann, and if it is descriptive work that has traditionally been the input to theory building, it is legitimate to ask what the role of a documentation should be in theory building. Can or should the documentation serve as input to theorizing, thereby bypassing the traditional descriptive stage (if this can be bypassed), and if so, what are the implications of this for linguistic theory and practice?

3. What is theoretical linguistics?

Linguistic theorization often proceeds from one of two angles: the abstract angle (or theory-to-data), and the empirical angle (or data-to-theory). A colleague of ours (at Rutgers) often puts the abstract angle this way: "here is the way we have been doing things; here is what is wrong with it; here is the way we should be doing things; here is the data that supports it". The empirical angle on the other hand can be put as follows: "here is a piece of data; here is how/where other theories fail; here is a theory that accounts for it".

The often-stated goal of linguistic theory is the search for evidence for Universal Grammar (UG). On this, Clements (1989:5) notes

> "…the most novel and original enterprise of the field of linguistics in the second half of [the 20th century], … has been the search for an empirically based theory of universal grammar."

However we follow Clements (1989) in assuming that linguistic theory is nothing more than the development of new concepts that make sense of the phenomena we encounter in the language or languages we are working on. Such phenomena in African languages have been many. They included "tonal downstep", "logophoric pronouns", "serial verbs", and others like these. Those who work on African languages have ample opportunities to develop analytical concepts on African languages and test them for validity on non-African languages. The idea is that if African languages have "tonal downstep" perhaps European languages do too (Goldsmith 1981, Leben 1976). If African languages have "logophoric pronouns" perhaps they exist in non-African languages too (Clements 1975, Hagège 1974, Sells 1986).

From a more extreme perspective, we might question what shape phonetic theory would have if African phoneticians had been the first to describe vowels and vowel production. The role of the pharynx (now commonly captured by the feature [ATR]) would probably play a much larger role than it does today; would we even have the standard two dimensional vowel quadrilateral used for plotting vowels?

Therefore a better way of understanding the structures we are documenting or describing in African languages is to see them as underpinnings for the concepts about how languages work in general. Theories based on the documentation and description of African languages have influenced, and will continue to influence linguistic concepts, and the structure of universal grammar.

The dominant assumption in linguistic theory today, is that there is a relation between doing formal theory and studying the human mind, that linguistics is a branch of cognitive science. Hyman (2003:24) points out that modern theoretical linguists tend to be inspired by computational or neurocognitive research which seems quite distant from the goals of describing African languages. He warns that should such research become the main activities of linguistics

departments, even so-called theoretical linguists who work on African languages may be in trouble.

4. The role of description in linguistic theory

As we have already noted above the word "documenting" has in general been used by linguists to mean "preparing (part of) the grammar or lexicon of a language". But this is not what documentary linguistics does. Traditional fieldworkers are now being told that what they did for decades constitutes only part of what is now known as "documentary linguistics". They are being told that they were essentially engaged in descriptive linguistics (and few, if any, of them would deny this.

Hyman (2001) identifies an interesting difference between a descriptive linguist and a theoretical linguist studying an undocumented language. The descriptive linguist aims to discover and ultimately describe the unknown, and is excited about a new phenomenon. The theoretical linguist studies the same language because it has been pre-determined to have a bearing on a crucial issue of linguistic theory. The theoretical linguist does not go on a "fishing expedition", not knowing what will pay off.

It is however hard to see how these two can exist, one without the other. As mentioned above, linguistic descriptions consist of generalizations on (aspects of) the language. It is hard to imagine linguistic theory without generalizations (indeed, making generalizations if the essence of theorzing, linguistic or otherwise); and descriptions are often based on specific analytic or theoretical concepts. In fact it is hard to see how linguistic theory, linguistic description and linguistic documentation can exist without each other, since linguistic generalizations (i.e. linguistic description) are only derivable by observing data.

Theoreticians often ask descriptive linguists "where is the theory?" "What is the generalization?" One should be able to describe the facts of a language without necessarily couching it within a particular theory. As pointed out earlier, this not to suggest that descriptive work can be done in the absence of theory. Dryer (2006), among others discusses the emergence of what has come to be called 'Basic Linguistic Theory' – a more or less consensus view of the foundations of how language operates: "a convergence over the past quarter century in the descriptive tools assumed

in descriptive grammars, to the extent that it is fair to say that a single descriptive theoretical framework has emerged as the dominant theory assumed in descriptive grammars". It is not unlike 'traditional grammar' but with out the negative aspects of the latter "in its attempt to describe each language in its own terms, rather than trying to force the language into a model based on European languages".

The notion in which data is uninteresting unless it bears on some particular theory is in fact incompatible with documentary linguistics, at least as it is presently understood. In a paper dealing with the facts of tones in Yoruba clitics, which could not be given a formal account when taken together with other facts of the language, Akinlabi and Liberman (2000) chose to just describe the facts and concluded that:

> Whether formal modeling is treated simply as programming for some practical purpose, or as a method of investigating the properties of the cognitive systems involved, it can and should be separated in most cases from the problem of determining the facts and the descriptive generalizations. (Akinlabi & Liberman 2000:60)

So, how should we do descriptive linguistics, and what is the interaction between linguistic theory and description? We turn again to Hyman's (2003) definition: To some extent theory is to description as general is to specific. He argues that:

> A description should be rigorous and comprehensive such that each of the potential factors is considered and tested as exhaustively as possible against a wide range of contexts. The description should be rich and insightful, drawing on whatever tools or perspectives are needed to tell the full story. One might draw simultaneously from morphology, syntax, and semantics, and there may also be a need to contrast synchrony and diachrony. An ideal description should be richly exemplified, whether from elicitations, texts, or naturally occurring discourse. One should never assume that a description is complete, that the interpretation is definitive, or that we have foreseen all possible purposes to which the description may be applied. But it seems to me that descriptions should be interesting, i.e. have some potential for impact beyond the immediate act of describing (Hyman 2003: 27)

The following illustrations with data from our own 'documentation-in-progress' of Defaka, combined with insights from Jenewari (1983), helps make this point. Defaka is an endangered language spoken by a few hundred speakers at most, in the eastern Niger Delta. It is classified as an Ijoid language and, while is bears enough similarities to Ijo to make this classification plausible, it also considered a separate branch within this grouping. From the perspective of linguistic theory, Defaka holds much of interest. While we are as yet, at this stage of our research, uncertain of all the details it is apparent that Defaka has a number of characteristics which though perhaps not unique among languages of the world, are exceptional in Africa, and once thoroughly documented and analysed will undoubtedly shed new light on African language structures and by extension our knowledge of language and how languages operate.

1. ìrì tóɓò   'my head'
    í⁺rí tóɓò   'your head'
    òrì tóɓò   'his head'
    á⁺rí tóɓò   'her head'
    jèrì tóɓò   'its head'
    wá⁺rí tóɓò   'our head(s)'
    ó⁺rí tóɓò   'your head(s)'
    ìní tóɓò   'their head(s)'

The possessive pronouns reveal a characteristic of Defaka (and other Ijoid languages), viz. the existence of a gender distinction for the singular pronouns which, at best, is extremely rare in Niger-Congo.

2. ì   mbétà   já   ámá   mà
    1S   permission   2S   give   CAUS
    S   DO   IO   V   TAM

'I give you permission"

This short phrase exemplifies another characteristic of Defaka which is rather rare in Niger-Congo, the presence of SOV word order. We see not only is the basic word order SOV, but other elements in the phrase conform to expectations for a relatively 'strict' view of this ordering as

well, in this case the post-verbal tense/aspect marker (see, e.g., Givón 1984). This is also seen (3b), below in the post-verbal status of the negative marker:

3a. á   ⁺ʔɔ́m   íjóɣó   mà
     3SF   body   health   CAUS
                     S   V   TAM

'She is healthy'

3b. á   ⁺ʔɔ́m   íjóɣó   ⁺rɛ́
     3SF   body   health   NEG
                     S   V   TAM

'She is ill'.

Other examples, however, reveal the word order to be not so rigorously SOV in all its details; in certain constructions, adjectives precede the nouns they modify, whereas in others they follow. Compare (4a) and (4b):

4a. òmù ífĩ́ŋí

     neck swelling   'goitre'

4b. ìbò ísóró

     big navel   'herniated navel'

As is seen above in (2, 3), we are unwilling at this point to distinguish between tense, aspect and mood markers. On the basis of a considerable number of examples, we tentatively indicate –mà the status of causatve marker.

5. Theoretical and documentary linguistics

From the above, it is quite clear that descriptive linguistics interacts with linguistics theory, at least the way it is practiced in the United States. But can we go directly from linguistic documentation to linguistic theorization?

Unless theoretical linguists are prepared to do fieldwork themselves, documentation may actually serve theoreticians better than the intermediate stage description to which they are familiar. A description is only as good as its writer; and descriptions often consist of both the views and prejudices of the describer. But documentation is not like this. As seen above, a documentation is only partially processed data. Therefore, the theoretician can go from documentation to theory. Note however that it is possible to argue that even partially processed data is still processed data, and a documentation with morpheme by morpheme gloss is already an analysis. The theoretician working with a documentation, however, has considerably more data at his or her disposal, following the nature of the type and range of data included in the documentation, and the greater the amount of data that can be brought to bear, especially when such data contain information pertaining to usage and cpntext, can only result in more confident theorizing. And, in any event, it is easier to disprove a theory based on partially processed data, with for example available sound files, than one based completely on a description whose data is unavailable.

Here is one simple example. The sound transcribed as a schwa in Lama (Ourso 1989, Kenstowicz 1994) patterns with high vowels in Lama ATR harmony, while the sound transcribed as schwa in Lokaa (Iwara 1982) patterns with non-high vowels in Lokaa ATR harmony (Akinlabi to appear, Iwara 1994). The question is, are these really the same sounds? The only way a theoretician can tell before basing a theory on these descriptions (analyses) is to listen to the sounds themselves. This is something that documentation, as is now beginning practiced, affords us. If a theory is based on someone else's incorrect description or analysis, the theory is of course doomed from the start.

The second problem between linguistic description and linguistic theory is that the two can become so interwoven, and often need to be "unpacked". Since we ourselves have faced this problem, we noted that:

The documentation of... descriptive generalizations is sometimes clearer and more accessible when expressed in terms of a detailed formal reconstruction, but only in the rare and happy case that the formalism fits the data so well that the resulting account is clearer and easier to understand than the list of categories of facts that it encodes.... [If not], subsequent scholars must often struggle to decode a description in an out-of-date formal framework so as to work back to... the facts.... which they can re-formalize in a new way. Having experienced this struggle often ourselves, we have decided to accommodate our successors by providing them directly with a plainer account. (Akinlabi & Liberman 2000:55)

The third problem with descriptions, touched on above, is **limited data**. More often than not, descriptions often contain data that illustrate the author's opinions or the point being made at the time. Other examples that may be needed to make a theory complete are not recorded. Therefore theories based on such descriptions are therefore incomplete. It is not uncommon to find counterexamples completely omitted or put in another category. As Hyman (2001, 2003) notes, it is not uncommon to find linguistic theorists claim "we have enough data, what we need is a theory". How can anyone ever have enough data?

Finally the vast majority of Nigerian, and African languages in general, do not have any descriptions at all. If every language represents a window into the human cognitive capacity, how can we tell what information the undocumented languages hold?

And as Childs (2003) notes:

"If Africa is indeed the continent where the human species first appeared, then perhaps studying the continent's languages can provide some insights into how language arose and spread, and how it has changed over space and time...."
(Childs 2003: Introduction to African languages)

It is probably impossible to appreciate the rich possibilities inherent in language without considering a representative sample of the world's over 7,000 languages, over 2,000 of which are to be found in Africa (Hyman 2003), and over 500 of which are to be found in Nigeria.

The documentation of African languages is indispensable to achieving a deeper understanding of African culture, history and society. As Greenberg (1972) shows with linguistic evidence, the original homeland of the Bantu people is what is now the Nigeria-Cameron borderland. His work in general has remained a model of the use of linguistic evidence in the reconstruction of prehistory.

As Hyman 2003 notes, just as we carry human history in our genes, so do we carry human history in our language. This is because languages also tell us about human history: Where do these people and their language come from? Who were they related to? With whom did they have contact? What is or was their "special mode of thought"?

6. Conclusion

The conclusion that we reach here is that language documentation, rather than traditional language description, should form the basis of, and provide the input to, linguistic theorization. The presentation of primary data rather than summary data (ie already analysis), as discussed here, together with additional information and insight on usage, context, and the roles of language in the speech community in question, can only benefit lingsuitic theory and our understanding of language.

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