On the necessity of doing linguistics

Dieter Wunderlich

Heinrich Heine University of Düsseldorf

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Overview

- What kind of discipline is linguistics?
- Why are we concerned with endangered languages
- Linguistics in the future

What kind of discipline is linguistics?

- Primarily, linguistics is neither a philological nor a cultural, historical or sociological discipline but rather a science regarding the nature of the human being as a *homo loquens*.

- Everything which is important about language is category- or feature-driven structural composition, within an integrational field that belongs to the anthropological sciences: linguistics deals with structures of various types, their information values, and computations - in psychological, neurological, sociological and historical contexts.

Language is an interdisciplinary subject

Each discipline has ist own reading of 'language':

- Language is the historical (identity-giving) product of a human community.

- Language is a social mechanism of communication.

- Language is a psychosocial mechanism in the individual human being (acquisition, representation and processing).

- Language is the manifestation of certain sensoric and motoric processes in the brain.

- Language is an algebraic system for the computation of sound-meaning correlations.

- Language is an organ which has developed during the evolution of the human species.

Linguistics itself is interdisciplinary, concerning models, methods, and internal differentiation

- ***Informational sciences:*** What types of features and structural patterns are necessary for linguistic representation and composition?

- ***Theoretical typology***: Which constraints and preferences lead to the typological variation of morphological and syntactic patterns?

- ***Experimental psychology***: What is the processing expense for the recognition of complex, and possibly even ungrammatical structures?

Linguistics is interdisciplinary 2

- ***Neurolinguistics***: Which neuronal activation patterns are responsible for the representation and processing of language? (brain imaging methods, connectionist networks)

- ***Molecular genetics***: Which chromosome sections are responsible for producing certain linguistic abilities? (correlations between genetic and linguistic defects)

- ***Population genetics***: Which structural types develop in a series of generations with varying input conditions? (simulation experiments of historical developments)

Evolutionary anthropology as a possible melting pot of interdisciplinary research

- Under what conditions and in which steps did human language develop?
- How does the emergence of language depend on the developments of the brain, the hand, the larynx, the social organization and the ability of imitation (mirror neurons)?
- What kind of language could the various species of hominines have possibly possessed?
- How much of language is predisposed genetically, and how much is a cultural product?
- Which substantial differences exist between languages 100,000 years ago and languages 6,000 years ago? (before and after the invention of agriculture and script)

Some basic characteristics of language

1. **Symmetry**: Language is a speaker-hearer symmetric system. [pragmatics, linguistic processing]
2. **Off-line processing**: Utterances can refer to situations that are not present. [semantics]
3. **Discreteness**: Minimal change of features yields a different meaning. [segmental phonology]
4. **Double articulation**: Minimal elements are meaning-less, only larger elements bear meaning [phonology vs. lexicon]
5. **Duality**: Parts of utterances are memorized [lexicon], while complete utterances are produced combinatori-cally [morphosyntax].
6. **Reference and Predication** are the central semantic functions of language.

Speaker-hearer symmetry

- The fundamental complementarity:
optimal utterances (speaker's perspective) versus optimal interpretations (hearer's perspective).

- Correspondingly: maximes of expressivity (be explicit!) versus maxims of economy (be economical!)

- The two interfaces of a grammar are phonological form (vs. phonetic substance) and semantic form (vs. conceptual meaning).

- The utterance units are morphemes, pairing phonological and semantic representation. They belong to a lexical or functional category. Being predicates or functors they contain also information about their arguments.

Combinatorics in a minimalist perspective

The only requirement for building up complex utterances (phrases) is 'Combine!'

The composition is controlled by

- features of the involved morphemes,
- prosodic conditions,
- conditions of expressivity and economy,
- alignment conditions,
- semantic compatibility,
- adaptation to the information stage (distribution of topic and focus).

Language description
is the main task of linguists

- In its core, linguistics is a discipline that develops methods and concepts for language description, that is, the description (of the grammar) of all languages.

- These tools are validated through typologically oriented theories.

- Only this lets us overcome the restrictions inherent to the Chinese, Indic, Japanese, Tibetic, Hebraic or Latin traditions, which often are incompatible with each other.

Example: 'grammatical subject' is a problematic notion

Von niemandem wurde erwartet, geehrt zu werden,
... einen Vortrag zu halten / halten zu müssen,
... dem Publikum zu gefallen. What is the subject?

Possible variants of 'subject':

- the highest argument of a predicate
  [this is the notion of 'subject' I prefer]

- an argument in the default case (nominative)

- an argument in preverbal position (SpecI)

- a syntactic pivot (concerning relativization, control, raising, coordination deletion etc.): the most prominent argument, a candidate for topic

Postulate: language descriptions must be comparable

- The inventory of categories, features und structural notions must be universally applicable.

- Native linguistic traditions (of all kinds) are scarcely reliable. All notions and theoretical assumptions must be tested in the comparison of languages.

- Every documentation of texts must be analyzed by interlinear glossing.

- Every documentation of languages must contribute to our knowledge of language in general.

Mankind is situated
in a critical time window now

Over a long period of time, the number of typologically different languages has increased or remained constant, but now it is decreasing: more languages are dying than new languages are being created.

- 10,000 years ago, 3,000 different languages were spoken by 1 million people.

- Today, 6,000 different languages are spoken by 6 billions people.

- In 100 years, only 600 languages will be spoken by 12 billions people.

Dying and endangered languages

- 1,200 languages are nearly dead: about 3 to 20 adult speakers
- 1,200 dying languages: children don't learn the language anymore
- 3,000 endangered languages: as a rule not more than 5,000 speakers
- 600 secure languages

  Is there a human right of own language tradition?

  The human right of universal cultural participation: only literate languages will survive.

Mankind is situated in a critical time window

- Now, we have the technical sources to in principle reach most of the little-known language minorities, and thus to get contact with languages that will disappear in the near future; we also have made progress in the necessary theoretical and practical tools.

- If one asks for an argument why linguistics is necessary, here it is: We have the unique chance to grasp an immense linguistic wealth of mankind whose material basis, yet, is nothing but human brains.

Why should we care about dying languages?
Two naive reactions:

- *Let the primitive languages die. What is useful, will remain.*

  But: None of the known languages is *primitive*.
  In the course of time, languages will not become more complex, but rather more simple due to generalization.

- *We don't need so many languages. Worldwide communication would be easier with fewer languages.*

  But: Linguistic variety is a resource for the development of languages as well as cultures. Languages develop by contact with other languages.

Why shall we document dying languages?
More serious answers:

- *The descendents of an ethnic group whose language has disappeared loose the culture of their ancestors. Mankind looses parts of its cultural variety.*

- *People loose 'stimulations' for language development.* (Variety as a motor of developement)
  Linguists loose their imagination on the variety of languages. (Without typology no adequate linguistic description)

- *Mankind looses data that help to reconstruct its history (in particular, the history of language families).*

Example: A mystery of linguistic typology would, without knowledge of the endangered languages, remain unsolved

Why are morphology and syntax so unevenly distributed among the languages of the world?

(Many of the dying languages have rich morphology.)

Why is there the mophology-syntax distinction at all?

- because there are more or less morphophonological alternations between adjacent morphemes?
- because adjacent words are cliticized and then reduced to affixes?
- because there is more or less reason to mark informational status (topic and focus?)

Thesis: The separation into syntax and morphology is a cultural product.

Syntax (with the possibility of word order alternatives)

- allows for a more flexible combinatorics of memorized lexical elements,

- and thus allows us to verbalize more contexts of a predication, e.g., to indicate the information structure of an utterance (by means of topic and focus).

Morphology is less efficient than syntax

1. Strict ordering of morphemes

2. No internal agreement or binding

3. No scope ambiguities

4. No topic or focus marking

Syntax is more flexible because it allows word order alternatives by movement. I consider syntax beyond juxtaposition an optional innovation of languages.

Advantages of morphology vs. syntax

Morphology

In a small population it is an advantage to use stored items that are commonly known, because they are faster processible.

Syntax

In a larger population or a population with many contacts there is a need for marking topic and focus, and the use of stored items is less felicitous.

All existing languages result from ongoing grammaticalization

- Grammaticalization is presumably unidirectional.
- Structural sensitivity: a structural feature is more important for categorization and computation than a purely cognitive or semantic feature.
- The enlargement of the vocabulary is counter-balanced by an extension of the categorial system, and thus leads to an extension of the set of combinatorial 'templates'.
- The noun-verb distinction, a categorial partition of the lexicon that is subject to conversion, was the most effective categorization: it allws for clause-internal structure of predication, as well as clause-internal recursion, the creation of attitude verbs and of several types of functional categories.

Existing languages represent different stages of grammaticalization

- Arguments are realized only by pronominal markers attached to the verb or noun, or they remain implicit. Nouns can be added as adjuncts.
- A complex predication can be expressed by the juxtaposition of verbs (verb compounds, serial verbs).
- Some devices serve for reference tracking between clauses that are juxtaposed or modified (switch reference).
- Completion of clausal grammar by an argument linking device that allows to realize all arguments, argument shifting operations.
- Clausal syntax: topicalization, positional argument linking (SVO), case and agreement, interaction of morphology and syntax.
- Complex syntax (relative constructions, control structures). Grammatical subject as the primary target for argument sharing.
- Grammaticalization of functional categories such as complementizer, determiner, auxiliaries.

Example: a simple evolutionary scenario of argument linking: languages may represent different steps

Morphology is the domain of argument linking (*head marking*)

Syntactic NPs serve to specify information.

- They are unordered adjuncts.
- They are ordered according to argument hierarchy.
- They are reordered according to topic and possibly also focus.
- The potential reordering forces marking by case (*dependent marking*) and agreement.

Linguistics in the future -1

Changes of the subject matter:

- Linguistic diversity will decrease.

- Generalization (grammaticalization) will increase.

- Colonial creols will reach a 'normal stage'.

- Sign languages will reach a 'normal stage'.

- New varieties will develop through medial influences and other kinds of contact.

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Linguistics in the future -2

Progresses in language description: investigation of

- specific properties of 'small' languages: rich morphology, unexpected grammaticalizations

- specific properties of 'large' languages: interaction of word order with topic and focus, generalizations

New linguistic models:

- Statistical models to capture variation, effects of memorization, degrees of grammaticality, neurolinguistic data

- Simulation of grammaticalization: change of typological parameters in the course of several generations

Linguistics in the future –3/4

Changes in the academic discipline:

- Formation of linguistic centers with all subdisciplines
- Digital typological catalogues ordered according to linguistic features and degrees of grammaticality

Changes in linguistic applications:

- Participation in centers of bioinformatics, including neuronal sciences
- Industrial applications such as the development of speaking robots.

On the necessity of linguistics

Linguistics is according to its subject matter a basic anthropological discipline: Linguists investigate the linguistic categories and the structures formed on the basis of these categories, their information values and the interpretation of complex structures, in psychological, neurological, sociological and historical contexts. Therefore, linguistics is necessary.