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Linguistic Typology and its Applications for Applied Linguistics

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**Typology**
The study of types.
In linguistics, initially the study of language types (19th century, early 20th century), but now the study of the types of structures found in languages and their distribution.
Nichols 2007:
p. 231: “As the essentials of typology, I would offer the following: framework-neutral definitions ..., emphasis on codability in definitions and in applications of theory, bottom-up or data-driven constructs, and concern with observable phenomena that pattern interestingly in the world’s languages (in their frequency, their interaction with other parts of grammar, their geography, their history, etc.). Theoretical constructs are built on a very simple machinery: a methodology of survey design common to most social and biological sciences, and classic structuralist notions such as contrast and complementary distribution ... Typological knowledge is mostly statistical and probabilistic, not categorical.”
p. 236: “I suggest that what we call typology is not properly a subfield of linguistics but is simply framework-neutral analysis and theory plus some of the common applications of such analysis (which include crosslinguistic comparison, geographical mapping, cladistics, and reconstruction).”
Origins of modern typology

Romanticists (mid-19th century until present). Romanticists are interested in understanding the culture underlying the languages spoken by different people, as they feel each language is unique, and manifests the unique world view of the speakers. They developed the tradition of text collection started by the Brothers Grimm (Grimm’s Fairy Tales) to use as the source of data and understanding of the world view of the speakers.

Their linguistic and cultural (psychological) analysis is based on texts collected from in-situ fieldwork. The culture and way of thinking are revealed through texts.
Wilhelm von Humboldt (1767-1835)

Jacob (1785-1863) and Wilhelm Grimm (1786-1859) (“The Brothers Grimm”; “Grimm’s Fairy Tales”)
Franz Boas (1858-1942). The father of modern professional anthropology and ethnology. Teacher of Edward Sapir, Margaret Mead, Alfred Kroeber, and many others, also influenced many others in linguistics and anthropology, e.g. Benjamin Whorf and Claude Lévi-Strauss. His students founded most of the major anthropology departments in the US.

Edward Sapir
Structuralism (late 19th century to present):
Focus on language as a system: *un système où tout se tient* (‘a system where all parts hold to each other’);
Synchronic, not diachronic.
Both aspects in opposition to Neogrammarian “atomism” and historical focus.
Basic ideas of Structuralism influenced many fields, particularly anthropology.
Georg von der Gabelentz:

‘Every language . . . is a system all of whose parts interrelate and interact organically’ (Gabelentz 1901 [1891]: 481).

Yet he was also seen as part of the Humboldtian Romanticist school and one of the founders of typology.
Geneva School: Ferdinand de Saussure (1857-1913)

*Cours de linguistique générale*, 1916:

Linguistics as a science of language systems, i.e. *langue* vs. *parole*;

Autonomy of *langue*; system and meaning not influenced by “external” factors such as sociological, psychological, and pragmatic factors.
Prague School: Often seen as the beginnings of modern typology and functionalism.

Nikolai Trubetzkoy, Roman Jackobson (coined the term “Structuralism”), Serge Karcevski, André Martinet.

The phoneme.

Distinctive features.

Markedness.

 Didn’t go along with strict distinction between synchrony and diachrony and emphasized the function of language in communication.
Search for general sound laws (universals): e.g. “laws of irreversible solidarity”:

(1) if a language has back consonants then it has front consonants;
(2) if a language has fricatives, then it has homorganic stops;
(3) if a language has affricates, then it has homorganic stops and fricatives; and
(4) if a language has nasal vowels, then it has corresponding oral vowels.
US Structuralism:

Leonard Bloomfield (influenced by logical positivists: tried to make linguistics a science; criticized by Chomsky—who was influenced by rationalist philosophy—for adopting behaviorist approach),

Zellig Harris > Noam Chomsky
Typology (early 20th century, but especially since the late 1960’s): Edward Sapir, Joseph Greenberg, Alexander Kibrik, Bernard Comrie, John Hawkins, Matthew Dryer, Johanna Nichols, William Croft, Martin Haspelmath.

Greenberg                  Comrie                  Nichols
Functionalism:
Attempts to explain language with reference to its function in communication. Empiricist, rather than rationalist, orientation.

Pragmatics:
Initially the study of language in use, now the study of the creation of meaning. Crucial to any functional explanation.
Where Does Meaning Come From?
Cognition:

Inference in understanding our surroundings

There is a human instinct to try to understand the world through inference. The inference involved is largely abductive inference.
One part of trying to understand the world is trying to understand what other humans are doing by inferring their intentions when they do what they do.

We do this on the basis of our own experiences and motivations.
I just saw Andy coming out of the jeweller's and going into the florist's.

Really?

It's our anniversary tomorrow—I can't believe he actually remembered!

Toch! Do none of these shops have a toilet?
One part of trying to understand what other humans are doing is inferring their intentions when they are purposefully trying to get you to infer their intentions.
Teacher calling role:  Alain?
Student points to empty chair:  Toilet.
toilet \ˈtoʊ-lət\

1 archaic : dressing table  
2: the act or process of dressing and grooming oneself  
3a (1): bathroom, lavatory 2 (2) : privy  
b: a fixture that consists usually of a water-flushed bowl and seat and is used for defecation and urination  
4: cleansing in preparation for or in association with a medical or surgical procedure <pulmonary toilet>

Origin of TOILET  
French toilette cloth on which items used for grooming are placed, from Middle French, piece of batiste, from diminutive of toile cloth  
First Known Use: 1667
The person wishing to communicate something does an **ostensive act** (i.e. does something that makes it clear s/he wishes to communicate something).

The other person must **infer** (guess) the communicative intention behind the ostensive act.

Communication then involves **ostension** and (abductive) **inference**.
Communication is not accomplished by the exchange of symbolic expressions; there is no coding-decoding process; communication is the successful interpretation by an addressee of a speaker’s intent in performing a communicative act.

Communication is inherently non-deterministic; language simply provides clues for constraining the inference.
The speaker also makes inferences (guesses) as to what the hearer will be able to understand, and then uses the ostensive act most likely to facilitate the inferential process of the hearer.
Communication can take place with or without language.

Functional MRI studies show that non-linguistic and linguistic communication are processed in the same areas of the brain, including those referred to as “Broca’s area” and “Wernicke’s area”. (Xu et al. 2009)
Language helps to constrain the inferential process to make it easier for the hearer to infer (guess) the speaker’s intention.

The difference between linguistic communication and non-linguistic communication is a difference of tool or mode, with resulting differences in precision, like the difference between ripping bread into pieces with your hands and cutting it carefully with a knife.
The inferential process can be more or less constrained, but never constrained completely (in a fully deterministic way).

The form doesn’t need to be familiar to the addressee as long as the addressee can infer the speaker’s intention:
Language is culture

**Culture:** The evolved sets of social conventions for carrying out particular tasks.

**Language:** The set of conventions for carrying out the task of communication.

The ‘rules’ of language and language use are evolved sets (systems) of social conventions for constraining the process of interpretation.
Language is not a fixed system, it is human behavior, and changes as we wish, like other aspects of our behavior.

It isn’t purpose-built, and doesn’t exist as an entity anywhere.

It is like an economy or a traffic jam: it comes into being as a side-product of our trying to communicate.

Language is a phenomenon of the third kind, like an economy or a path through a field:
Language patterns come to be recognized, much like a path worn through a grassy field might be eventually paved, and so words are put into dictionaries and grammar books are written, but that is just a snap-shot of the uses of those words and patterns up to that point.

Our knowledge of language is simply our experience of how words and structures have been used before to achieve a certain purpose.
What gets repeated, and what extensions of meaning are evidenced in the usages, is related to the cognitive categories and construal of the world of the speakers, and so the patterns that get repeated will reflect the culture and cognitive construal of the people; the language will embody the culture and conceptions of the people. ("Ethnosyntax").

This is why each language is valuable. It embodies a unique world view and manifests a particular culture.
Culture is habit

We are very much creatures of habit, and once we have a habit, it is hard to change, including habits of language and even thought.

Rituals

Sensibilities
Language use is a habit

Our language use is a set of habits we form, which are very hard to change, particularly if they involve a new way of thinking.
The most simple example is the habits we form in learning our first language: we learn to categorize certain sounds together as allophones of a single phoneme, and to distinguish other sounds that our language treats as distinct phonemes. This is entirely a habit, but as anyone who has learned a second language knows, it is difficult to change the habit and make distinctions we’re not used to making.

The habit even influences our perception, as (for example) a native English speaker will really “hear” a voiceless unaspirated stop as a voiced stop (e.g. hear the initial sound in $pe^{312}$-$tɕǐŋ^{55}$ ‘Beijing’ as /b/).
HOW LANGUAGES DIFFER

It has been said that languages differ not so much in what they can say, but in what they must say. This is looking at it from the speaker’s point of view. From the hearer’s point of view, we can say that languages differ not so much in what can be understood, but in what must be understood.
Each language has its own history of development. Just as societies differ as to what tools they use for a particular activity, for example using chopsticks as opposed to using the hands or a fork for eating, and these tools can vary in terms of specificity, the tool we think of as language can differ between societies in terms of how specialized its structures are.

Languages, or more correctly constructions in languages, can differ in three ways:
Do they constrain or not constrain the interpretation of a particular semantic domain?

Chinese: Tā qù xuéxiào.

3sg go school

a. She went to school./He went to school.

b. She is going to school./He is going to school.

c. She goes to school./He goes to school.
If they constrain the interpretation of a particular domain, how much do they constrain it?

Rawang (Tibeto-Burman; Myanmar):

a. ̀àng ̄dī ̄á:m-ì.
   3sg  go  DIR-Intrans.PAST
   ‘S/he left, went away (within the last 2 hours).’

b. ̀àng ̄dī ̄dár-ì.
   3sg  go  TMhrs-Intrans.PAST
   ‘S/he went (within today, but more than 2 hours ago).’
c. àng dī ap-mì.

3sg go TMdys-Intrans.PAST

‘S/he went (within the last year).’

d. àng dì yàng-ì.

3sg go TMyrs-Intrans.PAST

‘S/he went (some time a year or more ago).’
If they constrain the interpretation of a particular domain, how do they constrain it?

a. ㄭ zài xǐ tóufà.
   3sg PROG wash hair

b. He is washing his hair.

c. àng nī zvl-shì-ē.
   3sg hair wash-R/M-NPAST
   ‘S/he is washing her/his hair.’
APPLICATIONS

Language teaching

As we know that each language represents a different construal of the world, and we know that the patterns of language use are habits, we need to understand the differences in construal, and we also need to understand the particular habits of thought, action, and pronunciation, if we are to learn the other language well.
For example, the clause in Mandarin Chinese is organized differently than in English: Chinese is simply topic-comment, while English is subject-predicate (LaPolla & Poa 2005, 2006). This involves different habits of thought and representation of situations and events. We can see the differences clearly in the mistakes Chinese speakers make in using English:

*For core operators, it has scope over the nucleus and its arguments.*
Another example is that in English there is a single semantic space we think of as ‘have’, such that ownership and temporary possession of something are not distinguished, but in Mandarin Chinese these are distinguished. We can again see this in the kind of mistake a non-native makes in translating directly, for example, in translating *You have my keys* as something like

你有我的钥匙。

Students need to be aware of these differences, and also develop the habits associated with them.
They also need to understand their own habits and learn to overcome them. For example, English speakers have a very strong habit of marking any past event with a past tense form. This habit will carry over to when they speak Chinese, a language that does not have tense marking, and so they will latch onto the perfective aspect marker 了 le, and use it in any context that would require past tense marking in English. Understanding the differences between the languages, their own habits, and the habits of Chinese people in using 了 le will help them to learn to speak like a native.
Translation

As the words of each language differ in terms of the prototype member of the set of things that can be referred to with a particular word, and in terms of the total set of elements that can be referred to with that word, and there is no one-to-one correspondence between words and structures in different languages, translators need to be aware of the differences, and not try to do one-to-one translation, but to reinterpret the event or concept being presented in such a way that it can be expressed in a culturally appropriate way. This is aside from problems with grammar and idioms.
soup vs. 汤 tāng vs. sabaw

mother tongue/native language vs. 母语 mǔyǔ
Edgar Snow (1973:175): “He was, he said, only a lone monk walking the world with a leaky umbrella”.

Mao Zedong: 和尚打伞 —— 无发（法）无天

"We are lawless"
Computational applications

Speech recognition and speech production require a very clear understanding not only of the sounds and structures themselves, but also the habits of production and perception of the native speakers.

This requires typological knowledge of the languages as well as psychological testing to see what the salient elements are that the speakers are using to understand speech. Recent work on this, for example, has focused on the rhythm of the speech, and shown how important it is to understand the rhythm patterns of the language and to get them right in your software.
Data mining and searching, and often machine translation, currently often rely on tagged corpora. This is problematic for many reasons, but one problem is the assumption that all languages work in the same way, i.e. like English, and so are tagged like they were actually English sentences. This is empirically problematic, as we know well from typology that the languages do not work the same way, and so any system that assumes the languages work in the same way will not work well. In fact the metalanguage created on the basis of English doesn’t even work well for English.
References:


LaPolla, Randy J. 2003. Why languages differ: Variation in the conventionalization of constraints on inference. In David Bradley,
Randy J. LaPolla, Boyd Michailovsky & Graham Thurgood (eds.), Language variation: Papers on variation and change in the Sinosphere and in the Indosphere in honour of James A. Matisoff, 113-144. Canberra: Pacific Linguistics.


http://randylapolla.net/papers/LaPolla_2015_On_the_logical_necessity_of_a_cultural_and_cognitive_connection.pdf

LaPolla, Randy J. & Dory Poa. 2005. Jiaodian jiegou de leixing ji qi dui Hanyu cixu de yingxiang (The typology of focus structures and their effect on word order in Chinese). In Xu Liejiong and Haihua Pan (eds.), *Jiaodian jiegou he yuyi de yanjiu (Studies on the structure and semantics of focus)*, 57-78. Beijing: Beijing Foreign Studies University Press.
