

September 7, 2004

CLASS 1: LANGUAGE AND LINGUISTICS

GRAMMAR, GRAMMAR, OR GRAMMAR?

❶ School Grammar

- the best one could say about this is that it's aimed to teach the learner grammar
- basically, a learner of a language must learn the grammar of that language somehow
- but what is "somehow"? — unfortunately, not very productive ⇒ **prescriptive**

❷ Traditional Grammar

- Greeks: Protagoras (480-415 BCE), Plato (429-347 BCE), Aristotle (384-322 BCE)
- Romans continued this traditional work, "standard" in Western civilization (Europe)
- elsewhere, people also looked at grammar, especially in India: Panini (520-460 BCE)
<http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Panini.html>
- the main goals of traditional grammar are to describe a language ⇒ **descriptive**

❸ Generative Grammar

- "generative enterprise" started with Noam Chomsky's work on language (mid-1950s)
- practical application side (such as machine translation), description is not enough
- languages are very regular, despite obvious differences — can we capture this?
- can we also not only capture similarities and differences, but also say *why*?
- generative grammar sets out to do all this ⇒ **descriptive, explanatory, universal**

WHAT IS GRAMMAR?

When we talk about **grammar** we usually mean the two different, but inter-related fields of **morphology** (how words are formed out of smaller units, *morphemes*: (1a)) and **syntax** (how words are combined to form *phrases*: (1b), and *sentences*: (1c)). Beyond mere *formation* of words, phrases and sentences, grammar is also concerned with the *interpretation*: (1d-e).

- (1) a. anti - dis - establish - ment - arian - ism / walk - walk-s - walk-ed / *walked-s
b. [[[a]] [[[very]] [nice]] [teacher]]] / * [nice teacher a very] / * [the walked]
c. Who did you see Mary *with* ? / *Who did you see Mary *and* ?
d. (Mary is a) wine-*drinker* / home-*owner* / man-*eater*
e. (This sauce is) wine-based / home-made / man-made

But language is more than words (morphology) and sentences (syntax) — the Aristotelian characterization of language being the **pairing of sound and meaning** tells us of two further components. **Semantics** is the field that deals with the meaning interpretation of linguistic expressions (words, phrases, sentences — **pragmatics** would then also be able to integrate even larger units, such as discourse properties). **Phonology** is the study of the component of language that deals with phonetic interpretation (where **phonetics** is the study of the actual properties of sounds). All of these components also underlie certain rules and conditions, which we are going to look at in some detail (incl. the "**hyphenated disciplines**" as well).

Grammar can then be characterized as a **set of rules** that, taken together, yield a natural language (such as English). But these rules are part of our **tacit** (*subconscious*), rather than **explicit** (*conscious*) knowledge. Thus, while any native speaker is able to tell whether a positive statement like (2a) can be correctly negated according to the rules of English, as in (2b), or not, i.e. (2c-d), s/he is not likely to be able to tell you the specific rule (such as an answer on 'How does one form negative sentences in English?'):

Human beings have no conscious awareness of the psychological processes involved in speaking and understanding a language.

- (2) a. I like linguistics.
b. I don't like linguistics.
c. * I no like linguistics.
d. * I like linguistics not.

The tacit knowledge of grammar is also known as the grammatical **competence** in a speaker's native language. This is opposed to the **performance**, i.e. what people actually say or understand by what someone else says on a given occasion. As Noam Chomsky puts it, competence is "the speaker-hearer's knowledge of his language," while performance is "the actual use of language in concrete situations" (Chomsky 1965: p. 4; the first chapter of this book is a good introduction to the generative enterprise in general and the competence/performance distinction in particular).

We will be solely concerned with grammatical competence (leaving aside *performance errors*, like slips of the tongue, misunderstanding, misinterpretation etc.; cf. *psycholinguistics*). As such, we take a **cognitive** view of the nature of grammar, studying language as a cognitive system *internalized* within the human mind/brain — or *I-language* (see Chomsky 1986, another useful book!). But to study grammatical competence, tacit knowledge, we must find a way to tap it.

For this purpose, we define our **empirical field of inquiry** through native **speakers' intuitions** about the *grammaticality* and *interpretation* of words, phrases, and sentences — a readily available pool of *empirical evidence* and as such the basis for a scientific approach.

Grammaticality judgements tell native speakers of English that the past tense forms in (3a) are incorrect, although they are often produced by children acquiring English. The same type of judgement tells native speakers also that the forms in (3b) are the correct ones. (We use the star '*' in front of an expression that it is ungrammatical and a hash mark '#' that it is non-standard or limited, as in child data; the question mark '?' indicates marginality.)

- (3) a. # *goed* / *comed* / *seed* / *buyed* etc. [typical child language errors]
b. *went* / *came* / *saw* / *bought* etc. [Modern Standard English]

Apart from (in)correct morphological forms, native speakers' competence (intuition) also judges the **grammaticality of sentences**, our main object of study: (4a) vs. (4b).

- (4) a. If you don't know the meaning of a word, look it up in the dictionary.
b. * If you don't know the meaning of a word, look up it in the dictionary.

As we go along, we will see that a **theory of grammar** need not only make reference to the grammaticality of phrases and sentences, as traditional studies of grammar do, but also to their **ungrammaticality** (in order to explain why certain structures are ill-formed).

Another important aspect of the study of grammatical competence (*introspective evidence*) are native speaker intuitions about the **interpretation** of words, phrases and sentences. While native speakers would all judge (5) grammatical, they may **associate different interpretations**: (6a-b) are both *equally well-formed*; the exact interpretation may depend on the *context, intonation* etc.

- (5) Joy kisses me more cheerfully than Miss Emma.
(6) a. Joy kisses me more cheerfully than Miss Emma kisses me.
b. Joy kisses me more cheerfully than Joy kisses Miss Emma.

Native speaker *tacit knowledge of grammaticality* judges (5), and by extension (6), **well-formed**; their *intuitions about interpretation* choose (6a) or (6b) for (5), a decision which can be fostered or **disambiguated** through other factors (by means of context, plausibility, intonation etc.).

THEORY OF GRAMMAR

We now have an idea what a grammar is, i.e. what our line of inquiry will be. If a grammar of a language is a model of the competence of a fluent speaker of the language, and if competence is reflected in intuitions about grammaticality and interpretation, an important *criterion of adequacy* for a grammar of any natural language is that of **descriptive adequacy**. This is the first step towards a **theory of grammar**.

By theory of grammar we denote *the set of (abstract) rules in our minds/brains that have a natural language as their output*. This makes two related claims: all humans start off with the **same “knowledge of language”** and the abstract grammar we’re talking about is **universal**.

This research enterprise is known as the theory of **Universal Grammar (UG)**.

Another criterion of adequacy is thus **universality**: a theory of grammar should enable us to describe the grammar of *any* natural language. Note that grammar, as understood here, purely denotes the set of rules that govern language — highly abstract and not language-specific (but universal). A theory of grammar complying with the two criteria of descriptive adequacy and universality will then help us on our way to the *ultimate goal*: **a theory of Universal Grammar**. (A particular language is the output of the set of rules combined with some extra stuff, which is language-specific: these are called **parameters**, as we discuss briefly below.)

The last major criterion of adequacy relevant for us is that of **explanatory adequacy**: it is not enough to describe a/the grammar or list its properties (qua set of rules), but a theory of grammar (and a theory of UG) must seek to explain these properties. This conforms to standard notions of theoretical inquiry, namely the goal of *explanation* of the facts discovered. Explanatory adequacy governs our guiding question: ‘**Why** do natural language grammars have the properties they do?’

Regarding the **nature of grammar**, we can make a first cut by only considering the properties of UG which, by definition, is unique to human beings. In other words, by looking at the properties of **natural language(s)**, we can ignore artificial languages (programming languages, invented languages etc.) or communication systems found elsewhere in nature (such as the tail-wagging dance of bees). There are *essential defining characteristics* of natural (human) language: (such as the *design features* sound signals, arbitrariness, duality, displacement, patterning, structure dependence, need for learning, creativity compiled by the American linguist Charles Hockett).

This leads us to another condition we have to impose on our theory of grammar/language: it must be maximally **restrictive**, constrained in its expressive power to only adequately describe and explain natural language (and not something else, like numbers or colours, and not less either).

BIOLOGY OF LANGUAGE

Given the universality claim of our theory of language, something needs to be said on its origin. The leading hypothesis about UG is that *all human beings start off the same*, i.e. **UG is an invariant set of rules** that we’re all fitted with at birth. Whatever the exact biological reality (such as “UG is genetic” [one gene or more?], “the language faculty is an organ” [which one, or like which one?] etc.), it is clear that UG sits in a specified part in our minds/brains, which we can call the **language faculty** (just as there are faculties for vision, numbers and so on).

As such, our theory of language must account for the fact that young children acquire their native language in a remarkably short time, seemingly effortless and without instruction. The ‘wonder’ of **acquisition** must thus be on our list of desiderata, the phenomena we want to describe and explain with a theory of language. That means that yet another natural condition on our theory of language is that of **learnability**: whatever set of rules we come up (i.e. the technical devices to state UG), the net result must be a **learnable system**. As children do acquire language naturally and effortlessly, it is quite clear that natural language is learnable, and so must be our theory.

Basic issues in acquisition: all children go through roughly the same **stages in their acquisition process** at roughly the same time in all languages, pretty much regardless of environment. By endowing the human brain with UG, we make the specific assumption about the **innateness hypothesis**, that we are born with UG, facilitated by the **language acquisition device (LAD)**.

PRINCIPLES OF UG

To take a random (OK, classic) example to illustrate the importance of **structure** in language, consider the way how yes/no-questions are formed. We can gather random data like those in (7) and hypothesize that in order to form a yes/no-question, we simply *invert the first two words*.

- (7) a. Studying **is** a lot of fun. / Memories **will** fade away.
b. **Is** studying a lot of fun? / **Will** memories fade away?

Clearly, once we consider more data, such as (8-9), this hypothesis cannot hold. **Grammatical operations are not structure-independent**, but very much dependent on internal structure: (10).

- (8) a. Studying syntax is a lot of fun.
b. * Syntax studying is a lot of fun?
(9) a. Memories of happiness will fade away.
b. Of memories happiness will fade away?

- (10) **Structure Dependence Principle**
All grammatical operations are structure-dependent.

The rule for forming yes/no-questions is thus not a simple inversion of the first two words (or something else that relies on such a notion of simple counting like ‘Move the second element in front of the first’). What is it then? In order to answer that and many other questions, we need to be more precise about **what structure is** and how to express structure dependence.

We know that sentences are structured out of words and phrases, and both belong to a specific **grammatical category** (nouns, verbs, prepositions etc., and their corresponding phrases) serving a specific **grammatical function** (e.g. subject, object) in the sentence. We will look at these notions in detail in the course of this semester. Regarding the formation of yes/no-questions it suffices to say at this point that ‘Move an auxiliary in front of a preceding noun expression which functions as its subject’ is closer to the truth (see also Radford 1997: Ch. 1 for more).

- (11) a. Down **will** come taxes.
b. * **Will** down come taxes?

Returning briefly to the **acquisition** aspect of language, we can picture the process in oversimplified terms (yet surprisingly close to the truth) and schematize it as follows:

- (12) Experience of L → UG → Grammar of L

The above-mentioned **language faculty** is the part in our brains responsible for language. We can think of it housing UG, the center of grammar. Now, the goal of the acquisition process is the mastering of the child’s native language L. In other words, **equipped with UG**, the child/learner will end up with **knowledge of the grammar of L**. Clearly, **experience of L** is relevant: the linguistic environment in which the child grows up governs which L s/he will acquire. If the environment is English s/he’ll end up with English, if it’s Chinese s/he will acquire Chinese and so on. Think of UG as a *meat grinder*: you feed it data and it churns out the desired grammar. However, not all aspects of the grammatical structure of languages is innate. We can distinguish **lexical learning** (the vocabulary of L) from **structural learning** (L-particular structures).

PRINCIPLES AND PARAMETERS

But what are the language-specific structures, or properties in general? If UG, knowledge of grammar, is innate how come we ever end up with a particular language? How do the thousands of languages arise, and what makes them different from UG? The answer we’re going to explore is to take UG as a set of rules or **principles** of grammar, some *fixed, universal properties* (such as that all languages have structure, words make up phrases, these phrases are structured and so on, or the inventory of grammatical categories and functions). Specific languages arise through the setting of language-specific **parameters**, values that need to be set on or off, something like a switchboard (oversimplified, again). What we will do is explore these parameters and thus come up with an adequately description of particular languages (like English or Chinese) that differ from one another not in their principles, but in their particular parameters.

Null Subject Parameter: languages may allow/disallow dropped or **null subjects** (Ø).

- (13) a. **Maria** parla francese. [Italian]
Maria speaks French
b. Ø Parla francese.

- (14) a. **Mary** speaks French. [English]
b. * Ø Speaks French.

Wh-Parameter: Languages may move a **Wh-phrase** or leave it *in situ*.

- (15) a. **What** did John buy? [English]
b. **What** do you think he will say?
(16) a. Zhangsan mai-le **shenme**? [Chinese]
Zhangsan buy-ASP what
b. Ni xiangxin ta hui shuo **shenme**?
you think he will say what

Head Parameter: Languages have **complements** follow or precede their heads.

- (17) a. **close** the door [English]
b. **desire for** change
(18) a. moonul **dadala** [Korean]
door close
b. byunhwa-**edaehan kalmang**
change-for desire

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Feel free to check any of these texts out, or any further readings suggested there (see also the further readings sections of our textbook, RABCS). Many, if not most, of these books are available at the UCY library. I don't foresee the necessity for you to really buy any of these books, but if you want to do so, come and see me so that I can suggest which ones might be worthwhile purchasing.