Linguistic Typology Basics

(A brief introduction)

Phonetics

Most languages are transmitted by sounds and one of the most obvious differences between languages is that they sound different.

The study of the sounds that human beings make in their languages is known as **phonetics.**

To overcome
the deficiencies of conventional spellings,
linguists use a phonetic alphabet
such as the IPA
to represent sounds.

IPA is International Phonetic Alphabet

(spelled / spelt «МФА» in Russian)

We are used to the idea of representing language in writing; however, conventional writing systems are not adequate to represent sounds.

IPA is an internationally recognized set of phonetic symbols developed in the late 19th century, based on the principle of strict one-to-one correspondence between sounds and symbols.

adequate ['ædɪkwət]

We are used to the idea of representing language in writing; however, conventional writing systems are not adequate to represent sounds.

IPA has over 100 symbols each representing different possible sounds.

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IPA has over 100 symbols each representing different possible sounds.

vowel ['vauəl]

Vowels are usually described by reference to five criteria, and these are adequate as a basic point of reference, although some vowel sounds require more specification:

vowel ['vauəl]

1. the height reached by the highest point of the tongue (high, mid, low),
2. the part of the tongue which is raised (front, center, back),
3. the shape formed by the lips (unrounded or spread, rounded),
4. the position of the soft palate (raised for oral vowels, lowered for nasal vowels),
5. the duration of the vowel (short, long).

Using these features, linguists have constructed a **set of standard reference points** for describing vowels.
These are called the cardinal vowels and are usually shown on a schematized representation of the mouth,
as in Figure 1.1.

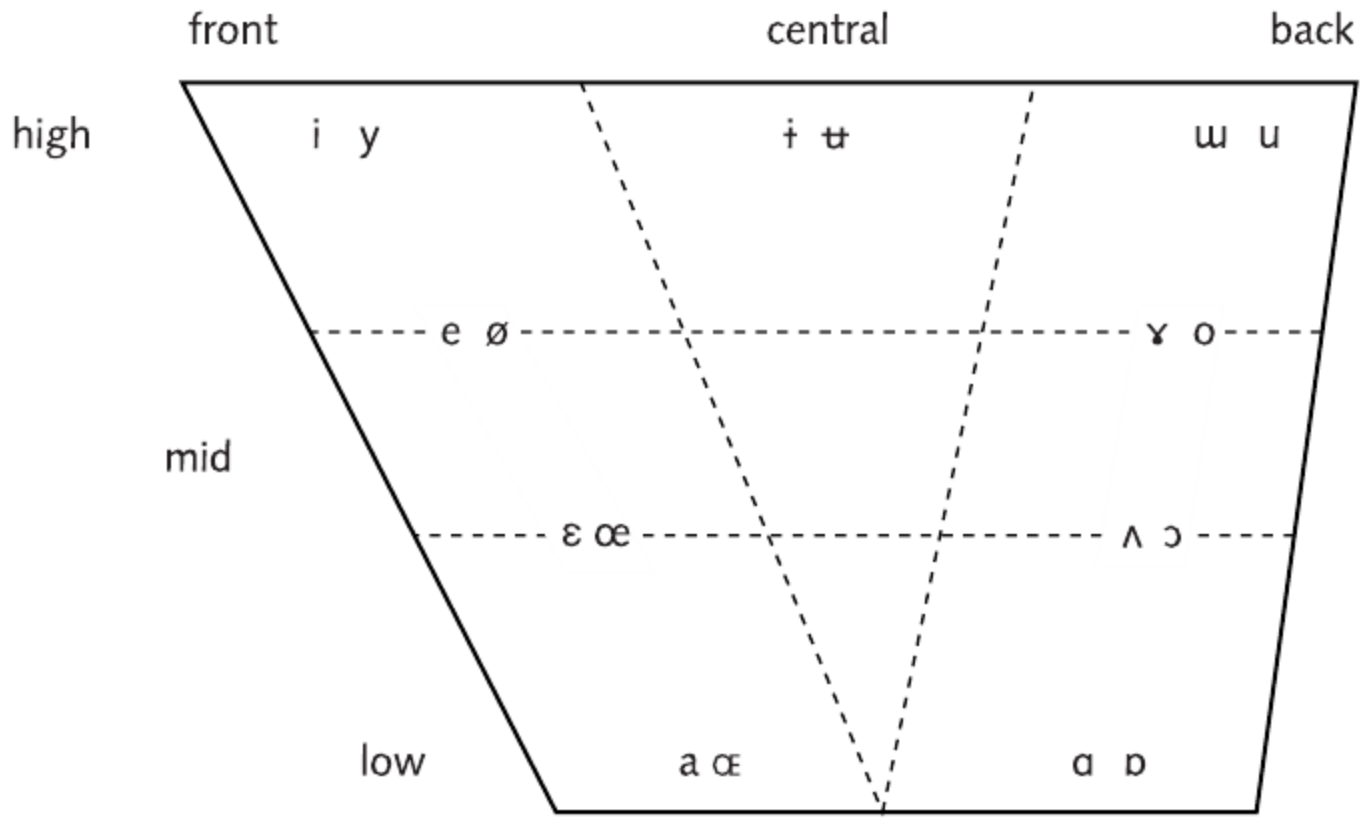
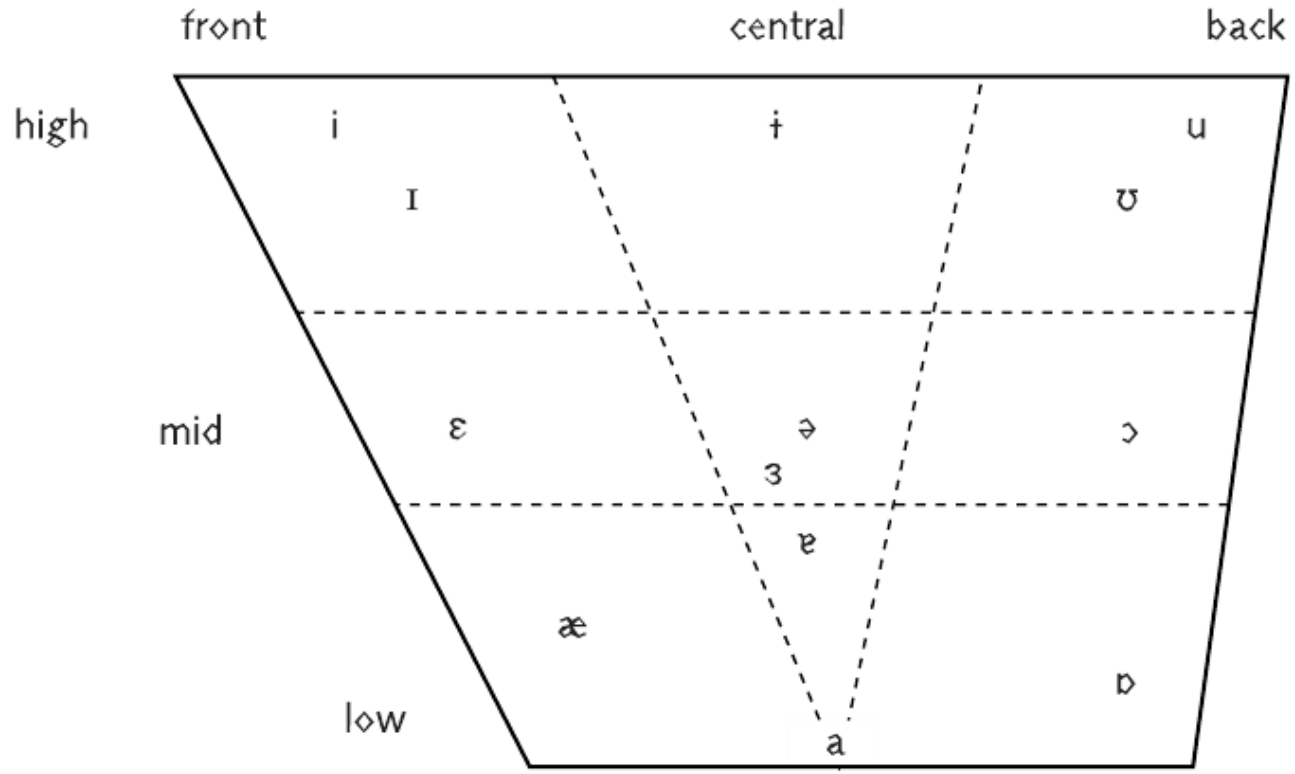


Figure 1.1 Cardinal vowels

In this diagram, the first vowel of each pair is rounded, the second unrounded, and all vowels are short.
To show a long vowel, the symbol [:] is written after the vowel.
The cardinal vowels are not all of the vowels found in human languages and some, such as [œ], are not even very common.



Symbol	Example	Symbol	Example	Symbol	Example
i	*bead* [biːd]	ɨ	*pieces* [piːsɨz]	u	*food* [fuːd]
ɪ	*bid* [bɪd]	ə	*about* [əbaʊt]	ʊ	*put* [pʊt]
ɛ	*bed* [bɛd]	ɜ	*were* [wɜː]	ɔ	*port* [pɔːt]
æ	*bad* [bæd]	ɐ	*but* [bɐt]	ɒ	*pot* [pɒt]
a	*part* [paːt]				

Figure 1.2 English vowels (southern British variety)

Please, visit the
International Phonetic Association
[ɪntə'næʃənəl fə'nɛtɪk əsoʊsi'eɪʃn]
page at
https://www.internationalphoneticassociation.org/content/ipa-handbook-downloads

Pay attention to the
International Phonetic Association
[ɪntəˈnæʃənəl fəˈnɛtɪk əsoʊsiˈeɪʃn]
chart at
https://www.internationalphoneticassociation.org/sites/default/files/IPA_Kiel_2015.pdf

A specific feature of English is that front vowels are unrounded and back vowels are rounded, but this is not true of all languages.

adequate ['ædɪkwət]

In transcribing language
we can use
either a *narrow transcription*
or a *broad transcription*.

A narrow transcription contains as much information as possible and records very minor differences between sounds,

adequate ['ædɪkwət]

In transcribing language
we can use
either a *narrow transcription*
or a *broad transcription*.

while a broad transcription contains less information and records only some differences between sounds.

aspirate ['æspəreɪt]

For example,
a broad transcription of the word pea might capture the fact that it has two main sounds [pi],

a narrower transcription might show that the consonant is actually unvoiced and aspirated and the vowel is long [phi:].

diphthong ['dɪfθɔŋ]

Diphthongs

Diphthongs are vowels in which the tongue starts in one position and moves to another.

Diphthongs are very common in English:

tile, tail, comb, shout, toy, hair, here, tour.

triphthong ['trɪfθɔŋ]

Triphthongs

It is possible to have vowel sounds in which the tongue moves to more than one additional position during articulation.

Some varieties of English in the UK, Australia, and New Zealand have triphthongs with three different tongue positions, for example fire, hour.

diphthong ['dɪfθɔŋ]

Consonants

Consonant sounds have three basic features in their articulation:

1. place of articulation,
2. manner of articulation,
and 3. voicing.

Table 1.1 Places of articulation for consonants

Place of articulation	Articulators	Examples
Bilabials	Both lips	English *p*, *b*, *m*
Labio-dental	Upper teeth and the lower lip	English *f*, *v*
Dental	Upper teeth and tongue	French *t*, *d*
Interdental	Tongue between the teeth	English *th*
Alveolar	Tongue and the alveolar ridge (the bony ridge just behind the upper teeth)	English *t*, *d*
Postalveolar	Tongue and the front edge of the hard palate	English *sh*, *r* in some varieties
Palatal	Tongue and the hard palate	Italian *gn*, *gl*, English *y*
Velar	Tongue and the soft palate	English *k*, *g*, *ng*
Uvular	Tongue and the uvula	French *r*
Pharyngeal	Pharynx wall	Arabic ع
Glottal	Glottis (vocal folds)	English *h*, Samoan'

Table 1.2 Manner of articulation for consonants

Manner of articulation	Type of constriction	Examples
Stop	Complete blockage of air flow	English *b*, *d*, *g*
Fricative	Turbulent airflow produced by forcing air through a narrow aperture	English *f*, *s*
Approximant	Partial constriction of airflow, but without turbulence	English *l*, *w*, *y*
Affricate	Blockage of airstream with a delayed release of the block creating turbulence	English *ch*, *j*
Nasal	Blocking of the oral cavity to force air through the nasal cavity	English *m*, *n*, *ng*
Lateral	Air flows around the sides of the tongue	English *l*
Trill	Repeated interruption of the airflow as the result of an articulator vibrating	Spanish *rr*, Italian *r*
Flap or tap	Very brief blockage of the airflow	Spanish *r*, Japanese *r*

No language has all the speech sounds possible in human languages;

INTERACTIVE IPA PHONETIC CHART

https://linguistics.ucla.edu/people/keating/IPA/inter_chart_2018/IPA_2018.html

No language has all the speech sounds possible in human languages; each language contains a selection of the possible human speech sounds.

As such
each language has
its own pattern of sounds.

phoneme ['fəuni:m]

This study of sound patterns is known as **Phonology** and the speech sounds are known as ***phonemes***.

The *focus of phonology* is to determine the ways in which speech sounds form meaningful systems within languages.

Table 1.4 Phonemic inventories in four languages

	Vowels	**Consonants**
Hawai'ian	i e a o u	p k ʔ m n ŋ w h l
English (Southern British)	i ɪ ɛ æ a ə ɜ ɨ ɒ ɔ ʊ u ɐ aɪ eɪ aʊ oi oʊ iə ɛə ʊə	p b t d g k f v θ ð s z ʃ ʒ h m n ŋ ʧ ʤ w l r j
French	i e a o u y ø ɛ̃ ɑ̃ ɔ̃ œ̃	p b t d k g f v s z ʃ ʒ r m n ɲ w l j
Warlbiri (Australia)	i a u	b d̪ d ɟ g m n̪ n ɲ ŋ l̪ l ɭ ɻ r w y

allophone ['ælə¸fəʊn]

Where two or more sounds represent the same underlying phoneme we call these allophones.

It is possible for two languages to have the same sounds but to treat them differently in their phonological system.

allophone ['ælə¸fəʊn]

For example, English and Spanish both have the sounds [d] and [ð], however in English these are two different phonemes

[doʊz] = /doʊz/) while in Spanish they are allophones of the same phoneme: [d] occurs at the beginning of words and after consonants and [ð] occurs between vowels (*Dios* 'God' [diɔs] = /diɔs/ and *adiós* 'good-bye' [aðiɔs] = /adiɔs/).

syllable ['sɪləbl] phonemic [fə'niːmɪk] phonotactics ['fəʊnəʊˌtæktɪks]

Phonotactics

Just as languages have different phonemic inventories and different allophones,

they also have different possibilities for combining sounds into syllables, or different phonotactics.

suffix ['sʌfɪks] morphology [mɔː'fɔlədʒɪ] morpheme ['mɔːfiːm]

Morphology

Morphology deals with the way in which words are made up of morphemes, the **smallest meaningful units of language.**

If we take a word such as ‘untied’,it is clear that this word consists of three smaller meaningful pieces - three morphemes: the root tie, the prefix un- and the suffix -d.

suffix ['sʌfɪks] morphology [mɔː'fɔlədʒɪ] morpheme ['mɔːfiːm]

Morphology

Morphemes can be divided up into various crosscutting categories.

Morphemes can be lexical like tie, with full, complex meanings.

Or they can be grammatical morphemes, like -d, where a speaker does not really have a choice

suffix ['sʌfɪks] morphology [mɔː'fɔlədʒɪ] morpheme ['mɔːfiːm]

[ˌmɔːfə'lɔdʒɪk((ə)l)] [taɪ'pɔlədʒɪ]

Morphological Typology

Languages differ greatly in their use of morphology and the types of morphological processes which they allow.

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

There are two scales that languages are often considered to fall on.

One scale is that of isolating, agglutinative, and fusional;

polysynthetic [ˌpɒlɪsɪn'θɛtɪk] morphology [mɔː'fɔlədʒɪ] analytic(al) [ˌæn(ə)'lɪtɪk

Morphological Typology

There are two scales that languages are often considered to fall on.

the other consists of analytic, synthetic, and polysynthetic.

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

An isolating language is one which does not join morphemes together in one word

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

agglutination is the process where morphemes join but are easily segmentable (E.G. consider-ed),

[əˌgluːtɪˈneɪʃ(ə)n]

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

agglutination is the process where morphemes join but are easily segmentable (E.G. consider-ed),

and fusion is where morphemes join but are hard to segment

(mice is ‘mouse +(plus) plural’

but we cannot segment it).

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Vowel harmony /Сингармонизм/

A vowel or vowels in a word must be members of the same subclass (thus "in harmony").

In languages with vowel harmony, there are constraints on which vowels may be found near each other.

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

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Suffixes and prefixes will usually follow vowel harmony rules. Many agglutinative languages have vowel harmony.

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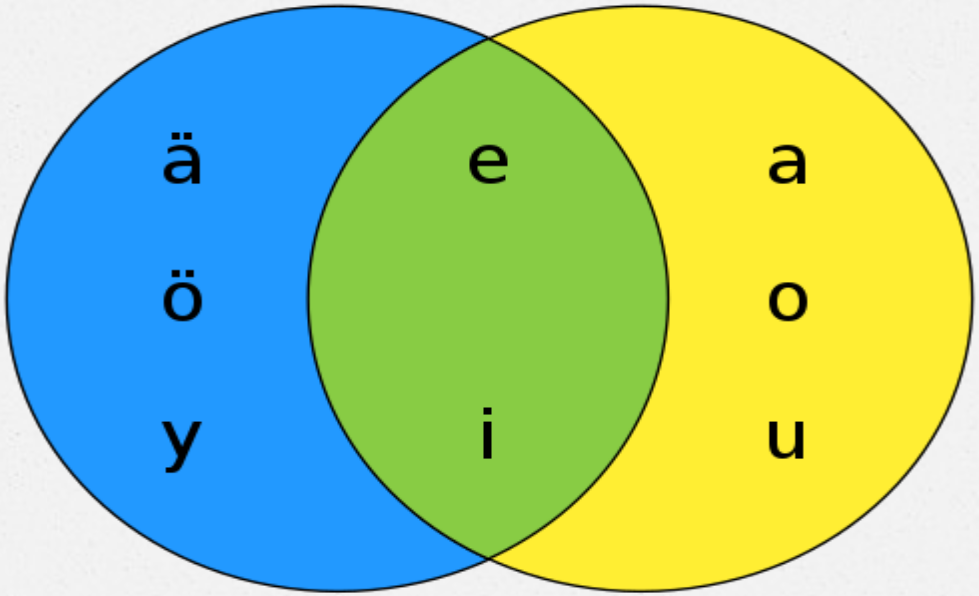
agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

A diagram illustrating vowel harmony in Finnish.



agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Harmony in Finnish

.

kaura begins with back vowel → *kauralla*
kuori begins with back vowel → *kuorella*
sieni begins without back vowels → *sienellä* (not **sienella*)
käyrä begins without back vowels → *käyrällä*
tuote begins with back vowels → *tuotteessa*
kerä begins with a neutral vowel → *kerällä*
kera begins with a neutral vowel, but has a noninitial back vowel → *keralla*

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

a synthetic language has a few morphemes per word,

and a **polysynthetic language** may have many morphemes in a single word.

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

An **analytic language** is one where each word only has one morpheme (and is thus also isolating)

and fusion is where morphemes join but are hard to segment

(mice is ‘mouse +(plus) plural’

but we cannot segment it!).

agglutinative [əˈgluːtɪnətɪv] morphology [mɔːˈfɔlədʒɪ] isolate [ˈaɪsəleɪt]

Morphological Typology

Of course, most languages have a combination of all of these traits,

but these scales are used as an overall heuristic of what is most common in a language.

sup • ple • tion (səˈpli ʃən)

sup • ple • tive (səˈpli tɪv, ˈsʌp lɪ tɪv) *adj.*

Suppletion

In linguistics and etymology, suppletion is traditionally understood as the use of one word as the inflected form of another word when the two words are not cognate.

For those learning a language, suppletive forms will be seen as "irregular" or even "highly irregular".

sup • ple • tion (səˈpli ʃən)

sup • ple • tive (səˈpli tɪv, ˈsʌp lɪ tɪv) *adj.*

Suppletion

The term "suppletion" implies that a gap in the paradigm was filled by a form "supplied" by a *different paradigm*.

Instances of suppletion are overwhelmingly restricted to the most commonly used lexical items in a language.

Syntax

In English, ‘the boy sees the girl’ means something different from ‘the girl sees the boy’,
and *”the the boy girl sees” is not a sentence,

Syntax deals with

how to put words together to form sentences which mean what we want.

Isn't that a commutation [ˌkɔmjuˈteɪʃ(ə)n] test?

Syntax

In English, 'the boy sees the girl' means something different from 'the girl sees the boy',
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Syntax deals with

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Word Classes is a more precise term for ancient Parts of Speech

Word Classes

The words of a language come in different classes or parts of speech – nouns, verbs, adjectives, prepositions, and so on.

Not all languages have the same classes!

Word Classes

Many languages also have subclasses within each class.

For example, while all verbs in English show marking for tense, they can be distinguished by how many nouns (or arguments) they are associated with.

Word Classes

Many languages also have subclasses within each class.

For example, the verb die is intransitive, only taking one argument (Joshua died,); kill is transitive, with two arguments (Sarah killed Moses); and give is ditransitive, with three arguments (Ruth gave Abraham the book).

Word Classes

Nouns and verbs are the only universal word classes.

Many languages have a class of adjectives, but in some languages descriptive words have exactly the same behavior as nouns or as verbs

Word Classes

Nouns and verbs are the only universal word classes.

and consequently in these languages there is no class of adjectives, since there is no special behavior to distinguish them.

Word Classes

Different languages have different ways in which their nouns and verbs behave, and so different tests for assigning word class.

In English, for example, verbs are marked for tense, but in a language like Indonesian verbs do not inflect for tense, so we cannot use that as a way of establishing the class of verbs in Indonesian (though there are other tests).

Word Classes

Different languages force their speakers into making different distinctions,

with different features being associated with different word classes in different languages.

Frequently found features

Despite this, there are some **features** which are frequently found associated with particular word classes in **many** different languages.

For example, nouns are often marked for number. In English, nouns are either singular or plural.

These **features** are called Linguistic Frequentalia or (more English) – **statistic language universals**.

Different Features of Word Classes

Other languages may make more distinctions, so Warlpiri has singular, dual (two) and plural (more than two).

And some languages do not mark number at all!

Different Features of Word Classes

In the realm of grammar, most or all languages distinguish between nouns and verbs, most or all languages have pronouns, and the majority of languages make a distinction between subject and object.

vowel ['vauəl] /

consonant ['kɔn(t)s(ə)nənt]

Kinds of Language Universals

AN ABSOLUTE UNIVERSAL	A STATISTICAL UNIVERSAL
Absolute universals refer to properties found in all languages	statistical universals reflect important trends that are found in a predominant part of the languages of the world, but not necessarily in all.
All languages have vowels and consonants.	Subjects tend strongly to precede objects.

Kinds of Language Universals

A Language Universal Type	An example
AN IMPLICATIONAL UNIVERSAL	If a language has voiced fricatives, it also has unvoiced fricatives, but not necessarily the other way round.
AN NON-IMPLICATIONAL UNIVERSAL	Present or absent in natural languages without reference to any other properties of the given language.

vowel ['vauəl] / consonant ['kɔn(t)s(ə)nənt]

Kinds of Language Universals

When comparing focal colours across languages, it turns out that although the variety in colour terms is huge, the variation follows a systematic pattern. A language with only two colour terms has a word for 'black' and a word for 'white', a language with three colour terms has, in addition, a word for 'red', a language with four colour terms has, in addition, either 'green' or 'yellow', while a language with five colour terms has both 'green' and 'yellow', and so on:

Kinds of Language Universals

When comparing focal colours across languages, it turns out that although the variety in colour terms is huge, the variation follows a systematic pattern.

Number of terms	2 terms	3 terms	4 terms	5 terms	6 terms	7 terms	10 terms
Colour term	White and Black	+RED	Green or yellow	Green and yellow	Blue	Brown	Purple Pink Orange

Different Features of Word Classes

A further common noun feature is case, where the form of words changes depending on how they are used in a sentence.

Once again, different languages have different systems of case-marking – English has no cases on nouns, German has four, Latin has six cases, and Finnish has fifteen.

dative ['deɪtɪv]

Different Features of Word Classes

A further common noun feature is case, where the form of words changes depending on how they are used in a sentence.

Each case may be used for more than one function, so that in German, for example, the dative is used to show a recipient, but is also used on the noun phrase that follows the preposition mit ‘with’.

dative ['deɪtɪv]

Constituent structure

In most languages, words are not just strung together in any order.

Given the sentence ‘The tall plumber died’,

there is no other way of ordering the words to form an English sentence.

dative ['deɪtɪv]

Constituent structure

Also, at an intuitive level, ‘the tall plumber’ seems to go together as a unit, in a way that plumber died does not;

then the unit ‘the tall plumber’ goes together with the unit ‘died’ to form the sentence.

dative ['deɪtɪv]

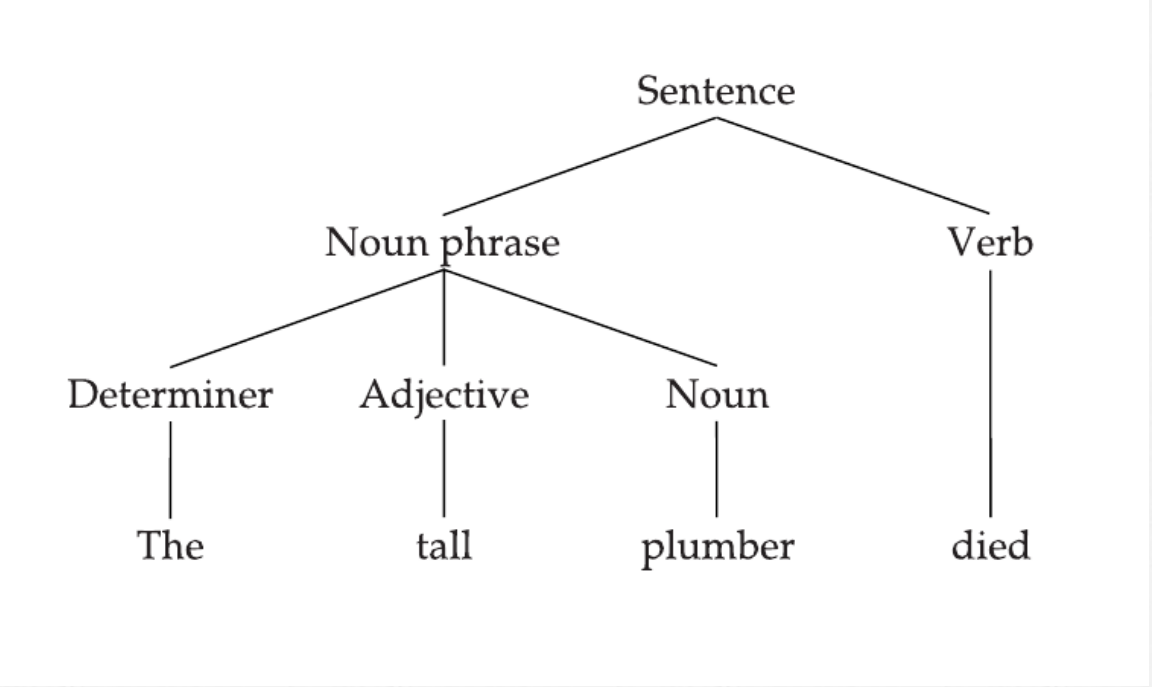
Constituent structure

Constituent structure can be represented in different ways. Two common ways are through **phrase structure trees** and **phrase structure rules**.

Phrase structure trees show the constituent structure of a particular sentence, with all the intermediate constituents.

dative ['deɪtɪv]

Phrase structure tree



dative ['deɪtɪv]

Phrase structure rules

Phrase structure rules are more general representations of possible sentences.

We have seen that a noun phrase can consist of a determiner, one or more adjectives, and a noun, with the determiner and adjectives being optional.

Phrase structure rules

We can represent this formally as:
NP ⟶ (Det) (Adj)* N

Here NP is the noun phrase, Det is a determiner, Adj an adjective and N a noun. The parentheses indicate that the element is optional, while the asterisk tells us we can have more than one of this class of word in this position.

parenthesis [pə'renθəsɪs]; plural: parentheses [pə'renθəsiːz]

Phrase structure rules

We can also devise a rule to make our sentence, S, by having S → NP V where V is a verb.

Of course, if we want to include the possibility of an NP after the verb (in a sentence like The boy saw the girl), we will have to make the rule more complex: S → NP V (NP)

Different Phrase structure rules

Different languages have different phrase structure rules (and different trees).

For example, in Turkish the verb comes at the end of a transitive sentence,
after both NPs, so Turkish would need a phrase structure rule like S → NP (NP) V

.

Syntactic Typological systems

Different languages have different syntactic structures, based on Subject–verb–object positioning in sentences.

Object–subject–verb; Object–verb–subject; Subject–verb–object; Subject–object–verb; Verb–subject–object; Verb–object–subject.

.

Different Phrase structure rules

Different languages have different phrase structure rules (and different trees) PS.

In a few languages, these sorts of phrase structure rules do not work very well. In Latin, the words in a sentence can come in almost any order without changing the basic meaning, so phrase structure rules showing where to put each of the words are not much use; but modifications can be made for languages like these.

Semantic roles and grammatical relations

Semantic roles are needed to talk about sentence construction.

General terms are used to express the semantic role (also called the theta role) which a noun phrase plays in a sentence.

Different systems of semantic roles are used, but some of the more common terms are agent (the one who performs something), patient (the one to whom things happen), experiencer and theme (I and him respectively in *'I saw him'*, where I do not really do anything, and nothing actually happens to him), recipient, and source and goal (where something comes from or goes to respectively, as house and shops in 'She left the house for the shops').

For example, in English, if a transitive verb has an agent and a patient, the agent comes before the verb and the patient after, which is how we know who does what in ‘The farmer is killing the ducklings’.

If the sentence is made passive
('The ducklings are being killed by the farmer'), then as well as a change in the verb, the patient
now comes before the verb, and the agent is either in a prepositional phrase with by, or omitted entirely.

Semantic roles and grammatical relations types and differences

In some languages grammatical relations may be signaled by constituent order, as in English; in others, constituent order may be free and grammatical relations signaled by case, as in Latin; in others, cross-referencing on the verb may signal the difference.

As in English, more than one technique may be used.

Thanks for your attention!

Please, don’t forget to get ready with your home task!