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Spoken language			between 100,000 and 50,000 years ago,
Written language			(About 5,000 years ago).
human infants - grow up without hearing any language around them			Using the original **God-given language.**
Two famous experiments: **1st by an Egyptian pharaoh named Psammetichus** → children were said to utter the word "bekos" (that means bread in **Phrygian language).**			**2nd by King James the Fourth of Scotland →** children were reported to have spoken **Hebrew.**
Other cases of children - discovered living in isolation- without contact human speech-			Tend not to confirm the results of these types **of 'divine-source'** experiments.
Very young children living without access to human language in their early years			Grow up with **no language** at all.
The natural sound source			
1. A/ 'Bow-wow' Theory	Imitations of the natural sounds.	**onomatopoeic**	(echoing natural sounds)
2. B/ Natural Cries of Emotion Theory	From natural cries of emotion such as pain, anger and joy. Interjections such as Ah! Ooh! Wow! Or Yuck!		
3. C/ 'Yo-he-ho' Theory	involved in physical effort		
physical differences between the skull of a gorilla and that of a Neanderthal /niːˈændərtɑːl/ man from around			60,000 years ago.
The physical adaptation source			
Human teeth	Upright-not slanting outwards -	very helpful in making sounds such as **f or v.**	
Human lips	flexible	**making sounds like p or b.**	
Human mouth	small compared to other primates	Opened & closed rapidly- smaller, thicker &more muscular tongue - used to shape a wide variety of sounds inside the oral cavity.	
Human larynx	**'voice box'**	Containing the vocal cords- differs significantly in position from the larynx of other primates such as monkeys.	
Pharynx	Above the vocal cords- acts as a resonator for increased range & clarity of the sounds produced via the larynx.		
Big advantage in getting this extra vocal power (i.e. a larger range of sound distinctions) to outweigh the potential disadvantage from an increased risk of choking to death.			
Human brain	controls all the complex physical parts used for sound production	Lateralized, that is, it has specialized functions in each of the two hemispheres.	
Those functions - control motor movements -speaking and object manipulation (making or using tools) largely confined - left hemisphere of the brain for most humans.			
It is innate	'language gene		
• **Informative signals**	a behavior that provides information, usually unintentionally		
• **Communicative signals**	a behavior used intentionally to provide information		
a. **Displacement**	Property of language- allows users talk about things & events not present in the immediate environment.		
b. **Arbitrariness**	Property of language describing fact that there is no natural connection between a linguistic form & its meaning.		
	Relationship between linguistic signs and objects in the world is		

	described as arbitrariness.	
c. Productivity	Property of language - allows users to create new expressions, also **called 'creativity' or 'open-endedness'.**	
	potential number of utterances in any human language is infinite	
	Communication systems of other creatures do not appear to have this type of flexibility. Nor does it seem possible for creatures to produce new signals to communicate novel experiences or events.	
d. Cultural transmission	Humans born with some kind of predisposition to acquire language in a general sense.	
	Process whereby knowledge of a language is passed from one generation to the next.	Acquire a language in a culture with other speakers and not from parental genes.
	General pattern in animal communication - creatures born with a set of specific signals - produced instinctively. Unlike animals, human infants, growing up in isolation, produce no '**instinctive**' language.	
e. Duality	Property of language whereby linguistic forms have two simultaneous levels of sound production & meaning, **also called 'double articulation'**.	**Sounds, like r, a & c**
	One level, we have distinct sounds, and, at another level, we have distinct meanings.	
Cave drawings	made at least 20,000 years ago,	
Clay tokens	from about 10,000 years ago,	
Geoffrey Nunberg	Is referring to as 'cuneiform' marked on clay tablets about 5,000 years ago. An ancient script - writing systems use today can be identified in inscriptions dated around 3,000 years ago.	
Pictogram (pictographic writing)	Way of writing in which a picture/drawing -an object is used to represent the object. A conventional relationship must exist between the symbol and its interpretation.	
Ideogram (ideographic writing)	Is a way of writing in which each symbol represents a concept/an idea.	
Distinction between pictograms & ideograms is essentially a difference in the relationship between the symbol & the entity it represents. - 'picture-like' forms are pictograms & more abstract derived forms are ideograms.		
When the relationship between the symbol and the entity or idea becomes sufficiently abstract. When symbols are used to represent words in a language, they are described as examples of word-writing, or 'logograms'.		
• **Logogram (logographic writing)**	Way of writing in which each symbol represents a word.	Sumerians-southern part of modern Iraq- around 5,000 years ago
	Way of writing created by pressing a wedge-shaped implement into soft clay tablets.	
	Modern writing system that is based, to a certain extent, on the use of logograms can be found in China.	
• **Rebus writing**	way of writing in which a pictorial representation of an object is used to indicate the sound of the word for that object	
• **Syllabic writing (syllabary)**	Way of writing in which each symbol represents a syllable (a unit of sound consisting of a vowel and optional consonants before or after the vowel).	
Writing system employs - set of symbols - representing pronunciation of a syllable, - no purely syllabic writing systems in use today.		
Ancient Egyptian & Sumerian writing systems - logographic symbols - represent spoken syllables.		

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Phoenicians- modern Lebanon between 3,000 &4,000 years ago,	
By about 3,000 years ago- Phoenicians stopped using logograms &had a fully developed syllabic writing system.	
• **Alphabetic writing (alphabet)**	Way of writing - one symbol represents one sound segment.
	Originating writing system of the Phoenicians- basic source alphabets - in the world.
	Called consonantal alphabet- Semitic languages such as Arabic and Hebrew.
Early Greeks took the alphabetizing process- using separate symbols to represent the vowel sounds as distinct entities, & so created a remodeled system that included vowels.	
change produced a distinct symbol for a vowel sound such as a (called 'alpha') to go with existing symbols for consonant sounds such as b (called 'beta'), giving us single-sound writing or an 'alphabet'	
• **Written English**	Words derived from forms used in writing other languages, notably Latin &French.
Early printers were native Dutch speakers and could not make consistently accurate decisions about English pronunciations.	
• **Phonetic alphabet**	set of symbols, each one representing a distinct sound segment
• **Phonetics**	Study of the characteristics of speech sounds.
• **Articulatory phonetics**	Study of how speech sounds are produced.
1-Acoustic phonetics	Study of the physical properties of speech as sound waves.
2-Auditory phonetics	Study of the perception of speech sounds by the ear, also **called "perceptual phonetics**
In articulatory phonetics, speech sounds produced using the fairly complex oral equipment we have- Inside the larynx are your vocal cords= take two basic positions. 1 When the **vocal cords are spread apart**, Sounds produced in this way are described **as voiceless**. 2 When the **vocal cords are drawn together**, Sounds produced in this way are described **as voiced.**	
place of articulation	Describe many sounds are those which denote the place of articulation of the sound: location inside mouth which the constriction takes place.

1-Bilabials	Sounds formed using both upper & lower lips	[p] voiceless	[b], [m] & [w] voiced
2-Labiodentals	Sounds formed with the upper teeth & the lower lip- lower lip articulates against the upper teeth.	[f] voiceless	[v] voiced
3-Dentals	Sounds formed with the tongue tip behind the upper front teeth (also referred to as interdentals). - tongue tip articulates against the upper teeth	[θ] voiceless	[ð] voiced
4- Alveolars	Sounds formed with the front part of the tongue on the alveolar ridge, which is the rough, bony ridge immediately behind and above the upper teeth- tongue tip and/or blade articulates against the teeth ridge.	[t] & [s] voiceless	[d], [z] & [n] voiced. Other alveolars are [l] & [r].
5- Palatals (Alveopalatals):	Sounds produced with the tongue and the palate- tongue front articulates against the hard palate.	[ʃ] & [tʃ]] voiceless	[ʒ], [dʒ] & [j] voiced
6-Velars	Sounds produced with the back of the tongue against the velum. The tongue back articulates against the soft palate.	[k] voiceless	[g] & [ŋ] voiced
7- Glottals:	Sound that is produced without the active use of the tongue & other parts of the mouth.- The vocal folds themselves are the place of articulation	Voiceless sound [h].	
8- Stops	Consonant sound, resulting from a blocking or stopping effect on the airstream, is called a stop (or a 'plosive').	[p], [b], [t], [d], [k], [g]	
9- Fricatives	Air is pushed through, a type of friction is produced and the resulting sounds are called fricatives.	[f], [v], [θ], [d], [s], [z], [ʃ], [ʒ]	

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10- Affricates	Combine a brief stopping of the airstream with an obstructed release which causes some friction	[tʃ] & [dʒ]	
11- Nasals	Most sounds are produced orally, with the velum raised; preventing airflow from entering the nasal cavity	[m], [n], [ŋ],	
12- Liquids:	The initial sounds in led & red are described as liquids. They are both voiced.	[l] sound called lateral liquid	[r] Sound -beginning red is formed with tongue tip raised & curled back near the alveolar ridge.
13- Glides:	Sounds are typically produced with the tongue in motion (or 'gliding') to or from the position of a vowel & are sometimes called semi-vowels or approximants.	[w] & [j]- voiced	Sound [h], as in Hi or hello, is voiceless - some descriptions treated as a fricative.
14- Vowels	Vowel sounds are produced with a relatively free flow of air. They are all typically voiced.		
15- Diphthongs	Types of vowels where two vowel sounds are connected in a continuous, gliding motion. They are often referred to as gliding vowels. [ai] buy, eye, my [ɔi] boy, noise, void [aʊ] cow, doubt, loud		

	Bilabial		Labio-dental		Dental		Alveolar		Palatal		Velar		Glottal	
	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V
Stops	p	b					t	d			k	g		
Fricatives			f	v	θ	ð	s	z	ʃ	ʒ				
Affricates									tʃ	dʒ				
Nasals		m						n				ŋ		
Liquids								l, r						
Glides		w								j			h	

vowels	
[i] eat, key, see	[ʌ] blood, putt, tough
[ɪ] hit, myth, women	[u] move, two, too
[e] great, tail, weight	[ʊ] could, foot, put
[ɛ] dead, pet, said	[o] no, road, toe
[æ] ban, laugh, sat	[ɔ] ball, caught, raw
[ə] above, sofa, support	[a] bomb, cot, swan

• **Phonology**	Study of the systems & patterns of speech sounds in languages.
	Phonology is concerned with the abstract set of sounds in a language that allows us to distinguish meaning in the actual physical sounds we say and hear.
• **Phoneme**	Smallest meaning-distinguishing sound unit in the abstract representation of the sounds of a language.

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• **Phones**	phonetic units & appear in square brackets	
• **A phone**	is a physically produced speech sound, representing one version of a phoneme	
An allophone is one of a closely related set of speech sounds or phones.		
. **1-a minimal pair**	When two words such as "pat" & "bat" are identical in form except for a contrast in one phoneme, occurring in the same position,	(Fan–van, bet–bat, site–side).
2- a minimal set	When a group of words can be differentiated, each one from the others, by changing one phoneme (always in the same position in the word),	(Big, pig, rig, fig, dig, wig).
Phonotactics	Are constraints (restrictions) on the permissible combination of sounds in a language?	
A syllable	Unit of sound consisting of a vowel (V) and optional consonant(s) (C) before or after the vowel.	
Coda	The part of a syllable after the vowel.	
Nucleus	The vowel in a syllable.	
Onset	The part of the syllable before the vowel.	
Rhyme	the part of the syllable containing the vowel plus any following consonant(s), also called "rime"	
A consonant cluster	Two or more consonants in sequence.	
co-articulation	The process of making one sound almost at the same time as the next sound.	
There are two well-known co-articulation effects, described as **assimilation and elision**.		
1-Assimilation	is the process whereby a feature of one sound becomes part of another during speech production	
2-Elision	Process of leaving out a sound segment in the pronunciation of a word.	
assimilation and elision occur in everyone's normal speech & should not be regarded as some type of carelessness or laziness in speaking		
etymology	The study of the origin and history of a word	comes to us through Latin-origins in Greek
coinage	Most typical sources are invented trade names for commercial products that become general terms (usually without capital letters) for any version of that product (e.g. Kleenex, Xerox).	
eponyms	New words based on the name of a person or a place (e.g. sandwich., jeans, Fahrenheit)	
Borrowing	Process of taking words from other languages.	Croissant (French), piano (Italian) Sofa (Arabic).
	Other languages- borrow from English- Japanese use of suupaamaaketto ('supermarket')	
loan translation or calque	A special type of borrowing - direct translation of the elements of a word into the borrowing language.	
Compounding	process of combining two (or more) words to form a new word	
Common in languages such as German and English-much less common in languages such as French, Arabic & Spanish.		
Different types of compounding	1-Compound nouns (housewife, classroom),	2-Compound adjectives (part-time, 20-year-old) / 3-Compound verbs (download, upgrade)
Blending	Process of combining the beginning of one word and the end of another word to form a new word-(e.g. brunch from breakfast and lunch).	
	Most blends are formed by one of the following methods:	
	1- The beginning of one word is added to the end of the other (Breakfast + lunch = brunch, smoke + fog = smog).	
	2- The beginnings of two words are combined (cybernetic + organism = cyborg).	

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	3- Two words are blended around a common sequence of sounds (e.g. California + fornication = Californication, motor + hotel = motel).
	4- Multiple sounds from two component words are blended, while mostly preserving the sounds' order (e.g. slimy + lithe = slithy)
Clipping	Process of reducing a word of more than one syllable to a shorter form.
	1- Back clipping retains the beginning of a word: ad (advertisement), doc (doctor), exam (examination), fax (facsimile), gas (gasoline), gym (gymnastics, gymnasium).
	2- Fore-clipping retains the final part: chute (parachute), coon (raccoon), gator (alligator), phone (telephone), varsity (university).
	3- Middle clipping retains the middle of the word: flu (influenza), jams or jammies (pajamas / pyjamas), tec (detective).
Backformation	process of reducing a word such as a noun to a shorter version and using it as a new word such as a verb- example-burgle -19th century- is a back-formation from burglar
Back-formation is different from clipping	
back-formation change part of speech or the word's meaning	Clipping creates shortened words from longer words, but does not change the part of speech or the meaning of the word.
Conversion	Process of changing the function of a word, such as a noun to a verb, as a way of forming new words, also known as "category change" or "functional shift" (vacation in They're vacationing in Florida).
Conversion from noun to verb	bottle, butter, chair …
Conversion from verb to noun	guess, must, spy …
Conversion from phrasal verb to noun	Print out; take over … → (a printout, a takeover).
Conversion from verb to adjective	see through, stand up …
Conversion from adjective to verb	empty, clean …
Conversion from adjective to noun	crazy, nasty …
Conversion from compound nouns to adjective	the ball park … → (a ball-park figure)
Conversion from compound nouns to verb	carpool, microwave …
Conversion from preposition to verb	up, down …
The conversion process is particularly productive in modern English	
An acronym	Short form of a word, name or phrase formed from the first letters of the series of words.
An abbreviation	Condensed form of a word and an articulated form of the original word.
An acronym -pronounced as a new word signifying some concept.	**An abbreviation** - pronounced as the original word letter by letter.
An acronym - formed from the first letters of a series of words. For example: AIDS; it is formed from the words Acquired Immune Deficiency Syndrome whereas,	**An abbreviation** -may not include only the first letter from the words. For example: Dr.; it is formed from Doctor.
An acronym - pronounced as a word. For example: NATO, it is formed from the word North Atlantic Treaty Organization, but is pronounced as a new word	**An abbreviation** is pronounced as a separate letter. For example: BBC; British Broadcasting Corporation. It is spoken as B, B, and C letter by letter.
An acronym has no periods in between, it is a short description	**An abbreviation** contains periods in between for example I.D, Mr., I.Q etc.
All acronyms can be abbreviations	**All abbreviations cannot be acronyms.**

morphology	'the study of forms'	was originally used in biology	since the middle of the nineteenth century

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‘elements’ ‘Morphemes’.	used to describe the type of investigation that analyzes all those basic
	‘elements’ in the form of a linguistic message are technically known
	“A minimal unit of meaning or grammatical function”. **Open and tour**. There are also bound morphemes.
	free morphemes, that is, morphemes that can stand by themselves as single words,
	all affixes (prefixes and suffixes) in English are bound morphemes
	The free morphemes can generally be identified as the set of separate English word forms such as basic nouns, adjectives, verbs, etc.
Two types of free morphemes.	
	The first is that set of ordinary nouns, adjectives & verbs that we think of as the words that carry the ‘content’ of the messages we convey. These free morphemes are called **lexical morphemes**.
	The second is what is called **functional morphemes**. Examples are and, but, when, because, on, near, above, in, the, that, it, them.
The set of affixes -category of bound morphemes- divided into two types.	
One type - **derivational morphemes**. Use bound morphemes to make new words or to make words of a different grammatical category from the stem.	
Second set of bound morphemes contains what are called **inflectional morphemes**. not used to produce new words in the language, but rather to indicate aspects of the grammatical function of a word-used to show if a word is plural or singular, if it is past tense or not, and if it is a comparative or possessive form.	
English has only eight inflectional morphemes	

Derivation	Process of forming new words by adding affixes.	un-, mis-, pre-, -ful, -less, -ish, -ism and -ness
1-prefixes	some affixes have to be added to the beginning of the word	(Un-).
2-suffixes.	Other affixes have to be added to the end of the word	(-ish)
3- infix	not normally used in English- found in some other languages- incorporated inside another word.- Arabic is very well known using infixes	

Difference between derivational and inflectional morphemes is worth emphasizing.	
An inflectional morpheme never changes the grammatical category of a word. For example, both old and older are adjectives.	**A derivational morpheme** can change the grammatical category of a word. The verbs teach becomes the noun teacher if we add the derivational morpheme -er.
Suffix -er in modern English can be an inflectional morpheme as part of an adjective and also a distinct derivational morpheme as part of a noun.	
Large numbers of English words owe their morphological patterning to languages like **Latin and Greek.**	
asterisk *	Use to indicate that a form is unacceptable or ungrammatical.
The process of describing the structure of phrases and sentences in such a way that we account for all the grammatical sequences in a language and rule out all the ungrammatical sequences is one way of defining **grammar.**	

Traditional grammar	Description of the structure of phrases and sentences based on established categories used in the analysis of Latin and Greek.
The parts of speech	
Noun (N):	Word such as boy, bicycle or freedom used to describe a person, thing or idea.
Article (Art):	A word such as a, an or the used with a noun.
Adjective (Adj):	A word such as happy or strange used with a noun to provide more information.
Verb (V):	A word such as go, drown or know used to describe an action, event or state.
Adverb (Adv):	a word such as slowly or really used with a verb or adjective to provide more information
Preposition (Prep):	A word such as in or with used with a noun phrase.
Pronoun (Pro):	A word such as it or them used in place of a noun or noun phrase.

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Conjunction	a word such as and or because used to make connections between words, phrases and sentences
: Interjections	Are words that show emotion?
Agreement:	the grammatical connection between two parts of a sentence
Agreement can be dealt with in terms of number (singular or plural), person (1st, 2nd, or 3rd person), tense, active or passive voice, or gender (male, female, or neuter	
The type of biological distinction used in English is quite different from the more common distinction found in languages that use grammatical gender.	
Traditional analysis / grammar	Description of the structure of phrases and sentences based on established categories used in the **analysis of Latin and Greek.**
Prescriptive approach	An approach to grammar that has rules for the proper use of the language, traditionally based on Latin grammar,
The **infinitive in English** has the **form to + the base form of the verb**, as in to go, and can be used with an adverb such **as boldly.**	
Descriptive approach	an approach to grammar that is based on a description of the structures actually used in a language, not what should be used,
Two famous approaches are: 1-structural analysis 2-immediate constituent analysis = labeled and bracketed sentences	
Structural analysis	the investigation of the distribution of grammatical forms in a language
Constituent analysis	A grammatical analysis of how small constituents (or components) go together to form larger constituents in sentences.
Labeled and bracketed sentences	a type of analysis in which constituents in a sentence are marked off by brackets with labels describing each type of constituent
Inspired by the original work of Noam Chomsky	Linguists have attempted to produce a particular type of grammar that has a very explicit system of rules specifying what combinations of basic elements would result in well-formed sentences.
Surface structure	The structure of individual sentences after the application of movement rules to deep structure (form).
Deep structure	The underlying structure of sentences as represented by phrase structure rules (meaning).
Structural ambiguity	A situation in which a single phrase or sentence has two (or more) different underlying structures and interpretations.
Annie whacked a man with an umbrella. This sentence provides an example of structural ambiguity.	
Recursion	The repeated application of a rule in generating structures. Recursive ('repeatable any number of times') rules have the capacity to be applied more than once in generating a structure.
E.g. The gun was on the table near the window in the bedroom.	
Phrase structure rules	Rules stating that the structure of a phrase of a specific type consists of one or more constituents in a particular order.
Lexical rules	Rules stating which words can be used for constituents generated by phrase structure rules.
Transformational rules	Rules that are used to change or move constituents in structures derived from phrase structure rules.
use the symbol ⇒	To indicate that a transformational rule is being used to derive a new structure from the basic structure.
Conceptual meaning	The basic components of meaning conveyed by the literal use of words.

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Associative meaning	the type of meaning that people might connect with the use of words
This simple example is an illustration of a procedure for analyzing meaning in terms of **semantic features.** Features such as '+animate, −animate'; '+human, −human', '+female, −female', for example, can be treated as the basic elements involved in differentiating the meaning of each word in a language from every other word.	
We can identify a small number of semantic roles (also called 'thematic roles') for these **noun phrases**.	
Agent	is the semantic role of the noun phrase identifying the one who performs the action of the verb in an event (The boy kicked the ball)
Theme	is the semantic role of the noun phrase used to identify the entity involved in or affected by the action of the verb in an event (The boy kicked the ball)
Instrument	is the semantic role of the noun phrase identifying the entity that is used to perform the action of the verb (e.g. The boy cut the rope with a razor)
Experiencer	is the semantic role of the noun phrase identifying the entity that has the feeling, perception or state described by the verb (e.g. The boy feels sad)
Location	is the semantic role of the noun phrase identifying where an entity is (e.g. The boy is sitting in the classroom)
Source	is the semantic role of the noun phrase identifying where an entity moves from (e.g. The boy ran from the house)
Goal	is the semantic role of the noun phrase identifying where an entity moves to (e.g. The boy walked to the window)
We are characterizing the meaning of each word in terms of its relationship to other words.	
Synonymy	is the lexical relation in which two or more words have very closely related meanings "Conceal" is a synonym of "hide").
Antonymy	is the lexical relation in which words have opposite meanings ("Shallow" is an antonym of "deep").
Antonyms are usually **divided into two main types, 'gradable'** (opposites along a scale) **& 'non-gradable'** (direct opposites).	
Gradable antonyms, such as the pair big/small, can be used in comparative constructions like I'm bigger than you.	
non-gradable antonyms (also called 'complementary pairs'),	
The negative of one member of a non-gradable pair does imply the other member. That is, "My grandparents aren't alive does indeed mean My grandparents are dead".	
Reversives	are antonyms in which the meaning of one is the reverse action of the other (e.g. dress/undress, enter/exit, pack/unpack, lengthen/shorten, raise/lower, tie/untie)
Hyponymy	Is the lexical relation in which the meaning of one word is included in the meaning of another (e.g. "Daffodil" is a hyponym of "flower").
Looking at "horse is a hyponym of animal" or "cockroach is a hyponym of insect". In these two examples, animal and insect are **called the superordinate** (= higher level) terms. We can also say that two or more words that share the same **superordinate term are co-hyponyms**. So, dog and horse are co-hyponyms and the superordinate term is animal.	
The idea of 'the characteristic instance' of a category is known **as the prototype**.	
Prototype is the most characteristic instance of a category (e.g. "Robin" is the prototype of "bird").	
Sparrow or pigeon. These last two are **much closer to the prototype**.	
Homophones	Are two or more words with different forms and the same pronunciation (e.g. to–too–two).
Homonyms	Are two words with the same **form that are unrelated in meaning** (e.g. bank (of a river) – bank (financial institution)).
Polysemy	Is a word having two or more related meanings (e.g. foot, of person, of bed, of mountain).

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Metonymy	Is a word used in place of another with which it is closely connected in everyday experience (e.g. He drank the whole bottle (= the liquid)).	
Example of metonymy.	(bottle/water, can/juice),	(car/wheels, house/roof)
Collocation	Is a relationship between words that frequently occur together (e.g. salt and pepper).	
Neurolinguistics.	The study of the relationship between language and the brain	
this is a relatively recent term, the field of study dates back to the nineteenth century		
Parts of the brain: the most important parts are in areas above the left ear. The brain stem (connecting the brain to the spinal cord).		
The corpus callosum (connecting the two hemispheres).		
The two hemispheres (right and left).		
Broca's area	described as the 'anterior speech cortex'	
	Paul Broca- a French surgeon- reported in the 1860s that damage to this specific part of the brain was related to extreme difficulty in producing speech. So Broca's area is crucially involved in the production of speech.	
'Wernicke's area.	Posterior speech cortex', -Carl Wernicke - German doctor who, in the 1870s, reported that damage to this part of the brain was found among patients who had speech comprehension difficulties. So Wernicke's area is crucially involved in the understanding of speech	
motor cortex,& arcuate fasciculus	An area controls movement of the muscles (for moving hands, feet, arms, etc.). Close to Broca's area is the part of the motor cortex that controls the articulatory muscles of the face, jaw, tongue and larynx. Evidence that this area is involved in the physical articulation of speech comes from work reported in the 1950s by two neurosurgeons, Penfield and Roberts (1959).	
A bundle of nerve fibers called **the arcuate fasciculus.**		
This was also one of Wernicke's discoveries and is now known to form a crucial connection between Wernicke's and Broca's areas.		
Localization View	Specific aspects of language ability can be accorded specific locations in the brain	
The brain activity involved in hearing word- understanding it- then saying it would follow a definite pattern. The word is heard and comprehended via Wernicke's area. This signal is then transferred via the arcuate fasciculus to Broca's area where preparations are made to produce it. A signal is then sent to part of the motor cortex to physically articulate the word.		
Malapropisms.	In the tip of the tongue phenomenon- type of speech error	
We make mistakes in this retrieval process; there are often strong phonological similarities between the target word we're trying to say and the mistake we actually produce, e.g., (distinguisher/extinguisher) and (medication/meditation). Mistakes of this type are sometimes referred to as **malapropisms.**		
spoonerisms	Another type of speech error is commonly described as a slip of the tongue	
Slips of this type are sometimes called spoonerisms after William Spooner.		
This produces expressions such as 'a long shory stort' (story short), 'use the door to open the key' (the key to open the door), and 'a fifty-pound dog of bag food' (bag of dog food).		
Slip of the ear- malapropisms		
Ear is a processing error in which one word or phrase is heard as another, as in hearing 'great ape' when the utterance was "gray tape". It may also be the case that some malapropisms (E.g. medication/meditation) originate as slips of the ear.		
Aphasia	Is defined as an impairment of language function due to localized brain damage that leads to difficulty in understanding and/or producing linguistic forms.	
The most common cause of aphasia is **a stroke**		
Broca's	(Also called 'motor aphasia') is a language disorder in which speech production is typically	

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aphasia	reduced, distorted, slow and missing grammatical markers.
In agrammatic speech, the grammatical markers are missing. In Broca's aphasia, comprehension is typically much better than production.	
Wernicke's aphasia	The type of language disorder that results in difficulties in auditory comprehension is sometimes called 'sensory aphasia', but is more commonly known as Wernicke's aphasia.
Difficulty in finding the correct word, sometimes referred to as anomia, also happens in Wernicke's aphasia.	
Conduction aphasia	Is a language disorder associated with damage to the arcuate fasciculus in which repeating words or phrases is difficult.
Language disorders of the type we have described are almost always the result of injury to the left hemisphere.	
Dichotic listening test.	An experimental technique that has demonstrated a left hemisphere dominance for syllable and word processing
The language signal received through the left ear is first sent to the right hemisphere and then has to be sent to the left hemisphere (**language center**) for processing.	
Non-direct route takes longer than a linguistic signal received through the right ear and going directly to the left hemisphere.	
lateralization	The apparent specialization of the left hemisphere for language is usually described in terms of lateral dominance or lateralization (one-sidedness).
lateralization process begins in early childhood	
During childhood, there is a period when the human brain is most ready to receive input and learn a particular language. This is known as **the critical period**.	
The crucial requirement appears to be the opportunity to interact with **others via language**.	
Language acquisition schedule has the same basis as the biologically determined development of motor skills. This biological schedule is tied very much to the maturation of the infant's brain.	
Caregiver speech.	The characteristically simplified speech style adopted by someone who spends a lot of time interacting with a young child is called caregiver speech.
Salient features of this type of speech (also called 'motherese' or 'child-directed speech') are the frequent use of questions, often using exaggerated intonation, extra loudness and a slower tempo with longer pauses.	
cooing	The earliest use of speech-like sounds has been described as cooing.
During **first few months** -gradually becomes capable of producing sequences of vowel-like sounds high vowels similar to **[i] & [u].**	By **four months of age**, - creates sounds similar to the velar consonants **[k] & [g],** -description as '**cooing' or 'gooing'**.
By five **months old**, -hear the difference between the **vowels [i] & [a]** and discriminate between syllables like **[ba] & [ga].**	**Between six & eight months**, -produces a number of different vowels & consonants- combinations such as **ba-ba-ba & ga-ga-ga.** - sound production is described as **babbling.**
Around **nine to ten months**, -variation in the combinations such **as ba-ba-da-da.** Nasal sounds also become more common & certain syllable sequences such **as ma-ma-ma and da-dada are produced.**	During the **tenth & eleventh months**, complex syllable combinations (ma-da-ga-ba), This 'pre-language' use of sound provides the child with some experience of the social role of speech -because adults tend to react to the babbling,
Between **twelve & eighteen months**, children begin to produce a variety of recognizable single-unit utterances. This period, **traditionally called the one word stage**, so the label 'one-word' for this stage may be misleading and a term such as 'single-unit' would be more accurate.	
The one word stage	
Holophrastic	(Meaning a single form functioning as a phrase or sentence) to describe an utterance that could be analyzed as a word, a phrase, or a sentence.
The two-word stage - begin around **eighteen to twenty months**,- child's vocabulary moves beyond fifty words.	

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By two years old, a variety of combinations, similar to baby chair, mommy eat, cat bad, will usually have appeared. The adult interpretation of such combinations is, of course, very much tied to the context of their utterance.
By the age of two, child is producing 200 or 300 distinct 'words', -understanding five times as many.
Between **two and two-and-a-half years old**, -producing a large number of utterances -classified as 'multiple-word' speech. This is telegraphic speech which is characterized by strings of words **(lexical morphemes**) in phrases or sentences such as this shoe all wet, cat drink milk and daddy go bye-bye- child has clearly developed some sentence-building capacity by this stage and can get the word order correct.
By the **age of two-&-a-half years**, vocabulary is expanding rapidly & the child is initiating more talk. By **three**, -vocabulary has grown to hundreds of words and pronunciation has become closer to the form of adult language.
The child's linguistic production appears to be mostly a matter of trying out constructions and testing whether they work or not- important in the child's acquisition process is the actual use of sound & word combinations, either in interaction with others or in word play, alone.
By **two-and-a-half years old**, - beyond telegraphic speech forms and incorporating some of the inflectional morphemes that indicate the grammatical function of the nouns and verbs used. The first to appear is usually the '–ing' form in expressions such as cat sitting and mommy reading book. The next morphological development is typically the marking of regular plurals with the -s form, as in boys and cats. The acquisition of the plural marker is often accompanied by a process of **overgeneralization.**
In the formation of **questions and the use of negatives**, there appear to be three identifiable stages. Stage 1 occurs between 18 and 26 months, stage 2 between 22 and 30 months, stage 3 between 24 and 40 months
Forming questions-Apart from the occasional lack of inversion and continuing trouble with the morphology of verbs, stage 3 questions are generally quite close to the adult model.

forming negatives	**Stage 1** seems to involve a simple strategy of putting no or not at the beginning, as in these examples: no mitten, not a teddy bear, a fall, no sit there.

second stage, the additional negative forms don't and can't appear, and with no and not, are increasingly used in front of the verb rather than at the beginning of the sentence,
Third stage sees the incorporation of other auxiliary forms such as didn't and won't while the typical stage 1 form disappear. A very late acquisition is the negative form isn't, with the result that some stage 2 forms (with not instead of isn't) continue to be used for quite a long time
It seems that during the holophrastic stage many children use their limited vocabulary to refer to a large number of unrelated objects. This **process is called overextension** which is the use of a word to refer to more objects than is usual in the language (ball used to refer to the moon).
In either case, they are simply trying to learn another language, so the expression **second language learning** is used more generally to describe both situations.
The term **acquisition** is used to refer to the gradual development of ability in a language by using it naturally in communicative situations with others who know the language.
The **term learning,** however, applies to a more conscious process of accumulating knowledge of the features, such as vocabulary and grammar, of a language, typically in an institutional setting. (Mathematics, for example, is learned, not acquired.)
Students in their early teens are quicker & more effective second language learners in the classroom than, for example, seven-year-olds.
The optimum age for learning may be during the years from about ten to sixteen when the flexibility of our inherent capacity for language has not been completely lost, and the maturation of cognitive skills allows a more effective analysis of the regular features of the second language being learned.

The subtle effects of not really wanting to sound like a Russian or a German or an American may strongly inhibit the learning process.
This type of emotional reaction, or 'affect', - caused by dull textbooks, unpleasant classroom surroundings or an exhausting schedule of study and/or work. All these negative feelings or experiences are **affective factors** that can create a barrier to acquisition. Basically, if we are stressed, uncomfortable, self-conscious or unmotivated, we are unlikely to learn anything.
Despite all these barriers- instruction in other languages has led to a variety of educational approaches & methods aimed at fostering second language learning.
The most traditional approach is to treat L2 learning - Vocabulary lists & sets of grammar rules are used to define the target of learning, memorization is encouraged & written language rather than spoken language is emphasized. This method has its roots in the traditional teaching of Latin and is described as **the grammar–translation method.**
Avery different approach, emphasizing the spoken language, became popular in the **middle of the twentieth century.**
a systematic presentation of the structures of the second language , moving from the simple to the more complex, in the form of drills that the student had to repeat. This approach, **called the audiolingual method**, was strongly influenced by a belief that the fluent use of a language was essentially a set of 'habits' that could be developed with a lot of practice.
More recent revisions of the second language learning experience can best be described as **communicative approaches.**
They are based on a belief that the functions of language (what it is used for) should be emphasized rather than the forms of the language (correct grammatical or phonological structures).
Some errors may be due to 'transfer' (**also called 'crosslinguistic influence'**). **Transfer** means using sounds, expressions or structures from the first language when performing in the second language

If L1 and L2 have similar features, then the learner may be able to **benefit from the positive transfer** of L1 knowledge to the L2.	Transferring an L1 feature that is really different from the L2 results in **negative transfer** & it may make the L2 expression difficult to understand.

Language produced by second language learners contains a large number of 'errors' that seem to have no connection to the forms of either the first language or second language. Evidence of this sort suggests that there is some in-between system used in the second language acquisition process that certainly contains aspects of the first language & second language, but which is an inherently variable system with rules of its own. This system is called an **interlanguage** and it is now considered to be the basis of all second language production.

Fossilization	Is the process whereby an interlanguage, containing many non-second language features, stops developing toward more accurate forms of the second language.

Many learners have an **instrumental motivation**. - they want to learn the second language in order to achieve some other goal- completing a school graduation requirement or being able to read scientific publications, but not really for any social purposes.
In contrast, those learners with **an integrative motivation** want to learn the L2 for social purposes, in order to take part in the social life of a community using that language & to become an accepted member of that community.
The **term input** is used to describe the language that the learner is exposed to. To be beneficial for L2 learning, that input has to be comprehensible. It can be made comprehensible by being simpler in structure and vocabulary, as in the variety of speech called foreigner talk.
As the learner's interlanguage develops, however, there is a need for more interaction and the kind of 'negotiated input' that arises in conversation.

Negotiated input	Is second language material that the learner can acquire in interaction through requests for clarification while active attention is being focused on what is said.

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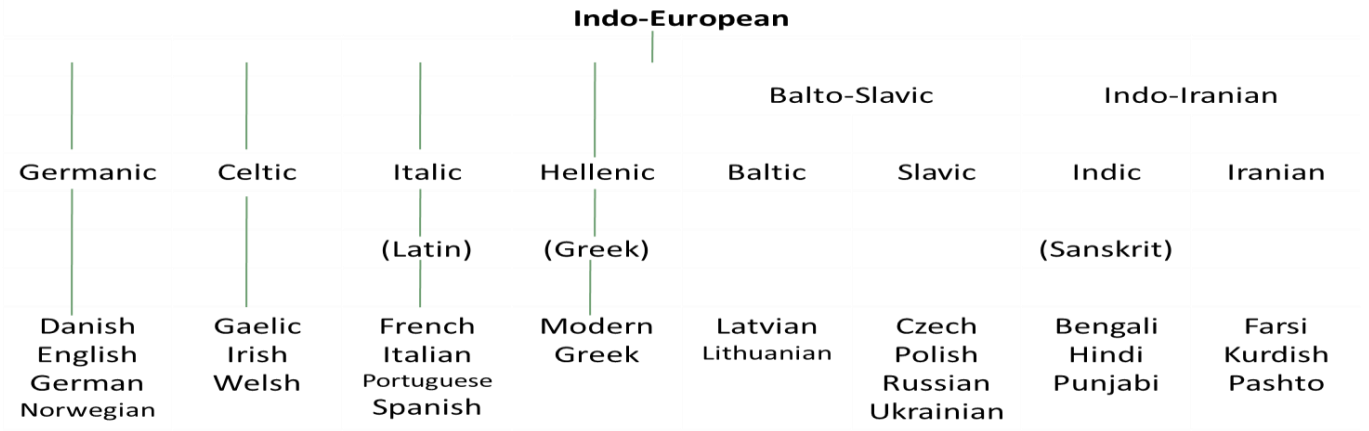
The opportunity To produce comprehensible **output** in meaningful interaction seems to be another important element in the learner's development of L2 ability, yet it is one of the most difficult things to provide in large L2 classes.	
Communicative competence	can be defined as the general ability to use language accurately, appropriately, and flexibly.
The first component is **grammatical competence**, which involves the accurate use of words and structures.	
The ability to use appropriate language is the second component, **called sociolinguistic competence**.	
The third component is called **strategic competence**. This is the ability to organize a message effectively and to compensate, via strategies, for any difficulties.	
Some learners may just stop talking, whereas others will try to express themselves using **a communication strategy.** -strategic competence is the ability to overcome potential communication problems in interaction.	
Applied linguistics	Is the study of a large range of practical issues involving language in general & second language learning in particular.
Investigating the features of older languages, and the ways in which they developed into modern languages, involves us in the study of language history and change, **also known as philology. -**	
In the **nineteenth century,** philology dominated the study of language and one result was the creation of 'family trees' to show how languages were related	
Sir William Jones, - a British government official in India, - suggested that a number of languages from very different geographical areas must have some common ancestor. It was clear, however, that this common ancestor could not be described from any existing records, but had to be hypothesized on the basis of similar features existing in records of languages that were believed to be descendants.	
During nineteenth century	A term came into use to describe that common ancestor. It incorporated the notion that this was the original form (Proto) of a language that was the source of modern languages in the Indian sub-continent (Indo) and in Europe (European). With Proto-Indo-European established as some type of 'great-great-grandmother', scholars set out to identify the branches of the Indo-European family tree, tracing the lineage of many modern languages.



Indo-European	Is the language family with the largest population and distribution in the world, but it isn't the only one. There are about thirty such language families containing at least 4,000, and perhaps as many as 6,000, different individual languages.
Chinese	Has the most native speakers (about 1 billion
English	(About 350 million) is more widely used in different parts of the world.
Italian & Hindi	Two modern languages seem to have nothing in common.

Latin & Sanskrit	One way to get a clearer picture of how they are related is through looking at records of an older generation, like Latin and Sanskrit, from which the modern languages evolved.
cognates	The process we have just used to establish a possible family connection between different languages involved looking at what are called 'cognates'.
Cognates are words in different languages that have a similar form and meaning (e.g. English 'friend' and German 'Freund')	
comparative reconstruction	Using information from these sets of cognates, we can embark on a procedure called comparative reconstruction.
The aim of this procedure is to reconstruct what must have been the original or 'proto' form in the common ancestral language.	
Majority principle	Is the choice of the form that occurs more often than any other form in the set of descendant languages?
If, in a cognate set, three words begin with a [p] sound and one word begins with a [b] sound, then our best guess is that the majority have retained the original sound (i.e. [p]) and the minority have changed a little through time.	
Most natural development principle	Is the choice of older versus newer forms on the basis of commonly observed types of sound change?
Germanic languages	The primary sources for what developed as the English language - spoken by a group of tribes (Angles, Saxons and Jutes) from northern Europe who moved into the British Isles - fifth century.
Old English	It is from the name of the first tribe that we get the word for their language English (now called Old English) and their new home Engla-land.
From sixth to eighth century	An extended period during which these Anglo-Saxons were converted to Christianity & a number of terms from Latin (the language of the religion) came into English at that time.
From eighth century through ninth & tenth centuries	Another group of northern Europeans came first to plunder and then to settle in parts of the coastal regions of Britain.
They were the Vikings and it is from their language, **Old Norse**, that many English words are originated.	
The event that marks the end of the Old English period, and the beginning of the Middle English period, is the arrival of the Norman French in England,	
Following their victory at Hastings under William the Conqueror in 1066. These French-speaking invaders became the ruling class, so that the language of the nobility, the government, the law and civilized life in England for the next two hundred years was French. Yet the language of the peasants remained English.	
from 1400 to 1600	The sounds of English underwent a substantial change known as the '**Great Vowel Shift**'. The effects of this general raising of long vowel sounds (such as [oː] moving up to [uː], as in mōna → moon) made the pronunciation of Early Modern English, In the following sections, we will look at some of these processes of internal change.
beginning around 1500,	Significantly different from earlier periods. Influences from the outside, such as the borrowed words from **Norman French or Old Norse -**examples of **external change** in the language.
The sound change known as **metathesis** involves a reversal in position of two sounds in a word (first → first).	
Another type of sound change, known as **epenthesis**, involves the addition of a sound to the middle of a word (spinel → spindle).	
Prothesis	It involves the addition of a sound to the beginning of a word. It is a common feature in the evolution of some forms from Latin to Spanish,
In Old English texts, we find the Subject–Verb–Object order most common in Modern English, but we can also	

find a number of different orders that are no longer used. For example, the subject could follow the verb, and the object could be placed before the verb, or at the beginning of the sentence. **A 'double negative'** construction was also possible.	
Broadening	The change from holy day as a religious feast to the very general break from work called a holiday. We have broadened the use of foda (fodder for animals) to talk about all kinds of food.
Narrowing,	Has overtaken the Old English word hund, once used for any kind of dog, but now, as hound, used only for some specific breeds. Another example is mete, once used for any kind of food, which has in its modern form meat become restricted to only some specific types.
Diachronic variation	Differences resulting from change over a period of time, in contrast to synchronic variation.
Synchronic variation	Differences in language form found in different places at the same time, in contrast to diachronic variation.