

1- What is a linguistic universal? Give an example.

A linguistic universal is a pattern that occurs systematically across natural languages, potentially true for all of them. For example, All languages have nouns and verbs, or if a language is spoken, it has consonants and vowels.

2- Give an example of a garden path sentence. What is it good for?

“After the child had visited the doctor prescribed a course of injections.”

A garden-path-sentence invites the listener to consider one possible parse and at the end it forces him to abandon this parse in favor of another. Various strategies can be used when parsing a sentence, and there is much debate over which parsing strategy humans use. Differences in parsing strategies can be seen from the effects of a reader attempting to parse a part of a sentence that is ambiguous in its syntax or meaning. For this reason, garden path sentences are often studied as a way to test which strategy humans use. Two debated parsing strategies that humans are thought to use are serial and parallel parsing.

3- Describe the Derivational Theory of Complexity.

Notion that difficulty in the production and/or comprehension of a sentence is related to how different the surface structure is from the deep structure, according to the rules of transformational (derivational) grammar. This difficulty can be measured with reaction time. The more transformationally complex a sentence is, the longer it should take to process it. The DTC was partly refuted in further linguistic research. The effects are obtained only when there is no semantic cue.

4- What is the phonemic restoration effect and what can be shown with it?

Phonemic restoration effect is a perceptual phenomenon where under certain conditions, sounds actually missing from a speech signal can be restored by the brain and may appear to be heard. The effect occurs when missing phonemes in an auditory signal are replaced or masked with a non-linguistic noise, (silence is not restored) resulting in the brain filling in the absent phonemes. The effect can be so strong that some listeners may not even notice that there are phonemes missing. It is evidence for top down processing, i.e. from word to phoneme.

5- What is telegraphic speech? At which stage of language acquisition does it occur?

Telegraphic speech is observed during the two-word stage of language acquisition in children (aged between 24 and 36 months). Functional categories (prepositions, determiners, conjunctions) are missing, but lexical categories (nouns, verbs, adjectives) are present in this type of speech.

6- What is the mutual exclusivity constraint?

While acquiring language, children resist assigning a label to an object for which they already have a name. If children are faced with one familiar and one unfamiliar object and are given a name for one of them, they use that name to relate it to the unknown object. ME is specific to lexical acquisition and is either innate or acquired in the course of word learning. It applies

only relative to one particular language, bilingual speakers tend to use the word of the other language, if known.

7- What is the principle of late closure? Give an example.

According to the Garden Path Model, two fundamental principles of parsing determine initial attachment. They called minimal attachment and late closure. According to late closure, incoming material should be incorporated into the clause or phrase currently being processed. If there is a conflict between these two principles, then minimal attachment takes precedence. Sentences that are closed late are easier to understand than sentences who are closed early. For example, the sentence “John said he would leave yesterday.” would be parsed in a way that ‘yesterday’ modifies the verb “leave” but not “say”.

8- What is the principle of minimal attachment? Give an Illustration.

Incoming material should be attached into the phrase marker being constructed using the fewest nodes possible. Thus argument attachments are generally preferred over modifier attachments.

9- What is a critical period? Give 2 arguments for it.

The Critical Period Hypothesis (CPH) states that the first few years of life constitute the time during which language develops readily and after which (sometime between age 5 and puberty) language acquisition is much more difficult and ultimately less successful. The two hemispheres of the brain are not fully lateralized at birth. In the critical period, hemispheric specialization also takes place. Lenneberg argued for the hypothesis based on evidence that children who experience brain injury early in life develop far better language skills than adults with similar injuries. Feral children (Genie and Viktor) who were exposed to language after this critical period could not develop syntactic and morpho-syntactic competencies. Their vocabulary size was also very limited.

10- What is a lemma? Give an example.

It is part of a model of two-stage-level of lexical access. There is an intermediate stage (lemma level) between semantics and word form. A lemma is an abstract word form. It contains semantic and syntactic information. It connects meaning and form.

Example:

- Conceptual level: frog (mental picture of it)
- Lemma level: frog (noun, animal, quakes, jumps)
- Lexeme level: /frog/ --> /f/ /r/ /o/ /g/

11- Describe Wernicke's aphasia! Which brain areas are involved?

In this aphasia, which is also called ‘fluent aphasia’, prosody and pronunciation are intact, speech is fluent but ‘empty’, a lot of word distortions and difficulties in finding the right word, severe comprehension deficits and lexical neologisms. Temporal lobe and posterior areas are involved.

12- Describe Broca's aphasia! Which brain areas are involved?

In this aphasia, which is also called 'non-fluent aphasia', there are problems with production, articulation, poor use of grammatical features, and difficulty in finding words, while understanding of speech is fairly normal. Broca's area is at the left frontal lobe.

13- Define priming. What can be shown with it?

Priming is an implicit memory effect in which exposure to one stimulus influences the response to another stimulus. For example, NURSE is recognized more quickly following DOCTOR than following BREAD in lexical decision tasks. It shows us how word meanings are related, what triggers what subconsciously, and might give us an idea about our mental lexicon and how we access it and how visual word recognition works.

14- Describe split-brain patients!

Normally, communication between the two hemispheres is carried out through corpus callosum, a wide bundle of neural fibres. When this bundle is severed, (usually to treat severe epileptic seizures) the two hemispheres cannot communicate anymore. While this doesn't change much in a patient's daily life, experimenting with these patients is a good way to find out about lateralisation.

For example, the patient known as 'split brain Joe', claims he hasn't seen anything when an object is displayed in the left visual field (right hemisphere, which is not connected to the left one, and hence to the language faculty). However, when an object is shown to him on the right visual field, (which goes to the left hemisphere, which has language faculty) he can name the object with no difficulty. The more interesting part is that when he is given a pencil and asked to draw with his left hand (which is connected to the right hemisphere), he can draw the object that he has claimed he hasn't seen before.

15- What is the preferential looking paradigm?

If an infant is shown a stimulus and another stimulus, which differs from the first one, and it looks longer at the second one, it is suggested, that the infant can discriminate between them. Plus, if the infant can discriminate between rule-following and rule-violating stimuli, it is concluded that it knows the rule.

16- List 2 areas where verbal short term-memory capacity influence performance! How?

Central embedding is especially difficult
Object relatives are more difficult than subject relatives

17- What is semantic transparency in morphological complex words and how does it affect processing? Give examples of transparent and non-transparent forms.

A morphologically complex word is *semantically transparent* if its meaning is obvious from its parts: hence "unhappiness" is semantically transparent, being made up in a predictable fashion from "un-", "happy", and "-ness". A word like "department", even though it contains recognizable morphemes, is not semantically transparent. The meaning of "depart" in

“department” is not obviously related to the meaning of “depart” in “departure”. It is *semantically opaque*.

18- What is phonologically transparency in morphologically complex words and how does it affect processing? Give examples of transparent and nontransparent forms.

The relation between two morphologically related words is said to be *phonologically transparent* if the shared part sounds the same. Hence the relation in “friendly” and “friendship” is phonologically transparent (“friend” sounds the same in each word), but in “sign” and “signal” it is not (the “sign” components have different pronunciations).

Phonological and semantic transparency affect processing of complex words, nature of priming: if it is lexical or phonological, what we decompose morphologically complex words into, and therefore the sorts of words that they can influence, the extent of priming, Semantic and phonological transparency affect the way in which words are identified. Semantically transparent forms are morphologically decomposed, regardless of whether or not they are phonologically transparent. Semantically opaque words, however, are not decomposed.

19- Define categorial perception. Give an example as well.

Categorical perception occurs when items that range along a continuum are perceived as being either more or less similar to each other than they really are because of the way they are categorized. For example, if items falling within a certain range along that continuum belong to a single category, they will be perceived as being more similar to each other than items outside of that range. Perception of the same differences is difficult within the category, but easy across the categories.

For example, when your friend says the word 'dog', it is going to be pronounced slightly differently from how your mom says the word 'dog'; yet each time, you will still hear the same 'dog' despite the variability. What's even more interesting is that you likely never even notice the variability.

20- List 4 of Slobin's operating principles for language acquisition.

(1) identify word units (2) pay attention to the end of words (3) there are elements which encode relation (4) avoid exceptions

21- What is surface structure and deep structure? Give an example that argues for the separation of the two.

The deep structure describes the logical structure and the idea of what shall be said, whilst the surface structure is the actual linguistic form which expresses the underlying thought and is derived from the deep structure through transformations. An example that argues for the separation of the two is the Slip of the Tongue-Movement: someone says something he didn't intend - the deep structure doesn't translate into the intended surface structure.

22- Define double dissociation.

Double Dissociation is when two related mental processes are shown to function independently of each other. Although both speech and comprehension processes pertain to use of language, the brain structures that control them work independently. For example while Broca's aphasia patients have no problems with comprehension, but they have severe

problems with production; it is the other way around with Wernicke's aphasia. By establishing Double Dissociation, scientists can determine which mental processes are specialized to certain areas of the brain.

23- What is overextension? Give a semantic and a grammatical example.

A word is used for something that has a similar shape, colour or function as the original referent. Over-extensions are very common in early language and appear to be found across all languages.

For example, children refer to all four-legged animals as "dog" and build negative sentences by using "no" instead of not: "Daddy no eat." or use regular plural or past tense forms for irregular ones, such as 'foots' and 'goed'.

24- What is the "whole object constraint"?

For example, if a child is shown and given the label "truck", the child will assume truck refers to the whole object instead of the tires, doors, colors or other parts. If a researcher points to an object while simultaneously saying a new name, children will assume that the new label refers to the whole object. This is an innate phenomena, which helps children learn new words.

25- What is vocabulary spurt/explosion & when does it occur?

It is an increase in the rate of word learning and occurs at 1.5 years, in one-word stage. Young toddlers add to their vocabularies slowly, at a rate of 1 to 3 words per month. Over time the number of words learned accelerates, after which many children add 10 to 20 new words a week.

26- What is syntactic priming? Illustrate.

What we recall from immediate memory can be influenced by the syntactic structure of what we have just read or heard. We tend to reuse the same words and sentence structures in the material we recall because they were there in the original material. Active voice will prime active voice and passive voice will prime passive voice.

27- What is semantic priming?

Semantic priming: priming, usually facilitatory, obtained by the prior presentation of a stimulus related in meaning (e.g. "doctor"— "nurse").

28- List 4 characters of child directed speech.

(1) Simplified vocabulary, (2) simplified phonology, (3) baby-talk-words and (4) many questions by mothers and many imperatives by fathers, (5) exaggerated pitch, intonation and duration

29- What is the principle of conventionality and contrast in word learning?

From early on, children also assume that language is designed for communication. Infants treat communication as a cooperative process. Specifically, infants observe the principles of conventionality and contrast. According to conventionality, infants believe that for a particular meaning that they wish to convey, there is a term that everyone in the community would expect to be used. According to contrast, infants act according to the notion that differences in form mark differences in meaning.

30- What is a dichotic listening task and what is it good for?

Two different stimuli are played simultaneously to two ears: subject is asked what they have heard. The stimulus identified more frequently and with higher accuracy is linguistic sound in the right ear (left hemisphere) and non-linguistic sound in the left ear (right hemisphere). It is good to determine the lateralization of the language and sub-functions of language.

31- List 4 properties of modules.

Module is a specialized, encapsulated cognitive system that has evolved to handle specific information types of enormous relevance to the species.

(1) Encapsulated (2) unconscious (3) fast (4) localized (5) domain specific (6) ontogenetically universal (7) pathologically universal.

32- List 4 factors that influence word recognition.

Factors that influence word recognition are (1) length, (2) frequency, (3) priming, (4) neighbourhood and (5) regularity.

33- List 4 factors that influence sentence processing.

Factors that influence sentence processing are (1) frequency, (2) thematic fit, (3) discourse context, (4) practice and (5) memory constraints.

34- What is Berko's wug-test, and what can you examine with the help of it?

It's a test to find out more about language acquisition. The goal is to provoke language production with non-existing (phonotactically possible) words. It's the prototype of language acquisition experiments. It shows that language acquisition is structure building and that even young children possess implicit knowledge of linguistic morphology. This test also demonstrates how regular suffixes and stems are stored in the lexicon. Instead of {dog, dogs, cat, cats, bird, birds} the lexicon looks more like {dog, cat, bird -s(plural)}, which makes it more economical. Children, who didn't even know the word 'wug' cannot have {wug, wugs}.

35- What is the McGurk illusion, and what does it suggest?

Subjects are presented with a visual of the sound „ga“, but the audio input is „ba“ and they are asked what they perceived. The answer is „da“, which suggests that visual cues affect how we perceive certain sounds. This illusion also suggests a Multimodal Speech Perception.

36- What is WADA Test and what does it show us?

WADA testing is an invasive procedure performed during angiography that assesses which side of the brain has the language and memory functions. During the test, one side of the brain is put to sleep (anesthetized) by injecting a medication into the carotid artery. It stops two hemispheres from communicating. For example, a patient whose language is left-lateralized, cannot name objects that he sees if his left hemisphere is the one that has been put to sleep.

37- What is the mapping/induction/gavagai problem?

This problem is named after a researcher's experience in a native tribe, whose language he did not speak. One person shouted „gavagai“ upon seeing a rabbit. The problem is that the researcher had no idea what it actually meant. It could be „a rabbit“, „look“, „let's hunt it“, „food“, „jumping“ etc. The same problem goes with young children acquiring lexemes. There is a reference problem and the input is not specific enough.

38- What is the taxonomic constraint?

Ordinarily, children focus on thematic relations between objects when categorizing. If given milk, a spoon, or a car, children will group each item with a cow, soup, or a stop sign, respectively. However, when children hear a new label they shift their attention to taxonomic relationships, even though they consider thematic relations to be a good way of organizing the objects themselves. Instead of cow being linked to milk it would be linked to pig or horse. The new word is assumed to refer to other objects within the same taxonomic category.

39- What is syntactic bootstrapping?

Children build on syntactic cues in constraining potential meanings. For example, if something has a verbal inflection, it is a verb, „a+N“ is a countable noun, „N“ is a mass noun, etc. 3-4 year-olds already know enough syntax for abstract structure to help them in guessing word meaning.

40- What is semantic bootstrapping?

Pinker's concept of semantic bootstrapping addressed the question of how the child finds linguistic categories and relations given by UG in her target language. Semantic bootstrapping makes use of a semantic-syntax association. Semantic notions like “action” or “agent” are linked to syntactic notions like “verb” or “subject of” which are part of the UG. Pinker assumes that children can construct a rudimentary semantic representation of the input sentences with the help of context and their ability to understand the meanings of the words of the sentences. They are thus able to identify basic semantic entities like “agent” or “action”, etc.

41- Define uniqueness point, and how does it affect word recognition?

When a person hears speech segments real-time, each speech segment "activates" every word in the lexicon that begins with that segment, and as more segments are added, more words are ruled out, until only one word is left that still matches the input. It is about lexical retrieval and therefore shows the process of word recognition, how and when we recognize a word, because the earlier the uniqueness point is, the faster is the response, hence easier recognition.

42- Define cohort.

A cohort is a set of words with the same beginning. When the beginning of a word is heard, all words that begin with that sound (cohort) are activated and further information (both bottom-up and top-down) helps to narrow down the choice. The person recognizes the word when left with a single choice (uniqueness point).

43- Define logogen.

It specifies the word's attributes (semantic, orthographic, and phonological). It is activated either by sensory input or contextual information. Logogens are a vast number of specialized recognition units, each able to recognize one specific word (when it reaches the threshold). Logogens don't store words within themselves, but rather the information necessary for retrieval. Activation in one logogen spreads to all related words, which are semantically primed.

44- What is two-sentence?

It means, that maximum two sentences can be processed at a time. Thus, the sentence "The girl the boy liked died." is possible, while the sentence "The girl the boy the man ate liked died" (center embedding) is not.

45- What is the „size of neighbourhood “?

Neighbourhood of a word is the minimal pairs of that word, i.e. the words that differ in only one phoneme from that word. Neighbourhood size and frequency of the word affects word recognition. Low frequency words with a large neighbourhood are recognized faster than the low frequency words with smaller neighbourhoods.

46- What is the Poverty of Stimulus argument?

(POS) is the assertion that natural language grammar is unlearnable given the relatively limited data available to children learning a language, and therefore that this knowledge is supplemented with some sort of innate linguistic capacity. The speech children hear is full of errors. Grammar is too complex, it is impossible to get to it based on heard examples only in that short amount of time. Children say and understand words and sentences that they never heard or are ungrammatical in an adult grammar. Errors are systematic and there is a lack of negative evidence.

47- What is the holophrastic stage of the language acquisition? What age is it associated with?

It is the one-word stage, during which children name people and objects. It takes place between 12 and 24 months.

48- Give 2 methods of determining language lateralization in the brain.

Dichotic listening and tachistoscope.

49- What is the tip-of-the-tongue state? What does it argue for?

Tip of the tongue (or TOT) is the phenomenon of failing to retrieve a word from memory, combined with partial recall and the feeling that retrieval is imminent. People experiencing

the tip-of-the-tongue phenomenon can often recall one or more features of the target word, such as the first letter, its syllabic stress, and words similar in sound and/or meaning. It is evidence for a two-stage level of lexical access.