Prüfungsfragen - Psycholinguistik

(15 short definitions, 2 points each)

1. • What is a linguistic universal? Give an example.
2. • Give an example of a garden-path-sentence. What is it good for?
3. • What is a critical period? Give 2 arguments for it.
4. • Describe the Derivational Theory of Complexity.
5. • What is the phonemic restoration effect and what can be shown with it?
6. • What is a lemma? Give an example.
7. • Define priming. What can be shown with it?

8. • Wernicke's aphasia and what brain areas are involved?
9. • List 4 properties of modules.
10. • What is the principle of late closure? Give an example.
11. • What is the mutual exclusivity constraint?
12. • What is telegraphic speech? At which stage of language acquisition does it occur?
13. • List 4 factors that influence word recognition.
14. • 'What is the preferential looking paradigm?
15. • Describe split-brain patients!

16. • Define categorial perception. Give an example as well.
17. • What is the mapping/induction/gavagai problem?
18. • Describe the symptoms of Broca's aphasia. What brain area is involved?
19. • What is surface structure and deep structure? Give an example that argues for the separation of the two.
20. • Define double dissociation.
21. • What is the McGurk illusion, and what does it suggest?
22. • List 4 factors that influence sentence processing.

23. • What is Berko's wug-test, and what can you examine with the help of it?
24. • What is the principle of Minimal Attachment? Add an illustration.
25. • What is the taxonomic contraint?
   • What is syntactic bootstrapping?
26. • Define uniqueness point, and how does it affect word recognition?
27. • Define cohort.
28. • What is the Poverty of Stimulus argument?
29. • What is a dichotic listening task and what is it good for?

   • Describe the Derivational Theory of Complexity.
   • What is the principle of late closure? Give an example.
31. • What is a logogen?
32. • Describe semantic/syntactic bootsrapping.
33. • List 4 of Slobin's operating principles for language acquisition.
34. • What is the "whole object constraint"?
35. • What are spoonerisms? Give an example.
36. • What is syntactc priming? Illustrate.
37. • List 4 characteristics of child-directed speech.

①

PSYCHOLINGUISTICS

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

A linguistic universal is knowledge of certain basic language features, that is present in all human languages. A linguistic universal is biological and so innate. There is a strong connection to Universal Grammar (Chomsky). → LA
The existance of language universals is an argument for innateness of language.
Chomsky: there are universal constraints on rules and categories.
Example: all languages have grammar, basic word order, nouns and verbs, consonants and vowels, subjects and objects, etc...
Example: if a language marks gender on nouns it will also mark it on pronouns

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

A garden path sentence invites the listener to consider one possible parse, and then at the end forces him to abandon this parse in favor of other.
e.g. The horse raced past the barn fell. → at first you treat "raced" like a past tense verb, but when you encounter "fell" this analysis fails → "raced" can be re-analized as a past participle.
e.g. The student forgot the answer was in the book.   • ambiguous sentence
much reseach, topic: sentence comprehension   • question: how do we comprehend a sentence? are there more stages? many levels of processing → serial or parallel.
in psycholinguistic research those sentences are used to show that we read and process language one word at a time → serial model evidence

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

Lenneberg says: Certain biological events associated with language can only happen in an early period. Certain language events have to happen in this period for language acquisition to follow a typical route. Language is acquired most effectively in this critical period.
the two hemispheres of the brain are not fully lateralized at birth. In the critical period hemispheric specialization has to take place.
1st-language-acquisition: critical period = first 5 years → children need rich input, from 10 - 16 years: acquisition is possible, but not native-like
if a child is denied input → won't acquire language → Genie, 13, no L1, ...
second language learning: younger learners → native fluency, older learners (>17) never quite make it!

. Describe the Derivational Theory of Complexity.

Transformationally complex sentences are more difficult to process. The more transformations you do to a sentence, the more time it will take you.
Miller, 1962: model of "transformational cube" → possible transformations of the kernel: negation, question, passive
→ the amount of time it takes to produce a sentence, given another variant of it is a function of the distance between them on the transformational cube.
Derivational complexity effects are only obtained when there is no semantic cue (i.e. when negation is not possible because of semantical reasons)   ②

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

. • is a context effect of speech perception
• a speech sound is replaced with noise → the listener thinks to have actually
heard the sound → they are unable to locate the noise, but perceive the word
 ↳ type of masking sound doesn't matter, only silence is not restored
• do we perceive the phoneme or do we just make a guess?
• it's evidence for a top-down effect → from abstract to concrete, from
word to sound   e.g. *eel → can be heel, wheel, peel, ... → conte
• our brain hallucinates the sound → important for speech perception!

6. What is a lemma? Give an example.
• 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 & syntactic infor-
mation. It connects meaning and form.
Example: conceptual level: frog (mental picture of it)
          lemma level: frog → noun, animal, male, quakes, jumps, plural +:
          lexeme level: /frog/ → /f/ /r/ /o/ /g/

7. Define priming. What can be shown with it?
• method of cognitive neuroscience   • exposure to a stimulus influences a res
ponse to a later stimulus
• e.g. a person reads a list of words including the word "forest" → later you
give the person the task to complete this word: for___ → the person is more
likely to fill in "forest" because she was primed before
• works with visual & verbal cues • effect can last for hours • bigger effect on rare
• priming can be semantic & syntactic (re-use sentence structures heard before) word

8. Wernicke's aphasia and what brain areas are involved?
• Wernicke's area in the brain: part of the temporal lobe, central position
• damage in Wernicke's area: prosody and intonation are intact, speech is flue
but empty, word distorsions, difficulties in finding the right word, severe
comprehension deficits
• classical localization theory: Wernicke's aphasia is located in the posterior area #6

9. List 4 properties of modules
• module = 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

10. What is the principle of late closure. Give an example.
• one of the 2 principles of the Garden-Path model of sentence processing
 ↳ "incorporate incoming material into the phrase or clause currently being
    processed"
 ↳ sentences that are closed late are easier to understand than those closed early
    in sentences with early closure, the processing time of the disambiguating wor
    increases.
e.g. late closure: Since Jay always jogs a mile, this seems like a short distance to him.
     early closure: Since Jay always jogs a mile seems like a short distance to him.
                    ↳ e.g. She said he tickled her yesterday.

③

constraint theory of Markman: children have innate knowledge that enables them to learn words → innate presumptions of children when learning words → hypotheses that prefer word meanings over others
→ mutual exclusivity: two words must refer to two different things
(e.g. when it's a car, it can't be a taxi)
· experiment with children → banana + fendle → how does the child think?
   → new word must refer to the new object because "banana" is the "banana" ....

2. What is telegraphic speech? At which stage of language acquisition does it occur?
· part of the two-word stage (24 to 36 months)
· functional categories like Determiners, Auxiliaries, Prepositions, Conjunctions and expletives are missing
· lexical categories like nouns, verbs, adjectives and adverbs are present
· e.g. No sit there. Cat stand up table. Andrew want that.

13. List 4 factors that influence word recognition
· length   · frequency   · perceptual unambiguity   · age of acquisition
· uniqueness point   · priming   · neighborhood
· regularity · concreteness · syntactic category · morphological complexity

4. What is the preferential looking paradigm?
· is a prelinguistic method to analyze language acquisition
· e.g. a voice says "Hey! She's kissing the key" → children sit on their parents' lap → hears it, → a video camera films the children + analyzes their eye-movement + fixation-times → two pictures on a computer (1x woman kissing an apple, 2x woman kissing a key) ⇒ where does the baby look? Does it understand the sentence? The grammar? The words?

15. Describe split-brain patients.
Normally the corpus callosum (between the 2 hemispheres) can communicate the information also to the other hemisphere. In split brain patients the corpus callosum has been cut → communication of the 2 hemispheres is not possible
· when there is a bilateral stimulus → can't communicate → 1 stimulus domi= nates and takes over control
· experiments with them: to gain insight in hemispheric differences + mecha= nisms through which the hemispheres interact
· example: present an object in the right visual field → object recognized & seen   left visual field → patient hasn't seen anything

16. Define categorical perception. Give an example as well.
· perception of the same difference is difficult within the category but easy across categories → we perceive speech sounds categorically
· example: Whorf-hypothesis → we perceive colours categorically because they happen to be named categorically
· example: you play synthetic syllables to people in which the second formant is varied in equal steps (gradually) → the sounds are perceived either as ba, ga or da although the change is gradual → but it's perceived in another way
· nowadays the theory of continuous perception plays a greater role

(4)

17. What is the mapping/induction/gavagai problem?
when you present a new word to a baby/child → how does the baby know to what refers the word? to an object? to an action?
  ↳ problem of reference, too underspecified, word can mean anything
. example: there runs a rabbit and you shout "gavagai" → what do you mean? "rabbit", "let's go after it" . i want to eat the rabbit"→

8. Broca's aphasia. What brain area is involved?
. broca area in the brain: part of the frontal lobe, left inferior frontal lobe
. damage in broca's area: problems in production, articulation, poor use of grammatical features, word finding difficulties
  ↳ but the understanding of speech is fairly normal

9. What is surface and deep structure? Give an example that argues for the separation of the two.
. deep structure = the idea behind it
. surface structure = linguistic form which expresses the underlying though
. the surface structure is derived from the deep structure through trans=
  formations (=rewrite rules)
. complex sentences are derived from several deep structures
. example: slip of the tongue-moments : one says something he did not in
  tend → deep structures do not translate into the intended surface
  structure

20. Define double dissociation.
. = experimental technique in cognitive neuroscience
. you want to investigate about localization of brain functions
. two areas of the brain are functionally dissociated by two behavioural tests
  → each test affects one zone and as a result just one brain function is dis
  turbed
  ↳ example with TV : two TVs, one with sound, one with picture → sound & pict.
    must be two independent functions
  ↳ single dissociation : TV with colour, TV without colour → 1 functio
. classical example of double dissociation : Broca's & Wernicke's area
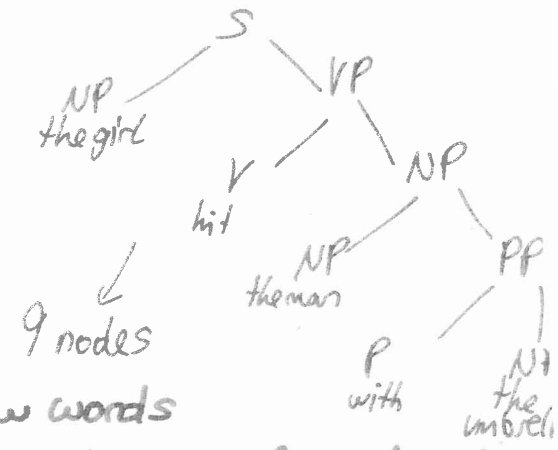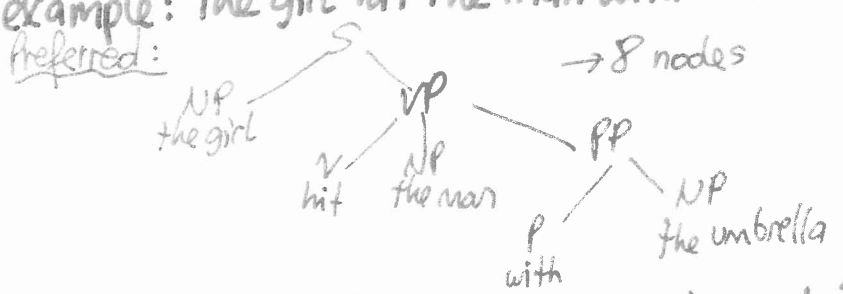
21. What is the McGurk illusion and what does it suggest?
. shows that visual information has an effect on speech perception → it sugges:
  a multimodal speech perception model
- visual cues affect how we perceive certain sounds
  ↳ example: you see "GA" and hear "BA" → you perceive "DA"

22. List 4 factors that influence sentence processing.
1) frequency   2) predictability   3) discourse context?   4) practice
5) cognitive capacities relevant for language   6) thematic fit
7) memory constraints   8) syntactic processing preferences

nd 20) = the demonstration that two experimental manipulations each have differen effects on two dependent variables: if one manipulation affects the first variable and not the second, the other manipulation affects the second variable & not the first

goal to find out more about language acquisition
goal is to provoke the language production with nonsense words
= prototype of language acquisition experiments.
= evidence that language acquisition is structure building
example: This is a wug. Now there's another one. There are two of them.
There are two _____.
→ children create a plural form of a nonsense word → they have learned the structure of plural building

24. What is the principle of Minimal Attachment? Add an illustration.
one of the two principles of the garden path model of sentence processing
→ prefer the interpretation that is accompanied by the simplest structure
⤷ simplest = fewest branchings → you have to count the number of nodes!
⤷ example: The girl hit the man with the umbrella.
preferred:

→ 8 nodes

9 nodes

25. What is the taxonomic constraint?
• innate knowledge of children to help them learn new words
⤷ they make hypotheses about word meanings
• "a new word refers to a class of novel objects, not to a specific individual
• other constraints: mutual exclusivity constraint, whole object constraint

26. Define uniqueness point and how does it affect word recognition?
• uniqueness point = its easier to recognize the word "strawberry" than the word "blackberry" because there is no other english word beginning with "straw—" → the uniqueness point is the point when you can be sure that this word can only be the word it is and no other word → rule out all the other possibilities
• In experiments: faster responses to words with earlier uniqueness points
⤷ it's easier to process the word

27. Define cohort.
• The start of words activates all words that begin with that sound → this ser of sounds is called a cohort. Once initial cohort has been activated, further info. serves to narrow the choices → you recognize the word when you are left w a single choice → at this point it diverges from other words → uniqueness point
→ example: input s— → Cohort: all words that begin with s—.

28. What is the Poverty of Stimulus Argument?
• argument of the nativists → postulating the existance of an innate grammar
"linguistic input is not sufficient and not appropriate for the acquisition of grammar"
– the speech children hear is full of errors
– grammar is too complex → they can't learn it just by listening (
– children say/understand words they havnever heard befor

24. What is a dichotic listening task and what is it good for?

- you present a stimulus just to one ear (auditory input) → how fast is it processed?
  - present it to right ear → goes to left hemisphere → is processed faster →
  right ear advantage → auditory language is left dominant
- to localize brain functions → now you know left hemisphere processes auditory
  input   • present a stimulus to both ears → different word → you will perceive
  the one presented to the right ear

30. What is a logogen?

logogen = unit of lexicon, activated by sensory input or context information   • a word
is recognized as soon as it reaches the threshold level → different logogens have
different thresholds

- each time a word is encountered the threshold for that logogen is temporarily lower
  - less sensory information is needed for recognition
- with the logogen model you can explain the word frequency effect (word recognition)

31. Describe semantic & syntactic bootstrapping.

- syntactic: children know about syntax → this helps to guess word meanings
  - e.g. if something has a verbal inflection it's a verb
  - example: video with a man poring some substance from a jar into a bowl
    - you say: "daxing" → poring,   "some dax" → substance, "the dax" → jar/bowl
- semantic: • children use semantic knowledge to guess word meaning and learn syntax
  - semantics gives rise to syntax → no data supporting the theory
  - example: all object names are nouns, not all nouns are object names

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

1) identify word units   2) forms of words may be systematically modified
3) pay attention to the ends of words   4) there are elements which encode relations
5) avoid exceptions   6) semantic relations between words should be marked clearly

33. What is the "whole object constraint"?

Markman's constraint theory → "a new word" refers to the whole of a novel
object and not to his parts → helps children to learn words → innate

34. What are spoonerisms? Give an example.

= mixing up phonemes   = speech error in production   - named after Reverend
example: The lord is a shoving leopard (loving shepherd)   Dr. William Spooner
        a well-boiled icicle (well-oiled bicycle)
        You have hissed all my mystery lectures (missed... history)

35. What is syntactic priming? Give an example. Illustrate.

- speakers tend to reuse their own or other speaker's syntactic constructions,
  - e.g. the structures they just read
- experiment: prime sentence "The boat was carried by 5 people" → passive structure
  - goal: "The alarm clock woke up the boy" or "The boy was woken by the
  alarm clock"
    - results: more active descriptions after active primes, more passive des-
    criptions after passive primes

36. List 4 characteristics of child-directed speech.

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

ESSAY TOPICS

1. Describe the developmental pathway of lexical acquisition. What is the Basic Problem of the acquisition of word meanings and what Solutions have been offered?

- lexical acquisition starts in the one-word (holophrastic) stage (12-24 m.)
- onset: 9 months (comprehension), 12 months (production)
- begin with simple lexical items for people/food/toys/animals/body functions
- age of 6: ~14.000 words (after being 2: ~10 words/day)
- age of 17: 50.000 words   ⟶ age 6-17 ~3000 words/year
  - individual differences in vocabulary size   ⟹ acquisition of lexical meaning

- Locke's theory of lexical development (17th century)
  - ⟶ to make children understand what the names of ideas/substances stand for, people show them the thing and repeat the name that it stands for
  - ⟶ but: the child is looking at the adult's face, → mapping error? Does the child understand to what the new word refers?

- gavagai/induction/mapping problem ▽
- phenomenon: noun bias → nouns often refer to individual objects, persons. Therefore, their meaning is relatively easy to figure out. Verbs are relational words. You can't imagine what a verb means without the verb's arguments. Their meaning is relatively difficult to figure out. → not an input effect

- lexical development: first words are basic level categories (e.g. flower for all kinds of flowers)   • differences from adult use: over- & underextension
  - overextension: a word is used for sthg. that has a similar shape/color or function as the original referent (e.g. dog for bear)
  - underextension: a word is used only for a subset of what the word refers to (e.g. shoes for the child's own shoes but not for other one's shoes)

- Solutions: are there constraints on word learning?
  ⟹ Nativist solutions
  - children have innate knowledge that enables them to learn words
  - Markman's constraint theory → 3 constraints → children are influenced to entertain certain hypotheses about word meanings over others. The first guesses save them from logical ambiguity,   "innate presumption"
    - mutual exclusivity: two words must refer to two different thing (if it's a car it's not a taxi) ⟶ example: banana + fendle ▷▷▷
    - whole object: a new word refers to the whole of a novel object? °° (p.3
      and not to its parts
    - taxonomic: a new word refers to a class of novel objects; not to a specific individual

2. What possible interpretations are there for the notion of "grammatical rule"? List arguments and counterarguments for each.

- main debate: constructivist approach vs. nativist approach → do children learn a language just by imitating or are they making hypotheses about underlying rules?
- when you observe childrens' speech: word combinations show systematicity already → e.g. WUG → test → experimental test of productivity

· <u>Nativist approach:</u>
children are born with innate knowledge which helps them in making sense of the world around them

  + language universals, Chomsky, language acquisition device, universal grammar, what do all languages have?

  + universal development pathway
    - most children follow the very same milestones in acquiring language (although: different backgrounds, location, upbringings, ...)

  + critical period → short window of time, L1 acquisition, rich input
                                                                     (...

  + poverty of the stimulus argument

  + lack of negative evidence argument
       adults don't give correction, children can't exploit them, be discovering the grammar would need this

  + children are not able to repeat sentences their grammar is not able to generate yet → mother & child "Nobody don't like me" → repeat it 8x → child doesn't get it, concentrates on truth value and phonetics, not to syntactic well-formedness
       → it's not imitation if child repeats its wrong sentence

· <u>Constructivist approach:</u>
  · babies don't have abstract knowledge of grammar, there's nothing innate
  · childrens' utterances follow utterances of adults heard by them quite closely
  · grammatical rules are extracted from the input using general learning mechanisms   (e.g. phonological and prosodic bootstrapping)

  + children get negative feedback → repetitions & extensions
       + adults are more likely to repeat well-formed sentences → good input!

⑨

3. What is the Autonomy of Syntax in the sentence processing and how does it contrast with interactive models? Why are ambiguous sentences a good testing ground?

- autonomy of syntax: we process language serially
  - phonology → lexical processing → syntactic processing → semantic processing
  - semantic analysis starts only when we reach a clause boundary
  ⇓ this would be a modular approach: analysis builds only on syntactic phrase structure; ambiguities are resolved by specific principles of syn=tactic analysis without using any other system of analysis
    ↳ when the parser makes a mistake he has to revise the initial analysis
    - two-stage-analysis: first analysis based only on syntactic information, second revision takes into account other kinds of information
    ↳ serial vs. parallel model: initially only one or all possible syntactic analyses

- interactive approaches
  - all levels of sentence processing cooperate freely and continuously
    ↳ there are many parallel computing constraints → these constraints can be non-syntactic as well (e.g. discourse context)
    ↳ many analyses are computed at the same time → which one fits best into the discourse model?
  - other factors (like semantic context, expectation, ...) may provide cues about the likely interpretation of a sentence
    ↳ important factor: semantic expectations

- constraint satisfaction model
  - several potential analysis are activated, but we are only aware of one
    ↳ at the end of the sentence, when it turns out to be wrong, we switch to another analysis
      ↳ when one analysis fails we become aware of the other one

main questions: many stages ⟷ one stage
                   modular ⟷ interactive
                   serial ⟷ parallel
                   syntactical processing ⟷ all kinds of analysis

- ambiguous sentences
  - local or persistent ambiguity, e.g. Since Jay always jogs a mile seems like a short distance to him.
  - sources of ambiguity: lexical ambiguity in meaning, ambiguity in syntacti. category, ambiguous dependency, structural ambiguity
  - e.g. garden path phenomena (...)
    ↳ good testing ground because: we make a hypothesis & start with our analysis + expectation how it continues → but in the middle of the sentence we notice that our analysis failed → we have to try another one   → are all the possible structures/analyses present at the same time?

⑩

4. What models are there for lexical access of ambiguous words?
Enumerate empirical evidence for each.

- do ambiguous words have more than one representation in the lexicon?
- as readers/listeners we don't notice ambiguity usually.
- do we consider multiple meanings of ambiguous words when we hear/see them
- how does sentence context influence how lexical/ambiguous words are accessed?
   ↳ usually the appropriate meaning is determined by context
- e.g. My blackberry isn't working!
- there is a dominant meaning and a secondary sense

Models

1) context-guided access
   ↳ appropriate meaning is chosen by context, others are not considered

2) ordered access
   ↳ the most common meaning is checked first, if it fits the context it is accepted, otherwise other meanings are checked

3) multiple access (Swinney, 1979)
   ↳ all meanings are accessed, the context selects among them

4) reordered access model

Evidence for selective access

- ambiguity detection task, Hogaboam, Perfetti
   → present a sentence to people + contains an ambiguous word either in it's dominant meaning or in it's secondary sense → people have to tell whether the word is ambiguous or not
   ↳ result: longer response time when word was used in its common sens

Evidence for multiple access

- Foss experiment: phoneme monitoring, find /b/ in a sentence → people needed more time to detect the phoneme when it was written behind an ambiguous word

- Swinney, tested the effect/influence of context → the word "bug" once alone and the other time in a sentence (once ambiguous, once unambiguous)
   ↳ + asked the participants if "bug" is an ambiguous word →
   response times were the same → context has little influence
   ↳ supports a multiple access

Nowadays accepted view

- multiple access → lexical ambiguity is resolved by an interaction with frequency and context

5. What is the linguistic relativiy hypothesis? What evidence is there for and against?

- Sapir-Whorf hypothesis
- language determines thought, language shapes the mind
- the structure of the language one generally uses, influences the way they understand their environment and act upon it
  ↳ e.g. "you are too late" vs. "time has captured me" in an african language → other conceptual vocabulary
- languages reflect reality in different ways through more or less specialized vocabulary
- languages differ with respect to how they divide up the world into nouns and verbs, e.g. lightning (Engl.) is in Hopi a verb
- grammatical influences on thinking:
  - number category: whether inanimate nouns can be pluralized or not, in English mass nouns can't be pluralized, in Yucatec only ani- mate nouns can be pluralized ⇒ we like to count things
  - tense markers: Hopi knows no tenses → timeless language
- language influences cultural life & how science is done
  ↳ is language a conceptual prison?

- urban legend → eskimos → snow → many words   → it's not true → but
  even if it was true that one language had more expressions, is it evidence
  that they see snow differently?

Evidence against the hypothesis

- children say "sit chair" without using spatial morphemes, but they communicate about the location of objects → idea → express it → language
- children distinguish front and back of objects well before using spatial expressions like "in front of", "behind", "front", "back", ...

Evidence for Sapir-Whorf

- Korean vs. English: Korean has no linguistic distinction between placing an object in a container or on a surface (in vs. on) → Korean distingui- shes between tight fit (like a ring on a finger) and loose fit (like a fruit in a bowl) → are these differences reflected in spatial representa- tions of English/Korean speakers?
  ↳ results: English and Korean babies differentiate all potential spatial distinctions → as a result of acquiring a language certain spatial distinctions become salient in representation (those strenghtened by language) → it's like phoneme sensitivity in babies
                    ↓ language shapes the mind/thought

6. Present the nativist approach to language acquisition, and the arguments supporting that position. Introduce arguments against this position as well.

- **nativist approach:** innate knowledge, universal grammar, Chomsky, LAD, all human languages, language universals, (...)

- **argument:** constraint theory (Markman) as a solution to the question how children access the lexical meaning of a novel word

↓
:35/36

- children are born with innate knowledge which helps them in making sense of the world around them   VS.   constructivist approach: children learn language by constructing linguistic knowledge based on input from the environment

→ Chomsky: language is not learned, it grows

arguments
- language universals
- critical period
- universal development **pathway**

- poverty of the stimulus argument   (p. 43)
- lack of negative evidence argument

- work done with creoles → their languages show features that don't exist in any of their parent languages

counterarguments
- poverty of the stimulus argument is not true → empirical false data
- universal grammar theories are not falsifiable → pseudoscientific
- children overgeneralize the past tense marker "ed" theory and mispronounce the irregular verbs
- children employ similarity-based generalization strategies in language learning → generalizing about the usage of new words from similar words that they already know how to use
- the Pirahã language is claimed to be an counterexample to the basic tenets of UG
   ↳ Pirahã does not use recursion!

. What types of empirical evidence are used in developing
  models of language production? Present one model in detail, together
  & with evidence supporting it.

- empirical evidence → speech errors
- language production: gets less attention than speech comprehension, automatic,
  we can't tell how we do it, speech is most important human activity, but first
  book published only in 1989

- speech errors: are not random
               are common in normal production

- possible speech errors: · spoonerism = mixing up phonemes   (well-boiled icicle)
                             · anticipation, perseveration, exchange
                             · many errors involve phonological features
                             · errors on sentence-level: exchanges, antonym substi-
                               tution, feature mixup

- from speech errors you can learn much: – errors are syntactically consistent
    – generally they preserve the intonation   (nouns for nouns,...), follow the rules of syntax
    – we only insert phonemes from our own language   contour of the intended utterance

- big question: does language production occurs in a one- or a two-stage
  level? do we think of the word meaning first, then put it into the syntactic
  structure and then we pronounce it? Or do these processes take place in
  a parallel way?

- Present one model : WEAVER ++ (words encoding by activation and
                                          verification)
    ↳ two-stage-model → speech errors occurr at different stages
    ↳ evidence for WEAVER → speech errors
        ↳ we access the lemma of the word → error is going to be a semantical
           related word
        ↳ phonological errors sound similar to the target word → we access the
           phonological form of the word and fail   ⇒ 2 types of errors

        ↳ stages of language production :
                    · conceptual preparation → lexical concept
                    · lexical encoding   → lemma (abstract word)
                    · morphological encoding → morpheme, word form
                    · phonological encoding   → phonological word (syllables,
                    · phonetic encoding → speech sounds are prepared
                    · articulation →   physical utterance of the word

- Evidence for the WEAVER ++ model
    – prediction: all syllables of a word are prepared before the word is arti-
      culated → it should take longer to begin to say a word with many
      syllables than one with few syllables
    – experiment: participants were asked to name items which had either o
      or two syllables names in a timed experiment → results agreed with WEAV
- WEAVER explains tip-of-the-tongue phenomenon as failure at the
  phonological encoding stage, all other stages work

?. List empirical evidence for the position that stems and suffixes have independent representations. Under what conditions are multi morphemic words stored as one unit?
(analytic vs. holistic word storage)

- holistic storage: every word has its own access representation, e.g. /walk/ /walked/ /walking/
- decomposition: only morphemes (stems and affixes) have their own access representation, e.g. /pre/ /develop/ /ment/ /al/
- both: both representations exist
- question: how do we store morphologically complex words? As a unit or do we analize them?

Empirical evidence:
- experiment of nonword interference: combine a real stem and a real prefix into a nonword or: combine a nonexistent stem and a real prefix into a nonword → people have to decide whether it's a word or not + measure reaction times
  ↳ result: faster decision in rejecting the nonword with pseudostem
    ↳ it's easier to say that a word is a nonword when it contains a pseudostem
  → prefixed words are decomposed during lexical access

Multimorphemic words are stored as one unit
- if they are frequent words
- if they have non-transparent compounds (e.g. butterfly, deadline) or non-transparent derived words (e.g. casualty, creature)
- derivational suffixes are more closely associated to the stem than inflectional suffixes
  ↳ e.g. in lexical decision tasks, derived words don't take longer to recognize than pseudoderived ones
  ↳ e.g. derivational suffixes are rarely detached from the word in speech errors

8. What are the differences between human and animal communication systems? List 5 and explain what they mean.

1) motivation
   - animal language is motivated by the principle of similarity (connection between sign and concept is not arbitrary)
   - human language: motivation is arbitrariness (example: tree, ☐ →connection? other languages?)

2) inventory
   - animal communication: limited, ~50 signs / restricted in its repertoire
   - human communication/language: unlimited, infinite
     ↳ i.e. many words for the same thing, synonyms, redundancies, much more expressions & signs → just think of all the words in all existent languages

3) situation
   - human communication: independent
   - animal communication: stimulus-dependent
   ↳ humans can decide whether they want to use language or not, humans' intention is important, there are various functions of language, we can make decisions about language, we can reflect about language (meta-language)
   ↳ example: we can adapt language to our listeners/readers, etc...

4) system
   - animal communication: closed
   - human communication: open
     ↳ derive new word, invent new words, augment the number of signs
       ↳ humans: creativity, combine elements to produc new messages

5) control
   - human communication: intentional
   - animal communication: automatic
     ↳ see also: #3

ad 3): people can use language in any situation → strong connection with #.
       there are no restrictions

6) flexibility — humans: variable
                  ← animals: fixed

7) dual articulation → animals: dual structure doesn't exist
                     → humans: human language can be broken down into meaningful elements (morphemes) and small phonetic elements (phonemes)

• examples for animal communication: ritualization in wolves, honeybee dance chimpanzee faces, vervet calls, peacock's tail, dominant follows submiss

8) conceptual generalizations
   ↳ human languages can express conceptual generalizations + abstrach

9) animal communication can't be broken down into smaller units, it's not combinatorical

10) if animals are taught the use of symbol systems they don't transfer the

(16)