

## 1: Project MUSE - Syntactic Nuts: Hard Cases, Syntactic Theory, and Language Acquisition (review)

*The collected works in these two volumes were first presented at a symposium held at Cornell University, April , , entitled Syntactic Theory and First Language Acquisition: Cross-Linguistic Perspectives.*

Early words are acquired at a rate of per week as measured by production diaries ; in many cases the rate may suddenly increase to new words per week, after 40 or so words have been learned. However, some children show a more steady rate of acquisition during these early stages. The rate of vocabulary acquisition definitely does accelerate in the third year and beyond: Sex differences in vocabulary acquisition Against a background of enormous individual variation, girl babies tend to learn more words faster than boy babies do; but the difference disappears over time. Her results indicate that at the time when children were producing 10 words, they were estimated to understand 60 words; and there was an average gap of five months between the time when a child understood 50 words and the time when s he produced 50 words. All of these methods maternal diaries and checklists probably tend to underestimate the number of words about young children actually know something, although they also may overestimate the number of words to which they attribute adult-like meanings. Novel combinations where we can be sure that the result is not being treated as a single word appear sporadically as early as 14 months. However, these combinations tend to occur in an order that is appropriate for the language being learned: Doggy bark Ken water for "Ken is drinking water" Hit doggy Some combinations with certain closed-class morphemes begin to occur as well: However, these are the closed-class words such as pronouns and prepositions that have semantic content in their own right that is not too different from that of open-class words. The more purely grammatical morphemes -- verbal inflections and verbal auxiliaries, nominal determiners, complementizers etc. Since the earliest multi-unit utterances are almost always two morphemes long -- two being the first number after one! Quite soon, however, children begin sometimes producing utterances with more than two elements, and it is not clear that the period in which most utterances have either one or two lexical elements should really be treated as a separate stage. In the early multi-word stage, children who are asked to repeat sentences may simply leave out the determiners, modals and verbal auxiliaries, verbal inflections, etc. The same pattern can be seen in their own spontaneous utterances: Acquisition of grammatical elements and the corresponding structures At about the age of two, children first begin to use grammatical elements. The process is usually a somewhat gradual one, in which the more telegraphic patterns alternate with adult or adult-like forms, sometimes in adjacent utterances: Her climbing up the ladder there. Jem at 24 months. Holly at 24 months I having this. Olivia at 27 months. Betty at 30 months. Olivia at 36 months. Over a year to a year and a half, sentences get longer, grammatical elements are less often omitted and less often inserted incorrectly, and multiple-clause sentences become commoner. In the beginning, such words will be used in their root form. As inflections first start being added, both regular and irregular patterns are found. At a certain point, it is common for children to over-generalize the regular case, producing forms like "bringed", "goed"; "foots", "mouses", etc. My teacher holded the baby rabbits and we patted them. Did you say your teacher held the baby rabbits. What did you say she did? She holded the baby rabbits and we patted them. Did you say she held them tightly? No, she holded them loosely. More Information A good starting point for more information about child language acquisition is the CHILDES web site at CMU, where you can find out about downloading the raw materials of child language research, and also search a specialized child language bibliography. The abstract from the paper: By age 3, children from privileged families have heard 30 million more words than children from underprivileged families. Longitudinal data on 42 families examined what accounted for enormous differences in rates of vocabulary growth. Children turned out to be like their parents in stature, activity level, vocabulary resources, and language and interaction styles. Follow-up data indicated that the 3-year-old measures of accomplishment predicted third grade school achievement. Another, more recent, study suggesting the same conclusion is Martha J. Specific associations with neurocognitive development ", Brain Research 1 , September Farah and her co-workers "administered a battery of tasks designed to tax specific neurocognitive systems to healthy low and middle SES [socio-economic status] children screened for medical history and matched for age, gender

and ethnicity". Effect sizes, measured in standard deviations of separation between low and middle SES group performance, on the composite measures of the seven different neurocognitive systems assessed in this study. Black bars represent effect sizes for statistically significant effects; gray bars represent effect sizes for nonsignificant effects. All the participants in this study were African-American girls between the ages of 10 and 12. As the graph above indicates, the difference in performance on the "Language" part of the test battery between middle SES and low SES girls represented an effect size of about 0. There were two language-related tasks: On each trial, the child hears a word and must select the corresponding picture from among four choices. Test of Reception of Grammar TROG In this sentence-picture matching task designed by Bishop, the child hears a sentence and must choose the picture, from a set of four, which depicts the sentence. Its lexical-semantic demands are negligible as the vocabulary is simple and a pre-test ensures that subjects know the meanings of the small set of words that occur in the test.

## 2: Aspects of the Theory of Syntax - Wikipedia

*Seminar paper from the year in the subject English Language and Literature Studies - Linguistics, grade: 1,3 (A), University of Cologne (English Seminar), course: Hauptseminar Syntactic theory and first language acquisition, 4 entries in the bibliography, language: English, abstract: Heather's (26 months old) speech shows that she has already entered the later multi-word stage.*

Whereas other species do communicate with an innate ability to produce a limited number of meaningful vocalizations e. This ability is remarkable in itself. What makes it even more remarkable is that researchers are finding evidence for mastery of this complex skill in increasingly younger children. Infants as young as 12 months are reported to have sensitivity to the grammar needed to understand causative sentences who did what to whom; e. After more than 60 years of research into child language development, the mechanism that enables children to segment syllables and words out of the strings of sounds they hear, and to acquire grammar to understand and produce language is still quite an enigma. Early Theories One of the earliest scientific explanations of language acquisition was provided by Skinner As one of the pioneers of behaviorism , he accounted for language development by means of environmental influence. Skinner argued that children learn language based on behaviorist reinforcement principles by associating words with meanings. Correct utterances are positively reinforced when the child realizes the communicative value of words and phrases. Consequently, he proposed the theory of Universal Grammar: Universal Grammar is considered to contain all the grammatical information needed to combine these categories, e. For example, according to the Universal Grammar account, children instinctively know how to combine a noun e. This Chomskian approach to language acquisition has inspired hundreds of scholars to investigate the nature of these assumed grammatical categories and the research is still ongoing. Contemporary Research A decade or two later some psycho linguists began to question the existence of Universal Grammar. They argued that categories like noun and verb are biologically, evolutionarily and psychologically implausible and that the field called for an account that can explain for the acquisition process without innate categories. Researchers started to suggest that instead of having a language-specific mechanism for language processing, children might utilise general cognitive and learning principles. Whereas researchers approaching the language acquisition problem from the perspective of Universal Grammar argue for early full productivity, i. It is suggested that children are sensitive to patterns in language which enables the acquisition process. An example of this gradual pattern learning is morphology acquisition. Morphemes are the smallest grammatical markers, or units, in language that alter words. In English, regular plurals are marked with an "s" morpheme e. Children are considered to acquire their first instances of third singular forms as entire phrasal chunks Daddy kicks, a girl eats, a dog barks without the ability of teasing the finest grammatical components apart. When the child hears a sufficient number of instances of a linguistic construction i. In this case, the repeated pattern is the "s" marker in this particular verb form. Approaching language acquisition from the perspective of general cognitive processing is an economical account of how children can learn their first language without an excessive biolinguistic mechanism. Conclusion However, finding a solid answer to the problem of language acquisition is far from being over. Our current understanding of the developmental process is still immature. Investigators of Universal Grammar are still trying to convince that language is a task too demanding to acquire without specific innate equipment, whereas the constructivist researchers are fiercely arguing for the importance of linguistic input. The biggest questions, however, are yet unanswered. How much does the child need to be exposed to language to achieve the adult-like state? What account can explain variation between languages and the language acquisition process in children acquiring very different languages to English? The mystery of language acquisition is granted to keep psychologists and linguists alike astonished a decade after decade. Aspects of the Theory of Syntax. Journal of Child Language, 35 1: Evidence from the dative. Language Learning and Development, 7 1: Journal of Child Language, 32 2: The New Science of Language and Mind. How to reference this article:

## 3: Theories of the early stages of language acquisition (article) | Khan Academy

*Universal Grammar (UG) is a theory of both the fundamental principles for all possible languages and the language faculty in the "initial state" of the human organism. These two volumes approach the study of UG by joint, tightly linked studies of both linguistic theory and human competence for language acquisition.*

**Bibliography** First language acquisition refers to the way children learn their native language. Second language acquisition refers to the learning of another language or languages besides the native language. For children learning their native language, linguistic competence develops in stages, from babbling to one word to two word, then telegraphic speech. Babbling is now considered the earliest form of language acquisition because infants will produce sounds based on what language input they receive. One word sentences holophrastic speech are generally monosyllabic in consonant-vowel clusters. During two word stage, there are no syntactic or morphological markers, no inflections for plural or past tense, and pronouns are rare, but the intonation contour extends over the whole utterance. Telegraphic speech lacks function words and only carries the open class content words, so that the sentences sound like a telegram. Three theories The three theories of language acquisition: Imitation does not work because children produce sentences never heard before, such as "cat stand up table. And children who are unable to speak still learn and understand the language, so that when they overcome their speech impairment they immediately begin speaking the language. Reinforcement also does not work because it actually seldomly occurs and when it does, the reinforcement is correcting pronunciation or truthfulness, and not grammar. A sentence such as "apples are purple" would be corrected more often because it is not true, as compared to a sentence such as "apples is red" regardless of the grammar. Analogy also cannot explain language acquisition. Analogy involves the formation of sentences or phrases by using other sentences as samples. If a child hears the sentence, "I painted a red barn," he can say, by analogy, "I painted a blue barn. Typical phonological rules include: An overgeneralization of constructed rules is shown when children treat irregular verbs and nouns as regular. Instead of went as the past tense of go, children use goed because the regular verbs add an -ed ending to form the past tense. Similarly, children use geoses as the plural of goose instead of geese, because regular nouns add an -s in the plural. Many factors have led to this hypothesis such as the ease and rapidity of language acquisition despite impoverished input as well as the uniformity of languages. All children will learn a language, and children will also learn more than one language if they are exposed to it. Children follow the same general stages when learning a language, although the linguistic input is widely varied. In addition, children do not produce sentences that could not be sentences in some human language. The principles of Universal Grammar underlie the specific grammars of all languages and determine the class of languages that can be acquired unconsciously without instruction. It is the genetically determined faculty of the left hemisphere, and there is little doubt that the brain is specially equipped for acquisition of human language. During this critical period, language learning proceeds quickly and easily. After this period, the acquisition of grammar is difficult, and for some people, never fully achieved. Cases of children reared in social isolation have been used for testing the critical age hypothesis. None of the children who had little human contact were able to speak any language once reintroduced into society. Even the children who received linguistic input after being reintroduced to society were unable to fully develop language skills. These cases of isolated children, and of deaf children, show that humans cannot fully acquire any language to which they are exposed unless they are within the critical age. Beyond this age, humans are unable to acquire much of syntax and inflectional morphology. At least for humans, this critical age does not pertain to all of language, but to specific parts of the grammar. Good lesson plans incorporate all four: However, it is easy to fall into the trap of teaching about the language, instead of actually teaching the language.

## 4: What is Language Acquisition? - Introduction to Linguistics - [www.enganchecubano.com](http://www.enganchecubano.com)

*Syntactic Theory and First Language Acquisition: Cross-linguistic Perspectives -- Volume 1: Heads, Projections, and Learnability and a great selection of similar Used, New and Collectible Books available now at [www.enganchecubano.com](http://www.enganchecubano.com)*

Personal use only; commercial use is strictly prohibited for details see Privacy Policy and Legal Notice. Children master the syntax, the sentence structure of their language, through exposure and interaction with caregivers and others but, notably, with no formal tuition. The computational mechanisms of Universal Grammar give even young children the capacity to form hierarchical syntactic representations for the sentences they hear and produce. An alternative school of thought denies the existence of a dedicated language component, arguing that knowledge of syntax is learned entirely through interactions with speakers of the language. Knowledge of linguistic structure emerges gradually and in a piecemeal fashion, with frequency playing a large role in the order of emergence for different syntactic structures. Universal Grammar, usage-based grammar, hierarchical structure, schema, structure-dependence, subject-aux inversion 1. Acquiring Syntax All parents take it for granted that language will emerge in their developing child. All typically developing children pass through similar stages and in a short time become adult speakers of their local language or languages. Children babble, pass through a single and multiword stage, and then start to produce entire sentences that increase in complexity. Exactly what knowledge base, if any, and what mechanisms drive this progression in the language acquisition process is a matter of controversy. The challenge for language acquisition researchers is to reveal how this process unfolds. Two current approaches to the problem of language acquisition are introduced. One theory of language acquisition follows the theory of Universal Grammar advanced by Noam Chomsky Chomsky, , , This is often called the generative approach to language acquisition. The second approach is the usage-based account of language acquisition. Discussion will focus on one particular version of usage-based grammar that has been prominent in the acquisition literature. Language acquisition researchers working within this framework argue that children learn sentence structure through experience. The discussion begins with a consideration of the goals of a linguistic theory and theory of acquisition. The first question asks what constitutes knowledge of language. The second question asks how knowledge of language is acquired, and the third asks how knowledge of language is put to use Chomsky, As will become clear, generative and usage-based linguistic theories have different ideas about what constitutes the representation of language, and syntax in particular, in the mind. The theories also depart in their perspective on whether acquisition of language is guided partly by innate knowledge or whether all knowledge of language is learned through experience. Although it is of interest to record how language is used in context, this article restricts its inquiry to the first two questions. A widely shared assumption is that exposure to language and interaction with speakers in a language community are essential for acquisition to proceed. Speakers of the language, that is, caretakers, siblings and so on, provide linguistic input to the child in the form of utterances and their corresponding meanings. The dispute among language acquisition researchers is whether positive evidence alone is sufficient for children to achieve mastery of the adult grammar. Putting individual idiosyncrasies or dialectal differences of speakers aside, convergence on the adult grammar means that children turn into speakers who have the same grammatical knowledge; they know its boundaries. That is, they generate the same set of syntactic structures, and share judgements about which structures are grammatical and which are ungrammatical. This raises a provocative question. This would allow children to settle on the adult grammar in a relatively short period of time. What Brown and Hanlon concluded was that parents mostly correct their children for truth-value, that is whether they have said something that is true or not. For this reason, generative and usage-based researchers alike have reached a consensus that children do not receive negative evidence. The drawback is that this leaves us with no solution to the issue of how children come to know what sentences are ungrammatical in their language. Two proposals to resolve this problem will be considered. One proposal offered by child language researchers, and accepted by constructivist language researchers, is to suggest that the information needed to throw out certain kinds of

ungrammatical sentences is available in the positive input but not offered in the direct form *i*. The proposal views children as able to monitor and interpret certain aspects of the positive input that lead them to reconsider their grammatical hypotheses. It has been suggested that certain speech acts in the child-directed speech, such as expansions, repetitions, confirmation questions, and so on, alert children to their errors *e*. Several issues arise with the proposal that children are alert to feedback provided in speech acts in the positive input. First, children would need to know that particular speech acts, expansions, for example, are key speech acts to look out for because they contain corrective feedback. Second, children would need to be able to readily identify the different speech acts so that they could make use of the information therein. It is also the case that the parent would have to deliver the speech act consistently, so that the child could utilize the information with certainty. For example, if the parent consistently provided an expansion every time the child produced an ungrammatical utterance, it would be easy for the child to act on this information, and purge the error. Every time children heard an expansion, they would know they needed to fix an ungrammatical utterance. The result is that it is difficult for children to interpret such speech acts and to know when to act on them and when to ignore them. The constructivist literature has been more focused on constraining argument structure errors than ungrammaticality of sentences *per se*. According to constructivist researchers, the frequency of a construction in the positive input is one factor that the child takes into consideration when considering grammaticality. For example, if a child has heard the verb *laugh* used only in intransitives, in sentences like *Bart laughed*, then he or she is likely to think that *The clown laughed Bart* is ungrammatical, as it has never been heard in this usage Rowland, In some cases, this could be the wrong conclusion to draw, but this can be amended with further positive input. In certain cases, however, hearing an expression that is inconsistent with their grammar causes children to purge their own presumably ungrammatical use of an argument structure and replace it with the adult one. According to Rowland pre-emption is relevant only when the two argument structures at issue have the same meaning. Suppose the child expects the causative use, but this expectation is not met in the positive input. Instead, the child is exposed to the periphrastic causative *The magician made the ball disappear*. In sum, the constructivist proposal to reduce productivity of unattested argument structure patterns draws on a confluence of verb semantics, entrenchment, and pre-emption. How these mechanisms extend more generally to eliminate ungrammatical syntactic structures still requires some refinement. For further discussion, see Ambridge and Lieven, Rowland, and Saxton. First, he made the observation that children, and speakers of a language in general, seem to know more about their language than they have evidence for in the positive input. This in turn allows faster and more error-free convergence on the adult grammar. It is worth considering an example. Suppose children knew from the positive input surrounding them, that pronouns often substitute for another noun phrase, often a name, that has already been introduced in the sentence. That is, they have come to realize that in a sentence like 1a, the pronoun *he* can refer to the troll. The pronoun *can*, of course, also refer to some person who is not mentioned in the sentence but is perhaps salient in the context, but this interpretation is not our concern here. Linguistic input of this kind could lead the child to form the erroneous generalization that a pronoun can always refer to a name that is elsewhere in the sentence. This generalization would lead children to misinterpret a sentence like 1c. However, based on input sentences like 1a and 1b, logical children would assume that sentences like 1c can mean that the troll said he himself cleared the obstacles cleanly. The principle, known as Principle C, requires them to pay attention to the position of the pronoun and the name in the hierarchical structure of the sentence, not just to the ordering of the pronoun and the name in the sentence. The particular position of the pronoun relative to the name in the sentence hierarchy is what prevents coreference in 1c. The perspective of the generative linguistic theory is outlined first, followed by the constructivist perspective on early child representations of syntactic knowledge. The language component, Universal Grammar, is ready to analyze the positive input available from speakers of the surrounding language and to start building the grammar of the local language English, Mandarin, Hindi, etc. In a sense, acquiring the syntax is easy, because UG contains a computational system that generates sentence structures. The computational system provides advance knowledge of the potential kinds of elements available in human languages such as Noun, Verb, etc. Therefore, once the child has figured out what syntactic category a particular sound in the soundstream maps on to, the computational system can use the

lexical items to build representations for phrases and sentences. The representations for the phrases and sentences that children build are hierarchical structures. For example, the sentence Daddy want white milk might be represented by the child as in 2a. The finer details of the tree structure are not important – what is important is that both child and adult representations are hierarchical structures. The child has access to the range of syntactic categories. The sentence-level category is Inflection Phrase IP shown at the top of the tree. The adult sentence representation with the tense and agreement information complete is shown in 2b. The information for tense and agreement is represented in the Inflection node, and eventually is pronounced on the main verb wants. Early grammars have no abstract syntactic categories. Children have to learn the range of syntactic categories and possible constructions employed in their language from the caretaker input. A phrase like Whassat? Children gradually begin to produce multi-word utterances and after considerable exposure to frequently used constructions, start to form generalizations across similar utterances and form what are known as schemas or templates. For example, children may have accumulated the knowledge that as well as Daddy want milk, other options such as Grandma want milk, or My baby want milk, and so on are also permitted. This list eventually is generalized to a schema: Over time, the slots become identified with syntactic categories. A hypothetical development is shown in 3, where 3f might represent the transitive construction in the adult grammar. Schema are linear representations of constructions in the language. Arguments from both theoretical perspectives on whether or not children adopt hierarchical sentence representations will be reviewed. This topic has received considerable press in the literature. This Universal Grammar endows children with the computational system that is engaged when children represent sentences in their minds. Furthermore, Chomsky argued that in cases when children need to hypothesize a rule to represent a process in the language they are acquiring, that rule must be formulated by referring to positions in the hierarchical syntactic representations provided by the computational system. The auxiliary verb or modal is moved in the hierarchical structure to a position higher than the subject NP. The tree in 4a shows the sentence before I to C movement applies and the tree in 4b shows that the auxiliary verb is has moved to the C position in the hierarchical structure. This linear rule would, nevertheless, still give the correct result: Is the baby eating a banana? When it comes to more complex structures, the hierarchical hypothesis and the linear hypothesis diverge. When the subject NP is modified by a relative clause, the linear hypothesis yields the wrong result. The baby who is smiling is eating a banana, in which who is smiling is the relative clause modifying the subject NP. As the tree structures in 5 show, the structure-dependent rule works as before, moving the auxiliary verb in I to C to yield the question:

## 5: CLAL Cornell Language Acquisition - Publications

*Read "Syntactic theory and first language acquisition" by Michaela MÅ¼ller with Rakuten Kobo. Seminar paper from the year in the subject English Language and Literature Studies - Linguistics, grade: 1,3 (A), U.*

In lieu of an abstract, here is a brief excerpt of the content: Asya Pereltsvaig *Syntactic nuts: Hard cases, syntactic theory, and language acquisition*. Oxford University Press, This book sheds new light on the place of linguistic theory within cognitive science by investigating the architecture of the language faculty. In particular, it [End Page ] explores what the properties of language reveal about the mental abilities and processes involved in language acquisition. The originality of this book is that it goes against the prevailing trend in generative grammar by considering not only what is general, exceptionless, and universal in language but also what is irregular, exceptional, and idiosyncratic, both in the lexicon and in syntax. In the first chapter, Culicover discusses the relationship between the study of the learning mechanism for language and the investigation of the properties of language itself as bounding conditions on such a mechanism. Thus, he focuses on the acquisition of properties that a particular language does not share with other languages. Another question brought up in the first chapter is that of biology vs. Going against the general position, C argues that this question is an empirical one rather than a matter of dogma or ideology. In the last section of the introductory chapter, C identifies two important global properties that a language learner must have: The rest of the book is organized into three chapters that deal with categories, constructions, and constraints, respectively. The first of these chapters presents empirical evidence to support the claim that there is in principle an unbounded set of syntactic categories in natural language. C investigates elements that seem to belong to more than one traditional syntactic category, including either, the prepositional complementizer *for*, various determiners and quantifiers, and odd prepositions. He argues that such elements form separate categories. On the other hand, their apparent patterning with one or the other of the traditional syntactic categories may be explained from their conceptual structure properties rather than syntactic categorization. He applies the Hawkins Metric to develop a preliminary account of which generalizations are more accessible to the learner on the basis of positive evidence. Even though the book is mainly concerned with English, other languages, such as Italian, Icelandic, Hungarian, and French, are discussed as well. You are not currently authenticated. View freely available titles:

*Approaching language acquisition from the perspective of general cognitive processing is an economical account of how children can learn their first language without an excessive biolinguistic mechanism.*

These arguments lean towards the "nurture" side of the argument: Since operant conditioning is contingent on reinforcement by rewards, a child would learn that a specific combination of sounds stands for a specific thing through repeated successful associations made between the two. Some empiricist theories of language acquisition include the statistical learning theory. Hockett of language acquisition, relational frame theory, functionalist linguistics, social interactionist theory, and usage-based language acquisition. Instead, children typically follow a pattern of using an irregular form of a word correctly, making errors later on, and eventually returning to the proper use of the word. For example, a child may correctly learn the word "gave" past tense of "give", and later on use the word "gived". Eventually, the child will typically go back to learning the correct word, "gave". Chomsky argued that if language were solely acquired through behavioral conditioning, children would not likely learn the proper use of a word and suddenly use the word incorrectly. Chomsky also rejected the term "learning", which Skinner used to claim that children "learn" language through operant conditioning. The language immersion school, operated by the Eastern Band of Cherokee Indians, teaches the same curriculum as other American primary schools, but the Cherokee language is the medium of instruction from pre-school on up and students learn it as a first language. Such schools have proven instrumental in the preservation and perpetuation of the Cherokee language. A major debate in understanding language acquisition is how these capacities are picked up by infants from the linguistic input. Nativists such as Noam Chomsky have focused on the hugely complex nature of human grammars, the finiteness and ambiguity of the input that children receive, and the relatively limited cognitive abilities of an infant. From these characteristics, they conclude that the process of language acquisition in infants must be tightly constrained and guided by the biologically given characteristics of the human brain. Otherwise, they argue, it is extremely difficult to explain how children, within the first five years of life, routinely master the complex, largely tacit grammatical rules of their native language. In particular, there has been resistance to the possibility that human biology includes any form of specialization for language. This conflict is often referred to as the "nature and nurture" debate. Of course, most scholars acknowledge that certain aspects of language acquisition must result from the specific ways in which the human brain is "wired" a "nature" component, which accounts for the failure of non-human species to acquire human languages and that certain others are shaped by the particular language environment in which a person is raised a "nurture" component, which accounts for the fact that humans raised in different societies acquire different languages. The as-yet unresolved question is the extent to which the specific cognitive capacities in the "nature" component are also used outside of language.

**Social interactionist theory** Social interactionist theory is an explanation of language development emphasizing the role of social interaction between the developing child and linguistically knowledgeable adults. It is based largely on the socio-cultural theories of Soviet psychologist Lev Vygotsky, and made prominent in the Western world by Jerome Bruner. Another key idea within the theory of social interactionism is that of the zone of proximal development. Briefly, this is a theoretical construct denoting the set of tasks a child is capable of performing with guidance, but not alone.

**Relational frame theory**[ edit ] Main article: Based upon the principles of Skinnerian behaviorism, RFT posits that children acquire language purely through interacting with the environment. RFT theorists introduced the concept of functional contextualism in language learning, which emphasizes the importance of predicting and influencing psychological events, such as thoughts, feelings, and behaviors, by focusing on manipulable variables in their context. Empirical studies supporting the predictions of RFT suggest that children learn language via a system of inherent reinforcements, challenging the view that language acquisition is based upon innate, language-specific cognitive capacities. According to these theories, neither nature nor nurture alone is sufficient to trigger language learning; both of these influences must work together in order to allow children to acquire a language. The proponents of these theories argue that general cognitive processes subserve language

acquisition and that the end result of these processes is language-specific phenomena, such as word learning and grammar acquisition. The findings of many empirical studies support the predictions of these theories, suggesting that language acquisition is a more complex process than many believe. In the s within the Principles and Parameters framework, this hypothesis was extended into a maturation-based Structure building model of child language regarding the acquisition of functional categories. In this model, children are seen as gradually building up more and more complex structures, with Lexical categories like noun and verb being acquired before Functional- syntactic categories like determiner and complementiser. One influential proposal to the origin of these errors is as follows: In Bare-Phrase structure Minimalist Program , since theory-internal considerations define the specifier position of an internal-merge projection phases vP and CP as the only type of host which could serve as potential landing-sites for move-based elements displaced from lower down within the base-generated VP structure " e. Internal-merge second-merge establishes more formal aspects related to edge-properties of scope and discourse-related material pegged to CP. See Roeper for a full discussion of recursion in child language acquisition. The Pisa Lectures , the acquisition of syntax resembles ordering from a menu: An especially dramatic example is provided by children who, for medical reasons, are unable to produce speech and, therefore, can never be corrected for a grammatical error but nonetheless, converge on the same grammar as their typically developing peers, according to comprehension-based tests of grammar. Binary parameters are common to digital computers, but may not be applicable to neurological systems such as the human brain. It is unclear that human language is actually anything like the generative conception of it. Since language, as imagined by nativists, is unlearnably complex,[ citation needed ] subscribers to this theory argue that it must, therefore, be innate. While all theories of language acquisition posit some degree of innateness, they vary in how much value they place on this innate capacity to acquire language. Empiricism places less value on the innate knowledge, arguing instead that the input, combined with both general and language-specific learning capacities, is sufficient for acquisition. The anti-nativist view has many strands, but a frequent theme is that language emerges from usage in social contexts, using learning mechanisms that are a part of a general cognitive learning apparatus which is what is innate. This position has been championed by David M. Philosophers, such as Fiona Cowie [47] and Barbara Scholz with Geoffrey Pullum [48] have also argued against certain nativist claims in support of empiricism. The new field of cognitive linguistics has emerged as a specific counter to Chomskian Generative Grammar and Nativism. Statistical learning in language acquisition Some language acquisition researchers, such as Elissa Newport , Richard Aslin, and Jenny Saffran , emphasize the possible roles of general learning mechanisms, especially statistical learning, in language acquisition. These findings suggest that early experience listening to language is critical to vocabulary acquisition. From the perspective of that debate, an important question is whether statistical learning can, by itself, serve as an alternative to nativist explanations for the grammatical constraints of human language. Chunking[ edit ] Chunking theories of language acquisition constitute a group of theories related to statistical learning theories, in that they assume the input from the environment plays an essential role; however, they postulate different learning mechanisms. The central idea of these theories is that language development occurs through the incremental acquisition of meaningful chunks of elementary constituents , which can be words, phonemes , or syllables. Recently, this approach has been highly successful in simulating several phenomena in the acquisition of syntactic categories [57] and the acquisition of phonological knowledge. They showed that toddlers develop their own individual rules for speaking with slots, into which they could put certain kinds of words. A significant outcome of the research was that rules inferred from toddler speech were better predictors of subsequent speech than traditional grammars. Language acquisition almost always occurs in children during a period of rapid increase in brain volume. At this point in development, a child has many more neural connections than he or she will have as an adult, allowing for the child to be more able to learn new things than he or she would be as an adult. It has been determined, through empirical research on developmentally normal children, as well as through some extreme cases of language deprivation, that there is a " sensitive period " of language acquisition in which human infants have the ability to learn any language. Several findings have observed that from birth until the age of six months, infants can discriminate the phonetic contrasts of all languages. Researchers believe that this gives infants the ability to

acquire the language spoken around them. After such an age, the child is able to perceive only the phonemes specific to the language learned. The reduced phonemic sensitivity enables children to build phonemic categories and recognize stress patterns and sound combinations specific to the language they are acquiring. In the ensuing years much is written, and the writing is normally never erased. After the age of ten or twelve, the general functional connections have been established and fixed for the speech cortex. Deaf children who acquire their first language later in life show lower performance in complex aspects of grammar. Researchers are unable to experimentally test the effects of the sensitive period of development on language acquisition, because it would be unethical to deprive children of language until this period is over. However, case studies on abused, language deprived children show that they were extremely limited in their language skills, even after instruction. However, during infancy, children begin to babble. Deaf babies babble in the same order when hearing sounds as non-deaf babies do, thus showing that babbling is not caused by babies simply imitating certain sounds, but is actually a natural part of the process of language development. However, deaf babies do often babble less than non-deaf babies and they begin to babble later on in infancy begin babbling at 11 months as compared to 6 months when compared to non-deaf babies. There have been many different studies examining different modes of language acquisition prior to birth. The study of language acquisition in fetuses started back in the late s when different researchers discovered that very young infants could discriminate their native language from other languages. In Mehler et al. These results suggest there are mechanisms for fetal auditory learning, and other researchers have found further behavioral evidence to support this notion. Fetus auditory learning through environment habituation has been seen in a variety of different modes, such as: Some researchers in the field of developmental neuroscience would argue that fetal auditory learning mechanisms are solely due to discrimination in prosodic elements. Although this would hold merit in an evolutionary psychology perspective i. This ability to sequence specific vowels gives newborn infants some of the fundamental mechanisms needed in order to learn the complex organization of a language. From a neuroscientific perspective, there are neural correlates have been found that demonstrate human fetal learning of speech-like auditory stimulus that most other studies have been analyzing Partanen et al. In this same study, there was "a significant correlation existed between the amount of prenatal exposure and brain activity, with greater activity being associated with a higher amount of prenatal speech exposure," pointing to the important learning mechanisms present before birth that is fine-tuned to features in speech Partanen et al. Before anything the learner needs to be able to hear what they are attempting to pronounce. Another is the capacity to engage in speech repetition. If a child knows fifty words or less by the age of 24 months, he or she is classified as a late-talker and future language development, like vocabulary expansion and the organization of grammar, is likely to be slower and stunted. Word segmentation, or the segmentation of words and syllables from fluent speech can be accomplished by eight-month-old infants. Specifically, learning to sit independently between 3 and 5 months has been found to predict receptive vocabulary at both 10 and 14 months of age, [90] and independent walking skills have been found to correlate with language skills around 10 to 14 months of age. Studies have also shown a correlation between Socio-Economic-Status and vocabulary acquisition. It has been proposed that children acquire these meanings with the use of processes modeled by latent semantic analysis ; that is, when they meet an unfamiliar word, children can use information in its context to correctly guess its rough area of meaning. Markman and others have proposed that children assume words to refer to objects with similar properties "cow" and "pig" might both be "animals" rather than to objects that are thematically related "cow" and "milk" are probably not both "animals". In terms of genetics, the gene ROBO1 has been associated with phonological buffer integrity or length. Kuniyoshi Sakai proposed, based on several neuroimaging studies, that there may be a "grammar center", where language is primarily processed in the left lateral premotor cortex located near the pre central sulcus and the inferior frontal sulcus. Additionally, these studies proposed that first language and second-language acquisition may be represented differently in the cortex. Even the number of times an examinee blinked was taken into account during the examination process. It was concluded that the brain does in fact process languages differently, but instead of it being directly related to proficiency levels, it is more so about how the brain processes language itself. The specialization of these language centers is so extensive that damage to them results in a critical condition known as aphasia.

## 7: Linguistics -- Lecture 23 -- First Language Acquisition

*Gleason and Ratner () argue that theories which attempt to explain first language acquisition must account for some facts about the phenomenon. 1- Children learn language rapidly. In only a few years, they progress from no language comprehension or production to almost adult capacity.*

At first Halle worked on a generative phonology of Russian and published his work in *The Sound Pattern of English*. Their collaboration culminated with the publication of *The Sound Pattern of English* in 1969. Lees was technically the first student of the new TGG paradigm. The program immediately attracted some of the brightest young American linguists. Jerry Fodor and Jerrold Katz, both graduates of the Ph.D. program, made major contributions to the nascent field of TGG. Within the theoretical framework of TGG, G. Applegate worked on the German noun phrase. Lees and Klima looked into English pronominalization. Matthews and Lees worked on the German verb phrase. We were all more or less nativist, and all more or less mentalist. One could get right to the substantive issues. So, from that point of view, it was extremely exciting. In June 1965, he delivered a series of lectures at the Linguistic Institute of the Linguistic Society of America; these were later published in *Topics in the Theory of Generative Grammar*. All of these activities aided to develop what is now known as the "Standard Theory" of TGG, in which the basic formulations of Syntactic Structures underwent considerable revision. In 1965, eight years after the publication of *Syntactic Structures*, Chomsky published *Aspects* partly as an acknowledgment of this development and partly as a guide for future directions for the field. Overview of topics[ edit ] As British linguist Peter Hugoe Matthews noted in his review [9] of the book, the content of *Aspects* can be divided into two distinct parts: Chapter 1 is concerned with the psychological reality of language and the philosophy of language research, and the rest of the chapters deal with specific technical details within generative grammar. The goal of linguistic theory[ edit ] Competence vs. Linguistic competence and Levels of adequacy In *Aspects*, Chomsky lays down the abstract, idealized context in which a linguistic theorist is supposed to perform his research: In this sense, the grammar is justified on external grounds, on grounds of correspondence to linguistic fact. Grammaticality For Chomsky, "grammaticalness is In this way, a theory of "degree of grammaticalness" can eventually be developed. Instead of making catalogs and summaries of linguistic behavioral data demonstrated on the surface i. The mentalist approach to linguistics proposed by Chomsky is also different from an investigation of the neurophysiological mechanisms underlying language. It is about abstractly determining the properties and functions of such mechanisms. The syntactic component consists of a base and a transformational component. The base, in turn, consists of a categorial subcomponent and a lexicon. The base generates deep structures. A deep structure enters the semantic component and receives a semantic interpretation; it is mapped by transformational rules into a surface structure, which is then given a phonetic interpretation by the rules of the phonological component. This theory of grammar would later come to be known as the "Standard Theory" ST. The base subcomponent[ edit ] The base in the syntactic component functions as follows: In the first step, a simple set of phrase structure rules generate tree diagrams sometimes called Phrase Markers consisting of nodes and branches, but with empty terminal nodes; these are called "pre-lexical structures". In the second step, the empty terminal nodes are filled with complex symbols consisting of morphemes accompanied by syntactic and semantic features, supplied from the lexicon via lexical insertion rules. The resulting tree diagram is called a "deep structure". Firstly, the notion of kernel sentences a class of sentences produced by applying obligatory transformational rules was abandoned and replaced by the notion of "deep structures", within which negative, interrogative markers, etc. This elegantly simplified the generation of "surface" sentences, whereas in the previous model, a number of successive optional transformational rules had to be applied on the kernel sentences to arrive at the same result. Secondly, the addition of a semantic component to the grammar marked an important conceptual change since *Syntactic Structures*, where the role of meaning was effectively neglected and not considered part of the grammatical model. Among the more technical innovations are the use of recursive phrase structure rules and the introduction of syntactic features in lexical entries to address the issue of subcategorization. Syntactic features[ edit ] In Chapter 2 of *Aspects*, Chomsky discusses the problem of subcategorization of lexical categories and

how this information should be captured in a generalized manner in the grammar. He deems that rewriting rules are not the appropriate device in this regard. As a solution, he borrows the idea of features use in phonology. A lexical category such as noun, verb, etc. A set of "subcategorization rules" then analyzes these symbols into "complex symbols", each complex symbol being a set of specified "syntactic features", grammatical properties with binary values. Syntactic feature is one of the most important technical innovations of the Aspects model. Most contemporary grammatical theories have preserved it. Significance[edit] Linguistics UCLA linguist Tim Stowell considers Aspects to be "effectively the most important foundational document of the field" of transformational generative grammar TGG, providing "the definitive exposition of the classical theory of TGG" the so-called Standard Theory". First, one must build a computational theory of the problem. And then one must construct an algorithm that implements it. Marr likened the computational theory of an information processing problem to the notion of "competence" mentioned in Aspects. Chomsky himself addressed these issues at around the same time early 1960s and updated the model to an "Extended Standard Theory", where syntax was less autonomous, the interaction between the syntactic and the semantic component was much more interactive and the transformations were cyclical.

### 8: Language Acquisition Theory | Simply Psychology

*Children's acquisition of language is an amazing feat. Children master the syntax, the sentence structure of their language, through exposure and interaction with caregivers and others but, notably, with no formal tuition.*

### 9: Language acquisition - Wikipedia

*Language acquisition is the process by which humans acquire the capacity to perceive and comprehend language, as well as to produce and use words and sentences to communicate.*

*Logo Design 4 (Graphis Logo Design) Constitution and by-laws of the Chicago Dental Society with code of ethics Elizabeth Kandel Englander. Mike Males. Dennis D. Embry. Mary E. Muscari. Alfred Blumstein. John Rosemond The tragedy of Montiville The Revolution Will Not Be Televised Revised Ed Chapter 2. Dispensing optician The Christian right in context Quality management at the federal level Individual existence and the philosophy of difference Robert Stern Strindberg and Shakespeare Seeing the world with one eye The Discreet Charm of the Police State Speech on Literary Property Delivered in the House of Commons, 18th May, 1837 Agriculture : the big change Rick Steves Europe Planning Map Songs of Milarepa Mastering Windows programming with Borland C 4 Indian Fairy Tales (Large Print Edition) Strategic disclosure requirements and the ethics of bioethics Virginia A. Sharpe The creative pattern book OPEN LETTERS, EDITORIALS COMMENTARY Latino Elders and the Twenty-First Century Liberty and peace TV artist Jerry Yarnell paints landscapes in acrylic Theological Essays and Other Papers; Volume 2 Southern Africa: Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Republic of South Africa, Rhodes Gothic cathedrals and sacred geometry. Christs Passion, Our Passions Philadelphia Impressions Designing 360-degree feedback to enhance involvement, self-determination, and commitment Ellen Van Velsor Talking with tech leads Through no fault of their own: systems for handling redundancy in Britain, France and Germany: a. P.E.P. Bank in corporate groups : ownership and affiliation Astrid Lindgren, a critical study Lithuanian-Ruscommonwealth, the Polish domination, and the Cossack-Hetman state The impact of income taxation on the ratio between reservation and market wages and the incentives for la Under the tower of Babel St. Petersburg, Constantinople, and Napoli di Romania in 1833 and 1834 Legionellae control in health care facilities Songs of the Gorilla Nation (My Journey Through Autism)*