

## Noam Chomsky

Noam Chomsky is perhaps the best known and the most influential linguist of the second half of the Twentieth Century. He has made a number of strong claims about language : in particular, he suggests **that language is an innate faculty** - that is to say that we are born with a set of rules about language in our heads which he refers to as the 'Universal Grammar'. The universal grammar is the basis upon which all human languages build. If a Martian linguist were to visit Earth, he would deduce from the evidence that there was only one language, with a number of local variants. Chomsky gives a number of reasons why this should be so. Among the most important of these reasons is the ease with which children acquire their mother tongue. He claims that it would be little short of a miracle if children learnt their language in the same way that they learn mathematics or how to ride a bicycle. This, he says, is because :

1. Children are exposed to very little correctly formed language. When people speak, they constantly interrupt

themselves, change their minds, make slips of the tongue and so on. Yet children manage to learn their language all the same.

2. Children do not simply copy the language that they hear around them. They deduce rules from it, which they can then use to produce sentences that they have never heard before. They do not learn a repertoire of phrases and sayings, as the behaviourists believe, but a grammar that generates an infinity of new sentences.
3. Children are born, then, with the **Universal Grammar** wired into their brains. This grammar offers a certain limited number of possibilities - for example, over the word order of a typical sentence.

It is as if the child were offered at birth a certain number of hypotheses, which he or she then matches with what is happening around him. He knows intuitively that there are some words that behave like verbs, and others like nouns, and that there is a limited set of possibilities as to their ordering within the phrase. This is not information that he is taught

directly by the adults that surround him, but information that is given. It is as if the traveller were provided at the beginning of his journey with a compass and an astrolabe.

This set of language learning tools, provided at birth, is referred to by Chomsky as the **Language Acquisition Device**. (Notice that he uses the term "acquisition" rather than learning).

How did you learn to speak your native language? Notice, this shouldn't be such a puzzling question. We often ask questions such as, do you remember when did you learned to tie your shoes, ride a bike, and eat with a fork. Sometimes we can remember because a parent helped us learn how to do these things. Now, since we always speak the language of our parents, they must have helped us learn to speak our first language. But do you remember when your mother taught you the past tense? When your father laid down the rules for passive sentences? We don't remember these important moments of our childhood because they never occurred. Our parents didn't teach us how to walk and they didn't teach us how to talk. Yet

we learned from them. How can this be? Certainly there must have been a subtle, perhaps intuitive teaching process that neither our parents nor we were aware of. We begin by imitating what we hear our parents say as best we can, repeating random phrases. Our parents in subtle ways punish us for the childish speech errors we make (by not responding, correcting the error, etc.) and reward correct phrases (by responding positively). As our speech improves, our parents respond more positively and less negatively. No?

First, let's examine the assumption that children begin speaking by trying to repeat what they have heard their parents say. Have you ever heard a child say things like this:

1a	Daddy go
1b	He hitted me
1c	No eat cake

Who did they hear utter such phrases? Daddy go is an attempt to express 'Daddy is going'. But if the child were merely trying to repeat this common phrase, choosing random two-word combinations, he or she would also occasionally say Daddy is or

simply is going? Yet these two phrases do not occur as normal speech errors of children while Daddy go is a common one. Second, research shows that while mothers often respond to the semantic content of what their children say ('No, that's not a doggie, it's a cow'), they very rarely respond to the grammatical status of their children's phrases. Indeed, when parents do respond to speech errors, they most often respond positively. Here are a few advanced errors from the history of my family. What do you think our response was—correction or laughter (which I take to be a positive response)?

2a.	Mama, mama, there's a tree-knocker in the back yard!
2b.	It's raining, where is the underbrella?
2c.	Give me the beach-lookers! (binoculars)

In fact, parents themselves make grammatical errors when they speak. Despite the fact that children don't know when their parents are speaking grammatically and when they are making errors, all children grow up knowing (if not always speaking) the language perfectly. So how do we learn to speak?

Take a look at example No. 1b above for a clue. Although hitted is not a word children hear adults utter, it is wrong for an interesting reason: the verb, in a sense, has the 'right' ending on it for the past tense. In other words, the only way a child learning language could make such an error is that he or she is learning a rule that derives past tense verbs from verb stems. What the child hasn't mastered at this stage is the exceptions to the rule. Notice also that the words in the erroneous phrases are all in the correct order. No child would say go Daddy for 'Daddy is going' cookie mommy for 'Mommy's cookie'. By the time a child begins putting two words together, he or she has already mastered the basic rules of syntax and applies them correctly even in their erroneous speech. It takes the child a little longer to master the rules of morphology. The evidence then indicates that children do, in fact, absorb a massive number of sentences and phrases but rather than parrot them back, they abstract rules from them and create their own grammar which they then apply to create new utterances they have never heard before. Over the years from 2-7, when language is mastered, children constantly adjust

their grammar until it matches that of the adult speaker population. This critical period between the ages of 2-7 suggests that (first) language learning, like walking, is an innate capacity of human beings triggered by a level of development more than feedback from the environment. That is, so long as a child hears a language-any language-when they reach this critical period they will learn it perfectly. If this is true, any child not hearing language during this period not only should not learn to speak but also should not be able to learn to speak. The ethical implications of research on this question are obvious. However, there have been a few tragic non-scientific bits of evidence that supports the innateness + critical period hypothesis.

If I wanted to start the course off with a silly pun, I could say 'Learning a language is a child's game'. But perhaps it is more accurate to say 'Creating a language is a child's game'. Let us look at an example of how a language may be created :

Pidgin

- - reduced syntax and vocabulary

- - often no fixed order of words, with considerable variation from one speaker to another
- - used purely as a language of communication
  - - not lived in
  - - no-one speaks a pidgin as a mother tongue

But a pidgin can become a language - **Creole**. How does this happen?

According to Derek Bickerton, who has reconstructed the process of creolisation in Hawaii, it takes one generation. When children begin to use a pidgin, they automatically enrich the vocabulary and the syntax - it becomes a full language. The community of young children in Hawaii took the pidgin used by their parents - workers from China, Japan, Korea, Portugal, the Philippines and Puerto Rico - and created a language. According to the followers of the American linguist, Noam Chomsky, this can stand as an emblem for what the process of acquiring a language consists in - at least for a mother tongue. The child does not learn the language, but creates it anew.

Does this have anything to tell us about learning a foreign language?

## Chomsky's critics

Those linguists who do not agree with Chomsky point to several problems, of which I shall mention just four.

- (1) Chomsky differentiates between competence and performance. Performance is what people actually say, which is often ungrammatical, whereas competence is what they instinctively know about the syntax of their language - and this is more or less equated with the Universal Grammar. Chomsky concentrates upon this aspect of language - he thus ignores the things that people actually say. The problem here is that he relies upon people's intuitions as to what is right or wrong - but it is not at all clear that people will all make the same judgements, or that their judgements actually reflect the way people really do use the language.
- (2) Chomsky distinguishes between the 'core' or central grammar of a language, which is essentially founded on the UG, and peripheral grammar. Thus, in English, the fact that

'We were' is considered correct, and 'We was ' incorrect is a historical accident, rather than an integral part of the core grammar - as late as the 18th Century, recognised writers, such as Dean Swift, could write 'We was ...' without feeling that they had committed a terrible error. Similarly, the outlawing of the double negation in English is peripheral, due to social and historical circumstances rather than anything specific to the language itself. To Chomsky, the real object of linguistic science is the core grammar. But how do we determine what belongs to the core, and what belongs to the periphery? To some observers, all grammar is conventional, and there is no particular reason to make the Chomskian distinction.

- (3) Chomsky also appears to reduce language to its grammar. He seems to regard meaning as secondary - a sentence such as 'Colourless green ideas sleep furiously' may be considered as part of the English language, for it is grammatically correct, and therefore worthy of study by Transformational Grammarians. A sentence such as 'My mother, he no like bananas', on the other hand, is of no interest to the

Chomskian linguist. Nor would he be particularly interested in most of the utterances heard in the course of a normal lecture.

(4) Because he disregards meaning, and the social situation in which language is normally produced, he disregards in particular the situation in which the child learns his first language.

(5) That some kinds of migratory birds navigate thousands of miles toward their destination by calibrating the positions of stars against time of day and year, poses no serious problem for many scientists, who can easily attribute this amazing success to the birds' instinctive behaviour is apparent, after all, that these animals cannot learn such complicated astronomical facts through a trial and error fashion; they neither have enough time nor necessary cognitive capacity.

The same scientists, however, including some professional linguists, are quite reluctant to attribute any form of instinct to human infant, who arrives at complex linguistic knowledge within a remarkably short period of time. The

infant's is no less a complicated task than that of the bird's as the linguists themselves have spent decades (or even centuries) to discover the intricacies of the very same system and with no final theory. Infants, on the other hand, not only arrives at an almost complete knowledge of grammar in their brains (brain+mind) but also accomplish this task within less than a decade.

Although a human infant and a migratory bird are essentially alike in terms of the complexity of the task to be accomplished and their inability to handle the task with their current cognitive capacity, only the latter is believed to rely on its instincts.

There are, of course, some differences between an animal and a human baby; it would be unwise to equate the cognitive capacities of the two. And it is also impossible to underscore the importance of environmental factors in child language acquisition. After all, thousands of hours of exposure is required in order for a child to acquire his mother tongue, whereas animals like sonar-using bats or web-building spiders

seem to be ready to use their instinctive knowledge with minimum, if any, learning experience. It is equally unwise, however, to suggest that a cognitively immature child can accomplish a task which has yet to be accomplished by professional linguists.

A child may well not have grasped the property of conservation of volume nor be able to perform but the most rudimentary arithmetic calculations, yet will have the knowledge linguists formulate as the binding principles, none of which has been explicitly taught.

## **The Universal Grammar Theory**

Among theories of language acquisition, Universal Grammar (UG) has recently gained wider acceptance and popularity. Though noted among L2 acquisition theories, the defenders of UG are not originally motivated to account for L2 acquisition, nor for first language (L1) acquisition. However, UG is more of an L1 acquisition theory rather than L2. It attempts to clarify

the relatively quick acquisition of L1s on the basis of 'minimum exposure' to external input. The 'logical problem' of language acquisition, according to UG proponents, is that language learning would be impossible without 'universal language-specific knowledge' (Cook, 1991:153; Bloor & Bloor: 244). The main reason behind this argument is the input data:

"...Language input is the evidence out of which the learner constructs knowledge of language - what goes into the brain. Such evidence can be either positive or negative. ... The positive evidence of the position of words in a few sentences the learner hears is sufficient to show him the rules of a language." (Cook, 1991: 154)

The views supports the idea that the external input per se may not account for language acquisition. Similarly, the Chomskyan view holds that the input is poor and deficient in two ways. First, the input is claimed to be 'degenerate' because it is damaged by performance features such as slips, hesitations or false starts. Accordingly, it is suggested that the input is not an adequate base for language learning. Second, the input is

devoid of grammar corrections. This means that the input does not normally contain 'negative evidence', the knowledge from which the learner could exercise what is 'not' possible in a given language.

As for L2 acquisition, however, the above question is not usually asked largely because of the frequent failure of L2 learners, who happen to be generally cognitively mature adults, in attaining native-like proficiency. But why can't adults who have already acquired an L1, acquire an L2 thoroughly? Don't they have any help from UG? Or if they do, then how much of UG is accessible in SLA? These and similar questions have divided researchers into three basic camps with respect to their approach to the problem:

**Direct access** -L2 acquisition is just like L1 acquisition. Language acquisition device (LAD) is involved.

**No access** - L2 learners use their general learning capacity.

**Indirect access** - Only that part of UG which has been used in L1 acquisition is used in L2 acquisition.

Proponents of UG, for example, believe that both children and adults utilize similar universal principles when acquiring a language; and LAD is still involved in the acquisition process. This view can be better understood in the following quote.

Advocates of UG approach working on second-language learning... argue that there is no reason to assume that language faculty atrophies with age. Most second-language researchers who adopt the UG perspective assume that the principles and parameters of UG are still accessible to the adult learner.

To support the view above, the acquisition of the third person “-s” can be given as an example. According to research both child L1 and adult L2 learners (e.g. Turkish learners of English) acquire the third person “-s” morpheme at a later stage of their overall acquisition process and have a great

difficulty in acquiring it when compared to other morphemes such as the plural morpheme “-s” or the progressive morpheme “-ing”. This shows that such learners are somewhat affected by UG-based knowledge. However, in the case of foreign/second language teaching it is very well known that the third person “-s” is taught at the very beginning of a second language learning program and presented in a great majority of textbooks as the first grammatical item.

In summary, UG has generated valuable predictions about the course of interlanguage and the influence of the first language. Also, it has provided invaluable information regarding L2 teaching as to how L2 teachers (or educational linguists) should present vocabulary items and how they should view grammar. UG shows us that language teaching should deal with how vocabulary should be taught, not as tokens with isolated meanings but as items that play a part in the sentence saying what structures and words they may go with in the sentence. The evidence in support of UG, on the other hand, is not conclusive. If the language module that determines the success

in L1 acquisition is proved to be accessible in L2 acquisition, L2 teaching methodologists and methods should study and account for how to trigger this language module and redesign their methodologies. The UG theory should, therefore, be studied in detail so as to endow us with a more educational and pedagogical basis for mother tongue and foreign language teaching.

## Chomsky - the Evidence

### 1) Acquisition under extreme conditions

#### Neurological evidence

Language functions do appear to be localised in the brain, much as we would expect were Chomsky to be correct in his surmise that language is innate. However, language functions appear to be distributed throughout the brain, and in normal use, the whole brain is brought into play. It is also important to recognise that although neurobiologists now know a lot about

the brain, there is also a lot that is not known. The brain is an extremely complex organism.

### Normal development of L1 in young children

We saw that Chomsky is certainly mistaken in believing that children hear only partial and ungrammatical sentences. Studies of the ways in which parents, and particularly mothers, interact with their babies and infants show that they use a special kind of language, and take great care to speak in full correct sentences to their children. Nevertheless, the rapidity with which children do learn their mother tongue does suggest that there may be some underlying mechanism that fits them for this task.

It is necessary to note that children in some cultures are not spoken to by their parents directly, and yet they learn their mother tongue all the same. Pinker suggests that the neurotic behaviour of Western middle-class mothers is a parallel to that observed in some African societies, where mothers are very anxious to teach their children to sit up.

## 2) Language learning under extreme conditions

### Wild Children

From time to time, there appear in our midst beings who challenge our conception of what it means to be human. These beings are often referred to as wild children or wolf children. They are often tragic figures, offering glimpses of what might have been, of fully human intelligence that somehow does not enable them to live a social life. **This is particularly true if they are already through puberty when they are found.** They suggest to us that there may be a '**critical age**', an age beyond which any child who has somehow missed out on learning a language will never completely master one.

- For example, Victor, the wild boy of Aveyron, found when he was about 11 years old, never learnt to speak, although he could understand, and could read a little.
- Kamala, of Midnapore, found at the age of 8, was able to speak a little, and to communicate through sounds.

The most striking recent case, however, is rather more ambiguous in its results:

In 1970, two women, one of them suffering from cataracts, and partially blind, stumbled into the social services bureau of Temple City, in California, bringing with them a child. At first, the staff thought that the child was about 6 or seven years old, and that she was autistic - she weighed four stone, and stood 4' 6" high. She did not appear to talk.

On further investigation, she turned out to be 13 years old. She could understand some words - about 20, including the colours, red, blue, green and brown, the word 'Mother' and some other names, the verbs 'walk' and 'go' and a few other nouns, such as 'door' or 'bunny'. She could say only two things - 'Stopit', and 'Nomore'.

Why was she in this condition? When she had been about 20 months old, her father, who was suffering from a severe depression, sparked off by the accidental and brutal death of his mother, decided that she was severely retarded, and that she needed protection from the world. This protection he

provided by shutting her up in a small bedroom, and leaving her there for the next eleven years.

Genie was attached to a potty by a special harness for most of the day, and then, at night, she would be fastened into a sleeping bag, unable to move her arms, and put into a cot. There was very little sound in the house, for the father forced the rest of the family to speak in whispers. If Genie herself attempted to make any noise, her father would beat her with a stick. On those occasions upon which he felt the need to communicate with his daughter, her father would bark or growl like a dog.

Genie had very little visual or physical stimulation. Hung up in the room were a couple of plastic raincoats, and she was sometimes allowed to play with them. Other small toys - plastic containers, or the TV journal - were sometimes given her. Her feeding was swift and silent, and she had eaten nothing but baby foods and cereals - she did not know how to chew.

Genie was immediately surrounded by a team of scientists. These people were particularly interested in her progress in language. Would she ever learn to speak?

According to the neuropsychologist, Eric Lenneberg, in his book *Biological Foundations of Language*, 1967, the capacity to learn a language is indeed innate, and, like many such inborn mechanisms, it is circumscribed in time. If a child does not learn a language before the onset of puberty, the child will never master language at all. This is known as the **critical period hypothesis**. If Lenneberg was right, then Genie, at over 12 years old, would never be able to speak properly. If, on the other hand, she did learn to produce grammatically correct sentences, then Lenneberg was wrong.

At first, a number of the people working with her were convinced that she was going to demonstrate the falsity of the critical period hypothesis. One year after her escape, her language resembled that of a normal 18-20 month old child. She could distinguish between plural and singular nouns, and between positive and negative sentences. She was producing two-word sentences, and sometimes sentences of three words.

It is at this point that the language of the normal child begins to take off - there is a sudden qualitative change, and the infant learns not only more and more vocabulary, but also more and more complex grammar. But with Genie, this did not happen.

Four years later, she still had not mastered negation, and was stuck at the 'No' + V + Object stage. And although she appeared to understand WH- questions, she was incapable of producing them correctly. Instead, she would say things like -

- "Where is may I have a penny?"
- "I where is graham cracker on top shelf?"

In Chomsky's terms, she appeared to be unable to use 'movement' - that is, the capacity to reorganise the underlying declarative sentence.

- Genie also continued to confuse her pronouns, using 'you' and 'me' interchangeably. She was unable to learn that she should say 'Hello' in response to 'Hello', and was unable to understand 'Thank you'. The words 'Stopit', and 'Nomore', which she had already known, were addressed to herself, and never to anyone else. Although she craved

social contact, she was unable to achieve it through language.

So had Genie's case proven that Chomsky and Lenneberg were right? No, she had not. Lenneberg himself observed that **Genie's personal history was so disastrous, that it would not be at all clear why she had been unable to make more progress.** It could be that she had been so emotionally damaged by her father's treatment that all learning processes would be interfered with.

Others suggested that perhaps her father had been right in judging that she was mentally abnormal. Brain scans had shown some unusual features - in particular that Genie's brain was dominated by her right hemisphere. Language is mainly situated in the left hemisphere. Was it her brain that was interfering with her language, or was it the lack of linguistic stimulation, and resulting under utilisation of the left hemisphere that had resulted in right brain dominance?

Genie's lack of progress with language is, as so often with the evidence that I have quoted, capable of interpretation either in

a Chomskian framework, or in line with Bruner's ideas. Her experience does suggest that, over a certain age, any child who has not learnt a language will have great difficulty in acquiring one. Lenneberg's hypothesis is not proven, but it is strongly supported. Is there further evidence?

### 3) Evidence from mother-tongue acquisition

Now let us look at how children actually do learn language.

They may begin to learn in the womb. We know that they react to their mothers' voices from birth - they have been listening to her over the last three months of pregnancy. However, the first noticeable active vocal activity begins at about 8 weeks - the baby begins to coo - at first producing individual sounds, but later stringing them together in a rhythmical pattern. Then, at around 20 weeks, the baby diversifies the sounds she is producing, and gradually starts babbling. Babbling involves a selection process.

- in the first stage, the child appears to produce the whole gamut of sounds used by human beings in the production of speech - it is the tower of Babel indeed.

Bit by bit, however, the range of sounds used narrows down, and the child concentrates more and more upon the sounds used by the mother tongue. She is listening to you. So what is being said to her?

We remember that Chomsky claims that children only hear very partial and ungrammatical input. It is now known that this claim is almost certainly false - **adults in our culture, when speaking to children, take great care to phrase their utterances correctly.** This is probably not because they are thinking primarily about offering the correct syntactic model, but because they are aiming for clarity of expression. It has been noticed that **mothers and other caretakers**, when speaking to children, adopt **a certain number of specific verbal strategies.** The style of speech that they use is sometimes referred to as '**Motherese**', although non-sexist linguists prefer to call it '**caretaker talk**'. What are the characteristics of this kind of language?

1. Simplified in grammar and meaning
2. Shorter sentences - from about 8 words per sentence to four, when speaking to two year olds

3. More restricted range of sentence patterns
4. Expansion and repetition of sentences
5. Slower speech
6. Use of special words and sounds
7. High pitch
8. Large number of questions and utterances with high rising intonation - looking for feedback.
9. Embedded in the here and now.

So **the language that children hear is by no means necessarily partial and ungrammatical.** It has been suggested that these characteristics offer the child such clear samples of language, that there is no need to posit a Chomskian black box, or UG. However, supporters of the UG approach point out that -

- Grammatical forms in **caretaker language are not as simple** as they may appear.
  - large number of Wh- forms.
- Moreover, no-one has yet found a close correlation between language used by caretakers, and language produced by children.

- **Not all social groups adapt their speech to young children**

In Samoa, for example, adults very rarely speak directly to their children, and among some black communities in the US, it is considered a waste of time to speak to children who are too young to give sensible replies - why talk to them, they don't know anything yet? And yet, these children also learn language.

- **Children do not simply repeat the language they hear from their caretakers**

Not only do they fail to copy the utterances their mothers give them, they also produce utterances that they have never heard, and use structures that they have never heard.

- When mothers interact with their young children, they appear to pay very little attention to the grammatical correctness of their youngsters' utterances. They correct wrong information, and not wrong grammar. So, Roger Brown reports the following dialogue :

Child : Mamma isn't boy, he a girl.

Mother : That's right.

Child : And Walt Disney comes on Tuesday.

Mother : No he does not.

Indeed - and this is of direct interest to language teachers - correction of grammatical form appears to be a waste of time.

The mistakes that the child makes do not appear to be simply random errors. Linguists argue that they are not, in fact, ungrammatical, but that they are based upon the child's own grammar. Interestingly enough, all children tend to make the same kinds of mistakes at roughly the same period in their linguistic development. For example, English-speaking children working on negation go through a predictable sequence :

First the negative words 'No' and 'Not' appear as single word sentences.

These combine with other words to form two-word sentences - 'No car', 'Not gone' etc.

During third year - negative words used within constructions

“You no do that, Mummy”

“You not got it”

while negative auxiliaries also appear. - Won't, can't

Greater accuracy - not replaces no. Double negatives are used  
for emphasis

Use of any, hardly, scarcely acquired during early years of  
school.

As we shall see, there are interesting similarities between this  
sequence, and the sequence of acquisition of the negation  
in English by second-language learners.

Followers of Chomsky claim that the regularity of these errors,  
and the fact that they are not based upon what the child  
hears, demonstrate that they are derived from the  
Universal Grammar. The child works through from the  
simplest possibilities offered by the UG to the more  
complex, until his own grammar is the same as the  
grammar of the mother-tongue. The claim is almost  
that the child does not make mistakes, but simply has a  
different grammar to the grammar of the adult

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**Source:**

[https://www2.vobs.at/ludescher/ludescher/lacquisition/  
nativist/nativist%20theory.htm](https://www2.vobs.at/ludescher/ludescher/lacquisition/nativist/nativist%20theory.htm)