

## THE HUMAN LANGUAGE SERIES #1

### Discovering the Human Language “Colorless Green Ideas”

**People seen in this film** (professional linguists unless otherwise noted):

Mark Aronoff (SUNY-Stony Brook)	Jeff Leer (U. of Alaska)
Russell Baker (author, essayist)	Alvin Liberman (U. Conn., Haskins)
Roy Byrd	Philip Lieberman (Brown U.)
George Carlin (Humorist)	David McNeill (U. of Chicago)
Noam Chomsky (MIT)	George Miller (Princeton)
Suzette Haden Elgin (San Diego State U.)	Frederick Newmeyer (U. of Washington)
Jerry Fodor (CUNY Graduate Center)	Steven Pinker (MIT)
Leila Gleitman (U. of Pennsylvania)	Thomas Sebeok (Indiana)
Steven Jay Gould (biologist, Harvard)	Dan Slobin (UC Berkeley)
Judith Klavans (CUNY Graduate Center)	Deborah Tannen (Georgetown)
Howard Lasnik (U. of Connecticut)	Lewis Thomas (biologist, essayist)
Mary Laughren (Australia)	

### SOME ISSUES THAT THE FIELD OF LINGUISTICS ADDRESSES

#### Questions from the beginning of the film

- What is language? (Miller)
- Is language simple or is language complex? (Gleitman)
- How can [a child acquiring a language] learn so much from so little? (Fodor)
- How does a child know what a word is? (Byrd)
- How is it that we can so alter our thought patterns so as to fit into the linear arrangement of any language? (Slobin)
- What specific biological endowment could we have that allows us to do this? (Fodor)
- Is there some core of properties true of all human languages? (Gleitman)
- How do people interact with language—how do people do what I am now doing? (Chomsky)
- People don't think when they speak, they just speak. (Aronoff)
  
- Why are languages filled with rules we all follow without knowing why? (film narrator)  
(An asterisk \* indicates an utterance that is not found in normal, or “grammatical” speech.)
  - “The big red balloon.” *but not* “\*The red big balloon.” [people are asked why]
  - [French] “Un gros balon rouge.” *but not* “\*Un gros rouge balon.” (French woman in film)
  - “Three big round red plastic balls.” *but not* other orderings of the adjectives (Pinker)
  - “Stop and go traffic.” *but not* “\*Go and stop traffic.” (Carlin)
  - “reclimb, reinstitutionalize” *but not* “\*refall down” (Aronoff)
  - “Don't rouse up the natives.” *but not* “\*Don't rouse up them.” (Slobin)
  - “That John left surprised me” *but not* “\*John left surprised me.” (Fodor)
  - “It's the same old story.” *but not* “\*It's the old same story.” (Tannen)

Language is the most human thing about being human, yet most people don't think much about it. Traditionally linguists have studied the history, vocabulary, and grammar of the world's languages. Within our generation, new theories have revolutionized our thinking. Today linguists ask questions about how we use language and how language functions inside the human mind. (film narrator)

There have been 3 major revolutions in linguistics (Newmeyer):

(1) [about 200 years ago] The realization that sound change is regular; you can work out changes languages have gone through over time, reconstruct ancient languages, and talk about language change in a precise way.

(2) [about turn of the 20th century] Not just language change, but languages themselves are systematic and rule governed.

(3) [1957] Chomsky published the book *Syntactic Structures*, which asks the question, “What is a possible human language?” There are abstract mental processes governing language. This moved linguistics away from studying sentences which were already produced to the question of what is the human potentiality for producing sentences. (Lasnik)

“The language faculty is a subsystem of the human brain. ... That organ of the brain yields language under the right set of conditions. ... it is determined by our biological endowment and is invariant across the species.” (Chomsky)

The capacity of language for infinite “creativity” from finite resources

The most elementary property of language is that we can produce new sentences never said before (Chomsky); the point of language is to produce and understand things you never heard said before (Gleitman); each language has about 40 sounds and a limited number of words, but it can produce an unlimited number of sentences and sentences never heard before (Miller); with a small number of words, we can make an infinite number of sentences (Aronoff).

**Example:** Senator Joseph McCarthy — “That’s the most unheard of thing ever heard of.” (Baker)

**WHAT IS A WORD, HOW DOES A CHILD KNOW WHAT A WORD IS?**

*kiss* is a word, but so is *kissed*

Klavans—People can’t say what a word is. (Film shows a number of people who are unable to provide a definition.)

One possible definition: “The smallest separate piece of a language that all by itself will have a meaning.” (Elgin)

**BUT**—There are words which themselves are composed of smaller parts that have a meaning, e.g. “kick-ed”. *-ed* certainly is not a word (Lasnik)

- “And I didn’t do that.”—is *n’t* a word? (Klavans)
- *antidisestablishmentarianism*—interesting because everyone thinks it is the longest word, but there are many longer words, mostly chemical terms (Aronoff), e.g. longest word in Webster’s 7th: *pneumonoultramicrospoilcovolcanokoniosisiosis* ‘a disease that miners get from breathing microscopic rock particles’ (Byrd)
- “Pre and suf are prefixes; suf is the prefix of suffix; is fix the suffix for prefix and suffix.” (Carlin)
- There are meanings for which there may not be words (what is the indentation below your nose called?) and things we recognize as words but which we have no meaning for (“apodictic” is a word, but what does it mean?—Lieberman)

- Languages may have words with meanings not shared by other languages: Mujinga—from a language of Zaire meaning “a child born with umbilical cord all over her body”
- Words can have whole sentences wrapped up in one word
  - “generous” (Lewis Thomas)
  - Slobin cites a single Turkish word *avrupalılaştıramadıklarımızdormusunuz* which means “Are you one of those that we have not been able to Europeanize?”
  - Leer cites an Eskimo word meaning “Don’t you want to go window shopping with me?”

Another possible definition: “A word is the sequence of letters between two blanks.” (Byrd)

**BUT**—What about speech?—there are no blanks in spoken language. (Aronoff)

- “Ommonia” means “I’m leaving”. (Carlin)
- Bob Hope & Bing Crosby singing “Mairsy dotes and dotesy dotes and little lamsy divey.”
- “Wacha wanna do now.” (Aronoff)

MAYBE THE HARDEST THING THAT THE MIND HAS TO DO TO BREAK SPOKEN LANGUAGE INTO WORDS; MILLIONS HAVE BEEN SPENT TRYING TO GET MACHINES TO DO THIS, BUT A CHILD BY AGE ONE CAN DO IT WITHOUT TRAINING. (Aronoff)

### **WORDS AS CONCEPTS, BUT WHAT IS A CONCEPT?**

Concepts are slippery objects; words stand for things, but “tree” doesn’t stand for one tree but the concept of tree. (Aronoff)

“Are there concepts that we need not invent because we are born already knowing them?”

“THE MARBLE AND THE BOX.”

Given two marbles, one in box, one outside, which is “near the box”? How does a child know that a marble that is in a box cannot be near the box? (Chomsky)

(Film shows small children and adults, all independently agreeing that the marble must be outside the box to be “near” it.

The concept of box that we develop is an obscure one. It includes the interior, but it does not matter what is in the interior. This is an abstract concept—there is no evidence that the child has available that the “box” is not just its surface (indeed, an invented concept, such as a “cube” in geometry, *does* refer only to the surface). (Chomsky)

### **SENTENCES**

• In everyday conversation we are enormously created. It is virtually certain that any 20 word sentence has never been uttered or heard before. (Miller)

- “Boy, one more minute of those hatlice and I’d be fried shish kebab.” (little boy)
- “I’m going over the softball game and beat up Hitler’s widow.” (Carlin)
- General Alexander Haig—“There is a conscious castration of America’s eyes and ears around the world.”—Nobody could have spoken that sentence before Haig. (Baker)

- Calculating number of word combinations: if there were, say, 10 possibilities for each consecutive word of a sentence, after 10 words, there would be 10 to the 10th power word combinations. (Miller)

- “... and in that cat he had a little little rat ...” (little boy)
- “This is the office I work in.”—“This is the desk that sits in the office I work in.”—“This is the clutter that’s piled on the desk that sits in the office I work in.”—there is no limit on how long we could prolong this. (Lasnik)

One of the basic formal properties that allows for infinite creativity is the ability to put a sentence into yet a larger sentence. (Lasnik)

“*There is no longest sentence.*”

“Some short sentences can be used over and over.” (Miller)

- “Five for a dollar, it takes two seconds.”
- “Do you John take Mary in holy matrimony so long as you both shall live?”

But short sentences can be improbable too, e.g. “Short sentences can be improbable, too.”

## **SYNTAX: WORDS AND GRAMMAR**

“We have a system that is very strict in many ways but allows a great deal of freedom as long as you stay within the bounds of the system.” We have a very small number of rules and between them you can make up an infinite number of sentences. (Aronoff)

The beginnings of Science are the capacity to be amazed by simple things. By allowing oneself to be puzzled by a simple question, such as why things fall down rather than flying into space, science begins. (Chomsky)

Such a simple question is ...

“How did sound and meaning ever get linked together?” These are two unlike things. What biological event could link these? Answer: The creation of *grammar*—grammar is the system which allows the mismatched elements, sound and meaning, to be linked to each other. (Newmeyer)

### **The independence of the grammatical structure of a sentence and the events that it portrays**

- “The first task of grammar is to organize words in a line one after another.”

“An event is about to take place [lady falls off cable car]. Will we report in the order that it occurred? Is there a natural order to events?”

- “A woman fell from the cable car.” *but* What came first, the woman or the cable car?
- “The boy kicked the ball.” *but* The boy, the kicking, and the ball form a unitary event.
- It seems that when speak that we report them in the order they occurred, but in reality events do not occur bit by bit. (Slobin, Lasnik)
- “This is one of the puzzles of syntax, that the form of a sentence is often independent of its meaning.” (Lasnik)

- “Boy, ball, and kick can occur in any order in language. In reality they occur simultaneously.” (Slobin)
- “One of the major tasks of language is to take a meaning which is essentially atemporal and non-linear and arrange it in linear order to make different kinds of points.” (Slobin)

**The independence of form and meaning: a sentence can be grammatical but meaningless**

“Does the form of a sentence depend on its meaning?”

*“Colorless green ideas sleep furiously.”*

(A small industry has been spawned around this sentence—poems, songs, etc. Chomsky)

If you try this sentence on a child, the child will giggle but accept it. If you try, “Furiously sleep ideas green colorless,” the child would stare blankly instead. It doesn’t matter what the words are for a sentence to be a sentence of English. (Lasnik, Chomsky)

**UNIVERSAL GRAMMAR**

- “Syntax—no other animal seems to have it.” We have to assume that something that is so much at the basis of human achievement is an evolved capacity. (Gould)
- You *inherit* many of the principles and processes in your language. The 5000 or so languages are very similar. (Lasnik)
- From the human point of view we are all very different, but from the point of view of some Martian, we would all look alike, just as from the human point of view, all frogs look alike. From the frog point of view, frogs look very different from each other. (Chomsky)
- The differences between human languages is trivial compared to the differences between human languages and other animal communication systems. (Gleitman)

There are two major ground plans in building a language: (Slobin)

(1) Relying on the order of words to convey the meaning of your overall thought, e.g. English.

(2) Changing the ending of words one by one and then shuffling them around., e.g. Latin—*cattum columina sustinet* ‘the column holds up the cat’, *cattus columinam sustinet* ‘the cat holds up the column’.

How many use (1) vs. (2)? Most languages use a little of each; it may change over time back and forth. (Miller) English is more like (1) but may be moving toward (2)—’ve (would’ve, could’ve). (Slobin)

**Warlpiri**—Mary Laughren (lived with Warlpiri in Australia for over a decade)

Warlpiri is interesting for testing what is universal in language because “it has been spoken in isolation from non-Australian languages for possibly up to 60,000 years.”

“Being nomads, Warlpiris value things they can carry in their heads rather than on their backs, like language. They value the subtle use of language.” [Nonsense! All societies value the subtle use of language!—RGS]

Warlpiri is an inflecting language—a language of type (2)—in which word order doesn’t matter—example from, “The boy kicked the ball,” where words can occur in any order.

“However different languages may seem on the surface, underneath they seem to be cut out of the same pattern.”—Compare faces—each has eyes, a nose, a mouth, yet every human face is uniquely identifiable. (Slobin)

### **SOME THINGS LANGUAGE IS NOT GOOD FOR: THE INDEPENDENCE OF LANGUAGE AND THOUGHT**

“Just how good is language at doing the job it was designed to do? If it is just a biological adaptation, then you would expect as for other biological adaptations that there would be limits on fit between the job that it does and the job that it was designed to do.” (Fodor)

- How well can language describe a person, describe a face? (Miller)
- David McNeill—“spiral”—How can you describe a spiral; you must use a gesture; you could use language, but it would take a complex set of sentences (attempt by Lieberman)
- “That’s a very leafy tree.”—How leafy is it? (Miller)
- giving directions—a map is much better: Jonathan Winters—“You go on down a good hundred miles and take a right—or is it a left?” (Carlin)

“There are fine thoughts which are not expressible with language. Language has structure, and anything with structure and design has intrinsic limits. If it had no structure and design, it would be useless for anything. A hammer has structure which makes it good for some things but not others.” (Chomsky)

NONETHELESS—Though a map is good for giving directions and “a picture is worth a thousand words”, there are many subtle things that we can do with language that we cannot do any other way. (Fodor)

### **ARBITRARINESS OF THE RELATIONSHIP BETWEEN FORM AND MEANING**

Subtlety in language comes from the words themselves, which can be associated with anything. (Miller)

- Language is abstract, you can talk about things that aren’t really there, e.g. *form*, *truth*, *love*, *gump*. (Aronoff)
- “That’s not a ‘light’, that’s a ‘lulu’—‘Turn the lulu on.’” (Sid Cesar);
- Kids know this—“gump is cereal!” (Aronoff’s son)
- “tree” if you speak English, “Baum” if you speak German (Chomsky)
- *dinosaur*, *pancakes*, *infrastructure*
- Arabic: many words for camel (several examples)
- boat terminology (Aronoff and sailor)
- terms for armor
- *lunch*, *elliptical*, *pumpkin*

### **THE ABILITY OF LANGUAGE TO EXPRESS ABSTRACT IDEAS**

- “Language provides words to say anything we can think.” (Fodor)  
[IS THIS TRUE?—RGS]
- “Language can express conditions as you wish them to be, as they might be, as they were at one time, as they will be in the future—animals cannot do this.” (Sebeok)

- Language can express negation and counter-to-fact thoughts. Try to draw a picture of “There’s not a giraffe standing beside me.” (Fodor)

Language has given us an ability to think abstractly, which no other animal can do. Because we can think abstractly, we don’t have to talk about what is in our immediate environment. We can plan for the future, we can create art, we can create complex social organizations. All these things are possible because we can think abstractly. (Newmeyer)

[Again, is this true—do we need language for abstract thought?—RGS]

### **SOME CONCLUSIONS ABOUT LANGUAGE AND LINGUISTICS**

- Language can be studied from many points of view: linguistic specialties—structure of words, structure of sentences, structure of connected discourse. (Slobin)
- Linguistics provides the most accessible window on the human brain given that we cannot cut open brains to investigate vision, perception, etc. (Newmeyer)
- Is language simple or is it complex? Answer: It is simple for those creatures who have evolved to use it. (Gleitman)
- A child in a language environment will develop language in the same way as other aspects of human growth. (Chomsky)
- “I take it as the current task of linguistics to ask the question about language, ‘How much of it is built in and in what way, and how much of it must be learned by exposure to the environment of speaking people?’” (Gleitman)

