The Language Instinct Study Guide

The Language Instinct by Steven Pinker

BOOKRAGS

Contents

Plot Summary

Steven Pinker is a linguist, author, cognitive scientist, and experimental psychologist. Pinker is known as a student and proponent of Noam Chomsky's work, with the exception that Pinker does not believe that language is the by-product of other adaptations.

Pinker begins the book by saying: "As you are reading these words, you are taking part in one of the wonders of the natural world. For you and I belong to a species with a remarkable ability: we can shape events in each other's brains with exquisite precision." Chap. 1, p. 15

Pinker is not speaking about telepathy, mind control, or any other inventions created by fringe science. Pinker refers to language and how it can cause the mind to think about certain things.

Pinker says the book is not about proper usage, idioms or any other commonly found topic. Instead, the book is about the basic need and desire to learn language, to speak and to understand.

English is a wacky language. It defies logic. Pinker discusses George Bernard Shaw's logic that according to certain principles in the English language, "ghoti" could easily be pronounced "fish." Pinker asserts that only institutional inertia prevents our culture from using a phonetic system.

Pinker believes that language is an instinct, not necessarily a skill. Children learn to speak without formal education or the knowledge of all the underlying facts and rules that apply to language.

A great deal of the book is centered on how children learn to use language, whether is it spoken language or sign language. Both are rooted in the left hemisphere of the brain. The ability to master language is neither fully affected by heredity or environment. Pinker shows how children are born with the ability to have complex thoughts including certain mathematic skills. Therefore, language must be an instinct that is innate and not something that creates complex thought.

Pinker explores in great detail that there was once one language and that all language has derived from that language, changed over time by generational alterations, descent, and location.

Pinker is fond of his use of diagrams, which are used to show in depth models of noun phrases, linguistic trees, brain function and much more.

At the end of the book, the reader has a firm grasp on the theory that language is an instinct and that while linguists, scientists and experimental psychologists have not yet

isolated the section of the brain that handles subfunctions of language, they most likely do exist.

Pinker looks forward to more brain imaging technologies and the ability to learn more about the language instinct.

Chapter 1: An Instinct to Acquire an Art

Chapter 1: An Instinct to Acquire an Art Summary and Analysis

Chapter 1: An Instinct to Acquire an Art

Pinker begins the book by saying: "As you are reading these words, you are taking part in one of the wonders of the natural world. For you and I belong to a species with a remarkable ability: we can shape events in each other's brains with exquisite precision." Chap. 1, p. 15

Pinker is not speaking about telepathy, mind control, or any other inventions created by fringe science. Pinker refers to language and how it can cause the mind to think about certain things. Pinker uses three examples to prove this point. By using language, people can collectively use their powers to achieve incredible things.

People are so accustomed to using language that when they are alone they talk to themselves, their house pets or plants.

Pinker says the book is not about proper usage, idioms or any other commonly found topic. Instead, the book is about the basic need and desire to learn language, to speak and to understand.

English is a wacky language. It defies logic. Pinker discusses George Bernard Shaw's logic that according to certain principles in the English language, "ghoti" could easily be pronounced "fish." Pinker asserts that only institutional inertia prevents our culture from using a phonetic system.

Pinker believes that language is an instinct, not necessarily a skill. Children learn to speak without formal education or the knowledge of all the underlying facts and rules that apply to language. A child learning to speak can be compared to a spider learning to spin a web. It is not because the spider has been taught. It is merely instinct and the fact that the spider has a spider's brain.

Language as an instinct goes against popular wisdom. It is not a cultural invention; nor is language a shaper of thought.

Charles Darwin first addressed language in "The Descent of Man" because of the fact that language was used only by humans. This went against Darwin's theory of evolution. Darwin developed the following conclusion: "that language ability is 'an instinctive tendency to acquire an art. '" Chap. 1, p. 20

It is also pointed out that animals also possess a language of their own, it simply does not contain speech.

Pinker discusses Noam Chomsky, the linguist who discovered the intricacy of the language system and is often thought of as the person who is most responsible for the modern revolution in cognitive science and modern language. Chomsky pointed out that there are two fundamental facts about language. 1. Every sentence spoken is a new combination of words. 2. Children develop language sills without formal instruction. Children are equipped with a Universal Grammar which tells them how to create and distill syntactic patterns in their parents' speech.

"It is a curious fact about the intellectual history of the past few centuries that physical and mental development have been approached in quite different ways." Noam Chomsky, Chap. 1, p. 22

Chomsky and fellow linguists performed painstaking analyses to prove their theories that mental grammars were present underneath a person's knowledge of particular languages as well as the Universal Grammar. This work encouraged many other linguists to explore other areas of language study including speech perception, genetics and neurology. Chomsky therefore divided groups of scientists into two groups - the zealots and those that adhered to the Standard Social Science Model.

Pinker states that while Chomsky has had a great deal of influence on his work, the book is not dictated by Chomsky.

Chapter 2: Chatterboxes

Chapter 2: Chatterboxes Summary and Analysis

Chapter 2: Chatterboxes

Pinker talks about the discovery of civilization in New Guinea in 1930. A prospector, searching for gold, had stumbled upon the mesa on which a previously unidentified tribe was living. The people approached the prospector and his team, jabbering with excitement all the while. The "jabbering" was actually a previously unknown language. Other civilizations would be similarly discovered and observed throughout the 1960s. Pinker tells how the tribe observed these people to determine if they were reincarnated ancestors or gods. It was soon determined that they were equally human.

"The universality of complex language is a discovery that fills linguists with awe, and this is the first reason to suspect that language is not just any cultural invention but the product of a special human instinct." Chap. 2, p. 26

Pinker discusses the differences in vernacular and compares Standard American English to Black English Vernacular. It is also explained that while language - in whatever form - is universal, it does not mean that it is innate.

Pinker follows a tail of evidence that will show how particular languages arose. The first example is the introduction of pidgin - a language that is formed by intermingling words and phrases from different languages so that people of different cultures are able to understand each other. The mystery is that some of the pidgin languages formed into complex grammatical languages while others did not. However, pidgin is not restricted to spoken language as can be seen in the recently developed sign language of Nicaragua.

"When deaf infants are raised by signing parents, they learn sign language in the same way that hearing infants learn spoken language." Chap. 2, p. 37

Despite one subject's poor education in learning American Sign Language, the child understood complex words and phrases without much difficulty. The child's skills were much improved over his parents. This can also be seen in spoken language generation after generation.

One of the issues faced by those learning languages is that words are formed into sentences and phrases and therefore, the learner is never taught the order of the words or that the order can be changed to create questions from declarative statements.

If language is a specific instinct, then it should have a seat in the brain or a specific set of relative genes. If a person's seat or genes are damaged, then the person's language would also be damaged. However, no such place has been found to date. Pinker uses

an example of a man who was affected by a stroke and the change in his language skills.

"Injuries in adulthood are not the only ways that the circuitry underlying language can be compromised." Chap. 2, p. 48

Pinker also discusses people afflicted by Williams syndrome, a form of mental retardation that affected a person's motor skills but does not hamper language skills. In fact, the language skills seem to be more complex and varied.

Chapter 3: Mentalese

Chapter 3: Mentalese Summary and Analysis

Chapter 3: Mentalese

This chapter begins with Pinker talking about George Orwell's 1984. After 1984 passed, it seemed that Orwell's predictions were not going to come true. What many people did not realize is that Orwell's predictions went much farther. The real changes would take place before 2050 when "Newspeak" would be prevalent in society, replacing "Oldspeak." Newspeak would be an adaptation of the language that would eliminate certain meanings of certain words; all negative connotations toward politics and government would be removed. When the old language is replaced, the thoughts that had accompanied those words would also cease to exist.

This is not an uncommon theory. As it is, many politicians and marketing firms engage in doublespeak - using words that soften images and meanings of words. The change in these words is meant to soften a person's perceptions.

Orwell does offer some hope by saying that perhaps no all thought is ruled by language.

"The idea that thought is the same thing as language is an example of what can be called a conventional absurdity: a statement that goes against all common sense but that everyone believes because they dimly recall having heard it somewhere and because it is so pregnant with implications." Chap. 3, p. 57

Pinker gives several examples of this fact, including the myth that people only use 5% of their brains.

Pinker gives a brilliant example of doublespeak and how one attempts to use it to change a person's perception or to avoid saying what one really means. The example comes from the famous Monty Python Dead Parrot sketch. An irate customer comes into a pet store to complain that there is something wrong with his parrot.

"This parrot is no more. It has ceased to be. It's expired and gone to meet its maker. This is a late parrot. It's a stiff. Bereft of life, it rests in peace. If you hadn't nailed it to the perch, it would be pushing up the daisies. It's rung down the curtain and joined the choir invisible. This is an ex-parrot." Chap. 3, p. 58

When we read, we remember the gist of what was read, not the exact words. Pinker believes that there must be a gist that is different from remembering the exact words. Otherwise, how can new words be formed? How could translations be possible?

"As we shall see in this chapter, there is no scientific evidence that language dramatically shapes their speakers' ways of thinking." Chap. 3, p. 58

Franz Boas argued that non-industrial people were not savages - they had systems of language, culture and knowledge. This can be seen in the language systems of Native Americans. Although the language system is not the same as SAE, it is equally valid, and by many opinions, much simpler.

Whorf's theory is disproven by showing a translation from Mark Twain.

Language is compared to colors, showing paradox.

"People can be forgiven for overrating language." Chap. 3, p. 67

It is also shown that one does not need language to understand certain concepts like mathematics. Pinker shows three examples of this, including an example with babies. People seem to think in mental images using visual stimulation, not words.

How can one make sense of the fact that images, numbers, logic and relations can be made without words? Philosophers in the early twentieth century said it made no sense. It was no possible, they said, to rectify thoughts without words because it defied logic.

Pinker describes the process of reasoning and how it is related to a processor - or something that has a fixed number of reflexes. This creates a type of primitive reasoning.

Pinker says that knowing language is knowing how to translate mentalese into words and vice versa.

Pinker returns to 2050. Mental life goes on independent of languages. Therefore, concepts of equality and freedom will continue even if there aren't words to define or express them. Additionally, there are more concepts than words so the listener must make inferences and decisions. Lastly, children do not settle for recycling their parents grammar and usage and must go beyond it, creating a new language.

Chapter 4: How Language Works

Chapter 4: How Language Works Summary and Analysis

Chapter 4: How Language Works

Language conveys news. It is important for a person to understand who did what to whom, as shown in the oft-used example that "dog bites man" is not news but "man bites" dog is news.

These principles are related to two "tricks." The first, articulated by Ferdinand de Saussure is the arbitrariness of the sign, which discusses the conventional combination of sound and meaning. The second trick is shown with an example from Wilhelm Humboldt, who says that language "makes infinite use of finite media." Chap. 4, p. 84

Pinker goes on to explain that people use a code to translate the order of words. This code is known as generative grammar, which is different from stylistic grammar and pedagogical grammar.

Pinker defines the main principle of grammar: "The principle underlying grammar is unusual in the natural world. A grammar is an example of a "discrete combinatorial system." A finite number of discrete elements (in this case, words) are samples, combined, and permuted to create larger structures (in this case, sentences) with properties that are quite distinct from those of their elements." Chap. 4, p. 84

This combinatorial system is compared to DNA. Grammar is unlike many complex systems we see because the majority of complex systems are blending systems. In a blending system, the properties lie between the elements and those elements are lost when combined.

Pinker states it simply. Language works because each person's brain contains a lexicon of concepts and words and a set of rules that is used to combine the words to convey concepts.

Pinker gives many examples of combinations and explains how and why each makes sense although they clearly defy grammatical rules taught in school.

Pinker uses the Markov model to show how word-chain devices are employed.

Chomsky showed that word-chain devices are suspicious and the wrong way to think about the way language operates. There are three problems that illuminate how language really works. The first is that a sentence spoken in English is a different thing than a string of words put together according to probability. When people learn to speak

a language, they learn how to put words together but those words are not required to be put together according to a list.

Pinker shows how to use a word tree to create phrases.

"Phrase structure, clearly, is the kind if stuff language is made of." Chap. 4, p. 103

Pinker shares some misconceptions regarding Universal Grammar, including nouns and verbs are they are taught to schoolchildren. Also included are noun phrases, x-bars and syntax.

Pinker says that the real news lies in the fact that syntax has greatly influenced psychology because it has shown that the mind's complexity is not created through learning; learning is caused by the mind's complexity.

Chapter 5: Words, Words, Words

Chapter 5: Words, Words, Words Summary and Analysis

Chapter 5: Words, Words, Words

"Who could not be dazzled by the creative power of the mental grammar, by its ability to convey an infinite number of thoughts with a finite set of rules?" Chap. 5, p. 126

Pinker states that the world of words is as equally fascinating as the world of syntax and that memorizing certain words takes a special skill.

People are taught to form certain tasks in their minds when it comes to words and syntax. When tested it is shown that adults have a much more difficult time using unfamiliar words when they try to decide how to add suffixes. This leads Pinker into discussing morphology - the morphing of words to fit into particular sentence structure or syntax as well as creating compound words.

Morphology is a fascinating system with a clever design. Pinker describes the presence of morphemes, delicate parts of words that fit together in specific ways. The diagrams show how stems, roots and inflections work together.

Some words, however, take on new sounds when stems are added. For example, electric plus the suffix -ity changes the hard c to a soft c. Otherwise, it would be pronounced "electrick itty."

Pinker also delves into wordplay which allows people to create ridiculous and nonsensical words, which then invites parody.

Pinker explains the messy patterns in irregular plurals such as mouse-mice and man-men as well as irregular past tenses such as drink, drank, drunk, while some words simply add the suffix -ed. Thousands of years ago, the Proto-Indo-European language, which is the ancestor to the English language, simply changed a vowel to create a past tense rather than adding a suffix. While that rule is no longer in use, the words have remained.

Pinker also discusses how children learn specific words and how they must learn the meaning of those words as if they are learning from a tribe of natives.

Chapter 6: The Sounds of Silence

Chapter 6: The Sounds of Silence Summary and Analysis

Chapter 6: The Sounds of Silence

Pinker talks about an experiment while he was at McGill University regarding audio perception. The test was to use two tones and stream them simultaneously to learn if the tones remained separate or blended together. Pinker received some strange results that he did not understand. Years later it all made sense to Pinker. The tones blended together to create a sound that resembled computerized speech. The brain is wired to hear certain noises in a phonetic way even if it is not speech. This is how mynah birds are able to fool people. The sounds made by the mynah are simple sounds but are perceived as speech by the listener. It is not speech, it is an illusion.

Pinker discusses speech as an illusion: "All speech is an illusion. We hear speech as a string of separate words, but unlike the tree falling in the forest with no one to hear it, a word boundary with no one to hear it has no sound." Chap. 6, p. 159

The sounds one hears within a word are also an illusion. Pinker states that if a person would cut up a tape of someone saying "cat," there would not be separate pieces for each letter. Likewise, if the tape was run backwards, you would not hear the person say "tack."

Speech perception, according to Pinker, is another biological miracle. Pinker explains how a person hears, at what rate, and how those phonemes are perceived.

The sounds related to language are linked together in several steps.

"One easy way to understand speech sounds is to track a glob of air through the tract into the world, starting in the lungs." Chap. 6, p. 163

When a person speaks, air departs from the usual breathing pattern. The speaker takes in quick breaths of air and then releases each steadily. Syntax plays a large role in how one overrides carbon dioxide. If it did not, a person would hyperventilate or suffer from hypoxia. This is why it is difficult to speak while jogging and why public speaking becomes difficult for some people.

Pinker explains the entire process by which one breathes, releases the breath and creates sound. Speech requires a combination of biological functions to be formed and expressed.

All languages have phonological rules. Pinker explains why and how this is true, including the fact that it makes pronunciation easier to achieve.

Slovenliness of speakers is also addressed. Pinker quotes from Richard Lederer's "Howta Reckanize American Slurvian."

"Language lovers have long bewailed the sad state of pronunciation and articulation in the United States. Both in sorrow and in anger, speakers afflicted with sensitive ears wince at such mumblings as guvmint for government and assessories for accessories. Indeed, everywhere we turn we are assaulted by a slew of slurrings." Chap. 6, pp. 179-180

Oddly enough, bumpkins that say such things as "nothin' doin'" are more likely to fully pronounce other words like police properly while intellectuals do not.

Phonological redundancy helps people to understand words that should not be able to be understood on their own. Pinker uses the example that a person will be able to read "yxx cxn xndxrstxnd whxt x xm wrxtxng xvxn xf x rxplxcx xll thx vxwxls wxth xn "x."

Why is it that we can fly to the moon but a computer cannot take accurate dictation? It is due to the fact that people's voices are different and phonemes sound different depending on the way the person speaks and uses them. When a person speaks rapidly, many of the phonemes are lost altogether.

When listening to a speaker, people have expectations about what they will hear. Oftentimes that perception causes problems.

Pinker discusses "mondegreens," words people often think they hear. Pinker uses several amusing examples such as "A girl with colitis goes by" ("a girl with kaleidoscope eyes"); "Our Father wishart in Heaven, Harold by the name;" "Lead us not into Penn Station;" "I'll never be your pizza burnin'" ("I'll never be your beast of burden"); and so forth.

Mondegreens are usually less plausible than the actual words being spoken and do not meet a person's expectations. However, mondegreens do conform to English phonology and sometimes they conform to syntax and vocabulary.

Pinker discusses DragonDictate, a computerized voice recognition program which seems to have the best success rate. It uses the highest rate of probability regarding phonemes as well as anticipating phonological rules.

Chapter 7: Talking Heads

Chapter 7: Talking Heads Summary and Analysis

Chapter 7: Talking Heads

"For centuries people have been terrified that their programmed creations might outsmart them, overpower them, or put them out of work." Chap. 7, p. 192

Many fears of automation are misplaced. The automated forms of artificial intelligence are extremely limited in what they can do. These machines do not have the same mental capacity of a four year old child who can recognize a person's face or pick up a pencil. When it comes to artificial intelligence, complex problems are easy; easy problems are complex. For example, AI cannot understand language in the same way as a person so it cannot answer questions like "Do zebras wear underwear?"

Programs have been created and many tests run on creating understand in AI systems. However, these systems operate on probabilities and substitutions. If a person does not speak in an unexpected way, the process gets bogged down and often fails. Pinker explains the difference between speaking and understanding.

Parsing is explained via a series of diagrams.

The thing that often confuses the human parser is trying to remember phrases that fit the rules while analyzing the sentence being spoken. This is particularly true when the speaker is saying something that may make sense but does not necessarily adhere to the most common rules. However, computer parsers are too meticulous. They find rules that do not apply but those rules would never occur to an average person. In other words, computers often come up with bizarre alternatives.

"Since most sentences are ambiguous, and since laws and contracts must be couched in sentences, the principles of parsing can make a big difference in people's lives." Chap. 7, p. 217

Another issue is that people often speak in fragments or they might change their train of thought or use of words midsentence. This is why journalists often have to edit heavily before publishing an interview or the quote would most likely make no sense.

Chapter 8: The Tower of Babel

Chapter 8: The Tower of Babel Summary and Analysis

Chapter 8: The Tower of Babel

Pinker refers to the Tower of Babel several times in the preceding chapters. The beginning of the chapter starts with a lengthy quote from Genesis, which begins:

"And the whole earth was of one language, and of one speech." Chap. 8, p. 231

The gist of the passage is that the people built the Tower of Babel to be close to Heaven. God felt threatened by the mounting power of the people so he cast them around the world and created many languages so that the people would be confounded and could not confer with each other.

There have been many theological debates regarding this story and the confounding of the language. Chomsky states that a Martian might think that all of the languages sound the same. Many have asked themselves where the languages came from as there are 4,000-6,000 languages worldwide. Pinker points out the most conspicuous ways in which many languages differ from the English language.

1. The English language is an isolating language. It creates sentences by arranging word-sized units. Many other languages use modifiers that agree with number, person, and gender.

2. English is a "fixed-word-order" system in which each sentence or phrase has a fixed position. Other languages, known as "free-word-order" languages permit the order in a phrase to vary. Unlike the English language, all sentences are synonymous despite the order of the words.

3. The English language is an "accusative" language. This means that the subject of an intransitive verb is treated the same as a transitive verb. Pinker refers to Basque, which is an "ergative" language which has a different way of treating these verbs.

4. The English language is a "subject-prominent" language. All sentences are required to have a subject.

5. The English language is an "SVO" language. This refers to the subject-verb-object (example: Dog bites man) versus languages like Japanese which is a subject-object-verb (SOV) language (Dog man bites) or Gaelic which is a verb-subject-object (VSO) language (Bites dog man).

6. In English, a noun can be used to name anything in a sentence. Other languages are referred to as "classifier" languages in which nouns are attached to a gender.

Pinker discusses the hundreds of patterns that have been found in languages from around the world. These universals do not vary freely, however. This does not mean that language is restricted by the structure of the brain. Pinker rules out two alternative possibilities.

The first possibility is that all languages originated at one time. The languages that have developed are variants of that original language (as suggested in the Tower of Babel) and therefore have universal features. This could explain similarities in certain alphabets. If all languages stemmed from the same route, the major differences in languages should correlate to branches in a linguistic tree.

The second possibility one must rule out is that the universals might be creates through universal forms of thought that are not specific to language. For example, the words for colors might come from color vision.

Pinker returns to Chomsky's comment about Martians.

"Chomsky's claim that from a Martian's-eye-view all humans speak a single language is based on the discovery that the same symbol-manipulating machinery, without exception, underlies the world's languages." Chap. 8, p. 237

Linguists know that basic design features of language are found everywhere. Many examples were provided by C.F. Hockett who documented the difference between human and animal language systems.

Pinker examines the six un-English traits from earlier in the chapter.

Pinker asserts that once there is more than one language, ethno-centrism does the rest.

Pinker quotes Darwin:

"The formation of different languages and of distinct species, and the proofs that both have been developed through a gradual process are curiously parallel. We find in distinct languages striking homologies due to community of descent, and analogies due to a similar process of formation... Languages, like organic beings, can be classed in groups under groups; and they can be classed either naturally, according to descent, or artificially by other characters." Chap. 8, p. 241

Darwin goes on to say that once a language is extinct, it will never reappear.

Pinker states that languages have three reasons for variances: These include time, isolation, and heredity.

Pinker also discusses the importance of genes in learning language. He is careful to point out, however, that genetics do not empower or impede one's ability to learn and master language.

Chapter 9: Baby Born Talking - Describes Heaven

Chapter 9: Baby Born Talking - Describes Heaven Summary and Analysis

Chapter 9: Baby Born Talking - Describes Heaven

The chapter begins with a tabloid story that states "Baby Born Talking - Describes Heaven" and various incarnations of that story which have appeared over the years. While the story is obviously a sensational piece of fiction, it causes Pinker to wonder why, if babies are born with the language instinct, does it take them almost three years to speak in complete grammatical sentences.

"All infants come into the world with linguistic skills." Chap. 9, p. 263

It is thought that children are also aware of their mother's language and respond accordingly.

Pinker discusses the importance of babbling and how it is present even in deaf children who sign rather than speak.

Pinker asserts that babies are born with the equipment but without an instruction manual. Babbling is the first sign that they are beginning to fiddle with knobs and switches to find out how things work.

Pinker follows the natural progression of speech in babies and toddlers. Parents must remember that many irregular words cannot be calculated but must be memorized.

Deaf children and non-speaking children may have extreme difficulty when presented with only one source of language. This is particularly true when that one source is not "Motherese."

Pinker discusses how children area guided to learn words and phrases.

Pinker moves through the linguistic lifestyle, turning to adults.

"Everyone knows that it is much more difficult to learn a second language in adulthood than a first language in childhood. Most adults never master a foreign language, especially the phonology - hence the ubiquitous foreign accent." Chap. 9, p. 290

Critical periods of learning are discussed.

Pinker says that language acquisition may be similar to other biological functions. Perhaps our inability to speak other languages well is payment for excellent linguistic skills as babies just as old age is payment for the vigor of youth.

Chapter 10: Language Organs and Grammar Genes

Chapter 10: Language Organs and Grammar Genes Summary and Analysis

Chapter 10: Language Organs and Grammar Genes

Pinker discusses a scientific discovery from 1861 in which it was proven that aphasic patients tended to have lesions in the left side of the brain. This was shown too many times to be coincidence. Further studies showed that the majority of language skill is centered in the left brain. Not only is the ability to speak affected by issues in the left brain but all language in general, including sign language.

Pinker discusses how the brain works and how it is separated into hemispheres. However, pinpointing specific centers for specific linguistic functions has proven to be frustrating at best.

Pinker states: "From the standpoint of what the brain is designed to do, it would not be surprising if language subcenters are idiosyncratically tangled or scattered over the cortex." Chap. 10, p. 315

Some of the areas of the brain may have redundant skills. Pinker hopes that someday there will be a way to localize mental processes as brain imaging technologies are developed and improved.

Until those technologies are developed and improved it seems that it is highly unlikely that linguists and scientists will be able to unearth which part of the brain is responsible for certain aspects of language.

"We will never understand language organs and grammar genes by looking only for postage-stamp-sized blobs of brain. The computations underlying mental life are caused by the wiring of the intricate networks with millions of neurons, each neuron connected to thousands of others, operating in a thousandth of a second." Chap. 10, p. 317

Pinker shows more diagrams which include the operation of neurons.

Pinker wonders if grammar genes really do exist. Even if a grammar gene does exist, it would not possible to identify and verify its existence with any form of accuracy.

Chapter 11: The Big Bang

Chapter 11: The Big Bang Summary and Analysis

Chapter 11: The Big Bang

This chapter begins with discussing the various skills possessed by elephants and the evolution of its trunk. This leads into Darwin's theory of evolution.

"As we shall see in this chapter, Chomsky and some of his fiercest opponents agree on one thing: that a uniquely human language instinct seems to be incompatible with the modern Darwinian theory of evolution, in which complex biological systems arise by the gradual accumulation over generations of random genetic mutations that enhance reproductive success." Chap. 11, p. 333

Therefore, if there is no language instinct, then language must have evolved by other means. Pinker says that the reader does not have to choose between him and Darwin.

Pinker goes into great detail to explain the differences between nonhuman and human communication systems, referring to various species including highly intelligent chimpanzees.

Chomsky raised a big issue when he suggested that there might be alternatives to natural selection. Many evolution theorists have adamantly stated that not every beneficial trait can be explained by natural selection. Pinker wonders if Chomsky has an alternative to this theory.

Pinker returns to issues raised by the uniqueness of various languages.

Chapter 12: The Language Mavens

Chapter 12: The Language Mavens Summary and Analysis

Chapter 12: The Language Mavens

Pinker wonders how it is possible for people to say that the humpback whale's song contains errors or that dolphins do not swim properly. When it comes to human language, many people think that such things are cause for alarm. Language is degenerating as society embraces the patois of surfers and jocks who believe that one word ("awesome") is a sentence. If we do not respect the language it will continue to decay.

Pinker delves into the difference between "grammatical" and "ungrammatical." There is a contradiction with the fact that "rule," "grammatical" and "ungrammatical" have different definitions for the scientist and the layperson. Rules are prescriptive rules which mean that they prescribe how someone should talk. Scientists look at descriptive rules which explore how people actually talk. Pinker introduces the language mavens. These are the people who believe that they are language experts. Pinker asserts that most of the rules set forth by language mavens make no sense. The same can be said of prescriptive rules.

Pinker gives many examples of prescriptive versus descriptive rules.

Pinker gives many comical examples of slang and improper usage which are often used in parody.

Pinker reviews Safre's Law of Who/Whom.

Pinker states that the foibles of language mavens can be blamed on their blind spots. One blind spot is the "gross underestimation" of the linguistic abilities of the average person. The second blind spot relates to the mavens' ignorance of the modern science of language.

In the end, Pinker tells the language mavens not to jump to conclusions and to chill out.

Chapter 13: Mind Design

Chapter 13: Mind Design Summary and Analysis

Chapter 13: Mind Design

Pinker states that he has done his best to convince the reader that there is, indeed, a language instinct. Pinker has done his best to present theories and arguments. Pinker refers to Jerry Fodor, a philosopher and experimental psycholinguist who discusses whether sentence parsing is a mental module or if it blends with general intelligence. Fodor takes a strong stance on relativism. (He hates it more than almost anything.)

The doctrine that underlies relativism is the Standard Social Science Model (SSSM). The idea was conceived in the 1920s, fusing together aspects of anthropology and psychology.

Pinker describes the SSSM and its alternative, often referred to as "biological determination." Pinker also refers to the work on SSSM by anthropologist Margaret Mead and psychologist John Watson. SSSM has achieved victory in the eyes of the educated.

SSSM is debunked by Pinker. Pinker states that the controversy over whether environment, heredity or a combination of the two causes behavior is incoherent.

There are important roles in which heredity and environment play a part. For example, a child raised in Japan will most likely speak Japanese.

Pinker returns to the importance of studying Universal Grammar as well as Universal People. Universal People have the following in common: Gossip, value placed on articulation, lying, verbal humor, humorous insults, metaphor, storytelling, poetry, rhetorical speech, and words for many things including days, seasons, past, present, future, location, weather, flora, fauna, body parts, and so forth. The list is very extensive and includes the determination of gender roles and a sense of self.

Pinker states: Obviously this is not a list of instincts or innate psychological propensities; it is a list of complex interactions between a universal human nature and the conditions of living in a human body on this planet. Nor, I hasten to add, is it a characterization of the inevitable, a demarcation of the possible, or a prescription of the desirable." Chap. 13, p. 415

Similarity is the key. It gives one the implication that similarity must be innate. Learning grammar from example requires similarity.

Pinker makes what he refers to as "two obvious points" regarding SSSM versus biological determinism. The first point is that the brain works how the brain works.

Wishing for the brain to work in some other way undermines science. The second point is that there is no discovery to show that all people are created equal.

Pinker points out once again that the difference in the language instinct of people has no relation to genetic differences.

Characters

Steven Pinker

Steven Pinker is a linguist, author, cognitive scientist, and experimental psychologist. At the time the book was published, Pinker worked as a professor in the Department of Brain and Cognitive Sciences and was the director of the Center for Cognitive Neuroscience at the Massachusetts Institute of Technology in Cambridge, Massachusetts. Currently, Pinker is a professor at Harvard College and works as the Johnstone Family Professor at Harvard's Department of Psychology.

Pinker has authored many books including The Language Instinct, How the Mind Works, Words and Rules: The Ingredients of Language, The Blank Slate: The Modern Denial of Human Nature, The Stuff of Thought: Language as a Window into Human Nature, and The Better Angels of Our Nature: Why Violence Has Declined.

Pinker is known as a student and proponent of Noam Chomsky's work, with the exception that Pinker does not believe that language is the by-product of other adaptations.

Pinker has received many awards include the Distinguished Early Career Award, the Boyd McCandless Young Developmental Psychologist Award, the Troland Research Award from the National Academy of Sciences, the Henry Dale Prize from the Royal Institution of Great Britain, and the George Miller Prize from the Cognitive Neuroscience Society. Pinker was also a finalist for the Pulitzer Prize in 1998 and 2003.

Noam Chomsky

Noam Chomsky is a philosopher, linguist, historian, cognitive scientist, , and activist. He is an Institute Professor and Professor (Emeritus) in the Department of Linguistics & Philosophy at the Massachusetts Institute of Technology. Chomsky has often been referred to as the "father of modern linguistics" and has been credited with the development of the Universal Grammar Theory, creator of the Chomsky hierarchy, and the co-creator of the Chomsky-Schützenberger theorem. Chomsky, author of more than 100 books, has been cited as a source more than any living scholar during 1980-1992

Chomsky is a mentor to Steven Pinker, although Pinker has argued against some of Chomsky's works regarding the basic development of language. Chomsky relates generative grammar to a subject's body of knowledge.

Chomsky has won numerous awards and has received many honorary degrees worldwide. His lectures are legendary and often create great discord in the linguistics community.

Franz Boas

Franz Boas was an anthropologist and teacher to Edward Sapir, Margaret Mead, and others. Boas showed that people without languages systems were not savages.

Edward Sapir

Edward Sapir was a brilliant linguist and the student of Franz Boas.

Benjamin Lee Whorf

Benjamin Lee Whorf was an inspector for the Hartford Fire Insurance Company. Whorf was an amateur linguist who was fascinated by Native American languages. Whorf was a student of Edward Sapir's at Yale.

George Orwell

George Orwell was an author most famous for his novel "1984." Orwell predicted that language would be altered to eradicate certain thoughts from a person's mind in order to create a new breed of society.

Karen Wynn

Karen Wynn is a developmental psychologist. Wynn showed that babies can recognize mathematics and other complex forms of thought without language skills.

Wilhelm Von Humboldt

Wilhelm Von Humboldt is the man that determined that language "makes infinite use of finite media."

Joseph Greenberg

Joseph Greenberg was a linguist that in 1963, examined a sample of 30 languages from five continents to fins universals contained in language.

George WIlliams

George WIlliams was a biologist that developed an important theory on evolution. Williams' theory discussed the rapid installation of language.

Objects/Places

Universal Grammar

Noam Chomsky is credited with developing a theory referred to as Universal Grammar. Universal Grammar is the belief that all languages have at least some common elements. An example of Universal Grammar is as such: if a language has a word for cat, it will also have one for dog.

Chomsky asserts that the brain has a certain number of reflexes or processes that limits the way in which the brain organizes language. Therefore, there are only a certain number of results which translate into commonality in various languages.

Pinker discusses Noam Chomsky, the linguist who discovered the intricacy of the language system and is often thought of as the person who is most responsible for the modern revolution in cognitive science and modern language. Chomsky pointed out that there are two fundamental facts about language. 1. Every sentence spoken is a new combination of words. 2. Children develop language sills without formal instruction. Children are equipped with a Universal Grammar which tells them how to create and distill syntactic patterns in their parents' speech.

Chomsky and fellow linguists performed painstaking analyses to prove their theories that mental grammars were present underneath a person's knowledge of particular languages as well as the Universal Grammar. This work encouraged many other linguists to explore other areas of language study including speech perception, genetics and neurology. Chomsky therefore divided groups of scientists into two groups - the zealots and those that adhered to the Standard Social Science Model.

Language

Language is the entire focus of "The Language Instinct" by Steven Pinker. Unlike many books about language, Pinker says the book is not about proper usage, idioms or any other commonly found topic. Instead, the book is about the basic need and desire to learn language, to speak and to understand.

English is a wacky language. It defies logic. Pinker discusses George Bernard Shaw's logic that according to certain principles in the English language, "ghoti" could easily be pronounced "fish." Pinker asserts that only institutional inertia prevents our culture from using a phonetic system.

Pinker believes that language is an instinct, not necessarily a skill. Children learn to speak without formal education or the knowledge of all the underlying facts and rules that apply to language. A child learning to speak can be compared to a spider learning to spin a web. It is not because the spider has been taught. It is merely instinct and the fact that the spider has a spider's brain.

Language as an instinct goes against popular wisdom. It is not a cultural invention; nor is language a shaper of thought.

In many ways this causes conflict with many popular theories as language - no matter what type - is used to convey ideas. Pinker uses many examples to show that ideas exist without language, that language is simply used to express those thoughts.

Mentalese

Mentalese is one of the main ways in which Pinker proves his theory that language is an instinct, not a learned skill.

Pinker shows that one does not need language to understand certain concepts like mathematics. Pinker shows three examples of this, including an example with babies. Babies can tell the difference when there is a change in number. However, babies cannot speak. Pinker uses this and an example with monkeys to show that people use language and behaviors to express their thoughts, that the thoughts are not formed by the language. People seem to think in mental images using visual stimulation, not words.

Standard American English

Standard American English is the basic structure of the American English language.

Specific Language Impairment

Specific Language Impairment refers to any type of syndrome in which a person is unable to develop language properly.

X-Bar

The X-Bar is the shortest possible phrase.

Syntax

Syntax is the way in which words are strung together to create phrases.

Parsing

Parsing is a mental process that is used in sentence comprehension.

Linguist

A linguist is a student or teacher that focuses on how language is formed.

Lexicon

A lexicon is a dictionary that consists of a person's intuitive knowledge of words and definitions.

Themes

Universal Grammar

Noam Chomsky is credited with developing a theory referred to as Universal Grammar. Universal Grammar is the belief that all languages have at least some common elements. An example of Universal Grammar is as such: if a language has a word for cat, it will also have one for dog.

Chomsky asserts that the brain has a certain number of reflexes or processes that limits the way in which the brain organizes language. Therefore, there are only a certain number of results which translate into commonality in various languages.

Pinker discusses Noam Chomsky, the linguist who discovered the intricacy of the language system and is often thought of as the person who is most responsible for the modern revolution in cognitive science and modern language. Chomsky pointed out that there are two fundamental facts about language. 1. Every sentence spoken is a new combination of words. 2. Children develop language sills without formal instruction. Children are equipped with a Universal Grammar which tells them how to create and distill syntactic patterns in their parents' speech.

Chomsky and fellow linguists performed painstaking analyses to prove their theories that mental grammars were present underneath a person's knowledge of particular languages as well as the Universal Grammar. This work encouraged many other linguists to explore other areas of language study including speech perception, genetics and neurology. Chomsky therefore divided groups of scientists into two groups - the zealots and those that adhered to the Standard Social Science Model.

Mentalese

Mentalese is one of the main ways in which Pinker proves his theory that language is an instinct, not a learned skill.

Pinker shows that one does not need language to understand certain concepts like mathematics. Pinker shows three examples of this, including an example with babies. Babies can tell the difference when there is a change in number. However, babies cannot speak. Pinker uses this and an example with monkeys to show that people use language and behaviors to express their thoughts, that the thoughts are not formed by the language. People seem to think in mental images using visual stimulation, not words.

How can one make sense of the fact that images, numbers, logic and relations can be made without words? Philosophers in the early twentieth century said it made no sense. It was no possible, they said, to rectify thoughts without words because it defied logic.

Pinker says that knowing language is knowing how to translate mentalese into words and vice versa.

Pinker's best example of mentalese refers to George Orwell's 1984 and his predictions about the year 2050. Despite the government's best efforts to control people by changing the language, mental life goes on independent of languages. Therefore, concepts of equality and freedom will continue even if there aren't words to define or express them. Additionally, there are more concepts than words so the listener must make inferences and decisions. Lastly, children do not settle for recycling their parents' grammar and usage and must go beyond it, creating a new language.

Language

Language is the entire focus of "The Language Instinct" by Steven Pinker. Unlike many books about language, Pinker says the book is not about proper usage, idioms or any other commonly found topic. Instead, the book is about the basic need and desire to learn language, to speak and to understand.

English is a wacky language. It defies logic. Pinker discusses George Bernard Shaw's logic that according to certain principles in the English language, "ghoti" could easily be pronounced "fish." Pinker asserts that only institutional inertia prevents our culture from using a phonetic system.

Pinker believes that language is an instinct, not necessarily a skill. Children learn to speak without formal education or the knowledge of all the underlying facts and rules that apply to language. A child learning to speak can be compared to a spider learning to spin a web. It is not because the spider has been taught. It is merely instinct and the fact that the spider has a spider's brain.

Language as an instinct goes against popular wisdom. It is not a cultural invention; nor is language a shaper of thought.

In many ways this causes conflict with many popular theories as language - no matter what type - is used to convey ideas. Pinker uses many examples to show that ideas exist without language, that language is simply used to express those thoughts.

Style

Perspective

Steven Pinker is a linguist, author, cognitive scientist, and experimental psychologist. At the time the book was published, Pinker worked as a professor in the Department of Brain and Cognitive Sciences and was the director of the Center for Cognitive Neuroscience at the Massachusetts Institute of Technology in Cambridge, Massachusetts. Currently, Pinker is a professor at Harvard College and works as the Johnstone Family Professor at Harvard's Department of Psychology.

Pinker has authored many books including The Language Instinct, How the Mind Works, Words and Rules: The Ingredients of Language, The Blank Slate: The Modern Denial of Human Nature, The Stuff of Thought: Language as a Window into Human Nature, and The Better Angels of Our Nature: Why Violence Has Declined.

Pinker is known as a student and proponent of Noam Chomsky's work, with the exception that Pinker does not believe that language is the by-product of other adaptations.

Pinker has received many awards include the Distinguished Early Career Award, the Boyd McCandless Young Developmental Psychologist Award, the Troland Research Award from the National Academy of Sciences, the Henry Dale Prize from the Royal Institution of Great Britain, and the George Miller Prize from the Cognitive Neuroscience Society. Pinker was also a finalist for the Pulitzer Prize in 1998 and 2003.

Tone

The tone used in "The Language Instinct" by Steven Pinker is for the most part, objective. The purpose of the work is to introduce the types of language that were created and have evolved over the centuries.

The overall tone of the book reflects that Pinker believes that language is an instinct, not necessarily a skill. Children learn to speak without formal education or the knowledge of all the underlying facts and rules that apply to language. A child learning to speak can be compared to a spider learning to spin a web. It is not because the spider has been taught. It is merely instinct and the fact that the spider has a spider's brain.

Language as an instinct goes against popular wisdom. It is not a cultural invention; nor is language a shaper of thought. As such, the way philosophers and linguists look at language is often faulty and creates myths and illogical theories rather than advancement.

The role of the academician can be seen in Pinker's theories, even when Pinker is vehemently debunking previous theories as having no merit. This is often done with some humor, which creates an entertaining learning experience for the reader.

Pinker's tone makes the work seem interesting and the author's obvious enthusiasm is likely to capture the attention of the reader.

Structure

The structure of "The Language Instinct" by Steven Pinker is a work of non-fiction. It is 494 pages long, broken down into 13 chapters, notes, references, glossary and index. The shortest chapter is 9 pages in length. The longest chapter is 38 pages in length. The average number of pages per chapter is 33 pages in length. This does not include the aforementioned notes, references, glossary and index. The notes section is 16 pages in length; the reference section is 26 pages in length; the glossary is 11 pages in length; and the index is 9 pages in length.

Pinker begins with the most basic concepts in language and presents the basis of his work and theories regarding how language is learned, communicated, and continually developed. There is a great deal of science referenced along with many examples to explain the more difficult concepts. Pinker applies wit to the topic to keep it from being dry and tedious.

The order of the chapters, which progressively explain language, are:

Chapter 1: An Instinct to Acquire an Art

Chapter 2: Chatterboxes

Chapter 3: Mentalese

Chapter 4: How Language Works

Chapter 5: Words, Words, Words

Chapter 6: The Sounds of Silence

Chapter 7: Talking Heads

Chapter 8: The Tower of Babel

Chapter 9: Baby Born Talking - Describes Heaven

Chapter 10: Language Organs and Grammar Genes

Chapter 11: The Big Bang

Chapter 12: The Language Mavens

Chapter 13: Mind Design

Quotes

"As you are reading these words, you are taking part in one of the wonders of the natural world." Chap. 1, p. 15

"It is a curious fact about the intellectual history of the past few centuries that physical and mental development have been approached in quite different ways." Chap. 1, p. 22

"When deaf infants are raised by signing parents, they learn sign language in the same way that hearing infants learn spoken language." Chap. 2, p. 37

"Injuries in adulthood are not the only ways that the circuitry underlying language can be compromised." Chap. 2, p. 48

"As we shall see in this chapter, there is no scientific evidence that language dramatically shapes their speakers' ways of thinking." Chap. 3, p. 58

"People can be forgiven for overrating language." Chap. 3, p. 67

"Phrase structure, clearly, is the kind if stuff language is made of." Chap. 4, p. 103

"Who could not be dazzled by the creative power of the mental grammar, by its ability to convey an infinite number of thoughts with a finite set of rules?" Chap. 5, p. 126

"One easy way to understand speech sounds is to track a glob of air through the tract into the world, starting in the lungs." Chap. 6, p. 163

"For centuries people have been terrified that their programmed creations might outsmart them, overpower them, or put them out of work." Chap. 7, p. 192

"Since most sentences are ambiguous, and since laws and contracts must be couched in sentences, the principles of parsing can make a big difference in people's lives." Chap. 7, p. 217

"We will never understand language organs and grammar genes by looking only for postage-stamp-sized blobs of brain." Chap. 10, p. 317

Topics for Discussion

Discuss the controversial theory that language is an instinct. Do you agree or disagree with Pinker's samples?

Discuss Chomsky's theory of Universal Grammar.

If a person cannot understand a language in which people "jabber," how it is possible to know if they have words for specific items such as trees or sky?

Compare and contrast Chomsky's and Pinker's theories on how language is learned.

Explain how syntax is affected by language usage and its various translations. Give examples.

What are the main differences between a natural language and a computer language?

Do you agree or disagree that language is formed by thoughts; thoughts are not formed by language?