Chapter 10

1. *Speech errors.*

(1) brake fluid → blake fruid

a. phonological

b. reversal or exchange of phonologically similar segments (they are both liquids) in consonant clusters

(2) drink is the curse of the working classes → work is the curse of the drinking classes

a. lexical

b. exchange of words

(3) I have to smoke a cigarette with my coffee → . . . smoke my coffee with a cigarette

a. syntactic constituent

b. exchange of NPs “a cigarette” and “my coffee”

(4) untactful → distactful

a. morphological

b. substitution of prefix with similar meaning

(5) an eating marathon → a meeting arathon

a. phonological

b. shift of word-initial consonant from the second to the first word; change of *an* to *a*, in keeping with morphological rules of English

(6) executive committee → executor committee

a. morphological

b. substitution of suffix

(7) lady with the dachshund → lady with the Volkswagen

a. semantic

b. substitution of word with similar semantic features (in this case, “small, German”)

(8) Are we taking a bus back → are we taking the buck bass

a. phonological segment

b. exchange of coda consonants /s/ and /k/

(9) he broke the crystal on my watch → he broke the whistle on my crotch

a. phonological

b. exchange of syllable consonant onsets /kr/ and /w/ and deletion of the /t/ present in the intended *crystal*

(10) a phonological rule → a phonological fool

a. phonological

b. substitution due to perseveration of /f/

(11) pitch and stress → piss and stretch

a. phonological

b. exchange of final consonants

(12) Lebanon → lemadon

a. phonological feature

b. exchange of features “voiced stop” with “nasal” in /b/ and /n/, resulting in /m/ and /d/

(13) speech production → preach seduction

a. phonological

b. exchange of syllable onsets (/sp/ and /pr/) with deletion of second occurrence of /p/

(14) he’s a New Yorker → he’s a New Yorkan

a. morphological

b. substitution of derivational suffix with same meaning

(15) I’d forgotten about that → I’d forgot abouten that

a. morphological

b. shift of inflectional verb suffix to preposition

(16) It can deliver a large payload → It can deliver a large payroll

a. lexical

b. substitution of a phonetically similar word; in the context of a political election during an economically difficult time, “large payrolls” are on everyone’s mind, so the slip is probably influenced by the context of the election

(17) He made headlines → He made hairlines

a. lexical

b. substitution of a phonetically similar word *hair* for *head*; in the context of a barbershop, *hair* is semantically relevant, as are (potentially receding) *hairlines*.

(18) I never heard of classes on Good Friday → I never heard of classes on April 9

a. syntactic constituent

b. substitution of an NP that shares some of the meaning with the intended NP; in the context of a year in which Good Friday fell on April 9, these phrases may have overlapping meanings. However, the ways in which the phrases differ semantically are crucially what make this slip of the tongue funny. Good Friday is not always on April 9, and there is nothing strange about having class on April 9 per se.

2. *Understanding and resolving ambiguity.*

(1) *For those of you who have children and don’t know it, we have a nursery downstairs.*

Ambiguity: *It* could refer to having children or to the fact that there is a nursery downstairs.

Likely: *It* refers to the fact that there is a nursery downstairs.

Knowledge: Most people know whether they have children.

(2) *The police were asked to stop drinking in public places.*

Ambiguity: The subject of *drinking* could be the police or other persons.

Likely: Other persons.

Knowledge: The police are usually the enforcers, not the violators.

(3) *Our bikinis are exciting; they are simply the tops.*

Ambiguity: The word *tops* may mean “excellent” or “the bra half of a bikini.”

Likely: “Excellent.”

Knowledge: Bikinis generally consist of a top half and a bottom half.

(4) *It’s time we made smoking history.*

Ambiguity: “We are eliminating smoking” (analogous to *It’s time we made smoking illegal*), or “we are going to do something so important regarding smoking that it will be written about in history books” (analogous to *It’s time we made political history*).

Likely: Both readings are likely.

Knowledge: If some group managed to eliminate smoking, they would be “making smoking history” both in terms of (1) ending smoking and (2) doing something so important in terms of smoking that it’ll be written down in the history books.

(5) *Do you know the time?*

Ambiguity: This is a pragmatic ambiguity and may be a literal question about what you know or an indirect request for the time.

Likely: A request for the time.

Knowledge: It is more likely that someone wants to know the time than that someone wants to know whether someone else knows the time. (Note that this apparent question may also be used as indirect criticism to someone who is taking a long time to do something.)

(6) *Concerned with spreading violence, the president called a press conference.*

Ambiguity: The subject of *spreading violence* may be others or may be the president. *Spreading violence* may also be an Adjective-Noun construction and have the meaning “the spread of violence,” though this is indistinguishable from the Verb-Object construction where the subject is some non-specified other group of people.

Likely: Others are spreading the violence.

Knowledge: The president is not likely to spread violence, and even if she were, she would not call a press conference about it.

(7) *The ladies of the church have cast off clothing of every kind and they may be seen in the church basement Friday.*

Ambiguity: *Cast off* is an adjective describing clothing (in which case it would be hyphenated, strictly speaking), or it is a verb meaning “disrobe,” whose object is *clothing.* Depending on which case, *they* in the second clause may refer to the old clothing or to the lady strippers.

Likely: *Cast off* describes the clothing, and *they* refers to that clothing.

Knowledge: Church ladies usually don’t strip, especially in the church.

(8) *She earned little as a whiskey maker but he loved her still.*

Ambiguity: *Still* could be the adverb, meaning continuing to the present time, or *still* could be the noun, the piece of machinery used in distilling whiskey.

Likely: *Still* is the adverb.

Knowledge: Men are more likely to love women than pieces of machinery. In addition, the “but” between the two clauses suggests that the second clause is true despite the first clause. It makes more sense that he loves the woman despite the fact that she doesn’t make much money than that he loves the woman’s machine despite the fact that the woman doesn’t make much money.

(9) *The butcher backed into the meat grinder and got a little behind in his work.*

Ambiguity: There are two ambiguities: (i) *the meat grinder* could be the person or the machine, and (ii) *behind* could be the noun “buttocks” or it could mean “delayed.” In addition to these ambiguities, *backed into* is vague. It means “move in a backward motion into,” but this could be while in a car or other vehicle or while on foot or crawling, etc. The two most likely meanings of the entire sentences are:

“The butcher backed into the meat grinder (the person) (while in a car) and got a little behind (delayed) in his work.”

“(While standing) the butcher backed into the meat grinder (the machine) and got a little behind (buttocks) in his work.”

Likely: *Meat grinder* most likely means the person and *behind* most likely means “delayed.”

Knowledge: It is more common that one would have a minor traffic accident by backing into a person, which would delay them, than that one would back up into a machine that might grind some of their buttocks.

(10) *A dog gave birth to puppies near the road and was cited for littering.*

Ambiguity: *Litter* refers to trash or a group of newborn puppies. The joke is suggesting an ambiguity between *litter* “trash” + *ing* = *littering* “the act of leaving trash where one shouldn’t” and *litter* “a group of newborn puppies” + *ing* = *littering*, which might mean “the act of having a litter of puppies.”

Likely: The joke is funny because neither is very likely, but for different reasons.

Knowledge: Semantically *littering* meaning the act of having a litter of puppies is more likely, since we know the dog just had puppies, but we know that this word doesn’t mean that. And while *littering* is a perfectly good word meaning the act of leaving trash where one shouldn’t, it doesn’t make sense here because the dog didn’t leave trash anywhere; she had puppies.

(11) *A hole was found in the nudist camp wall. The police are looking into it.*

Ambiguity: There are two ambiguities here. *Looking into* can mean “peering into” or “investigating.” *It* can be referring to the fact that there is a hole in the wall or to the hole itself. The most likely readings from these two ambiguities are:

“A hole was found in the nudist camp wall and the police are peering into that hole.”

“A hole was found in the nudist camp wall and the police are investigating why there is a hole there.”

Likely: Most likely *looking into* means “investigating” and *it* refers to the fact that there is a hole.

Knowledge: The police are more likely to investigate a potential crime than to be peeping in on nudists. But the sentence is amusing because the other reading is not impossible.

(12) *A sign on the lawn at a drug rehab center said, “Keep off the Grass.”*

Ambiguity: *Grass* could mean “lawn” or “marijuana.”

Likely: “Lawn.”

Knowledge: Given that the sign is on the lawn, the more likely reading is that the sign means, “Keep off the lawn.” But, given that the sign is at a drug rehab center, the other meaning is not impossible, which makes the sentence amusing.

(13) *Red Tape Holds Up New Bridge*

Ambiguity: *Red tape* refers to paperwork or to structural support.

Likely: Paperwork.

Knowledge: Tape of any color is not used to build bridges.

(14) *Kids Make Nutritious Snacks*

Ambiguity: Kids are making food or are themselves food.

Likely: Kids are making food.

Knowledge: Kids are generally not eaten.

(15) *Sex Education Delayed, Teachers Request Training*  
Ambiguity: Teachers intend to teach sex education or to be taught about sex.

Likely: Teachers intend to teach sex education.

Knowledge: Teachers would not openly request sexual training.

3. *Temporal ambiguities.* Answers will vary. Here are three sample answers:

i. *Mary believed the boy was lying*. There are several layers of ambiguity here, both of which have to do with perfectivity—i.e., are the past events / states over or do they continue into the present moment? *Mary believed the boy was lying* could that mean she used to believe that but no longer does, or it could mean that she used to believe it and continues to do so. Likewise, *the boy was lying* could mean that he was lying but stopped or that he was lying and continues to lie. There is no way to resolve these ambiguities without more information.

ii. *I decided to go to the party yesterday*. The ambiguity lies in what *yesterday* applies to—the decision or the going to the party. This sentence could mean *Yesterday, I decided to go to the party*: the decision to go to the party was made yesterday and it is not specified when the party is—it could be any time after the decision, including yesterday and two weeks from yesterday. The other possibility is that the party occurred yesterday and that the decision to go the party was made at some point in time before the going to the party—including yesterday and two weeks before yesterday. There is no way to resolve these ambiguities without more information.

iii. *I’m going to buy my tickets for my trip to Mexico next week*. This is similar to the example above: the scope of *next week* is not clear here. Is the buying of the tickets occurring next week, or the trip? Or both? Again, there is no way to resolve this ambiguity without more information, though prosody may give us a clue in this case.

4. *Headlines*.

a. The principle of late closure explains the funny interpretation of these headlines: *to people* is interpreted as belonging to *what they are doing to people* and *in checkout line* is interpreted as belonging to *after 18 years in checkout line*.

b. Moving the misinterpreted phrases elsewhere in the headlines gets rid of the unintended meanings:

*Physicists Thrilled to Explain [to People] What They Are Doing*

*Two Sisters Reunited [in Checkout Line] After 18 Years*

c. Answers will vary.

5. *Garden Path Sentences.* The principle of minimal attachment can explain the asymmetry in the processing of these sentences.

(1) *the message* is easily interpretable as the object of the verb *understood*, while *the snow* isn’t.

(2) *the mistake* is easily interpretable as the object of the verb *admitted*, while *the airplane* isn’t.

(3) *the large wolf* is easily interpretable as the object of the verb *feared* while *the dress* isn’t.

6. *Priming.*

(1) Answers will vary, but most people will probably “fall for it”. Priming is effective here for two reasons: (1) *yolk* is being primed with members of its phonological lexical neighborhood, and (2) most people don’t know what the white of an egg is called; even if they do, *yolk* is a much more common word than *albumin*.

(2) Answers will vary, but many people will likely not point out that survivors are not buried. Here the priming is not phonological, but rather semantic: in the scenario of an airplane crash, all things semantically related to an airplane crash may be primed, including *survivors*. Even if you have been explicitly told that there are no survivors, this does not prevent the priming of this word*.* The priming of *survivors* facilitates the processing error that many will experience. If you asked them instead “. . . where will you bury the monkeys?”, a much higher percentage would most likely object and ask, “What monkeys?” as *monkey* is not semantically primed by the scenario of an airplane crash.

7. *The mind and lateralization.* Answers will vary. A student’s essay might include some of the following:

Possible arguments for Sperry’s position:

Studies on split-brain patients demonstrate differentiation of functions of the right and the left hemispheres.

Damage to the right hemisphere may result in nonlinguistic cognitive deficits, with language remaining largely intact. And conversely, left hemisphere damage frequently results in aphasia without necessarily affecting other cognitive functions. This argues for separate minds with separate functions.

Possible arguments for Eccles’s position:

Eccles must believe that thought cannot be expressed without language. If this is so, since only the left hemisphere is specialized for language, it can be argued that the right hemisphere cannot think.

The left hemisphere is specialized not only for language but also for mathematical and some other cognitive abilities, which are purely human.

There is, however, growing evidence that the physical brain and the mind that results from its neural architecture and functions is highly complex on both sides, that distinct cognitive systems are represented and processed in different locations, and that these interact in mental behavior. Furthermore, thinking does not require language, as shown by split-brain patients and by humans who never acquire language but who are functionally capable in other cognitive spheres. Deaf individuals, for example, who have not been exposed to sign language are still capable of learning and thinking.

8. *How words are stored in the brain.*

a. The substituted words in group (i) are in the same syntactic category as the stimulus words and are semantically related. They are not phonologically similar. In group (ii), the substituted words are, for the most part, derivationally related to the stimulus words, which are verbs. In the case where the substituted word is not directly derived from the stimulus word (speak/discussion), it is still semantically related to it.

b. The words in these two groups show that words are connected to each other according to semantic class and syntactic category.

9. *Aphasic language.* Answers will vary.

a*. There is under a horse a new sidesaddle.*

In nonaphasic language, the prepositional phrase *(under a horse)* follows the noun phrase (*a new sidesaddle*) in sentences of this form. Also, in normal speech, the preposition would be *on* rather than *under*. It is also likely that the article should be *the*, not *a*. If *horse* is not definite, the usual expression would be *there is a new sidesaddle on one of the horses*.

b. *In girls we see many happy days.*

This sentence is grammatically well formed but it is not easily interpreted.

Metaphorical speech and aphasic speech share some common ground.

c. *I’ll challenge a new bike.*

In nonaphasic language, the verb *challenge* generally, but not always, takes a human or abstract noun (e.g., *challenge the judge/law*). Here, the verb is followed by an inanimate, concrete object, which is unusual. The intended meaning is unclear without further context.

d. *I surprise no new glamour.*

The verb *surprise* must take an animate object (e.g., *surprise a friend*). Here, the verb is followed by an inanimate, abstract object. The intended meaning is unclear and the sentence is uninterpretable.

e. *Is there three chairs in this room?*

The verb *is*—the singular form of the verb *be*—should be in the plural form *are* to agree in number with the subject of the sentence (*three chairs*).

f*. Mike and Peter is happy.*

The verb should agree with the number of the subject noun phrase, which, in this case, is plural (*Mike and Peter*), and should therefore be *are*.

g*. Bill and John likes hot dogs.*

Same as item f. The verb *likes* is singular but the subject is plural.

h*. Proliferate is a complete time about a word that is correct.*

In nonaphasic language, *proliferate* is a verb and cannot be used as the subject of a sentence. The sentence is uninterpretable.

i. *Went came in better than it did before.*

In nonaphasic language, a past tense verb form such as *went* cannot be used as the subject of a sentence. It is not clear what the intended meaning of the sentence is.

10. *Brain damage and neural basis of language.* It is possible to investigate different functions of a complex automobile engine by systematically damaging individual parts to see what the effect might be. This is also true of brain research—lesions in different parts of the brain result in specific linguistic or other cognitive deficits. Syntax can be impaired with semantics and phonology retained, and vice versa. Engines are like brains in that they can limp along without all cylinders firing, with an impeded fuel flow, with short circuits, with computer components such as oxygen sensors failing, etc.

Individual answers to the question will vary. If the question is assigned by instructors, students should be encouraged to consult the literature to show the kinds of deficits that can occur due to damage to different lesion sites.

11. *Evidence for lateralization.* Sample answers:

• Brain damage research provides strong evidence for lateralization of brain functions. Right and left hemispheric damage affect functioning of different cognitive systems.

• Studies of childhood brain lesions suggest that the human brain is lateralized to the left for language from birth.

• Research on individuals with split brains offers further evidence for language lateralization.

• Results of dichotic listening research support lateralization of brain functions.

• MRI and PET studies demonstrate that the two hemispheres perform different cognitive functions.

12. *Discussion of Wigan’s comment.* Answers will vary. The answers may include discussions of the different cognitive functions that the two hemispheres perform.

13. *Dichotic listening.* Some possible visual stimuli for dichotic listening experiments:

• Printed words to read. (We would expect to get fewer errors when reporting stimuli presented in the right visual field.)

• Pictures of objects to copy. (Fewer errors for the stimuli in the left field expected.)

• Pictures of faces expressing different emotional states, e.g., happy/sad faces, etc. Subjects to say what the emotion is. (Fewer errors in the left field expected.)

• Printed strings of letters, some of which are words, and some nonwords. Subjects’ task is to say whether the string is a word. (Fewer errors in the right visual field.)

14. *Utterances of Broca’s and Wernicke’s aphasics.*

a. W

b. B

c. W

d. B

15. *Hamlet.* Possible arguments that Hamlet was a Wernicke’s aphasic:

• His speech here makes little sense.

• He uses some very odd expressions, such as “. . . eyes purging thick amber and plum-tree gum.”

Possible arguments against this position:

• There are no neologisms.

• Although very difficult to interpret, his sentences are almost entirely grammatical.

16. *Research projects.*

a. *Perfect pitch.* Answers will vary. A student’s answer should include a definition of “perfect pitch” and an explanation of how this relates to the critical-age hypothesis. An answer might include some of the following:

*Definition of perfect pitch*

The ability to recognize the pitch of a musical tone without an external reference pitch.

*Relation to critical-age hypothesis*

As with language, the ability to distinguish perfect pitch needs to be exercised at a young age or it will atrophy by adulthood.

The critical-age hypothesis states that the ability to learn a grammar develops within a fixed period, from birth to middle childhood, as long as there is linguistic input. Children who are denied linguistic input never master the grammar with native proficiency. The same is true of perfect pitch. If a child has limited exposure to musical input, she will be less likely to develop perfect pitch.

b. *Brain Imaging Technologies.* Answers will vary. The sample answer below is based on information found at www.radiologyinfo.org, www.mayfieldclinic.com and www.nmr.mgh.harvard.edu/martinos /research/technologiesMEG.php. A student’s answer should consider several of the methodologies listed below, comparing and contrasting their upsides and downsides freely:

CT (computer tomography) scan

Upsides: painless, noninvasive, and accurate; provides very detailed images; fast and simple; cost-effective; less sensitive to patient movement than MRI; provides real-time imaging; no radiation remains in a patient’s body after a CT examination; x-rays used in CT scans usually have no side effects

Downsides: a slight chance of cancer from excessive exposure to radiation; serious allergic reaction to contrast materials is extremely rare; CT scans are not recommended for pregnant women or children because of the exposure to radiation; nursing mothers should wait 24 hours before resuming breast-feeding

PET (positron emission tomography) scan

Upsides: the information provided is unique and often unattainable using other imaging procedures; cost effective and precise; identifies changes in the body at the cellular level

Downsides: low radiation exposure, but no known long-term adverse effects from such low-dose exposure; allergic reactions to radiopharmaceuticals are extremely rare and are usually mild; injection of the radiotracer may cause slight pain and redness

MRI (magnetic resonance imaging) scan

Upsides: noninvasive, with no exposure to ionizing radiation; allergic reaction to contrast material less likely than that used for CT; almost no risk when appropriate safety guidelines are followed

Downsides: if sedation is used, there are risks of excessive sedation; implanted medical devices that contain metal may malfunction due to the strong magnetic field; nephrogenic systemic fibrosis, which is a rare complication believed to be caused by the injection of high doses of MRI contrast material in patients with very poor kidney function

fMRI (functional MRI) scan

Upsides: noninvasive; no exposure to ionizing radiation; can assess both structure and function of brain; almost no risk to the average patient when appropriate safety guidelines are followed

Downsides: if sedation is used, there are risks of excessive sedation; implanted medical devices that contain metal may malfunction due to the strong magnetic field; nephrogenic systemic fibrosis, which is a rare complication, may be caused by the injection of high doses of MRI contrast material in patients with very poor kidney function

SPECT (Single Photon Emission CT) scans

Upsides: can view blood flow through arteries and veins in the brain; different from either MRI or CT scanning because it can detect reduced blood flow to certain sites

Downsides: small risk from exposure to radiation, which is less than received during a chest X-ray or CT scan; not safe for women who are pregnant or nursing

MEG (magnetoencephalography)

Upsides: completely noninvasive and non-hazardous; localizes and characterizes the electrical activity of the central nervous system by measuring the associated magnetic fields emanating from the brain; the data can be collected in a seated position, allowing more life-like experiments than fMRI; the measurement environment is completely silent, which allows for auditory studies; electrodes do not need to be pasted to the scalp as with EEG

Downsides: the localization of sources of electrical activity within the brain from magnetic measurement outside the head is complicated; it is difficult to provide reliable information about subcortical sources of brain activity; does not provide structural/anatomical information; the measurements have to be taken in a magnetically shielded room

c. *Reading aloud and reading silently*. Answers will vary. A sample answer follows: Petersen, Fox, Posner, Minton, and Raichle conclude in their article “Positron emission tomographic studies of the cortical anatomy of single-word processing” in *Nature* (Vol. 331, No. 6157, pp. 585–589, 18 February 1988) that different areas of the brain are involved in reading out loud (passive auditory presentation) and reading silently (visual presentation). “For the visual modality, the main cortical activations are in the striate cortex and in a small set of prestriate areas reaching as far anterior as the temporal-occipital boundary” (p. 586) and “for auditory processing, areas of activity were found bilaterally in primary auditory cortex, and left-lateralized in temporoparietal cortex, anterior superior temporal cortex, and inferior anterior cingulate cortex” (p. 587).

17. *Article review project.* Answers will vary. Students’ answers should include:

*Summary of the article*. In this article, the authors argue that understanding the faculty of language involves cooperation among researchers in linguistics, evolutionary biology, anthropology, psychology, and neuroscience. They argue that the faculty of language can be considered in two ways: in a broad sense (including a sensory-motor system, a conceptual-intentional system, and recursion) and in a narrow sense (recursion only). They hypothesize that the mechanism of recursion is the only uniquely human concept of language.

*Critically review*. Encourage students to be creative and incorporate their knowledge of linguistics and other disciplines (psychology, biology, anthropology, etc.)

18. *Agrammatic aphasics.*

a. *can* (be able to), *but,* *not, be, may, or, will* (future), *might* (possibility)

b. Evidence comes from the behavior of: (1) aphasics, (2) SLI patients, and (3) late language learners. Students’ answers should include specific examples either from the text or from their own research.

19. *Traditional Chinese orthography vs. pinyin.* The location of neural activity is different when Chinese speakers read in these two systems. Evidence for this statement comes from Japanese, which also has two writing systems, *kana* and *kanji*. Japanese speakers with left-hemisphere damage are impaired in their ability to read *kana*, while people with right-hemisphere damage are impaired in their ability to read *kanji*. Also, experiments with normal Japanese speakers show that the right hemisphere is better and faster than the left hemisphere at reading *kanji*, while the left hemisphere is better and faster than the right at reading *kana*.

20. *Research project: Commenting on Thatcher’s quote.* Answers will vary. Students can take either side, as this issue is controversial. A sample answer could include some of the following:

There are gender differences in the brain having to do with how men and women process and use language.

<BL>• Men are more likely to become aphasics with left-hemisphere damage.

• Males outnumber females about 3 to 4 times for stuttering and 10 times for severe dyslexia.

• Males are diagnosed with autism, including language impairment, at a rate of 3 to 4 times higher than females.

There are no gender differences in the brain having to do with how men and women process and use language.

• fMRI studies have shown that men and women have similar brain activity (that is, both genders exhibit a strong left lateralization) in both phonological and semantic tasks.

• Frequent and large-population studies fail to indicate gender differences in verbal ability.

21. *Research project: Emergence.* Answers will vary. The information for the following sample answer was taken from Wikipedia (http://en.wikipedia.org/wiki/Emergence):

Jeffrey Goldstein defines emergence as “the arising of novel and coherent structures, patterns and properties during the process of self-organization in complex systems” (Corning, 2002. “The Re-Emergence of ‘Emergence’: A Venerable Concept of Search of a Theory,” *Complexity* 7(6): 18–30).   
This concept, though not this term, has been around since the time of Aristotle. Some believe there are types of emergence phenomena within linguistics, including language change (Keller, 1994. *On Language Change: The Invisible Hand in Language*, Routledge) and sociolinguistic conventions (Määttä, 2000. “Mistä on pienet säännöt tehty?”, *Virittäjä* 2: 203–221).

Even though they don’t use the term “emergence,” this idea can be seen in Chomsky’s phrasing “a certain level of complexity” and Gould’s phrasing “perhaps the brain grew in size and became capable of all kinds of things which were not part of the original properties.” The theory of emergence seems very compatible with the types of ideas expressed here. However, Pinker’s quote about “precise wiring” seems different from the first two, in that it doesn’t reference the idea of emergence, and perhaps is incompatible with it.