

LING 1010



Language and Mind

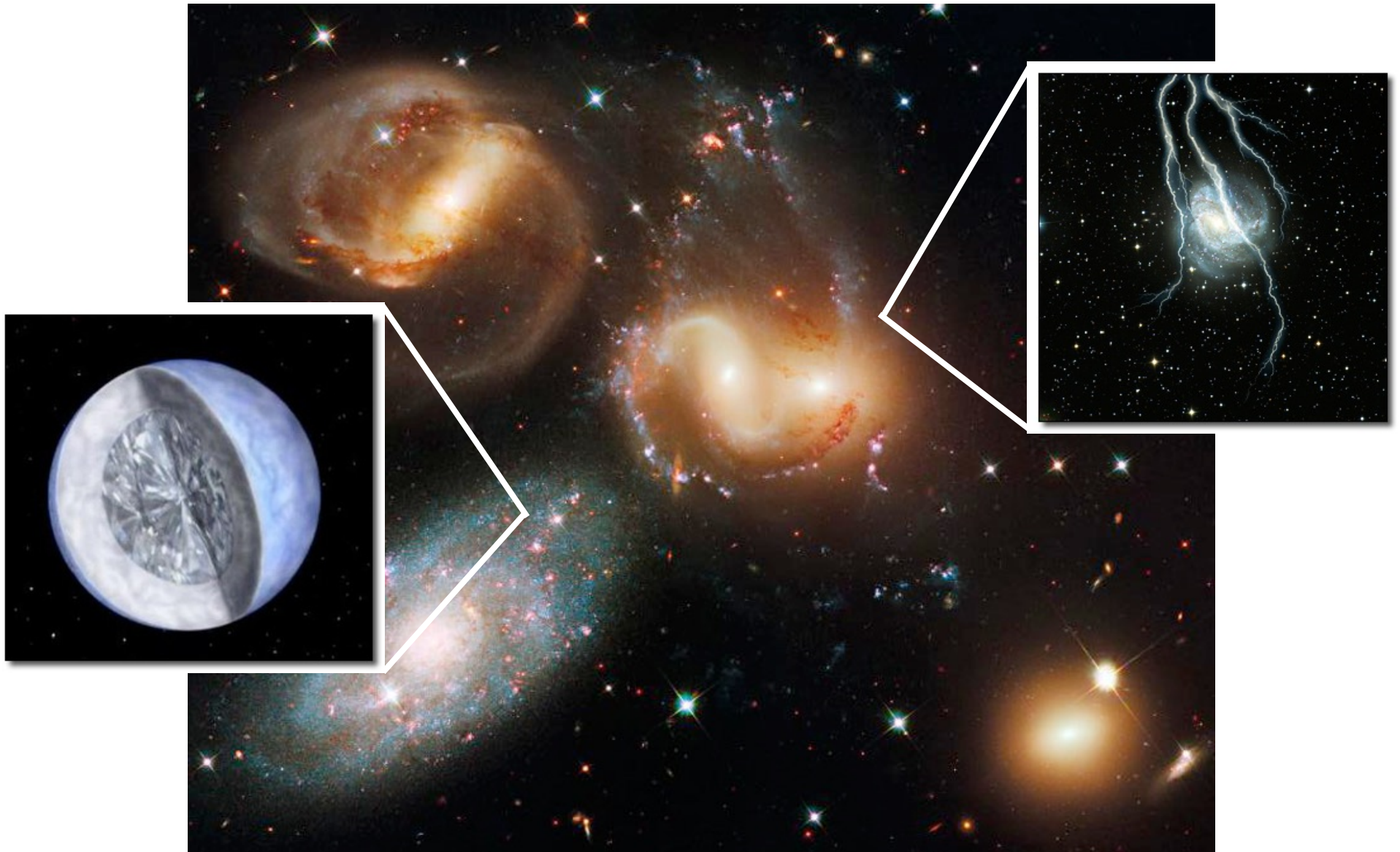
Prof. Jon Sprouse

01.25.21:

Introduction

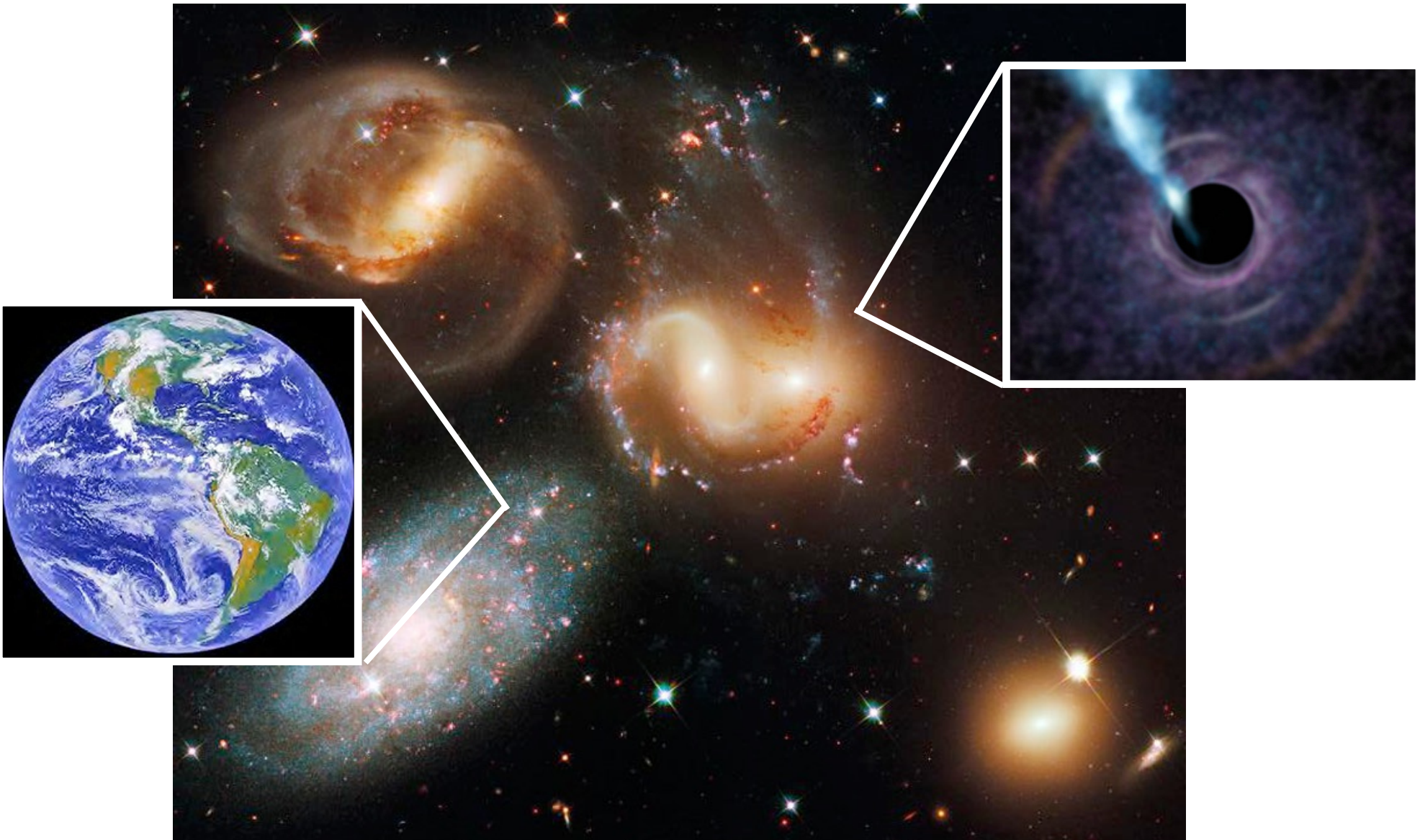
Scientific thought is a way of understanding the universe around us

It is a method for systematically asking and answering questions



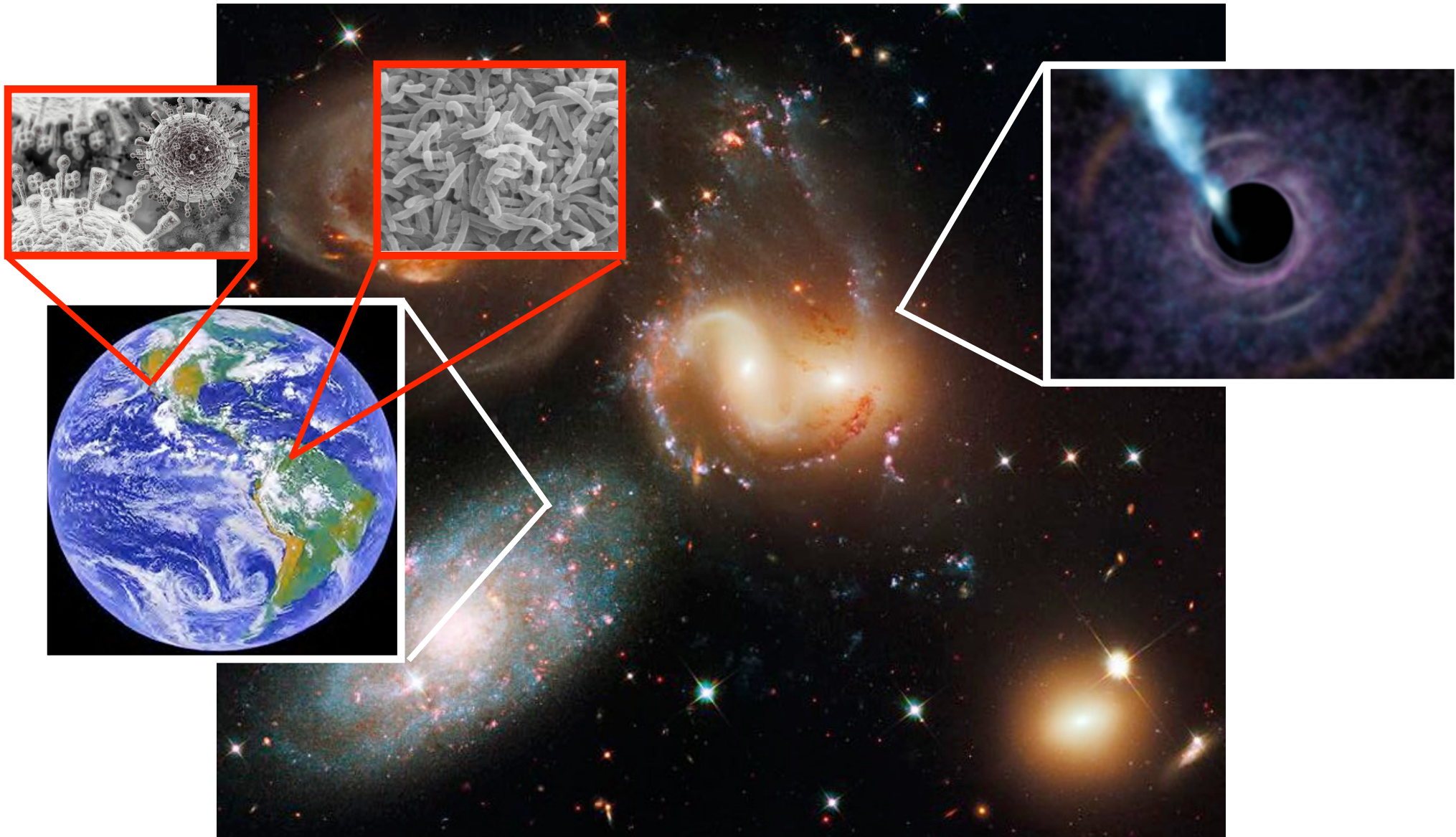
Go big or Go home

If you are going to study something, why not study the most complicated object we have encountered in the universe?



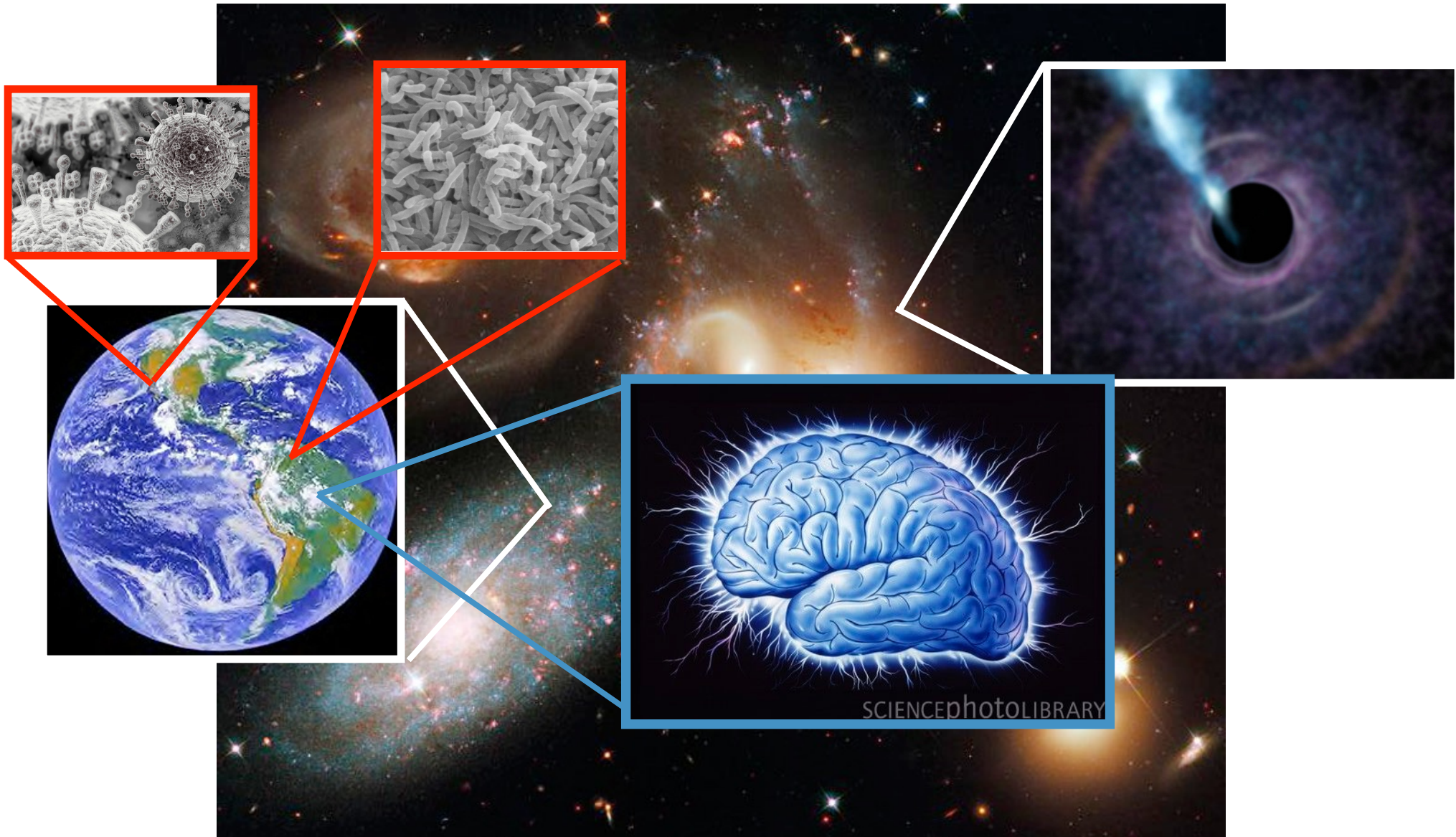
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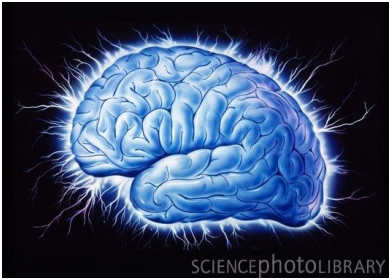
THE MIND

The most complicated object we have discovered in the universe is the human mind... seriously!



The Mind

When we say **mind**, what do we mean?



When we talk about the mind, what we really mean is a set of **cognitive abilities**. Have you ever really thought about all of the complex things that your mind can do? The human mind is the only object we have encountered in the universe that can do all of these things!

perception

memory

sensation

language

dreams

consciousness

free will

emotions

knowledge

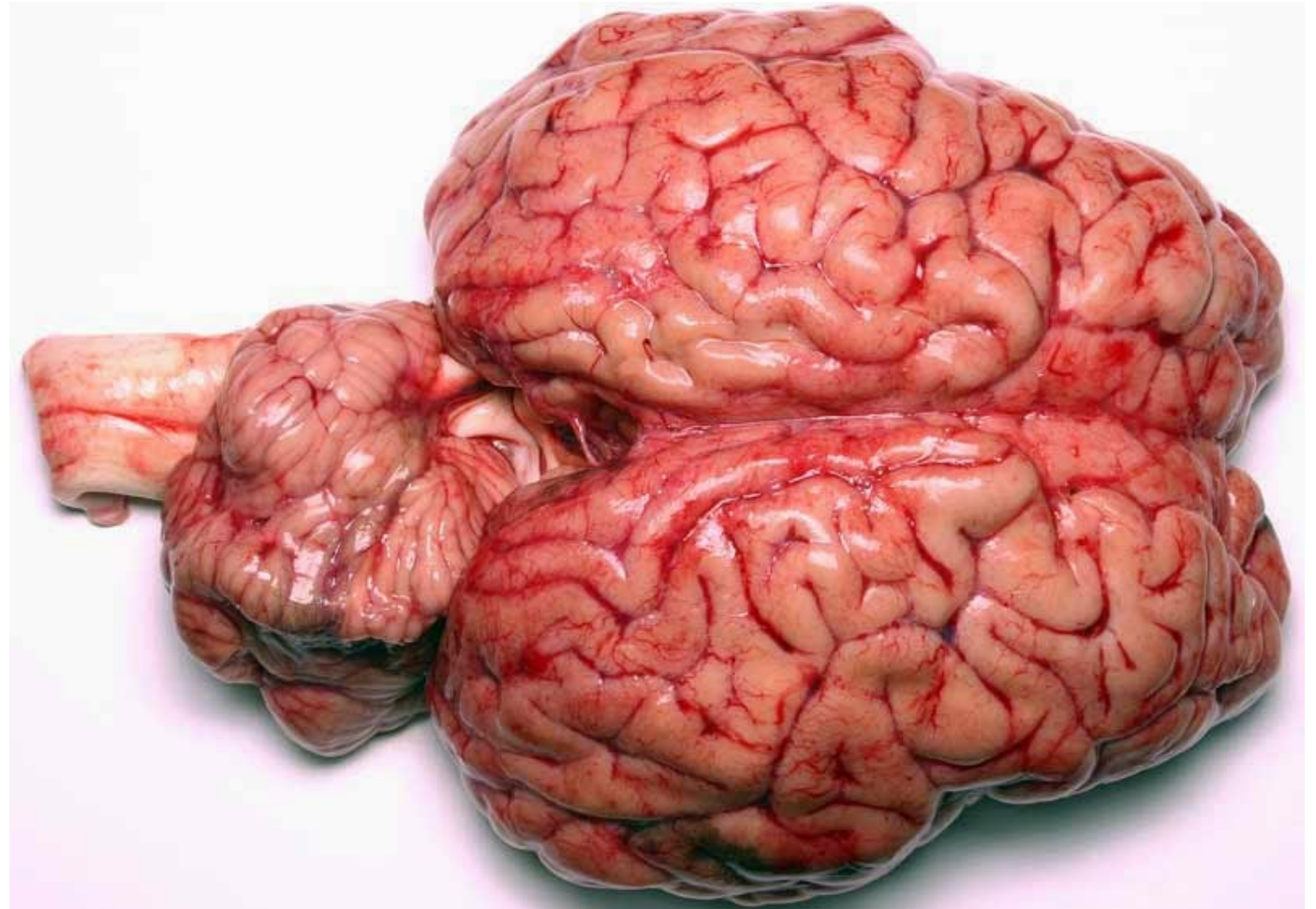
logic

learning

decision making

The mind comes from a hunk of **meat**

sensation
perception
memory
language
consciousness
emotions
learning
decision making
logic
knowledge
dreams
free will

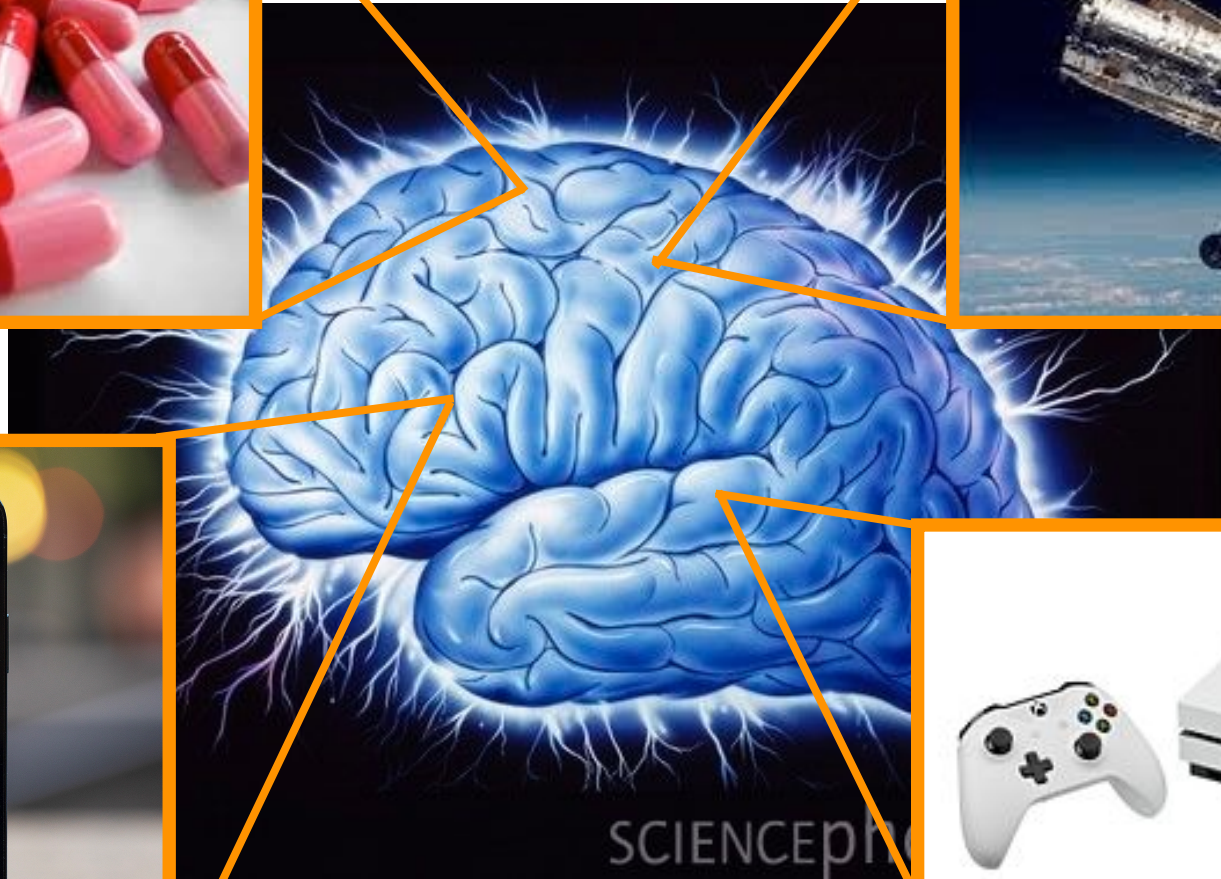


Have you ever just sat and wondered how a hunk of **meat** like this can give rise to all of these **abilities**?

The human mind has also given rise to incredible achievements

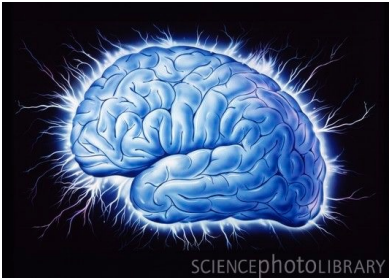


...including the idea of science itself!

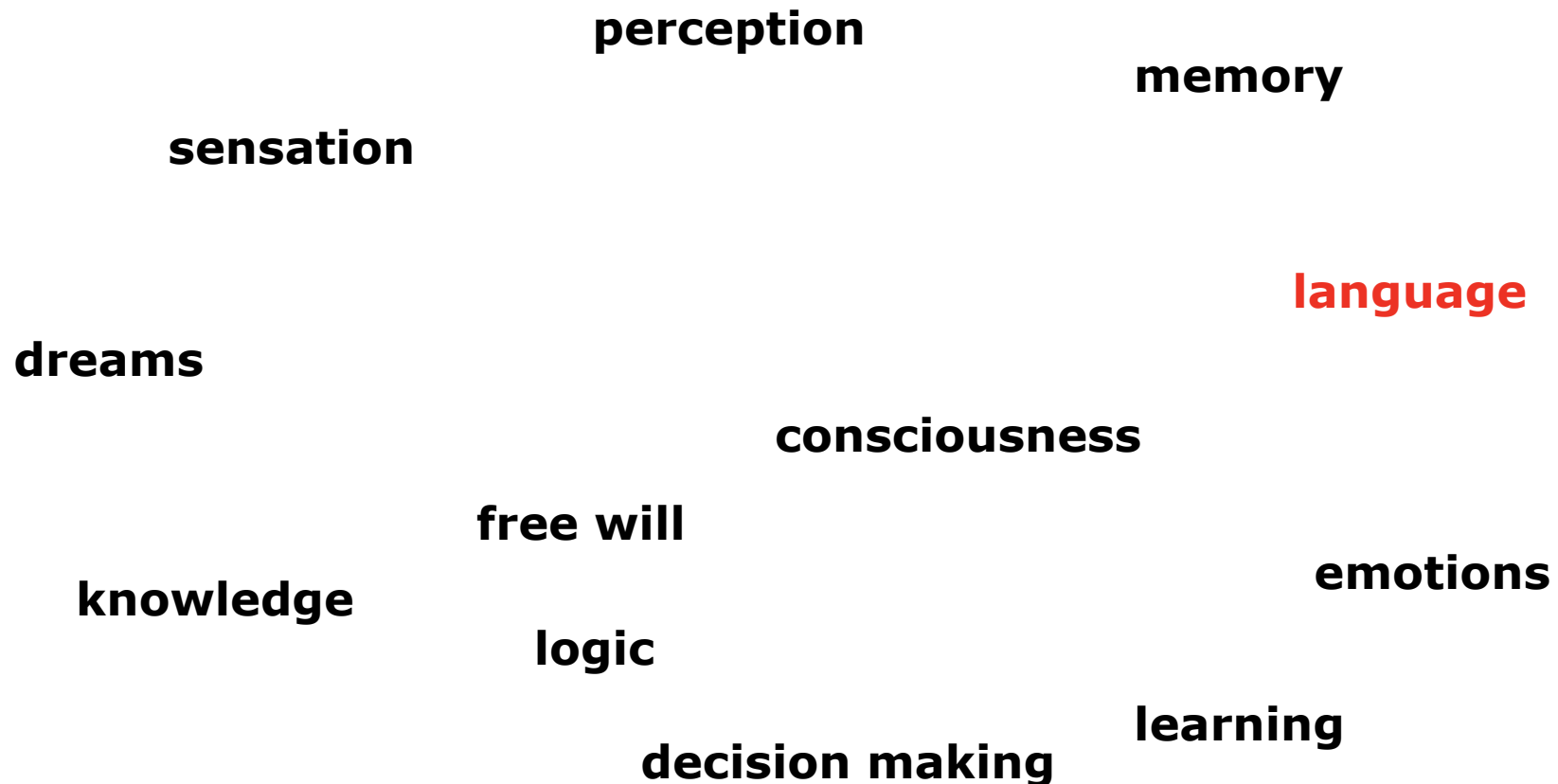


Now that I've convinced you
to study cognitive science —
let's look at Language

Language is just one of our abilities



Language is just one of many cognitive abilities made possible by our minds. So why do people like me think it is important to focus on this one ability?



We see history as a steady progression of human achievement

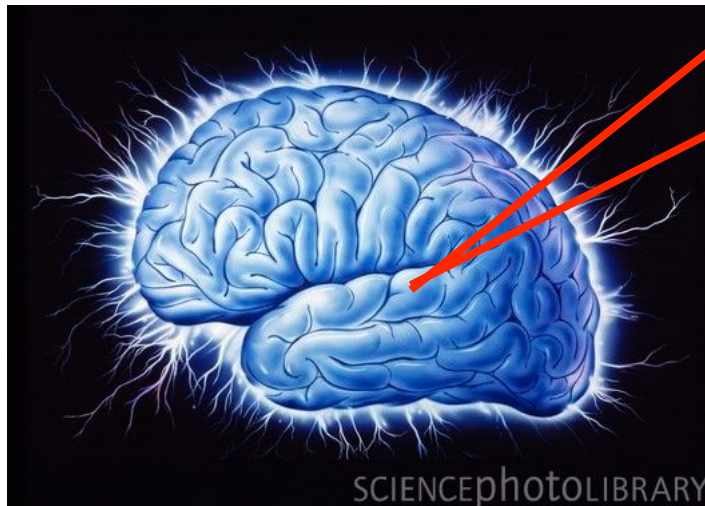


But have you ever thought about why it is that other “smart” species, like other higher primates, haven’t shown this type of progress?

They show the ability to learn to use tools, and even show some creativity with those tools, but in millions of years, they haven’t built anything like we have...



Language makes our accomplishments possible - it makes us human!



Language

Language allows us to share knowledge with each other.

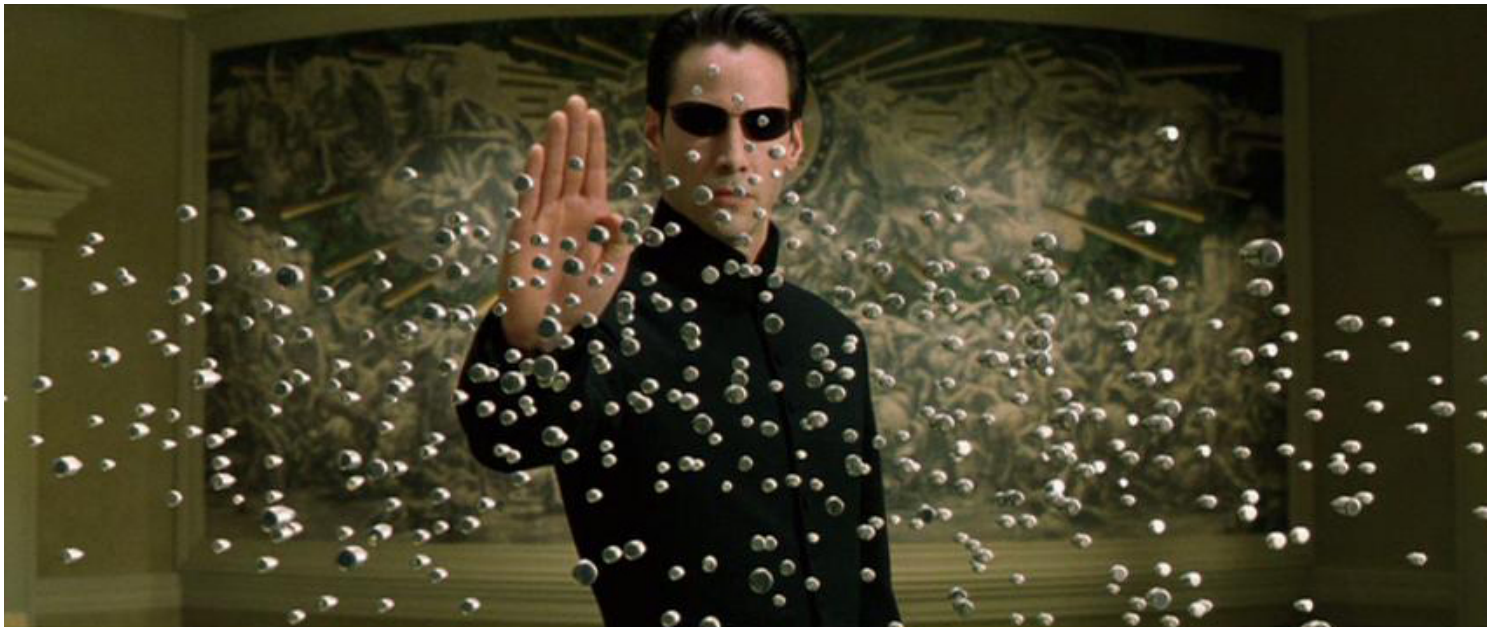
So if you are going to study one facet of the mind, why not language!

The mind is structured

The mind has structure

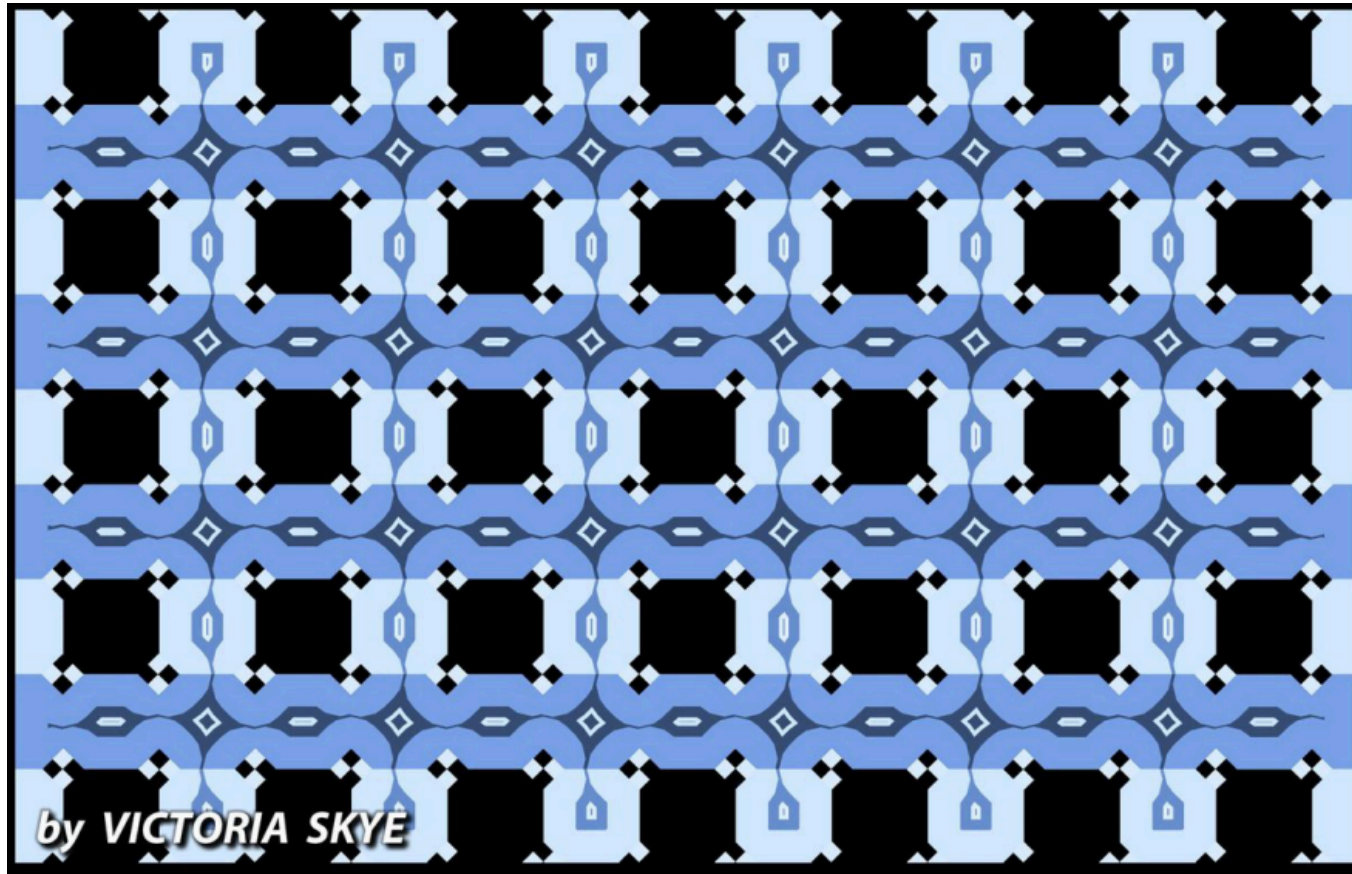
When people say that the mind has structure (or the mind is structured), what they mean is that **each cognitive ability works in a very specific way**.

This may seem like a boringly obvious thing to say, but **really think about it for a minute**. Why should it be the case that cognitive abilities each only work in one specific way? Why can't they work in lots of different ways? Or any way that we want? Why can't we **consciously change** the way our minds work?



Structure is constraint, it is limitation. Our minds are the most impressive things in the universe (so far), but they only work a certain way.

The lines are parallel



CAFE WALL OPTICAL ILLUSION

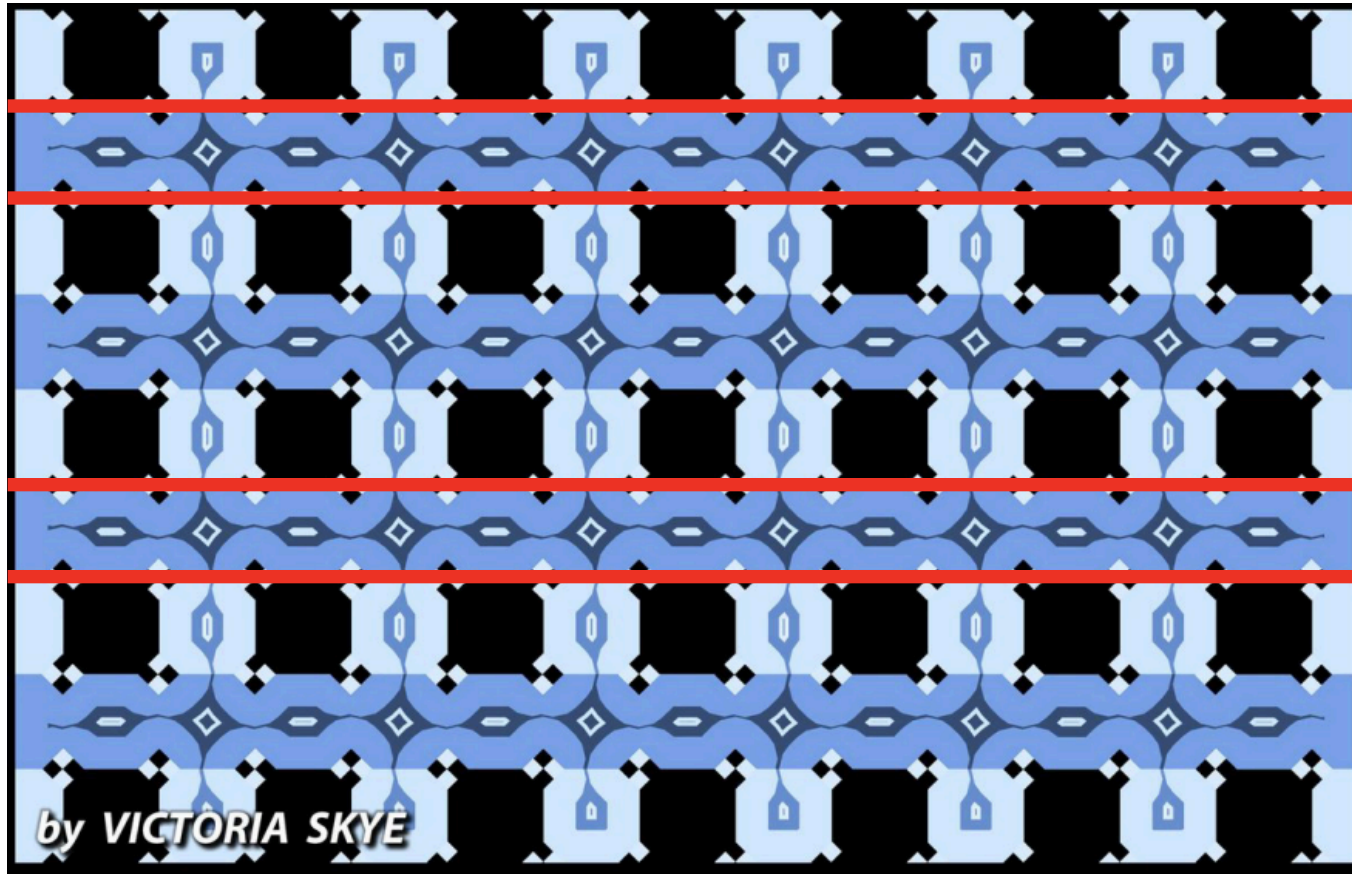
Do the horizontal bars look like they bend and are at an angle?

Look again, because they don't bend. They are straight and in parallel rows.

The alternating target patterns, rows and colors all combine to trick your brain.

I can tell you that the lines are parallel, but no matter how hard you try, you can't see them that way! That is because **your visual system is structured!**

The lines are parallel



CAFE WALL OPTICAL ILLUSION

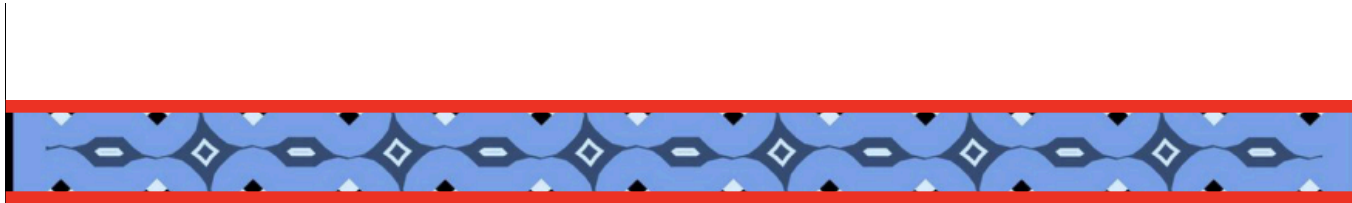
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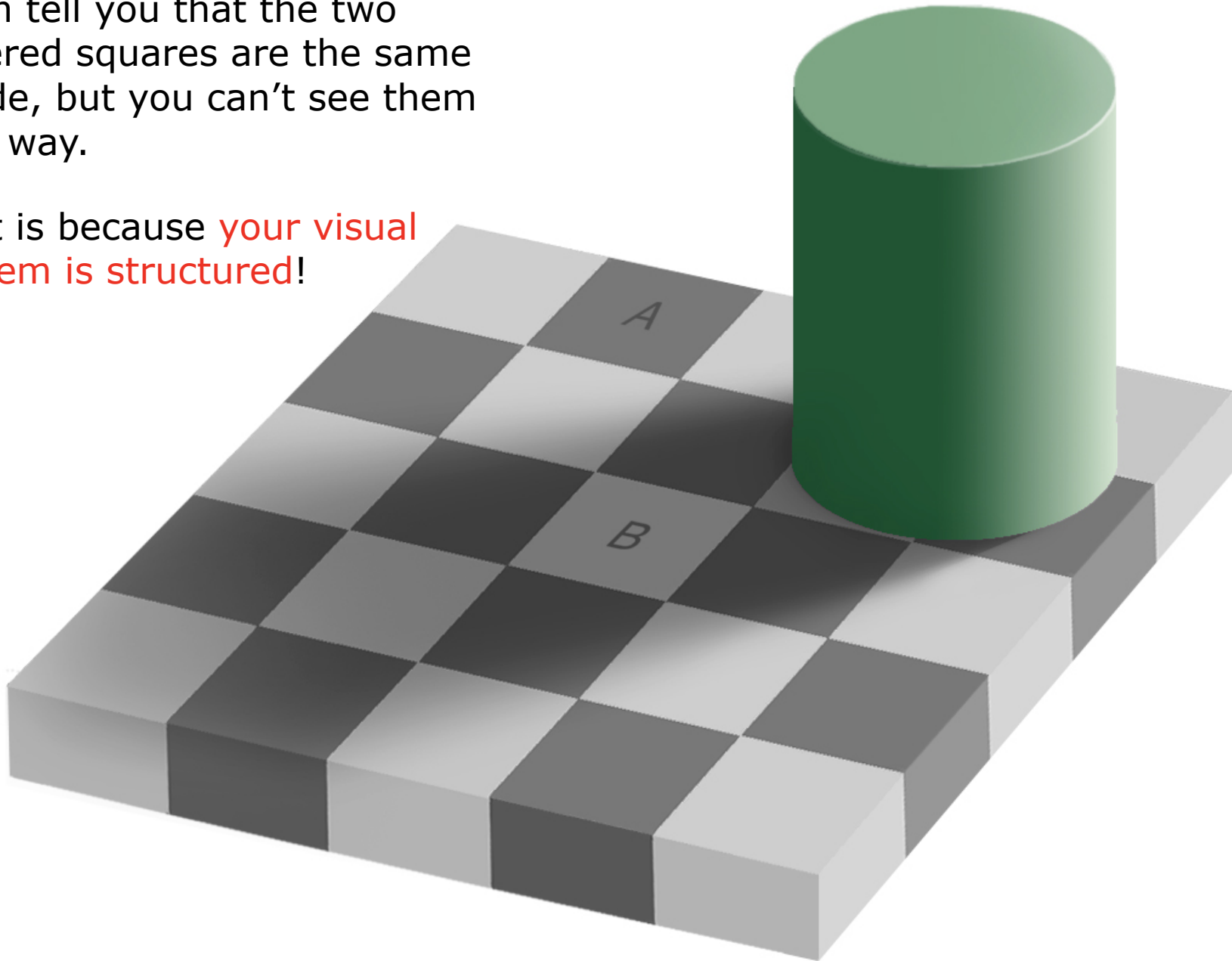
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The two squares are the same shade

I can tell you that the two lettered squares are the same shade, but you can't see them that way.

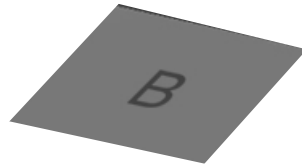
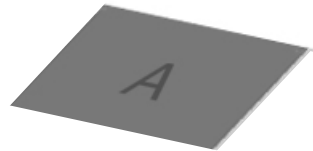
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More about optical illusions

Here is a website maintained by a vision scientist with interactive demonstrations of over 140 optical illusions, along explanations for those that vision scientists have figured out.

<https://michaelbach.de/ot/>

We want to explore that structure

Structure is the very essence of the mind. We want to understand that structure, and in doing so, better understand our own minds.

1. What is the structure that we see in a given cognitive ability?

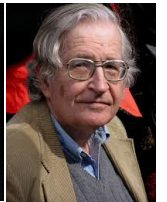
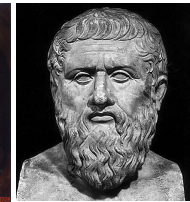
2. How did that structure get into our minds?

How much of it is part of our genetic code, and how much is learned from experience?

John Locke



Noam Chomsky



Plato

3. What are the consequences of that structure for human life?

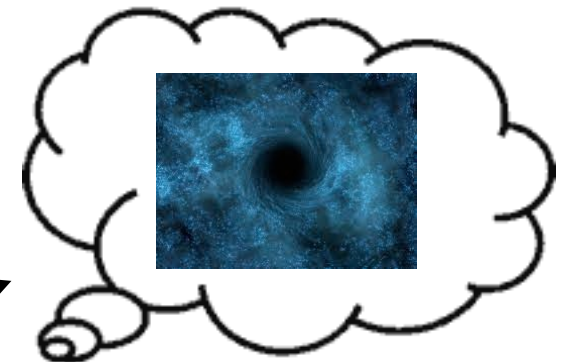
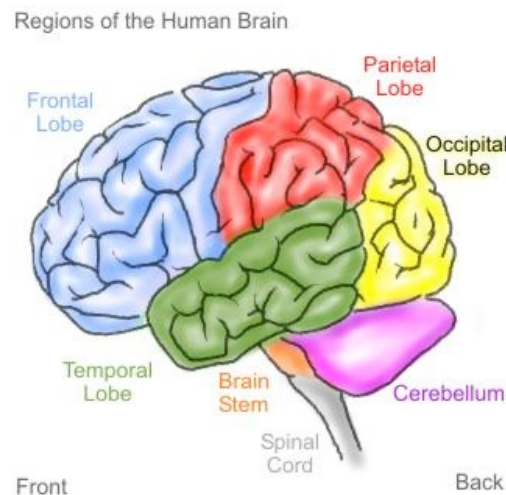
The Language Faculty

The Language Faculty

The Language Faculty is a term we use to refer to the set of all of the cognitive abilities that give rise to language in humans. More specifically, it is the set of abilities that allows us to convert physical signals like sound (or visual signs) to thoughts!



sound waves



meaning
(e.g., blackhole)

During **comprehension**, the language faculty turns speech sounds (or signs in sign language) into complex meanings.

During **production**, the language faculty turns complex meanings into motor commands for the vocal tract (or hands in sign language).

Language is complicated, hence it takes up an entire major!

words

un · believ · able

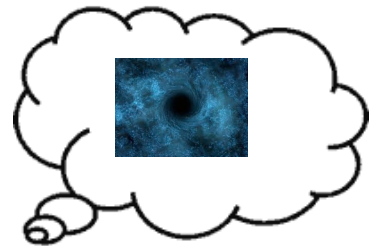
meanings

$\lambda x.\text{dog}(x)(\text{sparky})$

sound



thought



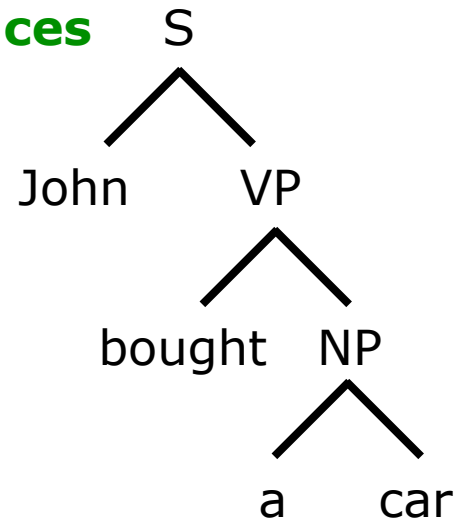
speech sounds

CONSONANT SOUNDS (PULMONIC)

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap				ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

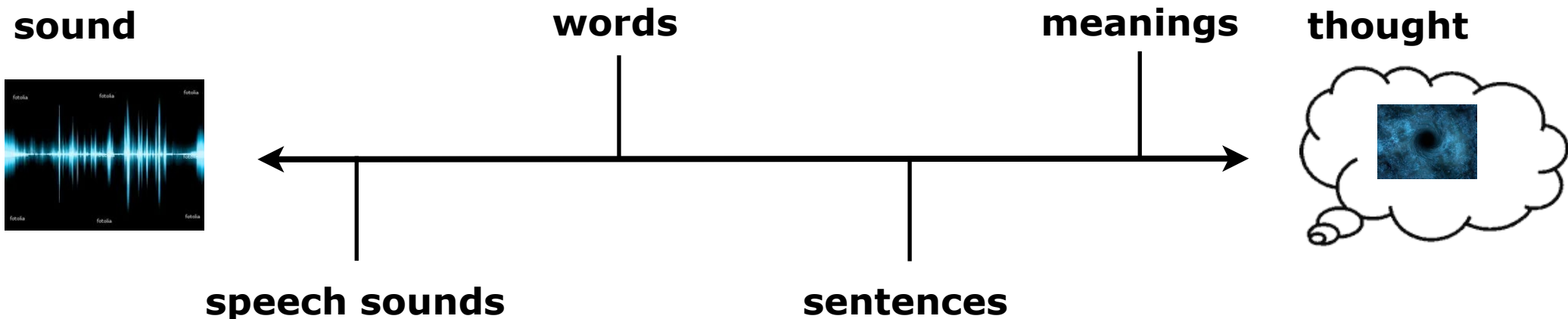
Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

sentences



Our goals in this class

1. **What is the structure** of the language faculty? In other words, how does each stage of converting from sound to meaning work?
2. How did these abilities **get into our minds/brains**? In other words, how do children actually **acquire** language?
3. How does a deeper understanding of what it means to know a language **affect our beliefs** about language (and the people that speak them)?



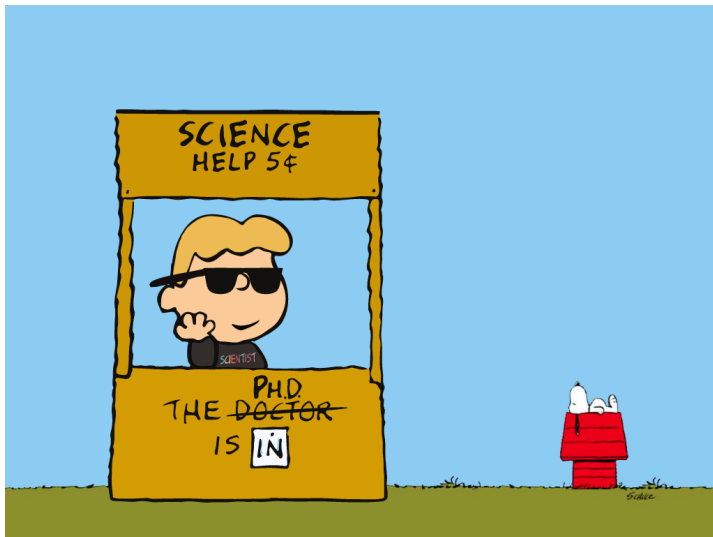
The structure of this course

Some advice about names

You can call me **Jon.**

As long as you promise to respect me as the professor of this course, I don't mind informality.

But if using my first name makes you uncomfortable, feel free to use **Prof. Sprouse** or **Dr. Sprouse**. I don't mind the formalities if it makes you more comfortable.



But for everybody else you meet or email:

Call professors **Prof. [last name]**.

Many staff at UConn have PhDs, so call them **Dr. [last name]**.

If they have (or prefer) a different title, they will tell you. But you can't go wrong by **starting high**.

Do not start with **Mr./Ms./Mrs.** They may sound like a downgrade. And Mrs. can come across sexist since it references marriage in a way that Mr. does not.



The two major principles

1. **My number one priority is to treat everyone fairly.**

As an educator, I think my most important responsibility is to give everyone the same chance to learn (and therefore succeed) in this course.

This means that I will treat everyone equally. Everybody will play by the same rules. I have spent quite a bit of time over the years thinking about lots of different scenarios, and trying my best to craft policies that will be fair to everyone.

Note that this means I am very unlikely to grant exceptions to policies. If you want an exception, you will have to prove to me that the course policies are specifically unfair to you; otherwise, giving you an exception would be unfair to everyone else!

2. **You are all in charge of your own education.**

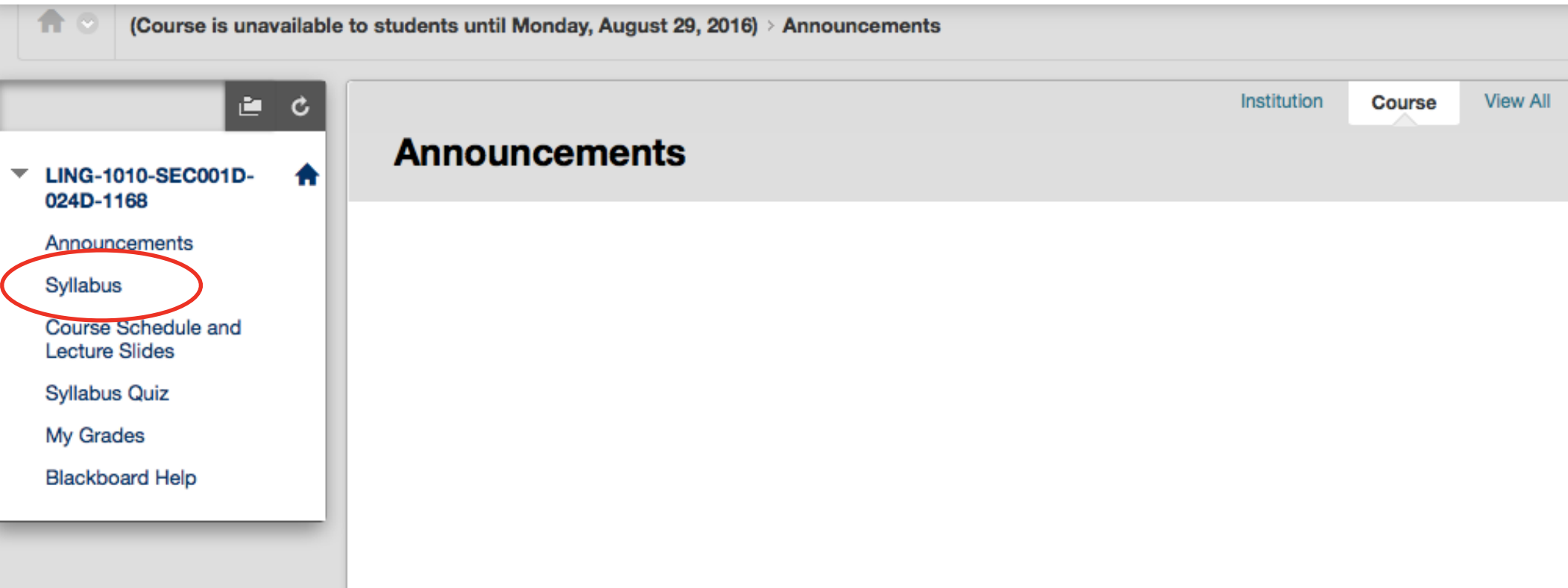
In college, you are in charge of your education. I have attempted to craft the course policies to allow you to make decisions about how best to navigate your education. I will tell you the rules, and my expectations, and then you can figure out how best to meet them within your own life.

Most important: Read the syllabus

The syllabus, and all course materials, are available on HuskyCT.

I have placed all of the course policies in the syllabus. Today I will give you a quick overview of the course policies, but you should still read the **syllabus**. It has more detail.

I am giving you all 10 points toward your final grade in exchange for your promise to read the syllabus!



The screenshot shows a Blackboard course interface. At the top, a navigation bar includes a home icon, a dropdown arrow, and the text "(Course is unavailable to students until Monday, August 29, 2016) > Announcements". Below this, a sidebar on the left lists course navigation options: "LING-1010-SEC001D-024D-1168" (with a home icon), "Announcements", "Syllabus" (circled in red), "Course Schedule and Lecture Slides", "Syllabus Quiz", "My Grades", and "Blackboard Help". The main content area has a header with "Institution", "Course" (selected), and "View All" tabs. Below the header, the word "Announcements" is displayed in large, bold text.

Course content

Lectures:

The content of this course comes from lectures. They will be [synchronous](#) and on Webex. The link is on HuskyCT. I strongly suggest you attend (but I will not take attendance). I will post the lecture slides online for you (but not recordings of the lecture).

Discussion Sections:

Your TA will lead you in [hands-on](#) activities designed around the content in the lectures. These activities will let you go a bit deeper into the material, and will show you what it is like to do linguistics directly. There will be 10 discussion sections. Attendance is not mandatory, but I will give you extra credit for attendance. These will be hosted [synchronously](#) by your TA on Webex. The links are on HuskyCT.



There is **no textbook** in this course. I have constructed the lecture slides in this course to eliminate the need for one (to save you money). The slides contain plenty of text in addition to pictures and diagrams. If you attend lecture, you should be able to re-read the slides to study for the exam.

Grades in this course

This course is graded out of 100 points. You earn points three ways:

- Exams:** There are 3 exams in this course. Each are 30 questions. Each is worth 30 points (=90 points total). They are multiple choice. They are non-cumulative (covering 1/3 of the course each). They will be online through HuskyCT. The dates are listed on HuskyCT. They will be open note/slides. They will be available online Monday-Saturday. **All questions come from the content in the lecture slides** (not discussion sections).
- Syllabus:** I will give you 10 points for free. All I ask is that you (silently) promise to read the syllabus. You don't have to take any action for this. Just read the syllabus so you understand the policies of the course.
- Extra Credit:** You can earn 0.5 points in extra credit for each week that you attend discussion sections. You must attend the full section (that you are registered for) and participate. Your TA has full authority over this. This yields up to +5 points on your grade!

Letter Grades

When it comes time to convert your numeric grade to a letter grade, I will use the following rubric:

Letter	Min	Max
A	92.5	105
A-	89.5	92.49
B+	86.5	89.49
B	82.5	86.49
B-	79.5	82.49
C+	76.5	79.49
C	72.5	76.49
C-	69.5	72.49
D+	66.5	69.49
D	62.5	66.49
D-	59.5	62.49
F	0	59.49

Notice that I am **rounding grades up** at the letter boundary! Between this and the extra credit opportunities, I am trying to do everything I can to help you get a good grade. You're welcome.

Disabilities

I will work with you to accommodate disabilities. However, to do so, I need notification from the Center for Students with Disabilities.

Please contact the CSD within the first two weeks of the semester:

<http://www.csd.uconn.edu/>

I cannot accept requests that do not come from the CSD.

The End for Today

(if we have time, I'll take questions through
the chat)