

What do we know and how do we know it?

Reasoning Exercises in Religion and Science



Seminar flow

Activity	Time
Introduction to Seminar 1	9.30 am – 9.40 am (10 mins)
Group Activity 1: Galileo – Science & the Church	9.40 am – 10.00 am (20 mins)
Lecture (Part 1): Islamic & Naturalistic Epistemologies	10.00 am – 10.45 am (45 mins)
Group Activity 2: Rational vs. Empirical vs. Revelatory Judgments	10.45 am – 11.05 (20 mins)
Stretch break	11.05 am – 11.10 am (5 mins)
Lecture (Part 2): Islamic & Naturalistic Epistemologies	11.10 am – 11.55 am (45 mins)
Q&A	11.55 pm – 12.25 pm (30 mins)



Instructors



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Islamic and Naturalistic Epistemologies



Seminar Learning Outcomes

SLO #	By the end of this seminar, inshaAllah, you will be able to...
1	Identify and explain the sources of knowledge and their relationship to each other.
2	Define, give examples of, and explain the relationship between the three types of propositions (rational, revelatory, empirical).
3	Classify various propositions and provide justification.
4	Demonstrate the position of scientific propositions in the Islamic epistemological framework.

Religion and Science

Scenario: “I leave my Islam at the door”

Discussion Questions:

- Is this the right approach? Why or why not?
- How would you define “Scientific Thought”
- How would you define “Religious Thought”

Religion and Science

Islamic Paradigm:

Theology and Science have much overlap

Theologians were the scientists!

- Is science neutral? – Influenced by scientist
- Are religious questions also scientific questions?

Religion and Science

How do we apply human reason?

Step 1: Have the right intention

- to learn, to understand, and benefit
- to increase yaqīn (certainty)
- to increase obedience to Allah Almighty

Step 2: Ask questions!

Galileo – Science and the Church

**Watch Video:
Galileo Galilei - in a Nutshell**

NutshellEdu

<https://www.youtube.com/watch?v=NMM8vx9vDiE>



**What was
Galileo
saying?**



**What was
the
Church
saying?**



**What does it
mean for
religion and
science to
conflict?**



PART 1

Overlapping Epistemologies

Islam and
Naturalism



PART 2

Karl Popper and the Unseen

Is revelation a
source of
knowledge?



PART 3

Integrating Science and Revelation

How do we
resolve conflict?



Epistemology

Episteme – knowledge; understanding

Epistemology - the study of knowledge; how do we know things? What do we know?

What is a proposition?

A proposition is a sentence which can either be true or false.

Proposition?

The sky is blue.

subject predicate

Yes

Zaid is not eating.

subject predicate

Yes

Stand up!

No

So, in a proposition, you either affirm or negate the predicate of the subject.

Another term for a proposition is judgment.

What is truth?

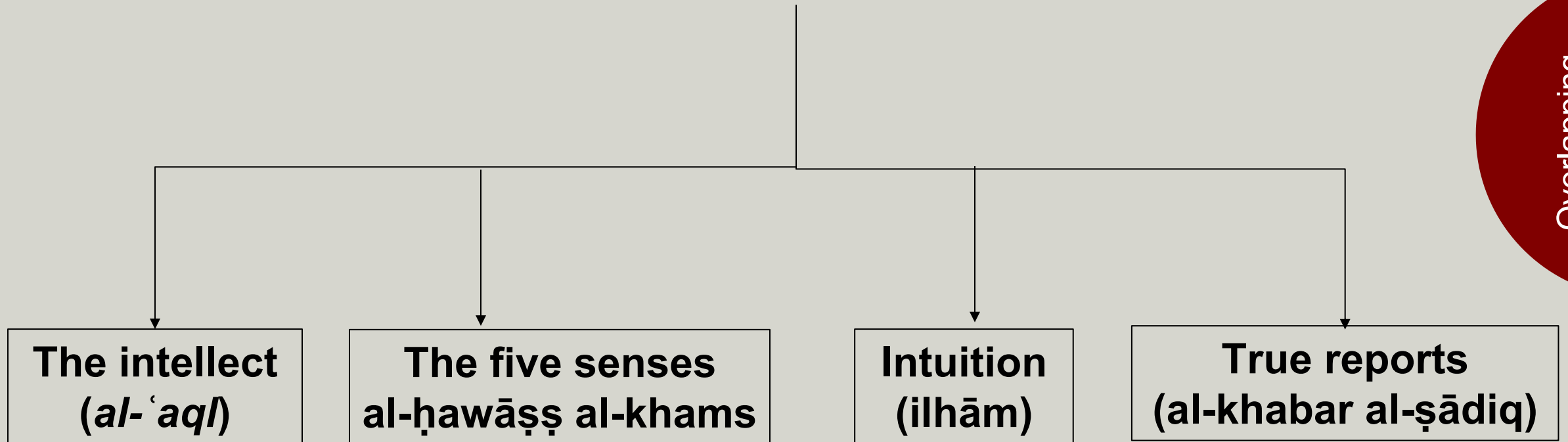
We stated that only propositions, or judgments, can be true or false.
Yet, the question remains: *how do we know if a proposition is true or not?*

For a proposition to be true, it must *correspond* to the object as it truly is.

This is known as the
correspondence theory of truth.

Epistemology

Muslim theologians state that humans have the following sources of knowledge:



Overlapping
Epistemologies

Epistemology – the senses

The **five senses**: touch, sight, hearing, taste, and smell.

The five senses provide us knowledge of physical objects.

Scholars call this knowledge ***empirical knowledge*** (knowledge from the senses).

Epistemology – the intellect (*al-‘aql*)

First principles of thought:

- Principle of non-contradiction (PNC)

Statement A : *Two is an even number.*

Statement B : *Two is not an even number.*

According to PNC, statement A *and* statement B cannot be true.

Epistemology – the intellect (*al-‘aql*)

First principles of thought:

- Principle of excluded middle (PEM)

Statement A : *Two is an even number.*

According to PEM, statement A is either true or false.
There is no middle state between true and false.

Epistemology – true reports

Knowledge gained from true reports (*al-khabar al-al-ṣādiq*) refers to knowledge we gain based on the testimony of others.

Testimonial knowledge rests on the *reliability* of the person conveying the Knowledge.

Can you provide me with examples of knowledge we gain from true reports?

Epistemology – Intuition

ilhām is divine inspiration that Allah Almighty reveals directly to a person's heart.

For example: Dreams

- Umar R – warning the Muslim army from afar.
- Fredrick Kekule – discovering the chemical formula of benzene

For all knowledge, make it a habit of thinking about what kind of knowledge it is and verify its level of truth.

Student Activity

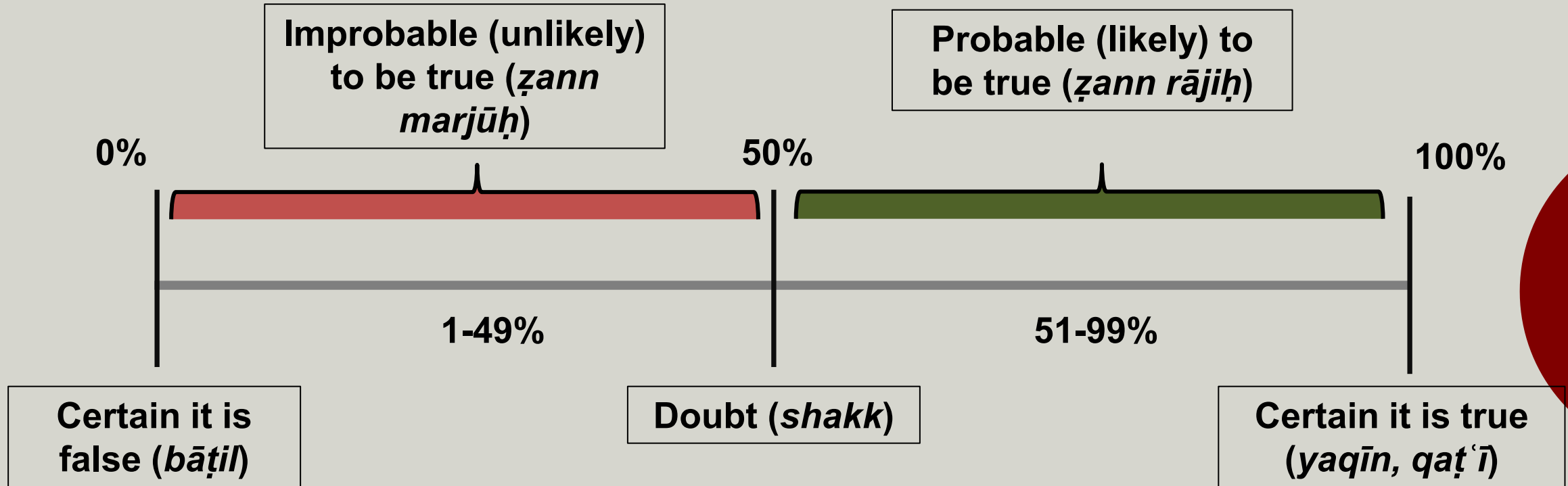
Name:

Sources of Knowledge

5 Senses:	Scenario/Example	True Report:
Intellect/ <i>'aql</i> :		Inspiration/ <i>ilhām</i> :



Spectrum of Certainty



Overlapping
Epistemologies

Epistemology

وَقَوْلِهِمْ إِنَّا قَتَلْنَا الْمَسِيحَ عِيسَى ابْنَ مَرْيَمَ رَسُولَ اللَّهِ وَمَا قَتَلُوهُ
وَمَا صَلَبُوهُ وَلَكِنْ شُبِّهَ لَهُمْ وَإِنَّ الَّذِينَ اخْتَلَفُوا فِيهِ لَفِي شَكٍّ مِّنْهُ
مَا لَهُمْ بِهِ مِنْ عِلْمٍ إِلَّا اتِّبَاعَ الظَّنِّ وَمَا قَتَلُوهُ يَقِينًا ١٥٧

“And [for] their saying, ‘Indeed, we have killed the Messiah, Jesus the son of Mary, the messenger of Allāh.’ And they did not kill him, nor did they crucify him; but [another] was made to resemble him to them. And indeed, those who differ over it are in **doubt** about it. They have no **knowledge** of it except the following of **assumption**. And they did not kill him, for **certain**.”

(Sūrah al-Nisā’ 4:157)

self-evident: judgments which *do not* require thought

inferential: judgments which require thought

Judgments

Three types
of judgments

→ Revelatory judgments – these are statements that are only known from Allah, the Exalted and His messenger. Examples: fasting during Ramadan is an obligation.

self-evident: the five pillars of Islam

inferential: there is no zakat on diamonds

→ Rational judgments – these are statements we know which do *not* require our senses nor revelation. Examples: 1 plus 1 is 2, 7 is not an even number.

self-evident: 1 is half of 2

inferential: 40 divided by 4 divided by 10 is 1

→ Empirical judgments – these are statements we know only from our five senses. Examples: fire burns, the speed of light is 299,792,458 m/s.

self-evident: fire burns

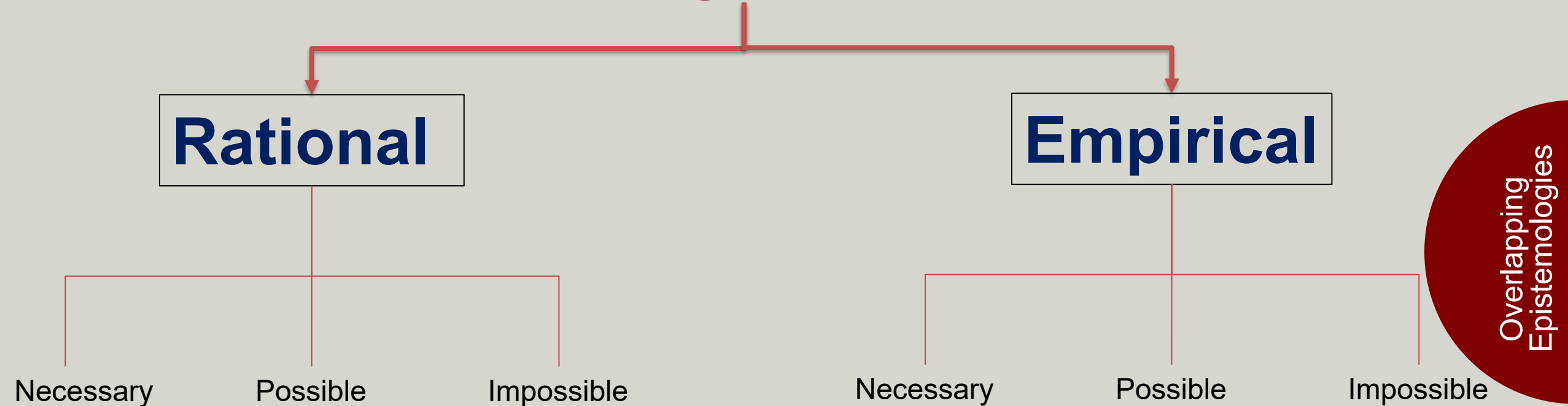
inferential: pepto bismol treats indigestion

Rational, Empirical, or Revelatory?

Judgment	Rational	Empirical	Revelatory
Water boils at 212°F		☒	
God exists	☒		
Tylenol relieves pain		☒	
Force is mass times acceleration		☒	
Paradise exists			☒
Muhammad ﷺ is the messenger of God	☒		
Humans will be resurrected			☒

Overlapping
Epistemologies

Judgments



Necessary – that which cannot be negated

Possible – that which can be affirmed or negated

Impossible – that which cannot be affirmed

Judgments

How do we apply human reason?

Step 1: Have the right intention

- to learn, to understand, and benefit
- to increase yaqīn (certainty)
- to increase obedience to Allah Almighty

Judgments - Rational

Rational Propositions	Necessary	Possible	Impossible
The sum of the parts of a thing can be greater than the whole			☒
Extra terrestrial life exists		☒	
Matter takes up space	☒		
The creation of the cosmos		☒	
My hand burns when I put it in a fire		☒	
The Sun is 91.414 million miles away from the Earth		☒	
A human being can be 1 mile away from the Sun and not burn		☒	
A square circle			☒
God does not exist			☒

Necessary – that which cannot be negated

Possible – that which can be affirmed or negated

Impossible – that which cannot be affirmed

Judgments - Empirical

Empirical Propositions	Necessary	Possible	Impossible
Human beings can live without the Sun			☒
Sound travels four times faster in water than it does in air	☒		
There are 118 elements on the periodic table		☒	
Carbon can have 20 electrons			☒
On Earth, water boils at 20 degrees Celsius			☒
The Sun is 91.414 million miles away from the Earth		☒	
A human being can be 1 mile away from the Sun and not burn			☒
Thick clothing conceals my body	☒		

Necessary – that which cannot be negated

Possible – that which can be affirmed or negated

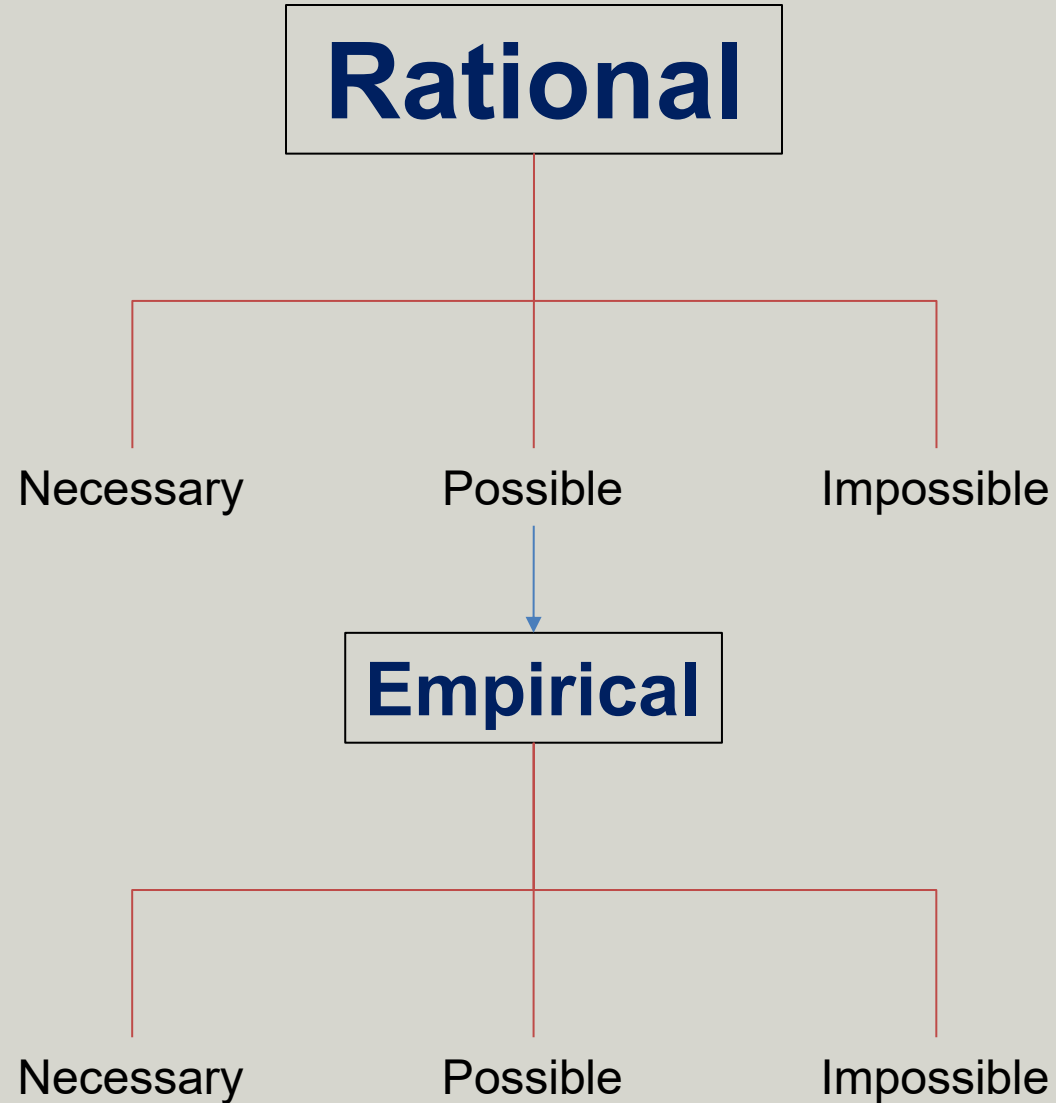
Impossible – that which cannot be affirmed

Judgments

Question

what is the *relationship* between rational judgments and empirical judgments?

Judgments



Judgments

Question

what is the *relationship* between rational judgments and empirical judgments?

Answer

All empirical judgments can *only* fall under *possible* rational judgments.

The Level of Certainty of Judgments

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graph TD; A[The Level of Certainty of Judgments] --> B[Conclusive – qaṭʿī]; A --> C[Probabilistic – ḡannī]; B --> D["e.g., a proposition we are absolutely certain of or a text that does not admit of more than one meaning"]; C --> E["e.g., a proposition we are not certain of or a text that does admit to more than one meaning"];
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Conclusive – qaṭʿī

e.g., a proposition we **are absolutely certain** of or a text that does not admit of more than one meaning

Probabilistic – ḡannī

e.g., a proposition we **are not certain** of or a text that does admit to more than one meaning

Overlapping
Epistemologies

Naturalism

- The belief that everything arises from natural properties or causes
- Science is the study of natural properties and causes
- Therefore, science can discover everything

A philosophical school which maintains “that reality is exhausted by nature, containing nothing “supernatural,” and that the scientific method should be used to investigate all areas of reality, including the “human spirit” (Stanford Encyclopedia of Philosophy)

Islamic Epistemology

- o Rational Judgments
- o Empirical Judgments
- o Revelatory Judgments

Naturalistic Epistemology

- o Rational Judgments
- o Empirical Judgments

Islamic Epistemology

- o Rational Judgments
- o Empirical Judgments
- o Revelatory Judgments

Naturalistic Epistemology

Necessary

- o Rational Judgments
- o Empirical Judgments

Islamic Epistemology

- o Rational Judgments
- o Empirical Judgments
- o Revelatory Judgments

Naturalistic Epistemology

Necessary

- o Rational Judgments
- o Empirical Judgments

Superstition



Islamic Epistemology

Naturalistic Epistemology

JUSTIFIED BELIEFS

Rational Judgments

Empirical Judgments

Revelatory Judgments

UNJUSTIFIED BELIEFS

Everything Else

JUSTIFIED BELIEFS

Rational Judgments

Empirical Judgments

UNJUSTIFIED BELIEFS

Everything Else

Overlapping Epistemologies

Islamic Epistemology

Naturalistic Epistemology

JUSTIFIED BELIEFS

Rational Judgments

Empirical Judgments

Revelatory Judgments

UNJUSTIFIED BELIEFS

Everything Else

JUSTIFIED BELIEFS

Rational Judgments

Empirical Judgments

UNJUSTIFIED BELIEFS

Everything Else

What kinds of overlap are possible?

How is it resolved from the perspective of Islamic Epistemology?

How is it resolved from the perspective of Naturalistic Epistemology?

Overlapping Epistemologies

Conflicts and Overlap

- Are miracles possible?
- Is revelation a source of knowledge?
- How do we resolve conflicting information from revelation and science?

PART 1

Overlapping Epistemologies

Islam and
Naturalism



PART 2

Karl Popper and the Unseen

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Integrating Science and Revelation

How do we
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Karl Popper—Science is the only way to the truth

Falsification Principle

- A scientist's job is to be critical of any, and all, claims.
- A scientist should set out to disprove a hypothesis.
- Only deduction can be used

Issues of Popper's falsification principle

- We must use induction due to limited observations
- Must agree on accepted principles
- Limited to observational/empirical data only (ignores rational and revelatory judgments)
- Popper never believed in attaining certainty, so even science is not a way to certainty

Anthony Flew—His own words can be used to refute his argument.

Verification Principle

Verification Principle

- A scientist's job is to empirically prove any, and all, claims.
- A scientist should set out to disprove a hypothesis.
- Aimed to eliminate metaphysical and speculative assertions that could not be tested through empirical observation or logical analysis.

Issues with the verification principle

- Excludes many statements that are considered scientifically meaningful but are not directly verifiable (e.g., universal statements)
- Limited to observational/empirical data only (ignores rational and revelatory judgments)

How Would Karl Popper Analyze These Propositions?

- Water boils at 100 degrees Celsius
- An unseen realm of angels exists
- God exists

Karl Popper

How Would a Muslim Analyze These Propositions?

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Integrating Revelation and Science

O Abu Dharr, do you know where the sun sets?

...

Verily it disappears until it prostrates beneath the throne.

...

(Bukhari)

Your Task

- Where is the overlap between revelation and science in evolution?
- What are the revelatory propositions?
 - Are they conclusive or probabilistic?
- What is the empirical proposition?
 - Is it conclusive or probabilistic?

Connecting Back:

**How would Muslim scholars have
responded to Galileo?**

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