

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

ALI 431: INTRODUCTION TO TRADITIONAL LOGIC

ALI 431: Intro to Mantiq Ses 1

By Syed Ali Imran

What is Logic?

- **It is a canonical tool. If one makes use of this tool, they will have their mind immunized from error – and it will assist in thinking correctly**
- The thinking process entails turning an unknown into a known
- Aristotle is famously credited for composing it into text

Presumptions made in Logic

- Epistemology
 - Foundationalism, realism, objectivity, value of the different tools of knowledge etc.

Division of Topics in Logic

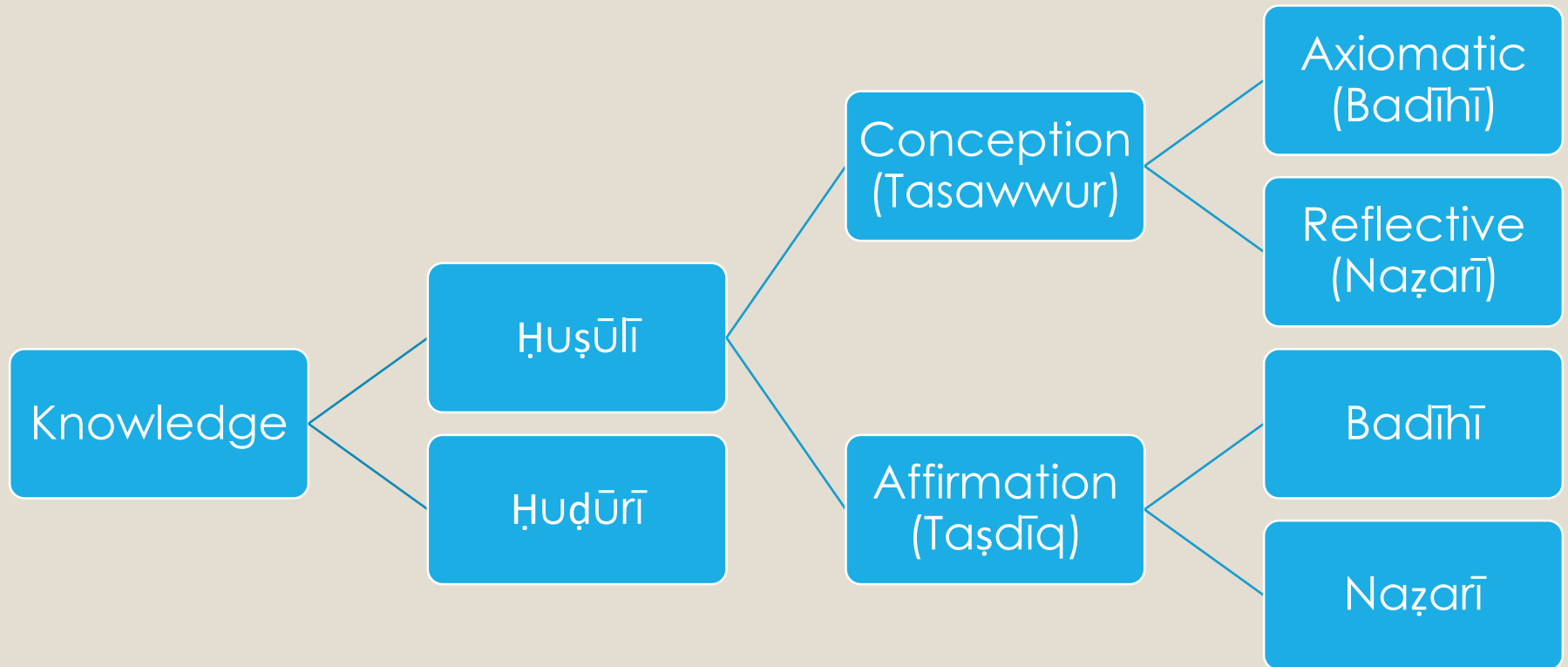
- Part One: Conceptions
- Part Two: Affirmations

Knowledge (العلم)

- Muslim philosophers after Suhrawardi (d. 1191) divided knowledge into two types: 1) **Acquired Knowledge** and 2) **Presential Knowledge**

- ❖ **Acquired Knowledge** (Ḥuṣūlī): Knowledge with an intermediary. The intermediary is a mental form, concept or impression in the mind
- ❖ **Presential Knowledge** (Ḥuḍūrī): Knowledge without an intermediary or a medium – the known object is present with the knower
 - ❖ Examples: Knowledge of our mental images, knowledge of the self, our internal states
 - ❖ *Presential Knowledge is not discussed in Logic*

Division of Knowledge



SECTION ONE TAŞAWWUR

Conceptions

Semiotics (مباحث الالفاظ)

Why the need?

- making yourself understood, and conveying your thoughts to others can only be done through a language

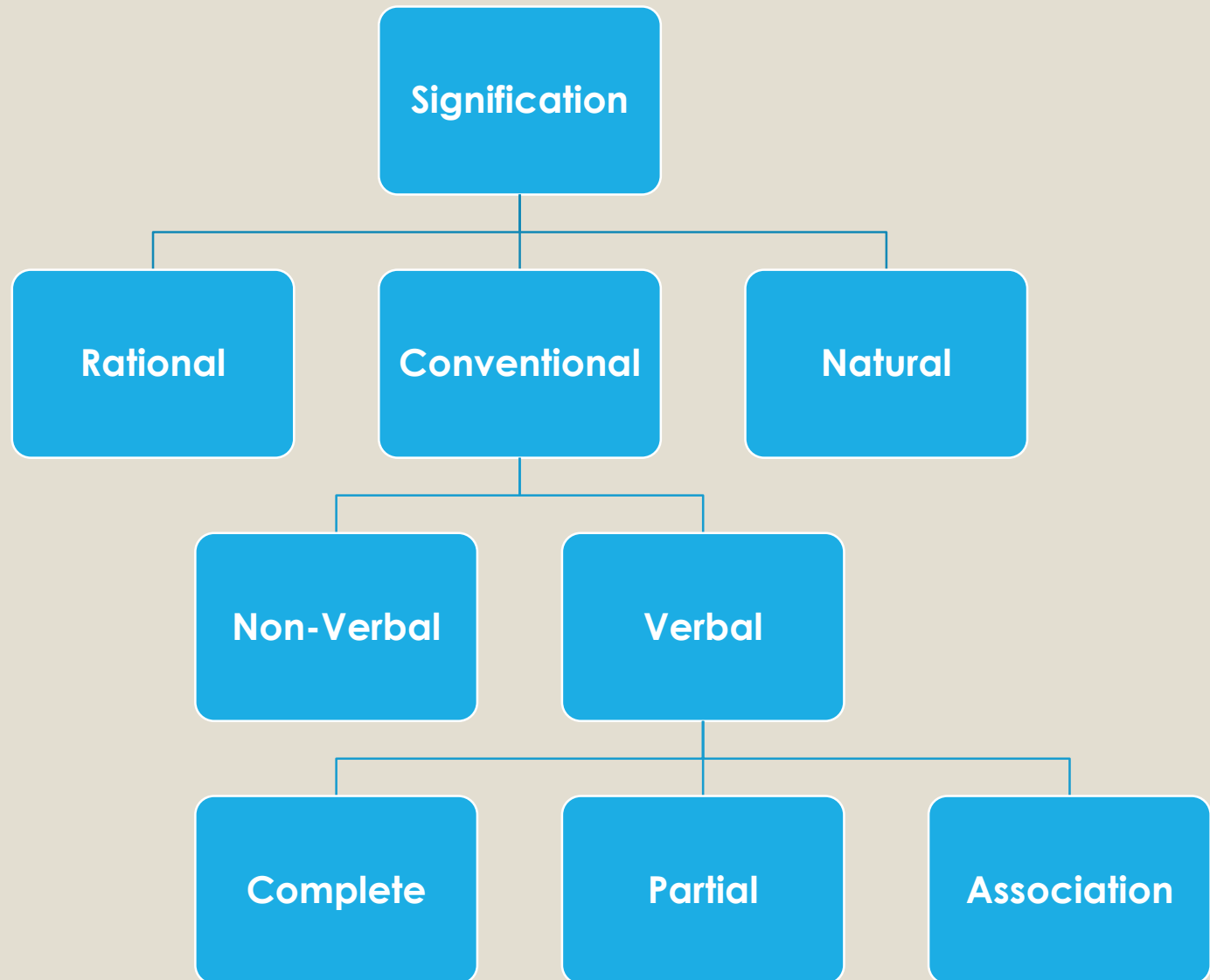
Four modes of existence:

- **External:** such as your own existence, or the existence of a thing around you
- **Mental:** our knowledge of an external thing; concepts
- **Verbal:** [semiotic] relationship unites the vocal expression and the meaning, making it like a single entity
- **Written:** for those who are absent or those who have not yet come, there must be another means for people to make themselves known

Signification (الدلالة)

Definition:

when an
“existence of
a thing, if you
are aware of
its existence,
transfers your
mind to some
other thing.”



Classification of Words

- Division based on the meaning it signifies:
 - **Specific or Monosemic (مختص)** – one word, one meaning
 - حيوان، باب
 - **Homonym or Polysemic (مشترك)** – one word, multiple meanings
 - عين، شیر (فارسی)
 - **Derived (منقول)** – one word, different meaning, but the meanings have a relationship and we know which meaning came first
 - صلاة
 - **Developed (مرتجل)** – this is like the *manqul* but we don't know which meaning came first
 - Names of people
 - **Literal & Metaphorical (حقیقة و مجاز)**
 - زيد اسد

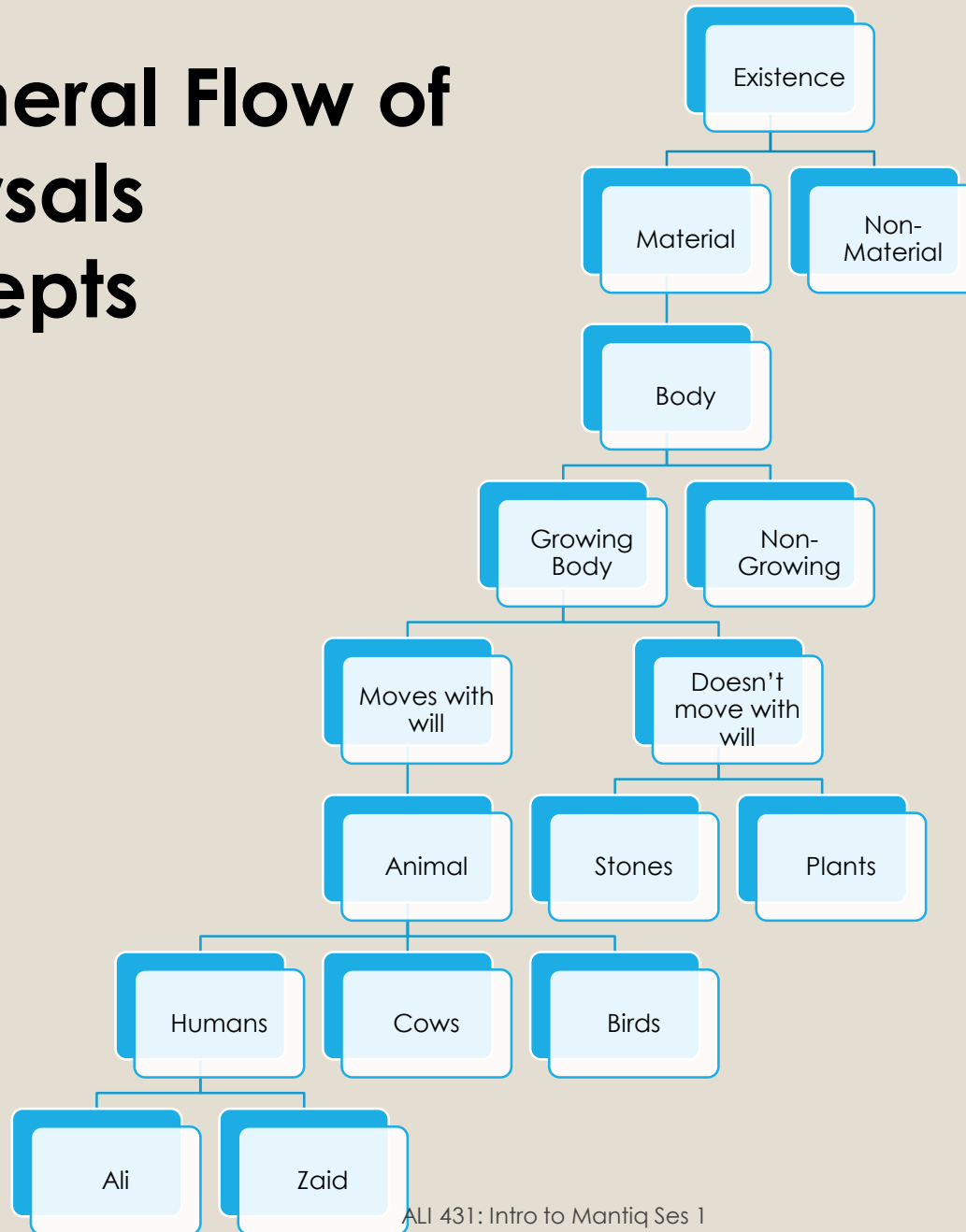
Division of Composite Words



Study of Universals (الكليات)

- **Universal (الكلي)** : a mental concept which **can** (doesn't have to) be instantiated upon more than one thing
 - Human, animal, mineral, cat, pencil
- **Particular (الجزئي)** : a mental concept which cannot be applied to more than one thing
 - This pen, this animal, this man
- **Concept (مفهوم)** : actual mental image which is derived from the reality of things
- **Instance (مصدق)** : is the thing which the concept is predicated upon. It is the actually existing thing, from which the concept is derived

A General Flow of Universals Concepts



Division of Universals

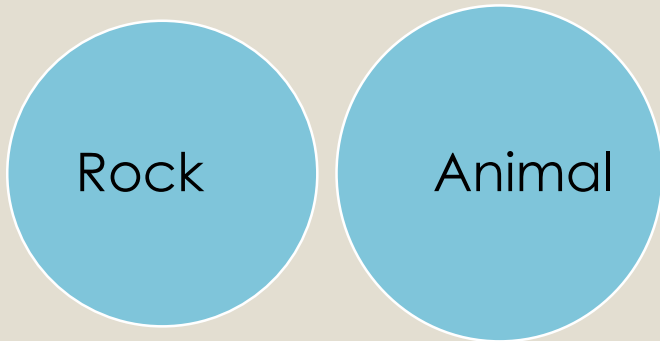
- **Univocally Applicable Universals (متواطئ)**
 - no variations in terms of this concepts' applicability to its instances
 - Example: Wall, Pen, Tissue, Table
- **Ambiguously Applicable Universals (مشكك)**
 - gradational in terms of a concept's applicability to its instances
 - Example: White, Green, Hot, Cold

The Four Relations

Between instantiations there can be four possible relationships:

- **Opposition (تباين)**
 - the two concepts can never be joined with the other
- **Equal (متساوي)**
 - there is complete overlap between the instantiations of two concepts
- **Complete Inclusion (عموم و خصوص مطلق)**
 - the first concept can be predicated on all the individuals of the second concept and more [but not vice-versa]
- **Partial Inclusion (عموم و خصوص من وجه)**
 - correlation between two concepts in some instances, and a complete separation between them in others

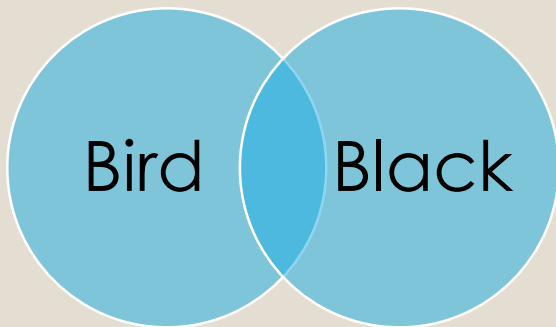
The Four Relations



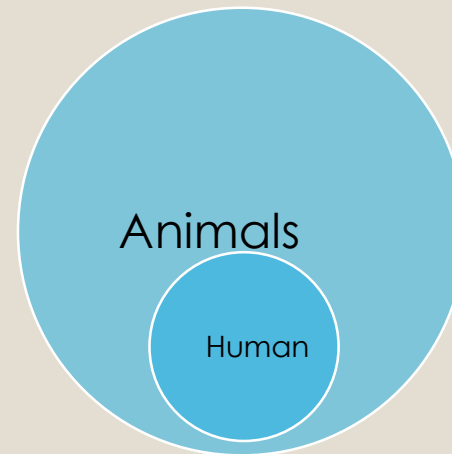
Opposition - No rock is an animal and no animal is a rock



Equal - All rational are human and all human are rational



Partial Inclusion - Some birds are black and some blacks are birds



Complete Inclusion - Some animals are human, but all humans are animals

The Five Universals

- Universal may be divided into essences and accidentals
- Essences are divided into 3: species, genus and differential
- They establish the intrinsic nature of a thing

1) Species (نوع)

- A person may ask a question about Zayd, Umar, and Khalid, asking “what is this?” Or a person might ask about human beings, horses, cows “What is this?”
- common reality shared between a group of individuals
- **Example:** Humans

2) Genus (جنس)

- common reality shared between a group of individuals, but also have their own individual realities
- **Example:** Animal (for humans)

The Five Universals

3) Differential (فصل)

- Part of a being's quiddity - however, it is the special part of that being which distinguishes it from all other things
- **Example:** Rationality (for humans)

Accidentals

- Accidental universals are separate from the essence, but it is something that is still connected to a thing

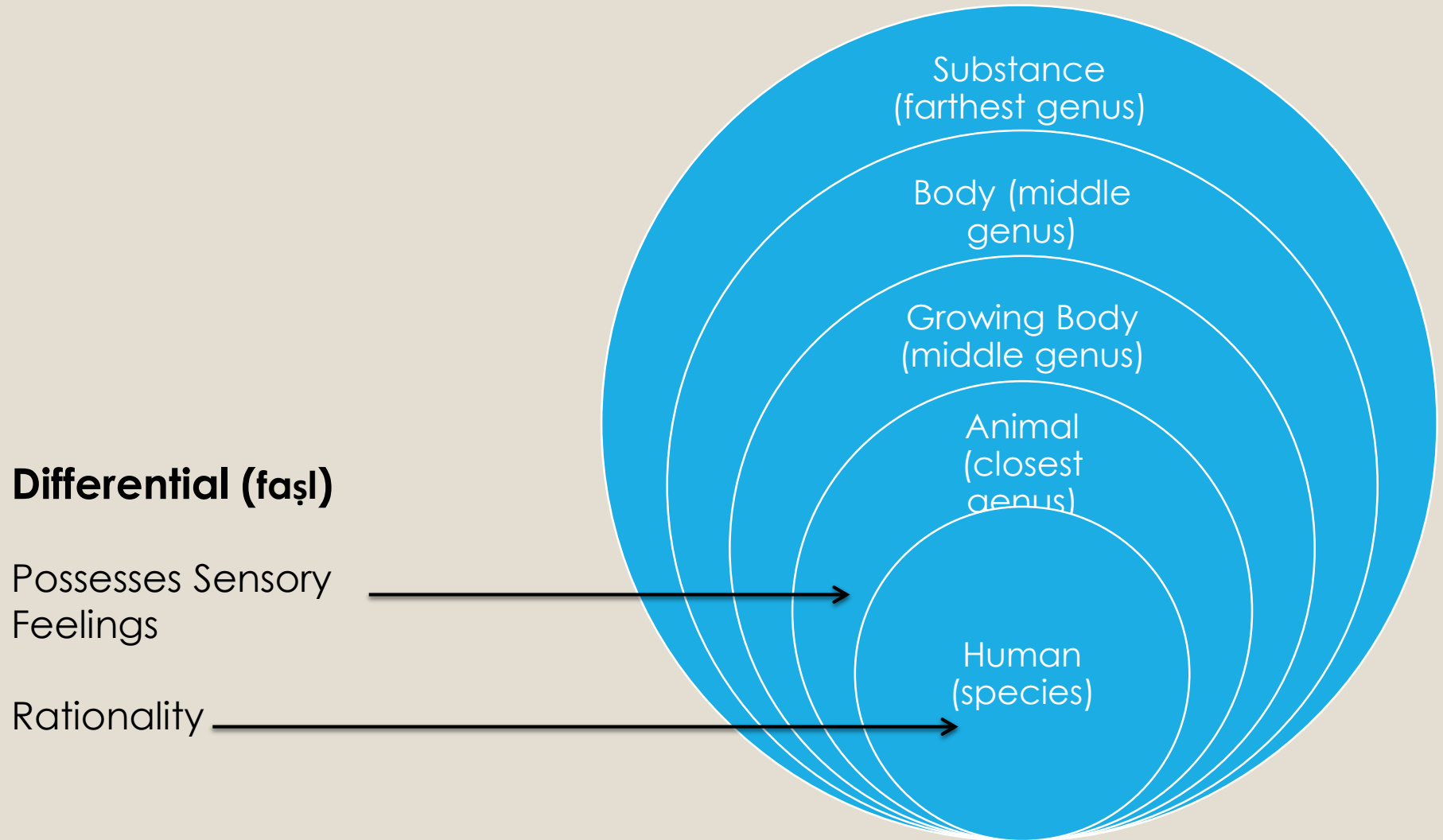
4) Concomitant accidental

- A universal which is external to a thing, but is nonetheless uniquely associated with it
- **Example:** Laughter (for humans)

5) General accident

- A universal which is external to a thing, and is not uniquely associated with it either
- **Example:** Walking (for humans)

The Five Universals



Definition (التعريف)

When it is asked “What is a human”, the answer for it is called the Definiens

There are 4 types of definiens:

- **Complete Term**

- Species = Close Genus + Close Differential

- **Deficient Term**

- Species = Far Genus + Close Differential

- **Complete Description**

- Species = Close Genus + Concomitant accidental

- **Deficient Description**

- Species = Far Genus + Concomitant accidental

Definition (التعريف)

- The answer to the question, **what is a human** would thus become:
 - **Complete Term**
 - Human = Animal + Rational (i.e. rational animal)
 - **Deficient Term**
 - Human = Growing Body + Rational
 - **Complete Description**
 - Human = Animal + Laughing (i.e. laughing animal)
 - **Deficient Description**
 - Human = Body that grows + Laughing
- What type of definitions are these:
 - Animal = Growing Body + Possesses Sensory Feelings
 - Body = Substance + 3-Dimensional

Definition (التعريف)

Additional types of Deficient Descriptions

◦ **Defining by example**

- You bring an actual instance as the definition
- What is a pen? **Answer:** You show the person a pen

◦ **Defining by comparison**

- What is a tablet? **Answer:** It is like a smaller version of a laptop
- What is a cell-phone? **Answer:** It is like a wireless version of a telephone

Conditions for defining:

- 1) The mu'arrif should equal the mu'arraf in their affirmation
- 2) The mu'arrif should be more clear and apparent than the mu'arraf
- 3) The mu'arrif should not be a synonym
- 4) The definition should not be circular
- 5) The definition should not make use of complicated and difficult words

SECTION TWO TAŞDĪQĀT

Affirmations

Division of Affirmations

Certainty (Yaqīn)

- Complete assent without any possibility of it being false; or there is a complete assent of a proposition's falseness – 100%

Speculation (ẓann)

- This is the **likelihood** of the predicative proposition being true – above 50%

Estimation (Wahm)

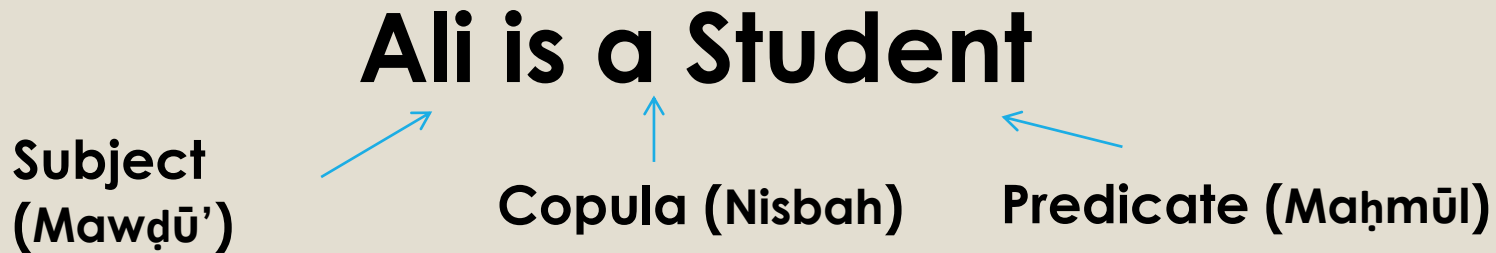
- One holds some possibility for the statement being true, but his belief falls on the side of its negation – below 50%

Doubt (Shakk)

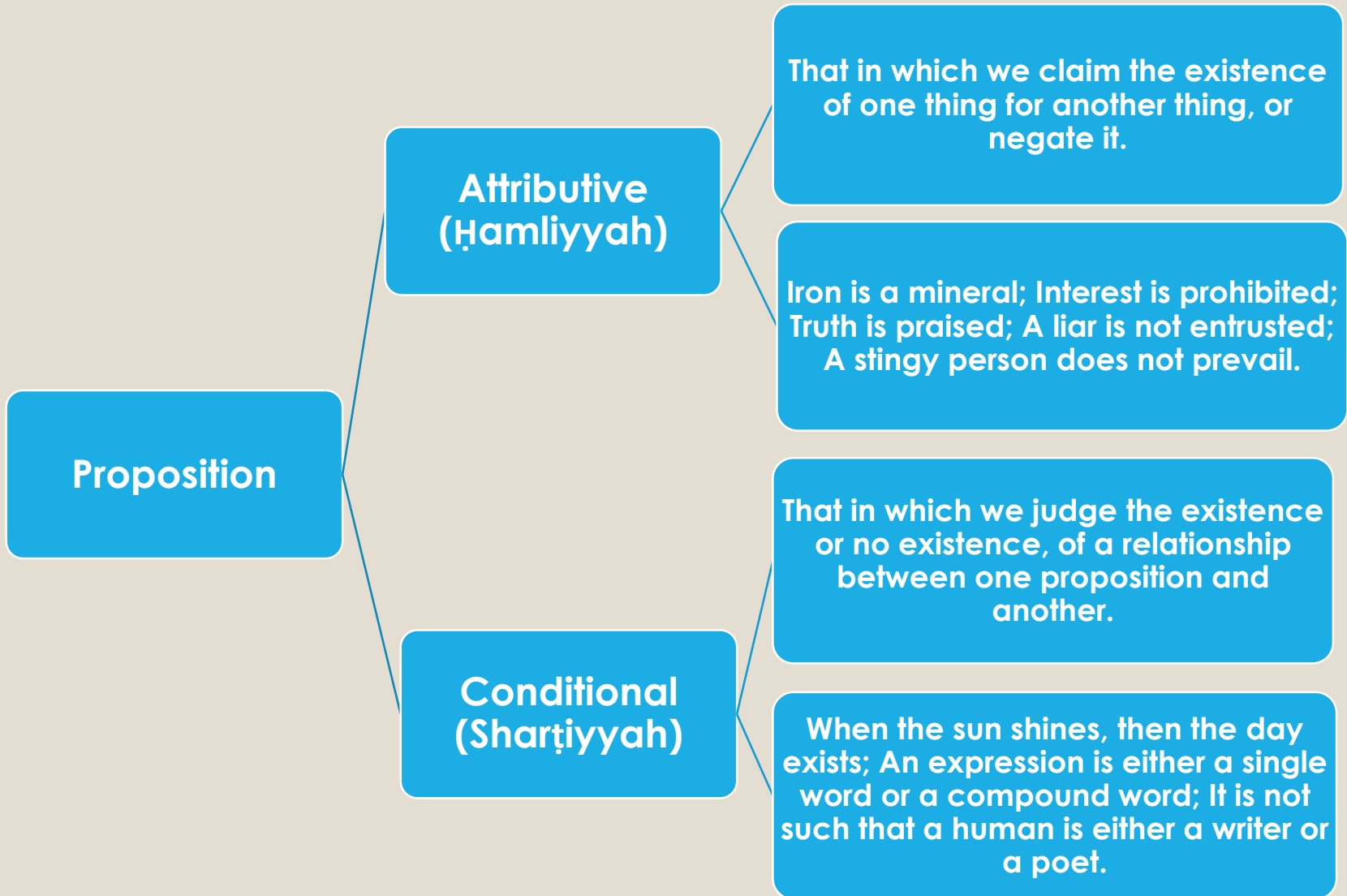
- The likelihood of the predicate's truth or falsehood is considered equal – 50%

Propositions (قضایات)

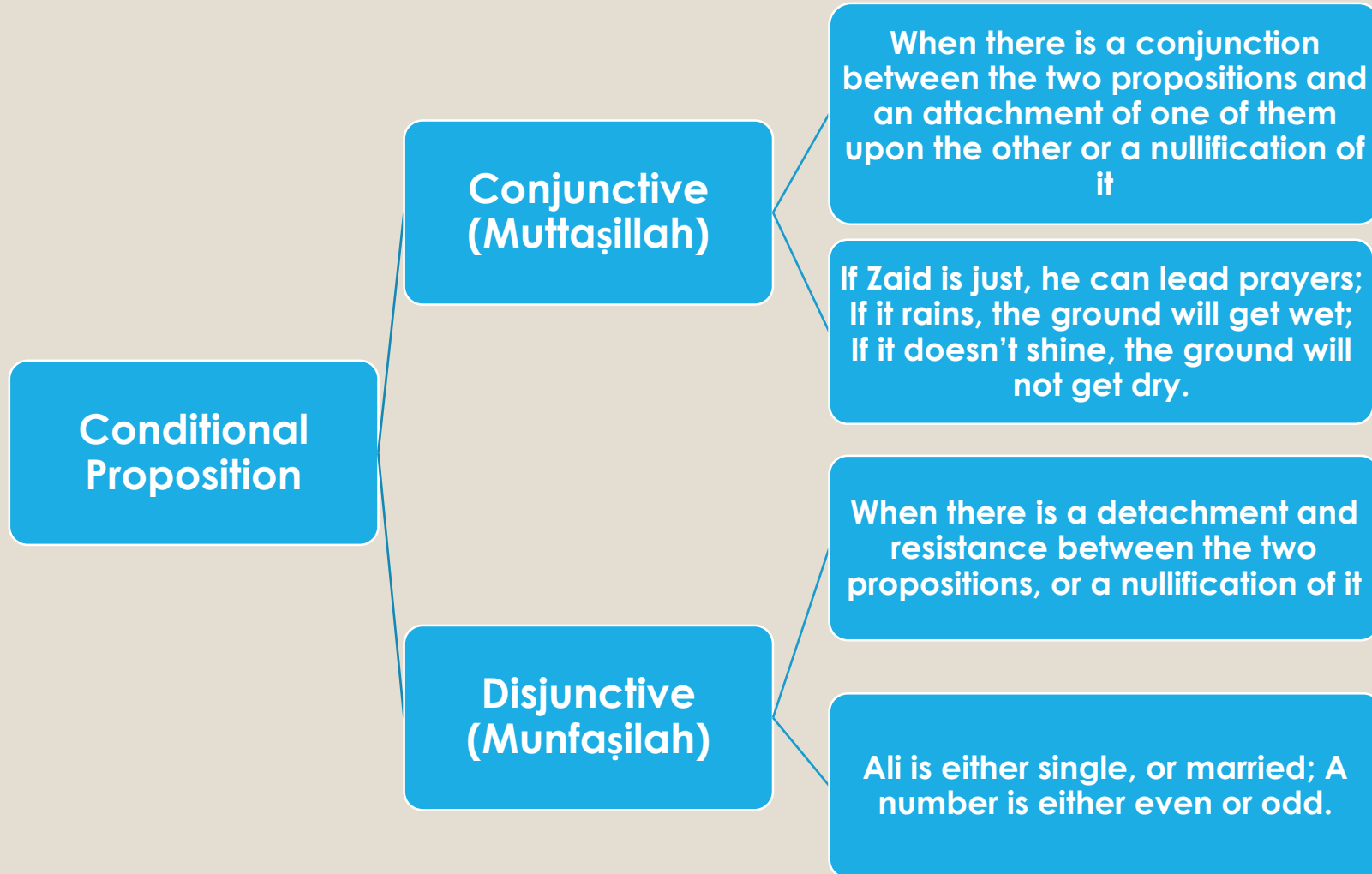
- **Definition:** A proposition (قضیة) is a complete compound phrase which can be attributed to truth or falsehood



Divisions of Propositions



Division of Propositions



Divisions of Propositions

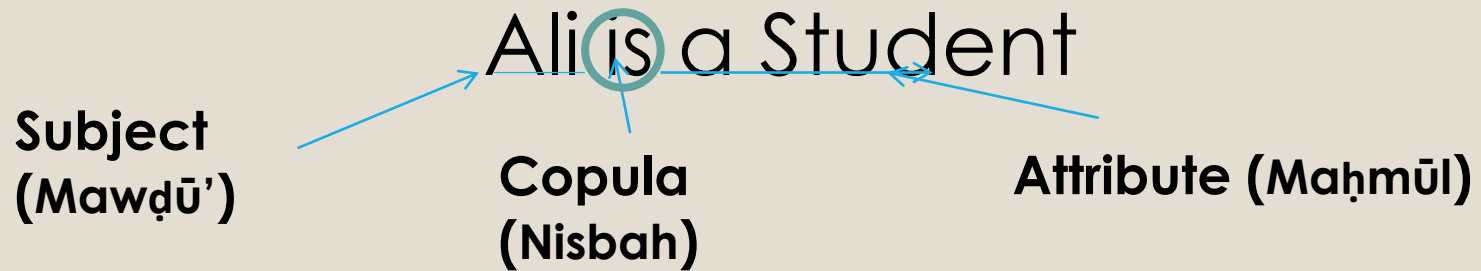
- All the divisions of a proposition - whether they be attributive, or conjunctive or disjunctive - can be divided into negative and affirmative
 1. If it has a relationship of attribution then it is affirmative
 - Example: Ali **is** a student. If it rains, the ground **will** get wet
 2. If it has a negation of an attribution then it is negative
 - Example: Ali **is not** a student. If it rains, the ground **will not** get dry

Are these affirmative or negative?

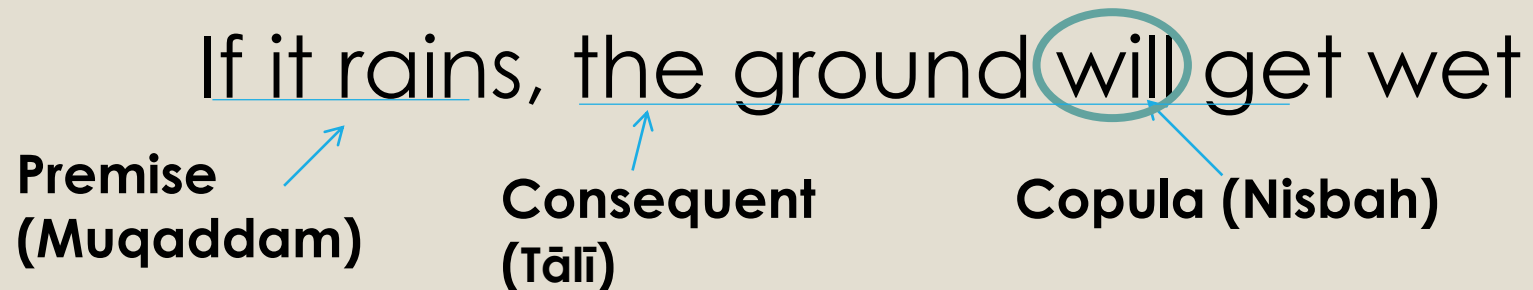
- If it doesn't rain, the ground will get dry
- Ali is unmarried
- A number is either not-even, or not-odd
- A human is not either a chair or a cow

Divisions of Propositions

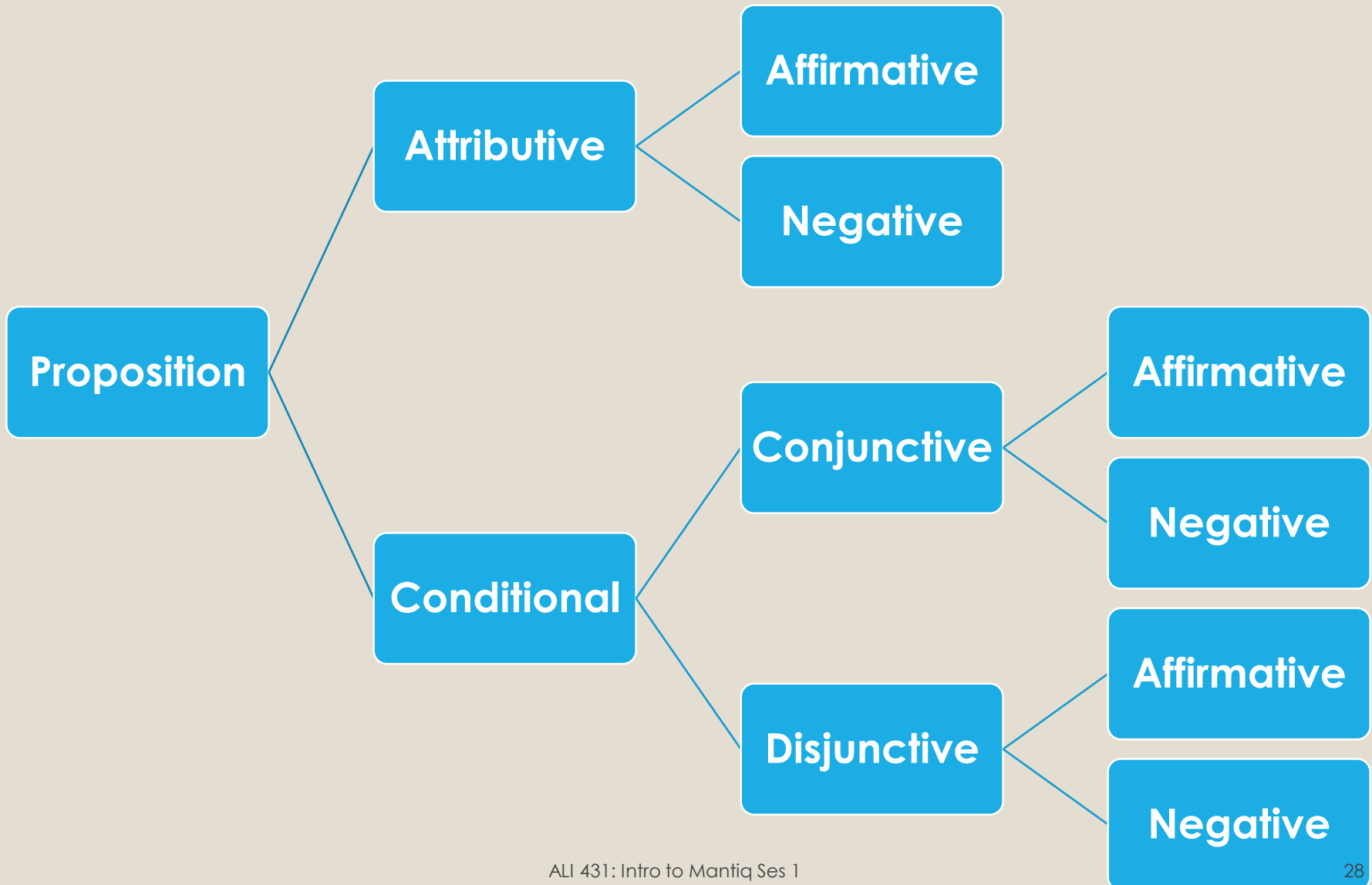
- Components of an Attributive Proposition:



- Components of a Conjunctive Conditional Proposition:

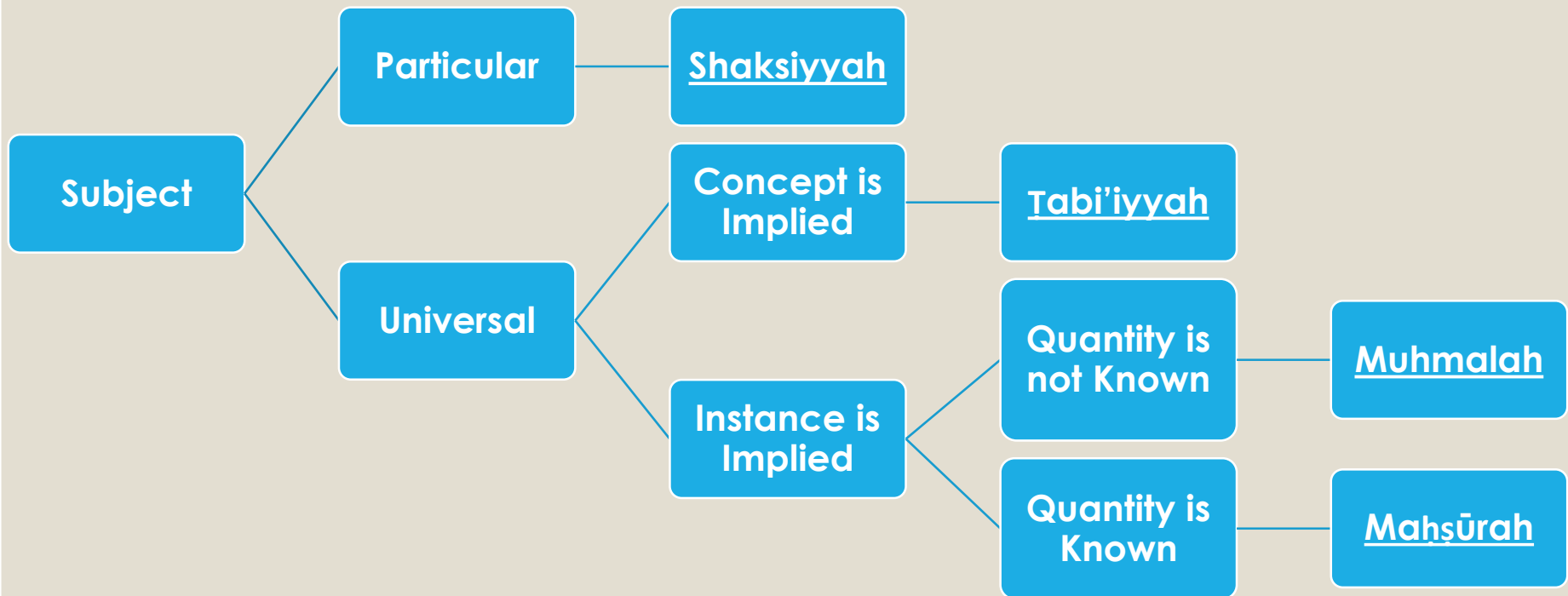


Divisions of Propositions



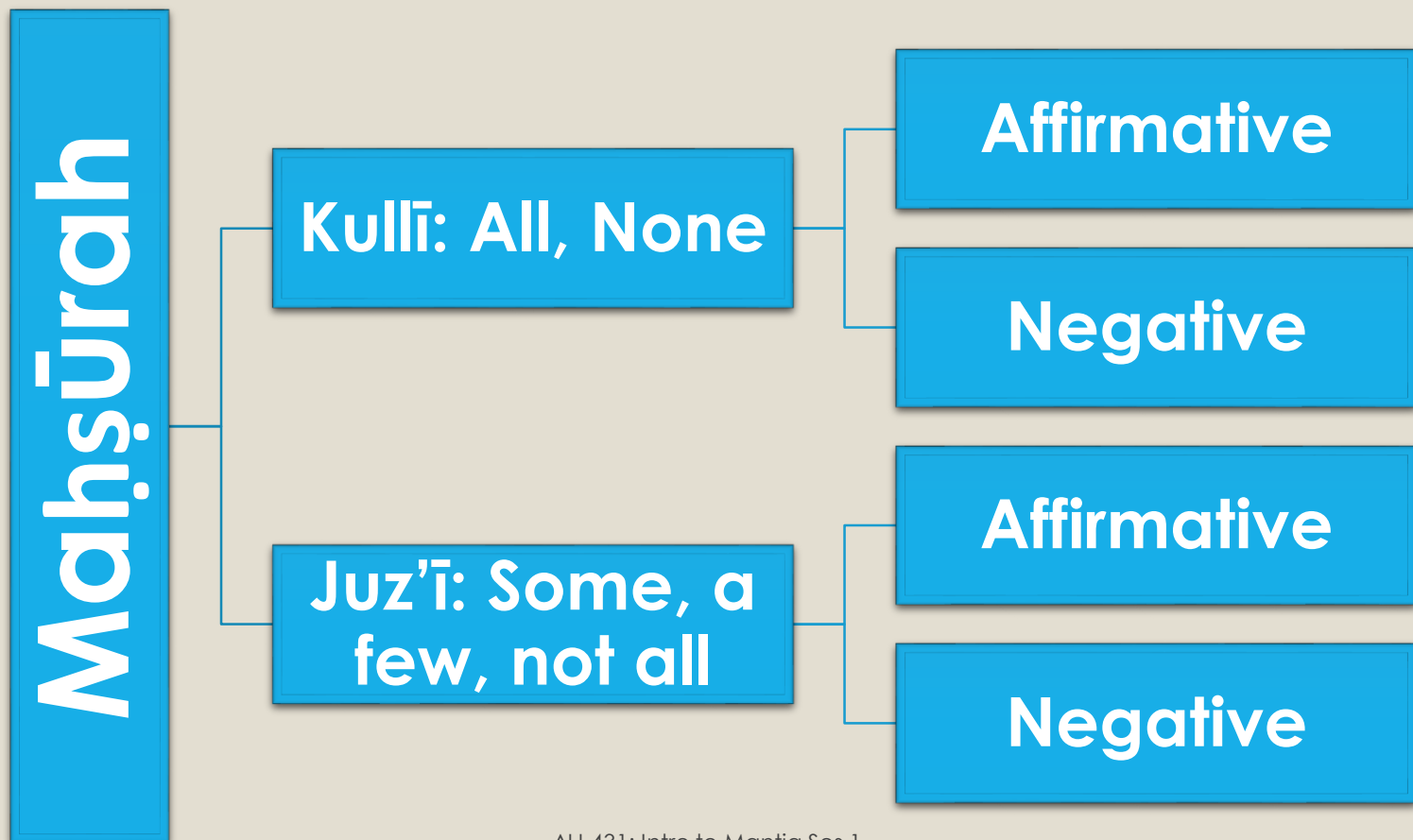
Division of Attributive Propositions

- Division of an attributive proposition in terms of its subject



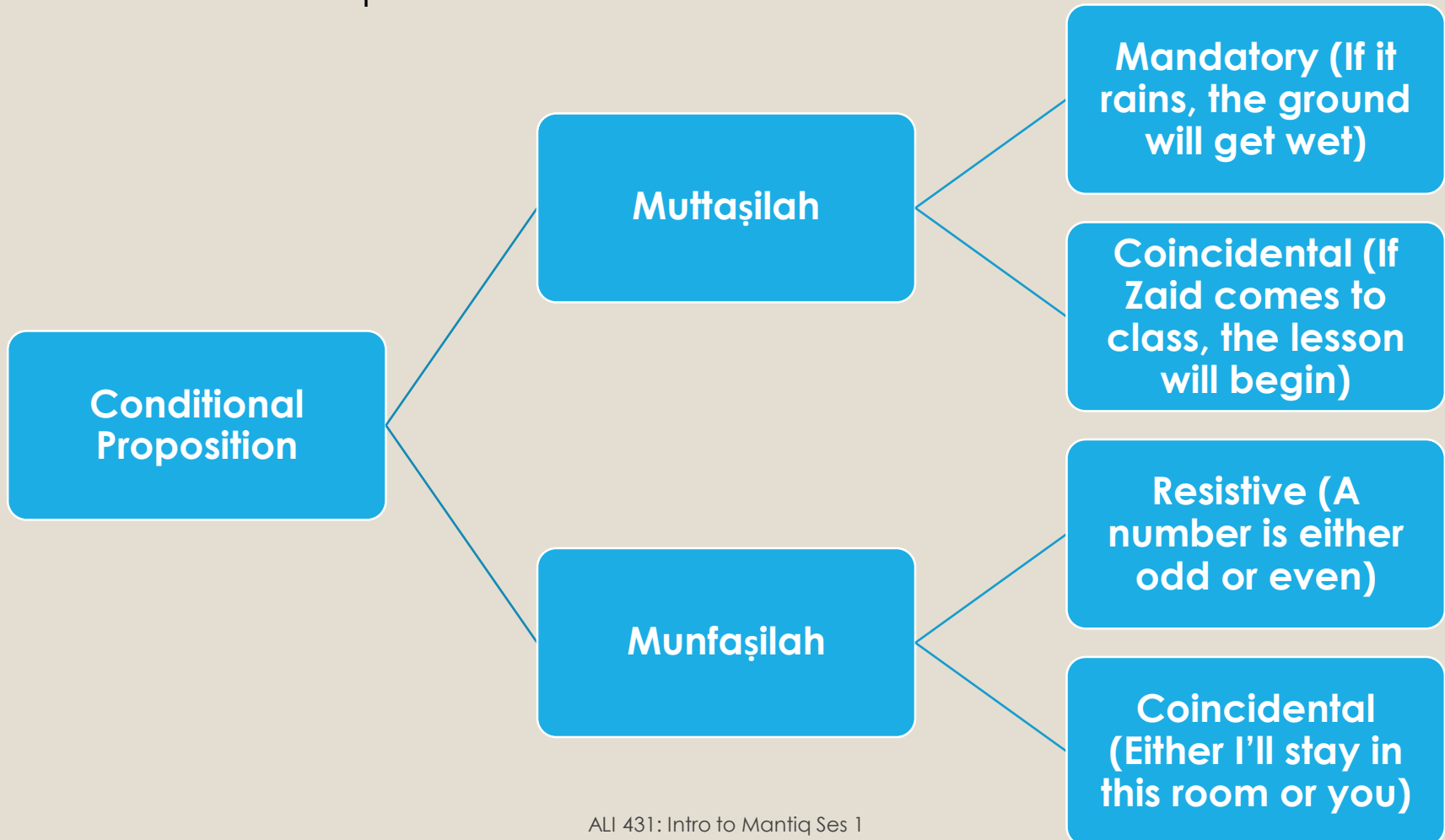
Division of Attributive Propositions

- The Maḥṣūrah (restricted) propositions are the reliable propositions and used in the study of Logic
- The below division is referred to as the **four restricted propositions**



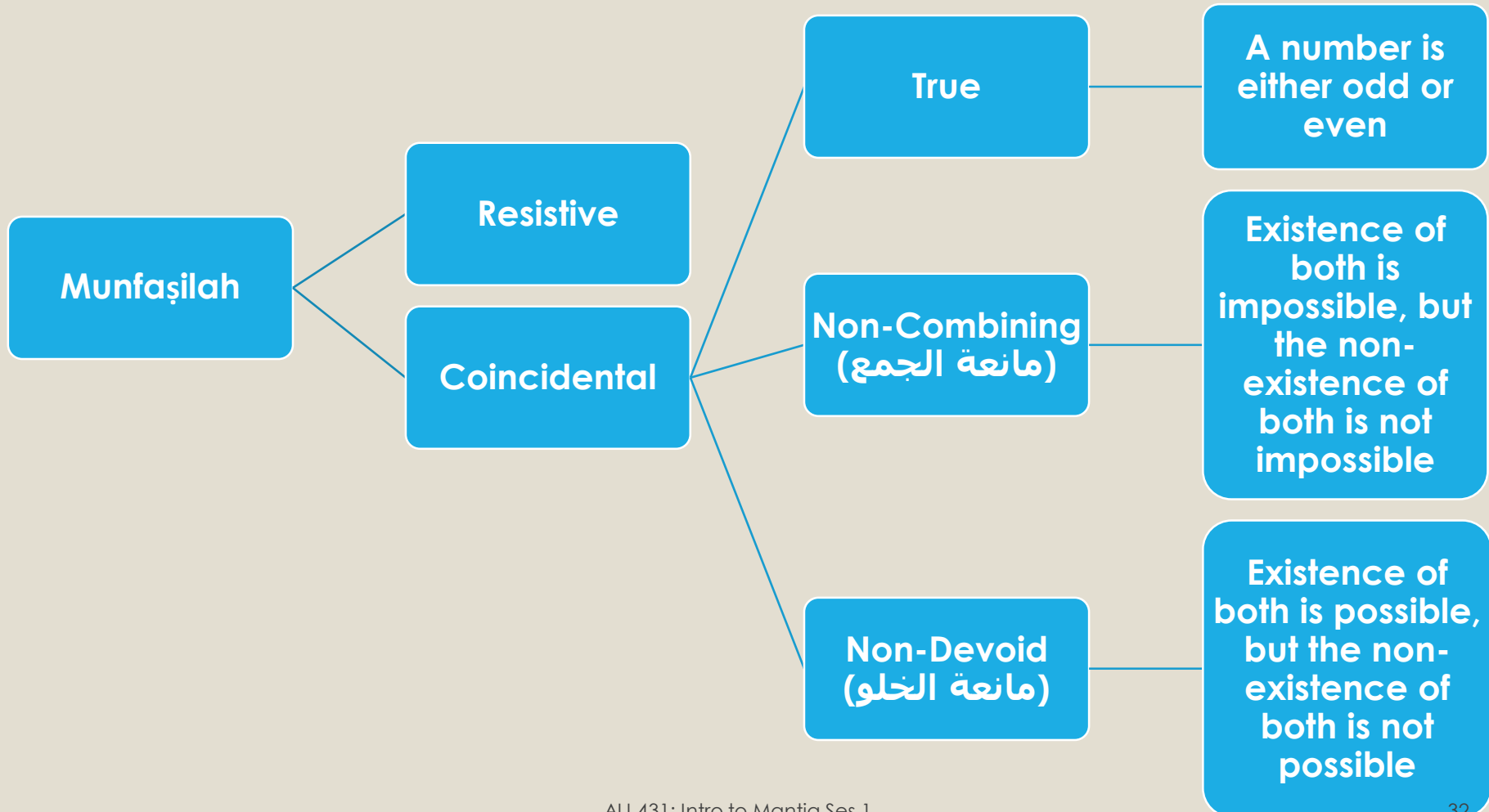
Division of Conditional Propositions

- Division of a conditional proposition with regards to the relationship between the two premises



Division of Conditional Propositions

- An additional division of a disjunctive conditional proposition



The Equivalent Conversion (العكس المستوي)

- It is the exchange of the two sides of an attributive proposition by making the Subject a Predicate, and the Predicate a Subject
- Rule: **If the original is true, the equivalent conversion will be true. If the equivalent conversion is false, the original is false**

All Humans are Animals



Some Animals are Humans

The Equivalent Conversion (العكس المستوي)

Proposition	Equivalent Conversion
General Affirmative	Particular Affirmative
Particular Affirmative	Particular Affirmative
General Negation	General Negation
Particular Negation	Does not have one

Examples:

- 1) **All Humans are Animals = Some Animals are Humans**
- 2) **Some Students are Studious = Some Studious are Students**
- 3) **No Shi'a is a Sunni = No Sunni is a Shi'a**
- 4) **Some Muslims are not Just = *Does not have one***

Contradiction (التناقض)

- This is based on two things: Two Contradictions can't Exist or Not Exist at the same time
- Rule: **The truth of one implies the falsehood of the other – both can't be true and both can't be false**

All Humans are Animals



Some Humans are not Animals

Contradiction (التناقض)

Proposition	Contradiction
General Affirmative	Particular Negation
Particular Affirmative	General Negation
General Negation	Particular Affirmative
Particular Negation	General Affirmative

Examples:

- 1) **All Humans are Animals = Some Humans are not Animals**
- 2) **Some Students are Studious = No Student is not Studious**
- 3) **No Shi'a is a Sunni = Some Shi'as are Sunni**
- 4) **Some Muslims are not Just = All Muslims are Just**

Conditions of Unity and Differences

- In order for it to be a true contradiction, the propositions need to be different in:
 - Kammiyyah (Quantity) - **Every** Animal is a human = **Some** Animals are not Human
 - Kayfiyyah (Quality) - Every human **is an** animal = Some humans **are not** animals
 - Jihah – *not relevant for introduction class*

Conditions of Unity and Differences

- In order for it to be a true contradiction, the propositions need to be united in 9 things:

1) Mawḍū' - The human is rational = The horse is not rational

2) Maḥmūl - The human is rational = The human is not a barking animal

3) Zamān - The moon was eclipsed at the time of withdrawal = The moon was not eclipsed at the time of the lunar quarter

4) Makān - Zaid is standing in the house = Zaid is not standing in the market

5) Quwwah and Fi'l - Zaid is a scholar bil-quwwah = Zaid is not a scholar in actuality (bil f'il)

6) Kull and Juz' - Zaid is white in regards to his teeth = Zaid is not white in his entirety

7) Sharṭ - It is obligatory to honour Zaid if he comes = It is not obligatory to honour Zaid, if he does not come

8) Iḍāfah - Zaid is the most learned person of Iraq = Zaid is not the most learned person of Yemen

9) Ḥaml – *Mulla Sadra added this one, not relevant for intro class*

Argument or Reasoning

- Argument is a logician's final goal
- Three main approaches to argument and evidence:
 - **Deduction (qiyās)**
 - **Analogy (tamthīl)**
 - **Induction (istiqrā')**
- The famous view is that Analogy and Induction are also essentially a Qiyās – but since their premises do not result in certainty, they are not as reliable as a Qiyās with premises that are certain

Syllogism (Qiyās) & Its Figures

- It is a discourse, composed of propositions that when it is clearly proven, it necessarily necessitates another discourse

Figure One

The median becomes the predicate in the minor premise, and a subject in the major premise.

Minor Premise: This animal is a *human*

Major Premise: All *humans* have eyes

Conclusion: This animal has eyes

Conditions: Minor premise must be affirmative, Major premise must be Universal

Syllogism (Qiyās) & Its Figures

Figure Two

The median becomes the predicate in both premises.

Minor Premise: Some poets are selfish

Major Premise: (All) Selfish (people) are not successful

Conclusion: Some poets are not successful

Conditions: Major premise must be Universal, and both premises must differ in their affirmative or negative attribution (i.e. both cannot be affirmative, or negative)

Syllogism (Qiyās) & Its Figures

Figure Three

The median becomes the subject in both premises.

Minor Premise: Some humans are white

Major Premise: Every human is an animal

Conclusion: Some white (things) are animals

Conditions: Minor premise must be affirmative, and one of the premises must be universal

Syllogism (Qiyās) & Its Figures

Figure Four

The median becomes the subject in the minor premise, and a predicate in the major premise.

Minor Premise: Every human is an animal

Major Premise: Some whites are human

Conclusion: Some animals are white

Conditions: Either both premises are positive, and the minor is a universal; or one of them is a universal and both differ in their positive or negative attribution

The Five Skills

1. Proof (Burhān)
2. Disputation (Jadl)
3. Oration (Khiṭābah)
4. Poetry (Shi'r)
5. Fallacy (Mughālaṭah)

Proof

When a syllogism is compromised of certain premises, and the intent is to establish the truth. Some of these certain premises are:

- 1. Primary Axioms:** mere conceptualization of a subject and a predicate is sufficient (the white light, is white)
- 2. Sensual:** known through senses
- 3. Empirical:** known through experience
- 4. Uninterrupted:** when a group reports something and it is known they did not conspire to lie about it

Proof (Examples)

Minor Premise: The Universe is Designed

Major Premise: All Designed things have a Designer

Conclusion: The Universe has a Designer

Minor Premise: All that we observe is contingent

Major Premise: All contingent beings require a cause that is not contingent

Conclusion: All that we observe has a cause that is not contingent

Note: Some of these premises are conclusions derived from other proofs

Disputation

When a syllogism is compromised of premises that the opponent agrees with, it is called Jادل. Its purpose is to make the opponent agree with your point.

Example:

- Using a narration from Ṣaḥīḥ al-Bukhāri against a Sunnī to prove the appointment of Imām 'Alī as a caliph.

Minor Premise: Narration proving Imām's authority exists in al-Bukhāri

Major Premise: Everything in Saḥīḥ al-Bukhāri is authentic

Conclusion: Narration proving Imām 'Ali's authority is authentic

- We do not agree with the Major Premise, but our opponents may

Oration

When a syllogism is compromised of premises that result in speculation, and its intent is to get the audience to do something or prevent them from doing something

Example:

- People who are fearful, are not successful in this world

Minor Premise: People who are fearful, have no confidence

Major Premise: Anyone who has no confidence, is not successful

Conclusion: People who are fearful, are not successful

- Both the minor and major premise are not true to a degree of certainty

Poetry

When a syllogism is compromised of premises that result in mere imagination, and the purpose is to evoke emotions in the audience

Example:

- Describing the honey in front of you as bitter, smelly and dirty
- Even though the honey in reality is sweet and tasty, my description has evoked a negative impression of it for the audience

Fallacy

When a syllogism is compromised of incorrect premises.

Example:

- A Muslim historian should not be trusted with their knowledge of history, because they have a tattoo

Minor Premise: A certain Muslim historian has a tattoo

Major Premise: Anyone who has a tattoo, is unreliable

Conclusion: A certain Muslim historian is unreliable

- Major Premise is flawed – there is no necessary relationship between getting a tattoo and being an unreliable source of information on a topic you are an expert on