



# **MODULE 8:**

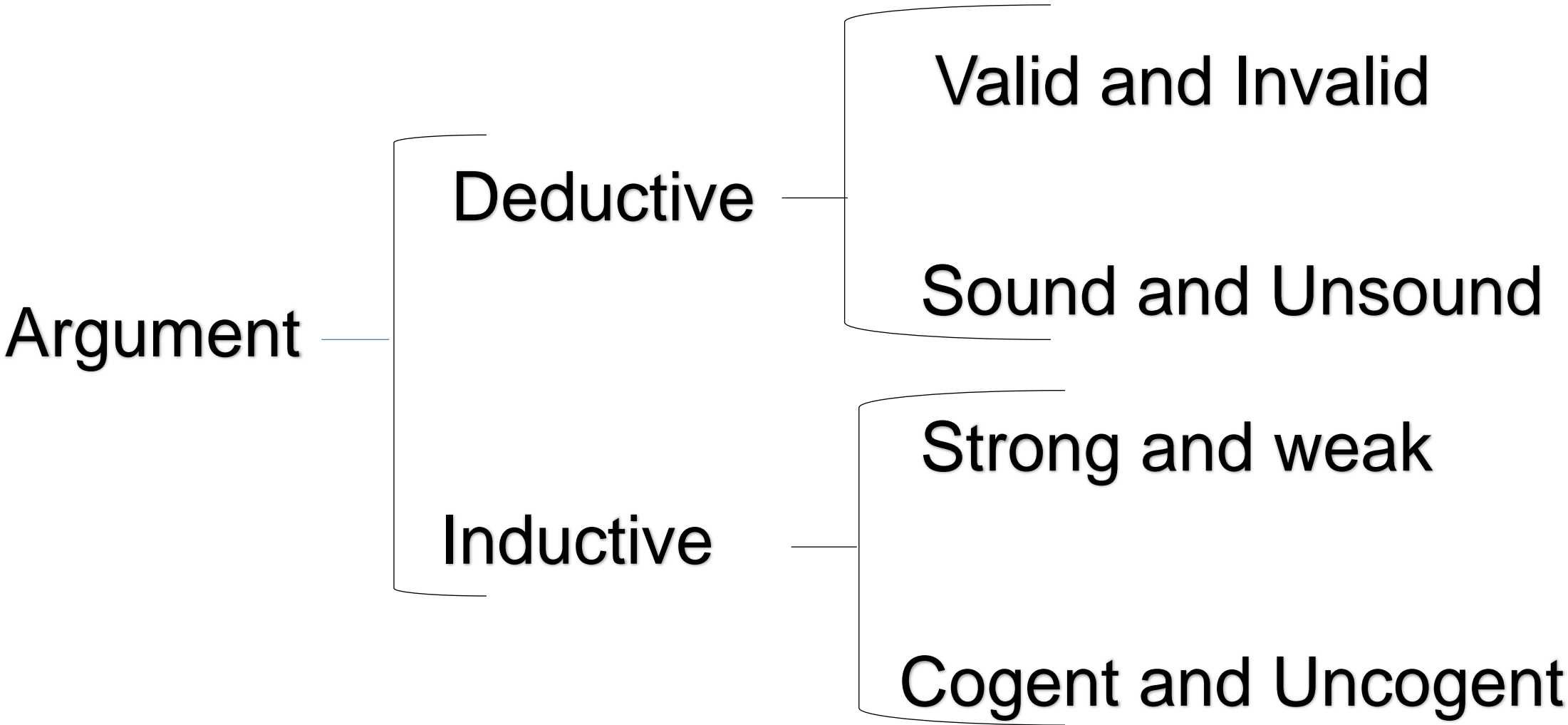
## **- ARGUMENTS AND FALLACY**

**GSP2205 PHILOSOPHY AND LOGIC**

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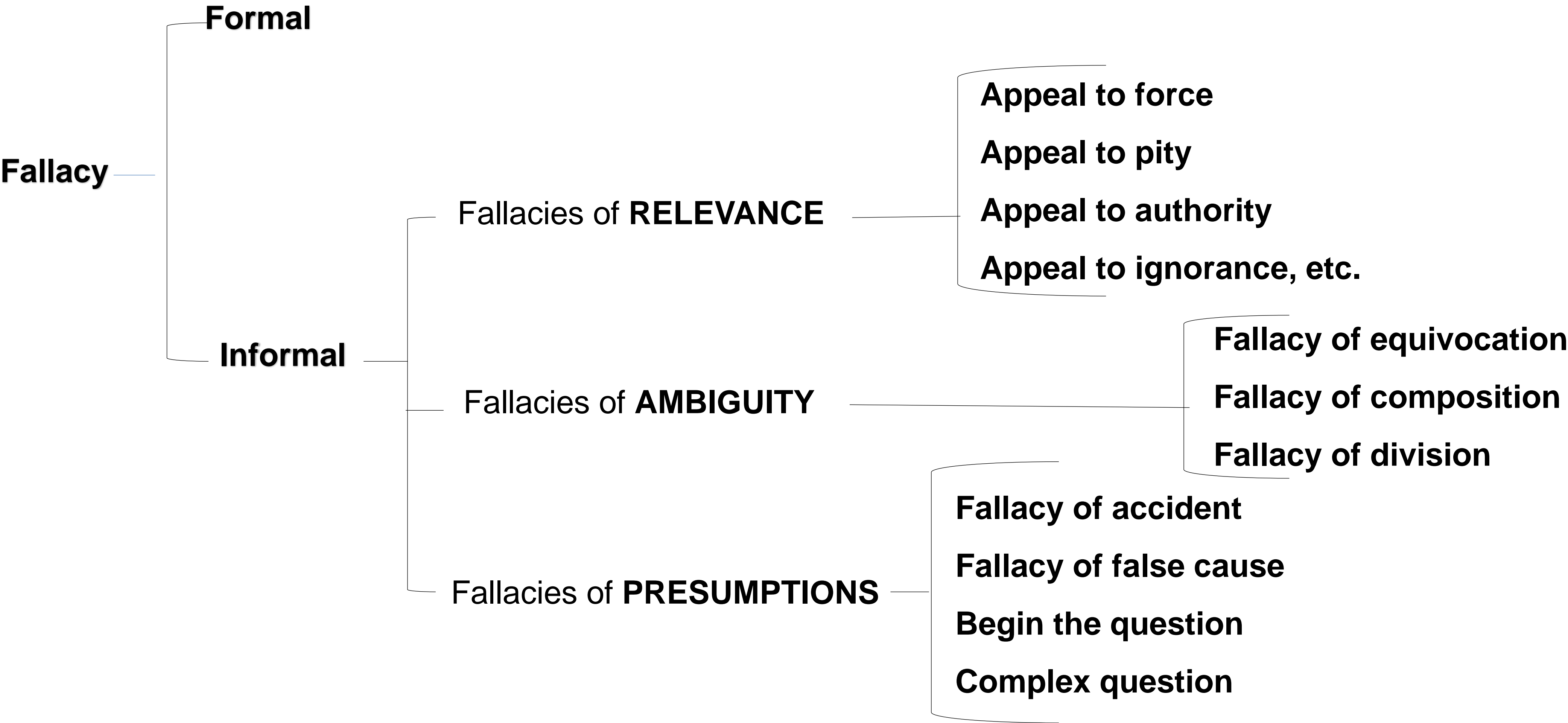


Argument tree diagram





Fallacy tree diagram





# What is an Argument?

An argument is a group of statements, some of which serve as premises (or hypothesis) for one which serve as the conclusion (consequence).

- An argument can have **one or more premises** but **only one conclusion**.
  - Every argument has two **CLAIMS**: 1. existence of premises 2. premises support the conclusion
  - Examples:
    - 1. All television networks are media network**  
**NTA is a television network**  
Therefore, NTA is a media company
    - 2. You are a good student**  
**You get all A'**  
Therefore, your friends must get all A's  
Hence, theft is a violation of the law
    - 3. All Nigerian Presidents till date were men**  
Hence, the next Nigerian president will be a man
    - 4. All crimes are violations of the law**  
Theft is a crime
    - 5. All squares are rectangle**  
**All rectangles are four sided**  
Therefore, all squares are four sided
- ➔ *Note that the premises in each example above are highlighted in **red** texts while the conclusions are highlighted in **green** texts.*



## Deductive Argument (DA)

- An argument that is such that it is impossible for the premises to be true and the conclusion false.
- That is, the conclusion follows **NECESSARILY** from the premises
- (See the examples 1, 4, and 5 in the previous slide)

## Inductive Argument (IA)

- An argument that is such that it is improbable for the premises to be true and the conclusion false
- That is, the conclusion follows **PROBABLY** from the premises
- (See the examples 2 and 3 in the previous slide)





## EVALUATION of Argument

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- is based on the two claims mentioned in slide 2 a.k.a. *Factual* and *Inferential* claims
- Inferential claim is more important in evaluating argument(**why ?**)
- Hence, the need to test the validity or invalidity, strongness and weakness, e.t.c.

### ➔ Valid DA ?

- a DA where the conclusion follows with **STRICT** necessity from the premises.

### ➔ Invalid DA ?

- a DA that is **NOT** valid

Note that the examples 1,4, and 5 are valid DAs (why ?).

The following example is an invalid DA (why ?)

6. **All banks are financial institutions**  
**NNPC is a financial institution**  
**Therefore, NNPC is a bank**



# EVALUATION of Argument...

## ➔ Sound DA ?

- a valid DA + ALL true **PREMISES**.

## ➔ Unsound DA ?

- an invalid DA

DAs in Examples 1,4, 5 and 7 below are SOUND while 8 and 9 are UNSOUND (why ?).

7. All level two students are undergraduate  
 I am a level two student  
 Therefore, I am an undergraduate

8. Nigeris is in Africa  
 There exists some Indians in Nigeria  
 Therefore, India is in Nigeria

9. All GSPs courses are core for all students  
 Maths is a core course for all students  
 Therefore, Maths is a GSP course

Therefore, Maths is a GSP course  
 Maths is a core course for all students  
 9. All GSPs courses are core for all students





# EVALUATION of Argument...

## → Strong IA ?

- An IA where the conclusion follows PROBABLY from the premises

## → Weak IA ?

- An IA where conclusion does NOT follow PROBABLY from the premises

The following examples 10 is strong while 11, 12 weak respectively (why ?).

10. All dinosaurs bone discovered to this day have been atleast 50 million years old

Therefore, probably the next dinosaur bone to be found will be 50 million years old

11. When a lighted match is slowly dunked into water, the smoke is snuffed out.

Gasoline is a liquid, just like water

Therefore, when a lighted match is slowly dunked into gasoline, the smoke is snuffed out

12. All previous Nigerian presidents were federalists, hence the next Nigerian president will be a man

## Cogent IA?

- a strong IA + ALL true **PREMISES**.
- Example 10 is a cogent IA

## Uncogent IA ?

- If any of the cogent IA condition fails. Example 11 and 12 are Uncogent IAs





## What is a Fallacy?

An argument that seems **correct but false** upon a very close examination

- DAs and IAs may contain fallacies
- Fallacies can be classified as **FORMAL** or **INFORMAL**
- Formal fallacies involves **violation of certain rules** of valid inference
- Informal fallacies involves **errors created in a reasoning** in order to **trick** an unsuspecting audience
- **Here, we are more interested in informal fallacies (why?)**





## Fallacies of Relevance?

Appeal to force: *"Who wants be a millioniere" is the best show on TV; and if you don't believe it, I'm going to call my big brother over here and he's going to beat you up.*

Appeal to pity: *Your Honor, I admit that I declared thirteen children as dependents on my tax return, even though I have only two. But if you find me guilty of tax evasion, my reputation will be ruined. I'll probably lose my job, my poor wife will not be able to have the operation that she desperately needs, and my kids will starve. Surely I am not guilty.*

Appeal to authority: *John Adeoye, a Professor of Philosophy at the University of Lagos, believes that the sum of the four angles of a rectangle is 135 degrees. Therefore the sum of the four angles of a rectangle is 135 degrees.*

Appeal to ignorance: *No one has conclusively proven that there is no intelligent life on the moons of Jupiter. Therefore, there is intelligent life on the moons of Jupiter.*

## Fallacies of Ambiguity?

Fallacy of equivocation: *Some triangles are obtuse. Whatever is obtuse is ignorant. Therefore, some triangles are ignorant.*

Fallacy of composition : *Sodium and chlorine, the atomic components of salt, are both deadly poisons. Therefore, salt is a deadly poison.*

Fallacy of division: *The Royal Society is over 300 years old. Professor Thompson is a member of the Royal Society. Therefore, Professor Thompson is over 300 years old.*





## Fallacies of Presumptions?

Fallacy of **accident**:

*Freedom of speech is a constitutionally guaranteed right. Therefore, John Q. Radical should not be arrested for his speech that incited the riot last week.*

Fallacy of **false cause** :

*There are more laws on the books today than ever before, and more crimes are being committed than ever before. Therefore, to reduce crime we must eliminate the laws.*

Begging the **question**:

*Murder is morally wrong. This being the case, it follows that abortion is morally wrong.*

**Complex question**:

*Have you stopped cheating on exams?  
Where did you hide the cookies you stole?*

instead of

*Did you cheat on exams in the past? If you did cheat in the past, have you stopped now?*

*Did you steal the cookies? If you did steal them, where did you hide them?*





THANK YOU FOR LISTENING