

Philosophy Review Notes

Chapter 1 – Recognizing Arguments

Reasoning → conscious, active, and systematic process of analysing, evaluating and forming beliefs in accordance with rational standards

Thinking is a conscious activity, but just thinking (things like watching tv) is not a systematic or active process, so it is not reasoning

Argument → set of claims (statements) in which some of them (the premises) are intended to support another (the conclusion)

Argument = premise(s) + conclusion(s)

When moving from a premise to a conclusion, an inference is made

Premise indicators: since, for, seeing as, the reason is that, because, as is implied by, on account of the fact that, given that, in view of the fact, due to the fact that.

Conclusion indicators: therefore, consequently, hence, we may conclude, this entails that, it follows that, which shows that, here are some of the reasons why, thus, so.

Enthymemes → argument that has an implicit premise and conclusion (not openly and explicitly stated)

What is not an argument?

Disagreement/dispute: critical and active, but not systematic (takes some statements as justifications/proofs for others).

Description

Two types of argument → simple argument and complex argument

Simple argument: has no intermediate conclusions (contains only one inference)

Complex: has at least one intermediate conclusion (contains more than one inference)

Each one of these arguments is called a sub-argument.

A complex argument has at least one intermediate conclusion and one final conclusion.

Chapter 2 – Analyzing Argument

Evaluating argument → telling good arguments from bad ones

Two ways to analyse an argument: putting arguments in standard form and diagramming arguments

Strategy to analyse an argument:

1. Detect what the conclusion is
2. Identify inference indicators
3. Rule out descriptions, reports, disputes, etc.
4. Identify if argument is simple or complex

- a. If it is a simple argument, identify what the conclusion is.
 - b. If it is a complex argument, determine what the final conclusion is, along with the intermediate conclusion(s)
5. Ignore elements that do not belong to the argument
 6. Reformulate claims when necessary to make sure they make sense to you.

Ex. How can you say that poetry is getting better? → poetry is not getting better.

Standard form: to put an argument into standard form is to put it in the form of a numbered list where each claim is numbered separately, premises and conclusions are labelled, and premises appear before the conclusion they support.

Example: 1. Strikes by public employees are illegal. (P)

2. The teachers at PS 197 are public employees. (P)

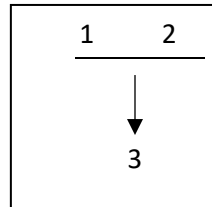
3. The strike by the teachers at PS 197 is illegal (C: from 1,2)/therefore symbol/1,2

Diagramming arguments: good for complex arguments.

Ex: 1. If Archie doesn't go, Betty won't go either.

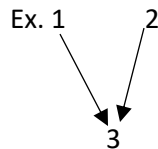
2. Archie is not going.

3. So Betty won't go. 1,2



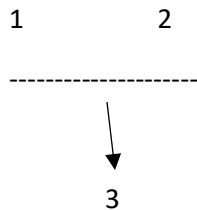
Two types of diagrams: independent premises and dependent premises

Independent premises → lend support to the conclusion on their own



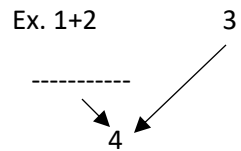
Dependent premises → must be combined in order to support the conclusion

Ex. I am taller than John. John is taller than you. So, I must be taller than you.



If more than two premises, add + signs.

Independent and dependent diagrams can be combined.



Explanation: Taken for granted that it is true (vs argument, where the aim is to convince).

Statements that make one claim

Conditionals → If, ... then.

Disjunctive → Either, ... or.

Unless

Chapter 3 – Evaluating Arguments

We evaluate an argument to be able to know whether or not a given argument is a good one.

Two types of arguments → deductive (deduction or syllogism) and non-deductive (induction)

Deductive arguments: premises are meant to guarantee the solution, intended to provide logically conclusive support for its conclusion (not a matter of degree). Provides final, definitive, undeniable support.

Characterized as valid or invalid.

Non-deductive arguments: premises meant to confer some high degree of probability on the conclusion (99% or less).

Described as either successful or unsuccessful.

Truth → only applies to single statements or claims (premises and conclusion)

Validity → matter of support that a set of premises lends to a conclusion. It is a question of whether a certain relationship (structure) holds between premises and conclusion. Does not require the premises of an argument to be true.

Soundness → valid argument with true premises and a true conclusion is a sound argument.

Four possibilities:

1. False premises and a false conclusion → valid
2. False premises and a true conclusion → valid
3. True premises and a true conclusion → valid and sound
4. True premises and a false conclusion → invalid

Valid if the truth of the premises guarantees the truth of the conclusion.

Two ways of testing validity: formal test and informal test

Informal testing → try to imagine a scenario where the premises could be true but the conclusion false. If there is a possible case, argument is invalid. If we can't imagine such a scenario, argument is valid.

Three degrees of probability: close to certain, very likely, and somewhat likely.

1. If premises of an argument make conclusion almost certain, describe argument as successful and degree of support which the premises lend the conclusion as close to certain.
2. If premises of an argument do not make conclusion close to certain but quite plausible, argument is still successful but describe the degree of support as very likely (a great deal more likely than not).
3. If premises of an argument provide some basis for conclusion but no great support, still a successful argument but degree of support is somewhat likely (barely likely than not).

If degree of support that premises give conclusion is little/none at all, argument is unsuccessful.

Unsuccessful if premises are not relevant to the conclusion, do not adequately support the conclusion, or do not provide adequate sufficient information that is relevant for the conclusion.

Types of non-deductive arguments:

Inductive generalizations: begin with observations about some member of a group and end with a generalization about all of them.

How good this is will depend on how large the sample size is.

If the sample size is too small it is considered a "hasty generalization"

Sample must be representative of the target group or it is a biased sample

Statistical syllogism: has a three-line pattern, inference goes from general to particular.

Premise 1: proportion of group A have characteristic B.

Premise 2: Individual C is a member of group A.

Conclusion: Individual C has characteristic B.

Need to be able to identify individual, group, characteristic and proportion of group said to have that characteristic to evaluate a statistical syllogism.

Plausibility arguments: premises of plausibility argument work together to build a case for the conclusion of being plausible/reasonable

Does not fit any particular pattern.

Some of the premises must be positively relevant to the conclusion.

Causal arguments

Arguments by analogy

Evaluating complex deductive and non-deductive arguments

If any inference/sub-argument in a complex argument is unsuccessful, the whole argument is unsuccessful.

If argument is made up of one or more valid sub-arguments and exactly one non-deductively successful sub-argument, the whole argument is non-deductively successful.

Chapter 4 – Some Valid Argument Forms

Common deductive argument types:

1. Argument based on mathematics (ex. Mark has twice as many cats as bob, bob has 3, so mark has 6)
2. Argument from definition: truth of conclusion is guaranteed by definition (ex. Harold is a liar; therefore, he doesn't tell the truth)
3. Categorical syllogism: two premised argument with each statement starting with "all", "some", "none", or "every" (ex. All computers are machines. No machines can think. No computers can think.)
4. Sentential (propositional) deductive arguments:
 - a. Modes Pones
 - b. Modes Tollens
 - c. Hypothetical syllogism
 - d. Disjunctive syllogism
 - e. Constructive dilemma
 - f. Conjunction
 - g. Simplification
 - h. Addition

Sentential forms (symbolizing):

Statement letters/sentential variables used (A, B, C, etc.)

Connectives:

- | | |
|----|----------------|
| ~ | Not (negation) |
| ∨ | Either ...or |
| • | And, but, yet |
| → | If ...then... |
| () | For grouping |

Conjunction ('and') = •

Alice rode her bike and John walked (p • q)

Disjunction ('or') = ∨

Either Alice rode her bike or John walked (p ∨ q)

Negation ('not') = \sim

Alice did not ride her bike ($\sim p$)

Conditional ('if-then') = \rightarrow

If Alice rode her bike, then John walked ($p \rightarrow q$)

Eight valid argument forms:

1. Modus Ponens (MP)

$P \rightarrow Q$

P

Q

2. Modus Tollens (MT)

$P \rightarrow Q$

$\sim Q$

$\sim P$

3. Hypothetical syllogism (HS)

$P \rightarrow Q$

$Q \rightarrow R$

$P \rightarrow R$

4. Disjunctive syllogism (DS)

$P \vee Q$

$\sim P$

Q

5. Constructive dilemma (CD)

$P \vee Q$

$P \rightarrow R$

$Q \rightarrow S$

$R \vee S$

6. Conjunction (conj)

P

Q

$P \bullet Q$

7. Simplification (simp)

$P \bullet Q$

Q

8. Addition (add) – AKA weakening

P

$P \vee Q$

Two INVALID argument forms:

1. Denying the antecedent (DA)

$P \rightarrow Q$

If a dog bites the mailman, it must be punished.

$\sim P$

Our dog Genevieve didn't bite the mailman.

Therefore, she should not be punished.

$\sim Q$

2. Affirming the consequent (AC)

$P \rightarrow Q$	If my car is out of gas, it will stop running.
Q	My car stopped running.
-----	Therefore, my car is out of gas.
P	

Some complex arguments may not have these forms, but still be valid (use the forms to prove their validity).

Called chaining inferences.

Chain of inferences called a proof or a demonstration

Chapter 5 – Categorical Argument and Venn Diagrams

In categorical reasoning the statements (claims) of interest are categorical statements (statements starting with “all”, “some”, “none”, or “every”)

Categorical claim has two categories: subject and predicate

Ex. All humans are mortal (subject is humans, predicate is mortal)

Categorical claim has a major premise, a minor premise, and a conclusion

Ex. All humans are mortal. (major premise)

All Greeks are humans. (minor premise)

All Greeks are mortal. (Conclusion)

Validity of categorical syllogism → use Venn diagrams to evaluate the validity/invalidity of a categorical syllogism

Must evaluate each premise separately then see if they support the conclusion

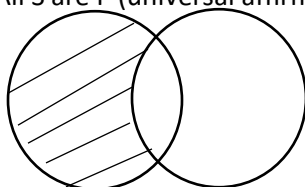
Draw a circle for each category/class in the argument

Shade in the premises. If the conclusion is shaded in, the argument is valid.

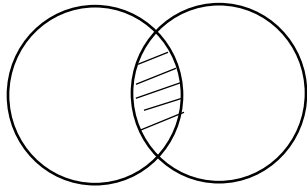
Never diagram the conclusion, only the premises (do not fill in the conclusion if it is not filled in by the premises!!)

Four standard forms:

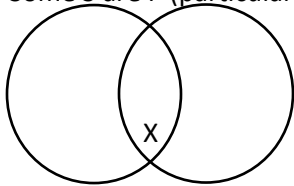
1. All S are P (universal affirmation)



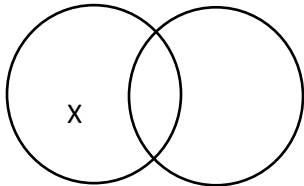
2. No S are P (universal negation)



3. Some S are P (particular affirmation)



4. Some S are not P (particular negation)



Chapter 6 – Causal Analysis (Reasoning about Cause and Effect)

Causal claim is an assertion about the cause of something

Causal argument justifies/supports such a claim

Reasons for being interested in causes and effects: explanation/curiosity, assigning responsibility, control, and prediction

Causal argument → move from premise that two things are associated/correlated to a conclusion that the first is not merely correlated with the second, but instead causes it.

Special case of inductive generalization

Four causes (Aristotle):

1. Final cause: end goal (ex. Statue is end goal of sculpturing)
2. Efficient cause: primary source of the change/rest (ex. The art of bronze-carving the statue)
3. Material cause: that of which something is made (ex. The bronze of the statue)
4. Formal cause: the form (ex. The shape of the statue)

Three different meanings of causation:

1. Cause as sufficient condition

If $A \rightarrow B$ (Whenever A occurs, B also occurs)

2. Cause as necessary condition

If $B \rightarrow A$, but not if $A \rightarrow B$ (A necessary for B, presence of B implies presence of A, but presence of A does not mean B will occur)

3. Cause as both sufficient and necessary conditions

Ex. Satisfying all the necessary academic requirements and paying all your bills is both necessary and sufficient for being eligible to graduate

Necessary: can't graduate unless you satisfy academic requirements

Sufficient: If you satisfy the requirements and pay your bills you are eligible to graduate

Contributing factor: triggering factor/proximate cause, unusual factor, and controllable factor

Triggering factor \rightarrow Everything in place to produce certain effect, one last step is taken and it happens. The last step is the triggering factor.

Occurs last and completes the causal chains

Sufficient condition producing the event

Unusual factor \rightarrow Single out the unusual factor as the cause of the event

Ex. Explosion happened because of the accumulation of methane gas in the room (methane is the unusual factor)

Controllable factor \rightarrow something that is potentially under our control as a cause

Ex. Smoking causes lung cancer (can control whether or not you smoke)

Correlation gives reason to look for a causal relationship, there is not always one.

Testing for causes:

1. Method of agreement

If one or more occurrences of some phenomenon have only one relevant factor in common, that is probably the cause. (ex. Everyone ate different things at dinner and got sick, but they all drank the same juice).

2. Method of difference

If presence of a particular factor is the only difference between two kinds of situations, that factor is probably the cause of the event. (ex. The ones not playing well are the ones that missed practice last week).

3. Joint method of agreement and difference

Simultaneous application of the previous two methods.

4. Method of concomitant variation

Involves varying a factor and determining whether a change in it is accompanied by variation in some other factor that interests us

Chapter 7 – Analogical Arguments

Analogy → claim that two distinct things are alike/similar in some respect

Two types of analogy:

1. Exact or perfect analogy (deductive)

A is to B as C is to D

2. Looser analogies (non-deductive)

Other analogical arguments are not based on exact analogies, and are non-deductive and the conclusions of such arguments are characterized as successful/unsuccessful (likely/unlikely)

What is an analogical argument? → main idea is that if two objects are similar in several ways, they must be similar in some further way

Ex. A and B share properties W, X, Y. A has property Z. Therefore, B has property Z.

Two types of non-deductive analogical arguments:

1. Factual analogical argument

Uses an analogy to establish a claim about some state of affairs or some facts

Ex. Mice are mammals and have mammalian circulatory system, because of this they experience a reduction in blood cholesterol when given new drug Z. Humans are mammals and have mammalian circulatory system. Therefore, they will experience this same reduction when given drug Z.

2. Moral analogical argument

Arguing about what is morally right or wrong, idea is that we should make similar claims about similar cases

Ex. A and B are similar and share properties W, X, and Y. A received treatment T. Therefore, B should receive treatment T too.

There is an implicit premise/assumption that says similar cases should be treated in similar ways (called formal principle of equality or justice)

Can look at moral analogical arguments as enthymemes.

Legal precedents: third kind of analogical argument? Could argue yes, since often appeal to precedents (previous cases) which dealt with similar issues. Argue that the present case should be dealt with in a similar way.

Two kinds of models:

1. Formal model

Use set of abstract concepts belonging to one system and apply it to another (ex. The kinetic theory of gases is modeled as a room filled with ping-pong balls).

2. Material model

Use physical system to represent another physical system

Evaluating analogical arguments → two criteria:

1. The degree of analogy must be high

Positive analogy: the ways two subjects resemble one another

Negative analogy: the way two subjects differ from each other

When positive analogy is proportionally higher than the negative analogy, the degree of analogy is high (ex. Subject A and subject B have 10 points of positive analogy and 12 of negative analogy, therefore the degree of analogy is low)

2. The analogy must be relevant to the conclusion

Chapter 8 – Fallacies

Fallacy → form of argument that should not convince anyone but many people nevertheless find convincing. They are faulty reasoning in the construction of an argument.

Not all invalid and unsound arguments are fallacies.

Fallacies of relevance:

Appeal to ignorance

Claim has not been demonstrated to be false, so it must be true (or vice versa)

Shifts the burden of proof away from the one making the claim

Remember!! Absence of evidence is not evidence of absence.

Ex. She hasn't said she doesn't like you, so she must like you.

Appeal to inappropriate authority

Committed when the authority cited is not an authority in the proper/related area; this person is not a legitimate authority on the subject.

Five criteria to determine appropriate authority:

1. The authority must be identified
2. The authority must be generally recognized by the experts in the field
3. The particular matter in support of which an authority is cited must lie within their field of expertise
4. The field must be one in which there is genuine knowledge
5. There should be a consensus among the experts in the field regarding the particular matter in support of which the authority is cited

Appeal to general beliefs (Ad populum)

If a lot of people believe it, it must be true.

Ex. Everyone agrees with the president on this issue, so it is the right thing to do.

Appeal to popular attitudes and emotions

An appeal is made to widespread feelings, but these feelings give no support to the claim that is made

Ex. How can you say we were wrong to go to Afghanistan? Don't you support the troops?

Gambler's fallacy

Also called Monte Carlo fallacy or the fallacy of the maturity of chances

Based on temptation/tempting reasoning

Ex. Tossing a fair coin, heads come up 10 times in a row. Say it is likely that because of this the next toss will be tails. Incorrect, it is a fair coin so it will still be a ½ chance for either.

Fallacies of inadequate evidence:

Post Hoc (false cause)

A came before B, so A was the cause of B.

Hasty generalization

This fallacy consists of generalizing on the basis on the basis of an inadequate set of cases.

Inductive generalizations are weak if based upon samples that are too small.

Fallacies of illegitimate assumption:

False dilemma (false dichotomy)

This fallacy consists in announcing that there are only two possible options, when there are more.

Claims these two options are exhaustive and exclusive when they are not.

Loaded question

Attempts to answer a question that carries with it the truth of an unproved assumption

Ex. "Are you still beating your wife?"

Begging the question

Argument begs the question when its premise(s) presupposes the truth of its conclusion

Or, premise(s) contains or is identical/equivalent to its conclusion. A, therefore A.

Ex. How do you know the witness can be trusted? Because he told me so.

Slippery slope

Take one step, and keep going and going, leading to an unacceptable/negative outcome.

Ex. If marijuana is legal, then how are we going to keep other drugs illegal? Once it's legal, we'll have a hard time keeping cocaine illegal. Once cocaine is legal, soon heroine will be too. Next thing you know, kids will be shooting up during recess.

Fallacies of criticism and response:

Ad hominem (against the person)

Directed towards the person, rather than the argument (attack the person who makes a claim rather than the claim itself).

Ex. People who say war is wrong are just cowards.

Tu quoque (you too)

“Look who’s talking”.

Seeks to deflect attention from misdeeds of a given person/group (most often the accusers) by pointing out that others are guilty of the same transgressions

Pooh-pooh

When an argument is dismissed by ridiculing it as not worthy of serious consideration.

Dismiss an argument with contempt

Rhetorical device in which speaker ridicules argument without responding to substance of argument.

Straw man

When we refute someone; in responding to a claim, the claim itself is changed into something that is obviously unacceptable and easier to refute.

Puts words into someone’s mouth that are easier to refute than what the person actually said.

Ex. Mike thinks that the price of gas should be much higher than it is. Clearly his goal is to reduce the hard-working people of this country to poverty and misery.

Loaded language

A loaded word carries a value judgement along with its descriptive element.

When emotionally charged/judgemental language without providing reasons is used

Ex. Medical research on animals simply must be stopped. This torture of innocent animals is morally indecent.

Fallacies of defence:

Definitional dodge

Consists of redefining a crucial term in a claim to avoid acknowledging a counter example that would falsify the claim (Ex. Americans are in love with cars. You are American and do not love cars? Clearly, you are not a real American.)

Exception that proves the rule

Consists of dismissing a counter example. Proves the rule = tests the rule

Ex. There have been no good women novelists. Jane Austen does not count; she is an exception that proves the rule.