逻辑 第八节
论据(论证),挪动门柱谬论
Argument ，Moving the goalposts fallacy

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课程内容 **Topics**

一. 论据（论证） Argument

- 正确的论据结构
  The Proper Structure of an Argument

- 如何分析论据
  How to analyse an Argument

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正思维(积极思维) **Critical Thinking**

正思维(积极思维) Critical Thinking

五大支柱 Five pillars：

1) 逻辑 Logic
2) 论据 Argument
3) 修辞 Rhetoric
4) 背景知识 Background knowledge
5) 态度与价值观 Attitudes and Values

课程章节	学习目标	答案
009 论证与 修辞	a)论证类型 b)论证的目 　的	a)有两类型的论证：哲学和修辞。 ▲从哲学观点来看，论证的目的是用好的理由去说服，辨出事情的真相（并不在乎于争赢）。 ▲修辞可以有善意或恶意。这是一个有效的和有说服力的演讲和写作，它是可以用来激励，影响和说服别人的艺术。例如：白魔术-马丁·路德·金；黑魔术- 希特勒 b）论证的目的是寻求事情的真相，而不在于争赢，最终是更好地去了解自己和世界。

正确的论据结构
The Proper Structure of an Argument

法則 RULES:

- 一個論据是由兩部分組成：前提和結論。
An argument is composed of two parts: Premise and Conclusion.

- 前提可以是一個或多個。 Premise can be single or numerous.

- 結論必須只有一個。 Conclusion must be single.

因此，一個論据集中在驗證一個單一的观点想法，即結論。 Therefore, an argument is focused on validating a single idea, the conclusion.

论据的適當結構

Proper Structure Of An Argument:

- 前提 #1 Premise #1 …
- 前提 #2 Premise #2 …
- 前提 #n Premise #n …
- 结论 Conclusion

以下是單一前提論据的例子 Example of a single-premise argument:

- 她超重是因為她吃得太多。
  She is overweight because she eats a lot.

- 在这个例子中，哪个分句是前提，哪个分句是结论？In this example, which clause is the premise and which clause is the conclusion?

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正确的论据结构
The Proper Structure of an Argument

- 前提 #1 Premise #1
  她吃得太多。 She eats a lot.

- 结论 Conclusion
  她超重。 She is overweight .

正确的论据结构
The Proper Structure of an Argument

以下是多個前提論据的例子 Example of a multi-premise argument:

- 当我在亚洲时，我看到太阳从东方升起。When I was in Asia, I saw the sun rises in the East. （前提 #1）

- 当我在欧洲时，我看到太阳从东方升起。When I was in Europe, I saw the sun rises in the East . （前提 #2）

- 当我在澳洲时，我看到太阳从东方升起。When I was in Australia, I saw the sun rises in the East . （前提#3）

- 這就令我知道太阳总是從東方升起的。That is how I know the sun always rises in the East . （结论）

- 这个例子是个结构恰当的论据，包括三个前提和单个结论。This is a well-structured argument with 3 premises and a single conclusion.

- 你同意这个论据（论证）吗？Do you accept this argument?

- 如果你怀疑"太阳总是从东方升起"这个结论可能不总是正确的，恭喜你!你具有積極思维(正思维)。你会审查当你站在北极或南极时，这个结论是否仍然正确。你可能會從太空宇航員的观点与角度來考虑。 If you doubt the conclusion "the sun always rises in the East" may not be always true, you are a critical thinker, congratulations. You will explore whether the statement is still true standing on the North or South Pole. You may be pondering from the perspectives of an astronaut in space.

如何分析验证论据？
Analysing an Argument？

- 積極思维者应该用以下三个步骤來验证一个论据是否成立。Here is how a critical thinker would analyse the validity of an argument in 3 steps.

正确的论据结构
The Proper Structure of an Argument

1. 该论据是否有前提和單個結論的正確結構？如果沒有，直接拒绝该论据。
Is the argument properly structured with premise(s) and a single conclusion? If not, reject the argument right out.

2. 该论据其中是否有任何逻辑缺陷, 比如謬论和認知偏差？如果有, 拒绝该论据。
Are there any logical flaws such as fallacies and cognitive biases? If yes, reject the argument immediately.

3. 如果論据通過上述两条測試，接下来便要考慮每個前提的正確性。這種判斷需要擁有对每个前提內的主題相关背景的知識。对某些新知識，你可能需要去做一些探索研究以充实你的背景知识。If the argument passes the above two tests, then consider the true or false of each premise. This judgement requires background knowledge on the subject matter mentioned in each premise. You might need to do some searching to substantiate your background knowledge which might be new knowledge to you.

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只有当所有的前提被认为在人類最真實的知識範疇內，我們才能接受某個論據。否則，我们会继续存疑而非譏誚。注："存疑"是禅行者必具条件，大疑大悟。Only when all the premises are deemed true to the best of human knowledge should we accept an argument as valid. Otherwise we remain sceptical but not cynical.

论据分析有两个步骤

There are two steps in argument analysis:

第一步，评估/考核逻辑和语法结构：
The first step is to evaluate/assess logic and grammatical structure：

- 前提是否支持结論？
  Does the premise support the conclusion?

- 它是合乎逻辑或是谬论？
  Is it logical or fallacious?

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- 只要一句话，一个论据有正确语法和逻辑，它通过第一个分析步骤。As long as a sentence or an argument has correct grammar and logic, it passes through the first analysis step.

- 如:趕不上過堂，没飯吃。For example, I can't catch up with the hall and have no food.

第二步，评估前提/预述　The second step is to evaluate the premise/prediction：

- 前提的真或假：这前提是否正确？对或错，确实或不确实？True or false premises: is this premise correct? Right or wrong, true or not?

- 这需要背景知识，主要取决于背景知识的全面性。This requires background knowledge, which mainly depends on the comprehensiveness of background knowledge.

How to analyse an Argument

- 背景知识是正思维/积极思维最重要的组成部分之一。Background knowledge is one of the most important components of positive thinking/critical thinking.

- 基本背景知识包括 Basic background knowledge includes:
    1) 一般的学科知识 General subject knowledge
    2) 对问题的历史有些知识 Have some knowledge of the history of the problem

3) 对人类心灵实际运作方式的知识Knowledge of the Practical Operation of the Human Mind.

• 背景知识可以强化前提是真或假，结论是否基於前提。Background knowledge can reinforce whether the premise is true or false and whether the conclusion is based on premise.

• 积极思维是不能教您背景知识的，这全靠自己去学习。 Critical thinking can't teach you background knowledge. It's all up to you to learn.

现在请您专注和澄清思维... 准备好了吗？ Concentrate and clear your mind please… are you ready?

23. 挪动门柱谬论:是驳回某一特定主张所提出的证据，并要求对方提供其他的(通常更大)证据。即是说，在对方进球后，球门柱会被挪动以排除进球。这样改变比赛规则的问题是，比赛结果的意义也会改变。

Moving the goalposts :(gravity game, raising the bar, argument by demanding impossible perfection [form of])is an informal fallacy in which evidence presented in response to a specific claim is dismissed and some other (often greater) evidence is demanded. That is, after an attempt has been made to score a goal, the goalposts are moved to exclude the attempt. The problem with changing the rules of the game is that the meaning of the result is changed, too.

挪动门柱谬论
moving the goalposts fallacy

- 要求对方在最初的论据被反驳后，提供越来越多的论据/观点，并拒绝承认或接受对方的论点。Demanding from an opponent that he or she addresses more and more points after the initial counter-argument has been satisfied refusing to concede or accept the opponent's argument.

https://zh.wikipedia.org/zh-hans/歧義謬誤, https://en.wikipedia.org/wiki/Moving_the_goalposts, https://www.logicallyfallacious.com/tools/lp/Bo/LogicalFallacies/129/Moving_the_Goalposts, https://medium.com/@WrightAaronM/the-fallacy-of-moving-the-goalpost-37693051192d

挪动门柱谬论
moving the goalposts fallacy

逻辑形式 Logical Form:

问题/论题A已经提出，得到了充分的回应。
Issue A has been raised, and adequately answered.

提出问题/论题B，也得到了充分回应。
Issue B is then raised, and adequately answered.

…然后，提出问题/论题Z，也得到了充分回应。 Issue Z is then raised, and adequately answered.

尽管所有问题/论题都得到了充分的回应，但反对者仍拒绝接受论据。 Despite all issues adequately answered, the opponent refuses to conceded or accept the argument.

例子 Examples

1）甲：必须有客观的道德，否则，"正确"和"错误"之类的术语就没有意义了，因为它们没有比较的基础。

Ken: There has to be an objective morality because otherwise terms like "right" and "wrong" would be meaningless since they have no foundation for comparison.

乙："正确"和"错误"这两个术语是建立在文化规范之上的，它们具有主观基础，随着文化的道德领域的变化而变化。术语"重的"没有客观的标准，但是我们可以用有意义的方式来使用它。事实上，很少有关系术语具有任何客观基础。 Rob: The terms "right" and "wrong" are based on cultural norms, which do have a subjective foundation -- one that changes as the moral sphere of the culture changes. The term "heavy" does not have an objective standard, yet we have no problem using that term in a meaningful way. In fact, very few relational terms have any kind of objective foundation.

甲：但是如果没有客观的道德，我们作为一个人类都会在道德上而迷失。Ken: But without an objective morality, we would all be lost morally as a race.

乙：很多人会说我们是。Rob: Many would say that we are.

甲：但是你怎么能说，在任何情况下折磨孩子取乐在道德上都是可以接受的？Ken: But how can you say that torturing children for fun is morally acceptable in any situation?

例子 Examples

乙：就个人而言，我不会，但你是在暗示，任何不客观的东西都必须以所有可能的方式被看到。一根羽毛对任何人来说都不可能是"重的"，但这并不意味着它的"轻"仍然与其他物体无关。Rob: Personally, I wouldn't, but you are implying that anything that is not objective must necessarily be seen in all possible ways. A feather may not be seen as "heavy" to anyone, but that doesn't mean its "lightness" is still not relative to other objects.

甲：但是上帝是客观道德的标准。证明那是错误的！Ken: But God is the standard of objective morality. Prove that wrong!

乙：我做不到。Rob: That I cannot do.

例子 Examples

解释：甲从一个解释为什么他认为必须有客观道德的声明开始：一个基于理性和逻辑的合理论证的声明。乙充分回答了这个异议，正如甲从反对意见转向一个新的反对意见所表明的。这个模式一直持续到我们到达一个不可能回应的请求。尽管所有的反对意见都得到了充分的回应，但甲决不承认任何观点或放弃论点。Explanation: Ken starts with a statement explaining why he thinks there has to be an objective morality -- a statement based on a reasonable argument that can be pursued with reason and logic. Rob adequately answers that objection, as indicated by Ken's move away from that objection to a new objection. This pattern continues until we arrive at an impossible request. Despite all the objections being adequately answered, at no time does Ken concede any points or abandon the argument

例子 Examples

甲：如果进化是真的，那就给我举一个进化的例子。Bob: If evolution is real, then show me an example of evolution occurring right now.

乙：当然可以。看看抗细菌的抗生素的出现。当使用抗生素时，大多数细菌对抗生素敏感，但有一小群对抗生素不敏感，因为没有生存竞争的压力而存活下来，剩下来的下一代的细菌全部都是对抗生素不敏感，这就是进化了。

Suzy: Of course. Look at the emergence of antibiotics against bacteria. When antibiotics are used, most bacteria are sensitive to antibiotics, but a small group is insensitive to antibiotics. They survive without the pressure of survival competition. The next generation of bacteria are insensitive to antibiotics. This is an example of evolution.

甲：不，那不算数。给我看一个长期发生的例子。Bob: No, that doesn't count. Show me an example that occurs over long periods of time.

例子 Examples

在这场辩论中，甲犯了挪动门柱谬论的错。首先，他认为，一个进化的例子正在发生，会使他改变他的立场。但是，当这些证据被提供时，他改变了对进化的定义，排除了在短时间内发生的物种变化，有效地使其不可能反驳他的说法。如果他的进化定义排除了物种的快速变化，你怎么可能提供进化发生的证据呢？你不能这样做。乙要么接受短期的例子作为先前同意的充分证据，要么允许使用证据来显示长期的变化，如化石记录和碳年代测定。通过在证据提交后改变他的要求，他创造了一个不可能反驳的新主张。In this debate, Bob is guilty of moving the goalpost. First, he suggests that an example of evolution occurring right now would make him change his position. But then, when such evidence is given, he changes his definition of evolution to exclude species changes that occur over short periods of time, effectively making it impossible to refute his claim. How can you possibly provide evidence of evolution occurring right now if his definition of evolution excludes rapid changes in species? You can't. Bob either has to accept short term examples as sufficient evidence as previously agreed or allow the use of evidence to show long term changes, such as fossil records and carbon dating. By changing his requirements after the evidence has been presented, he creates a new claim that is impossible to refute.

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背景知识：抗生素与细菌的进化

• 进化的本质从生物学上来说就是基因的变异，自然环境导致部分个体无法生存或者生存艰难，从而实现生物种群层次对个体的筛选，这就是进化。

• 耐药性细菌的产生，就是我们身边活生生的进化的例子。某种抗生素对某种细菌有杀灭作用，而细菌的基因突变可能会产生个别能够对抗这种抗生素的个体，此时的抗生素对细菌就起到了筛选作用。能够活下去的，都是那些具有耐药性的个体，然后继续繁衍，继续筛选。最终，在抗生素的生存压力下，普通的细菌就进化成了耐药性细菌。

• 那么，耐药的基因突变是在抗生素的作用下产生的吗？不是，已经有巧妙的实验证明了耐药性的突变是使用抗生素之前产生的，抗生素就是只起到了筛选作用。

例子 Examples 背景知识

固有耐药性又称天然耐药性，是由细菌染色体基因决定、代代相传，不会改变的，如链球菌对氨基糖苷类抗生素天然耐药；肠道G-杆菌对青霉素天然耐药；铜绿假单胞菌对多数抗生素均不敏感。获得性耐药性是由于细菌与抗生素接触后，由质粒介导，通过改变自身的代谢途径，使其不被抗生素杀灭。如金黄色葡萄球菌产生β-内酰胺酶而耐药。细菌的获得性耐药可因不再接触抗生素而消失，也可由质粒将耐药基因转移个染色体而代代相传，成为固有耐药。

例子 Examples

在这场辩论中，甲犯了挪动门柱谬论的错误。首先，他认为，一个进化的例子正在发生，会使他改变他的立场。但是，当这些证据被提供时，他改变了对进化的定义，排除了在短时间内发生的物种变化，有效地使其不可能反驳他的说法。如果他的进化定义排除了物种的快速变化，你怎么可能提供进化发生的证据呢？你不能这样做。乙要么接受短期的例子作为先前同意的充分证据，要么允许使用证据来显示长期的变化，如化石记录和碳年代测定。通过在证据提交后改变他的要求，他创造了一个不可能反驳的新主张。In this debate, Bob is guilty of moving the goalpost. First, he suggests that an example of evolution occurring right now would make him change his position. But then, when such evidence is given, he changes his definition of evolution to exclude species changes that occur over short periods of time, effectively making it impossible to refute his claim. How can you possibly provide evidence of evolution occurring right now if his definition of evolution excludes rapid changes in species? You can't. Bob either has to accept short term examples as sufficient evidence as previously agreed or allow the use of evidence to show long term changes, such as fossil records and carbon dating. By changing his requirements after the evidence has been presented, he creates a new claim that is impossible to refute.

3）甲：顺势疗法有效。给我看一个研究证明它是无效的。 Jeff: Homeopathy works. Show me a study that proves otherwise.

乙：好的。这是一项双盲、安慰剂对照的研究，表明它不起作用。 Megan: Okay. Here is a double blind, placebo controlled study showing that it doesn't work.

甲：好吧，但那是一项研究。这并不能证明什么。 Jeff: Okay, but that's one study. That doesn't prove anything.

事实上，更多的证据总是更好的，但是在要求一项显示顺势疗法无效的研究后，接受了所说的证据，然后改变了他的要求，甲挪动了门柱。因为乙提供了一项双盲、安慰剂对照研究，这一点尤其正确，这是研究的黄金标准。It is true that more evidence is always better, but after requesting a study showing that homeopathy medicine is effective and he accepted the evidence, and then changed his request. Jeff moved the goal post although Megan provided a double- blind placebo controlled study which is the golden rule for research.

练习：请同学们举出这种谬论的例子

结束

THE END

感谢！

Thank You！

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课程章节	学习目标	答案
006 谬论	a) 谬论定义 b) 常见的谬误	a) 谬论的定义 ▲它是一个论据 ▲它是一个坏的论据 ▲它是有说服力的 ▲欺骗性地伪装成一个很好的论据。 b) 3个常见谬误是： 第一个：提及性使用谬论。如：劳正。正好。 第二个：含糊性谬论。因多于一个意思或句子而造成术语的误用。如：空。 第三个：回避问题实质的谬论。用事情本身来解释某件事情，而导致意思含糊无法理解 。如：上帝创造了一切。因为他是無所不能的。

课程章节	学习目标	答案
007 正思维 五大支柱	a) 正思维的五个支柱	1) 逻辑 2) 论据 3) 修辞 4) 背景知识 5) 态度与价值观

课程章节	学习目标	答案
010 论据分析	b）论据分析步骤	b）论据分析有2个步骤 首先，要考核逻辑（和语法结构）。 其次，前提的真或假。 第一步， 评估逻辑；结论是否遵循前提？它是合乎逻辑或是谬论？只要句话有正确语法和逻辑，它通过第一个分析步骤。如:趕不上過堂，没飯吃。 第二步，评估前提－这前提是否正确，这主要取决于背景知识的全面性。

课程章节	学习目标	答案
007 论据	b) 论据 　的结构	前提之一 前提之二 前提之三 前提之… 结论 如： 第一堂己趕不上了 没飯吃了

课程章节	学习目标	答案
007 论据分析	分析论据的步骤	有两个步骤： 1) 逻辑- 好或坏； 前提是否技持结論 2) 前提/预述 – 对或错/确实 　　 或不确实，这需要背景知识。 修辞是传递前提的有效方式。

课程章节	学习目标	答案
009 论证与 修辞	a）论证类型	a)有两类型的论证：哲学和修辞。 ▲从哲学观点来看，论证的目的是用好的理由去说服，辨出事情的真相（并不在乎于争赢）。 ▲修辞可以有善意或恶意。这是一个有效的和有说服力的演讲和写作，它是可以用来激励，影响和说服别人的艺术。例如：白魔术-马丁·路德·金；黑魔术- 希特勒
	b)论证的目的	b) 论证的目的是寻求事情的真相，而不在于争赢，最终是更好地去了解自己和世界。

课程章节	学习目标	答案
010 背景知识	a) 背景知识的定义	a) 背景知识是正思维最重要的组成部分之一 　基本背景知识包括： 　　1. 一般的学科知识； 　　2. 对问题的历史有些知识； 　　3. 对人类心灵实际运作方式的知识 　　背景知识可以强化前提是真或假, 　　　结论是否基於前提。 正思维是不能教您背景知识的，这全靠自己去学习。

课程章节	学习目标	答案
010 论据分析	b）论据分析步骤	b）论据分析有2个步骤 首先，要考核逻辑（和语法结构）。 其次，前提的真或假。 第一步， 评估逻辑；结论是否遵循前提？它是合乎逻辑或是谬论？只要句话有正确语法和逻辑，它通过第一个分析步骤。如:趕不上過堂，没飯吃。 第二步，评估前提－这前提是否正确，这主要取决于背景知识的全面性。

例子 **Examples**

2） Perhaps the most classic example of this fallacy is the argument for the existence of God. Due to the understanding of nature through science, many of the arguments that used to be used for God (or gods) were abandoned, only to be replaced with new ones, usually involving questions to which science has not definitively answered yet. The move from creationism to intelligent design is a prime example. Currently the origin of life is a popular argument for God (although a classic <u>argument from ignorance</u>), and an area where we very well may have a scientific answer in the next decade, at which time, the "origin of life" argument will fade away and be replaced by another, thus moving the figurative goalposts farther back as our understanding of the natural

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22种常见谬论 22 common fallacies

1. 诉诸自然谬论
   Appeal to Nature
2. 非黑即白谬论
   Black and White Thinking
3. 人身攻击谬论 Ad Hominem
4. 起源谬论 Genetic Fallacy
5. 滑坡谬论 Slippery Slope

6. 诉诸无知谬论 Argument from Ignorance

7. 采樱桃谬论 Cherry Picking

8. 诉诸情感 & 诉诸群众谬论
Appeals to emotion & ad Populum
(Appeal to the People)

9. 居先为因谬论
Post Hoc ergo Propter Hoc

10. 稻草人谬论 Straw Man Fallacy

11. 相对主义谬论
Relativist Fallacy

12. 绝对主义谬论
Absolutism Fallacy

13. 乞题/循环论证谬论
Begging the Question/Circular Reasoning

14. 一词多义/模棱两可谬论
Equivocation

15. 以偏概全/轻率概括谬论
Hasty Generalization

16. 合成谬论
Fallacy of Composition

17. 分解/分割谬论
Fallacy of Division

18. 运气/彩票谬论
Lottery Fallacy

19. 诉诸不适当权威谬论
Appeal to dubious/inappropriate authority

20. 红鲱鱼/转移话题谬论
Red Herring fallacy

21. 扮演上帝谬论
Playing God fallacy

22. 推理失效谬论
Non Sequitur fallacy

- 《谬论》 保罗·斯坦

  Fallacies ，Paul Stearns

  http://lucidphilosophy.com/320-2/, http://lucidphilosophy.com/chapter-5-the-fallacies/

- 谬论或谬误, 是指不当/不正确的推理言论或推理思路，即推理错误。 Fallacy refers to inappropriate or incorrect reasoning, speech or thinking , that is, reasoning errors.

- 每个谬论都是不正确论证的一种类型。 Every fallacy is a type of incorrect argument.

  https://zh.wikipedia.org/zh-hans/謬誤, https://zh.wikipedia.org/wiki/謬誤列表

- 学习这些谬论是为了... Study them to ….
- 让你成为一个更好的哲学家
  Be a better philosopher
- 让你了解一些哲学的规则/法则
  Outline the rules of philosophy
- 避免被别人误导
  Avoid being misled
- 更好地理解人类的思维
  Better understand human thinking

- 让你显得聪明些
  Sound smart

- 在沟通和交流中表达更清晰
  Communicate clearly

- 使得你的心智肌肉更强壮
  Strengthen your mental muscle

- 让你保持知识/认识上的谦逊和获得苏格拉底式的智慧 Epistemic Humility & Socratic Wisdom