**Fallacies**

**1.1 definition**

* A fallacy is a defect in an argument that consists in something other than false premises alone.

**1.2**

* **formal fallacies（形式谬误）**

Some fallacies are detectable by an examination of the form the argument（可通过论证的形式检测出来）

* **informal fallacies（非形式谬误）**

All other fallacies are called informal fallacies, and they must be detected by an examination of the content of the argument.（必须对论证内容进行检查）

**2 Various Types of Fallacies**

**2.1 Fallacies of relevance (关联谬误)**

**2.1.1 types**

* **The appeal to the populace（诉诸民意）**
* An informal fallacy committed when the support offered for some conclusion is an inappropriate appeal to the multitude.（支撑的证据对民众来说是不合适的）
  + direct approach

eg. appeal to fear（诉诸恐惧）

* + - The direct approach occurs when an arguer, addressing a large group of people, excites the emotions and enthusiasm of the crowd to win acceptance for his or her conclusion.
  + indirect approach

eg. bandwagon argument（主流思想谬误）

"Of course you want to buy Zing toothpaste. Why, 90 percent of America brushes with Zing.”

* + - The idea is that you will be left behind or left out of the group if you do not use the product.
  + appeal to vanity（诉诸虚荣谬误）
    - The appeal to vanity often associates the product with someone who is admired, pursued, or imitated, the idea being that you, too, will be admired and pursued if you use it.

eg. The recent television and billboard ads for the U.S. Marine Corps provide an example. The ads show a strong, handsome man in uniform holding a gleaming sword, and the caption reads: “The Few, the Proud, the Marines.”

* + - The message is that if you join the Marines, then you, too, will be admired and respected, just like the handsome man in the uniform.
  + appeal to snobbery (诉诸势利谬误)
    - In the appeal to snobbery the crowd that the arguer appeals to is a smaller group that is supposed to be superior in some way – more wealthy, more powerful, more culturally refined, more intelligent, and so on.

eg. “The Lexus 400 series is not for everyone. Only those with considerable means and accomplishment will acquire one. To show the world that you are among the select few, you will want to purchase and drive one of these distinguished automobiles.”

* + appeal to tradition（诉诸传统谬误）
    - The appeal to tradition occurs when an arguer cites the fact that something has become a tradition as grounds for some conclusion.

“从来如此，便对吗？”

* + - In the indirect approach the arguer aims his or her appeal not at the crowd as a whole but at one or more individuals separately, focusing on some aspect of their relationship to the crowd.
* **The appeal to emotion（诉诸情感）**
* An informal fallacy committed when the support offered for some conclusion is emotions–fear, envy, pity, or the like–of the listeners.
* **The red herring（红鲱鱼/转移注意力）**
* An informal fallacy committed when some distraction is used to mislead and confuse.

1.change the subject to one that is subtly related to the original subject.

2.change the subject to some flashy, eye-catching topic that is virtually guaranteed to distract the listener’s attention. (Topics of this sort include sex, crime, scandal, immorality, death, and any other topic that might serve as the subject of gossip)

* **The straw man（稻草人/自说自话）**
* An informal fallacy committed when the position of one’s opponent is misrepresented and that distorted position is made the object of attack.

eg. Mr. Goldberg has argued against prayer in the public schools. Obviously Mr. Goldberg advocates atheism. But atheism is what they used to have in Russia. Atheism leads to the suppression of all religions and the replacement of God by an omnipotent state. Is that what we want for this country? I hardly think so. Clearly Mr. Goldberg’s argument is nonsense.” (Mr. Goldberg, who is the first arguer, has presented an argument against prayer in the public schools. The second arguer then attacks Goldberg’s argument by equating it with an argument for atheism. )

通常体现在不准确解读对手的观点，将其观点极端化标签化，归类于某个公众痛恨的理念。

eg. 你喜欢用苹果手机 -> 喜欢用贵的东西 -> 拜金

还有一种，通过对手的论据，巧妙生成一种对手没有提出的观点，然后对该观点进行攻击。

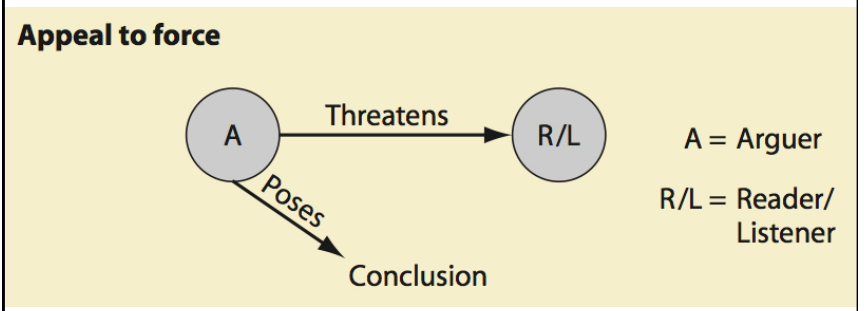
* **The attack on the person (Argumentum ad Hominem)**
* An informal fallacy committed when, rather than attacking the substance of some position, one attacks the person of its advocate, either abusively or as a consequence of his or her special circumstances.

eg.你凭什么说我要做这件事？如果是你，你也不肯做。

eg.他说这样做不对，但是他这个人有勇无谋，说的话不足为取。

* **The appeal to force（诉诸武力）**
* An informal fallacy committed when force, or the threat of force, is relied on to win consent.

eg. 我讲的这个观点是对的，你认为它不对我就给你考试卷子上打错。（It is wrong because the argument is “if I force you to accept this concept by judging your exam results, then this concept is right.”）



* **Missing the point (irrelevant conclusion)**
* An informal fallacy committed when one refutes, not the thesis one’s interlocutor is advancing, but some different thesis that one mistakenly imputes to him or her.
* **Accident**
* An informal fallacy in which a generalization is applied to individual cases that it does not govern.

eg. “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.”

* **Appeal to pity（诉诸同情）**
* The appeal to pity fallacy occurs when an arguer attempts to support a conclusion by merely evoking pity from the reader or listener.

**2.1.2 summary**

These fallacies share the common characteristic that the arguments in which they occur have premises that are logically irrelevant to the conclusion, but may be only psychologically relevant.（都有在逻辑上与结论无关的前提，或是只有看似相关）

**2.1.3 comparisons**

* **Red herring** vs **Straw man**
* In the straw man, the arguer begins by distorting an opponent’s argument and concludes by knocking down the distorted argument.
* In the red herring, the arguer ignores the opponent’s argument (if there is one) and subtly changes the subject.

Thus, to distinguish the two fallacies, one should attempt to **determine whether the arguer has knocked down a distorted argument or simply changed the subject.**

* **Red herring** and **Straw man** vs. **Missing the point**
* Straw man draws a conclusion from new premises that are obtained by distorting an earlier argument, and red herring, if it draws any conclusion at all, draws one from new premises obtained by changing the subject.
* Missing the point, however, draws a conclusion from the original premises.

**2.2 Fallacies of defective induction**

The mistake arises from the fact that the premises of the argument, although relevant to the conclusion, are so weak and ineffective that relying on them is a blunder.

**2.2.1 types**

* **The argument from ignorance（诉诸无知）**
* An informal fallacy in which a conclusion is supported by an illegitimate appeal to ignorance, as when it is supposed that something is likely to be true because we cannot prove that it is false.

eg. 我们没有办法说外星人不存在，所以它是存在的

* **The appeal to inappropriate authority (Argumentum ad verecundiam)**
* An informal fallacy in which the appeal to authority is illegitimate, either because the authority appealed to has no special claim to expertise on the topic at issue, or, more generally, because no authority is assured to be reliable.

eg. “Dr. Bradshaw, our family physician, has stated that the creation of muonic atoms of deuterium and tritium hold the key to producing a sustained nuclear fusion reaction at room temperature. In view of Dr. Bradshaw’s expertise as a physician, we must conclude that this is indeed true.”

* This conclusion deals with nuclear physics, and the authority is a family physician.
* **False cause**
* When one treats as the cause of a thing that which is not really the cause of that thing, often relying (as in the subtype post hoc ergo propter hoc) merely on the close temporal succession of two events.
* The false cause fallacies includes the following varieties:
  + post hoc ergo propter hoc (“after this, therefore on account of this”)

eg. Every time he comes, there are bad things happen. So if we don’t want bad things happen, we shouldn’t let him come.

* + non causa pro causa (“not the cause for the cause”)

eg. Successful business executives are paid salaries in excess of $100,000. Therefore, the best way to ensure that Ferguson will become a successful executive is to raise his salary to at least $100,000.

* oversimplified cause

eg. The quality of education in our grade schools and high schools has been declining for years. Clearly, our teachers just aren’t doing their job these days.

* gambler’s fallacy
* This fallacy is committed whenever the conclusion of an argument depends on the supposition that independent events in a game of chance are causally related.

eg. A fair coin was flipped five times in a row, and each time it came up heads. Therefore, it is extremely likely that it will come up tails on the next flip.

* slippery slope
* **Hasty generalization (converse accident)**
* An informal fallacy in which a principle that is true of a particular case is applied, carelessly or deliberately, to the great run of cases.

根据很有限的例证得出一个普遍的结论。也就是常说的，论据不足。

eg. 我身边的人都这样，所以其他人也一定这样。

* **weak analogy（弱类比关系）**
* The fallacy of weak analogy is committed when the analogy is not strong enough to support the conclusion that is drawn.

eg. The flow of electricity through a wire is similar to the flow of water through a pipe. Obviously a large-diameter pipe will carry a greater flow of water than a pipe of small diameter. Therefore, a large-diameter wire should carry a greater flow of electricity than a small-diameter wire.

**2.2.2 summary**

* The premises are relative, but the connection between premises and conclusion is not strong enough to support the conclusion.
* Like the fallacies of relevance, however, the fallacies of weak induction often involve emotional grounds for believing the conclusion.

**2.3 Fallacies of presumption**

In fallacies of presumption, too much is assumed in the premises. The inference to the conclusion depends mistakenly on these unwarranted assumptions.

**2.3.1 types**

* **Complex question (Plurium Interrogationum)**
* An informal fallacy in which a question is asked in such a way as to presuppose the truth of some proposition buried in the question.

eg. Have you stopped cheating on exams? (If you answer yes, that hints you have cheated on exams before.)

* **Begging the question**
* An informal fallacy in which the conclusion of an argument is stated or assumed in one of the premises.

1. the first form

* leaving a possibly false key premise out of the argument while creating the illusion that nothing more is needed to establish the conclusion.

eg. It’s obvious that the poor in this country should be given handouts from the government. After all, these people earn less than the average citizen.

1. the second form

* occur when the conclusion of an argument merely reststes a possibly false premise in slightly different language.

eg. Anyone who preaches revolution has a vision of the future for the simple reason that if a person has no vision of the future he could not possibly preach revolution.

1. the third form

* involve circular reasoning in a chain of inferences having a first premise that is possibly false.（emmm…大概是升级版的第二种形式？这里是一个圈形式的循环论证qwq）
* **false dichotomy（假二分法）**
* The fallacy of false dichotomy is committed when a disjunctive (“either…or…”) premise presents two unlikely alternatives as if they were the only ones available, and the arguer then eliminates the undesirable alternative, leaving the desirable one as the conclusion.

eg. “你母亲和女朋友掉到水里，你先救谁？”（这里把背景弱化了，其实不一定非要在这两个选项里面选择一个，如果女朋友会游泳就不用救了不是吗）

* **suppressed evidence**
* A cogent argument is an inductive argument with good reasoning and true premises. The requirement of true premises includes the proviso that the premises not ignore some important piece of evidence that outweighs the presented evidence and entails a very different conclusion.

eg. 幸存者偏差

eg. “During the past sixty years, Poland has enjoyed a rather low standard of living. Therefore, Poland will probably have a low standard of living for the next sixty years.”

* This argument ignores the fact that Poland was part of the Soviet bloc during most of the past sixty years, and this fact accounts for its rather low standard of living. However, following the collapse of the Soviet Union, Poland became an independent nation, and its economy is expected to improve steadily during the next sixty years。

**2.3.2 summary**

These fallacies arise because the premises presume what they want to prove.

**2.4 Fallacies of ambiguity**

**2.4.1 types**

* **Equivocation**
* An informal fallacy in which two or more meanings of the same word or phrase have been confused.

eg. Any law can be repealed by the legislative authority. But the law of gravity is a law. Therefore, the law of gravity can be repealed by the legislative authority.

* **Amphiboly**
* An informal fallacy arising from the loose, awkward, or mistaken way in which words are combined, leading to alternative possible meanings of a statement. (指代不明、断句可产生歧义等)

eg. “A told B that he made a mistake.” (whether A or B is the correct object refer to ‘he’ ?)

* **Accent**
* An informal fallacy committed when a term or phrase has a meaning in the conclusion of an argument different from its meaning in one of the premises, the difference arising chiefly from a change in emphasis given to the words used.

**2.4.2 summary**

These fallacies arise from the occurrence of some form of ambiguity in either the premises or the conclusion. (or both)

When the conclusion of an argument depends on a shift in meaning of an ambiguous word or phrase or on the wrong interpretation of an ambiguous statement, the argument commits a fallacy of ambiguity

**2.5 Fallacies of grammatical analogy**

**2.5.1 types**

* **Composition**
* An informal fallacy in which an inference is mistakenly drawn from the attributes of the parts of a whole to the attributes of the whole itself.
* This fallacy is committed (a) when one reasons mistakenly from the attributes of a part to the attributes of the whole, or (b) when one reasons mistakenly from the attributes of an individual member of some collection to the attributes of the totality of that collection.
* **Division**
* An informal fallacy in which a mistaken inference is drawn from the attributes of a whole to the attributes of the parts of the whole.
* This fallacy is committed (a) when one reasons mistakenly from the attributes of a whole to the attributes of one of its parts, or (b) when one reasons mistakenly from the attributes of a totality of some collection of entities to the attributes of the individual entities within that collection.

notes: Unlike accident and converse accident, composition and division are fallacies of ambiguity, resulting from the multiple meanings of terms. Wherever the words or phrases used may mean one thing in one part of the argument and another thing in another part, and those different meanings are deliberately or accidentally confounded, we can expect the argument to be fallacious.

**2.5.2 summary**

Arguments that commit these fallacies are grammatically analogous to other arguments that are good in every respect.