0.1 Logical Fallacy

A logical fallacy is a defect in an argument that renders its conclusion invalid, that is, the argument doesn't support the conclusion. The fallacy in the argument may be subtle and go undetected, in which case it misleads the mind.

The fallacy may be unintentional or deliberately crafted into an argument to deceive, a practice called **sophistry** or **sophism**. This is typical of propaganda and advertising, where the purpose is to persuade a listener or reader of something that the arguer doesn't necessarily believe himself.

Religious apologists often fall into this category as well, where arguments are reverse engineered to appear to lead to a conclusion that was actually the starting point, something I called a pseudo-conclusion earlier. Proofs of the existence of God are examples of this, as with the Teleological Argument for God, which asserts that the universe seems intelligently designed

And an attorney's argument is generally deliberately incomplete. A prosecutor will not make the same argument as a defender. Neither will introduce evidence or arguments that makes the other's case.

In fact, a trial can be thought of as a prosecutor making an argument with the conclusion being, "Therefore the defendant is guilty," and a defender explaining why the argument is fallacious, that is, that it doesn't support a guilty verdict beyond a reasonable doubt.

Logical fallacies can be **formal or informal,** where formal refers to the form, arrangement or technical structure of an argument, especially flawed syllogisms.

Informal fallacies are flaws in non-syllogistic arguments. Whereas formal fallacies deal with the structure of the argument, informal fallacies deal with the meaning of the words.- the use of ambiguous or vague language, misstatements of fact or opinion, misconceptions due to underlying presuppositions, lack of relevance, failing to support the conclusion, or illogical sequences of thought are all examples.

0.2 Formal argumentation and formal fallacies

Formal in this sense is referring to the form of the argument, specifically syllogistic. The classic example is: Socrates is a man, all men are mortal, therefore Socrates is mortal.

The cardinal features of syllogisms are that

- they include two premises and a conclusion with at most three terms
- they are deductive in nature, that is, they go from the general to the specific
- the only quantifiers they use are all, some and none.
- their conclusions are valid if their form is proper
- they contain no new information not implicit in the premises, that is, they add no information to our fund of knowledge - they merely rearrange it.

These arguments can be diagrammed using circles - so called Venn diagrams. All men are mortal can be shown by a circle representing all men within a larger circle representing all mortals. We diagram the quantifier "some" with intersecting circles, and "none" with adjacent, non-overlapping circles.

Syllogisms are generally written in three sentences called propositions. The first two propositions are called the major and minor premises, and contain two terms each, one term being common to both premises. The third proposition is the conclusion, and connects the term found only in the major premise with the one contained only in the minor premise.

Syllogism can be presented in any of three ways:

1. The **conditional** form uses if-then propositions, propositions being sentences that might or might not be true. The "if" part of the statement is called the antecedent, and the "then" part the consequent. In the chain form, conditional syllogisms read like, If Socrates is a man and all men are mortal, then Socrates is immortal.

   This argument is true even if Socrates is not a man or not all men are mortal. Another way to say that is to say that it is analytically true. Analytic truths depend purely on form, not reality. Earlier, we noted that we could say that there were no married bachelors in the world without getting up from our chair once we knew what the words married" and bachelor" meant. That was also an analytic truth.

   Variations on the conditional syllogism apart from the chain form include confirming the antecedent - the so called modus ponens form: If P then Q, P, therefore Q, An example would be, If John arrives, then another car will appear in the driveway, John has arrived, therefore there is another car in the driveway.

   Another variant is denying the consequent, or modus tolens: If P then Q, not Q, therefore not P. If John arrives, then another car will appear in the driveway, there is no car in the driveway, therefore John has not arrived.

   One formal fallacy is called affirming the consequent: If John gets here, then there will be another car parked in the driveway, there is another car in the driveway, therefore John has arrived. This is obviously not necessarily true.

   Another formal fallacy is called denying the antecedent: If John gets here, then there will be a car parked in the driveway, John has not arrived, therefore there is no car parked in the driveway.

2. The **disjunctive** form of syllogism uses either-or. For example, it is the case that either Socrates is mortal or he is immortal, Socrates is not immortal, therefore he is mortal.

   The first premise is analytically true according to the law of non-contradiction, which you may recall is one of the fundamental axioms of thought, the one that says that a thing cannot be two mutually exclusive things or in two

mutually exclusive states at the same time. It must be of the form P or not-P' as with "Either you trust Bob or you don't." That's true however you feel about Bob. Such a statement can be called a tautology.

The second premise, though true, is not analytically true. It makes a claim about reality that might have been otherwise. If the statement is true, it is a synthetic truth. Thus we have analytic versus synthetic truth. We can also call these necessary and contingent truths, rational and empirical knowledge, or as Kant did, a priori and a posteriori knowledge.

Thus, true premises can be of two types, the first called analytic, tautological, necessary or a priori. These terms are interchangeable. Octagons have eight sides, 2+2=4, you trust me or you don't, and bachelors are unmarried are examples. They are true because of their form, and denying them is a logical error.

The second kind of truth is the synthetic, contingent, empirical or a posteriori truth. Stop signs are octagonal, there are two adults and two dogs living in my home, you trust me, and I am married are examples. They happen to be true, but might have been false

We can go wrong here by using the wrong form: "Either you trust me or you distrust me." This only superficially resembles the P or not-P form of a premise, but is actually an example of an informal fallacy called the Excluded Middle Fallacy. It is possible to have no opinion yet about whether I am trustworthy or not.

Disjunctive syllogisms need not be of the Either P or not-P form. For example, We'll either go to a movie or go golfing this afternoon. If we affirm either option (we're going to a movie), we automatically deny the other by implication (we're not going golfing), and vice versa. If we deny either option, we affirm the other.

3. And finally, there is the categorical form of syllogism, which removes the if-then and either-or language and makes a claim about reality that depends on the truth of the premises for the syllogism to be sound: Socrates is a man, all men are mortal, therefore Socrates is mortal.

   Like conditional syllogisms, the only quantifiers used are all, some and none, which yields four forms of propositions:

   - A: All S are P. All dogs are mammals.
   - E: No S are P. No mammals are parrots.
   - I: Some S are P. Some people are male.
   - O: Some S are not P. Some males are not people.

   There are a few types of formal fallacies of **categorical** syllogisms. One is the **Fallacy of the Undistributed Middle:** Socrates is mortal, all men are mortal, therefore Socrates is a man. This is also an example of an informal

fallacy called an Equivocation Fallacy if we mean the word "man" in two different ways: mankind, and adult male human beings.

But even if we fix this, we are left with a Fallacy of the Undistributed Middle: Socrates is mortal, all adult male human beings are mortal, therefore Socrates is an adult male human beings. Socrates could be a child, the name of a woman, or my dog.

Earlier, I mentioned that a syllogism can only contain three terms, such as Socrates, man and mortal in the conditional (if-then) and categorical forms, or Socrates, mortal and immortal in the disjunctive form (either-or).

Violating this rule can result in the **Fallacy of Four Terms.** A conclusion referring to D cannot be reached if premise 1 refers to A and B and premise 2 refers to B and C. Socrates is a man, all men are mortal, therefore Zeus is mortal.

We also cannot draw a valid conclusion if premise 1 refers to A and B, and premise 2 refers to C and D. Socrates is a man and all mammals are mortal cannot be used to deduce a conclusion.

These are obvious. The fact of there being four terms may be disguised by equivocation, the use of one word in two ways. Power tends to corrupt, knowledge is power, therefore knowledge tends to corrupt is a Fallacy of Four Terms disguised by shortening "power to compel or coerce" and "power to understand, predict, convince, or persuade" to just power.

0.3 Informal argumentation and fallacy

The major shortcoming of formal or syllogistic argumentation is its very limited application. Most real world argumentation is nothing like that. Most ordinary arguments are therefore informal.

Whereas formal arguments lead to conclusions that are certain, informal arguments necessarily settle for a lesser degree of certainty.

Informal arguments admit value judgments such as something shouldn't be done because it is wrong, as well as value laden language such as and murdering a baby" in place of "terminating a pregnancy.

Informal arguments generate new information not latent in the assumptions. If we argue for legalized abortion, assisted suicide, or the death sentence, we merge scientific or medical facts with ethical considerations, as well as predictions for ramifications of such policies. We hope to convince a listener that they add up to a pro or con conclusion, fully expecting listeners to have differences in their understanding of the technical information, different values, and different estimates of how such changes would impact individuals or societies

Also, informal arguments cannot be reduced to form and symbols such as All B are A, or "If P then Q. Thus informal in the phrase "informal fallacy" means that the fallacy is not due merely to the form of the argument, but on the meaning of its terms.

Informal fallacies are broadly classed into several groups

- **Fallacies of clarity** involve ambiguity (two or more possible meanings for a word or statement, which includes semantic ambiguity (We have lots for sale) and syntactic ambiguity (Mary always calls her mother when she's feeling badly) - two examples of amphiboly, and vagueness (no clear meaning at all).

  Equivocation fallacy - a fallacy based on equivocation, or using two different meanings of a word in the same argument. We looked at this idea when discussing syllogism, where two meanings of power were used: Power corrupts, knowledge is power, therefore knowledge corrupts. Or banks are a good place to put your money, rivers have banks, therefore, rivers are a good place to put your money.

  Equivocation also occurs commonly in informal argumentation. Several examples come out of Christian apologists. as with the word theory, which can mean a scientific idea that is the result of mountains of evidence collected over a protracted period of time, which includes general laws that link observations, and which lead to testable predictions, as with the Theory of Evolution or Big Bang Theory. It can also mean a hypothesis - an untested idea. Equating the two as when saying that the Theory of Evolution is only a theory is an equivocation fallacy.

  This matter surfaced during the Kitzmiller v. Dover trial in 2005, which arose when it was discovered that the textbook "Of Pandas and People," which advocated for intelligent design, had been placed in the school's library by the school board. Teaching creationism in public schools was outlawed by the 1987 Edwards v. Aguillard judgment. The prosecution argued that intelligent design was just repackaged creationism recruited to circumvent Edwards.

  The defense argued that ID was not a religious concept, but rather, a scientific theory. Specifically, intelligent design advocate and biochemist Dr. Michael Behe of Lehigh University testified that intelligent design, which makes no explicit mention of gods or the supernatural, was a scientific theory, and that it was legitimate to have the textbook in the public school.

  The prosecution exposed the equivocation by asking Behe to describe what he meant by a scientific theory, which led to this exchange taken from the trial transcript:

  Prosecutor: "But you are clear, under your definition, the definition that sweeps in intelligent design, astrology is also a scientific theory, correct?"

  Behe: "Yes, that's correct."

  Likewise with the word faith. Conflating faith that one's car will start again in the morning as it has the last 200 times it was tested with faith that one will get to heaven is also equivocation. The first is based on the evidence of experience, and can be called justified belief. Religious type faith is insufficiently supported belief and therefore unjustified belief.

  Other differences between the two meaning of the word faith are that secular faith (justified belief) is tentative, that is, less than certain, is commensurate with the quantity and quality of the supporting evidence, and is amenable to

revision in the face of contradictory evidence. My faith that the car will start is less than certain, but gets closer to certainty every time the car starts and demonstrates itself to be reliable. That belief will change immediately if the car doesn't start.

Religious faith, by contrast, is unsupported or insufficiently supported belief, is certain, and is refractory to all argument and evidence. Unjustified certainty is equivalent to treating a hypothesis as a proven fact. If it is then used as a premise for subsequent thought - that is, if an argument is based on such a false premise - however valid the form of the subsequent argument may be, the conclusion will be unjustified and the argument based on it unsound..

The refractory nature of this kind of thinking to evidence is well known. It has been demonstrated scientifically that prayer doesn't affect outcomes, but most people of faith continue to believe in the power of prayer. And it can be argued that a god that is said to be perfect – that is omnipotent, omniscient, and omnibenevolent - but chooses to nearly exterminate its mistake with a great flood, is being described as an imperfect perfect god. This is just as impossible as our married bachelor.

- **Fallacies of relevance** involve arguments that fail to lead to their conclusions. They offer considerations that simply don't bear on the truth of the conclusion. In order to prove that a conclusion is true, one must offer evidence that supports it, not irrelevant ideas, however psychologically persuasive they may be. Such arguments substitute appeals to emotion for evidence.

  Straw Man Fallacy – an argument based on misrepresentation of an opponent's position; creating a false or made up scenario and then attacking it.

  Example 1 "Evolutionists think that everything came about by random chance." False. Most evolutionists think in terms of natural selection which may involve incidental elements, but does not depend entirely on random chance.

  Example 2 Regarding a more precise estimate for the starting date of the Younger Dryas ice age and its relationship to an impact event "What I am saying is what has been preached as scientific "truths" for some time based upon insufficient data are in error. Those postulations became science Scripture. The way you heard it is not the way it happened when it comes to our origins." Nobody has claimed that anything based on scant data is settled science

  Example 3 Buck Crick wrote: "Have you learned yet that 1984 is prior to 1987? Edwards v. Aguillard was rendered in 1987. ID went public as a scientific theory no later than 1984. 1984 is prior to 1987. Therefore, it is impossible that ID was motivated by a desire to circumvent Edwards."

  IANS answered: "Why tell me? Did you think that I claimed that ID was 'motivated by a desire to circumvent Edwards?' I claimed that it was used for

that beginning in 1987. ID is at least as old as Genesis 1. It was motivated millennia ago by a desire to promote belief in Jehovah, who later morphed into Jehovah-Jesus."

Special Pleading Fallacy – here, the arguer applies a standard in one case but not another with no convincing reason offered for the double standard. The classic example is that the universe is simply too complex to have come into being undesigned, or that everything that exists must have a cause, and therefore, a god must exist as a first cause. But ask why a god can exist undesigned or uncaused, and the answer will be an evasion such as, "Because he's God. He can do anything," "God exists outside of time and space," or "God transcends material reality."

Claiming that something transcends physical reality and its laws, or that an idea transcends reason is merely special pleading. Claiming that the tenets of one's faith transcend reason, or that a god transcends the methods of science or material reality is merely excusing oneself from having to provide an argument and supporting evidence.

Calling a realm, its denizens, or its laws "supernatural" is saying that they transcend nature and is thus another form of special pleading. Recall that a working definition for being real is to be among the collection of objects and forces capable of interacting with some or all of other elements of reality. If there is a god in a heaven with the power to modify aspects of our universe, that is, if it is causally connected to our reality, then that god and its power are also a part of our reality, and are potentially detectable.

Thought-terminating Clich Fallacy – when a commonly heard and accepted phrase is rhetorically introduced as a substitute for an actual argument in an attempt to end the debate. "Humans will never overcome their violent nature in spite of recent claims of progress. The more things change, the more they stay the same."

Bandwagon fallacy – concluding that an idea has merit simply because many people believe it or practice it. Most people used to believe that the earth was flat and motionless with the sun orbiting it every day. The number of believers say nothing at all about the soundness of the claim.

Argumentum ad populum fallacy – An argument aimed to sway popular support by appealing to numbers rather than facts and reasons. "It's common sense" or " Most of the world believes in a god"

Innuendo fallacy – using innuendo, or using words with ambiguous meanings, then changing the meaning of them later. On the subject of illegal immigration, Ann Coulter commented that in Stockton, California, 70 percent of the 2,300 babies born in 2003 at that city's San Joaquin General Hospital's maternity ward were anchor babies, that is, babies that were American citizens for having been born on American soil, and could therefore get their parents into America legally and even receive public benefits. Coulter adds to that statistic one more fact: "By 2013, Stockton was bankrupt." In fact, "When

the economy crashed and the construction bubble burst, Stockton was battered by foreclosures and lost income from property taxes and other fees." The hospital is still open.

Red herring fallacy – argument given in response to another argument, which is irrelevant and draws attention away from the subject of argument. An irrelevant topic is presented in order to divert attention from the original issue. The basic idea is to "win" an argument by leading attention away from the argument and to another topic. Also called deflection. Consider the recent church shootings in Charleston SC. The effort was made repeatedly to deflect the discussion from guns and racism to mental illness. See also irrelevant conclusion.

Irrelevant conclusion fallacy (Ignoratio elenchi) – the informal fallacy of presenting an argument that may or may not be logically valid, but fails to address the issue in question. More colloquially, it is also known as missing the point. Maher: "If you had been born in Pakistan, you wouldn't be believing in Jesus Christ." Scarborough: "Well, Bill, that's your opinion." Whether Maher's argument is his opinion or not is irrelevant and does not address the argument made.

Ad hominem fallacy – Latin for "to the man." Attacking the arguer instead of the argument. "Christopher Hitchins said that what can be offered without evidence can be rejected without evidence? So what? That guy was a drunk"

Reductio ad Hitlerum fallacy (playing the Nazi card) – comparing an opponent or his argument to Hitler or Nazism in an attempt to associate a position with one that is universally reviled. See Godwin's law

Appeal to ignorance fallacy (Argumentum ad ignorantiam argumentum ex silentio) – appealing to ignorance as evidence for something; where the conclusion is based on the absence of evidence, rather than the existence of evidence. God of the gaps arguments fall here: "We don't know how life arose on earth, therefore a god must exist" – a classic god of the gaps argument.

Argument from authority fallacy (argumentum ad verecundiam) – using the words of an "expert" or authority as the basis of an argument instead of using the logic or evidence that supports an argument, as when quoting Einstein about religion.

Argumentum ad baculum fallacy – An argument based on an appeal to fear or a threat. (e.g., If you don't believe in God, you'll burn in hell)

Argument from (personal) incredulity fallacy – I cannot imagine how this could be true, therefore it must be false

Tu Quoque Fallacy (the appeal to hypocrisy) – Latin for "you, too" or "you, also" tries to discredit an argument by claiming that the other party is just as guilty.

Non sequitur fallacy – from Latin for "It does not follow." An inference or conclusion that does not follow from established premises or evidence. (e.g., there occured an increase of births during the full moon. Conclusion: full

moons cause birth rates to rise.) But does a full moon actually cause more births, or did it occur for other reasons, perhaps from expected statistical variations? "You cannot do anything that matters after you die." "I disagree. I believe much happens after we die, and we can still make a difference."

- **Fallacies of presumption** (vacuity) result when an argument starts by assuming what it's supposed to establish such as circular reasoning and begging the question.

  Begging the question fallacy (petitio principii) – assuming that which one aims to prove: "We ought to encourage youth to worship God to instill moral behavior." Assumes religion and worship actually produce moral behavior.

  Circular reasoning fallacy – stating in one's proposition that which one aims to prove. "We know god exists because the Bible tells us so." "How do we know that we can trust the Bible?" "It was written by God."

  Loaded question fallacy – embodies an assumption that, if answered, indicates an implied agreement. "Why do you hate god?" or "Have you stopped beating your wife yet?"

  No True Christian fallacy (or No True Scotsman) – an informal logical fallacy and an ad hoc attempt to defend an assumption. When faced with a counterexample, rather than deny it,, one rejects the counterexample without offering a reason. For example: "Christians are peaceful" "But many Christians have started wars." "No true Christian would do that." Also, "Josh Duggar Wasn't Really a Christian When He Molested Those Girls"

  `http://www.patheos.com/blogs/friendlyatheist/2015/05/25/ray-comfort-josh-duggar-wasnt-really`

  Hasty Generalization Fallacy (or Over generalization) – jumping to an unjustified conclusion. Here we see a couple of Christians trying to unseat evolutionary theory by implying that if one occurrence of a hoax can be identified, the whole science is a hoax and can be disregarded: Buck Crick wrote: "Take Piltdown Man, the famous Sussex fossil. In 1912, amateur archaeologist and premier forager Charles Dawson discovered the link between ape and man - Piltdown Man ... Piltdown man was finally proven to be a hoax in 1953. Not a mistake - a hoax. Orangutan jawbone, human skull. Stilgar:" Dishonest scientists is (sic) the reason many people don't trust them, and laugh their asses off when someone quotes a "recent study".

  Or "The universe is here, so there must be a god." How did we eliminate the other possibilities, such as that there is a multiverse spawning uncountable universes?

0.4 Fallacies due to false assumptions

Burden of Proof Fallacy (Proving a Negative Fallacy) – this occurs when somebody making a claim demands that it be disproved. Inability or disinclination to disprove an unproven assertion is not support for its claim.

Also, recall the distinction between evidence, which makes a claim more or less likely, and proof, which is sufficient evidence to render a claim definitely true or false, and that though absence of proof is not proof of absence, absence of expected evidence is most assuredly evidence of absence, as when nobody remembers seeing me at work, my time card wasn't stamped, and I am not paid for the day. One may be asked to prove that there is no god. Although one may prove non-existence in special limited circumstances, such as showing that a box does not contain certain items, one cannot prove universal or absolute non-existence. One often cannot prove that something does not exist. The proof of existence must come from those who make the claims.

False Dilemma Fallacy (false dichotomy, excluded middle fallacy, fallacy of bifurcation, black-or-white fallacy) – two alternative statements are held to be the only possible options, when in reality there are more, as with "If you don't believe me, you are calling me a liar" or "If you're not with us, you're against us". Pascal's Wager is a classic false dilemma fallacy: "Let us weigh the gain and the loss in wagering that God exists. If you assent to this and are incorrect, you lose nothing, but if you wager that He does not exist and are incorrect, you suffer forever"- a classic risk management argument. Unfortunately, there are other possibilities. A different god may exist and punish you for your impiety and rebellion, or the god you chose may exist and reject you for believing for so shabby a reason. Likewise, there may well be a hidden costs for such a belief, such a living under the cloud of the extreme pessimism and nihilism of a doctrine that teaches that you were born spiritually diseased encased in vile flesh, that you deserve punishment for that, and that you utterly dependent on a deity for rescue.

Post Hoc, Ergo Propter Hoc Fallacy – a Latin phrase for "after this, therefore, because of this." The term refers to a logical fallacy that because two events occurred in succession, the former event caused the latter event, as when crediting prayer for a desired outcome.

Slippery Slope Fallacy – a fallacy in which it is asserted that some event Y might or will follow another event X without offering any rational argument or demonstrable mechanism for such an occurrence: If we allow doctor assisted suicide, then eventually the government will control how we die" or "If we allow same sex marriage, next they'll be marrying farm animals."

Inflation of conflict fallacy – The experts in a field disagree on a particular point, so all scholars in that field know nothing, and the legitimacy of their entire field is questioned - a tactic used by the religious to discredit evolutionary science and climate science deniers to discredit climate scientists.

0.5 Fallacies due to misrepresentation

Fallacy of quoting out of context – refers to the selective excerpting of words from their original context in a way that distorts the source's intended

meaning

Cherry Picking Fallacy (Quote Mining Fallacy, Half Truths Fallacy) – suppressing evidence, or the fallacy of providing incomplete evidence. It is the practice of supplying data that support a particular position, while ignoring data that contradicts it. An example would be to insist that "atheist" means only a person who positively asserts the nonexistence or impossibility of gods rather than somebody who simply rejects god claims for lack of support, then visits multiple dictionaries, picks out only the definition he approves of, and presents the compilation as evidence. We also see this when one theist points to a scripture that resonates with him psychologically, another to a contradictory scripture, and each dismisses the citations of the other according to some ad hoc rule.

Association fallacy – asserts that qualities of one thing are inherently qualities of another, merely by an irrelevant association. The two principle types are referred to as guilt by association (or abusive association) and honor by association. An example would be to attempt to vilify secular humanism by noting that Stalin was an atheist." One very common abusive association is called Reductio ad Hitlerum, playing the Nazi card, or Godwin's Law.

False Equivalence Fallacy – describes a situation where there is an apparent equivalence, but when in fact there is none, as when one argues that evolutionary science and creationism are equivalent in their merit and therefore either both or neither deserve a place in textbooks. Lightbeamrider wrote: "Charlie Manson sits in prison while they harvest human heads for sale." The implied argument is that the situations are equivalent, and that either both or neither belong in prison

Innuendo fallacy – making an implication not by explicitly saying so, but by placing ideas beside one another to imply a connection between them that doesn't actually exist. On the subject of illegal immigration, Ann Coulter commented that in Stockton, California, 70 percent of the 2,300 babies born in 2003 at that city's San Joaquin General Hospital's maternity ward were anchor babies. Coulter adds to that statistic one more fact: "By 2013, Stockton was bankrupt." In fact, "When the economy crashed and the construction bubble burst, Stockton was battered by foreclosures and lost income from property taxes and other fees." The hospital is still open.

0.6 Statistical Fallacies

Texas sharpshooter fallacy – is committed a cluster of findings seem to suggest a meaningful correlation or pattern when in fact there is none. It is named after a joke in which a Texan fires a gun at the side of a barn, paints a target around a cluster of hits, and claims that he is a sharpshooter. A very famous example collects a variety of facts about presidents Lincoln and Kennedy, ignoring millions of dissimilarities: "Abraham Lincoln and John F.

Kennedy were both presidents of the United States, elected 100 years apart. Both were shot and killed by assassins who were known by three names with 15 letters, John Wilkes Booth and Lee Harvey Oswald, and neither killer would make it to trial. Lincoln had a secretary named Kennedy, and Kennedy had a secretary named Lincoln. They were both killed on a Friday while sitting next to their wives, Lincoln in the Ford Theater, Kennedy in a Lincoln made by Ford. Both men were succeeded by a man named Johnson – Andrew for Lincoln and Lyndon for Kennedy. Andrew was born in 1808. Lyndon in 1908."

Misunderstanding the nature of statistics fallacy – "The majority of people in the United States die in hospitals, therefore, stay out of them." "Christianity is growing in America, from 151M in 1990 to 173M in 2008" Of course, the total adult population grew from 175M to 228M, meaning the fraction self-identifying as Christian fell from 86.2% to 76.0%

Statistics of small numbers fallacy – This occurs from overgeneralizing based on a too small sample size: "My parents smoked cigarettes all of their all their lives and neither got cancer." A recent news story suggesting that black people are not offended by the Confederate flag read, "Byron Thomas is 19, black, a freshman at the University of South Carolina Beaufort and a proud Southerner. He hung a Confederate flag in his dorm room window ... 'I know it's kinda weird because I'm black. When I look at this flag, I just don't see racism. I see pride, respect. Southern pride, that's what I see'"

0.7 Miscellaneous fallacies

Moving the Goalposts Fallacy (raising the bar) – an argument in which evidence presented in response to a specific claim is dismissed and additional evidence is demanded. The repackaging of creationism as intelligent design is an excellent example. Likewise, the inability to account for the origin of life - a popular argument for God and a classic argument from ignorance in itself called the god of the gaps argument - is an area where we may soon have a scientific answer. At that time, the "origin of life" argument will die down and be replaced by another. The goalposts will be moved again as the gap that this god occupies narrows further.

Fallacy of Category Error – an error in which a property is ascribed to a thing that could not possibly have that property. For example, when asked about a perfect god changing its mind about his laws and commandments between the Old and New Testament, Christian apologists are apt to tell that their god didn't change its mind, but that Christ had fulfilled the law rendering it no longer necessary. From Matthew 5: "Think not that I am come to destroy the law, or the prophets: I am not come to destroy, but to fulfill." That's a category error. Laws can no more be fulfilled than they can be painted or eaten. Things like dreams and promises can be fulfilled. Laws can be enacted, obeyed, amended, flouted, and the like, but not fulfilled, which roughly means

to achieve or complete, No matter how many times you obey them, laws are never fulfilled. The remain in effect until they are rescinded.

Composition fallacy – when the conclusion of an argument depends on an erroneous characteristic from parts of something to the whole or vice versa. "Humans have consciousness and human bodies and brains consist of atoms; therefore, atoms have consciousness." "Americans like hamburgers. Bob is an American, so he must like burgers." The latter is also called a Fallacy of Division. "If we are nothing but atoms swirling through empty space, there can be no such thing as morality" is as valid as saying that if Shakespeare is nothing but letters, punctuation and spaces, his works can have no more meaning than a keyboard. Or, "Water is wet, therefore water molecules are wet"

Secular humanists and materialists think that humans are meat bags ". "We do? No we don't. That's the reductionist fallacy - a fallacy of composition. Sure, a man may be a skin full of meat, especially to a cannibal. But he is also a pool of chemicals, as well as a collection of subatomic particles. He is also a piece of a population. He exists at all of these scales, and exhibits different properties in each. Secular Humanism says that most importantly, he is also a person with intrinsic value. Christianity says that his flesh is corrupt, and his soul is sin infected. http://www.topix.com/forum/religion/atheism/TEDTVO26B5QGP1RQ8/post32146

Fallacy of scale – "in the big picture, when it's all over, nothing that we do matters." We don't live at that scale. We live in a much smaller picture the little picture a few decades on a very limited amount of the surface of a single planet. Many things that we do matter. No, none of that matters at a scale of a cluster of galaxies over eons, but so what?

Weak analogy fallacy – when an analogy is used to prove or disprove an argument, but the analogy is too dissimilar to be effective, that is, it is unlike the argument more than it is like it. "Not believing in the literal resurrection of Jesus because the Bible has errors and contradictions, is like denying that the Titanic sank because eye-witnesses did not agree if the ship broke in half before or after it sank."

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