

Critical thinking chapter summary



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Chapter 4 — Reasons for belief and doubt * If we care whether our beliefs are true or reliable then we must care about the reasons for accepting those beliefs * The better the reasons for acceptance, the more likely are the beliefs, or statements to be true * Inadequate reasons, no reasons or fake reasons should lead us to doubt a statement * When two claims conflict they simply cannot both be true * If a new claim conflicts with other claims we have good reason to accept, we have good grounds for doubting the new claim * Eg. Its common knowledge that smoking causes cancer * Neera: i just read that smoking doesn't cause cancer * With conflicting claims you are not justified in believing either one of them until you resolve the conflict (in some cases resolving the conflict wont take long) * Background information — the large collection of very well supported beliefs that we all rely on to inform our actions and choices. It consists of basic facts about everyday things, beliefs based on very good evidence (including ur own personal observations and excellent authority) and justified claims that we would regard as ' common sense' or ' common knowledge'. * If a claim conflicts with our background info, we have good reasons to doubt it * The more background info a claim conflicts with the more reason we have to doubt it * Facts about everyday things * The sky is blue * Beliefs based on very good evidence * Cigarettes aren't good for u * Justified claims that we would regard as common sense or common knowledge * You'll do better on a quiz if u study * Most nova scotians are of European heritage * Some babies can bench press a 500 lbs weight — you are not going to be able to accept this claim very easily because it conflicts with an enormous number of ur background beliefs. Including beliefs about physiology, gravity and weightlifting * So if a claim conflicts with our background info, we have good

reason to doubt it — however it is not the same as saying it is false but rather reason to explore further. * It is possible that a conflicting claim is true or some of our background info is unfounded * Common sense isn't always right * Many ppl believe shark attacks are common * Flying in an airplane is dangerous * Suvs are safer to own than smaller cars * These are all false * Common sense used to tell ppl the earth is flat, animals don't feel pain etc * Therefore revise claims closely * If no good reasons and not credible, reject it * If strong reasons, revise our background info * If a claim is dubious we are justified in dismissing it * We should proportion our belief to the evidence if a claim is not quite dubious but not worthy of complete acceptance * Strong evidence warrants strong belief * Weak evidence warrants weak belief * Our degree of belief should vary according to the evidence * The more evidence a claim has in favour, the stronger our belief in it should be * Believing shouldn't be ur default setting — its not reasonable to believe a claim when there is no good reason for doing so * Experts and evidence * When an unsupported claim doesn't conflict with what we already know, we are often justified in believing it because it comes from experts * Expert — someone who is more knowledgeable in a particular subject area or field than most other are * Provide reasons for believing a claim because in the specialty area they are more likely to be right than us * If an expert makes a claim then we are generally justified in believing it even if no evidence is given so long as it doesn't conflict badly with background knowledge and as long as theres no specific reason to doubt this expert on this occasion * They are true authorities in a specified subject * We must rely on experts because we cant be knowledgeable in every field * Eg. Lawyer, judge, mechanic, barber etc * In their specialty areas they are more likely to be right than we are

because: * 1. They have access to more info on the subject than us * 2. Better at judging the info than us primarily because of their greater experience and practise * In a complex world ppl must rely on experts * However it is never a guarantee of truth so be careful * Some principles * 1. If a claim conflicts with expert opinion we have good reasons to doubt it * 2. When the experts disagree about a claim we have good reason to doubt it * 3. Bias from experts, not justified in accepting any opinion * Appeal to authority — the fallacy of relying on the opinion of someone deemed to be an expert who in fact is not an expert * It happens in 2 ways: * 1. Just because someone is an expert at 1 field doesn't mean they are experts in another (outside their field, they are not experts) * 2. Regarding a non-expert as an expert * (Most prevalent form of appeal to authority) * Eg. Celebrities, parents etc * Ppl listened to and believed political, religious, tribal and cultural leaders because they have often been designated as authorities * To be considered an expert: * Someone must have shown that they can assess relevant evidence and arguments and arrive at well supported conclusions in a particular field * Requirement of an expert * 1. Education and training from reputable institutions or programs in the relevant field (degrees) * 2. Experiences in making reliable judgements in the field (the more experience the better) * 3. Reputation among peers * 4. Professional accomplishments * Certain issues we don't want experts to settle for us * Eg. Moral, social or political questions * We would study the experts but come to our own conclusions * Also experts disagree on such issues * Personal experience * We accept a great many claims because they are based on personal experience —or own or someone else's * Personal experience broadly defined, arises from our senses, our memory and our

judgement involved in those faculties (its our evidence) * Its reasonable to accept the evidence provided by personal experience only if theres no good reason to doubt it * Personal experience is generally realiable but not infallible * Under certain circumstances our memory, senses or judgement cant be trusted * 1. We have to determine when * 2. Avoid them or take them into account * Factors that give us good reason to doubt the reliability of personal experience 1. Impairment * If our perceptual powers are somehow impaired we have reason to doubt them * The following are reasons to doubt the trustworthiness of what we experience * SENSES: sick, injured, tired, stressed, excited, drugged, drunk, distracted, disoriented * SITUATIONS: too dark, bright, noisy, hazy * When these factors are in play our misperception is high, which gives us reason to doubt * Our perception and memory are constructive, so what we perceive and remember is to some degree fabricated by our mind 2. Expectation * We often perceive exactly what we expect regardless of whether theres really anything there to detect * Powerful effects * Our tendency to sometimes perceive things that are not really there is especially pronounced when the stimuli are vague or ambiguous * Paraidolia — we may see or hear exactly what we expect to or the mere suggestion of what we should perceive helps us perceive it (illusion) 3. Innumeracy * When we make an off-the-cut judgement about the chances of something happening (past or future) * It means roughly being really bad with numbers * We are generally terrible at calculating probabilities * Eg. What are the odds of 2 ppl in a class of 23 students would same bday? * Most ppl think this is improbable but they are wrong. * Misjudging coincidences * We often believe that an event is too improbable, not likely, to be a mere coincidence * And if not coincidence we often think it

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must be spooky * So we should rely solely on our intuitive sense in evaluating them * Gut feelings are no replacement for doing the math * We are also bad at estimating big numbers (how heavy is the earth?) * Fooling ourselves * Beliefs backed up by good evidence more likely to be true * We often fail to give evidence its due * Ignore evidence * Deny it * Manipulate * Distort it * 3 most common mistakes when dealing with evidence * 1.

Resisting contrary evidence * We resist evidence that flies in the face of our cherished beliefs * This can be psychologically comforting but it can prevent any further search for knowledge * Often u will see the evidence u want to see and be blind to what u don't want to see * Deny, ignore or reinterpret evidence to fit * No cure just examine claims critically * Often our resistance is subtle. We frequently don't reject evidence outright, but we are simply more critical in a one-sided way * 2. Looking for confirming evidence *

Confirmation bias —we often seek out and use only conforming evidence * if we do this we can end up accepting a claim that's not true * We should look for confirming as well as disconfirming evidence * Acquire a more critical perspective (effort + courage) * This is how ppl came to believe the gamblers fallacy * Eg. All swans are white. U find some white swans and u confirm it but this doesn't conclusively mean that there are no non-white swans. Look. * 3. Preferring available evidence * Availability error — when we rely on evidence not because it's trustworthy but because it's memorable or striking, it's psychologically available (impressive and persuasive) * Usually at work regarding environmental hazards * Eg. Shark attacks are common, air travel just isn't safe. NOT TRUE. * Also if u ask ppl to visualise something, they'll tend later to say that it's common * Hasty generalizations — when we draw a conclusion about a whole group on the basis of an inadequate sample

of the group * Claims in the news media * The news is a major source of the information that bombards us every day * To transform information into knowledge we need critical thinking, look at how the news media works * Info is pieces of data, claims not necessarily true, not always useful and not same as knowledge * Knowledge is true belief supported by good reasons * Lots of news media but not all news is created equal * Focus on profit not good news and journalism * Craft the news to please investors * Quality of news reporting depends on many factors — the key factor is money. Some need to make a profit. Other need to balance their budgets. Do this through advertising, requires big audiences and news that wont offend advertisers * Claims in the news — deliberately or unconsciously editors and reporters may skew their reporting so as not to offend their advertisers, their audience or their stockholders * News can be distorted through editors and reporters deciding what's newsworthy. Distortion can happen in several ways * 1. When reporters do passive reporting (only report the info handed to them, bias etc) * 2. Decide not to cover certain stories or certain aspects of a story * 3. Alter perception of the news by playing certain aspects up or down * Sorting out the news * Critical approach to clues of the reliability of the report * Consider whether the report conflict with what u have good reason to believe * Look for reporter slanting * Consider the source * Check for missing info * Look for false emphasis * Check alternative news sources * Advertising and persuasion * Ads permeate all media * 1. All advertising is designed to influence, persuade and manipulate us * 2. It does it successfully * 3. We are oblivious to or in denial about the extent that it does * We generally have good reason to doubt advertising claims and to be wary of advertising persuasive powers * Several reasons for a cautious approach * 1.

The primary function of advertising is not to provide accurate and objective info to consumers * 2. Reputation of misleading messages * Also advertisers use techniques that don't involve explicit claims or good reasoning * 1. Identification * Identify with attractive ppl * Celebrity endorsements * 2. Slogans * Catchy, memorable phrases * Repetition sticks * 3. Misleading comparisons * Puffery, exaggerations eg. The best in town * 4. Weasel words * Water down a claim in subtle ways just enough to ensure that it is technically true but superficially misleading * Words used include * May, as many as, up to, some, seems, reportedly, possibly, virtually, many, perhaps

Chapter 5 — faulty reasoning * Fallacies — an argument form that is both common and defective, a recurring mistake in reasoning * Seem plausible, psych persuasive though logically impotent * 2 categories 1. Those that have irrelevant premises (reasons nothing to do with the conclusion) 2. Those that have unacceptable premises (dubious premises, so premises that are relevant but don't support the conclusion well) * In good arguments premises must be relevant and acceptable * In fallacious arguments at least one of these conditions is not met * So when an argument does not succeed in proving a point the problem is * Premises are false * Or the reasoning is faulty * Or both * We study fallacies because we need to be able to detect them * Not all bad arguments get called fallacies * We only use that term for specific, well-known kinds of bad arguments * GROUP 1 FALLACIES —

IRRELEVANT PREMISES 1. The genetic fallacy — the fallacy of arguing that a claim is true or false solely because of its origin * So where it came from, the origin * Don't have to know reasons just the person, the source it came from * Eg. Selena's argument regarding god cant be right because she is an atheist. * These arguments fail because it rejects a claim solely on the basis

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of where it came from (origin) not based on merits * Judged only by the source which in most cases is irrelevant to the truth * Judging a claim only by its source is a recipe for error * A good argument presented by a moron is still a good argument and a bad argument made by a genius is still a bad argument

2. Composition — the fallacy arguing that what is true of the parts must be true of the whole. The error is thinking that the characteristics of the parts are somehow transferred to the whole, something that is not always the case * Eg. The atoms that make up the human body are invisible. Therefore the human body is invisible. * The error is committed whenever we assume that what's true of a member or a group is true of the group as a whole. * Sometime the parts do share the same characteristics as the whole * Often in statistical arguments

3. Division — the fallacy of arguing what is true of the whole must be true of the parts. The error is thinking that characteristics of the whole must transfer to the parts or that traits of the group must be the same as traits of individuals in the group * The flipside of composition * Eg, this machine is heavy, therefore all the parts of the machine are heavy * Fallacious because assume that characteristics of the whole must transfer to the parts or that traits of the group must be the same as traits of individuals in the group * So characteristics of the whole don't tell us about the parts

4. Appeal to the person — (ad hominem) — the fallacy of rejecting a claim by criticizing the person who makes it rather than the claim itself. Ad hominem means to the man. * The most common fallacy * Negative argument attack on the person it came from * Eg. We should reject Chen's argument for life on other planets. He dabbles in the paranormal. * Not looking at the argument but just attacking the person who made the argument * Almost always irrelevant such as a person's character, motives

or personal circumstances * They say nothing about the quality of the argument * A fallacious attack on the person's conclusions * Characteristics of the person don't tell u anything about the argument * Claims are not guilty by association * Regarded as a special case of the genetic fallacy * What distinguishes it is that it not only mentions a person as the origin of an argument but it also attacks the person and ignores the argument (usually) * It comes in several varieties * 1. The personal attack (insults of character) * 2. Their circumstances (accused of inconsistency with their previous views or commitments) * When such arguments are put forth as charges of hypocrisy we get "tu quoque" (you're another) * Tu quoque — a type of ad hominem fallacy that argues that a claim must be true (or false) just because the claimant is hypocritical. * Eg. Ellen claims that X, but she doesn't practise X herself, so X is false. * But whether someone is hypocritical about their claims can have no bearing on the truth of them * Another variation of circumstantial ad hominem is when someone might deduce a claim is false because the person making it, would be expected to given their circumstances * Eg. Wilson claims that the political system in Cuba is great. But he has to say that, he is a communist. * This is (his expectancy) irrelevant to the truth of the claim * Ad hominem tactic: "poisoning the well" * Eg. X has no regard for the truth or has non-rational motives for espousing a claim, so nothing X says should be believed, including the claim in question. * Idea is that you can't get reliable claims of a discredited claimant * The fact that someone might have dubious reasons for making a claim does not show that the claim is false * However u might reasonably doubt a person's premises because of who they are (in some cases) * When u have reason to expect bias * When they seem to lack relevant expertise etc 5.

Equivocation — the fallacy of using word in two different senses in an argument * Use 2 words different at the same time with different meanings * Eg. The end of everything is its perfection. The end of life is death. Therefore, death is the perfection of life. * Sometimes end means goal and sometimes it means termination * Conclusion doesn't follow * Occurs whenever a word has one meaning in one premise and another meaning in another premise or the conclusion * The switch of sense always invalidates the argument 6.

Appeal to popularity — (or masses) — the fallacy of arguing that a claim must be true merely because a substantial number of people believe it * Also known as argumentum ad populum * Everyone believes X, so X must be true * Eg. Of course the war is justified, everyone believed its justified. * They are fallacious because they assume that a proposition is true merely because a great number of ppl believe it * The truth of claim is not dependant on how many ppl believe it * Faulty reasoning doesn't mean the conclusion is false just that it is not supported * A fallacy is a mistake in reasoning * An argument can use faulty reasoning and accidentally have a true conclusion * Of course smoking causes cancer. Everybody says so. (the conclusion is true but the reasoning given is weak) * Appealing to popular opinion is not always a mistake * Exceptions are when what u actually wanna do is supported by the popularity. Eg. U wanna wear black so it just happens to be fashionable and it is supported by popularity 7. Appeal to common practise — the fallacy of arguing that a practise is ethical or wise merely because a substantial number of people do it * Eg. Everyone speeds so its ok * Only because alot of ppl do it, it doesn't mean its ethical, polite or wise 8. Appeal to tradition — the fallacy of arguing that a claim must be true just because its part of a tradition * Number of ppl that believed it traditionally * Eg. Yoga has been

used in India for thousands of years so it must work. * Historical trend * Appeals fallacious because tradition, like the masses can be wrong * Accepting it or rejecting it is not reasonable * Family tradition, cultural tradition w. e * Problem not with tradition but when ppl say cuz of my tradition this and that * Neither reject nor accept a claim without a good reason

9. Appeal to ignorance — the fallacy arguing that a lack of evidence proves something. * In one type of this fallacy, the problem arises by thinking that a claim must be true because it hasn't been shown to be false. * In another type, the breakdown is logic comes when you argue that a claim must be false because it hasn't been proved to be true * Eg. Noone has shown that ghosts aren't real, so they must be real * Eg. Nonone has shown that ghosts are real, so they don't exist. * The problem is that lack of evidence is supposed to prove something but it cant * A lack of evidence alone can neither prove nor disprove a proposition * A lack of evidence simply reveals our ignorance about something * After thorough search and we don't find something then it probably isn't there * Involve the notion of burden of proof * Burden of proof — the weight of evidence or argument required by one side in a debate or disagreement * The burden rests on those that make the claim that there isn't enough evidence not on the ones that dot believe it * Eg. Louise says that gremlins are real, you don't agree, so burden on louise to prove it * So burden on the side that makes a positive claim * Not a fallacy (related to appeal to ignorance) * Appeal to ignorance involve the notion of burden of proof * Problems arise when the burden of proof placed on the wrong side * Guilty until proven innocent when you r caught with the intention to sell drugs, terrorism or lock pick tools , child pornography * In civil cases burden of proof 50/50 between citizens

Appeal to emotion — the fallacy of using emotions in place of relevant reasons as premises in an argument * It consists of trying to persuade someone of a conclusion solely or primarily by arousing their feelings, rather than presenting relevant reasons * Eg. You should hire me for this job because im the best. And if i don't get this job my wife will leave me. * Feel an emotion rather than appeal to reason * Fallacious because they appeal to almost nothing but strong emotions * They urge us to accept a conclusion but offering no good reasons to do so * Example of rhetoric (artful use of language) * Its best if emotions and arguments are combined

11. Red herring — the fallacy of deliberately raising an irrelevant issue during an argument. * The basic pattern is to put forth a claim and then couple it with additional claims that may seem to support it but in fact are mere distractions * Most blatant fallacy of irrelevance * Lost of the previous fallacies are red herrings (irrelevant distractions) * Popularity * Tradition * Emotion * But we reserve the term red herring for distractions that don't fall into any of the above categories * 12. Straw man — the fallacy of distorting, weakening or oversimplifying someone's position so it can be more easily attacked or refuted. * Related to red herring * Eg. Reinterpret claim X so it becomes weak claim. Attack claim y. Conclude that X is unfounded. * Eg. Higher taxes! Some ppl seem to think that the solution to every problem is for the gov to raise taxes to spend more money! * GROUP 2 —

UNACCEPTABLE PREMISES 1. Begging the question — the fallacy of attempting to establish the conclusion of an argument by using that conclusion as a premise. Also called arguing in a circle * Eg. P, therefore p. * Repeat the conclusion as a premise by using different words * To beg the question is to argue that a proposition is true because the very same

proposition supports it * Eg. The bible says that god exists. The bible must be true because god wrote it. Therefore god exists. * The problem is that you wouldn't believe the 2nd premise unless u already believed the conclusion *

The phrase beg the question is often misused 2. False dilemma — the fallacy of asserting that there are only two alternatives to consider when there are actually more than two. * Eg. Either yes or no (can be expressed in conditional if form) * OR — asserting that there are 2 distinct alternatives which may in fact not be mutually exclusive. * Eg. Is the gov incompetent or just evil? * Limits possibilities * Ppl don't like thinking outside the box * Ask: why cant i do both alternatives? * So the argument only works if infact there are only 2 possibilites * Because it does not follow other possibilities its fallacious * A dilemma is a situation that presents just 2- usually unattractive alternatives 3. Slippery slope — the fallacy of arguing without good reasons, that taking a particular step will inevitably lead to further, undesirable steps. * Eg. Doing action A will lead to action B, which will lead to action C, which will result in calamitous action D. Therefore u should not do action A. * The idea behind the metaphor is that if you take the first step on a slippery slope, u will have to take others because well the slope is slippery. * No good reasons to believe the assertions * Not all slopes are slippery 4. Hasty generalizations — the fallacy of drawing a conclusion about a target group on the basis of too small a sample. * Eg. You should buy a dell computer. They are great. I bought one last year and it has given me nothing but flawless performance. * Related to the availability error in chapter 4 *

Provide evidence that is relevant but that isn't sufficient to justify a strong conclusion * When applied to groups of people tend to result in stereotyping 5. Faulty analogy — a defective argument by analogy * Eg. Because 2 or

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more things are similar in several respects, they must be similar in some further respect (analogy) * The things being compared are not sufficiently similar in relevant ways (weak arguments) * State some obvious similarities between 2 things, and then suggest they share some further similarity