2. Assumptions & Values

CONTENTS

Focus

With diligent study of this guide, you will learn...	
Ideas	assumptions, reality assumptions, value assumptions, value priorities, common rationalizations
Skills	detecting assumptions, examining assumptions, self-reflection

2.1 Reality Assumptions

2.1.1 Key Ideas / Terms

Key Ideas/Terms	Definition
assumption	An unstated (and often unconscious) belief
ethics	Standards of conduct that reflect what we consider to be right or wrong. The study of ethics includes consideration of personal morality, i.e., the principles that an individual or group uses to distinguish right from wrong behavior.
reality assumptions	Beliefs about how the world ***is.*** For example: "I believe that humans are more than just their physical bodies."
value assumptions	Beliefs about how the world ***should be*** For example: "I think that *x* is the most important thing to consider for future flourishing on the planet."
values	Beliefs, ideals, or principles that are considered worthy and held in high regard. For example: Truth, Loyalty, Privacy, Freedom
value conflicts	When two competing values cannot be held to the same degree in a given argument or situation
value prioritization	The process of choosing the most important value(s) in an issue

Reality assumptions are beliefs (often unconscious), about how the world is. These beliefs are based on your unique experiences and your education and cultural heritage. Consider this argument:

> Many studies show that students will not likely succeed at a college if their SAT scores are 200 points lower than the average SAT score at that college. Therefore, you should not apply to colleges at which SAT scores are 200 points higher than yours.

This appears to be a fairly strong argument. But note that a key assumption is going unstated, namely that SAT scores are accurate predictors of how well a student is prepared. Statistically, in many cases, this may be true. But in your particular case, it may not be true because of other factors like your amazing gusto and uncommon persistence.

A critical thinker uses reasoning to discover truth and prevent stereotyping.

Now consider another argument:

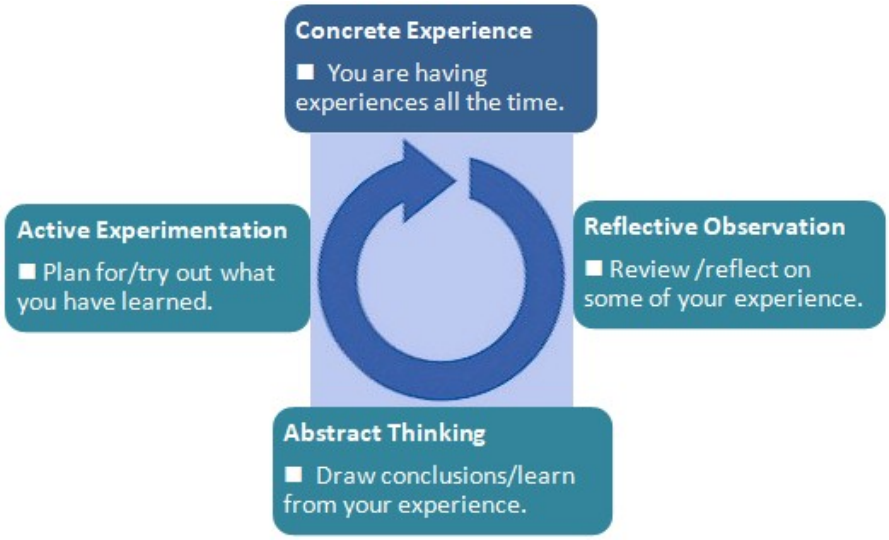
> Trials and executions should be televised because the public has the right to have more information about what's happening in the courts and the judicial system.

Note that the premise of this argument (the public has the right to have more information about what's happening in the courts and the judicial system), assumes that televising trials would inform the public about our judicial system. Considering the specialized legal language and the complexities of the legal system, would television coverage really inform people? Or would many people become confused or merely entertained by the spectacle?

2.1.2 Using Self-reflection to Uncover Assumptions

> Self-reflection, also called introspection, is a means to observe and analyze oneself in order to grow as a person. That growth is the reason why it is so important to spend time in personal reflection. By understanding who you are now and who you'd like to become, you help identify the steps you need to take on that journey. Reflecting upon how you behave and what thoughts enter your mind in response to events in the world around you allows you to see what you need to work on. — A Conscious Rethink

Self-reflection is a necessary habit for critical thinkers. To be a strong critical thinker means to habitually reflect on, and evaluate one's experience. The process of self-reflection can be envisioned as a continuous learning cycle grounded in a person's experience:



Many of our concrete experiences are noteworthy in some respect. Only you can say what might call for self-reflection at any given time. Only you know the people or situations or things that come to mind when you are thinking about how your day is going, or how it went. Often, the focus should be on a revisiting of some experience that may not have gone as well as you expected or wanted.

When you move into abstract thinking, interrogate your attitudes, assumptions, beliefs, and values that were involved in the experience. This is a difficult stage because it requires deep personal honesty and courage to face unpleasant truths about ourselves. By unmasking assumptions and clarifying your values, you can draw new conclusions about your life and where you want to go with your new insights.

New insights can lead to new plans for how you might capitalize on a strong skill, solve some personal problem, improve a relationship, foster social change, or contribute to your community and world.

2.1.3 Examining Reality Assumptions

When we realize that an argument involves differing reality assumptions, we need to search for evidence that will prove or disprove the assumptions. Much of philosophical and scientific research is devoted to determining whether commonly held assumptions are true or merely persistent folklore and myths.

Reality assumptions should be questioned in the light of the best information available.

In our world of exploding information and research, some ideas that were once generally accepted have come into question. What was once considered factual can be overturned by new discoveries. For example, in the time of Isaac Newton, scientists assumed that space and time were absolute and uniform throughout the universe—an assumption overturned by Albert Einstein's discoveries. In other cases, we find that something that was once true no longer is. For example, before the onset of the Industrial Revolution, it was fair to assume that the air was essentially clean and unpolluted. Now, not so much.

Sharpen Your Critical Thinking

Identify at least one reality assumption behind each of these statements:

- Even if a product may not help me, at least it won't hurt me.
- When a food product is labeled as *All Natural Ingredients*, it means that the product is healthy and safe.

2.2 Value Assumptions

Value assumptions are beliefs about how the world ***should be.*** For example: "I think that X is the most important think to consider for future flourishing on the planet." Different people have different sets of values and some of them conflict. For example, many people argue that facial recognition technology should be implemented broadly to improve public security. Others argue that this technology is intrusive and its widespread adoption would be a gross violation of the right to privacy. Some value public security over personal privacy, and vice versa. In this kind of argument, each side assumes that their value is the more important one.

Sometimes a person also has a conflict in their value system. And so you might find yourself "arguing" with yourself about whether your health is more important than your cravings for salt, fat, and sugar.

Different values form the basis of many arguments. Conflicts are often based on differing value priorities or assumptions.

Sharpen Your Critical Thinking

Create an argument that assumes a priority value in these issues:

- Should tobacco be classified as an illegal drug? (Freedom of choice versus societal health concerns)
- Should colleges mail student grades to parents who are paying tuition? (Privacy versus accountability to financial providers)
- Should the media be allowed to expose personal problems of politicians? (Privacy versus public interest / Freedom of the press versus the privacy of all individuals)
- Should high school administrators be able to exclude controversial articles from the student newspaper? (Freedom of the press versus accountability of administrators)
- Should birth parents be allowed to take their natural children back from adoptive parents after one year? (Biological parents' rights versus legal contract)

2.2.1 Ethical Systems

Note that different systems of ethics are based on different dominant values

Ethical System	Dominant Value
Libertarianism	individual liberty
Utilitarianism	the greatest good for the greatest number
Egalitarianism	equality for all
Religious	obedience, submission, or striving for enlightenment

2.2.2 Dominant Values

Dominant Values for Rational Arguments

- Be honest in presenting arguments
- Do not omit or distort important information
- Thoroughly research the claims you make
- Listen respectfully to non-hate viewpoints
- Be willing to revise your position(s)
- Credit your sources of evidence

The journey into self-love and self-acceptance must begin with self-examination. Until you take the journey of self-reflection, it is almost impossible to grow or learn in life.
— Iyanla Vanzant

We hold these truths to be self - evident, that all [men] are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness. — *U.S. Declaration of Independence*

2.3 Assessing My Assumptions & Values

Self-reflection is a necessary habit for critical thinkers. To be a strong critical thinker means to habitually reflect on, and evaluate one's experience. The process of self-reflection can be envisioned as a continuous learning cycle grounded in a person's experience.

▶ Study the Core Critical Thinking Skills chart below. Identify a core skill in which you believe you are strong. Then identify a skill in which you believe you are weak.

Core Critical Thinking Skills		
Skills	**Experts' Consensus Description***	**Sub Skills**
INTERPRETATION	To comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures or criteria.	Categorizing Decoding significance Clarifying meaning
ANALYSIS	To identify the intended and actual inferential relationships among statements, questions, concepts, descriptions or other forms of representation intended to express beliefs, judgments, experiences, reasons, information, or opinions.	Examining ideas Identifying arguments Identifying reasons and claims
EVALUATION	To assess the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intend inferential relationships among statements, descriptions, questions or other forms of representation.	Assessing credibility of claims Assessing quality of arguments made using inductive or deductive reasoning
INFERENCE	To identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to educe the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation.	Querying evidence Conjecturing alternatives Drawing conclusions
EXPLANATION	To state the results of one's reasoning; to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological and contextual considerations upon which one's results were based; and to present one's reasoning in the form of cogent arguments.	Stating results Justifying procedures Presenting arguments
SELF-REGULATION	Self-consciously to monitor one's cognitive activities, the elements used in those activities, and the results educed, particularly by applying skills in analysis and evaluation to one's own inferential judgments with a view toward questioning, confirming, validating, or correcting either one's reasoning or one's results.	Self-examination/monitoring Self-correction

* Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction. Executive Summary: *"The Delphi Report"*, Dr. Peter A. Facione, Santa Clara University, California Academic Press, 1990.

2.3.1 Common Rationalizations for Our Values

- If it's necessary, it's ethical.
- If it's legal and permissible, it's ethical.
- I was just doing it for you.
- I'm just fighting fire with fire.
- It doesn't hurt anyone, it's okay to do it.
- Everyone's doing it.
- I've got it coming...I deserve It.
- I can still be objective even if I do have a vested interest.

PAUSE & REFLECT

A. Do I understand all the new concepts I have encountered so far?

B. What are my strengths or weaknesses in my critical thinking?

C. Has anything I have now learned about critical thinking changed or affected my general disposition or any beliefs, values, perspectives, interests, or goals?

D. What difference could/might my knowledge and skills in critical thinking make for my family or community or country or planet? How could the world change because of my critical thinking mojo?"

2.4 Basic Assumptions

We live in a world that is filled with conflicting and contradictory claims about facts, i.e., what is real. It is easy to become confused by fake news, UFO reports, Big Foot sightings, ESP, conspiracy reports, etc.

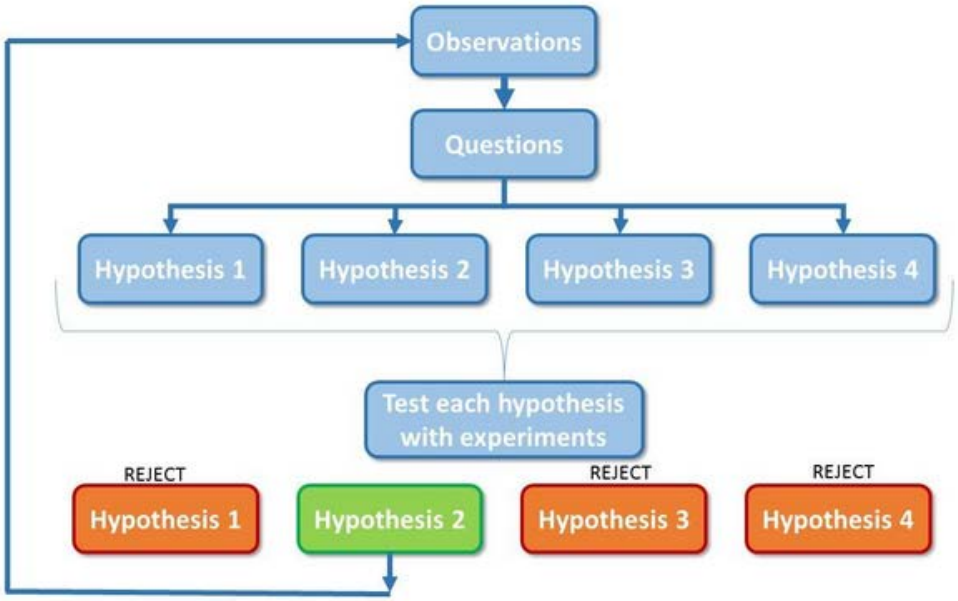
Throughout this course of study in critical thinking, we will be relying on a basic assumption about how humans discover the truth of our world:

The scientific method is self-correcting, and as a result, our most reliable method for determining the truth of the physical world.

The scientific method is our most reliable means of establishing the truth of an empirical proposition beyond a reasonable doubt. Science seeks to understand the world by identifying general principles that are both explanatory and predictive.

To minimize the potential for error, inadequacy, or fraud, the scientific method requires repeatable results. In general, any procedure that serves to systematically eliminate reasonable grounds for doubt can be considered scientific.

▶ Study this chart that outlines the general steps of the scientific method.



Scientific Method (Photo: Swati Patankar)

—https://indiabioscience.org/columns/education/experiences-in-using-scientific-method-as-a-structure-to-teach-biology

For more information on procedures for uncovering baloney, refer to **Logic Ref**: *6.5 The FAIR Decision Engine for Evaluating Unusual Claims.*

2.4.1 Assumptions in Conspiracy Theories

People who are attracted to conspiracy theories usually make a series of assumptions:

A. *Nothing happens by accident*. Events that appear to be coincidental are intended to appear that way.

B. *Everything is connected precisely because nothing is accidental*. The web of connections underlying seemingly unconnected events is, of course, hidden.

C. *Nothing is as it seems*. Appearances are deceptive because conspirators wish to deceive in order to disguise their activities or their identities.

D. *Most information flowing from mainstream institutions such as the government and the mass media is suspect.* Such institutions are frequently seen either as participants in conspiratorial activities or as the victims of such. By contrast, obscure sources, little known Internet sites, periodicals, newsletters, and unverifiable personal testimony are generally regarded as more reliable than mainstream information.

Adopted from *A Culture of Conspiracy*, by Michael Barkun. (Berkeley: University of California Press, 2003.)

(Carey, 119)

▶ Review the following *Rough Guide to Spotting Bad Science* to familiarize yourself with the marks of pseudoscience and other flim-flam. Very likely, most of the unusual claims you encounter will bear one or more of these defects listed in this guide.

A Rough Guide to

SPOTTING BAD SCIENCE

Being able to evaluate the evidence behind a scientific claim is important. Being able to recognise bad science reporting, or faults in scientific studies, is equally important. These 12 points will help you separate the science from the pseudoscience.

1. SENSATIONALISED HEADLINES

Article headlines are commonly designed to entice viewers into clicking on and reading the article. At times, they can over-simplify the findings of scientific research. At worst, they sensationalise and misrepresent them.

2. MISINTERPRETED RESULTS

News articles can distort or misinterpret the findings of research for the sake of a good story, whether intentionally or otherwise. If possible, try to read the original research, rather than relying on the article based on it for information.

3. CONFLICTS OF INTEREST

Many companies will employ scientists to carry out and publish research - whilst this doesn't necessarily invalidate the research, it should be analysed with this in mind. Research can also be misrepresented for personal or financial gain.

4. CORRELATION & CAUSATION

Be wary of any confusion of correlation and causation. A correlation between variables doesn't always mean one causes the other. Global warming increased since the 1800s, and pirate numbers decreased, but lack of pirates doesn't cause global warming.

5. UNSUPPORTED CONCLUSIONS

Speculation can often help to drive science forward. However, studies should be clear on the facts their study proves, and which conclusions are as yet unsupported ones. A statement framed by speculative language may require further evidence to confirm.

6. PROBLEMS WITH SAMPLE SIZE

In trials, the smaller a sample size, the lower the confidence in the results from that sample. Conclusions drawn can still be valid, and in some cases small samples are unavoidable, but larger samples often give more representative results.

7. UNREPRESENTATIVE SAMPLES USED

In human trials, subjects are selected that are representative of a larger population. If the sample is different from the population as a whole, then the conclusions from the trial may be biased towards a particular outcome.

8. NO CONTROL GROUP USED

In clinical trials, results from test subjects should be compared to a 'control group' not given the substance being tested. Groups should also be allocated randomly. In general experiments, a control test should be used where all variables are controlled.

9. NO BLIND TESTING USED

To try and prevent bias, subjects should not know if they are in the test or the control group. In 'double blind' testing, even researchers don't know which group subjects are in until after testing. Note, blind testing isn't always feasible, or ethical.

10. SELECTIVE REPORTING OF DATA

Also known as 'cherry picking', this involves selecting data from results which supports the conclusion of the research, whilst ignoring those that do not. If a research paper draws conclusions from a selection of its results, not all, it may be guilty of this.

11. UNREPLICABLE RESULTS

Results should be replicable by independent research, and tested over a wide range of conditions (where possible) to ensure they are consistent. Extraordinary claims require extraordinary evidence - that is, much more than one independent study!

12. NON-PEER REVIEWED MATERIAL

Peer review is an important part of the scientific process. Other scientists appraise and critique studies, before publication in a journal. Research that has not gone through this process is not as reputable, and may be flawed.

2.5 Assessing My Critical Thinking

Exercise 2	
If a friend or fellow student is not available to help you with this exercise, simply imagine someone asking you to explain these ideas and answer these questions. ▶ If you are confident in the clarity, accuracy, and completeness of your explanations, continue forward on the path. Otherwise, go back and study the areas where you have stumbled, and then return to this exercise.	▪ **What should you do if an argument involves differing reality assumptions?** ▪ **What are *value* conflicts?** ▪ **Name three different ethical systems that are used in argument.** ▪ **What are some common rationalizations that people use?** ▪ **Identify at least one rationalization that you use or have used to excuse your behavior.**

Quiet Reflection 2	
Self-reflection requires mental focus and personal honesty. At steps 2 and 3 especially, silence is very important. You must be able to hear your inner voice. Find a place that is quiet and comfortable. Turn off your phone and eliminate other distractions if possible.	
1. Observe/Study	▪ How difficult is it for me to pause and reflect on my experience?
2. Judge/Evaluate	▪ How often do I reflect on my experience? ▪ When and where do I reflect on the salient events in my day? ▪ Do I question any of my inherited values? ▪ How does my personal growth depend on self-reflection?
3. Act/Decide	▪ What is a decision that I have made or need to make for my short-term flourishing? For my long-term flourishing? ▪ How could my commitment to always seek the truth affect my family, neighborhood, community, and the whole planet?

References

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