

Having Fun Thinking

None of our beliefs are quite true; all have at least a penumbra of vagueness and error. The methods of increasing the degree of truth in our beliefs are well known; -They consist in hearing all sides, -trying to ascertain all the relevant facts- controlling our own bias by discussion with people who have the opposite bias, and cultivating a readiness to discard any hypothesis which has proved inadequate.

These methods are practiced in science, and have built up the body of scientific knowledge, what passes for scientific knowledge at the moment is sure to require correction with the progress of discovery.

Bertrand Russell [the Will to Doubt](#) 1924

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How to Think: Not to be confused with what to think

Forward:

Why do people believe without evidence; why are superstitions maintained as truths?

Why are we shackled to ideas inherited from a violent past that have no basis in reality, ideas that inspire endless cruelties and hatreds?

The answer is simple, thinking as a lifestyle is foreign to most people.

The result is a confusing post-truth era of disinformation, fake news, weaponized lies, conspiracy theories, magical thinking and sheer irrationalism. In this intellectual climate where many people lack the rudimentary skills to distinguish between contending claims to knowledge or differentiate between fact and opinion, there is a proliferation of ideas that are an affront to the sensibilities of rational people.¹

It is easy to declare that it is impossible to distinguish between fact and opinion, that for every fact there is an alternative fact, and that truth is whatever people want it to be. This notion is patently absurd and while tedious is not difficult to dispute.

Science and rationality is challenged by vested interests who advocate supernatural and paranormal modes of thought for their benefit and as a distraction from pressing issues of social and political reform. Hopefully this short guide will help you distinguish between facts and nonsense.

We are; as we have always been, engaged in a struggle between the rich and the poor. The rich use religion and fanciful thinking as a distraction. A promise of something on the other side rather than organizing for what you deserve here today, now.

Thinking leads to testing which leads to facts

- Thinking is a learned process that leads to facts.
- We don't have to like the facts; we don't even have to believe facts, because we can test facts. If wrong they will be proven false.
- A fact is different from a truth; while truth is neither subjective nor personal; half-truths and misinformation abound and show a disgraceful contempt for thinking and the facts of the matter.
- Some; who pollute the language argue you can have your own truth based on your own beliefs; even delusional or exploitive beliefs.
- But facts are based upon empirical evidence which is a prerequisite for sustained true predictions of factual outcomes.

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Things to watch out for

Thinking of thinking, great, thinking is fun; but you have to be careful; thinking openly can have unintended consequences.

1. Some people believe spirits listen and control the world in their favour. This leads to strange and diverse views² and they are often rallied to ridiculous and dangerous causes by these magical spirits.
2. Often you will find very clever people, who are not rational, clever people are smart, and smart people sometimes do selfish and non thinking things.³
3. Thinking can get you in trouble; our history is littered with people who were harassed for thinking. The best thinkers, those that become quite good at thinking, sometimes have to pretend they can't. If you hear "Do as I say not as I do". That's good advice; you could be slapped. Literally if young and figuratively if old. Best to have a lawyer.
4. It's okay to say "I will just shut up and do what I am told". Some people have thought deeply, studied, know how to think and know alot. These people deserve respect and should be imitated. Some people don't know how to think, they often strive for power. You will recognize them by their anger. Thinking and anger do not go together.
5. Watch out for think tanks⁴. Very clever people are paid to think and justify the actions of the very rich. The effluent from the think tanks is then used by corrupt politicians to reinforce the power of the very rich. This is a form of theft where everyone who steals from you is smiling and wearing a suit and a tie. You don't even know you were robbed.
6. Watch out for "the herd", they are known by their phones. Some phones really are "smart", but not in the way you might think. Once it starts spoon feeding you information based upon an algorithm of your previous behavior it is manipulating your thinking towards its masters desires, and you are not its master.
7. Be patient and respectful; Watch out for the label "Oppositional defiance disorder"⁵ if you become impatient with the unthinking you will be drugged, sedated and/or imprisoned, which is better than being burned at the stake, sadly that is how thinkers were traditionally dealt with.
8. Watch out for noise: thinking needs a quiet place, for me it is best in the early morning, near trees and open spaces. Some claim it takes at least an hour of uninterrupted time to think clearly. Take the time, its lovely. Turn off the phone.
9. Recognize the different ways that people think, study multiple intelligence.

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When and Where to think

Once you get into the habit of thinking your going to find yourself thinking almost everywhere. While reading, it will affect what you search for, even when you watch videos it will affect you as you realize things like, “I don’t really care about that cat video” or “who cares if the (local team) wins or loses, I have things to think about.

When you get to that point stimulation will be less important and quiet will become more important. Getting drunk and stoned will also fall to the side because they both interfere with your thinking. Sometimes after a good bout of thinking people get discouraged and then start drinking, if this happens to you, its time to talk to a friend who does not drink.

So the big question becomes where I should go for quiet so I can think. Some people go to a church, they meditate, or they do yoga. These can be useful activities for thinking, but each carries with it a distraction of being surrounded by people who are thinking a certain way or not thinking at all, those people sometimes call themselves “mindful” even though they don’t use their mind at all.

I like to get out into the country, find a place where I can eat and rest in peace, a place where I can scramble an egg and have a cup of coffee, sometimes by a fire, sometimes in the shade with a quiet breeze. For me, the best thinking takes place in the early morning, before others are up, after a good night’s sleep, perhaps as the sun comes up. Good thinking takes time and solitude. It’s going to be a discovery process to figure out where the best thinking takes place for you is. Take the road less travelled.

Special Problem: large organization; business, hospitals, government

Organizations present a special problem for thinkers. At the heart of the problem is a manager. Managers keep the organization on track. Managers execute on the instructions and vision of others. They follow a process; it is the nature of organizations.

This phenomenon is at its apex with managers that use terms like “empowerment”. Workers in these organizations are cursed as the problem is recognized and managers are honestly trying, but they are incapable of executing because of organizational inertia. They are the problem and if you are a consultant this is an excellent customer, it is never ending; intractable.

Innovation does not take place in big organizations. Gifted employees with ideas leave and start their own companies, and then those companies get bought by large companies that cannot innovate. They justify it by saying it is cheaper, which is true, because no amount of money would lead to innovation in a large organization.

What is a thinker to do? The best advice is to leave. Find a small organization or better yet, start your own.

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Quotes from Famous thinkers

“The Greatest deceptions men suffer is from their own opinions” Leonardo da Vinci

"Because they have dry lungs." according to Aristotle in the fifth book de Animal, answering the question "why have not birds' spittle? Forever putting to rest the debate about should we listen to Aristotle?"

“Judge a man by his questions rather than by his answers.” Voltaire

“In dwelling, live close to the ground. In thinking, keep to the simple. In conflict, be fair and generous. In governing, don't try to control. In work, do what you enjoy. In family life, be completely present.” Lao Tzu

“Always aim at complete harmony of thought and word and deed. Always aim at purifying your thoughts and everything will be well.” Mahatma Gandhi

“The third-rate mind is only happy when it is thinking with the majority. A second-rate mind is only happy when it is thinking with the minority. A first-rate mind is only happy when it is thinking.” A.A. Milne

“Science is a way of thinking much more than it is a body of knowledge.” Carl Sagan

“The trouble with having an open mind, of course, is that people will insist on coming along and trying to put things in it.” Terry Pratchett, Diggers

“Poirot," I said. "I have been thinking." "An admirable exercise my friend. Continue it.” Said Poirot Agatha Christie, Peril at End House

Use your little grey cells mon ami" (Hercule Poirot in "The Mysterious Affair At Styles")” Agatha Christie

“If you believe that your thoughts originate inside your brain, do you also believe that television shows are made inside your television set?” Warren Ellis

“Never underestimate the power of stupid people in large groups.” – George Carlin

“It is undoubtedly easier to believe in absolutes, follow blindly, mouth received wisdom. But that is self-betrayal.” – John Ralston Saul, philosopher

Writing is no trouble: you just jot down ideas as they occur to you. The jotting is simplicity itself - it is the occurring which is difficult. Stephen Leacock

Follow these 6 easy steps to thinking:

1: Speculate; but don't believe everything you think!

Speculation is easy and often leads more to errors than to accurate information so speculation should always be done carefully. Speculation means making a statement with zero evidence to back up the claim. If no reliable experimental data currently exists on a certain subject that does not mean that your educated guess is correct. Only experimental results, repeatable observations and well-developed theories that match experimental results and observations are considered to be “true” until proven otherwise.

Speculation is productive in forming a hypothesis insofar that it leads to properly-performed experiments or readily observable results.

If you intelligently speculate and then make observations and or run experiments, you may end up with reliable answers more quickly. In this way, speculation can be productive in deciding what experiments to run.⁶

If your speculation is based on race, gender, anger, envy or being a victim it probably will not support inquiry.

2: Be Skeptical

This website does it better than I can it's a dictionary of things to be skeptical of.
<http://www.skeptdic.com/>

In short being skeptical is a virtue⁷:

1. Evidence: review the evidence.
2. Opinion: Everyone's got one, but they are not much value without evidence.
3. Primary sources only please: first hand accounts or experiments only.
4. Bias: Learn to detect it.
5. Ask questions. Think deeply; ask questions.
6. Learn how to discern between credible and non-credible sources
7. Study logic.

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3: Use Anecdotal evidence to speculate only

Here are a few good reasons why stories and oral traditions are not to be trusted;

- Stories are prone to contamination by beliefs, later experiences,
- Feedback changes stories,
- There is often selective attention to details,
- Most stories get distorted in the telling and the retelling.
- Events get exaggerated, Time sequences get confused.
- Details get muddled, Memories are imperfect and selective;
- Details are often filled in after the fact.
- People misinterpret their experiences.
- Experiences are conditioned by biases, memories, and beliefs,
- People's perceptions might not be accurate.
- Most people aren't expecting to be deceived, so they may not be aware of deceptions that others might engage in.
- Some people make up stories, some people are delusional.
- Sometimes events are inappropriately deemed psychic simply because they seem improbable when they might not be that improbable after all.

Anecdotes are inherently problematic and are usually impossible to test for accuracy⁸

4: Learn Critical Thinking Skills; its is easy

The Goal of Critical Thinking

Critical Thinking will help you develop intellectually; Intellectual Independence, perseverance, Empathy, Humility and courage.

The goal of critical thinking is to adopt the most reasonable beliefs and take the most reasonable actions. We have evolved not to seek the truth, but to survive and reproduce. Critical thinking is an unnatural act. By nature, we're driven to confirm and defend our current beliefs, even to the point of irrationality. We are prone to reject evidence that conflicts with our beliefs and to attack those who offer such evidence.⁹

Many people muddle the waters of critical thinking, by over complicating the process and arguing about who thought of what first. It's really not that important.

The important points are as follows

- Be clear; state what you mean, give examples
- Be accurate: check to see that it is true, if you can't, say so.
- Be relevant: cut out the kittens, focus on the topic being discussed
- Be Logical: make sure it all fits together
- Be fair: Consider all sides from others perspectives and experiences

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Be Clear

We are clear when we understand what we are saying, what we are hearing or what we are reading. To clarify use phrases like

- Can you tell me what you mean?
- Could you rephrase that?
- Let me tell you what I think you said; tell me if I am right!

Be Accurate

When we say what is true we are accurate. When we are not sure we check. Questions to ask include

- How can we find out if this is true? How can we test this idea?
- Is this worth repeating, yes if it is true, no if we are not sure.

Be Relevant

Something is relevant when it relates directly to the problem we are trying to solve or the statement we are trying to verify. Questions to ask include

- How does this relate to the problem or what we are discussing?
- How will this help us solve the problem?

Be Logical

Thinking is logical when everything fits together and the underlying assumptions withstand scrutiny. You can ask the following questions to be sure something is logical

- How can I structure my argument so it makes sense?
- Did I establish correlations, time relations and exclude spurious data?

Be Fair

Consider the feelings and opinions of others.

- Am I being fair or selfish, am I thinking of others?
- Make a list of alternative positions on the topic.

Critical thinking from ¹⁰

5: Take apart your Thinking

We take our thinking apart to find problems in our thinking, and fix them; here are the 8 parts to thinking:

1. Think about the purpose of the thinking
2. Questions we are trying to answer
3. Information we need to answer the question
4. Inferences or conclusion we are coming to
5. Concepts or key ideas we are using in our thinking
6. Assumptions or ideas we are taking for granted
7. Implications and Consequences of our Thinking
8. Recognize points of View

Think about the purpose

Your purpose is your goal, what are you trying to make happen

- What is the purpose of the exercise?
- Is there anything wrong with my purpose?

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State the question

The question lays out the problem and guides our thinking

- What question am I trying to answer? Is it a clear question?
- Should I be asking a different question?

Gather the Information

The information is facts, evidence or verifiable experiences. Things you can measure, Things you can see, Things that others can see. If you cannot see it, verify it, test for it, repeat it, it is probably not real.

- Is the information relevant? Is the information accurate?
- Is the information anecdotal or ethereal?

Watch your inferences

Inferences are conclusions you have come to. It's what the mind does in figuring something out.

- Are there other conclusions I should consider?
- Is any other conclusion logical?

Understand your assumptions

Assumptions are beliefs you take for granted, you should question all beliefs.

- What am I taking for granted?
- What are the unexamined assumptions?

Clarify your concepts

Concepts are ideas you use in thinking to understand what is going on.

- What is the main idea you are trying to convey, what is supporting data?
- What idea is the basis for my thinking? Can I explain that idea?

Understand your point of View

Point of view is the way you are seeing based on your background and education.

- How am I looking at this different from you?
- Is my point of view the only point of view, list and explain others?

Think through the implications

Implications are what might happen if you act upon your thinking. Consequences are the things that do happen when you act upon your thinking.

- What are the good implications of what can happen? Make a list.
- What are the bad consequences of what might happen? Make a list.

Critical thinking section from ¹¹

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6: Learn how to establish cause and effect

Researches try to identify causal relationships not correlations. You need to show that the cause has an effect. This is what makes faith easy and Science hard. There are three criteria for establishing cause and effect:

Association

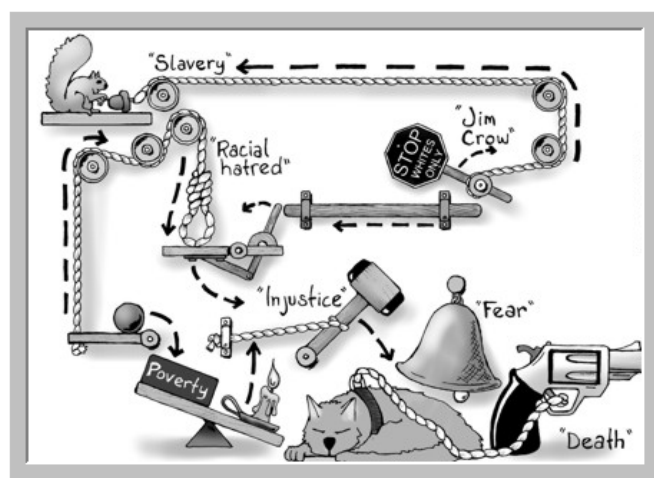
Is there a relationship between the numbers? For example the sale of ice cream cones increases with the presence of customers with sunglasses. Both increase together. There is a correlation, but is it cause and effect. Perhaps the cause of increased ice cream sales is warm sunny weather and not the presence of sunglasses. So the question is why and how much information do we need to make a real claim.

Time ordering

We need to determine the time order of the numbers. This one is usually easy; you make an observation, but was there anything else going on before or during your observation. Researchers must provide evidence that eliminates all other reasons to support the claim.

Non-spuriousness

This is the most troublesome, as it requires that alternative explanations for the observed relationship between two variables be ruled out. Non-spuriousness simply means “not false.” A false relationship exists when what appears to be a cause is actually caused by a third event. No matter how hard you try most would agree cats do not cause shootings despite the association.¹²



A classic example is the relationship between the number of fire fighters that respond to a fire and the amount of damage that results – clearly, the size of the fire determines both, so it is inaccurate to say that more fire fighters cause greater damage. This association is only useful if you wanted to stir up firefighters or use angry firefighters as a distraction.

Though the fire fighter example seems straightforward, researchers often face much greater challenges because like the cartoon, sometimes “its complex” Appropriate study design (using experimental procedures whenever possible), careful data collection and use of statistical controls, and triangulation of many data sources are all essential when seeking to establish non-spurious relationships between variables.¹³

Understanding and determining causes and effects is the difference between faith and science, faith accepts notions science challenges every notion.

Strategies to help you Think like Edison¹⁴

There is no magic to thinking. It is a skill you learn, apply these strategies to encourage moments of creative inspiration.

1. Look at problems differently: Make the leap; you are wrong; this is not your mom talking, you're not always right, the biggest trap to creativity, is thinking you're right.

2. Make your thoughts visible; Focus on the visual. Galileo revolutionized science by making his thoughts visible with diagrams and maps, while his contemporaries used verbal approaches. Write it down, make pictures, dioramas, charts, mind maps, get your thoughts out of your head for scrutiny. If it's not written down it did not happen.

3. Produce: Make things, it is okay to fail; the classic example is Thomas Edison who failed many times at inventing the light bulb, then success. Perfection is the enemy of good and creativity. The process is idea, draft, prototype, and fail, repeat.

4. Think metaphorically: Learns to see similarities and link them together to see something new. Edison invented the phonograph after seeing a toy funnel and the motions of a paper man; the paper man was sound vibrations. By seeing connections in unconnected ideas you're going to fail often but eventually you will hit on a relationship missed by others. Just don't become attached to bad ideas, fail fast, and go for no.

Multiple Intelligences, not all the same

Intelligence is our intellectual potential; we are born with a capacity that is difficult to change. Gardner's Theory of Multiple Intelligences (1983) suggests that people have seven or more different kinds of intelligences. He suggested you can measure the capacities in these different areas and create a profile of an individual.

While a person might be particularly strong in a specific area, such as musical intelligence, most likely they possess a range of abilities. For example, an individual might be strong in verbal, musical, and naturalistic intelligence. Gardner identified 7 and in later years added 2 more.

1. Visual-Spatial Intelligence: good at visualizing things and recognize patterns easily; good with directions as well as maps, charts, videos, and pictures.
2. Linguistic-Verbal Intelligence: able to use words well, both when writing and speaking, typically very good at writing and reading.
3. Logical-Mathematical Intelligence: good at reasoning, recognizing patterns, and logically analyzing problems. These individuals tend to think conceptually about numbers, relationships, and patterns.
4. Bodily-Kinesthetic Intelligence; good at body movement, performing actions, and physical control; excellent hand-eye coordination and dexterity.
5. Musical Intelligence; thinking in patterns, rhythms, and sounds. They have a strong appreciation for music and are often good at musical composition and performance.

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6. Interpersonal Intelligence; understanding and interacting with other people. These individuals are skilled at assessing the emotions, motivations, desires, and intentions of those around them.
7. Intrapersonal Intelligence; aware of their own emotional states, feelings, and motivations. They tend to enjoy self-reflection and analysis, including daydreaming, exploring relationships with others, and assessing their personal strengths.
8. Naturalistic Intelligence: more in tune with nature and are often interested in nurturing, exploring the environment, and learning about other species. These individuals are said to be highly aware of even subtle changes to their environments.¹⁵
9. Existential Intelligence: involves the use of collective values and intuition to understand others and the world around them. Seeing the big picture such as Philosophers and theologians¹⁶

There is lots to learn about people and how they look at things from Multiple intelligence, perhaps for this discussion on thinking it is an important thing to point out that there is a difference between having your own unique mix of intelligence that affect the way you learn and communicate, and having your own truth. Ghosts don't appear only to people with existential intelligence, or only people with naturalistic intelligences can see auras. The lottery ball does not drop differently for the person with bodily-kinesthetic Intelligence. You still have only one truth, and it is discernable whether you see it thru an existential eye or a musical eye. You still don't have your own truth.

Bad Thinking

The following concepts should be explored and understood to help your thinking and to recognize thinking that has gone off track. You get a good overview of thinking that has gone off the rails here [Belief Armor](#).

Faith is a non-rational belief in some proposition. A non-rational belief is one that is contrary to the sum of the evidence for that belief. A belief is contrary to the sum of the evidence if there is overwhelming evidence against the belief, e.g., that the earth is flat, hollow, or is the center of the universe. A belief is also contrary to the sum of the evidence if the evidence seems equal both for and against the belief, yet one commits to one of the two or more equally supported propositions. Read more here [faith](#).

Confirmation bias is the tendency to search for, interpret, favor, and recall information that confirms or supports one's prior beliefs or values. It is an important type of cognitive bias that has a significant effect on the proper functioning of society by distorting evidence-based decision-making. Read more here [confirmation bias](#),

Cognitive dissonance is when a person holds two or more contradictory beliefs, ideas, or values, or participates in an action that goes against one of these three, and experiences psychological stress because of that. Read more here [cognitive dissonance](#),

Deception is the act of causing someone to accept as true or valid what is false or invalid.

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Perception deception is a process by which the brain constructs visual and auditory perceptions that may not have anything to do with what is actually happening. Our brains are capable of generating experiences. Out-of-body experiences (OBEs), hallucinations and near-death experiences (NDEs) that have a profound effect and some people requires some sort of extraordinary explanation involving transcendent reality. But often what we think is going on outside the body is actually going on inside the brain. Read more here [perception deception](#).

Motivated reasoning is a phenomenon where emotionally-biased reasoning produces justifications and makes decisions that are most desired rather than those that accurately reflect the evidence. Read more here [motivated reasoning](#).

Communal reinforcement is a social phenomenon in which a concept or idea is repeatedly asserted in a community, regardless of whether sufficient empirical evidence has been presented to support it. Over time, the concept or idea is reinforced to become a strong belief in many people's minds, and may be regarded by the members of the community as fact. Read more here [communal reinforcement](#).

Argument to Ignorance is a debating tactic. "I offered you what I think constitutes a proof, so we have to tentatively accept it unless you can offer a proof to the contrary." In other words, the arguer is saying he has a right to put this proposition forward as a judgment that both parties should receive or accept, at least tentatively, until the other party can disprove it, or put some proposition in its place that is proved.¹⁷

For an excellent resource that deconstructs specific issues such as UFOs, Frauds, Hoaxes, Conspiracies, Junk Science, Logic & Perception, New Age, Paranormal and, Supernatural issue one at a time, I suggest further reading at www.Skeptdics.com:

All Hail Bucky (Richard Buckminster Fuller)

“Bucky Fuller’s life marks the transition in human awareness from unconscious to conscious participation in designing our own futures.” He was simply the most successful architect in all history (200,000 buildings standing) as well as a poet, theorist, and endless source of innovation. The cliché of comparing him to Leonardo da Vinci will be vindicated if his assertion that he has discovered the geometry out of which all things are designed; if and then his ultimate stature will be higher than that of Newton and Einstein.

It was in 1927, after failing in construction and seeing his daughter die of polio Bucky, 32 contemplated suicide, Fuller asked, “Do I know or does God know best whether I may be of any value to the Universe?” He decided to not terminate his life until he had made an intelligent effort to discover what purpose God might have had in creating him.

Bucky spent the next year in silent meditation, then decided “I will work always and only for all humanity”. Thrown out of Harvard twice for unruly behavior, Fuller had no academic degrees; failed business so nobody would invest in him. From 1928-52, he produced one innovation after another; all were ignored until in 1952, the Marines discovered Fuller’s geodesic domes. Since then more and more of Fuller’s ideas have been applied successfully. He coined the word “synergy”—meaning “behaviors of whole systems not predictable from the behaviors of the individual elements” as well as the term “Spaceship Earth”. He has been invited back to Harvard as a full professor.

A third phase of Bucky Fuller’s career began at the age of 85, with the publication of his apocalyptic and controversial book, *Critical Path* (New York: St. Martin’s Press). In this work he bluntly declares that humanity as a whole would cross an evolutionary threshold, emerging at the other end of this process either by destroying ourselves or by achieving what he called “Total Success in Universe,” defined by him as “everything for everybody” or “comprehensive design to advantage all without disadvantaging any.”¹⁸

Buckminster Fuller was for me; “I seem to be a verb” he was also a contributor to the whole earth catalogue, a paperbound catalogue of all things alternative where he had more than a few pages dedicated to his inventions. It was the internet of the 70’s for a 17 year old kid. That Crab Nebula Story was from “I seem to be a verb”. I love this quote, I did a book report on “I seem to be a verb” in 1975. The teacher was not impressed and gave me a D. He commented a book with pages written upside down could not possibly be of any value. Oh well, my report probably lacked something he was looking for. I never finished Grade 13.

Bucky is mentioned as a great thinker.

That Crab Nebula story of Bucky Fuller

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There are no reports in Europe of the Crab Nebula supernova outburst in July 4 1054. This titanic stellar explosion was reported in China, Korea, Japan, and America. Why not in Europe?

The Aristotelian dictum that the sky is perfect and unchanging had been incorporated by the Church. Those Europeans were in mortal danger who; between July and September 1050, recognized a brilliant star that had not been there earlier, a luminary so dazzling it could be seen in full daylight and read by at night.

For the Inquisition was just beginning. The safest course was to ignore this evidence of the mutability of the heavens. In Asia and North America there were no religious proscriptions against observing and reporting nature, and there the supernova was noted.

In the same way, it is important for us today to see the world as it really is, and not as we wish it to be. In the Eleventh Century the ecclesiastical authority believed that they were doing good by advocating under extreme penalty the immutability of the heavens. Today we profess to know better.

But today there are still doctrines advocated by political, social, economic, religious and racial groups as if they were unquestionable truths. We should remember the lesson of science: **Everything must be questioned**, the point first clearly enunciated by Descartes. It is the essence of the error-correcting aspect of science-and the secret of its success

The Road Not Taken

TWO roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth; 5

Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same, 10

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back. 15

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference. 20

Robert Frost (1874–1963).

References and Notes

¹ Summarized from the preamble to Religion, Supernaturalism, the Paranormal and Pseudoscience An Anthropological Critique By Homayun Sidky
<https://www.anthepress.com/religion-supernaturalism-and-the-paranormal-hb>

² Strange beliefs of those who don't use science:

- Mormons, for example, believe they have magic underwear
- Scientists believe the Earth was populated with the souls of sentient beings who were flown here in DC-8s and exploded in volcanoes with thermonuclear weapons.
- Wiccans, followers of Voodoo, and animists believe they can perform rituals that will secure aid from a pantheon of deities to change physical reality.
- Christian fundamentalists believe the Earth is about 6000 years old and, in many cases that it is a moral act to murder abortion doctors or to set off bombs in abortion clinics.
- Many Protestants believe Catholics are hell-bound.
- The Pope has stated that Protestant churches are "defective" and not "true churches."
- Christian Identity adherents want to impose a harsh theocracy in the U.S. that would differ in effect only slightly from an Islamic Caliphate.

From editorial <http://renish.skepdic.com/EdNote02.html>

³ Clever Irrationality* Many people pride themselves on being clever and equate their cleverness with rationality. The cleverness usually involves an outrageous claim, the evidence? Prove it didn't happen! And so on ad nauseam. Sometimes these folks call themselves "(issue) truthers"; once again they are clever but not rational.

Being clever is the foundation of Catholic theology, for example, the idea that God is three persons in one being is said to be a truth that is "above reason." Reason can't comprehend how one being can be three persons. Reason tells us that if there is one being, there is one entity; and if there are three persons, there are three beings. The theologians cleverly argue that a truth that is "above reason" can't be proven false. This is clever, but not very rational, all good with religion and faith; not good with science.

From Robert T. Carroll April 24, 2010 Anything goes
<http://skepdic.com/essays/anythinggoes.html>

⁴ If you want to think what the rich want you to think, then there is no better place to go for your information than any one of the following. This is where PhD graduates with degrees that won't feed their family sell their souls to mammon to make five figure salaries to lie, cheat and spin in a way that ignores the suffering of 85% of the planet. I am sure some of them are good people, on both sides.

1. Brookings Institution (United States)
2. Chatham House (United Kingdom)
3. French Institute of International Relations (IFRI) (France)
4. Center for Strategic and International Studies (CSIS) (United States)

How to Think: Not to be confused with what to think

5. Carnegie Endowment for International Peace (United States)
6. Bruegel (Belgium)
7. RAND Corporation (United States)
8. Woodrow Wilson International Center for Scholars (United States)
9. Fundacao Getulio Vargas (FGV)
10. Council on Foreign Relations (CFR) (United States)
11. Cato Institute (United States)
12. Heritage Foundation (United States)
13. International Institute for Strategic Studies (IISS) (United Kingdom)
14. Center for American Progress (CAP) (United States)
15. Japan Institute of International Affairs (JIIA) (Japan)
16. Konrad Adenauer Foundation (KAS) (Germany)
17. Friedrich Ebert Foundation (FES) (Germany)
18. German Institute for International and Security Affairs (SWP) (Germany)
19. Fraser Institute (Canada)
20. Peterson Institute for International Economics (PIIE) (United States)

List from <https://ceoworld.biz/2017/01/31/100-influential-think-tanks-world-2017/>

⁵ Oppositional defiance disorder <https://www.mayoclinic.org/diseases-conditions/oppositional-defiant-disorder/symptoms-causes/syc-20375831>

⁶ Speculation in science is summarized from <https://wtamu.edu/~cbaird/sq/2014/01/27/why-is-speculation-forbidden-in-science/>

⁷ Skepticism as a virtue <https://michaelshermer.com/sciam-columns/skepticism-as-a-virtue/>

⁸ Stories and antidotes are unreliable <http://skepdic.com/testimon.html>

⁹ Critical thinking as an unnatural act <http://skepdic.com/ticriticalthinking.html>

¹⁰ The miniature guide to Critical Thinking for Children (to help you think better and better) By Fair-minded Fran and Linda Elder. Second Edition Copywrite 2005 Foundation for Critical Thinking 707-878-9100 www.criticalthinking.org

¹¹ The miniature guide to Critical Thinking for Children (to help you think better and better) By Fair-minded Fran and Linda Elder. Second Edition Copywrite 2005 Foundation for Critical Thinking 707-878-9100 www.criticalthinking.org

¹² Cats cause shootings http://storycartoons.com/images/race_relations.jpg

¹³ Information on statistics and how to use them effectively; <https://www.statisticssolutions.com/establishing-cause-and-effect/>

¹⁴ How Geniuses think Michael Michalko

https://www.creativitypost.com/article/how_geniuses_think

¹⁵ Gardeners multiple intelligences summarized with some editorializing from

<https://www.verywellmind.com/gardners-theory-of-multiple-intelligences-2795161>

¹⁶ Existential Intelligence <https://www.thoughtco.com/existential-intelligence-profile-8097>

¹⁷ Argument to Ignorance The expression argumentum ad ignorantiam (usually translated from the Latin as argument to ignorance) was apparently first used by the philosopher John Locke (1632-1704) to describe a debater's tactic:

Locke described the argumentum ad ignorantiam as a way that 'men ordinarily use to drive others and force them to submit their judgments and receive the opinion in debate.' Locke defined this type of argument as the kind of move where one party in such a debate requires the other party to admit what the first party alleges as a proof or assign a better. In other words, what the arguer is saying is, 'I offered you what I think constitutes a proof, so we have to tentatively accept it unless you can offer a proof to the contrary.' In other words, the arguer is saying he has a right to put this proposition forward as a judgment that both parties should receive or accept, at least tentatively, until the other party can disprove it, or put some proposition in its place that is proved. (Douglas Walton)

From <http://59ways.blogspot.com/2012/02/argumentum-ad-ignorantiam-argument-to.html>

¹⁸ Buckminster fuller article; <https://hightimes.com/culture/high-times-greats-buckminster-fuller/>

¹⁹ Box quote on the error correcting nature of science from “I seem to be a verb” by Buckminster Fuller I love this book, one of my favorite from my childhood right next to the Whole Earth Catalogue.