

SKEPTICISM: A GUIDE

Purpose: To provide a clear, easy-to-read guide about the “Skeptical” viewpoint as subscribed to by many who might call themselves Skeptics or critical thinkers; to distinguish practical Skepticism from the popular use of the phrase “I’m skeptical,” and from those who claim to be “skeptics” regarding some well-established conclusion (such as climate change).

What is skepticism?

Skepticism is an approach to evaluating claims that emphasizes evidence and applies tools of science. Skepticism is most often applied to extraordinary claims – those that refute the current consensus view.

The Skeptical process considers evidence obtained by systematic observations and reason.

The conclusion that is reached at the end of this Skeptical process is provisional because additional or better evidence may come along that points towards a more suitable explanation.

Example: Mr. X tells us that a new pill greatly improves his memory. This claim, if true, is important and extraordinary. So, it would be fitting to apply Skepticism to this claim. We would want to see evidence that his memory is improved and that the pill was responsible for that. We consider alternative explanations that could explain why Mr. X would say the new pill improves his memory: he may be mistaken, he might be going through a less-stressful time of life, he wants to feel like he spent his money wisely on the pills, he was paid to promote the pills, etc. Good evidence that his claim has validity would be quality research results (multiple studies) that show many who take the pill displayed a measurable improvement in memory. And, preferably, we would be provided a plausible explanation for how the pill works to improve memory. If the manufacturer of Mr X’s pills do not have well-controlled studies of large groups of people that show that the product actually works, we can’t just accept his word that they work as they say because the alternative explanations are more likely.

The more extraordinary the claim, the stronger the evidence must be to support it. If a claim is made that would require us to revise or overturn well established knowledge, we should be very suspicious and ask for a greater degree of evidence.

Example: Psychics claim that they are able to predict events. That would not be in accordance with what we have observed about the human mind. It would not correspond to well-tested ideas in biology and physics. It does not make sense in terms of what we know. So, in order to justify discarding all we already know, the claimant must have a great deal of solid evidence that withstands scrutiny.

These are cases of applying scientific skepticism. Skeptics value contributions of science but also those of logic and math that lead towards the best explanation. Skepticism can be applied to subjects such as history, art and literature, as well, by using critical thinking and respect for the evidence for any claims that are made.

What does it mean to be a Skeptic?

You will often hear “I’m a skeptic” or “I’m skeptical” from people who are not sure about or who doubt some concept. That is a common, casual use of the term. Simply calling oneself a “skeptic” is not the same as practicing it. It’s easy to “doubt” things; everyone is “skeptical” about something. Good Skepticism involves understanding why one might or might not doubt the claim.

A Skeptic subscribes to a number of tenets.

Respect for the evidence. The application of reason to evidence is the best method we have to obtain reliable knowledge.

Respect for methods, conclusions and the consensus of science. Science is a particular way of obtaining information that is designed to reduce the chances of coming to an incorrect conclusion. Using a scientific process will minimize errors (but not eliminate them entirely). So, Skeptics are often vigorous advocates of science – in medicine, in schools, and for informing policy decisions. Fake, junk and pseudo-science is called out as a ruse. Logic and math are also components of science that can be valuable in assessing claims.

Preference for natural, not supernatural, explanation. Natural laws give us rational boundaries in our quest to determine explanations. Miracles are an example of using a supernatural agent (a god, saint or angel who operates outside of natural laws) as part of the explanation. A Skeptic will look for a natural explanation that does not call for a supernatural, unproven (and possibly unprovable) entity to be included.

Promotion of reason and critical thinking. Many Skeptics are good at identifying mistakes in arguments and reasoning.

Awareness of how we are fooled. People routinely fool themselves and are fooled by others. This is most commonly seen in our over-reliance on our senses and memory - for example, “I know what I saw,” or “I remember it like it was yesterday.” Skeptics are wary of eyewitness testimony because observation is fallible and memory is malleable. Stories of events, even from trustworthy people, make for very poor evidence on their own. Even collectively, anecdotes don’t tell us much about the validity of the claim. Skeptics also understand that people tend to look for, remember and favor the evidence that supports their preferred conclusion.

What Skepticism ISN'T

This section contains possibly the most important things to know about Skeptics. There are a many misconceptions about what it means to be a Skeptic. Not everyone who says they are “skeptical” are applying Skepticism.

Skeptic is not the same as “cynic” or “disbeliever”. Good Skeptics do not dismiss claims out-of-hand. The “Skeptic” is often seen as the “debunker”, the “downer”, or the “balloon buster”. It may appear that way for those who are very attached to certain concepts to which Skepticism is being applied, such as existence of ghosts, Bigfoot or UFOs. Skeptics aren't skeptical of everything, either. In classical Greek Skepticism, the individual did not commit to stating “knowledge”; everything was doubted, there was no certainty. That is not a popular stance today. When we speak of modern Skepticism, we are talking about those who seek the conclusion best supported by current evidence and reason.

Skeptic does not equal “atheist”. Many Skeptics are atheists, but not all. Skepticism is a process of evaluating claims, not a set of conclusions. Skeptics are a diverse group so lack of religious beliefs should not be assumed. Scientific Skepticism is applied only to testable claims (such as “prayer heals”), not to untestable claims such as the existence of God, who is supernatural. “Is there a God?” is a question outside the realm of science. However, philosophical skepticism can be invoked in considering claims about the supernatural.

Skeptic does not mean “denialist” or “truther”. A practicing Skeptic is informed by the scientific consensus. So called “climate skeptics” are not practicing Skepticism when they doubt global warming based on selective belief and by ignoring the results that science has given us to this point. “Denialists” (of climate change, evolution, conventional medicine, etc.) reject science that does not support their view. “Truthers” insist that the real “truth” has not been revealed and instead put forth the explanation that a conspiracy is afoot. These stances do not give fair weight to well-established knowledge we have.

Skepticism is not a religion. Skepticism doesn't tell you what to think. It tells you how you should think about something to get to the conclusion that has the best possibility of being true. Skepticism may not always be the best approach to decisions at the moment, sometimes decisions based on

emotions can feel like the right thing to do. So applying skepticism to everything in life is not always the best policy. There may be other factors to consider.

Skepticism is important

Why use Skepticism as a process to evaluate claims? Critically evaluating claims for flaws, mistakes and inaccuracies lessens the potential that you will believe something that isn't true. Skepticism and critical thinking can be applied in everyday life where an invalid claim might have serious effects on you or people around you – such as in consideration of a medical treatment, a financial investment, a consumer product, or life choices.

Proponents of a claim will frequently say, "You can't prove it's not true." That's a ridiculous statement. It's not up to the Skeptic to show that an extraordinary claim isn't true. It's up to those making the claim to provide evidence and reasons why it IS true. We must have evidence that a person DID commit a crime, for example, not prove that everyone else in the world did not.

What do Skeptics do?

Skeptics have a loose community consisting of publications, web sites and online forums, organizations, and events. Skeptics are all around the world, organized into casual and formal groups and associations. It is a community made up of people with varying backgrounds, ideas, goals, communication styles and skill sets. It also gets very fluid at the edges. You might be a Skeptic and not even know it. Many people don't self-identify as a "skeptic" but selectively follow the practices of Skepticism in their lives. Some people are disinclined to take on any labels or join a group.

Many Skeptics enjoy the fringe subject areas, they like solving mysteries and appreciate being around people who think as they do or who argue rationally when they don't agree. Some Skeptics are activists who promote critical thinking and Skepticism in their communities and the public as individuals or as part of local or national organized groups and online.

Some of the topics Skeptics are involved in are science education, alternative medical treatments, the paranormal, dubious consumer products and services, hoaxes and scams, UFOs and aliens, monsters and folklore, superstition, and why people believe strange things.

Those who represent Skepticism in the public sphere are happy to provide a science- and reason-based viewpoint for the media. The backgrounds of the those in the Skeptical community are varied. Many participants in the skeptical community are experts in particular areas like the paranormal, medicine, cryptozoology, history, archaeology, textual analysis, linguistics, psychology, astronomy, physics and magic.

Skeptical Resources

The logo for "Skeptics on the .Net" features the text "Skeptics on the .Net" in a red, handwritten-style font. The text is centered within a dark grey rectangular background.

The directory for all things skeptical online
<http://skepticonthe.net>

Organizations

The major Skeptic organizations have as their mission a goal to promote scientific skepticism. There are three major national skeptical organizations in the United States.

[Committee for Skeptical Inquiry](#) (CSI)

CSI (formerly known as CSICOP) is a nonprofit scientific and educational organization, started in 1976. Their mission is to promote scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims. They publish the *Skeptical Inquirer* and *Skeptical Briefs*. They host an annual conference called CSIcon and many local events, workshops and lectures in conjunction with their overarching organization, the Center for Inquiry. Contact: info(at)csisop.org

[James Randi Educational Foundation](#) (JREF)

Founded by magician James "The Amazing" Randi in 1996, the foundation is dedicated to promoting "critical thinking by reaching out to the public and media with reliable information about paranormal and supernatural ideas so widespread in our society today." They organize one of the largest gatherings of international skeptics and critical thinkers, The Amazing Meeting (TAM), every year and offer the One Million Dollar Challenge for those who claim paranormal abilities. Contact: +1 213 293-3092

[The Skeptics Society](#)

Publisher of *Skeptic* magazine, the Skeptics Society is a nonprofit, scientific and educational organization led by Dr. Michael Shermer. Their mission is to engage leading experts in investigating the paranormal, fringe science, pseudoscience, and extraordinary claims of all kinds, promote critical thinking, and serve as an educational tool for those seeking a sound scientific viewpoint. They sponsor a monthly lecture series at the California Institute of Technology. Contact: skepticssociety(at)skeptic.com

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