

The pseudo-science smell-o-meter

Good references

<https://quackwatch.org/related/pseudo/> [QW]

https://rationalwiki.org/wiki/The_Fine_Art_of_Baloney_Detection [RW]

<https://www.forbes.com/sites/chadorzel/2018/08/14/what-scientific-failure-teaches-us-about-how-to-detect-pseudoscience/?sh=742c84087b02>

<https://skeptoid.com/episodes/4037>

Questions to ask

- Do the claimants have **legitimate credentials**?
- Do the claimants state that their claim is being **suppressed by authorities**?
- Do the claimants state that there's **something wrong with the standards or norm**?
- Does the claim have **support that is political, ideological, or cultural**?
- What is the **nature of the evidence they cite** (anecdotal vs. published)?
- How do they **deal with contradictory evidence**?
- What do they cite: peer-reviewed articles in established journals, government reports? Or **Web sites, newspaper reports, self-published books, or `suppressed information`**?
- Are their **references to authorities up to date**? Do they **appeal to false or discredited authorities**?
- Do their arguments justify strongly held beliefs, or investigate alternative possibilities?

Hallmarks of pseudo-science

Ad hominem attacks	Attack the messenger, not the message
Argument from authority	Relies on identity of the `authority', not the argument itself
Appeal to ignorance	If something not known to be false, must be true Claims of incompleteness of information about nature, rather than on what is known at present. But <i>no claim can possibly be supported by lack of information.</i>
Observational selection	Look only at positive evidence, ignoring negative (“cherry picking”). Citing out of context?
Indifference to facts, criteria of valid evidence	Instead of bothering to consult reference works or investigating directly, advocates simply spout bogus “facts” where needed. [QW]
Dependence on anecdote	Anecdotes only ever apply to individuals or individual experiences. It is impossible to say that an individual anecdote is representative or to actually detect the real cause of an outcome. [RW]
No proposed concrete tests	Pseudoscientists never carry out careful, methodical experiments themselves—and they also generally ignore results of those carried out by scientists. [QW]