

Analysis of Claims in “Love Among the Cabbages” & “Dreams of Dragons”

Introduction: We are often exposed to incredible ideas in the media and in articles such as “Love among the cabbages” and “Roots of awareness.” This exercise will provide an opportunity to analyze such claims.

Source of Analysis: *(list the article that you are evaluating)*

Claims: Exactly what claims do the authors make? Some claims may seem “reasonable” while others are “off the wall.” Exactly what do the authors claim?

1. List in the table below at least five different claims about plants that were made by the author that “seem” bogus.

Weird-o-meter Rating	Claim
	1.
	2.
	3.
	4.
	5.

2. Identify at least five different claims about plants that might be not be bogus.

Weird-o-meter Rating	Claim
	1.
	2.
	3.
	4.
	5.

3. When evaluating any claim, we facetiously indicated that you should test it with your weird-o-meter. What general criteria would make your weird-o-meter register that the idea is “wacky?”
4. For each of the 10 claims you listed above, rate them on your weird-o-meter scale (5 = major wacky; 4 = no way; 3 = hmmm, really?; 2 = sounds feasible; 1 = perfectly plausible)

Claim Analysis: *Evaluate one of the claims in light of each of the following criteria*

Criterion 1. Is the idea compatible with the methods of science? Does the idea explain an observation or is it just an imaginative idea for its own sake? Is it testable? Is it falsifiable? Are there more conventional explanations/hypotheses (*Occam's razor*)? Is the sample size used in the study adequate? Can the study be replicated or is it based on one-time, unrepeatable observations? Are the experiments properly controlled? Do the proponents misquote or misinterpret the studies of "real" scientists? Are the references cited from obscure, ancient or otherwise unattainable sources? *Analyze one of the claims - Is it compatible with the methods of science?*

Criterion 2. Do the proponents make appropriate conclusions from the evidence? Is supportive evidence available? Is the evidence based on reproducible experiments or simply anecdotal? Do the proponents claim the effect is at the limits of our abilities to detect it? Do discoverers propose that new laws are required to explain an observation? Do the proponents argue that the belief is credible because it has endured for centuries? Do the proponents ignore recent scientific work that contradicts their own? Are the conclusions based on experimental evidence and observations or personal testimonies or anecdotes? Have the results been statistically analyzed to support the claims? Do the proponents casually explain away or ignore contradictory or otherwise un-supportive observations of their own? *Analyze one of the claims - Do the proponents make appropriate conclusions?*

Criterion 3. Is supportive evidence available? Is this evidence available to anyone? Is the work published in a referred journal? Do the proponents pitch their claim directly to media? *Analyze one of the claims - Is adequate evidence available to support the claim?*

Criterion 4. Do you have to be special for the idea/effect to be demonstrated? Does the discoverer claim to have worked in isolation enabling him/her to be more creative or untainted by previous work? Do you have to have a special connection with your materials to make your experiment work? Does the supporter vilify science/scientists? Is the proposal partisan? (*made to support a preconceived idea*) Do the discoverers claim that they are being blocked by a powerful establishment? Do the individuals claim special privilege from being challenged? *Analyze one of the claims - do you have to be special to believe the idea?*

Criterion 5. How weird does the idea sound? Check your "weird-o-meter" - the weirder the idea, the more support the idea will require. Are you being sufficiently skeptical? Does the idea relate to other scientific observations? (*i.e.*, does it fit into our body of knowledge)? Does it sound too good to be true? *Analyze one of the claims - what does your weird-o-meter tell you?*

Criterion 6. Are the proponents trying to sell their idea? *Do the proponents....* associate their ideas with famous scientists? cite in their work the names of presumably "famous" scientists, or create some type of authority figure, leader, guru? use the language of scientists? vilify scientists/science? skeptical about their own claims? play upon the notion that their work is simply too new to be understood? try to establish a "*granfallon?*" use self-generated persuasion by essentially having the targets persuade themselves by turning the customers in to the salesperson? construct a vivid appeal - a good story that will be memorable? use a smoke screen? use commonplace or widely acknowledged beliefs as the basis for acceptance (*i.e.*, if it's scarce it must be bad, natural is good and synthetic is bad)? argue that you should join the bandwagon? attack their opponents? *Analyze one of the claims - is the proponent likely to earn money from the study or by sharing evidence and trying to sell their idea?*