

Arguing on the internet is annoying enough without people shouting 'FALLACY' all the time

By **Tom Chivers Language** Last updated: March 14th, 2013

You know what's tiresome? Arguing on the internet. "Three-eight-sixing", as it's known. Few of us can resist it – God knows I find myself rolling up my sleeves and plunging elbow-deep into the stuff below the line often enough, and a few minutes ago I broke my own rule of not getting involved in Twitter arguments. (I tweeted something involving the words "Richard Dawkins" and "abortion". I had it coming.) But assuming you're going to argue on the internet (which you are), then you know what's even more tiresome? "Logical fallacies" thrown around by people who have only the faintest understanding of what they mean.

You will have experienced it. "Person X is stupid and/or annoying", you say; immediately you are told "AD HOMINEM! Play the ball, not the man!" "I don't know much about Y, but this professor of Y-ology seems to think it's...", you begin, only to hear "BZZZZT! ARGUMENT FROM AUTHORITY!" Or (relatively recent development this) "There are similarities between Z and the situation in 1930s Germany" – "ARGUMENT AD HITLERUM! GODWIN'S LAW!"

Now, it has been years since I did philosophy and I don't claim to be an expert. And fallacious arguments are indeed worth being aware of and avoiding. There's a very useful list of them on Wikipedia and a rather smug downloadable poster of them here.

But the fact that someone, say, insults the person they are arguing with, or recruits an authority to support their argument, or suggests that taking action P now could lead to undesirable outcome Q in the future ("SLIPPERY SLOPE FALLACY!"), does not mean that they are committing a logical fallacy and should therefore be ignored.

"*Argumentum ad hominem*" is probably the most widely misused. Most people know, now, that if someone insults you while criticising your argument ("You're a stupid-head! And your claim that government spending has a fiscal multiplier of 1.19 fails to take into account all the externalities"), they are not committing an ad hominem fallacy, they're just insulting you. "*Argumentum ad hominem*" means suggesting that we should ignore or distrust someone's arguments not on the strength of the evidence but because of who they are.

But even that is not always a fallacy. It can be perfectly logical to discount someone's argument because of who they are: if a car salesman has previously sold me a dud car, then it makes sense to ignore his argument, supported by evidence from the milometer, that the Vauxhall Astra he's trying to sell me now has only done 10,000 miles. In order to show that someone is using the ad hominem argument fallaciously, you need to show that they have no reason to distrust their opponent, or to show that the argument is valid regardless of who they are. Similarly, it is only fallacious to appeal to authority if the authority is not trustworthy. An appeal to authority can't logically prove something to be true – it's an inductive, not deductive, argument – but it can provide you with a good reason to believe something. I

can't be an expert on every subject, so I have to outsource my expertise to others: I don't know how best to keep my bike running smoothly, but the guy at the shop says I should make sure I change gears on my front chain-ring regularly, and most other bike experts would agree with him. If someone claims that their appeal to authority proves beyond all doubt that their claim is true, or if they have appealed to an untrustworthy authority or one which does not represent the views of most other authorities on the subject, then you may be able to accuse them of a fallacy. But again, you need to show it, not just say it. No doubt people will argue with my claims above, and that's fine – as I said, I don't claim to be an expert, so please do point out any mistakes I've made. But the point is that, sometimes, arguments of these forms, and of other so-called fallacious forms, are perfectly valid ways of supporting a point, and to claim otherwise you need to do arguing of your own, not use shortcuts. Shouting "Fallacy! Don't need to listen to you any more" is itself fallacious. We could call it the false fallacy fallacy.

Incorrectly Calling Logical Fallacies

Regular readers will know that critical thinking involves knowing logical fallacies – recognizing them in other people's arguments, and not using them in your own. But *falsely* calling fallacies is just as bad. Arguably worse, since using a fallacious argument just means you haven't justified your argument - your argument could still be right for other reasons. Falsely calling a fallacy means you are saying something is wrong when it isn't.

Recently I was researching something for this year's **Golden Woo** awards, when I came across a blog post titled **New World Record? Six Logical Fallacies with a Single Sentence promoting Genetically Modified Food**, written by someone called David Dilworth – and I thought 'that's just what I'm looking for. Six fallacies in one sentence! I have to see that.' Unfortunately the sentence didn't contain six logical fallacies. On the contrary, the author of the post was wrong on all counts and obviously didn't understand logical fallacies.

Dilworth's post criticized an article by UC Berkley biologist Michael Eisen: **The anti-GMO campaign's dangerous war on science**. Eisen's article opposed California Prop 37 (the 2012 California ballot initiative to require labeling of genetically modified foods). Dilworth approved of the initiative. Here is Eisen's supposedly fallacious sentence Dilworth's post was all about:

For the backers of the initiative to claim [GMOs might be harmful] as a finding of fact is an outright lie, and an outlandish attack on science.

Obviously you can see the six fallacies in that sentence. No? Me neither.

I asked Dilworth for an explanation, and after the second attempt he replied with **this comment** detailing what he said were the fallacies. This is my summary of Dilworth's claim:

1. None of the six fallacies he called were actual fallacies used in the sentence
2. One of them (what he said was a non sequitur) could at a pinch be described as an assertion fallacy (something just asserted, not supported). A bit lame though, when taken in context with the rest of the article.
3. One of the "fallacies" relied on something written in a different sentence, so it couldn't have been a fallacy "in a single sentence" as claimed.

4. Dilworth employed a Straw Man fallacy and two Assertion fallacies of his own, to support his case for two of the “fallacies.”

I’m going to explain in detail where Dilworth is wrong. This post is going to be a bit long, but I think it’s worth doing because (1) I don’t like to see such nonsense standing unopposed, and (2) I do feel very strongly that understanding logical fallacies is a path to critical thinking and I hope that my analysis will shed light on what is, and on what is not, a logical fallacy.

Here is my analysis of each of Dilworth’s claims:

1 and 2 – Ambiguity Fallacies

1. **Ambiguity fallacy:** His claim of an “attack on science” is ambiguous about what he means by “science.” Does he mean scientific methodology, reasoning or facts derived from experiment – or some combination? It does make a difference. (It is also possible he means GMO scientists – but that would add an additional fallacy of falsely equating scientists with ideas of science.)

2. **Ambiguity fallacy:** Nor does he define the careless way he uses the word “safe.” (The word “safe” is not explicitly in the offending sentence, however the sentence refers to its earlier use.)

Does he mean “not harmful” or that the harms are only relative to the benefits?

Dilworth is calling these fallacies because there are ambiguous meanings of “science” and of “safe.” This is ridiculous.

Ambiguity or Equivocation is a fallacy if you use ambiguity in meaning, or different definitions of a word, to win an argument. For example, as I explained in [my post about equivocation](#), people have said to me I have “faith” in science, therefore science is my religion. They’re using the different definitions of “faith” – (a) one meaning “trust” and (b) another meaning “blind faith with no evidence.” The fallacy is to claim I have definition b, when I have definition a. For it to be a fallacy there has to be an advantage to the different meanings. There has to be one meaning of the word where the argument is valid, and another version (the one the arguer wants you to accept) where it is not – otherwise it is not a fallacy. Dilworth’s [own cited link](#) even says this:

As a logical fallacy, Ambiguity occurs when linguistic ambiguity **causes the form of an argument to appear validating when it is not.**

Because of the ubiquity of ambiguity in natural language, it is important to realize that **its presence in an argument is not sufficient to render it fallacious**, otherwise, *all* such arguments would be fallacious. [My bold.]

Eisen isn’t doing this – he is not using linguistic ambiguity to try to win a point. He is simply using everyday words in the way most people understand them, *with no attempt to benefit from ambiguity*. Dilworth either didn’t read or didn’t understand his own link (the first hit you get when you Google “Ambiguity Fallacy”). At most Eisen is guilty of careless writing, but even that is a stretch. Dilworth is arguing like a lawyer – expecting every word to be fully defined with no ambiguity. But that’s not required to be free of fallacy.

Dilworth’s claim becomes even more ridiculous when you examine his own post. Read it and you will find the following references to the word “science,” none of which are defined:

1. Eisen’s article attracted me because I’ve been helping work for good **science** for a few decades

2. Eisen never mentions (or realizes?) that he and Food Safety proponents might each embrace **science** but have different philosophies or values.
3. What really makes me uncomfortable is when Eisen claims high authority as spokesperson for “**Science**,” then he’s purporting to speak for me and anyone else who cares about **science**.
4. The only other contact I’ve had with the GMO debate is a cordial letter I penned to a British GMO researcher who seemed to have a misguided proprietary ownership of **Science**
5. David Dilworth is the editor of likely the largest database of environmental impacts which compiles the best available **science** on over 1,000 different kinds of environmental harms, mitigations, and thoughtful, reasonable alternatives to avoid those harms.

That’s five uses of the word “science.” So Dilworth, according to his own reasoning, employed at least five Ambiguity Fallacies in this one post. (Of course they’re not fallacies, as I explained earlier. But Dilworth must think they are.) Dilworth doesn’t apply the same microscope to his own writing that he applies to the writings of someone he disagrees with. If he did, he might realize no fallacy had been employed by Eisen.

There is no “debating advantage” to Eisen for using words that might be interpreted differently. Consequently there is no fallacy.

3 - Proof Of Negative Fallacy

Next, assuming he intends safe to mean “not harmful” his position (claiming there is no possible harm from GMOs) requires a **Proof of a Negative** fallacy.

No it doesn’t.

First thing – it is not a fallacy to say you can prove a negative. The fallacy is to say you can prove a *universal negative*. For example, I can’t prove there are no white crows. I can search the world and see millions of black crows, but that wouldn’t prove there wasn’t a white crow somewhere. If Eisen had said GMOs were never dangerous, had never harmed anyone and never would, he would be claiming to have proved a universal negative. (He’d be saying there were no white crows, anywhere.) But he isn’t doing that. He’s saying that the **claims of the backers of the initiative are wrong** (or as he puts it, a lie). He’s not “claiming there is no possible harm from GMOs” as Dilworth puts it. He just says that the studies, evidence or whatever the backers of the initiative are claiming as facts, are not true (ie he’s just saying that none of the crows *they have shown him*, are white). Eisen has not claimed a universal negative, he is claiming a limited negative. That’s not fallacious.

If you read a little further down Eisen’s article, you can see what he is really saying:

There is no compelling evidence of any harm arising from eating GMOs, and a diverse and convincing body of research demonstrating that GMOs are safe.

Note, not “no possible harm”, but “no compelling evidence of any harm...” Different things. The first would be a fallacy, the second, not.

Furthermore, Dilworth’s statement: “*his position (claiming there is no possible harm from GMOs)*” is not anything I can find Eisen saying. He doesn’t say that in the sentence, and I’ve searched his whole article and neither the

phrase “no possible harm” nor “no harm” appear anywhere. So ironically, to build a case for a fallacy, Dilworth had to build a straw man fallacy of his own.

Dilworth misunderstands this fallacy. The real fallacy is to ask opponents of the initiative to prove a universal negative – ie to prove that GMOs are never harmful. Ironically, that is what GMO opponents do and what Dilworth is doing elsewhere (see below under the heading “Main Article”).

So #3 is definitely not a fallacy. Although Dilworth employed a Straw Man fallacy.

4 – Non Sequitur Fallacy

His claim of a “lie” is false since it is a **Non-Sequitur fallacy** (it does not follow).

That’s because committing a lie requires more than making a false claim, it requires the person making the claims to understand it is false.

Not really. All fallacies, strictly speaking, are non sequiturs (ie the conclusion doesn’t follow from the arguments presented). But the Non Sequitur *fallacy* refers to a conclusion that simply has no logical connection at all to the argument’s premises. Read, for example, [the rational wiki](#) on the non sequitur. See their examples – Eisen’s “lie” doesn’t really fit. If you accept for the sake of argument that the claims are false, a lie is one possible conclusion, and not something that simply has no logical connection. If anything, this would be argument by assertion (ie he hasn’t shown it is a lie), but IMO it’s really just a bit of careless writing.

So #4 not really a fallacy, but I agree you shouldn’t accuse people of lying unless you can demonstrate that they are. I’ll accept “argument by assertion.”

5 – Contradiction Fallacy

He claims GMO harm is a lie even though admitting “I’m sure they have a reference that justifies their making this assertion.” (!)

So — the first part of his sentence claims its a lie that GMOs might be harmful – while later admitting Food Safety people will have a study justifying their claim. That’s a Contradiction fallacy.

First thing: the “*while I’m sure they have a reference that justifies their making this assertion...*” wording comes in the previous sentence. Therefore, this is not a fallacy in “a single sentence” as Dilworth puts it.

More to the point, it’s not contradictory at all. It’s quite possible for people to have studies and references, and to quote them when needed, while at the same time knowing the studies and references are lies. This should be obvious.

#5 Not a fallacy.

6 – Proof By Assertion Fallacy

This leaves his seemingly powerful assault with no valid support (there is no attack on science, no lie, and no valid argument supporting anything he claims with that sentence). That means his sentence taken as a whole is worthless, making it a mere opinion; not a logical argument. “Proof” without facts is called a Proof by Assertion fallacy.

Dilworth is double counting. By that argument, any fallacy is automatically two fallacies – the original one, plus proof by assertion, since the original fallacy means the argument has no valid support (that’s what a logical fallacy is) and is therefore just assertion. So #6 is not a fallacy.

Also, Dilworth’s “*there is no attack on science, no lie*” claim is in fact two arguments by assertion of his own – Dilworth hasn’t demonstrated there is no attack on science and he hasn’t demonstrated there is no lie. He just tried to create ambiguity by introducing different definitions of science. He also demonstrated that Eisen hadn’t proven a lie, but he didn’t prove there is not one (we just don’t know).

Summary

1. At a stretch there is one logical fallacy (assertion that there was a “lie”). A bit lame though IMO, and not a major part of Eisen’s argument against the initiative.
2. Dilworth’s arguments to support two of the claimed fallacies involved his using a straw man fallacy, and two assertion fallacies of his own.
3. One of the claimed fallacies “in a single sentence” actually occurred in a different sentence. Why Dilworth thinks this is a fallacy “in a single sentence” is beyond me.
4. Dilworth’s entire post is one huge Argument by Assertion fallacy, since he didn’t explain in his post either (a) which sentence he was talking about or (b) what the fallacies were. Consequently Dilworth was just asserting there were six fallacies; he didn’t demonstrate that there were. I could argue this was six Argument by Assertion fallacies.

Dilworth did (after two days and two follow up emails from me) allow my comment which included many of the arguments above. He doubled down immediately with a reply that included this additional fallacy directed at me:

Since you claim to know what he means by those terms “Safe” and “Science”, let me respectfully request – can you please provide your definitions / interpretations of the terms – in the context of how Eisen used them.

An obvious straw man, since I never claimed “*to know what [Eisen] means*” by “Safe” and “Science” – I just wrote “He is simply using everyday words in the way most people understand them.” My beliefs about what Eisen meant, is irrelevant. The burden is with Dilworth to demonstrate that Eisen’s use of these words was fallacious – ie that there is one meaning of the word where the argument is valid, and another version (the one Eisen wants you to accept) where it is not. I did reply to that effect, but as of this evening (exactly five days after I posted my reply) my comment is still marked "awaiting moderation." [January 14, 2013 Edited to add: Sometime this morning, my comment was released from moderation, just over 132 hours after I posted it.]

Dilworth’s more detailed post calling even more fallacies, is just as bad. I’m not going into all of his mistakes, but see this fallacy he accuses Eisen of using:

Shifting the Burden of Proof Fallacy, Argumentum ad Ignorantiam. The above quote also falsely implies that the burden of proof is now placed with Food Safety proponents.

Duh, *of course* the burden of proof is with those claiming GMOs are unsafe. The burden of proof is always with those making the positive claim. **GMO proponents can’t possibly prove a universal negative**– that GMOs cannot possibly cause harm. *That* is the fallacy – asking for proof of a universal negative - **and yet it’s what Dilworth expects Eisen to do.** And get this: Dilworth, in this paragraph, expects Eisen to prove a universal negative. But in Dilworth’s “Fallacy #3” he accuses Eisen of claiming he *had* proved a universal negative and then states that *this* is a fallacy. So according to Dilworth, it’s a fallacy if Eisen claims to have shown GMOs are safe and it’s a fallacy if he

says he can't show GMOs are safe. Astonishing. This is what happens when you don't understand what you're talking about.

Also (couldn't resist this one) Dilworth brings up **Thalidomide** – yes Dilworth is invoking the **Science Was Wrong Before fallacy**.

Finally, get a load of this:

The article's overarching theme is based on a fallacy formally called "Special Pleading." It means he attacks opponents for not meeting a set of standards (apparently "science reasoning") - while he violates those same standards (presumably you won't detect them). In short, hypocrisy.

First, no it's not Special Pleading unless Eisen explicitly stated that different standards apply to him (another fallacy name learned, but not understood). Regardless, behold the chutzpah – Dilworth's fallacy filled article (falsely) accuses Eisen of hypocrisy, for (drumroll) using fallacies. Breathtaking.

Dilworth's posts are bad – maybe even **A Straw Man gets AIDS** bad. To call fallacies correctly, you have to understand them, and to do that you need to understand *why* they are fallacies. Dilworth gives the impression that he has just learned the names of fallacies without understanding them, and then tried to fit them to an article he disagreed with. To do critical thinking, you also have to examine your own arguments, and if you find they contain fallacies you try to re-write them without the fallacies. (And if you can't, you consider changing your position.) Dilworth neglects to do this on an epic scale. The writings of **woos** are generally full of logical fallacies and claims not consistent with evidence. Dilworth's articles are worse than most because his many errors and fallacies are dressed up in the language of critical thinking. But Dilworth is not a critical thinker, he is just an unorganized writer and confused thinker who decided to fit the names of logical fallacies to an article whose conclusions he disagreed with. That's not the way to do it and it's why his articles are so completely wrong. He should delete these posts which are an embarrassment and apologize to Eisen for accusing him of hypocrisy.