

Introduction to Logical Reasoning

Workshop on Identifying Informal Fallacies

David Emmanuel Gray

Northwestern University in Qatar
Carnegie Mellon University in Qatar

Part I, Problem 1 Solution

I used to work with this Carnegie Mellon student.

And, man, all of those CMU students are really socially inept.

This argument is a **hasty generalization** because it goes from the example of just *one* socially inept CMU student to suggest that *all* CMU students are like this. There may indeed be some socially competent CMU students (like those in this room).

Part I, Problem 2 Solution

Every player on the team is the best in the league. So the team itself must be the best in the league.

This is a **fallacy of composition** because it assumes the attributes (“best in the league”) of the parts (“each player on a team”) applies to the whole (“the team itself”). It is possible that a team of the best players could still not be the best team. Maybe they are too competitive and don’t work well together.

Part I, Problem 3 Solution

Geraldo says that the students who cheat on exams should not automatically be expelled from school.

He is clearly wrong because it is ridiculous to insist that students should never be punished for cheating.

Geraldo is being treated by a **straw man** because the argument here misrepresents his position as being clearly unacceptable. But nowhere does Geraldo say that students should *never* be punished. He is only saying that the punishment need not be so severe.

Part I, Problem 4 Solution

The new Land Cruiser is the best automobile on the road. Picture the frightened looks on people's faces as they scramble to get out of your way when you rapidly pull behind up them flashing your headlights in your Land Cruiser. Imagine all that speed and power!

This is an **appeal to emotions** (probably **vanity**) that having this vehicle makes you powerful and one to be feared and/or respected on the road. But, of course, having a Land Cruiser may not do this at all.

Part I, Problem 5 Solution

Random drug testing in schools is very effective in reducing drug use because the regular use of the testing makes drug use less likely.

This argument **begs the question** because both its premise and conclusion say basically the same thing. The conclusion says testing reduces drug use. The reason is because testing makes drug use less likely, which is just another way of saying that testing reduces drug use.

Part I, Problem 6 Solution

The study found that 80 percent of women who took the drug daily had no recurrence of breast cancer.

But that study does not mean anything. After all, the study was funded in part by the company that makes the drug.

This commits the **genetic fallacy** because it says that a claim (the efficacy of a drug) should be disregarded because of its source (the drug company).

Part I, Problem 7 Solution

Of course there is a God. Almost every civilization in history has believed in a deity of some kind.

This is an **appeal to tradition**, saying that a position (God exists) must be accepted because such a position has been a part of a tradition (that of “almost every civilization in history”). This may also be an **appeal to popularity** by saying that a substantial amount of people throughout history agree that there is a God, and so God must exist.

Part I, Problem 8 Solution

How can you expect the majority of the voters, who rent but don't own property and don't have to pay the tax, to care if the tax burden of others is made even more unfair?

This **complex question** asserts two claims while evading the responsibility of defending them: (1) the tax is already unfair and (2) those who rent rather than own their homes will not be affected by the tax. Neither of these may be true.

Part I, Problem 9 Solution

Of course affirmative action programs are good. Those who resist these programs may deny that they are racists, but the truth is that their real motivation is racism, a belief in the inherent inferiority of African-Americans and people of mixed racial backgrounds.

This is an abusive *ad hominem*, asserting that those opposed to this argument's conclusion must be racist. This could also **poison the well** by ending rational discourse, because this argument leaves no room for reasonable dissent. After all, who wants to waste time arguing with racist bigots?

Part II, Problem 1 Solution

All of us cannot be famous, because all of us cannot be well known.

This argument **begs the question** because not being famous is simply the same as not being well known.

Part II, Problem 2 Solution

If science wishes to argue that we cannot know what was going on in [the gorilla] Binti's head when she acted as she did, science must also acknowledge that it cannot prove that nothing was going on. It is because of our irresolvable ignorance, as much as fellow-feeling, that we should give animals the benefit of doubt and treat them with the respect we accord ourselves.

This is an **appeal to ignorance**. We cannot justify any important conclusions about an animal from the fact that we cannot prove that nothing is going on its head! (Obviously they want to assert that, absence proof to the contrary, we must assume animals can think or feel in morally important ways.) This is also involves a **red herring** in that treating animals with the respect we accord ourselves (our obligation according to the authors) has no relation to our ignorance of their inner psychological and emotional states.

Part II, Problem 3 Solution

Our paper certainly deserves the support of every German. We shall continue to forward copies of it to you, and hope that you will not want to expose yourself to unfortunate consequences in the case of cancellation.

The argument for subscribing to the newspaper is a thinly veiled **appeal to force**. You wouldn't want those "unfortunate consequences", right?

Part II, Problem 4 Solution

I would not live forever, because we should not live forever, because if we were supposed to live forever, then we would live forever, but we cannot live forever, which is why I would not live forever.

This is a delightful stew of fallacies, the primary ingredient being **begging the question** (by repeating the conclusion as a premise) with a hint of **red herring** (the references to whether human are *supposed* to live forever or not).

Part II, Problem 5 Solution

If today you can make teaching evolution in public schools a crime, then tomorrow you can make it a crime to teach it in private schools. Then you can ban books and other educational materials that mention evolution. And then you can ban the very word from all discourse. And then the anti-science bigots will have won.

The conclusion says to not ban teaching evolution in public schools. It defends this with a **slippery slope** about how such a ban would inevitably lead to further disastrous consequences. These consequences are hardly inevitable.

Next Class...

We move into the final unit of the course by looking at common informal logical fallacies.