

Phil 183: Critical Reasoning
Week 7: Causes

1. Identify the mistake in the following causal arguments.

- a. "I've noticed that the rotation of the moon around the Earth corresponds to worldwide shifts in sea levels. It would seem that the gravitational effects of the oceans' movements are so significant that they propel the moon around the Earth."^[SEP] ^[SEP] ^[SEP]
- b. "We hired Dewi in the first quarter of 2014, adding her to our thirty-person sales team. And now, 2014 sales are up 25% over the previous year. Dewi must be one heck of a salesperson!"
- c. "Every time I'm having a bad day, the dining hall serves something delicious - they must know how I'm feeling and cook accordingly!"
- d. The more cell phones there are per square mile in this state, the more people die from disease per square mile. Clearly cell phones are a danger to our health.
- e. Most of the terminal patients in this ward who took Panacea™ lived longer than expected. And most of the patients who didn't take Panacea™ didn't live as long as expected. So Panacea™ can delay mortality for people with terminal illnesses.
- f. Over time, as philosopher salaries go up, the street price of marijuana also increases. Clearly philosophers are spending their cash on weed and creating market demand.
- g. "Homeopathic remedies must work. I went to a homeopathic healer and a week later I started feeling better!"

- 2. Identify how each scenario could be an instance of the regression to the mean. Describe how you might devise a test or gather more data to help distinguish a causal relationship from regression to the mean.**
- a. After a year with a particularly high number of mass shootings in country X, a gun-control measure is introduced. The number of mass shootings is lower the following year.
 - b. Sleep really helps my headaches. Every time I have a bad headache, I take a three hour nap and I almost always feel better afterwards.
 - c. Why do studios make movie sequels? They are usually terrible. Think of The Matrix 3, Cars 2, 2 Fast 2 Furious, and The Exorcist 2. They should just stop making sequels.
- 3. Consider each of the following causal arguments. Answer in three parts: first, can we even conclude that there is a correlation in the sample with the information given? Second, supposing that there is a correlation in the sample, can we even conclude that there is a correlation in the population with the information given? Third, supposing that there is a real correlation in the population, what might explain it other than the causal inference made by the argument?**
- a. The price of a barrel of oil on the world market has hit \$60 only twelve times in the last thirty years. Sometimes major world economies were in recession, and sometimes not. Sometimes oil production was down, sometimes up. But one thing that was always present when oil hit \$60 was that there was a war going on somewhere in the world. High oil prices are clearly a cause of war.
 - b. Just five people in section 013 got As on the midterm exam. The only common factor in their success is that they all studied the night before and reviewed their notes just before walking into the class to take the test. So, the reason that anyone in the class got an A on the midterm is their last-minute studying.