Getting familiar with . . . confirmation and disconfirmation

A. For each of the following observations and causal claims, construct a simple experimental model.

1. "I have allergic reactions. Shellfish probably causes them."

2. "I often have headaches. I think they are from too much stress."

3. "Many people have allergic reactions. I bet they are all caused by eating shellfish."

4. "I'm a pretty happy person. But I dance a lot. I bet that's what does it."

5. "I cannot sleep at night. I probably drink too much tea."

B. State two initial conditions and at least one auxiliary hypothesis that might affect the results of experiments on these hypotheses.

1. Ethanol makes gasoline less efficient.

2. Drinking milk twice per day increases cancer risk over a lifetime.

3. Eating a lot of cheese and beer raises bad cholesterol levels.

4. Texting and driving causes car accidents.

5. Changing time zones causes jet lag.

Getting familiar with . . . confirmation and disconfirmation
C. Short answer.
1. Explain the limitations of simple models of confirmation and disconfirmation.

2. Explain some reasons why models confirmation and disconfirmation cannot be treated deductively.

3. Come up with two examples of an observation and a hypothesis. Construct a simple experimental model for each.

4. Explain the concept of a "hidden (or confounding) variable" and give some examples. Do some online research if you need to.

5. Based on your understanding of this chapter and the last, why are experiments so important for causal arguments? (We will ask this question again in the exercises at the end of this chapter. So, even if you don't feel competent to answer it well here, keep it in mind as you read through the remainder of this chapter.)