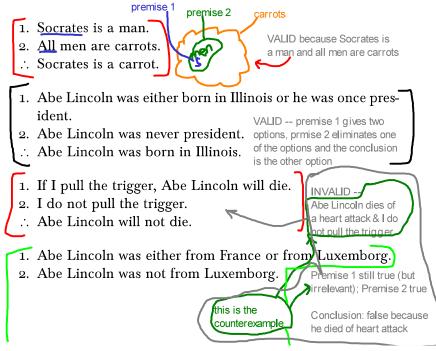
is a case where the premises of the argument are true but the conclusion is not, making the argument invalid.

The point of all this is that inductive arguments—even good inductive arguments—are not (deductively) valid. They are not watertight. Unlikely though it might be, it is possible for their conclusion to be false, even when all of their premises are true. In this book, we will set aside (entirely) the question of what makes for a good inductive argument. Our interest is simply in sorting the (deductively) valid arguments from the invalid ones.

So: we are interested in whether or not a conclusion *follows* from some premises. Don't, though, say that the premises infer the conclusion. Entailment is a relation between premises and conclusions; inference is something we do. So if you want to mention inference when the conclusion follows from the premises, you could say that *one may infer* the conclusion from the premises.

Practice exercises

A. Which of the following arguments are valid? Which are invalid?



CHAPTER 2. THE SCOPE OF LOGIC

∴ Abe Lincoln was from France.

VALID -- premise 1 gives two options, premise 2 eliminates one option, leaving the conclusion option

- 1. If the world ends today, then I will not need to get up tomorrow morning.
- 2. I will need to get up tomorrow morning.
- ... The world will not end today.

INVALID consider counterex Joe (Riesen) is 19 y/o and Joe (Cuchta) is 87 y/o and Bob is 10

- 1. Joe is now 19 years old.
- 2. Joe is now 87 years old.
- ∴ Bob is now 20 years old.

years old. **B.** Could there be:

VALID -- premise 2 being true is easy to understand. Imagine if the conclusion was false. That would mean "The world will end today". BUT in that situation, Premise 1 says "I will not need to get up tomorrow

- 1. A valid argument that has one false premise and one true premise?
- 2. A valid argument that has only false premises?
- 3. A valid argument with only false premises and a false conclusion?
- 4. An invalid argument that can be made valid by the addition of a new premise?
- 5. A valid argument that can be made invalid by the addition of a new premise?

In each case: if so, give an example; if not, explain why not.