

3.4 PROJECT

QUATERNIO TERMINORUM: ANOTHER INTERESTING TYPE OF FALLACY

In Section 3.4, you learned how to recognize sound deductive reasoning and explored a few different types of fallacies. In this activity, you will explore one more type of fallacy.

Consider this perfectly fine logical argument.

All mammals have bones.

All cats are mammals.

All cats have bones.

This type of argument is known as a syllogism, which means we have exactly three elements: two premises and one conclusion. This syllogism connects the three terms *mammals*, *bones*, and *cats* to reach a logical conclusion.

1. Identify the two premises and the conclusion in the mammal syllogism.
2. Construct your own syllogism using the three terms *eggs*, *birds*, and *parrots*.

If we use a fourth term in the conclusion that is not connected by the two premises, we get a fallacy. Consider the following argument.

All mammals have bones.

All cats are mammals.

All fish are mammals.

This is total nonsense, which stems from the fact that the term *fish* is introduced and is not related to either premise (that is, fish are not a type of mammal). The two premises are not enough to connect the four terms involved. This type of fallacy is known as a fallacy of four terms, or *quaternio terminorum*.

3. Create a fallacy of four terms using the premises you created in part 2.

Not all fallacies of this type introduce an obvious fourth term. Consider the feature of the English language that allows a single word to have different meanings depending on how it is used in a sentence. This can lead to a fallacy where multiple instances of the same word actually represent different terms. Here is an example.

Nobody is perfect.

I am a nobody.

I am perfect.

4. In this argument, a single word appears multiple times and seems to be a single term. Identify this term and explain how the term actually takes on two different meanings.
5. Write an argument that is a fallacy of four terms using three terms, where one of the terms has two different meanings. Explain what causes your argument fallacy. (**Hint:** If you are stuck, try to think of a common word that has more than one meaning, like *mouse*, *bat*, *light*, or *bright*.)