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## Questioning as we learn: An introduction to critical thinking

### Material for Higher Education students in Sierra Leone by INASP, UK



Provided by the Critical Thinking Taskforce (CTTF) within the project AQHEd-SL

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#### Unit 3 - Snippet 71

What was your answer? Is the conclusion true or false?



Photo 'Bessie Smith' (1936)

by Carl van Vechten,  
[https://en.wikipedia.org/wiki/File:Bessie\\_Smith\\_\(1936\)\\_by\\_Carl\\_Van\\_Vechten.jpg](https://en.wikipedia.org/wiki/File:Bessie_Smith_(1936)_by_Carl_Van_Vechten.jpg), retrieved 15 March 2018. For further copyright details, see the website.

As you can see from the picture, the Bessie in this case is of course not a bird. Apologies if we have fooled you a bit; the picture surely would have made the answer easier for you.

However, let's analyse the argument: Both premises seem to be true this time. Feathers are one of the essential characteristics of birds; so all birds have feathers indeed. And the picture shows indeed that Bessie has feathers. But we should question the logic of the deduction here. The first premise was not that 'only birds have feathers'. Although birds are the only animals which 'have' feathers, persons can 'have', meaning possess, feathers too. So you need to know other details about Bessie before you can conclude that Bessie is a bird. Therefore, there is a flaw in the logic of the argument, meaning the argument becomes logically invalid.

This example demonstrates how one could word a valid and sound argument:

Of all animals, only birds have feathers; and since the crane is an animal with feathers, the crane is a bird.

**Premise 1:** Of all animals, only birds have feathers.

**Premise 2:** The crane is an animal with feathers.

**Conclusion:** Therefore, the crane is a bird.