

# A Powerful Procedure for Proving Practical Propositions

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The eminent Oxford don, Charles Lutwidge Dodgson, demonstrated the applicability of formal mathematical reasoning to real-life situations with such incontrovertible rigor as evidenced in his syllogism:

All Scotsmen are canny.  
All dragons are uncanny.  
Therefore, no Scotsmen are dragons.

While his logic is impeccable, the conclusion (that no Scotsmen are dragons) is not particularly surprising, nor does it shed much light on situations that we are likely to encounter on a daily basis.

The purpose of this note is to exploit this powerful proof methodology, introduced by Dodgson, to a broader range of human experience, with special emphasis on obtaining conclusions having political or moral significance.

**Theorem 1.** *Apathetic people are not human beings.*

*Proof.* All human beings are different.  
All apathetic people are indifferent.  
Therefore, no apathetic people are human beings.

**Theorem 2.** *All incomplete investigations are biased.*

*Proof.* Every incomplete investigation is a partial investigation.  
Every unbiased investigation is an impartial investigation.  
Therefore, no incomplete investigation is unbiased.

Numerous additional examples, closely following Dodgson's original model, could be adduced. However, our next objective is to broaden the approach to encompass other models of mathematical proof. For example, it is a well-established principle that a property  $P$  is true for *all* members of

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a set  $S$  if it can be shown to be true for an *arbitrary* member of the set  $S$ . We exploit this to obtain the following important result.

**Theorem 3.** *All governments are unjust.*

*Proof.* To prove the assertion for *all* governments, it is sufficient to prove it for an *arbitrary* government. If a government is arbitrary, it is obviously unjust. And since this is true for an arbitrary government, it is true for all governments.

Finding further theorems of this type, and extending the method to other models of mathematical proof, is left as an exercise for the reader.