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Denying the antecedent

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Denying the antecedent is a **formal fallacy**, committed by reasoning in the **form**:

If *P* , then *Q* .

Not *P* .

Therefore, not *Q* .

Arguments of this form are **invalid** (except in the rare cases where such an argument also instantiates some other, valid, form). Informally, this means that arguments of this form do not give good reason to establish their conclusions, even if their premises are true.

The name *denying the*

antecedent

derives from the premise "not *P* ", which denies **the**

"if" clause of the **conditional** premise.

One way to demonstrate the invalidity of this argument form is with a counterexample with true premises but an obviously false conclusion. For example:

If **Queen Elizabeth** is an American citizen, then she is a human being.

Queen Elizabeth is not an American citizen.

Therefore, Queen Elizabeth is not a human being.

That argument is obviously bad, but arguments of the same form can sometimes seem superficially convincing, as in the following example imagined by **Alan Turing** in the article "**Computing Machinery and Intelligence**":

“ If each man had a definite set of rules of conduct by which he regulated his life he would be no better than a machine. But there are no such rules, so men cannot be machines.^[1] ”

However, men could still be machines that do not follow a definite set of rules. Thus this

argument is invalid.

As noted above, it is possible that an argument that denies the antecedent could be valid, if the argument instantiates some other valid form. For example, if claims *P* and *Q* express the same proposition, then the argument would be trivially valid, as it would [beg the question](#). In everyday discourse, however, such valid cases of denying the antecedent are rare, typically only occurring when the "if-then" premise is actually an "if and only if" claim (i.e., a [biconditional](#)). For example:

If I am [President of the United States](#), then I can veto Congress.

I am not President.

Therefore, I cannot veto Congress.

The above argument would be valid only upon clarifying that the first premise should end: "... and if I can veto Congress, then I am the U.S. President". But even in such a case, the validity stems not from denying the antecedent, but from the form [modus tollens](#).

References

[\[edit\]](#)

- ↑ Turing, Alan. "Computing Machinery and Intelligence", *Mind* , New Series, Vol. 59, No. 236. (Oct. 1950), pp. 452.

See also

[\[edit\]](#)

- [Affirming the consequent](#)
- [Modus ponens](#)
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- [FallacyFiles.org: Denying the Antecedent](#)
- [Safalra.com: Denying The Antecedent](#)

Cited in Carver v. Lehman,
 No. 06-35176 archived on June 9, 2008

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