

...on Proving Too Much

Why “Too Much” Is Not a Logical Property of an Argument

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1 The Objection

The expression “*this argument proves too much*” is commonly used against an argument whose principle appears to support consequences broader than the conclusion for which it was introduced. The rhetorical structure is familiar: a premise or rule is accepted for some proposition Q , but the critic observes that the same premise or rule would also support R , S , or an entire class of further propositions. The breadth of those consequences is then presented as a defect of the original argument.

Consider the simplest form:

$$P \rightarrow Q. \tag{1}$$

Suppose that further consequences are identified:

$$P \rightarrow R, \quad P \rightarrow S, \quad P \rightarrow T. \tag{2}$$

Nothing in this extension invalidates the original implication. If Q follows from P , the fact that R , S , and T also follow from P does not make Q cease to follow from it. A sufficiently strong premise may have many consequences. Logic contains no rule according to which an argument becomes weaker when the set of its valid consequences becomes larger.

The phrase *too much* therefore introduces a quantity that is not defined by logical consequence itself. There is no logical threshold separating an acceptable number of consequences from an excessive one.

2 What Would Actually Refute the Argument?

A genuine objection requires something more than additional consequences.

Suppose that

$$P \rightarrow R \tag{3}$$

and that there is an independent reason to establish

$$\neg R. \tag{4}$$

Then one may infer

$$\neg P. \tag{5}$$

This is a substantive objection to the acceptability of P as a premise. It does not invalidate the implication $P \rightarrow Q$; rather, it undermines an argument that depends on P being true. Its force comes from the incompatibility between R and independently established $\neg R$, not from the fact that R was an additional consequence. The expression *proves too much* contributes nothing to the inference.

The same applies to a counterexample. If a universal claim is

$$\forall x F(x), \tag{6}$$

then a demonstrated counterexample a for which

$$\neg F(a) \tag{7}$$

is sufficient to reject it, since it establishes $\exists x \neg F(x)$ and thereby contradicts the universal claim. Again, the objection is a counterexample. No concept of excessive proof is required.

A third case concerns a proposed discriminating criterion. Suppose a property C is claimed to distinguish systems of class A from systems of class B . If one demonstrates that

$$C(A) = C(B) \tag{8}$$

for relevant members of both classes, then C is insufficient for the claimed discrimination. The defect is the failure of the criterion to distinguish the classes it was supposed to distinguish. It is not that the criterion has somehow produced an excessive quantity of conclusions.

Thus several arguments sometimes described by the same phrase are already completely specified by ordinary logical relations: contradiction, counterexample, failure of discrimination, or conflict with an independently justified proposition. In every such case, the substantive objection survives after the phrase *proves too much* is removed.

The strongest interpretation of the objection deserves separate consideration. On this interpretation, *proves too much* does not mean merely that a premise has many consequences. It means that a proposed reason fails to discriminate between an intended conclusion and another conclusion that the proponent has independent reason to reject. This is a genuine criticism when both parts are established: the failure of discrimination and the independent rejection of the unwanted conclusion. But under that interpretation the phrase still identifies no additional logical defect. The argumentative work is performed entirely by the demonstrated failure of discrimination together with the independent reason for rejecting the further conclusion. The words *too much* merely abbreviate that structure.

Even under its strongest interpretation, therefore, *proves too much* does not identify an independent logical defect. It abbreviates a defect that must be specified independently.

3 The Empty Remainder

This permits a simple test. Remove the actual logical objection and retain only the claim that an argument proves too much.

What remains?

At most,

$$\forall i \in \{1, \dots, n\}, \quad P \rightarrow Q_i. \tag{9}$$

But this is not a defect. It merely states that P has several consequences.

To turn the observation into an objection, the critic must add another proposition: perhaps some Q_i is false; perhaps P was claimed to discriminate between cases that it does not discriminate; perhaps one consequence contradicts another premise; perhaps the inference rule has been applied outside its domain. Once that proposition is supplied, however, it is that proposition and the corresponding logical relation that perform the argumentative work.

The structure can therefore be written schematically as

$$\text{“proves too much”} = \text{substantive objection} + \text{“too much”}. \tag{10}$$

If the substantive objection is valid, the words *too much* are redundant. If the substantive objection is absent, the words *too much* are empty.

This is stronger than saying that *proves too much* is merely an informal logical rule. It is not clear that there is a distinct rule there at all. The phrase can serve as a conversational prompt to inspect unexpected consequences, but an unexpected consequence is not, by virtue of being unexpected, a false consequence. Surprise, inconvenience, breadth, and incompatibility with the speaker’s original intention are not logical negations.

4 From Logical Consequence to Rhetorical Expectation

The word *too* necessarily invokes a reference point. A temperature can be too high for a device, a mass too large for a bridge, or a proof too long for a page because an external constraint defines what counts as excessive. What is the corresponding constraint in *proves too much*?

It cannot be validity. If a consequence follows validly, its presence does not reduce validity.

It cannot be truth merely because the consequence is unwanted. An undesirable or counterintuitive proposition may still be true.

It cannot be the author's intended scope. An argument may reveal consequences its author did not anticipate. That discovery may be important, but authorial surprise is not a logical contradiction.

Consequently, *too much* normally measures a mismatch between the consequences of an argument and an external expectation about how far those consequences were supposed to extend. That can be pragmatically useful. It can tell us where to look. It cannot tell us what we will find.

A critic may reasonably say: "Your principle also entails R ; is that consequence acceptable?" This is a request for further analysis. A critic may also say: "Your principle entails R , but $\neg R$ is independently established." This is an argument. The transformation of the first statement into the second requires evidence or an additional premise. The phrase *proves too much* cannot supply it.

5 The Asymmetry Hidden by the Phrase

There is an additional problem. The rhetoric of *proves too much* encourages an invalid asymmetry.

When an argument produces the expected consequence, that consequence is treated as evidence of the argument's usefulness. When the same argument produces an unexpected consequence, the unexpected consequence may instead be treated as evidence against the argument merely because it extends beyond the original purpose.

But logical consequence is indifferent to purpose:

$$P \rightarrow Q_i \tag{11}$$

has the same logical form whether Q_i was desired, predicted, surprising, embarrassing, or discovered accidentally.

The relevant question is therefore never whether a principle proves *more than intended*. The relevant questions are whether its premises are justified, whether its inference is valid, whether its domain has been specified correctly, and whether any of its consequences conflict with independently established propositions.

If none of these failures can be shown, the breadth of the consequence set is not an objection. It may instead indicate that the principle is more general than originally recognized.

6 A Minimal Replacement

The phrase can be replaced by a more precise discipline of criticism.

Instead of saying

This argument proves too much.

one should state the actual defect:

This premise also entails R , and R is false for the following independent reason.

or:

This criterion applies equally to A and B , although it was introduced to distinguish them.

or:

This inference extends the rule beyond the conditions under which the rule was established.

Each formulation identifies something that can be examined. Each can be true or false. Each exposes the premise on which the criticism depends.

By contrast, *proves too much* permits the critic to move directly from

the argument has broader consequences than expected (12)

to

therefore the argument is defective, (13)

without stating the proposition that would make that transition valid.

That missing proposition is not a minor technicality. It is the argument.

7 There Is No “Too Much” in Logical Consequence

A valid argument cannot become invalid because it has too many valid consequences. A sound premise cannot become false because its implications extend farther than expected. A criterion can be too broad for a specified classificatory task, but then the defect is precisely its failure to discriminate. A consequence can be false, but then its falsity must be established. A rule can generate a contradiction, but then the contradiction must be shown.

In every substantive case, the logical defect has a name and a structure independent of *proves too much*.

What remains after those structures are removed is not an argument but a reaction to scope.

The decisive distinction is therefore simple:

$$\boxed{\text{more consequences} \not\Rightarrow \text{false consequences} \not\Rightarrow \text{invalid argument}} \quad (14)$$

Logic asks whether a conclusion follows. It does not ask whether the conclusion was wanted, expected, convenient, or alone.

There is no “too much” in logical consequence. There is only consequence. If one of those consequences is wrong, show where it is wrong. If none can be shown wrong, then “proves too much” has proved nothing.