7

Reconstructing Arguments

7.1. HOW TO EVALUATE AN ARGUMENT: PREVIEW

In this chapter and the next two, I present a general method for evaluating any deductive argument. It consists of three main steps:

Step one

Reconstruct the argument:

Standardize the argument, listing its express premises followed by its conclusion, each formulated as a fully explicit declarative sentence with a clear logical form and no extraneous matter.

Test the argument as it stands for *validity*.

If it is not valid, supply *validating premises* if possible.

Step two

Check whether the argument *depends on any ambiguity*—whether the argument owes its appeal (the appearance of plausible premises plus interesting conclusion plus valid form) to some expression's having different meanings at different points in the argument, yet owes its validity to the expression's having the same meaning throughout.

Step three

Evaluate the premises, looking for premises that are false or not sufficiently plausible to support the conclusion drawn from them. More specifically:

Read the premises carefully and critically.

Check whether the premises are *self-defeating* and whether any is *question-begging*.

Look for *counter-examples* to general premises.

Test each premise for *sufficient generality*, asking whether it can reasonably be made more general.

Criticisms found at Steps Two and Three can lead to revisions—to modifications of the original argument—and therewith to reapplications of the first three steps.

I explain and illustrate Step One in this chapter, Step Two in Chapter 8, Step Three in Chapter 9. Although I discuss only *deductive* arguments in these three chapters, any argument can be construed as deductive without impairment (see §1.4), and the general method also applies, by and large, to whatever species of nondeductive argument there may be.

Although testing for validity is just one part of Step One, the concept of validity and the ability to distinguish valid from invalid arguments obviously play starring roles throughout Steps One and Two. The third part of Step One, for example, consists not in assessing validity, but in turning an admittedly invalid argument into a valid one (if possible); validity is less a trait to be found in arguments than a constraint to be fulfilled by reconstructions. That is why I have laid such stress on the concept and the ability to apply it.

You can use my three-step procedure to evaluate, criticize, and improve *your own* arguments as well as those of others. And you can use it to help *discover* good arguments for a given position and to help *decide* whether a given position is true: As crudely and concisely as you like, list all the reasons (arguments) you can think of for the position you wish to defend, or for and against the position whose truth you wish to decide. Then reconstruct and evaluate each reason according to Steps One, Two, and Three, rejecting some reasons, accepting the rest, and improving some of those you accept.

I think you will find that virtually every argument with an interesting conclusion is open to some criticism. This does not mean that virtually every such argument is poor. It means that hardly any such argument is perfectly conclusive. To give a good criticism is not necessarily to give a decisive refutation. It is to remark a debatable or questionable feature. And only perfectly conclusive arguments lack these.

7.2. STANDARDIZING

As the first part of Step One, list the candidate argument's *express premises* followed by its *conclusion*, even if the conclusion was unstated. Formulate each step as a separate, fully explicit declarative sentence, even if this requires some rewriting. If you can make the argument's logical form more transparent or more nearly valid by some strictly stylistic modification, do so. Omit all repetition and extraneous matter. At this stage in the reconstruction process, omit tacit premises and intermediate steps; we shall get to them later.

This task is not a matter of testing typical textbook specimens for validity or other virtues, but of turning colloquial arguments into typical textbook specimens.

Eleven things to keep in mind:

Thing 1. Arguments rarely occur in isolation. Normally an argument is part of a larger discourse, whence it must be extracted.

Thing 2. *Premises* often are introduced by such premise-indicators as "because," "since," "for," "for the reason that." But not always. An express premise of an argument is any statement that meets these four conditions:

(i) It is expressly formulated in the argument (though perhaps in an abbreviated form).

(ii) Its truth is affirmed (in effect) in the argument.

(iii) It is offered as a reason for believing the conclusion.

(iv) It is not itself defended in the argument—no further reason is offered in the argument for believing it—although it might be the conclusion of another argument.

What makes something an express premise of an argument is not the words it contains or its position in the argument, but the role it plays. It plays the role of express premise if, and only if, it fulfills (i)–(iv).

Thing 3. *Conclusions* often are introduced by such conclusion-indicators as "therefore," "it follows that," "so," "thus," "consequently," "we may conclude that." But not always. Often a conclusion comes first, presented as the thesis, proposal, or idea to be defended. What makes something the conclusion of an argument is not the words it contains or its position in the argument, but the role it plays. The conclusion is the position the argument is designed to defend, to give reasons for believing.

Thing 4. Sometimes the conclusion of an argument is unstated, as in this example, cited earlier: "I oppose capital punishment because it has not been shown to be an effective deterrent." The conclusion is not: "*I oppose* capital punishment." It is something like: "Capital punishment is wrong." Whether or not the conclusion was stated, list it along with the express premises.

Thing 5. Premises and conclusions often contain *extraneous expressions*—merely decorative and other words and phrases that do not contribute to an argument's validity. Common examples: "as a matter of fact," "on the other hand," "to be perfectly frank," "I say that." Delete these.

Thing 6. Arguments often are laced with *extraneous statements*—statements that are neither premises nor conclusions nor intermediate steps. These include repetitions, variations, elucidations, and illustrations of premises and conclusions, as well as personal, historical, and other asides. Remember to omit all such statements.

Thing 7. Eliminate *repetition*.

Thing 8. A premise or conclusion might occur otherwise than as a *declarative sentence*. Reformulate it as such in that case.

Thing 9. List distinct statements as separate premises, even if they were originally conjoined.

Thing 10. Expand all ellipses and other abbreviating devices. If a premise as originally formulated contains a relative pronoun or other abbreviation of an expression occurring outside the premise, replace the abbreviation with the full expression it abbreviates.

Thing 11. Do not hesitate to make minor modifications of a strictly stylistic (not substantive) character in the original formulation of an argument if that makes the argument's logical form more nearly valid, or at least simpler or more transparent and, therefore, easier to test for validity.

Example 1 Socrates is a man, and all men are mortal, so Socrates is mortal.

Express premises and conclusion:

Socrates is a man.

All men are mortal.

∴ Socrates is mortal.

I listed the two premises separately, even though they were conjoined in the original version. Always separate clearly distinct premises.

Very well, I promise not to use that example again. Here is a meatier argument:

Example 2 The bigger the burger, the better the burger, and the burgers are bigger at Burger King.

Express premises and conclusion:

The bigger the burger, the better the burger.

The burgers are bigger at Burger King.

∴ The burgers are better at Burger King.

I made the tacit conclusion explicit.

Example 3 How do I know he's guilty, you ask? Well, wasn't he found dressed in black, on the balcony of the ransacked room, panting and giggling, a sack of the dowager marchioness's jewelry slung over his shoulder?

Express premise and conclusion:

He was found dressed in black, on the balcony of the ransacked room, panting and giggling, a sack of the dowager marchioness's jewelry slung over his shoulder.

∴ He's guilty.

I changed the express premise from interrogative to declarative form.

Example 4 This is what I think of the Electoral College: Its members are either useless or dangerous—useless if they do their job, dangerous if they don't.

Express premises and conclusion:

The members of the Electoral College are useless if they do their job.

The members of the Electoral College are dangerous if they don't do their job.

∴ The members of the Electoral College are either useless or dangerous.

I expanded the highly elliptical original premises, turning them into complete declarative sentences and replacing the relative pronoun "they" by its antecedent, "the members of the Electoral College."

Example 5 Since, admittedly, he is *responsible* for what he did, he could not have been *caused* (by his genes, his upbringing, his environment, or whatnot) to act as he did, else he would not have acted *freely*.

Express premises and conclusion:

He is responsible for what he did.

Either he was not caused to act as he did, or else he did not act

freely. (Equivalently: If he was caused to act as he did, he did not act freely.)

∴ He was not caused to act as he did.

The clause "else he did not act freely" was elliptical for the second premise.

Example 6 We should go to war no more, whatever the provocation, since the costs always outweigh the benefits.

Express premise and conclusion:

The costs of going to war always outweigh the benefits (of going to war).

∴ We should go to war no more.

For the first premise, I could not simply have copied: "the costs always outweigh the benefits." The costs and benefits of *what*? In the original context, "costs" and "benefits" are plainly abbreviations for "costs of war" and "benefits of war." I omitted "whatever the provocation," because this phrase does not seem to be an essential part of the conclusion. Its role is to lend emphasis to the conclusion and to tell us to read the conclusion quite literally.

Example 7 I grant for the sake of argument that fetuses are living human persons. Still, I'm in favor of allowing voluntary abortions. For no creature—hence no living human person—has the right to use another's body to support its life.

Express premise and conclusion:

No creature has the right to use another's body to support its life.

∴ Voluntary abortions should be allowed.

The conclusion is unstated. It is not: "I'm in favor of allowing voluntary abortions." There seem to be unstated premises. But the sentence:

I grant for the sake of argument that fetuses are living human persons

is *not* a premise. Neither is the subordinate clause: "fetuses are living human persons." For these obviously lend no support to the conclusion:

the assertion that fetuses are living human persons surely does not *help* the pro-abortion case. The first sentence merely calls attention to the fact that *this* argument differs from other defenses of abortion in that it does *not* rely on the usual premise about the status of the fetus—the premise that fetuses are not living human persons. The parenthetical phrase "hence no living human person" was extraneous. It called our attention to a certain consequence of the premise, so it was not an essential *part* of the premise. It was there to remind us that the author is allowing for the sake of argument (although not assuming as part of his argument) that fetuses are living human persons.

Arguments often are mingled with extraneous clauses. The only way to tell for certain whether a clause is a premise is by the role it plays.

Example 8 The materials of nature (air, earth, water) that remain untouched by human effort belong to no one and are not property. It follows that a thing can become someone's private property only if he works and labours on it to change its natural state. From this I conclude that whatever a man improves by the labour of his hand and brain belongs to him, and to him only. (John Locke)

In the first sentence, the phrase "and are not property" is redundant. The second sentence is possibly an intermediate step. Or perhaps it is a mere repetition, an obvious paraphrase of the first sentence. We might formulate the express premise and conclusion this way:

The materials of nature that remain untouched by human effort belong to no one.

∴ Whatever a man improves by the labor of his hand and brain belongs to him, and to him only.

Or we might eliminate strictly stylistic complications so as to bring out a formal connection between premise and conclusion:

Whatever no one has improved by his labor belongs to no one.

∴ Whatever someone has improved by his labor belongs to him, and to him only.

The second standardization is better. Although it alters the original text of the argument, the alteration is strictly stylistic, and it brings out a formal connection between premise and conclusion, simplifying the argument's form and making it more nearly valid (minimizing the number of additional premises needed to make the argument valid).

7.3. COMPOUND ARGUMENTS

A *compound argument* is an argument composed of two or more *sub*-arguments. They constitute a *derivation* (or an attempted derivation) of the argument's conclusion from its premises. Besides premises and a conclusion, every compound argument contains one or more *intermediate steps*, each the conclusion of one subargument and a premise of another.

Example 9 Because standard IQ tests are culturally biased, they are discriminatory. That makes it unconstitutional to use them in public schools.

Express steps:

first subargument:
- Standard IQ tests are culturally biased. (premise of whole argument and of first subargument)
- Standard IQ tests are discriminatory. (intermediate step of whole argument, conclusion of first subargument, premise of second subargument)

second subargument:
- It is unconstitutional to use standard IQ tests in public schools. (conclusion of whole argument and of second subargument)

In reconstructing a compound argument, one must distinguish the premises and conclusion of the argument as a whole from the conclusions of its subarguments. And if the argument is sufficiently elaborate, one might have to evaluate it by evaluating its subarguments separately.

For either of these tasks, as well as for that of identifying tacit premises, it helps to construct a *tree diagram* of the given argument. I illustrate with an old friend:

Example 10 Because none but *Carnivora* kill mice, and no cats fail to kill mice, cats are carnivorous. But no animals are carnivorous unless they prowl at night. So cats prowl at night, and thus, since animals that prowl at night always love to gaze at the moon, cats love to gaze at the moon. Consequently, cats are suitable for pets, inasmuch as every animal is suitable for a pet that loves to gaze at the moon. But the only animals in this house are cats. So the only animals in this house are suitable for pets, and thus kangaroos are not in this house, since they are not suitable for pets. No animals ever take to me, however, except what are in this house, whence it follows that kangaroos do not take to me. So I detest them, since I detest animals that do not take to me. And when I detest an animal, I avoid it. Therefore, I always avoid a kangaroo.

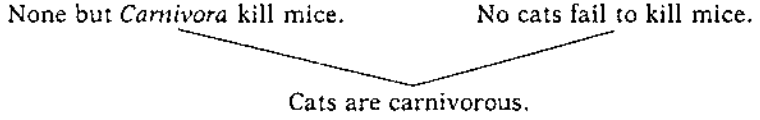
This ten-premise argument begins with the two-premise subargument:

None but *Carnivora* kill mice.

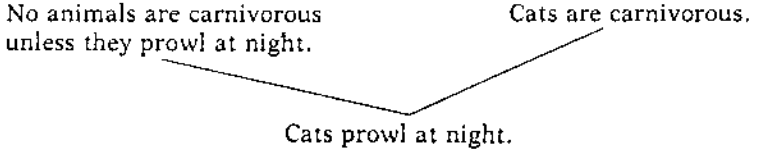
No cats fail to kill mice.

∴ Cats are carnivorous.

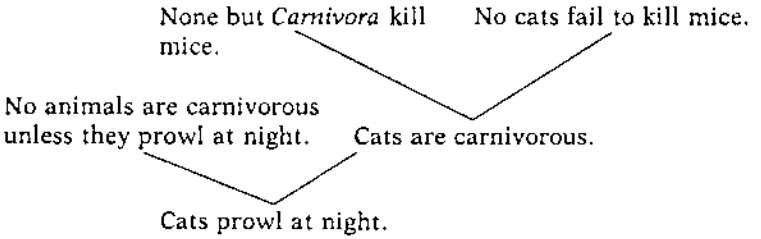
We can represent this subargument as a *tree*:



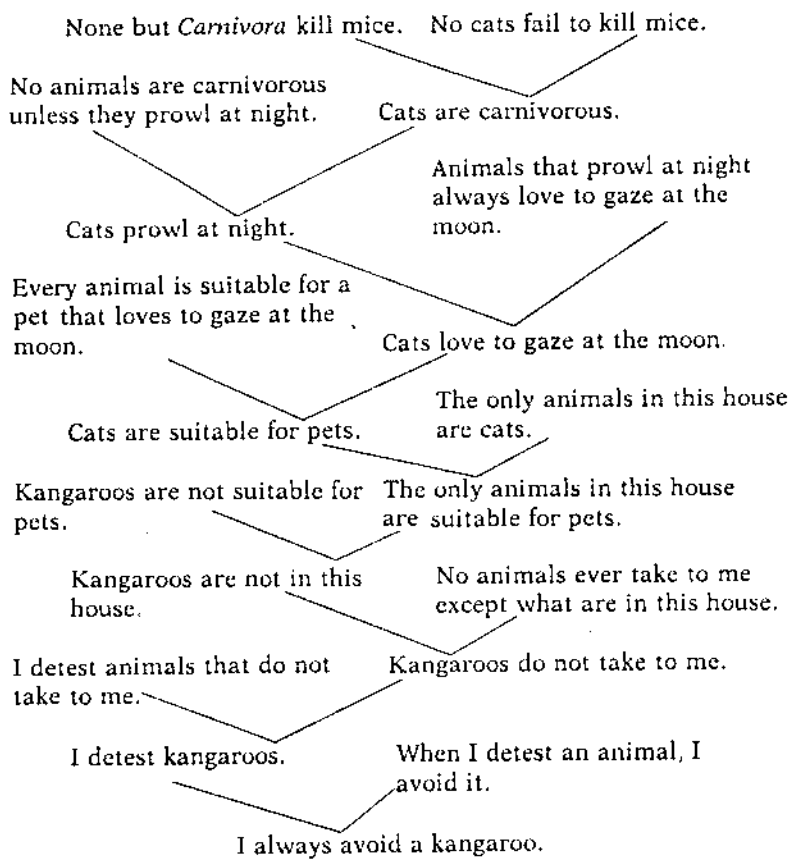
This is a particularly simple argument-tree. It has just two *branches*. A five-premise argument with no intermediate steps would call for five branches. The upper ends of the two branches—the two *top nodes*, as they are called—are occupied by the two premises. The *bottom node* is occupied by the subargument's conclusion, which is both an intermediate step of the whole kangaroo argument and a premise of the next subargument. The latter is represented by this tree diagram:



Combining these two diagrams, we get the more elaborate diagram:



which represents a compound subargument—compound because it contains two subarguments of its own. By adding the subsequent subarguments to the diagram just above, we get a tree diagram of the kangaroo argument as a whole:



There are ten *top nodes*—ten nodes with no branches leading up from them. Each is occupied by a *premise* of the entire argument. There is one *bottom node*—one node with no branch leading down from it. It is occupied by the *conclusion* of the entire argument. The remaining eight nodes—the *intermediate nodes*—are occupied by *intermediate steps*.

After you "tree" an argument this way, you can spot the premises and conclusion of the entire argument at a glance: The premises occupy the top nodes, the conclusion the bottom node. You also can tell more easily whether the whole argument is valid: It is valid if each subargument is

valid (although it is not necessarily true that each subargument is valid if the whole argument is). And you can decide more easily which subarguments, if any, to evaluate.

Example 11 Suppose God existed. Then being omniscient, He would know of every evil. But being omnipotent, He would be able to prevent every evil. And being omnibenevolent, He would prevent every evil He knew of and was able to prevent. So He would prevent every evil, and thus none would exist. But some evil does exist. Consequently, God does not.

"God does not" obviously is elliptical for "God does not *exist*," which is the conclusion. "Some evil exists" is an express premise. ("But" and the emphatic "does" are extraneous.)

Identifying the other express premises requires a bit of care. A pair of sentences of the form:

Suppose A. Then B

amounts to:

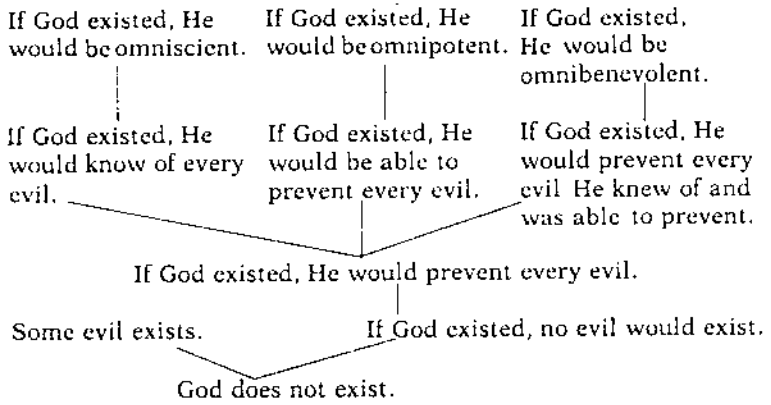
If A, then B.

In Example 11, then, the first sentence, "Suppose God existed," amounts to prefixing "If God existed" to the second sentence, and indeed to the third, fourth, fifth, and sixth sentences as well. In the second sentence, the phrase "being omniscient" amounts to "because He would be omniscient." So this sentence, with "If God existed" prefixed, amounts to the subargument:

If God existed, He would be omniscient.

∴ If God existed, He would know of every evil.

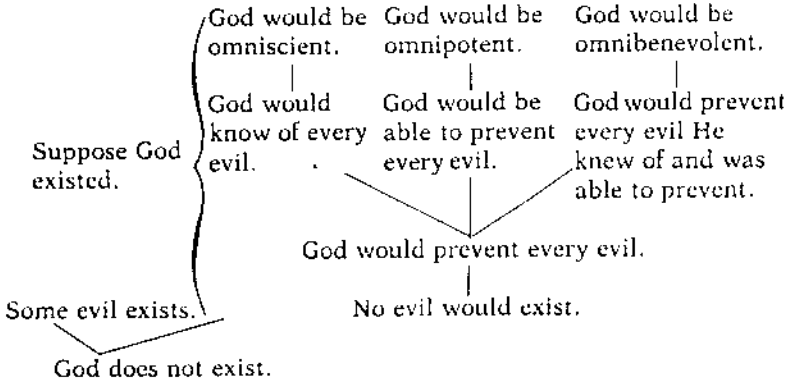
The third and fourth sentences, with "If God existed" prefixed, constitute similar arguments. So the whole argument begins with three one-premise subarguments. In the fifth sentence, "So He would prevent every evil, and thus none would exist," the words "So" and "thus" are reliable conclusion-indicators: from the conclusions of the three initial subarguments, another intermediate conclusion is supposed to follow ("He would prevent every evil"), and from that yet another ("No evil would exist"). For the argument as a whole, we get this tree diagram:



So the argument has four express premises; they occupy the four top nodes.

I could perfectly well have phrased the first premise as: "Suppose God existed. Then He would be omniscient." Similarly for the other steps phrased above with "If"—the other steps governed by "Suppose God existed" in the original text.

Here is an abbreviated tree of the same argument:



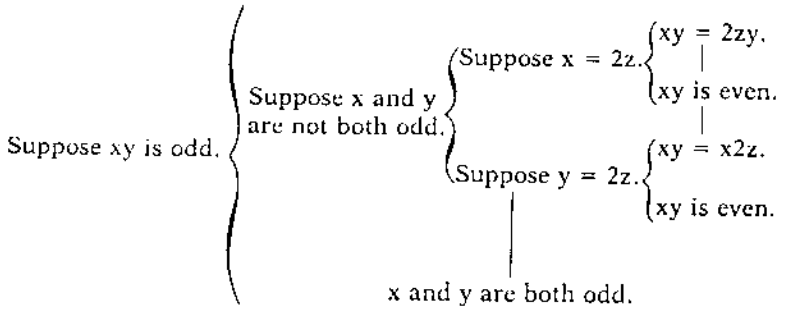
The clause "Suppose God existed" plus the brace is tantamount to prefixing "Suppose God existed"—or, equivalently, "If God existed"—to every sentence inside the brace. Besides conforming more closely to the original language of Example 11, this tree is simpler and clearer than the first. The reasoning displayed inside the brace is much like a subargument of which "God exists" is an additional premise. But not quite: "God exists" cannot really be a premise, because its truth is not affirmed (indeed it is denied) by Example 11. It is only temporarily assumed in order to draw a consequence from it. Because "God exists" is not affirmed by the argument, its consequence, "No evil exists," is not thereby affirmed either, which is all to the good, inasmuch as this consequence is denied by one of the argument's premises.

Let us call a "suppose" clause followed by a brace a *supposition* of the material inside the brace. A supposition is somewhat like a premise, except that it is not affirmed, but only assumed noncommitally in order to show that certain statements follow from it. It is an abbreviated way of prefixing an "if"-clause to each sentence inside its brace.

Example 12 THEOREM. If xy is odd, then x and y are both odd.

Proof. Suppose, on the contrary, that x and y were not both odd. Say $x = 2z$. Then $xy = 2zy$, and thus xy would be even, contrary to our hypothesis. Likewise if $y = 2z$. That suffices to prove the theorem.

Tree:



Note that the "if" part of the argument's conclusion—of the theorem—functions as a supposition throughout the argument. That often (not always) happens with mathematical theorems. Remember high school geometry, in which you were "given" soandso and told "to prove" suchandsuch? Your proof was an argument; Euclid's axioms, its premises. The conclusion—the theorem you proved—was not suchandsuch—not the sentence labeled "to prove." It was:

If soandso *then* suchandsuch.

Soandso functioned as a supposition throughout—in the statement plus the entire proof of the theorem.

By the way, Examples 11 and 12 illustrate an especially prevalent type of argument: *reductio ad absurdum*. It consists in supposing the

opposite ("God exists," "x and y are not both odd") of what one wishes to establish ("God does not exist," "x and y are odd"), then deducing from it a statement that is plainly false ("No evil exists," "xy is even") given one's premises and prior suppositions ("Some evil exists," "xy is odd").

7.4. VALIDITY AND TACIT PREMISES

To complete Step One, *assess* the *validity* of the partly reconstructed argument as it stands, that is, before adding tacit premises. Then *add tacit premises* (if there are such) and reassess validity (if that seems necessary).

Many arguments commonly encountered are obviously valid or obviously invalid—it is obvious, at any rate, to someone with your level of logical acuity. Faced with an argument that is neither obviously valid nor obviously invalid, you should do one or more of the following:

(i) Display the argument's logical form.

(ii) Check whether the discourse from which the argument was extracted contains a convincing derivation (which you might rewrite in tree form).

(iii) Try to construct a derivation.

(iv) Try to find a counter-example to the argument's form—another argument of the same form with obviously true premises and an obviously false conclusion.

(v) Test the argument by diagram. That is, represent all its premises in one diagram and see whether this premise-diagram verifies the conclusion. (The procedure is a bit more complicated if the argument's logical form consists partly of connectives, as I explained in §6.3.)

(vi) Seek help from someone who is good at logic.

(ii) and (v) tend to be especially fruitful tacks.

More often than not, your candidate argument as it stands will be invalid. And more often than not, that will be because some essential premises were left tacit. Add them and reassess validity.

Any argument can be made valid (if not otherwise virtuous) by adding *some* premise. Adding the conclusion as a premise will always ensure validity, after all.

The premises you add should be *reasonable*, though. It should be reasonable to attribute them to the argument's author: they should be compatible with whatever may be known of the author's beliefs and intentions. Beyond that, they should be as plausible as possible—plausible enough, anyway, to lend some credibility to the conclusion.

Problem: You may find an argument to be invalid, without finding any validating premises that it would be *reasonable* to add. Maybe every candidate premise is implausible or otherwise unattributable to the argument's author.

When that happens, stop! Your evaluation is finished. Your verdict: An irremediably invalid argument.

But be generous: Always try to validate an argument by adding reasonable premises before condemning it as irremediably invalid.

Example 13

The bigger the burger, the better the burger.

The burgers are bigger at Burger King.

∴ The burgers are better at Burger King.

Valid as it stands. No additional premises needed.

Example 14 Although I didn't see the stone, I can tell you it must have been green, because, as you know, it was an emerald.

Express premise and conclusion:

The stone was an emerald.

∴ The stone was green.

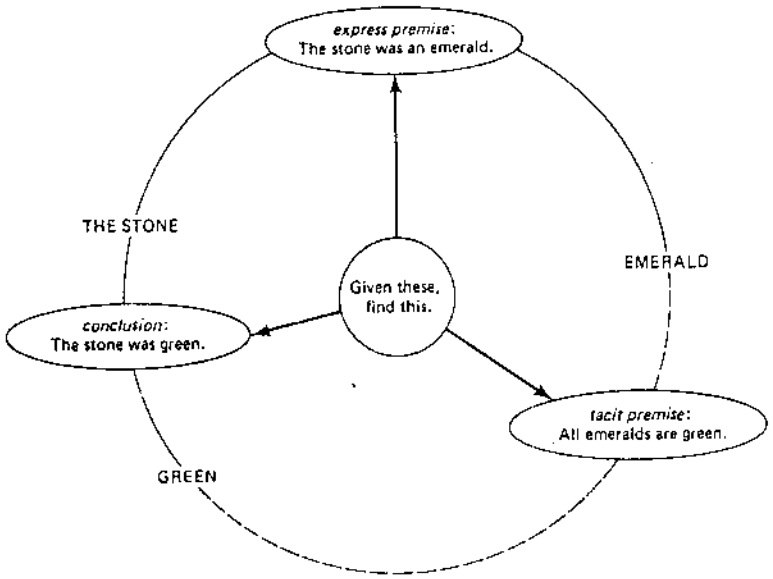
As it stands, the argument obviously is invalid. No doubt the author was tacitly assuming:

All emeralds are green,

which, added as a premise, makes the argument valid.

Example 14 illustrates a simple, frequently effective strategy for finding tacit premises. The express premise links two terms, "the stone" and "emerald." The conclusion links "the stone" to a third term, "green." To find a validating tacit premise, you could have looked for a plausible

statement that closes the circle, linking the two terms, "emerald" and "green," not yet linked. Pictorially:



The circle-closing strategy also applies to many arguments containing four or more terms. In each case, one looks for premises that close the circle of term links established by the express premises and the conclusion.

Example 15 He was found dressed in black, on the balcony of the ransacked room, panting and giggling, a sack of the dowager marchioness's jewelry slung over his shoulder.

∴ He's guilty.

Invalid. Tacit premise:

> Whoever was found dressed in black, on the balcony of the ransacked room, panting and giggling, a sack of the dowager marchioness's jewelry slung over his shoulder, is guilty.

The express premise links "he" to "found dressed in black, on the balcony of the ransacked room, panting and giggling, a sack of the dowager marchioness's jewerly slung over his shoulder." The conclusion links "he" to "guilty." The tacit premise closes the circle, linking "found dressed . . ." to "guilty."

Often your logical intuitions, honed by the hardships of Parts One and Two and aided by the circle-closing strategy, are adequate guides to validating premises. When your intuitions fail, try diagraming the express premises, finding some additional diagrammatic feature (usually shading of a particular region) that would verify the conclusion, then finding some additional premise(s) represented by this feature. In short, try reading tacit premises off the premise-diagram.

Example 16 All Communists are atheists.

Madalyn is an atheist.

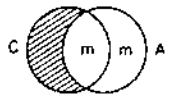
∴ Madalyn is a Communist.

Logical form plus premise-diagram:

All Cs are As.

m is an A.

∴ m is a C.



Invalid. Any validating additional premise would have to exclude m from the A - C class. But that would be tantamount to saying:

(*) Madalyn is not both an atheist and a non-Communist (that is, Madalyn is a nonatheist or a Communist).

A validating premise can be stronger than (*)—as is "All atheists are Communists." But is must be *at least* as strong: (*) must be at least part of what it says. For it must exclude "m" from the A - C region to verify the conclusion. It is unlikely, though, that anything as strong as (*) is a tacit premise of Example 16, for three reasons: First, (*) is implausible. Second, (*) is less plausible than any premise the author troubled to state. Third, if (*) were added to the premises, the first, stated premise would serve no purpose: the argument would be valid without it. It seems more likely that the author simply reasoned badly than that he relied on a tacit premise.

Often, as in Example 16, the diagram of an argument's express premises reveals the weakest additional premise (or set of premises) that would validate the argument. If even this minimal premise is flatly unreasonable, the argument is irremediably invalid. Otherwise, this premise is a candidate for tacit premise. There may be other candidates—a situation I discuss in §7.5.

Example 17 If God existed, He would be omniscient.

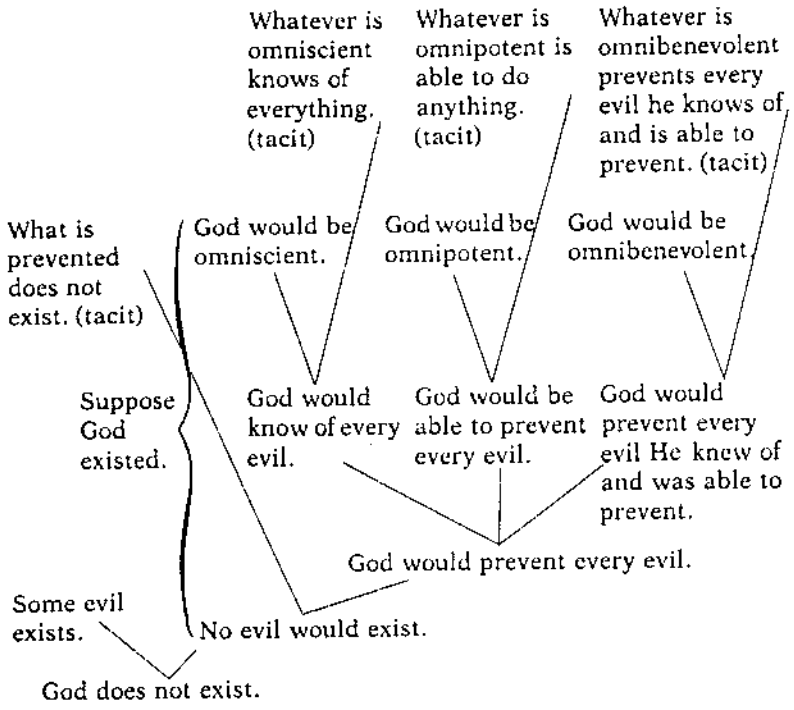
If God existed, He would be omnipotent.

If God existed, He would be omnibenevolent.

Some evil exists.

∴ God does not exist.

Invalid. These premises and conclusion came from a compound argument, of which I gave a tree diagram in the last section. That diagram makes it easier to see what additional premises would make the argument valid. Here is the tree diagram again, but with tacit premises added:



By making all the subarguments valid, the four added premises make the argument as a whole valid.

To find validating tacit premises for a compound argument, it helps to find them for each subargument.

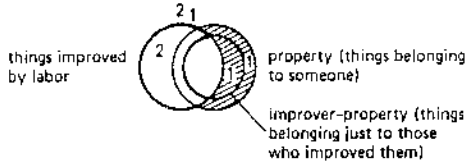
Example 18 Whatever no one has improved by his labor belongs to no one.

∴ Whatever someone has improved by his labor belongs to him, and to him only.

Invalid. Logical form and counter-example:

Whatever no one has I by his L B to no one.	Whatever no one has ingested by his digestive process causes heartburn to no one.
∴ Whatever someone has I by his L B to him.	∴ Whatever someone has ingested by his digestive process causes heartburn to him.

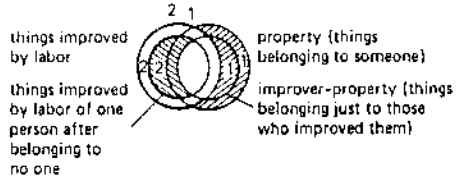
Invalidity also can be proved by diagram:



The "1" region represents things no one has improved by his labor. The "2" region represents things belonging to no one. The shading of the "1" region minus the "2" region represents the premise. The conclusion is not verified, because it calls for shading of the heavily outlined subregion. I can find no plausible validating premise—no plausible premise that would shade the heavily outlined region. Here is a candidate:

> If something that previously belonged to no one is then improved by one person, it belongs to him.

Adding this as a premise does not quite ensure validity. If we represent it in the diagram above, we get:



The conclusion is not verified, because the new heavily outlined region is not shaded. Shading this region is equivalent to affirming:

> Whatever is improved by two or more people belongs to them, and whatever has belonged to one person and is then improved by a second person belongs to the latter.

So adding a premise at least as strong as this would ensure validity. And the *only* way to ensure validity is to add a premise at least as strong as this—a premise that at least shades the heavily outlined area. The trouble is that the second clause of this candidate premise is not the least bit plausible. I conclude that the argument's author—the seventeenth-century English philosopher John Locke—just reasoned badly.

7.5. COMPARING CANDIDATE PREMISES

In reconstructing an argument, you may find a number of ways to supply tacit premises—a number of sets of fairly plausible statements, any one of which would make the argument valid if added to the express premises.

Choose among these sets according to the following three criteria:

> FIDELITY Add premises that are *faithful to the author's beliefs and intentions*, insofar as these are known. So added premises should neither conflict with the stated argument nor make any stated premise gratuitous.
>
> GENEROSITY Be generous to the author by adding premises that are as *plausible* as possible (relative to the argument's intended audience, insofar as that is known). Added premises should be sufficiently plausible, anyway, to enhance the credibility of the conclusion to some degree.
>
> GENERALITY Add premises that are as *general* as possible, consistent with Fidelity and Generosity.

One statement is *more general* than another if the two say similar things, the first about a wider class, the second about a narrower class. Thus, "Ignatz likes tall blondes" is more general than "Ignatz likes Farrah" and less general than "Ignatz likes blondes." As this example illustrates, adding qualifications to a statement decreases its generality; dropping qualifications increases generality.

Whether Fidelity is important depends on your purposes. If you aim to determine what an author meant, your reconstruction of his argument should of course be as faithful to his beliefs and intentions as you can make it. But if you want to determine how good a particular line of reasoning is, regardless of who authored it or what he had in mind, then Generosity and Generality are far more important than Fidelity.

Why be generous? Not to be polite, but to learn as much as possible. If you find no plausible way to reconstruct an argument so as to make it valid, you have learned something new: that the argument is not only invalid but very likely irreparably so. If you find plausible premises whose addition makes the argument valid, you have found what could well be the author's intended argument, since people are likely to reason validly more often than not; but at any rate you have found a pretty good argument and thereby extended your knowledge.

Suppose you are deciding which of two potential premises to add to an argument, and neither is preferable according to Fidelity or Generosity, but one is more general than the other. According to the Generality criterion, you should choose the more general. Why? Because the more general candidate is a likely reason or justification for the less general one, hence a likelier ultimate reason or justification for the argument's conclusion—a likelier *premise*, in other words.

Example 19 The trouble with censorship is that it stifles creativity.

Standardization:

> Censorship stifles creativity.
>
> ∴ Censorship is wrong.

Here is a validating premise that apparently satisfies Fidelity and Generosity:

> (1) Censorship is wrong if it stifles creativity.

What about Generality? The most natural way to generalize (1) is the following:

> (2) Any action or policy that stifles creativity is wrong.

But this is *too* general: It violates Generosity, being much less plausible than (1). A policy of preventing medical researchers from experimenting on unwilling human subjects, for example, stifles creativity without being wrong. The reason, of course, is that the virtues of such a policy are sufficiently great to compensate for the fact that the policy stifles creativity. This suggests the following modification of (2):

> (3) Any action or policy that stifles creativity *and does not have compensating virtues* is wrong.

By itself, (3) does not validate the argument. A further premise is needed:

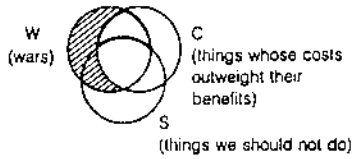
(4) Censorship is a policy that does not have compensating virtues (virtues sufficient to compensate for stifling creativity).

As a pair, (3) and (4) are more general than (1) and no less plausible. A reasonable way to complete the reconstruction of Example 19, then, is to add (3) and (4).

Example 20 The costs of going to war always outweigh the benefits of going to war.

∴ We should go to war no more.

Invalid. Premise-diagram:



This fails to verify the conclusion, which calls for shading of the W–S region, because the heavily outlined area is not shaded. So an added premise will validate the argument if, and only if, it shades that area.

Simply shading the heavily outlined area amounts to affirming:

(1) We should not engage in wars whose costs outweigh their benefits.

Shading the whole upper part of the W circle or the C circle also would shade the heavily outlined area. Shading the upper part of the W circle amounts to affirming:

(2) We should go to war no more.

Shading the upper part of the C circle amounts to affirming:

(3) We should do nothing whose costs outweigh its benefits.

So (1), (2), and (3) would each validate the argument.

(3) is best. (2) violates Fidelity: because (2) is just the conclusion, it could not be the premise the author had in mind, else his stated premise would be gratuitous. (2) is ruled out by Generosity as well: no statement is sufficiently plausible to enhance its own credibility. (1) and (3) are both plausible. But (3) is more general (because less qualified), and there is no evident reason to favor (1) (no evident reason for the qualification), so (3) is preferable according to Generality.

When a premise-diagram reveals several validating premises, choose among them according to Fidelity, Generosity, and Generality, bearing this in mind: A candidate premise that shades a more inclusive region is more general than one that shades a less inclusive region. And a candidate premise that shades some region is more general than one that merely excludes a singular term from the same region. Generality calls for validating premises that shade the widest areas, consistent with Fidelity (to the extent that Fidelity is important) and Generosity.

Example 21 The peculiar evil of silencing the expression of an opinion is that it is robbing the human race, posterity as well as the existing generation. . . . If the opinion is right, they are deprived of the opportunity of exchanging error for truth; if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth produced by its collision with error. (John Stuart Mill)

Express premises and conclusion:

If an opinion is right, silencing its expression deprives mankind of the opportunity of exchanging error for truth.

If an opinion is wrong, silencing its expression causes mankind to lose the clearer perception and livelier impression of truth produced by its collision with error.

∴ Silencing the expression of an opinion robs mankind.

In the conclusion, I replaced "the human race" by "mankind." This strictly stylistic modification simplifies the argument's form and makes it more nearly valid, eliminating the need for the additional premise, "Mankind is the human race." The argument is invalid as it stands. We can make it valid by adding either of these two statements to its premises:

(1) To deprive X of Y or to cause X to lose Y is to rob X of Y.

(2) To deprive anyone of the opportunity of exchanging error for truth is to rob him of it, and to cause anyone to lose the clearer perception and livelier impression of truth produced by its collision with error is to rob him of it.

Although more general than (2), (1) is ruled out by Generosity. To be sure, even (2) is debatable. But (2) is a paragon of plausibility compared with the preposterous (1). Does the mailman *rob* me of the letters I have posted when he collects them? Do garbage men, tax collectors, or creditors always rob us?

EXERCISES

Reconstruct the following arguments. Set out your work by listing both express and tacit premises, parenthetically labeling each "express" or "tacit," followed by the conclusion. If an argument is irremediably invalid (a rare occurrence), say so. If an argument is compound, display its premises (express and tacit, labeled as such), intermediate steps, and conclusion in a *tree*.

1. I'm opposed to girlie magazines, because they debase women.
2. Because all conservatives are Republicans, none is a Democrat.
3. Capital punishment is justified, because it deters crime.
4. Capital punishment is not justified, because it does not deter crime.
5. Not all Ugandans love Idi Amin, since some are Christian.
6. He gave no argument, really. He just harangued instead of giving reasons for his conclusion.
7. Whoever has an Albanian accent cannot have a proper Irish brogue. So those who do are not Albanians.
8. Huskies must be mammals. After all, they're dogs. Aren't they?
9. Someone is a politician, and someone is greedy. So someone is a greedy politician.
10. Whether we have free will or not, we certainly *believe* we do, since we deliberate about alternative courses of action.
11. Yes, the history of humanity is riddled with episodes of disease, hunger, war, religious persecution, airplane crashes, and other apparent misfortunes. Still, there really are no catastrophes, appearances to the contrary notwithstanding. For God prevents every catastrophe He knows of and can prevent, and that includes every catastrophe whatever.
12. Not all Texans are liberals, else they'd be happy to have intrastate gas federally regulated.
13. Because some folks are enamored of Red China, not everyone is unhappy about breaking relations with Taiwan.
14. Whoever failed stayed home. So no one who failed came on the picnic.
15. We should not outlaw prostitution, because to do so is to legislate morality.

16. We should not outlaw prostitution, because prostitution harms no one with the possible exception of voluntary participants.
17. What's wrong with pornography? It serves no purpose but to stimulate lust, that's what.
18. What's so horrible about capital punishment? That's simple: *Capital* punishment is *irreversible* punishment.
19. Because everyone has the right to publish whatever information he wishes to publish, the *New York Times* had the right to publish the *Pentagon Papers*.
20. Because standard IQ tests are culturally biased, they are discriminatory. That makes it unconstitutional to use them in public schools.
21. Those term-paper mills do nothing illicit. Cheating on school assignments is entirely the fault of the students who use the service.
22. "Hey! It says 'No Smoking!'," uttered by a student to a professor smoking in class with a "No Smoking" sign.
23. Why outlaw pornography? Well, for one thing, we know it does no psychological harm. And surely naked bodies per se are not evil.
24. "When better cars are made, Buick will make them."
25. If we really wanted to benefit the underdeveloped countries, we'd give them more food, fewer arms.
26. We've got to crack down on civil disobedience. It's often well-motivated, I admit. And it's unquestionably had some good results. But we can't just let citizens decide for themselves which laws to obey. That would be anarchy.
27. *THEOREM.* If $x + y$ is odd, then x or y is even.

    Proof: Suppose x and y were both odd. Then $x - 1$ and $y - 1$ would be even, and thus, since a sum of even numbers must itself be even, $(x - 1) + (y - 1) + 2$ would be even. But $(x - 1) + (y - 1) + 2 = x + y$. So $x + y$ would be even, which is absurd.
28. The whole debate over national health insurance—in particular, over the costs and relative equity of alternative programs—is so much blatherskyte. Let some national health-insurance program be cheap and equitable—cheaper than the laissez-faire status quo and perfectly equitable, if you like: Still it does not follow that this program ought to be adopted. On the contrary, the program would definitely be a mistake. For health-care provision is no part of the federal government's constitutional function.
29. To graduate, I'd better take Bosworth's course. For suppose I am going to graduate. Then I'll need another American History course plus Sex Education and Basket Weaving. But there are just two American History courses I can take besides Bosworth's: One conflicts with Sex Education, the other with Basket Weaving.
30. Compared with smoking cigarettes, the failure to have an annual dental examination does trivial harm to one's health. Consequently, no rational person who troubles to have an annual dental exam would ever smoke cigarettes.

31. O.K. I'll tell you what's wrong with capital punishment: *People* may not kill one another just for the sake of retribution or deterrence. So what entitles *society* to do so?

32. Because nondrinkers drive safely, Baptists must be good drivers.

33. Because some evil exists, God either does not want to prevent or cannot prevent evil. Hence, God is not both omnibenevolent and omnipotent.

34. A company that has discriminated against women in hiring ought now to *favor* women over men in hiring. That way it compensates women for the discrimination they have suffered.

35. Prohibitionists and antipornography crusaders are not being unfair (as often is alleged) to those who do not share their views. For they do not propose to impose upon others restrictions they would not gladly have imposed upon themselves.

36. You have the right to engage in homosexual practices, because everyone has the right to engage in *private actions*—actions affecting the legitimate interests of no one but the actors.

37. If *I* hadn't bought the stolen fur coat, someone else would have bought it, and the harm (if any) would have been the same—but I wouldn't have gotten the coat. So there really was nothing wrong with my buying it.

38. If it were all right to allow congenitally deformed infants to die, it would be no more objectionable to terminate the lives of ill, unwanted elderly people. What's the difference?

39. Many people just do not believe, on religious or any other grounds, that homosexuality is wrong. Those who favor anti-sodomy laws are just trying to foist their own controversial religious beliefs on others. That violates the wall of separation between church and state.

40. It is unfair for Hindus to try to outlaw beef consumption, preventing even non-Hindus from eating beef. Would Hindus want their Moslem countrymen to do the same by outlawing pork consumption, preventing Hindus and other non-Moslems from eating pork?

8

Meaning and Ambiguity

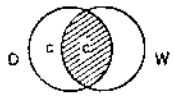
8.1. STEP TWO: DOES THE ARGUMENT DEPEND ON AN AMBIGUITY?

Sometimes an argument owes its appeal to an *ambiguity*—a multiple meaning of some word or other piece of language: we judge the argument to be valid *and* to have plausible premises *and* to have an interesting conclusion only if we impute two or more meanings to one expression.

Example 1 Château La Tour is dry.
Whatever is dry is not wet.
Therefore, Château La Tour is not wet.

The first premise is plausible only if "dry" means "not sweet"; the second, only if "dry" means "not wet." But the argument is valid only if "dry" is interpreted the same way—it does not matter which way—in both premises. For it then has the form:

c is D.
Whatever is D is not W.
∴ c is not W.



which the accompanying diagram shows to be valid, rather than the *in*valid form: