

Arguments and Their Evaluation

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Definitions of Basic Terms:

1. An **argument** is a set of statements one of which is being *argued for* on the basis of the others, those others being describable therefore as the statements being *argued from*. To **argue for** a statement is to present reasons for thinking that it is true; to **argue from** one or more statements is to present them as reasons for thinking that another statement is true. (Note: the word “argument” has various meanings. Here we are talking about good or bad **pieces of reasoning**, *not* arguments in the sense of quarrels or fights.)
2. The **conclusion** of an argument is the statement being argued *for*. (By convention, arguments are thought of as containing just one conclusion each, and note: in oral or written presentations of arguments, the conclusions are not necessarily presented at the *end*.)
3. The **premises** of an argument are the statements being argued *from*. (Arguments can have any number of premises. It’s often assumed that every argument has to have exactly two premises, but this is false. Arguments can also have unstated premises; arguments with unstated premises are called **enthymemes**.)

Definitions of Evaluative Terms:

4. A **lousy** (or **crummy**) argument is an argument that is such that even if its premises are true, its conclusion is no more likely to be true than false. (Lousy arguments admit of various degrees of lousiness. The extreme cases are arguments such that if their premises are true, their conclusions have to be *false*.)
5. An **inductive** argument (or an argument of at least some inductive strength) is an argument that is such that if its premises are true, then its conclusion is more likely to be true than false, although it could, at least conceivably, be false. (Inductive arguments admit of various degrees of strength. An inductive argument is a **strong** one if the truth of its premises makes (or would make) the truth of the conclusion very likely. But note: even the strongest inductive argument can have true premises and a false conclusion.)
6. A **valid** argument is an argument that is such that if its premises are true, its conclusion *has* to be true. The conclusion of a valid argument is said to be **entailed** by the premises, or to **follow** from them, or to be **deducible** from them, or to be a **logical consequence** of them. (While a valid argument *can have a false conclusion*, one or more of its premises must be false if it does. In other words: no valid argument can have a false conclusion if all its premises are true. The term “deductive argument” is often used to refer to arguments the conclusions of which are *supposed* to be deducible from their premises whether or not they actually *are*, and if we use it thus, we can obviously speak of both valid and invalid deductive arguments. The term “inductive argument” can be used analogously, but arguments that are inductive *in the sense defined above* are never valid.)
7. A **sound** argument is a valid argument all of the premises of which are true. (It follows from the definition of a valid argument given above that a *sound* argument *cannot* have a false conclusion.)
8. An argument is a **good** argument in the strict sense of the term just in case it is either (a) a strong inductive argument with true premises or (b) a sound argument the conclusion of which isn’t included among the premises and the validity of which isn’t merely a function of its conclusion’s being a statement that couldn’t conceivably be false. (Note 1: the point of the first qualification in (b) is that circular pieces of reasoning shouldn’t qualify as good arguments (even though they *are valid*), and the point of the second is that we’re equally far from having a *good* argument in any such ridiculous “proof” of a mathematical or logical truth as, say, “Grass is green, hence $2 + 2 = 4$ ” or “Whales aren’t fish, so Plato was a philosopher unless he wasn’t.” Note 2: valid arguments and strong inductive arguments are sometimes called “good arguments” *even though they have false premises* simply to indicate that the inferences they embody can’t be faulted on logical grounds alone. Maybe we should say that such arguments are good arguments in a loose sense of the term. Nothing can be faulted about the *reasoning* in such arguments.)
9. A **rationally compelling** argument is a good argument in the strict sense of the term all of the premises of which are *known* to be true and for the falsity of the conclusion of which there is no argument that is equally good. Some hold that the term “proof” should be reserved for those rationally compelling sound arguments the premises of which are indubitable, but the term “proof” certainly does have other uses. The fact is that the various disciplines and enterprises in which there is talk of proof typically have *canons* of proof all their own. A mathematical proof is one sort of thing; proof of innocence in a court of law is something else altogether.
10. A **rhetorically effective** argument is an argument that succeeds, at least typically, in persuading those to whom it is presented of the truth of its conclusion. (It is perfectly possible for a rhetorically effective argument to be a lousy argument, and it’s possible for good arguments—even *proofs*—to fail to be rhetorically effective.)

Argument Assessment Strategy:

To evaluate arguments, one first has to be able to identify them. There's no mechanical procedure for doing this, but the presence of such expressions as "since," "for," and "because" (which often serve to mark premises) and "therefore," "consequently," "hence," and "it follows that" (which often serve to indicate conclusions) frequently serves to signal the presence of an argument. It may also help to consider such questions as these: "What, if anything, is the writer or speaker trying to establish? What, if anything, is he or she trying to prove? What's his or her thesis? What's the view he or she is defending?" If you can find an answer to such a question in relation to any given passage or set of remarks, you'll typically have spotted a conclusion—and, you'll recall, the statements containing the writer's or speaker's reasons for thinking that the conclusion is true are the premises. (But don't forget: there may be unstated premises to reckon with, and in both written and oral presentations of arguments, one may encounter statements that aren't premises because they aren't parts of the argument at all).

After you've got the premises and the conclusion of the argument identified, ask yourself—*leaving aside for the time being the question of whether the statements that make the argument up are true or false*—which of the following things would have to be granted even by someone who initially thought that the conclusion was false:

- a. The truth of these premises would guarantee the truth of this conclusion.
- b. The truth of these premises would make this conclusion more likely to be true than false—although the conclusion could turn out to be false nonetheless. In other words: the truth of these premises would not guarantee the truth of this conclusion, but it would make the chances that this conclusion is true better than one in two.
- c. The truth of these premises would do nothing to make this conclusion more likely to be true than false.

If the answer is (a), the argument is valid; if the answer is (b), the argument is a more or less strong inductive argument; and last but not least, if the answer is (c), the argument is no good at all (it's a lousy or crummy argument—one that either offers no support for its conclusion or that tends, if anything, to show that its conclusion is false.)

All that remains is to ask yourself whether you think the premises are in fact true. If they are, then if the argument is valid, it's sound and its conclusion can't be false. If they're true, but the argument is merely inductive, then its conclusion is, of course, only more or less likely to be true, and you can see if you can figure out just *how* likely it is to be true and start considering other arguments *pro* and *con*. If the premises are true, but the argument is a lousy one, then of course you know that the conclusion is at least as likely to be false as true, and if you *like* the conclusion, you can start hunting around for a better argument. On the other hand, if you think the conclusion is false, then if the argument is valid, you know you're going to have to get used to the idea that at least one of its premises must be false too, and you can get down to work on figuring out which premise or premises to reject. If you think the conclusion is false but that the argument is only an inductive one, you can set about celebrating (or trying to reconcile yourself to) the inconclusiveness of inductive arguments. Finally, if you think that the conclusion is false but that the argument is anyhow a lousy one, you can go ahead and reject the conclusion with a clear intellectual conscience—at least until someone comes along with a better argument for the same conclusion.

Concerning Some Common Confusions and Misunderstandings:

1. *Arguments cannot be true or false.* The terms "true" and "false" are properly applied only to *statements*. The evaluative terms that are properly applied to *arguments* are those defined in paragraphs 4–10 above.
2. *Statements cannot be valid or invalid* in the sense these terms have in logic. Statements can be true or false, but only arguments can be valid or invalid in the sense defined here.
3. Contrary to what you may have been told in your English composition class, giving examples is usually a very different thing from presenting an argument. Typically, people give examples for the purpose of illustrating the meaning of the claims they make, *not* for the purpose of establishing the truth or the plausibility of those claims. The one noteworthy exception is the giving of *counterexamples*. When one's aim is to show that a generalization is false, all one has to do is to come up with a single case the generalization fails to fit.
4. Presenting an argument for a claim is offering a piece of reasoning designed to show that the claim is true, and this is very different from giving a causal or psychological explanation of one's *belief* that the claim is true. If one says, "I believe in God because of my religious upbringing," one has *not* presented an argument for God's existence; one has merely offered a causal explanation—conceivably a true one—of the fact of one's belief. Similarly, if one says "I believe in God because I want to avoid even the possibility of eternal damnation," one has

not presented an argument for God's existence; in this case, one has merely given an account—again, perhaps a true one—of the motives underlying one's belief. This is a point worth thinking about, because while the question "Why do you believe in God?" can amount to a request for either a causal explanation or a statement of motives concerning the fact of one's belief, it can also amount to a request for an *argument*, and of course the same thing is true of any other question of the form "Why do you think that that claim is true?"

Some Examples:

1. There's no pie left for Bill: Sally just ate the very last piece.

This is a valid argument. The premise is that Sally just ate the last piece of pie, and the conclusion is that there's no pie left for Bill. If it's really true that Sally just ate the last piece, then it must be true that there's no pie left for Bill. (If there *were* any pie left for Bill, then the piece the Sally just ate couldn't have been the very *last* piece. Think about what the sentences "That was the very last of it" and "There's still some left" *mean*.) So this argument is valid. Why? Because if all its premises are true (here we've got just one premise to worry about), the conclusion can't be false. Is the argument *sound*? That, of course, depends on whether it's really *true* that Sally just ate the very last piece of pie. If she did, then the argument *is* sound. (If she didn't, the argument is still valid, but not sound.) Finally: if Sally *did* eat the last piece of pie and we *know* that she did, then maybe what we have here is not just a sound argument but a *proof*—a proof that Bill is out of luck, at least for the time being. (If Sally did eat the last piece, but we don't know that she did, then the argument is sound—and thus of course a good argument—but hardly a proof.)

This is a useful first example because it shows that arguments—even sound arguments, and maybe even proofs—can be extremely simple and homely little things. There are arguments (arguments quite good enough to be called proofs) that are enormously complicated and that have to do with extremely abstract matters (in mathematics, for example), but it's not part of the *definition* of an argument that it has to exhibit such features.

How could one go about criticizing this first argument? The only thing that one *could* attack is the *premise*. The reasoning is flawless. But if the piece of pie that Sally just ate wasn't the very last one (*i.e.*, if the argument's premise is false), then the argument is only valid and not sound.

2. Three is greater than two; therefore, two is less than three.

This argument is arguably an enthymeme, with its unstated premise going like this: "For any two numbers x and y , if x is greater than y , then y is less than x ." On this assumption, the full argument runs as follows:

For any two numbers x and y , if $x > y$, then $y < x$.
 $3 > 2$.
 Therefore, $2 < 3$.

Obviously this argument is not only valid but sound. Not only that. Since it's *obvious* that it's sound, it's *rationally compelling*, for the argument is valid and its premises are statements that are *known* to be true. But now consider this structurally similar argument:

3. Two is greater than three; therefore, three is less than two.

This is not rationally compelling in the least, and it's not a sound argument either, for it's as plain as day that the stated premise is false. Two is *not* greater than three. Here's the argument in full (assuming, once again, that it's an enthymeme with the same unstated premise: "For any two numbers x and y , if $x > y$, then $y < x$.")

For any two numbers x and y , if $x > y$, then $y < x$.
 $2 > 3$.
 Therefore, $3 < 2$.

There's nothing wrong with the first premise (the unstated one), but as we've already noted, the second premise (the *stated* one) is false. Even so, this *is* a *valid* argument. For if the second premise *were* true, then the conclusion would have to be true as well. Why? Because the conclusion of this argument couldn't be false if both of these premises were true. Remember: a piece of reasoning can be perfectly *rigorous* (or in other words, an argument can be *valid*) *even if it contains one or more false premises*. What makes an argument *valid* is that its conclusion *follows* from its premises—or in other words, that the conclusion has to be true if the premises are all true (or—if they *aren't* all true—that the conclusion *would* have to be true if the premises *were* all true)—and *not* that all the statements of which the argument consists *are* true. So what have we got here?

Answer: a valid argument that is not, however, a *sound* argument (and that is therefore hardly rationally compelling).

Both example (2) and example (3) have an air of artificiality. It's hard to imagine circumstances in which anyone would ever seriously present either one. So let's look at a real-life piece of reasoning that won't strike anyone as having any sort of air of artificiality about it at all.

4. I've just tested positive for HIV. Unless I receive effective treatment, I'm going to die of AIDS.

This argument is clearly an enthymeme. But what premise or premises do we need to supply? Suppose the unstated premise is this: "Everyone who tests positive for HIV dies of AIDS unless he or she receives effective treatment." Then the argument looks like this:

Everyone who tests positive for HIV dies of AIDS unless he or she receives effective treatment.
I've just tested positive for HIV.
Therefore, unless I receive effective treatment, I'm going to die of AIDS.

and is valid. (If everyone who is an A is a B and one is an A, then certainly one is a B. If one were an A but not a B, then it wouldn't be true that *everyone* who is an A is a B.) But although this argument is *valid*, it clearly is not *sound*. *Not* everyone who tests positive for HIV dies of AIDS even without effective treatment: in the first place, there can be such a thing as a false positive, and there are also people who are infected with HIV who die of totally unrelated causes before or even after they develop AIDS. Finally, there are the non-progressors—the small number (the *very* small number) of people who are HIV positive but who, even without treatment, either develop AIDS very, very slowly or never develop it at all. But what *is* true is that the *vast majority* of people who test positive for HIV die of AIDS unless they receive effective treatment for the infection. So let's suppose that *that's* the unstated premise. Then the argument looks like this:

The vast majority of people who test positive for HIV die of AIDS unless they receive effective treatment.
I've just tested positive for HIV.
Therefore, unless I receive effective treatment, I'm going to die of AIDS.

and this is plainly an inductive argument—and indeed an extremely *strong* inductive argument. Assuming the truth of the premises, we have to grant that the truth of the conclusion is very likely—and so this would also be a good argument if both premises were true, an argument that supplies people who test positive for HIV with a very powerful reason indeed to want to seek treatment right away.

5. There are fifteen marbles in the sock. One is red. One is blue. One is green. The other twelve are white. I'm going to draw one out. The chances I'm going to get the red marble are therefore one in fifteen.

This is a valid argument. It's *about* probability, but *this* doesn't make it an inductive argument. If the premises are true, the conclusion has to be.

6. There are fifteen marbles in the sock. One is red. One is blue. One is green. The other twelve are white. I'm going to draw one out. The marble I draw will be white.

The conclusion—"The marble I draw will be white"—is very likely to be true if all the premises are. And yet of course it could turn out to be false. So this argument is not valid, but only inductive. Still, as inductive arguments go, it's pretty strong.

It may have occurred to you by now that a good way to think about the strength of inductive arguments is to ask yourself how willing you'd be to bet on the outcome—assuming, of course, that you're a betting woman or a betting man. If you know that the premises of this argument are true, it wouldn't be foolish at all to bet on the truth of the conclusion (assuming, at any rate, that you're betting even money). If you could make this bet again and again, you'd stand an excellent chance of making a lot of money. Your chances of winning it in any particular case would be four out of five. In other words: given the truth of the premises, the probability that the conclusion will be true is .80—and while this is hardly 1.00 (validity), it's a whole lot better than .50 (the top of the range for lousy or crummy arguments).

7. There are fifteen marbles in the sock. One is red. One is blue. One is green. The other twelve are white. I'm going to draw one out. I'm going to get that red marble. I just know I am.

Here, the chances that the conclusion—"I'm going to get that red marble"—is true (assuming that the premises are true) are one in fifteen, and this is altogether independent of what is expressed by the claim "I just know I am." So what have we got here? Answer: a good example of a *lousy* argument. But now suppose you draw a marble and you get the red one. Does this show that the argument wasn't a lousy argument in the first place? Was it actually sound? Was it at least valid? Was it, at the very least, an inductive argument? The answer is that it was none of these. It was—it *is*—a lousy argument. It's got to be admitted that people do (now and then) win sucker bets. But look: if you've reasoned in this way and then drawn the red marble, your conclusion will have turned out to be true, but even so, *you won't have had any good reason to think it would be*. Indeed, what you had was good reason to think it would be false. The goodness of arguments has to do with the goodness of the reasons they contain for thinking that their conclusions are true, not just with the truth of those conclusions.

Of course all of this is true only on the assumption that the argument is not an enthymeme. But most likely it *is* an enthymeme and the argument really goes like this:

There are fifteen marbles in the sock.
 One is red.
 One is blue.
 One is green.
 The other twelve are white.
 I've got a hunch I'm going to get the red one.
 My hunches, in cases like this one, are almost always true.
 Therefore, I'm going to get that red marble.

Now this is a strong inductive argument. What makes it only *inductive* (and not valid) is the fact that the last premise isn't tantamount to the claim that the hunches of the person presenting the argument are *always* true in cases of the kind in question. What makes it a *strong* inductive argument is that that same premise is tantamount to the claim that the person's hunches are nevertheless true in the *vast majority* of such cases. Is this a rationally compelling argument? That's tough to say. If all the premises of the argument are known to be true, then it is, by definition, a rationally compelling argument, but what's going to be controversial here is whether the last premise is one that anyone ever *could* know to be true.¹

8. Jesus loves me. This I know, for the Bible tells me so.

This is the beginning of a very nice hymn, and it's a charming expression of naive faith, but if we look at it as an *argument*, we've got to say that it's either a lousy argument or else an enthymematic statement of a valid argument that one could hardly call a *proof*. The fact that a book—*any* book—contains an assurance that something is true is never *by itself* a good reason for thinking that the statement in question is true. Perhaps, though, what we have here is an enthymeme with an unstated premise about the inerrancy of the Bible. If so, then the argument would look like this once the missing premise had been supplied.

The Bible tells me that Jesus loves me.
 Everything the Bible tells me is true.
 Therefore, Jesus loves me.

This argument is valid, but the second premise looks as if it could be "known" to be true only in the sense in which one can "know" that one is going to get that red marble. One can have a feeling of subjective certainty about such things, but a feeling of subjective certainty is a very different thing from knowledge. Attempts have been made to prove the second premise, but the purported "proofs" are controversial to say the very least. Most people who have examined them regard them all as fundamentally flawed.

¹But now note that the first five premises are really quite superfluous. The argument consisting of the last two premises and the conclusion is itself a strong inductive argument, and it's only the presence of this little sub-argument in the larger argument (the one that consists of all seven premises and the conclusion) that makes the larger argument a strong inductive argument. And that means that in the larger argument, one is really not arguing from the facts about the colors of the marbles in the bag; one is really arguing only from the fact that one has a hunch and from the purported fact that one's hunches, in cases like this one, are almost always true.

If they are all fundamentally flawed, then what we have here is not a proof. And yet it *is* a *valid* argument. Could it be sound? Indeed it could—or at least nothing that’s been said so far shows that it could not. If both its premises are true, then since it’s valid, it’s sound. (A sound argument, remember, is simply a valid argument all of the premises of which are true. This is just the *definition* of soundness.) So: *it appears that there can be such things as sound arguments that are not known to be sound*. And yet in spite of this, such arguments (sound arguments that no one knows to be sound) must be quite useless. Given the way the phrase “good arguments in the strict sense of the term” has been defined, sound arguments that aren’t known to be sound *are* good arguments in the strict sense of the term, but they are quite useless so far as the advancement of our knowledge is concerned. (A precisely parallel point can be made about strong inductive arguments that have true premises not all of which are known to be true. These too are good arguments in the strict sense of the term, but none of them can serve to advance our knowledge.)

So if we’re interested in establishing truths as truths and not simply in persuading people of one thing or another (for which rhetorically effective arguments will always suffice), what we need is *rationally compelling arguments that we can see to be such*. Perhaps the most reliable sign of a genuinely inquiring mind is that it’s always on the look-out for such arguments and wants to have them at its disposal. In any case, it would seem that the most important ingredient in what are called critical thinking skills is the ability to tell such arguments apart from arguments that only seem to fit this description.

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The examples given so far have been designed simply to illustrate the meanings of the various terms defined on the first page of this handout. Because of their brevity, they fail to bring out the difficulty one often confronts in trying to use these terms and the concepts that they express for the purpose of identifying and evaluating arguments presented in actual speech or prose. The following passage, drawn from the end of Plato’s *Apology*, may serve to give you some sense of how difficult this often is. At this point in the *Apology*, the jury has just condemned Sokrates to death, and he now addresses those who have just voted against the sentence of death and who had previously voted to acquit him.

[W]ith those [of you] who voted to acquit me I would gladly converse about this event which has taken place here, while the magistrates are busy and I go not yet to the place where I must die. Pray gentlemen, be patient with me so long; for nothing hinders from storytelling a bit together while we may. To you as my friends I wish to show what is the real meaning of what has happened to me. What has happened to me, gentlemen of the jury, my judges, for you I could rightly call judges—is [an amazing] thing. My familiar prophetic voice of the spirit in all time past has always come to me frequently, opposing me even in very small things, if I was about to do something not right; but now there has happened to me what you see yourselves, what one might think and what is commonly held to be the extremest of evils, yet for me, as I left home this morning, there was no opposition from the [sign] of [the god], nor when I entered this place of the court, nor anywhere in my speech when I was about to say anything; although in other speeches of mine it has often checked me while I was still speaking, yet now in this action it has not opposed me anywhere, either in deed or in word. Then what am I to conceive to be the cause? I will tell you; really this that has happened to me is good, and it is impossible that any of us conceives it aright who thinks it is an evil thing to die. A strong proof of this has been given to me; for my usual [sign] would certainly have opposed me, unless I was about to do something good.

Let us consider in another way, how great is the hope that [what has happened to me] is good. Death is one of two things; either the dead man is nothing, and has no consciousness of anything at all, or it is, as people say, a change and a migration for the soul from this place here to another place. If there is no consciousness and it is like a sleep, when one sleeping sees nothing, not even in dreams, death would be a wonderful blessing. For I think that if a man should select that night in which he slumbered so deep that he saw not even a dream, and should put beside that night all other nights and days of this life, and were to say, after considering, how many sweeter days and nights than that night he had spent in his whole life, I think that anyone, not only some ordinary man but the Great King of Persia himself, would find few such indeed to compare with it in the other days and nights. If, then, death is like that, I call it a blessing; for so eternity seems no more than one night. But if, again, death is a migration from this world into another place, and if what they say is true, that there all the dead are, what greater good could there be than this, judges of the court? For if one comes to the house of Hades, rid of those who dub themselves judges, and finds those who truly are judges, the same who are said to sit in judgment there, Minos and Rhadamanthys and Aiacos and Triptolemos, and the other demigods who were just in their life, would that migration be a poor thing? On the contrary, to be in company with Orpheus and Musaios and Hesiod and Homer, how much would one of you give for that? For myself, I am willing to

die many times, if this is true; since I myself should find staying there a wonderful thing; then I could meet Palamedes, and Aias, Telamon's son, and any other of the ancients who died by an unjust judgment, and to compare my experience with theirs I think, would be quite agreeable. And best of all, to go on cross-examining the people there, as I did those here, and investigating, which of them is wise, and which thinks he is, but is not! How much would one give, judges of the court, to cross-examine him who led the great invasion against Troy, or Odysseus or Sisyphos, or thousands of other men and women? To converse with them there, and to be with them, and cross-examine them would be an infinity of happiness! There, at all events, I don't suppose they put anyone to death for *that*; for in that world they are happier than we are here, particularly because already for the rest of time they are immortal, if what people say is true.²

The first thing to realize is that something is being argued for here. This isn't just a cascade of stirring words. It can strike one as little more than that on an initial reading, but Sokrates is actually presenting an argument for a startling idea, namely, that what has just happened to him is good, and that quite in general it is not an evil thing to die. This, then, is the *conclusion* of the argument we're looking at. Sokrates states it quite clearly toward the end of the first paragraph in the following words: "[T]his that has happened to me is good, and it is impossible that any of us conceives it aright who thinks it is an evil thing to die." That Sokrates states his conclusion where he does in the passage is not at all peculiar. Plato is a master at making his characters speak naturally, and Sokrates speaks perfectly naturally here. As was said in the course of the discussion of the definition of the term "conclusion," in both oral and written presentations of arguments, conclusions are *not* necessarily presented at the end, and they're not always stated at the beginning either, as anything like tidily formulated thesis statements. The moral is that when one is reading (or listening) for arguments, one must constantly be asking oneself: are things just being *asserted* here, or are they being *argued* for, and if the latter, then *what* is being argued for and what are the arguments?)

But how are we to *know* that this claim of Sokrates'—that what has happened to him is good, and that those who think that it is an evil thing to die cannot understand death aright—is the conclusion of an *argument* and that it is not just something that Sokrates is asserting? In this case, the answer is that Sokrates goes so far as to *say* that it is at the end of the first paragraph: "A strong proof of this has been given to me. . . ."³ The reference to a proof makes it clear that there's an argument in the offing.

But then what are the premises of Sokrates' argument? Actually, Sokrates gives us a pretty substantial hint about this too, for what he says in full in the passage that's just been quoted is this: "A strong proof of this has been given to me, for my usual sign would certainly have opposed me, unless I was about to do something good." What does this imply about how the argument goes and about what its premises are? At first, it seems that about all we can say is that the argument must involve something like the following structure:

If at any point today, what I was about to do wasn't good, then my usual sign would have opposed me.
My usual sign didn't oppose me.
Therefore, it must be that everything I did today was good.

But *this* is puzzling—*very* puzzling. The conclusion of *this* little argument doesn't have any obviously direct connection with the claim that we thought Sokrates was going to be arguing for (that what has happened to him is good, and that those who think that it is an evil thing to die cannot have a correct understanding of what death is). Could there be a connection nevertheless?

To answer this question, perhaps we need to understand a bit more about what Sokrates is talking about when he speaks, as he does here, of his usual sign, and perhaps we need to know more about what he did at his trial. With respect to the first of these problems, there are two other phrases in the first paragraph of our passage—"my familiar prophetic voice of the spirit" and "the [sign] of [the god]"—that plainly refer to the same thing as does the phrase "my usual [sign]," but by themselves these phrases don't tell us much about what it is that Sokrates is talking about. To learn more about this, we have to go outside the passage we're looking at here and examine the larger context. If we do so—*i.e.*, if we read the whole *Apology* and some of Plato's other dialogues—we learn that Sokrates often speaks of this "*daimôn*," or "guardian spirit," and says of it just what he says right here: that it

²From *Great Dialogues of Plato*, W. H. D. Rouse, trans. (New York: New American Library, 1956), 444–446.

³Don't imagine that this always happens. Speakers and writers *don't* always announce the fact that they're presenting arguments in any such explicit way as this. This time we've been helped out, but you mustn't suppose that one is always going to be helped out in this way.

always warned him against saying or doing anything that wouldn't be good—anything “not right.”⁴ Now suppose for the moment that Sokrates' *daimôn* really always did do him this service and that it would have done so on the day of his trial. If this is really true, then if it didn't warn him against doing or saying anything on the day of his trial, everything he did or said on that day must have been good. This at least *follows*—or in other words, the little argument we've just been looking at is at any rate *valid*. But how, from *this* conclusion, could anything follow about it's being a good thing that Sokrates was *condemned to death*? What has happened to him hardly seems to be anything that *he* did; he was condemned to death by others: *they* did this *to* Sokrates—he didn't do it to himself. It seems that Sokrates must be assuming that there were things that he did do and say on the day of his trial that *led* to his being condemned to death, and he must also be assuming that if his having been condemned to death was not a good thing, then the things that he did and said that led to his being condemned to death would have been the very opposite of good things to do or say under the circumstances. Two unstated premises! Perhaps we're beginning to get a feel for what this argument really looks like:

There are things I did and said today that led to my being condemned to death.
 If my being condemned to death today wasn't good, then the things I did and said that led to this result weren't good.
 If at any point today, what I was about to do or say wasn't good, then my usual sign would have opposed me.
 My usual sign didn't oppose me.
 Therefore, my being condemned to death today must have been good.

Well, all right. But can this really be Sokrates' argument? What did Sokrates do or say on the day of his trial that could have led to his being condemned to death? He identifies what he seems to think are three such things in the first of the two paragraphs we're looking at: (1) he left his house, (2) he entered the place where the trial was being held, and (3) he made a set of speeches at the trial itself. The passage we're looking at seems to suggest that if Sokrates hadn't done each of these things, he wouldn't have been condemned to death. The first two are of course relevant to the possibility of *flight*, and so there's a sense in which Sokrates is right about these. Sokrates could have avoided being condemned to death by running away instead of going to court, and many would say—indeed many *have said*—that this would have been a good thing for him to do. But Sokrates suggests that he did the right thing by going to court, and he suggests that the evidence for this is that his *daimôn* didn't oppose his decision to do so. And yet even supposing that this is true and that Sokrates made no mistake (*i.e.*, did nothing that wasn't good) in going to court, his going there couldn't exactly have *led* to his being condemned to death; the most one can say is that he might have been able to escape his fate if he hadn't gone. So this brings us to those speeches. What did Sokrates say at his trial? Did he say things that were provocative—things that somehow *did* lead to his being condemned to death? The answer is that it would be the rare reader of the *Apology* who would disagree with the proposition that he did just that. And a reading of Plato's *Crito* makes it plain that many of his very best friends thought so too. Many of them pretty clearly thought that he had for all intents and purposes acted suicidally in going willingly into court and saying all the things that he said there.⁵ So it looks as if we're on the right track and as if we *are* beginning to understand Sokrates' argument.

But Sokrates' conclusion was supposed to have *two* parts. When Sokrates himself stated his conclusion, he stated it thus:

This that has happened to me is good, and it is impossible that any of us conceives it aright who thinks it is an evil thing to die.

All that the argument we've been concentrating on so far could conceivably show is that the first half of this conclusion is true—namely that what has happened to Sokrates is good. We have yet to get the second half of the conclusion into the picture. But now suddenly the light begins to dawn. All we've really looked at so far is the first of the two paragraphs in our passage. Maybe the second paragraph contains the argument for the second half of the conclusion. Or maybe it would be better to put the matter as follows: the “two-part” conclusion we've been talking about really amounts to two different conclusions, and each of these conclusions belongs to an argument of its own.

⁴See, for example, *Apology* 31D, p. 437 in Rouse: “This has been about me since my boyhood, a voice, which when it comes always turns me away from doing something I am intending to do, but never urges me on.” See also, for example, *Euthydemus* 272E, *Phaedrus* 242C, and *Theaetetus* 151A. (These dialogues are not in Rouse.)

⁵A translation of the whole of the *Apology* is included in Rouse (pp. 423–446), and so is a translation of the *Crito* (pp. 447–459).

Let's see if this suggestion can be supported by evidence from the text. The second paragraph in the passage we've been considering begins as follows:

Let us consider in another way, how great is the hope that [what has happened to me] is good. Death is one of two things; either the dead man is nothing, and has no consciousness of anything at all, or it is, as people say, a change and a migration for the soul from this place here to another place.

What we see here makes everything fall into place. We already know that the first paragraph contains an argument for the conclusion that what has happened to Sokrates is good (this is the argument we've been looking at so far); we can now see that the second looks like it's going to contain an argument for the conclusion that anyone who thinks that it is an evil thing for *anyone* to die must not "conceive death aright." What makes this reading of this passage seem right is that in the opening of the second paragraph, Sokrates switches from talking specifically about what has happened to *him* to talking about death in general. (The *way* he makes the switch is interesting. Sokrates plainly sees that the obvious response to the first argument is this: "But how can you say that it's a good thing that you were condemned to death, Sokrates? Death itself is a great evil. Only crazy people want to die," and he proceeds to respond to this objection by trying to show that death itself is nothing evil.) O.K. But then what are the premises of the second argument? They must be contained in the second paragraph. With this in mind, we reread the second paragraph, and we discover that indeed they're there. Now that we know what we're looking for, it's easy to detect the premises of the argument and to see that the argument goes like this:

Death is either (1) the annihilation of a person together with his or her consciousness or else (2) a journey of sorts in which the soul goes from this place here to another place.

If it's the first of these two things, then it's like a profound, dreamless sleep, and if so, then eternity would seem no more than a single night.

But if this is what death would seem, then death would be a blessing.

On the other hand, if it's the second of these two things, then the dead will get to converse with others in the realm of the dead; they will get to live out the rest of eternity under the rulership of just judges; and best of all, among their options will be that of living the life of a Sokrates, cross-questioning the dead just as Sokrates cross-questioned the living, and they won't have to fear that the dead will put them to death for *that*.

To be able to live in this way with the dead would be a wonderful thing indeed.

So, either way, death must be good, and so it cannot be an evil thing to die.

We see then that our passage actually contains two arguments and that the sentence we originally took to express a single conclusion turns out to express two. Sokrates argues for the first conclusion (the statement that makes up the first half of this sentence) in the first paragraph and then he goes on to argue for the second one (the statement that makes up the second half of this sentence) in the second paragraph.

So far we have thought very little about whether either of these arguments is any good. In fact, the only place where we've made any use at all of any of our *evaluative* terms was on p. 7 when we observed that the first little three line argument we considered there was a valid one. Why is this? *Why* haven't we been thinking about whether these arguments are any good? The answer is, quite simply, that before we could do this, we had to *identify* the arguments and identify their *premises* and *conclusions*. Go back and look at the first paragraph in the section titled "Argument Assessment Strategy" on pp. 1–2 above, and you'll see that this really is what we had to do first. Clearly, we can't pass on to the second step of our argument assessment strategy—the step described in the first full paragraph on p. 2—if we still don't know what the premises and the conclusions of the arguments we're thinking about are.

Fine. But why did it take so long to identify the arguments and to get clear about their premises and conclusions? The answer is that there is no mechanical procedure for doing this and that quite in general, reading—really reading—is a difficult art. We had to read carefully and analytically, and we had to do some serious thinking about the content and the structure of the passage we were examining. But now we've done this. We've identified the arguments we're interested in, and those arguments, we think,⁶ go like this:

⁶This is how we *think* they go. It's easy to imagine others coming along and arguing for a different *reading* of this passage from Plato's *Apology*. If that happened, we'd have to be prepared to argue for our reading of this passage, and we'd have to be prepared to assess the arguments offered by others in support of their alternative interpretation. Much of the serious scholarly work on texts like Plato's *Apology*—but that means on *any* text that contains argu-

- I. There are things I did and said today that led to my being condemned to death.
 If my being condemned to death today wasn't good, then the things I did and said that led to this result weren't good.
 If at any point today, what I was about to do or say wasn't good, then my usual sign would have opposed me.
 My usual sign didn't oppose me.
 Therefore, my being condemned to death today must have been good.
- II. Death is either (1) the annihilation of a person together with his or her consciousness or else (2) a journey of sorts in which the soul goes from this place here to another place.
 If it's the first of these two things, then it's like a profound, dreamless sleep, and if so, then eternity would seem no more than a single night.
 But if this is what death would seem, then death would be a blessing.
 On the other hand, if it's the second of these two things, then the dead will get to converse with others in the realm of the dead; they will get to live out the rest of eternity under the rulership of just judges; and best of all, among their options will be that of living the life of a Sokrates, cross-questioning the dead just as Sokrates cross-questioned the living, and they won't have to fear that the dead will put them to death for *that*.
 To be able to live in this way with the dead would be a wonderful thing indeed.
 So, either way, death must be good, and so it cannot be an evil thing to die.

Now we can take up the question whether these arguments are valid, merely inductive, or neither. As it happens, the first is valid, and it shouldn't take too much thought to see that this is so.⁷ As to whether it is *sound*, well, of course that's another question altogether,⁸ and in this case, there are difficulties of principle that stand in the way of our making anything like a straightforward positive judgment about this. First, the references Sokrates makes to his *daimôn* presuppose the existence of this *daimôn*, and it's hard to see how we could conceivably come up with evidence—other than that of the fact of Sokrates' assertions—for the existence of such a thing. Sokrates is, in effect, simply asking the people he's talking to (and that means, in effect, us too) to take his word for it that he was literally blessed with a remarkable sort of *eudaimonia*.⁹ And he's doing much the same thing when he says that his usual sign didn't oppose him even once on the day of his trial: he's asking us to take his word for that too. Often we feel justified in doing this—*i.e.*, in taking someone's word for something—but in regard to a matter like this? This case seems very like those in which people ask us to take their word for such things as that there are fairies or invisible green men in the pantry. So the real problem with the third and fourth premises has to do with the credibility of the underlying claim to the effect that we ought to take all this stuff about the *daimôn* seriously. Do we believe in such things? If not, we're going to be disinclined for that reason alone to regard this as a sound argument for the conclusion that nothing bad has happened to Sokrates, for if there are *no such things* as his so-called "*daimôn*," then neither the third nor the fourth of his premises could be true. But for the sake of completeness, let's look at the other two premises as well, the ones that don't involve this sort of difficulty in principle. We've seen that the first premise is one for which it's easy to adduce grounds, but one can imagine controversies arising about it, and one can imagine controversies arising about the second one too. With regard to the first premise, one might argue that the feeling against Sokrates was running so high in Athens in 399 B.C.E. that *nothing he could have said or done* would have enabled him to escape a sentence of death at his trial. If this were true, then the first premise would be false. With regard to the second: is it either obvious or in any sense demonstrable that things said or done that have, on balance, bad consequences are inevitably bad things to say or do? Consequentialists in ethics will say that it is, but consequentialism in ethics is thought by many not to be

ments that serious scholars are really interested in understanding—is devoted to the question of whether the history of the interpretive work that's already been done on the text has actually yet arrived at a correct *reading* of it.

⁷Methods for establishing validity or invalidity in a rigorous way for an enormous class of cases are well understood in logic, and if you're interested in knowing something about such methods, then you ought to take a course in formal logic. Without such methods at your disposal, all you can do is this: ask yourself the question whether the conclusion of the argument could be false if all the premises are true and figure out the answer. If the answer is "yes," the argument is invalid; if the answer is "no," then it's valid. In this case, the answer is "no."

⁸The question, precisely, of the truth or falsity of its premises.

⁹"*Eudaimonia*" is the ordinary Greek word for happiness, but literally it means "having a good *daimôn*," and if taken literally—as Sokrates asks his supporters on the jury to take it—it's a word that would have struck most of them as having the same sort of oddly superstitious quality to it that the phrase "born under a lucky star" would, if taken literally, strike most of us as having today.

true.¹⁰ So maybe the second premise is also false. So conceivably Argument I is a sound argument, but the existence of controversies concerning the first and second premises shows that it can hardly be obvious that it is, and the “far-fetched” character of the implicit claim about the *daimôn* would lead many to judge that the likelihood of its soundness is zero.

So what? If Argument I isn’t sound, what follows? This, and this alone: Argument I doesn’t suffice to establish the truth of its conclusion. So then its conclusion must be false? *By no means*. For *unsound valid arguments can have true conclusions, and they can have true conclusions even if all of their premises are false*. The only thing that’s impossible in a valid argument is for all of the premises to be true and the conclusion false. So if Argument I, which is valid, is unsound, then for all we can tell from Argument I, its conclusion might be false, but equally, it might be true. If Argument I is unsound, then even though it’s valid, it provides us with no basis whatsoever for saying anything one way or the other about the truth or falsity of its conclusion.

What, then, about Argument II? The first question is whether this argument is valid. Remember: this is equivalent to the question whether its conclusion could be false even if all its premises are true. Once again, the answer to this question is “no,” and so once again the argument is valid (Sokrates—or perhaps we should say Plato?—looks like he’s pretty good at constructing arguments, at least so far as rigorous reasoning is concerned).

Is Argument II sound? In other words: are all its premises true? Given what is asserted in these premises, this looks like an *enormously* difficult question. To answer it, we would need to know all sorts of things. We would need to know what the various possibilities really are as to just what death might be. Sokrates asserts that it must be one or another of the two things he mentions here, but is he right about this? This question is *hard*. Couldn’t death be such that the dead person is utterly unconscious, but still exists? Couldn’t death be such that the dead person still exists *and is still conscious* but “goes” nowhere and is therefore forced to put up with being vividly conscious, after death, of all the disgusting things that happen to his or her body until finally all of his or her sense organs and nerves cease to function as a result of all those bodily changes? Couldn’t death be still other things than these? Sokrates says that death must be either one or the other of the two things that he describes. If he’s wrong about this, then the argument isn’t sound. But suppose he’s right; then here’s something else that we’d need to know: is it really true that if death is the first of the two things described by Sokrates, then it’d be like a profound and dreamless sleep? *Could* it be very much like such a sleep? According to Sokrates’ first scenario as to what death might be, it involves the annihilation of the person (“the dead man is no more”). Does a profound and dreamless sleep involve anything like this? And what about the idea that if death *were* like a profound, dreamless sleep, then eternity would seem no more than a single night? First, if death involved the annihilation of one’s *consciousness* (whether or not it involved the annihilation of the person), how could eternity *seem* anything *at all* (to the dead person at least)? And second, *could* eternity seem no more than a single night? A single night *has an end*. Eternity doesn’t. This last consideration is relevant to the question of the truth of the third premise as well. When people say such things as: “Wow, what a night! I slept *so* well, *so* soundlessly, that I didn’t even dream. That was just great!” are they raving about the “experience” of total unconsciousness they’ve just had, or are they raving, *now that they’re awake*, about how good they feel as a result of having had such a great sleep and of having awakened feeling so refreshed? As for the fourth premise: the truth of this premise depends on the “arrangements” to which one has to accommodate oneself in the House of Hades (assuming, of course, that death really is a trip to such a place). A reading of either the *Inferno* (or the *Purgatorio* or the *Paradiso*) in Dante’s *Divine Comedy* or Sartre’s *No Exit* makes one aware of certain other “hellish possibilities.” And finally, concerning the fifth premise: even assuming that Sokrates is right about what the dead would “get to do” in the House of Hades, is the prospect of a life of conversation in a realm ruled by just judges in which one would get to live the life of a Sokrates really such a wonderful prospect? What one thinks about this will, of course, be a function of what one thinks about the nature of the good life, and so another thing we’d need to know in order to know whether this argument is sound is the answer to the question of just what the good life is.

Given all these difficulties, what is one to do? Should one simply throw up one’s hands and declare that it’s utterly absurd even to *try* to answer the question of soundness (or in general, the question of the truth or falsity of premises) both in the case of this argument and in the case of any other argument at all? Surely not. To do so would be to give up on the search for truth or at least on the quest for good reasons for the things that one believes. Of course, one *can* believe whatever one likes to believe quite *mindlessly*. . . . Or *can* one? One who declared it utterly absurd to try to make progress in knowledge would surely have a reason (good or bad) for thinking that this is so.

¹⁰Consequentialism in ethics is simply the view that what makes actions ethically right or wrong is the goodness or badness of their consequences.

So it seems that there's no way out. We must concern ourselves with such questions unless we're prepared simply to be lousy at something we invariably do in any case. (Or is this a lousy argument?)

* * *

Well, there you have it: argument evaluation in a nutshell. As our final example makes plain, argument evaluation is no simple business. At the same time, it's not at all impossible to make headway with the task of learning how to do it and to get better and better at doing it by practicing on lots and lots of arguments, and you now have at your disposal the elementary concepts that will make it possible for you to get your bearings with respect to what has to be done in each and every particular case.¹¹

* * *

We close with just a few more definitions—this time of terms that you may find useful (and that you will no doubt encounter) in discussions of arguments and of the logical relations between and among statements.

1. Two statements are **contraries** just in case it's not possible for both to be true although it *is* possible for both to be false.
2. Two statements are **contradictories** just in case it's neither possible for both to be true nor possible for both to be false—just in case, in other words, the only possibility is that one is true and the other is false.
3. A *set* of statements is **logically consistent** just in case it's possible for all its members to be true.
4. A *set* of statements is **logically inconsistent** just in case it's not possible for all its members to be true.
5. A *single* statement is **logically consistent** just in case it's possible for it to be true.
6. A *single* statement is **logically inconsistent** (or **contradictory** or **self-contradictory** or a **contradiction**) just in case it's not possible for it to be true.
7. A statement is a **necessary truth** (or is **necessarily true**) just in case it's not possible for it to be false.
8. A statement is a **contingent statement** (or simply **contingent**) just in case it's neither a contradiction nor a necessary truth.
9. Finally, two statements are **logically equivalent** just in case it's not possible for one to be true while the other is false—just in case, in other words, it's necessarily true that either both are true or both are false.

¹¹Or at least to *begin* to get your bearings with respect to what has to be done. It would be remiss not to add at the end of this account that the entire discussion has, at least in one important respect, rested upon a fiction—a fiction, specifically, concerning the character of *inductive* arguments. The logic of inductive arguments is not at all well understood except in one respect: it's obvious that such arguments are not valid. Nevertheless, it has seemed to most philosophers as if *something* along the lines of what is suggested here by the distinction offered between inductive and lousy arguments must be true, but no attempt made to date to spell out with precision what exactly can be meant by the claim that the truth of the premises in an inductive argument makes the truth of the conclusion likely or probable has met with complete success—and many, many such attempts have been made. And of course what this means is that the branch of logic called “inductive logic” is still a theoretical morass. Does it follow from this that careful thinkers should make no use of inductive arguments? If it does, then careful thinkers should make no use of, among other things, the arguments that can be offered in support of the vast majority of the conclusions that scientists have arrived at in both the natural and social sciences, and on its face, this seems quite simply absurd. A good introductory text for those interested in learning more about the nature of inductive logic and the problems that beset it is Brian Skyrms's *Choice and Chance: An Introduction to Inductive Logic*, 2nd ed., Encino: Dickenson Publishing Co., 1975.