GOOD REASONING*

Not all opinions are equal, the first chapter concluded, and we looked at is few examples that seemed to show that some opinions are indeed better than others. What we did not do, though, is explain why some opinions are better than others.

Of course, given the nature of the examples, explanation might have seemed unnecessary. Let’s go back to one of them – the choice of career. If any opinion about the best career for Mary is to be a good one, it must be based on some obvious factors – what she likes to do, what she’s good at, availability of jobs, where she would like to live, and so on. Any opinion that ignores these factors is not one that will have much value to her. Similarly, any worthwhile opinion at the beginning of the baseball season regarding the outcome of the World Series must be based on equally obvious factors, like pitching and hitting.

The same thing can be said about any opinion. If it is to be a good one, it must be well grounded. It must be supported by good reasons. And the better the support, the better the opinion, whether it’s a scientific opinion or a moral one, an opinion about what’s wrong with your car or an opinion about what’s wrong with something you did. To be sure, an opinion that is not well grounded may turn out to be correct. Even the most ignorant of ignoramuses are right sometimes. But when they are, it is a matter of pure luck. Their opinions are not to be trusted in the future, because they are not arrived at in a reliable way.

What makes an opinion well grounded? Well, one obvious thing is knowledge. The more relevant details we know about a particular matter, the better grounded our opinions will be. Be sure to notice the word relevant. It is most important, particularly when we deal with moral problems. In fact, one of the biggest difficulties we will encounter in our dealings with the issues of Part 2 is trying to decide what the relevant details are.

Another thing is logic. A well-supported opinion is logically arrived at. It comes at the end of a reliable pattern of reasoning. Or, as philosophers often put it, it is the conclusion of a strong argument.

ARGUMENTS

To philosophers, scientists, attorneys, and others who engage in intellectual debate, an argument is a collection of statements. One of the statements is the conclusion. The other statements are called premises, reasons, evidence, supporting statements, or grounds. Whatever we call them, the important point is this: Their purpose is to show that the conclusion is true, or that it is reasonable to accept the conclusion as true. Much of Part 2 will be devoted to arguments for and against various positions. And much of your task in reading Part 2 will be to do your best to evaluate these arguments. That is, you will have to decide whether the arguments for or against particular positions are the better ones. And to do that, you will have to ask yourself a variety of questions: Are the supporting statements true? If so, do they really lend support to the conclusions, or are they irrelevant to the conclusions? Are the patterns of reasoning followed by these arguments reliable ones? Has anything of importance been left out of these arguments?

In the rest of this chapter, we’ll give you some help in answering these questions. But first, we most distinguish two kinds of argument.

Deductive Arguments

Consider the following two sentences:

1. If Clint Eastwood is a bulldog, then he has four legs.
2. Clint Eastwood is a bulldog.

Chances are, you know what comes next:

3. Therefore, Clint Eastwood has four legs.

How did you know that? Not because of anything you know about Clint Eastwood. People may have different opinions about his movies, but all of us agree that lie has only two legs. Nor does your knowledge of bulldogs make a difference. Suppose the first sentence had been “if Clint Eastwood is a bulldog, then he has eight legs.” Then you would have drawn a different conclusion: “Therefore, Clint Eastwood has eight legs.”

What makes the difference is your knowledge of a rule of deductive logic, as follows:

1. If A, then B.
2. A.
3. Therefore, B.

That rule is called a truth-preserving rule. To say that the rule is truth preserving is to say that whenever you follow it, if the first two statements (called the premises) are true, the conclusion will also be true. Truth-preserving rules are also called valid rules, and any argument that follows only valid rules is called a valid argument.

The notion of a valid deductive argument will prove to be very useful. Even more important is the notion of a sound deductive argument. To be sound, an argument must pass two tests: first, it must be valid, and second, all its premises must be true. A valid argument with false premises may or may not have a true conclusion, but the conclusion of a sound argument must be true. In other words, if we can assure ourselves that all the premises of an argument are true, and if we can also assure ourselves that the argument follows only valid deductive rules, then we can assure ourselves that the conclusion must be true.

There are many valid rules of deductive reasoning, far too many to go into here. Fortunately, we do not need to know all of them to decide whether an argument is valid. Instead, we can use a simple method for detecting invalidity. That method is known as the method of counterexample. Consider the following argument, which many people mistakenly think to be valid:

1. If John took a shower, then he got wet.
2. John didn’t take a shower.
3. Therefore, John didn’t get wet.
That argument follows this rule:

1. If A, then B.
2. A is not true.
3. Therefore, B is not true.

And we can show that that rule is not truth preserving by giving a counterexample to the rule. To do that, we find an argument that has true premises, follows the same rule, but has a false conclusion. If we can do that, the rule is certainly not truth preserving. For instance,

1. If Rin Tin Tin had been a collie, then he’d have been a dog.
2. Rin Tin Tin was not a collie.
3. Therefore, Rin Tin Tin was not a dog.

Here’s another example of an invalid argument:

1. Some baseball players are left-handed.
2. Some baseball players are pitchers.
3. Therefore, some pitchers are left-handed.

If you don’t believe that the argument is invalid, consider this counterexample:

1. Some animals are human.
2. Some animals are fish.
3. Therefore, some fish are human.

And here, finally, is another:

1. All ravens are black.
2. A dove is not a raven.
3. Therefore, a dove is not black.

And here is a counterexample:

1. All ravens are black.
2. A panther is not a raven.
3. Therefore, a panther is not black.

In each of the preceding cases, we provided a counterexample by constructing an entirely new argument. Sometimes you may find it easier just to ask a few questions about the original argument. Take the argument that concluded that John didn’t get wet (because he didn’t take a shower). What if he’d taken a bath instead? Or take the argument that concluded that some pitchers are left handed (because some baseball players are pitchers and some are left handed). What if all the left-handed players are outfielders? Or take the last one. What if there are black doves?

Fortunately, you will not come upon many invalid arguments in the readings in Part 2. Unfortunately, you will come across many invalid arguments in other discussions of the same issues – perhaps even in class discussions – so being able to recognize one when you see it is an important skill.

What you are more likely to come across in the readings in Part 2 are valid but unsound arguments. So you must be careful to ask whether the premises are true when you evaluate the arguments you encounter.

Inductive Arguments

Most ordinary reasoning is not deductive. The supporting statements, if true, do not guarantee the truth of the conclusion. Rather, they establish that it is more reasonable than not to accept the conclusion. That is, they establish that the conclusion is likely to be true. Arguments of that kind are called inductive arguments. The supporting statements of inductive arguments are called reasons, evidence, or grounds, instead of premises, and a good inductive argument is called a warranted argument instead of a sound one.

When we reason from cause to effect or from effect to cause, we generally reason inductively. If, for example, we hear a loud bang outside, we would most likely conclude that a car had just backfired. Although other explanations are possible – somebody ought have shot his neighbor, say – in most neighborhoods a backfiring car is the most probable one. Since our evidence does admit of other possibilities, though, we cannot say that we reasoned deductively. Similarly, when we put a pot of water on the stove and come back later expecting the water to be boiling, we are also reasoning inductively. Various factors may have kept the water from boiling – the gas might have been turned off, for instance – but, more likely than not, the water is boiling.

Most generalizations are also examples of inductive reasoning. We examine a sample taken from a larger population, notice some features shared by a certain percentage of our sample, and then conclude that the same – or nearly the same – pattern occurs in the population at large. Thus, from a sample of green and only green emeralds we conclude that all emeralds are green, and from a sample of Nielsen families we conclude that more viewers watch NFL football games than NBA basketball games. These generalizations are reliable, but they are not arrived at by deductive reasoning. Because there is always some probability – however small – that the larger population does not match the sample, such reasoning is inductive.

Although inductive reasoning does not have rules in the same way that deductive reasoning does, we use a variety of criteria to evaluate inductive arguments. For our purposes, the most important are those that concern causal generalizations, since those are the kinds of arguments that will be most prominent in Part 2.

Consider this argument:

1. John takes two aspirin tablets every day.
2. John never has a cold.
3. Therefore, aspirin prevents colds.
Moral Arguments

A familiar position on abortion is that abortion is wrong except to save the life of the mother, and a common justification for that position is that taking an innocent life is wrong except to save a life. Proponents of broad abortion rights, on the other hand, often support their views by claiming that women have the right to control their own bodies as long as they don’t harm anyone else. Like all the moral arguments we will come across in Part 2, each proceeds from a general moral principle (the first about taking an innocent life, the second about a woman’s rights over her body) to a moral conclusion about a particular issue (the morality of abortion). The best way to examine such arguments is to treat them as abbreviated deductive arguments. We do that by supplying additional premises that make the arguments valid.

Consider the first argument. We are given only one premise:

1. Taking an innocent life is wrong except to save a life.

One premise that must be added is the following:

2. Abortion is the taking of an innocent life.

Together, those premises lead to:

3. Therefore, abortion is wrong except to save a life.

Though that is an important conclusion of the argument, it is only an intermediate conclusion. To get to the final conclusion, we must add another premise:

4. The only life that can be saved by an abortion is the mother’s.

From that premise and the intermediate conclusion, we get the final conclusion:

5. Therefore, abortion is wrong except to save the life of the mother.

Because the preceding argument reaches an intermediate conclusion, it is a two-step argument. Multiple-step arguments are not unusual in moral debates. In fact, the opposing argument, once the missing premises are added, turns out to be a three-step argument, because it goes through two intermediate conclusions, one at line three and the other at line five:

1. Women have the right to control their own bodies as long as they don’t harm another person.
2. A woman’s right to control her body includes the right to have any medical procedure she and her doctor choose.
3. Therefore, a woman has a right to any medical procedure she and her doctor choose as long as it doesn’t harm another person.
4. An abortion is a medical procedure.
5. Therefore, a woman has a right to an abortion as long as it doesn’t harm another person.
6. An abortion hurts nothing but the fetus, which is not a person.
7. Therefore, women have the right to an abortion.

Both of these arguments are valid, but since they reach opposite conclusions, they cannot both be sound. At least one of them must have at least one false premise. And that is why it is useful for us to treat moral arguments as deductive. If we do so, they become much easier to evaluate. We can lay out opposing arguments in a clear fashion, make sure that we understand the reasoning behind each one, isolate all of the premises, and then examine the premises of each to see whether they are true.
The ones with true premises, or with premises more likely to be true, are the ones we should accept.