

# Analogies: Reasoning from Case to Case

IN THIS CHAPTER WE STUDY analogies, with particular emphasis on the way they are used in arguments. We emphasize the important role analogies often play in the reasoning within law and administration and their function in psychology and medicine. We offer some strategies for grasping the basic structure of an analogy and arriving at a sound critical assessment. In addition to cogent arguments from analogy, there are also many arguments from loose and irrelevant analogies that provide only the shakiest base for conclusions. We examine two kinds of cogent analogies, and then go on to discuss some fallacies based on the misuse of analogies.

## THE NATURE AND FUNCTIONS OF ANALOGY

As we saw earlier (Chapter Four and Six), arguments by **analogy** draw a conclusion about one thing on the basis of a comparison of that thing and another. It is convenient to call the central topic—the one dealt with in the conclusion—the **primary subject**, and the case with which it is compared the **analogue**. In the following unforgettable analogy by C. S. Lewis, the primary subject is the striptease, as it exists in our culture, and the analogue is the unveiling of a mutton chop, as this might exist in an imagined alternative culture:

You can get a large audience together for a strip-tease act—that is, to watch a girl undress on the stage. Now suppose you came to a country where you could fill a theatre simply by bringing a covered plate onto the stage and then slowly lifting the cover so as to let everyone see, just before the lights went out, that it contained a mutton chop or a bit of bacon, would you not think that in that country something had gone wrong with the appetite for food?<sup>1</sup>

The answer to the rhetorical question at the end of the passage (“would you not think ... something had gone wrong with the appetite for food?”) is supposed to be “yes.” The implied conclusion is that when the striptease is a form of entertainment, something has gone wrong with the desire for sex. Lewis uses our reaction to the analogue about the mutton chop to develop a reaction to the primary subject, which is the striptease. If people were tantalizing themselves by viewing a chop, but not eating it, we would think that the human desire for food had been warped in some way. By drawing an analogy

between this imaginary case and the striptease, Lewis urges us to conclude that our sexual desires in a culture of sexual stimulation are somehow warped.

An argument based on analogy begins by using one case (usually agreed on and relatively easy to understand) to illuminate or clarify another (usually less clear). It then seeks to justify a conclusion about the second case on the basis of considerations about the first. The grounds for drawing the conclusion are the relevant similarities between the cases, which show a commonality of structure.

Because this book is about arguments, we concentrate here on arguments based on analogy. However, analogies have many other functions. In explanations based on analogy, the analogue case is likely to be straightforward, whereas the primary subject is less so. Explanations based on analogies are often quite effective because they enable us to understand the nature of the unfamiliar by comparing it with something that is relevantly similar, but much more familiar. Albert Einstein used an analogy to explain how the enormous energy that is inherent in mass could have gone undetected by physicists until the twentieth century. This mass, he urged, was real, even though no one had been able to detect it. Einstein said:

It is as though a man who is fabulously rich should never spend or give away a cent; no one could tell how rich he was.<sup>2</sup>

Here the primary subject needing explanation is the energy within matter, and the analogue presented to explain it is the unspent money of the rich man. Einstein was trying to explain the notion of trapped energy to people who might not be familiar with it, presuming that people would certainly be able to understand how a fabulously rich man could hoard his money and fail to reveal the riches he had.

Another example of an explanatory analogy was provided by Ralph Johnson in an essay about sampling and opinion polls. Johnson said:

To take the simplest sort of example, suppose that you were making soup and you wondered whether or not you had put enough thyme in it. You probably first would stir the batch of soup well (the batch is the population) and test a portion that has been well-mixed and hence is a good indicator of the whole batch. In doing this, you would be acknowledging the fundamental principle of sampling, which we will discuss shortly. Next you would select a spoonful of it (the sample), test it (by tasting it) and—based on your perception—project that property back into the population: “There should be more thyme,” you might say.

When you stirred the soup, it was to make as sure as you could that your sample was typical of the whole batch. The key feature in construction of a sample is that it be representative.<sup>3</sup>

Johnson is not offering an argument in this passage. He is using the familiar activity of tasting soup to explain representative sampling.

In addition to their roles in explanations and in arguments, analogies are used as descriptive devices, to add interest or to emphasize particular features of something that is being described. An article in *The Economist* for May 31, 2008, provides an example; it refers to new members of the European Union as experiencing “teething trouble,” as a way of saying they were new and experiencing problems of growth and development within the union.<sup>4</sup> The analogy here is between new members and a developing infant. In the same magazine, an article about high oil prices employs an analogy in its title. It is called “Pistol Pointed at the Heart,” to emphasize the writer’s claim that high oil prices may be seriously damaging to economies.<sup>5</sup>

Although we concentrate here on analogy as it is used in argument, the points about relevant similarities and differences apply also to explanatory or descriptive analogies.

## ANALOGY AND CONSISTENCY

Treating relevantly similar cases similarly is a fundamental aspect of rationality. Any application of a general principle or rule—whether in logic, morality, law, or administration—requires that we have a sense of which cases are *relevantly* similar and merit similar treatment. This is one way that we can see just how fundamental reasoning with analogies is.

In logic, a contradiction, a statement of the type “P and not-P,” is never true.<sup>6</sup> Such a statement both asserts and denies the same thing (for example, “Elvis Presley is dead and Elvis Presley is not dead”); it is inconsistent and cannot be true. You can see that by representing the statement on a truth table. If we are going to make sense, such inconsistency has to be avoided. A person who asserts and denies the very same thing has, in effect, said nothing at all.

However, this is not the only sort of consistency that is essential to the rational life. There is another kind of consistency—that involved in treating relevantly similar cases similarly. Often, agreed-on cases are used as the basis for arguments to conclusions about disputed cases. The agreed-on cases serve as the analogues, and on the basis of similarities, one can defend conclusions about the disputed cases. Such arguments **appeal to consistency**: relevantly similar cases should be treated similarly. We are inconsistent if we treat relevantly similar cases differently—for example, by criticizing in one person behavior we condone in someone else, or by demanding a stiff sentence for one first-time offender while urging probation for another in similar circumstances. If a particular case merits some particular treatment, then consistency demands that any relevantly similar case will merit the same treatment.

In fact, this form of argument is common in logic itself. Occasions may arise when we wish to evaluate an argument and we are not certain what to say about it. One technique that may be used is to find a relevantly similar argument on which the verdict is clear and reason from the clear case to the disputed case.

### Treating Similar Cases Similarly

The demand for consistency is the basis of many forceful and important arguments. These arguments work by bringing an undisputed case to bear on a disputed or problematic case. The cases are considered to be relevantly similar. For example, if an analogue is known to be wrong, and a primary subject is relevantly similar to it, then the primary subject can be known to be wrong too. What matters are relevant similarities.

Dr. Joyce Brothers used a similar technique when she replied to an anxious reader who said, “My problem is that my husband doesn’t want to have children because I underwent therapy before we were married and my husband is afraid that my emotional troubles will be passed on to my child.” Brothers replied with an analogy:

When is society going to come out of the dark ages and recognize that mental or emotional problems should be no more stigmatizing to an individual than a case of German measles or pneumonia? We do not shun those who have suffered and been cured of tuberculosis, polio, or other diseases, do we?<sup>7</sup>

Brothers is contending here that emotional problems are *relevantly similar* to physical diseases and should be treated in the same way. She relies on our acceptance of the belief that people should not be shunned after they have been cured of physical diseases. She draws an undeveloped analogy between emotional and mental problems and these physical diseases, and she urges that we “come out of the dark ages” to make our attitudes consistent. The analogy on which the argument depends may be set out as follows:

ANALOGUE

People with such physical problems as German measles or polio  
suffer  
can recover  
are not shunned by others after they recover

PRIMARY SUBJECT

People with emotional or mental problems  
suffer  
can recover

CONCLUSION

People with emotional or mental problems should not be shunned by others after they recover.

Is this argument a good one? Our assessment will depend on the relevance of the similarities to the conclusion that is drawn. How similar are physical and emotional diseases with respect to extent of recovery after treatment and possible transferred effect on children? The technique Brothers uses, appealing to consistency of treatment between similar cases, leaves her audience with a choice between changing their attitude to the analogue and changing their attitude to the primary subject—presuming that they are committed to consistency.

A cartoon by Nick Anderson satirized inconsistent application of standards of evidence. The cartoon shows President George W. Bush going through some papers and reading into a microphone. He is saying:

The threat is real and imminent. The evidence is sound ... We should not stand by as dangers gather on the horizon....

He then shuffles the papers and says,

Wait.... This is the stuff we cut from the global warming study.<sup>8</sup>

The cartoonist is arguing that whereas in contexts of military security, the Bush administration had taken *possible dangers* extremely seriously, in the context of global warming, it had ignored *possible dangers*. In his cartoon, Anderson pointed out that this treatment of risks was inconsistent; the administration must be wrong about military risks or wrong about global climate risks.

In law, the obligation to treat relevantly similar cases similarly is the essence of formal justice. Suppose two people in two separate cases are charged with the same crime. Let us say, for instance, that Jones was arrested for selling two ounces of marijuana on Monday, and Smith was arrested for selling four marijuana plants on Tuesday. Suppose that Jones is convicted and Smith is not. If there is not some relevant difference between the two cases, this situation constitutes an example of formal injustice. Regardless of the contents of a law, that law should be applied consistently. No two accused people are identical; nor will their circumstances be identical. But if

they are relevantly similar, they should be treated similarly under the law. If they are not treated similarly, the judge or judges should specify the differences and explain why those differences are relevant to the sentencing of the two people. Often it requires discussion, reflection, and judgment to decide which features are relevant and which are not. For example, if Jones had red hair and Smith had black hair, that difference would not be relevant to their treatment under the law. If, however, Smith had hundreds of marijuana plants growing in his home, whereas Jones did not, that difference could be relevant to their treatment.

Consistency in reasoning is the basis of the **precedent** system of law. To preserve formal justice, cases must be resolved as similar cases have been resolved in the past. If they are not, a differentiating point must be specified showing why it is reasonable to treat them differently, and it must be argued just why this difference makes a difference. In the case of Smith and Jones, the hundreds of marijuana plants in Smith's home indicate that he was planning to sell and distribute a considerable amount of the drug, and there is no evidence of such an intention for Jones. That's why the situational difference between Smith and Jones makes a difference to their treatment under the law. Reasoning about relevant similarities and differences is an extremely important aspect of law. Much legal reasoning is, in effect, reasoning by analogy. The case under discussion is the primary subject, and the cases considered in attempts to resolve it are the analogues, or legal precedents.

An example is found in the reasoning of the Supreme Court of Illinois in the case *Village of Skokie v National Socialist Party of America*.<sup>9</sup> In that case, an appeal court in Illinois had issued an order against the National Socialist (Nazi) Party of America, forbidding its members to intentionally display the swastika in the course of a demonstration, march, or parade. This order had been issued in connection with a demonstration in Skokie, Illinois. Skokie is a village of 70,000 people, of whom some 40,500 are Jewish or of Jewish origin, and some 5,000–7,000 are survivors of German concentration camps. The National Socialist demonstrators wanted to wear uniforms that would include a swastika emblem or armband and carry a party banner with a swastika. The banner would display such statements as “White Free Speech,” and “Free Speech for White America.” Jewish citizens of Skokie had argued that displaying the swastika was deeply offensive to them, and threatening because it implied that Nazi efforts to exterminate Jews were not over. The National Socialist party, contesting the ruling of the appeals court, claimed that its members were entitled to display the swastika, due to guarantees of free speech in the American constitution. In its decision on this matter, the Supreme Court of Illinois had to determine whether displaying the swastika was relevantly similar to using “fighting words”—words likely to cause acts of violence and for that reason not protected as free speech under the constitution. In its arguments, the court made reference to a previous case, *Cohen v California*. In that precedent case, a defendant had appeared wearing a jacket that bore the words “Fuck the draft.” The court had decided that this particular speech was permitted: it did not amount to “fighting words” and its offensiveness to some did not justify forbidding it. The displaying of a swastika was relevantly similar to wearing a jacket saying “Fuck the draft,” the court decided. It concluded that a swastika is a symbol used to convey the personal beliefs of some people and that “the use of the swastika is a symbolic form of free speech entitled to First Amendment protections.”<sup>10</sup>

If one wished to dispute this legal judgment, one would argue that this similarity is not sufficient to give the swastika protection under free speech; one might, for instance, argue that given the history of the Holocaust, the swastika is directly threatening to individuals in a way that “fuck the draft” is not.

Precedent reasoning also occurs in many administrative contexts. Here the context is less strictly structured than in courts of law, but there is a need to avoid inequitable treatment and unfairness. Good administrators will seek to treat relevantly similar cases similarly and will sometimes argue against a specific decision on the grounds that it will set a bad precedent. For instance, if the chairperson of a meeting accepts a proxy vote on behalf of one committee member, she will feel compelled to accept proxy votes on behalf of others. Presumably everyone who wished to skip a meeting would then have the privilege of voting by proxy. (As we shall see later, this kind of appeal to precedent is open to subtle and slippery abuses that lead to fallacious argument.)

### Case-by-Case Reasoning and Issues of Classification

Is a particular economy in a condition of depression? One clear way of considering this question would be to compare and contrast its economic condition with that of the 1930s, which is agreed to have been a classic case of an economic depression. Is a virus an animal? Are the Laplanders a distinct race? All these questions have significant implications and call for correct decisions about the application of concepts. The issues at stake are *conceptual*. Some people regard **conceptual issues** as unimportant, thinking that they relate only to words and nothing more, and that they cannot be resolved in any reasonable way. However, as we saw in Chapter three, considerations about how words are to be used can be important, and reasons can be given to back up claims on these matters. Often such reasons are based on analogies between cases.

For example, if we ask whether a questionable act counts as an act of *negligence*, we are raising a conceptual issue, one that often has considerable legal or moral significance. (It might make the difference of several years in jail, or thousands of dollars in fines for an individual or corporation.) One way of resolving such an issue is to compare the act with another act agreed to be a case of negligence. We then ask how much our problem case is like the standard case, and to what extent it is unlike the standard case. To use this technique is to approach conceptual issues by reasoning from analogy.<sup>11</sup>

Issues about classification can often be resolved by arguing from agreed-on cases. The pattern of such reasoning, for conceptual issues, is something like this:

1. The analogue has features *a*, *b*, and *c*.
  2. The primary subject has features *a*, *b*, and *c*.
  3. It is by virtue of features *a*, *b*, and *c* that the analogue is properly classified as a *W*.
- So,
4. The primary subject ought to be classified as a *W*.

Sometimes the comparison of cases omits any specification of the similar features and merely sets the cases side by side—the presumption being that similarities will be recognized once the two cases are considered together. Thus:

1. The analogue is a clear case of *W*.
  2. The primary subject is relevantly similar to the analogue.
- So,
3. The primary subject is a case of *W*.

Robert Nozick offered a philosophical argument combining conceptual issues with moral ones. He tried to persuade readers that they were far too complacent in accepting the government's policy of redistributing wealth by income taxation. Nozick put his point provocatively by using the following analogy:

Taxation of earnings from labor is on a par with forced labor. Some persons find this claim obviously true; taking the earnings of  $n$  hours of labor is like taking  $n$  hours from the person; it is like forcing the person to work  $n$  hours for another's purpose. Others find the claim absurd. But even these, if they object to forced labor, would oppose forcing unemployed hippies to work for the benefit of the needy...

The man who chooses to work longer to gain an income more than sufficient for his basic needs prefers some extra goods or services to the leisure and activities he could perform during the possible nonworking hours; whereas the man who chooses not to work the extra time prefers the leisure activities to the extra goods or services he could acquire by working more. Given this, if it would be illegitimate for a tax system to seize some of a man's leisure (forced labor) for the purpose of serving the needy, how can it be legitimate for a tax system to seize some of a man's goods for that purpose?<sup>12</sup>

Nozick's analogy can be set out as follows:

#### ANALOGUE

The government might force a person to work for some number of hours to support the needy.

Point (1): In such a case, a person would labor for some number of hours.

Point (2): The laboring person would not receive the payment for those hours of work; he would receive nothing for himself.

Point (3): The laboring person would be forced by the government to spend his time laboring for others.

Point (4): It obviously would be wrong for the government to put people into forced labor to serve the needy, and the wrongness of this act would be, and is, acknowledged by everybody.

#### PRIMARY SUBJECT

The government takes the earnings from some number of hours of work to support the needy.

Point (1): A person labors for some number of hours.

Point (2): The laboring person does not receive the payment for those hours of work.

Point (3): ? (How does the analogy hold up here?)

#### CONCLUSION

Taxing earned income to support the needy is morally wrong.

Most people are prepared to *accept* income tax, which is used (in part) to support such social programs as welfare and medical assistance. Most people are *opposed to* forced labor, which they are likely to associate with prisons or totalitarian regimes. Are we being inconsistent if we endorse these common attitudes? Nozick is maintaining that we are—that, in fact, labor for which one is not paid because of income tax is “just like” forced labor and deserves the same bad moral reputation. This is certainly a provocative analogy. To resist it, we must find a relevant dissimilarity between forced labor as in concentration camps and labor that is 100 percent taxed and thus, in effect, unpaid.

Look at the third point for a clue. People do largely choose to work at those jobs for which they are taxed, so their actual labor is not forced in the same sense that concentration camp labor is forced. This difference between the primary subject and

the analogue is highly significant. We can argue, against Nozick, that taxed labor is not the same thing as forced labor, because people choose their jobs voluntarily and could quit if they wished to do so. The analogy is undermined by this difference: since working at your job during hours when you do not receive pay (because it goes to taxes) is something that a person (typically) chooses to do and could cease to do, such work is not strictly comparable to forced labor. What is forced is not the labor, but the payment of tax on the wages that one earns for doing that labor. Thus, Nozick's analogy is not fully convincing. By appealing to this relevant difference, we can argue that we are not inconsistent if we approve of income tax used for redistributive purposes but disapprove of forced labor.

Some arguments make a rather implicit appeal for consistent treatment of cases. Here we often find such phrases as *that's just like saying, you might as well say, by the same reasoning*, or *according to those standards*. Here is an example from some years ago in which the writer of a letter to *Time* magazine urges that appeals by the chairman of Eastern Airlines (now defunct) for protection from creditors should be rejected.

In seeking protection from Eastern's creditors in bankruptcy court, Lorenzo [chairman of Eastern Airlines] is like the young man who killed his parents and then begged the judge for mercy because he was an orphan. During the last three years, Lorenzo has stripped Eastern of its most valuable assets and then pleaded poverty because the shrunken structure was losing money.<sup>13</sup>

The analogue is the case of a young man who killed his parents and then begged for mercy from the court, saying he is an orphan—seeking pity on the grounds of a state of affairs that he himself caused, given that he murdered his parents. The analogue forcefully brings out the general point that one who has caused his own bad situation deserves little pity or mercy from others. The Eastern Airlines case is claimed to be relevantly similar. The conclusion is that Lorenzo would not deserve protection from the court for a bankruptcy caused by his own actions.

### Refutation by Logical Analogy

You can sometimes show an argument to be a poor one by comparing it with another argument that is obviously poor. If the two arguments are relevantly similar, then the logical analogy between them will show that the argument in question is poor. It is relevantly similar to another that is obviously poor, so it is poor. In such a procedure the first argument is **refuted by the use of a logical analogy**, or, as it is sometimes called, a *parallel case*.

To see how this works, consider this simple example:

#### PRIMARY ARGUMENT

You should not take prescription drugs, since these contain unnatural substances and unnatural substances may be harmful to the body.

The questionable premise here is that any substance that is not natural may be harmful to the body. The logical problem with this premise is exposed in the following logical analogy:

#### ANALOGUE TO PRIMARY ARGUMENT

You should not consume ice cream, since ice cream is an unnatural substance and may be harmful to the body.

On the basis of the analogue, one might seek to refute the primary argument.



## REFUTATION BY LOGICAL ANALOGY

Saying that you shouldn't take prescription drugs since they are unnatural substances that may harm the body is just like saying that you shouldn't eat ice cream since it's an unnatural substance. And that's ridiculous.

The point of this refutation is that the primary argument is ridiculous, because it is relevantly similar to the analogue—which is ridiculous. What is happening here is that there is an argument about two other arguments. Provided we have correctly identified the relevant similarities and are comparing the structure shared by the two arguments, this reasoning about the two arguments is cogent, and shows that the primary argument is incorrect. The technique of refutation by logical analogy can be extremely valuable.

The technique of refutation by logical analogy is intended to highlight the essential structure of the primary argument so as to show its flaws. The original argument is refuted by logical analogy. If the structure is clearly flawed in the analogue argument and the primary argument has the same structure, then clearly the primary argument is flawed. Consistency will require that we judge the two arguments in the same way. The trick here, obviously, is to get the parallel between the primary argument and the analogue argument just right. Here again, the point turns on relevant similarities: the analogue and the primary subject must be relevantly similar and any differences between them must not undermine the conclusion. To construct a refutation by logical analogy, we need to distinguish between those features of an argument that are merely incidental to its working and those that are central and crucial.

This may all sound rather abstract, but in fact, the technique of refuting an argument by logical analogy is common in everyday conversation and is used quite naturally by people with no formal training in argument skills. Here is an example where a newspaper columnist was criticizing a comment by Alberta's energy minister, who had said that since Alberta possessed valuable hydrocarbon resources, it would be silly for the province to develop solar or wind energy. The columnist imagined an ancient character objecting to the development of oil and gas resources in 1914:

Puffing reflectively on his pipe, he said, "Mark my words. No good will come of this." He said it quite a lot, leaning back in a chair on the front porch of his livery stable.

Of course, anyone who paused to listen stayed to mock, but Max stuck to his guns. "Oil?" he'd say. "What for? We'd look pretty stupid if we came up with anything that reduced the value of our horse resources."

"Alberta is the horse capital of Canada," he'd continue. "Are we supposed to dig up gasoline for the Easterners so they can tell us what we can do with our horses? They'd like that, all right, but why should we oblige them?"<sup>14</sup>

The parallel focuses our attention on the basic structure of the minister's argument. In effect, the minister is claiming that if something that is useful and profitable now would be replaced by some new development, then the new development should be abandoned. The columnist's entertaining parallel points out the implausibility of the original argument by showing that it could have been cited to prevent the development of the very hydrocarbon resources the minister was attempting to defend.

Here is an example in which the technique of logical analogy was used to good effect in a letter to the editor. In a context in which the Supreme Court of Canada had issued a judgment saying that any ban on same-sex marriage would amount to

discrimination, some had cited biblical teachings to oppose the judgment. Against their view, the writer said, sarcastically:

In the recent gay-marriage controversy, much has been made of the biblical origins of the sacrosanct union between man and woman. Since the Bible is the eternal and immutable guide to family values, I decided to flip through it for advice on other family problems.

How to deal with an unruly son? Well, according to Deuteronomy 21:18–21, you're well within your rights to take him outside and stone him to death. What about a daughter who displeases you? Exodus 21:7–11 provides you with some straightforward advice on selling her into slavery. And if a member of your family chooses another faith. Well, as Deuteronomy 13:6–11 clearly states, it is your obligation to kill them.

Yes, for every problem in the contemporary world, there is a biblical injunction that is clearly applicable to the situation.<sup>15</sup>

The writer's point, made through a number of analogue cases, is that it is not cogent to argue from a premise stating that some piece of advice may be found in the Bible to a conclusion that the advice is sound for contemporary society. Thus to cite the Bible as a source of objections to same-sex marriage is not a good way of arguing against the Supreme Court judgment. The writer cites three analogues to make his point: biblical advice would apparently authorize stoning, killing, and selling into slavery—practices that are clearly illegal and would be regarded as immoral in Western societies today. Citing the Bible would not suffice to demonstrate the morality of these actions and, by analogy, the writer is claiming that citing the Bible will not establish whether same sex marriage is an acceptable practice or not.

## SOME POINTS OF METHOD AND CRITICAL STRATEGY

We have now considered a number of examples of analogies in which a decision about one case is rejected or defended on the basis of considerations of consistency. The analogy may be between two real cases or between a real case and a purely hypothetical case. The cases of people being shunned for physical diseases and of unemployed hippies being forced to work for the needy are *hypothetical* examples; the analogy can work even if these things never happened. Similarly, for the force of the argument about Lorenzo and Eastern Airlines; the point here is hypothetical. It does not matter for the credibility of the argument whether, in fact, there ever was a young man who killed his parents and then sought mercy from the court on the grounds that he was an orphan. The analogue may be a real case or an imaginary case: what matters is that the point must be clear, the reasoning about the analogue must be correct, and the analogue must be relevantly similar to the primary case.

The imaginary, or even fanciful, aspect of case-by-case reasoning may confuse some people who cannot understand why purely fictitious examples should be of any importance in rational decision making. But the answer to their puzzlement is not so hard to find. The analogue must above all be a case toward which our attitude is *set and clear*: an obviously valid argument, invalid argument, right action, wrong action, legal action, illegal action, correct decision, incorrect decision, or whatever. We will make little progress by comparing one confusing case with another. Not only must the analogue be set and clear, it must be similar to the primary subject in the ways relevant to the conclusion that is sought. Provided these conditions are met, we are pushed by consistency into taking the same stance on the primary subject as we do

toward the analogue. These conditions do not require that the analogue case be real, as distinct from fictitious. Whether or not anyone ever actually claimed mercy as an orphan after murdering his parents, it is clear that it would be absurd to do so.

Our attitudes and our moral and logical beliefs are about a whole range of actions, events, and arguments—not just about those that have actually occurred, or existed up to the present moment. For instance, we do not know whether in fact any woman ever killed her baby by burning it in oil, but we do know that our attitude toward such an action, considered hypothetically, would be one of extreme repugnance. Any action that can be shown to be relevantly similar to this hypothetical one is also to be condemned.

Because the analogue in this kind of consistency reasoning need not be something that actually happened, the analogy used may be called an *a priori* analogy.<sup>16</sup> As we saw in Chapter Five, the words *a priori* in Latin mean “from the first” and are used to refer to concepts and beliefs that are independent of sense experience. The analogies examined so far in this chapter have been *a priori* analogies in the sense that it does not matter whether the analogue describes real events or purely hypothetical ones. What is at issue in these analogies is structure: something we have to reflect on. The analogy will be a good one insofar as the analogue and the primary case share all the features that are logically relevant to the conclusion. Whether this is the case is something we can determine *a priori*, from reflective examination of the cases. The point of classifying these analogies as *a priori* will become more obvious when we look at **inductive analogies**, in which comparisons must be with actual cases.

If an argument is based on an *a priori* analogy, you evaluate it using the ARG conditions, just as you would for any argument. The analogue may be a case that is invented by the arguer. If so, you cannot question the description of the analogue except on grounds of consistency; after all, the case is the invention of the arguer. The parallel drawn between the analogue and the primary subject must hold up for the features relevant to the issue to be resolved in the conclusion. The details of the parallel are what you critically assess. Think back to the Eastern Airlines case, for instance. The analogy between Lorenzo’s case and that of the young man who murdered his parents is alleged because both in the primary subject and in the analogue, someone *has caused his own problems by wrongdoing* and then *begs for mercy on the grounds that he has got these problems*. If the cases are *relevantly similar* in these respects, and if there are no *relevant differences* (such as, for instance, the possibility that Lorenzo was forced into selling Eastern’s assets), then the analogy holds. To do a good job of refuting the analogy you have to find a difference that will upset the conclusion. Not just any difference will do: you might point out that the corporation is different from Lorenzo’s parents because it did not give birth to him. But that difference is irrelevant in the sense that it does not upset the fundamental structural similarity needed for the conclusion.

To evaluate an *a priori* analogy, you have to look at the intended conclusion and reflect on the relevant similarities and differences between the primary subject and the analogue. Ask yourself whether the similarities highlighted by the analogy are relevant and sufficient to support the conclusion.

When any two things are considered together, we can find similarities between them. You can test this statement for yourself by thinking of any two things a giraffe and a philosophy professor (both have necks), a notebook and a CD (both can contain information). Given the many qualities things have and the enormous number of ways

they can be compared, there will always be some vague basis for analogy between two items in the world. (Yes, there is *some* analogy between your professor and a giraffe.) But for an analogy to be of any interest, or whether it is useful for argument or explanation, is another question entirely. For analogies to be useful, the similarities must be relevant to some purpose or to some conclusion, and to determine whether they are relevant and whether they suffice to establish a point, you have to reflect on the matter in detail.

We begin our critical reflection on an argument by analogy by thinking of differences between the primary subject and the analogue. But the mere existence of some differences is not sufficient to refute the argument: just as there are always similarities, there will always be differences between any two things. What is needed to refute an argument based on analogy are differences that are undermining to the conclusion and enough to show that that conclusion is not warranted by the premises. If we find decisively relevant differences that upset the analogy in this way, then we can show that the argument fails on the G condition. These differences between the primary subject and the analogue suffice to show that similarities between them do not provide good grounds for the conclusion.



## EXERCISE SET

### EXERCISE 1: PART A

Appraise the following refutations by logical analogy. Find the primary subject and the analogue, and check the refutation by logical analogy using the ARG conditions as they apply to *a priori* analogies.

- \*1. Thinking that an international problem can be solved by bombing is just as ridiculous as thinking that a neighborhood quarrel can be solved by blowing up someone's house. It makes no sense.
2. In the early 1970s, some people claimed that using marijuana caused heroin addiction. They made this claim on the grounds that most people who use heroin first used marijuana. But isn't this a very silly argument? We could just as well argue that using milk causes a person to use cocaine. After all, most people who use cocaine began in life by using milk.

(Adapted from an exchange between Norman Podhoretz and several philosophers in *Commentary* in the late 1960s)

- \*3. Some have concluded that Japanese corporations are more fairly run than American corporations, because in Japanese corporations decisions are typically reached by teams of managers and not just by one top manager, as is typically the case in American corporations. But this is a silly reason for attributing fairness to Japanese corporations. A severely flawed judicial system would not become fair just because teams of judges replaced single judges. Fairness is a matter of the distribution of advantages and disadvantages. It does not depend only on how many people are involved in making decisions.
- \*4. *Background:* The following appeared as a letter to the editor of a Canadian Jesuit magazine.

Grisez (the lay American moral philosopher) follows his master John Ford SJ in holding that the papal teaching about contraception cannot be wrong because "the Church could not have erred so atrociously and for such a long time regarding so serious a

matter which imposed very heavy burdens on people.” This ignores the fact that on such matters as slavery, torture, and religious liberty the Church was wrong for equally long periods of time—and to its great benefit, has recognized its fallibility.

(*Compass*, March/April 1995)

- \*5. To say that dreams are wish fulfillment because Freud said so is no better than saying that animals don’t feel pain because Descartes said so. Nobody would accept the second argument and nobody should accept the first.

### EXERCISE 1: PART B

Of the following passages, (a) identify those that contain arguments based on analogy. (b) Then identify the analogue and the primary subject and evaluate the argument according to the ARG conditions, paying particular attention to relevant similarities and relevant differences. *Note:* Not all passages contain arguments. If the passage does not contain any argument, or if it contains an argument that is not based on analogy, simply say so, and proceed no further.

1. *Background:* This passage deals with the issue of whether old people should be cared for by families or housed in institutions:

But, we say, old folks get difficult and senile. Children get difficult and act as if they were senile, but no one has sanctioned an institution we can send our children to when we no longer wish to be responsible for them and they are not yet adults. Turn them out and you will be charged by the legal system.

(Informal Logic Newsletter, June 1979)

2. Machines can’t work without lubricants, and good manners are the lubricant of social life. So we need good manners: we can’t do without them.
- \*3. *Background:* In a discussion of whether the United States violated international sovereignty by invading Iraq in March 2003, a columnist quoted an argument against sovereignty by Brian Mulroney.

Quite frankly ... invocations of the principle of national sovereignty are as out of date and as offensive to me as the police declining to stop family violence simply because a man’s home is supposed to be his castle.

(William Thorsell, “Brian Mulroney said it first,” *Globe and Mail*, March 24, 2003)  
Evaluate Mulroney’s argument.

- \*4. If committing a wrong against somebody were like taking on a debt, you could pay back the wrong and the debt would be over. But wrongs, unlike debts, can’t be undone and paid back. So it’s not correct to think of wrongdoing in terms of moral debt.
5. *Background:* The following passage is taken from David Hume’s “Dialogues Concerning Natural Religion.” In these dialogues, many different analogies are explored as alternative devices for reasoning about gods and the supernatural realm:

The Brahmins assert that the world arose from an infinite spider, who spun this whole complicated mass from his bowels, and annihilates afterwards the whole or any part of it, by absorbing it again and resolving it into his own essence. Here is a species of cosmogony, which appears to us ridiculous because a spider is a little contemptible animal whose operations we are never likely to take for a model of the whole universe. But still, here is a new species of analogy, even in our globe. And were there a planet wholly

inhabited by spiders (which is very possible), this inference would then appear as natural and irrefragable as that which in our planet ascribes the origin of all things to design by an orderly system and intelligence.... Why an orderly system may not be spun from the belly as well as from the brain, it will be difficult for him to give a satisfactory reason.

(David Hume, “Dialogues Concerning Natural Religion” in *The Empiricists* [New York: Anchor Press, 1974])

(*Hint*: Assume Hume is comparing reasoning about creation in a world inhabited predominantly by people with reasoning about creation in a world inhabited by spiders.)

- \*6. *Background*: The seventeenth-century philosopher René Descartes advocated a method of doubt. To build up a system of knowledge, he said, one should begin by doubting all his or her previous beliefs. Some critics objected to this method of doubt, saying that it was unrealistic and extreme. Defending it, Descartes said the following:
- Suppose that a man had a basket of apples, and fearing that some of them were rotten, wanted to take those out lest they might make the rest go bad, how could he do that? Would he not first turn the whole of the apples out of the basket, and look them over one by one, and then having selected those which he saw not to be rotten, place them again in the basket and leave out all the others?
- (Quoted in Anthony Kenny, *Descartes: A Study of His Philosophy* [New York: Random House, 1968], pp. 18–19)
7. Women who are upset because they can’t manage childbirth without painkillers say they want a natural birth, and they often feel like lesser persons if they can’t achieve it. This emotion, though common, is deeply irrational in the way it depends on valuing the natural. After all, toothache and appendicitis are perfectly natural, and we don’t value them.
- \*8. *Background*: The following letter appeared in the *Calgary Herald* on March 29, 1999, in response to an article that had criticized teachers.
- “All lawyers are crooks.” “Police officers race to line up at the local Tim Horton’s (a donut shop).” “City workers lean on a shovel.” These are all generalizations that rank right up there with Biesbroek’s uneducated stereotype of teachers as “self-absorbed individuals who enjoy telling classes their own opinions and who relish the idea of having the control.”
9. In scientific reasoning, the evidence of experience is taken seriously. Religious mystics fast, pray, and meditate, and when they do this, they have experiences. If we think sense experience provides evidence for matters of fact, we should, in consistency, grant that religious experience provides evidence for matters of the spirit.
10. “Suppose that by paying 250 dollars you could go into the largest and most exclusive department store in town and pick out and take home anything you could carry away with you. You would have access to the finest silks, precious jewels, handworked bracelets of gold and platinum, fabulous clothes by the best designers in the world. It would be foolish to the point of imbecility if you paid your money, walked in, and picked out a piece of bubble gum. Well, that’s what many college students do, in effect. They pay a nominal amount of money, and by doing so they gain access to some of the greatest treasures of the intellect in the world. Merely by asking, they can discover things that people labored for years to find out. Just by going to class, they can receive the outcome of years of thought and effort of the most outstanding thinkers and scientists the human race has produced. Do they take advantage of this? Often they do not. They merely want

to know which courses are the easiest ones, which don't have to be taken, and what are the minimum requirements for graduation. For their money they are offered a fortune, but they choose a piece of mental bubble gum."

(Ronald Munson in *The Way of Words: An Informal Logic* [Boston: Houghton Mifflin, 1976], p. 357)

11. The human mind has different parts or aspects. Some of these are superior to others. For instance, we have biological drives for food, water, sleep, and sex. We have emotions of fear, anger, hatred, and love. And we have an intellect that can reason. It is the intellect that should dominate in the mind, for this is the superior part of humankind. And similarly, there are different sorts of people in a society. Just as a mind will be disturbed if it is ruled by biological drives, or by emotions unguided by intellect, so society will suffer if it is not controlled by its superior people.

(Adapted from Plato's *Republic*)

12. "Smokers should be allowed to smoke only in private where it does not offend anyone else. Would any smoker walk into a restaurant and start eating half-chewed food on someone's plate, or drink a glass of water that previously held someone's teeth? Probably not, yet they expect non-smokers to inhale smoke from the recesses of their lungs. My privilege and right is to choose a clean and healthy life without interference."

(P. T. B., *Cape Town Argus*, quoted in *World Press Review*, January 1988, p. 2)

13. "He that pays ready money, might let that money out to use; so that he that possesses anything he has bought, pays interest for the use of it. Consider then when you are tempted to buy unnecessary household stuff, or any superfluous thing, whether you be willing to pay interest, and interest upon interest for it as long as you live; and more if it grows worse by using."

(Benjamin Franklin, *Poor Richard*, cited by Stephen F. Barker in *The Elements of Logic*)

14. "A walk in the zoo immediately shows our connections to the rest of life.... Let's go to just three exhibits at first. Start with the polar bears. You can make a long list of the features that you share with polar bears: hair, mammary glands, four limbs, a neck and two eyes, among lots of other things. Next, consider the turtle across the way. There are definitely similarities, but the list is a bit shorter. You share four limbs, a neck, and two eyes (among other things) with the turtle. But unlike polar bears and you, turtles don't have hair or mammary glands.... Now visit the African fish exhibit. Its inhabitants are still similar to you, but the list of commonalities is even shorter than the list for turtles. Like you, fish have two eyes. Like you, they have four appendages, but these appendages look like fins, not arms and legs. Fish lack, among many other features, the hair and mammary glands that you share with polar bears."

(Neil Shubin, *Your Inner Fish: A Journey into the 3.5 Billion-Year History of the Human Body* [New York: Pantheon Books, 2008], pp. 178–179)

15. *Background*: This argument deals with the issue of rights over territory acquired by conquest. It was formulated by philosopher John Locke.

That the aggressor, who puts himself into the state of war with another, and unjustly invades another man's right, can, by such an unjust war, never come to have a right over the conquered, will be easily agreed by all men, who will not think that robbers and pirates have a right of empire over whomsoever they have force enough to master, or

that men are bound by promises which unlawful force extorts from them. Should a robber break into my house, and, with a dagger at my throat, make me seal a deed to convey my estate to him, would this give him any title? Just such a title by his sword has an unjust conqueror who forces me into submission.

(John Locke, “Of Civil Government,” cited in Stephen F. Barker, *Elements of Logic*)

(*Hint*: In the last sentence Locke is saying that an unjust conqueror has a title that is similar to that of a robber who forces someone, at dagger-point, to hand over his estate.)

16. American President and former General Dwight D. Eisenhower, had the following to say about military spending: “Every gun that is made, every warship launched, every rocket fired, signifies in a final sense a theft from those who hunger and are not fed.”

## INDUCTIVE ANALOGIES

Having examined a number of *a priori* analogies, we will proceed to the topic of inductive analogy. As we have seen, the analogue in an *a priori* analogy may be an imagined case constructed for purposes of argument. By contrast, in an inductive analogy the analogue must be a real case. An inductive analogy is based on the factual similarities between the analogue and the primary subject.

Inductive analogies are important and useful in many contexts in which we are unable to gain the evidence needed about the primary subject but we can gain information about a case that is similar to it. Analogical inductive reasoning is common in certain areas of psychology and medicine. Reasoning from animals to humans, and from the laboratory to the real world both involve the use of inductive analogy. These analogies are needed because there are many contexts in which it is possible to experiment on animals in laboratory conditions, while it is not possible (or not ethically permissible) to experiment on human beings. Inductive analogies would not be necessary if we knew general laws to be true. Suppose, for instance, that we want to discover whether human beings are adversely affected by toxic emissions from gas flaring. If we knew that all mammals are adversely affected by such flarings, the answer to our question would emerge as the conclusion of a straightforward deductive argument.

1. All mammals are adversely affected by toxic emissions from gas flarings.
  2. All human beings are mammals.
- Therefore,
3. All human beings are adversely affected by toxic emissions from gas flarings.

But we do not know the first premise in this argument to be true. Nor would it be morally or legally permissible to experiment directly on all mammals (including human beings) to see how they react to exposure to smoke from these fires. A common approach in such cases is to reason by inductive analogy. We might study the effects of the substances on nonhuman animals believed to be similar in relevant ways to human beings, and then predict that the results found would be similar in the case of humans. We will then argue like this:

1. Rats (or some other nonhuman animals) are like humans in respects 1, 2, 3, ...
2. Rats suffer effects  $x$ ,  $y$ ,  $z$  when exposed to doses at such-and-such levels of toxic emissions.
3. Exposure to toxic emissions at so-and-so level in humans is equivalent to exposure at such-and-such levels in rats.



Therefore, probably,

4. Humans will suffer effects  $x$ ,  $y$ ,  $z$  when exposed to a dose at so-and-so level of these substances.

In this analogy, the primary subject is human beings and the analogue is rats. The two are being compared with respect to their reactions to exposure to the relevant substances.

Inductive analogies are not restricted to areas of scientific experimentation. We use inductive analogies in simple, practical decision making. For instance, suppose you have purchased a certain brand of jeans and found that a particular size fits comfortably, that the material wears well, and that they are comfortable. When shopping again, you may look for the same brand name. You are, in effect, reasoning by inductive analogy: you know the earlier jeans were a good buy and you infer that the new ones will be similar to them in fit, comfort, and so on. Here you are inclined to attribute the good qualities to the manufacturer, so there is a reason for linking the similarities.

In discussions of foreign policy dilemmas, a past event is often referred to as a kind of model for a present or future one. Reasoning about efforts to rebuild Iraq after the 2003 invasion often referred to rebuilding efforts in Japan and Germany after World War II. Deliberations about the functioning and success of truth commissions as a response to political wrongdoings often refer to the work of the Truth and Reconciliation Commission of South Africa.

We assess inductive analogies in basically the same way we assess other analogies—that is, by evaluating the significance of relevant similarities and differences between the primary subject and the analogue. To evaluate any analogy, we should first consider all the relevant similarities and see how they may support the conclusion. We then consider all the relevant differences and consider the extent to which they may undermine the argument. In these respects, evaluating inductive analogies is similar to evaluating *a priori* analogies.

In an inductive analogy, the analogue must describe something real and the facts cited must be genuine. The similarities on which inductive analogies are based are between empirical aspects of the primary subject and the analogue. In addition, similarities cumulate in an important way. In an *a priori* analogy, what is important is that the similarities relevant to the conclusion hold. If they do, it does not matter, for the merits of the analogy, whether there are further similarities or not. In the inductive analogy, on the other hand, the number of similarities does matter. The closer the two cases are, in relevant detail, the more likely it is that the inferred conclusion will be true. This means that the evaluation of inductive analogies depends more on factual background knowledge than does the evaluation of *a priori* analogies. If you do not know the background facts about the primary subject and the analogue, you will need to do research before you can properly judge the credibility of the analogical reasoning.

In inductive analogies, our judgments about the relevance of similarities and differences between cases are made with reference to our background knowledge about how the various properties of things are empirically connected. If the similarities between the analogue and the primary case are relevant to the property predicted in the conclusion, we still need to see whether they are sufficient to provide good grounds for that conclusion. To determine whether they are sufficient, we reflect on differences that may exist between the primary subject and the analogue. There are bound to be

some differences. Here, as with *a priori* analogies, the issue is whether those differences are negatively relevant to the conclusion. Finding these differences and determining their relevance to the conclusion requires background knowledge.



## EXERCISE SET

### EXERCISE 2

Some of the following passages contain arguments based on inductive analogies. Identify these arguments, and specify the primary subject and the analogue. Then assess the strength of the inductive analogy, providing reasons for your answer. If the passage does not contain an inductive analogy, comment briefly about what sort of passage it is. Does it contain no argument at all? An argument of some other type? Or an *a priori* analogy?

- \*1. When I visited this doctor, he was attentive and sympathetic. I did what he suggested and solved my problem. So if you go to see him, he will probably solve your problem too.
2. In the civil service, people are spending other people's money. Civil servants do not have to earn the money they spend; it is given to them by the government, which raises it from tax dollars. That makes civil servants careless about their expenditures. Universities are like the civil service. Their administrations do not have to earn the money spent. It comes from the government. Therefore, we can expect university administrators to spend money carelessly.
- \*3. Peter was a graduate from the University of Waterloo. He was trained in several areas, excellent at cooperative teamwork, supportive to colleagues, and turned out to be an excellent teacher. Martin is also a graduate from the University of Waterloo and is also trained in several areas, and seems to have the same attitudes toward teamwork and colleagues. So probably Martin will be an excellent teacher as well.
4. *Background:* In the following passage, a Christian minister who was formerly a chief of police relates his police experience and suggests that apology and forgiveness could play a role in responses to crime.

Reflecting on my police career, I found that I was occasionally able to use forgiveness as an instrument of healing. But I have to admit, it was more by accident than by design. It was accidental because once in a while it appeared to be so logical, so human, to use tried and tested human solutions in the workplace—a simple human solution such as, when you make a mistake, say you're sorry. I came to find that in matters of internal police discipline, when one employee is aggrieved by another, pursuing a sincere apology from the offending employee to the person offended is an effective way to maintain the social fabric of the organization and a far better way than using cumbersome rules and regulations. Pursuing an apology is a way to reinforce the principles the organization needs in order to uphold the cultivation of trust, respect, and dignity between employees and the workplace.

(The Reverend David Cooper, "Forgiveness in the Community: Views from an Episcopal Priest and Former Chief of Police," in Robert D. Enright and Joanna North, Eds., *Exploring Forgiveness* [Madison: University of Wisconsin Press, 1998], p. 126)

Assume that the conclusion is "apology and forgiveness will be useful in maintaining the social fabric of organizations."

5. In Plato's imaginary story of the cave, prisoners were in a cave where, in fixed positions, they saw only shadows and images in a darkened environment. They were unable to turn

around and see the real world in the light of the sun. Plato's point was that people who saw only images would never know reality. We can apply the same sort of point to television viewers today. The real world cannot be known from the experience of a screen from a stationary position on a couch.

6. Last week I sold my 1995 Toyota Tercel for \$1900. The body was in good shape and so was the engine, and the mileage on this car is good, which is important given the rising cost of gas. Your 1995 Toyota Tercel is in good condition, just the way mine was, and the mileage will be the same. Therefore probably you can get around \$1900 for your car, if you sell it soon.
- \*7. "A majority taken collectively is only an individual whose opinions, and frequently whose interests, are opposed to those of another individual, who is styled a minority. If it be admitted that a man possessing absolute power may misuse that power by wronging his adversaries, why should not a majority be liable to the same reproach? Men do not change their characters by uniting with each other; nor does their patience in the presence of obstacles increase with their strength. For my own part, I cannot believe it; the power to do everything, which I should refuse to one of my equals, I will never grant to any number of them."
- (Alexis de Tocqueville, "Democracy in America," quoted in S. F. Barker, *The Elements of Logic*, 3rd ed. [New York: McGraw-Hill, 1980])
- \*8. *Background*: The following is the first part of an advertisement by Foster Parents Plan. The advertisement appeared in *Harper's* magazine in May 1990.
- Here's your chance to achieve a small moral victory. What would you do if you saw a lost, frightened child? You'd probably stop, pick him up, brush away his tears, and help him find his way. Without even thinking about it. And there's a reason. You know what's right. And right now, you can do just that. You can act on instinct ... by reaching out to one desperately poor child, thousands of miles away. With your personal caring and help. Through Foster Parents Plan, you'll be helping a child who almost never has enough to eat. A decent place to sleep. Medical care. The chance to learn. Or hope.... If you saw a helpless child on the street, you wouldn't wait. You'd help that instant. Please don't wait now, either. Achieve a small moral victory!
- \*9. *Background*: This argument was used by Bud Greenspan, who sought to show that sports officials cannot be expected to be perfect in their judgment and that it is unrealistic and counterproductive to check their expertise against video replays of the actions they judge.
- Athletes are human. So are officials. If we cannot expect perfection from the performers, how can we expect more from those who officiate? The structure of sports is based on the premise that all one can ask of an athlete is that he or she be dedicated, prepared, talented, and courageous. Can anyone doubt that these qualifications do not hold true for officials?
- (Quoted in Gary Gumpert, *Talking Tombstones and Other Tales of the Media Age* [New York: Oxford University Press, 1987], p. 63)
10. Suppose aliens came to earth from outer space and put us in cages and started to experiment with us, deliberately contaminating us with painful diseases to find out how soon we would die. We would complain and think they had done us a terrible wrong. Yet we do exactly this to animals less powerful than ourselves, telling ourselves that because

these animals are less than human beings, what we do is all right? It's not. The very same argument applies to both cases.

11. *Background:* Whether safe injection facilities for drug addicts on Vancouver's East Side should be supported was disputed in the spring of 2008. A Vancouver physician and author defended the supervision of injecting addicts as harm reduction, which, he said, occurred in many areas of medicine. His claim was that when healing is not possible, harm reduction is in line with standard medical practice.

Prescribing inhalant medication to open airways and reduce lung inflammation in smokers also does not 'heal' nicotine addiction: it only saves lives and improves quality of life. Similarly, quadruple bypass surgery in overstressed type-A business executives does not heal workaholism; insulin does not cure people whose eating patterns and sedentary habits have triggered diabetes, and intestinal bypass surgery in relief of morbid obesity does not cure food addiction. But all of these medical interventions are harm-reduction measures.... Given the chronic and relapsing nature of injection drug use among hardcore addicts, cure is not often achieved. That leaves us with the need to reduce the depredations of the condition on the afflicted person and that's what supervised injection: It minimizes disease transmission and affords first-line access to health care.

(*Globe and Mail*, June 4, 2008)

- \*12. *Background:* Canada's Minister of Health, Tony Clement, wrote a letter to the editor replying to Gabor Mate's defense of supervised injection sites, and questioning the analogies cited above in question 11. Clement said:

"Inhalant medications and bypass surgery are not fair analogies to injection drug use. A more apt analogy of what Insite, Vancouver's safe-injection facility, does would be a doctor holding a cigarette to make sure a smoker doesn't burn his lips, or watching a woman with cardiac problems eat fatty French fries to ensure she swallows them properly. Given that doctors are ethically bound to do no harm, the idea of one doctor or a community of doctors advocating for activities that cause harm is disturbing." (*Globe and Mail*, June 5, 2008)

Question: Whose analogies seem most apt, those of Mate or of Clement?

13. Studies have found that people are best able to apply rules of logic when they are working with topics that they understand, and have background knowledge about it. The rules of grammar are quite similar to the rules of logic: they are general and abstract and not restricted to any particular topic. Both with logic and with grammar, people are asked to think in an abstract way. Since people do best with logic rules when they know the topic to which these rules are to be applied, that is likely to be the case for grammar too. Probably people will most accurately apply grammatical rules when they are working with topics that are familiar to them.
14. "Suppose that someone tells me that he has had a tooth extracted without an anaesthetic, and I express my sympathy, and suppose that I am then asked, 'How do you know that it hurt him?' I might reasonably reply, 'Well I know that it would hurt me. I have been to the dentist and know how painful it is to have a tooth stopped without an anaesthetic, let alone taken out. And he has the same sort of nervous system as I have. I infer, therefore, that in these conditions he felt considerable pain, just as I should myself.'"

(Alfred J. Ayer, "One's Knowledge of Other Minds," *Theoria*, Vol. 19, 1953; cited by Irving Copi in *Introduction to Logic*, 6th ed. [New York: Macmillan, 1982], p. 394)

- \*15. *Background:* In this example, a philosopher advocates independent thinking.

Everyone who really thinks for himself is like a monarch. His position is undelegated and supreme. His judgments, like royal decrees, spring from his own sovereign power and proceed directly from himself. He acknowledges authority as little as a monarch admits a command. He subscribes to nothing but what he has himself authorized. The multitude of common minds, laboring under all sorts of current opinions, authorities, prejudices, is like the people, which silently obeys the law and accepts orders from above. (Arthur Schopenhauer, *The Art of Literature*, trans. T. Bailey Saunders [Ann Arbor: University of Michigan Press, 1960]) (*Hint:* Assume that the conclusion is “People should think for themselves”)

## FURTHER CRITICAL STRATEGIES

A critical strategy that can be applied to both *a priori* and inductive analogies is that of working out a different analogy that suggests a conclusion contrary to the one in the argument you are examining. This strategy is the technique of **counteranalogy**. When responding to an analogy, we begin to consider the primary subject in a framework suggested by the analogue. In doing so, we begin to transfer concepts and beliefs from the analogue to the primary subject. This analogue will always be one of a number of different possible ones. Adopting an alternative and setting out to conceive the primary subject in terms of that alternative may bring fresh insights and new conclusions.

This technique of counteranalogies was used to great effect by the philosopher David Hume in his famous work, “Dialogues Concerning Natural Religion.” The Dialogues offer a prolonged critical appraisal of one especially famous inductive analogy—the argument that because the world is made of organized interconnected parts, like a machine, the world must have been designed by an intelligent being. (This argument for God’s existence is ordinarily referred to as the Argument from Design.) Hume pointed out that the model of the world as a machine is only one of a great number of possible models, and that other models suggest radically different theological conclusions.<sup>17</sup> He did this in many ways, but one of his most striking strategies was to set forth a number of counteranalogies.

Here is a passage in which Hume employed the technique of counteranalogy:

Now if we survey the universe, so far as it falls under our knowledge, it bears a great resemblance to an animal or organized body, and seems actuated with a like principle of life and motion. A continual circulation of matter in it produces no disorder; a continual waste in every part is incessantly repaired; the closest sympathy is perceived throughout the entire system; and each part or member, in performing its proper offices, operates both to its own preservation and to that of the whole. The world, therefore, I infer, is an animal, and the Deity is the soul of the world, actuating it, and actuated by it.<sup>18</sup>

In this passage, Hume claims that one could prove a deity understood as *the soul of the world* just as well as one could prove a deity understood as *an external creator of the world*. He claims that the first comparison is just as good as the second one. (It is the second comparison that is standard in the theologies of Judaism, Christianity, and

Islam.) A deity that is the soul of the world is quite a different entity from one that is an external creator of the world. The conclusions drawn from these analogies are incompatible with each other, so if both can be equally well supported by analogical reasoning, in effect neither one is supported. It was in this way that Hume sought to undermine the machine analogy that supports the Argument from Design. Hume's argument can be set out as follows:

#### ANALOGUE

The world is like an animal and must have a soul like an animal. Therefore, there is a deity who is the soul of the world.

- is a possible way of thinking of the world
- highlights some significant features of the world
- leads to a conclusion nobody should take seriously

#### PRIMARY SUBJECT

The world is like a machine and must have an inventor like a machine. Therefore, there is a deity who is the inventor (creator) of the world.

- is a possible way of thinking of the world
- highlights some significant features of the world

#### CONCLUSION

The argument that because the world is like a machine it must have an intelligent inventor or creator has a conclusion that nobody should take seriously.

If we choose to think of the world only as a machine, then, because machines have intelligent designers, we will think that the world must have had an intelligent designer. On the other hand, if we were to think of the world using some other analogy, we will reach different conclusions.<sup>19</sup>

An analogy might be thought of as a special sort of screen or filter. (This itself is an analogy.) An analogy encourages us to focus on certain aspects of the primary subject—those that are similar to the analogue—and in this way emphasizes these aspects. Analogies can be misleading but they can also be helpful. Thinking of alternative analogies can be a liberating and creative experience, especially when language and thought are dominated by one particular analogy. New analogies can be more than counteranalogies. They may suggest original ways of thinking and talking and new projects and strategies for research.

## LOOSE AND MISLEADING ANALOGIES

As mentioned earlier, we have developed our treatment of analogy in such a way as to emphasize its serious cognitive uses. On the whole, the arguments from analogy used to illustrate points have been cogent ones. But this should not be taken as an indication that all arguments from analogy are cogent arguments. Many arguments from analogy are quite dreadful, and analogies can be seriously misleading. Now that we have seen how analogies can be important, cogent, and useful, we'll explore some common misuses of analogy.

### The Fallacy of Faulty Analogy

Certainly many arguments by analogy are poor; in fact, the special fallacy label **faulty analogy** was invented to describe such cases. Sometimes the analogies on which arguments are based are so loose and far-fetched that it is impossible even to classify them

as *a priori* or inductive. It seems as though a gross image of a primary subject is given by the analogue and the unwary audience is supposed to be lulled into a conclusion. Such loose uses of analogy are often discussed as instances of the fallacy of faulty analogy. They involve an appeal to similarities that are highly superficial and give no real support to the conclusion sought.

Here is an example of a grossly flawed argument by analogy. It is taken from a letter to the editor in which the writer urged that the city of Calgary not develop a new subdivision that was proposed to provide housing for 50,000 people:

Once a pleasant and friendly lady of the foothills, Calgary has become an obese, 200 pound dame and naturally suffers from all the diseases inherent to the distended community: smog breath, body odors, high traffic blood pressure, glandular dollarities, and skin blemishes such as high rises, towers, skyscrapers, and malls.... It would be well to consider if this continual expansion of Alberta cities is really needed or just a competitive show-off.<sup>20</sup>

Here the writer uses the analogue of an obese dame to dispute the wisdom of extending the city. He draws out the image in some detail. Still, the point is not convincing: it would be hard to take this argument seriously, either as an *a priori* analogy or as an inductive one. There is no serious demand for consistency between our attitudes toward obesity in people and size in cities. There is no norm of healthy size for cities. Nor is there any inductive basis for predicting that the poor health a person may experience as a result of obesity will somehow emerge in parallel for a city undergoing expansion. The notion of “health problems” would be quite dubious in its application to a city. The analogy thus provides no support for the author’s stance on the proposed subdivision. It gives him an entertaining and vivid way of stating his point but provides no rational support for it. As far as careful reasoning about the subdivision is concerned, the analogy is simply a distraction.

Loose analogies can be particularly deceptive when the analogue is something toward which people have very strong or settled attitudes. These attitudes carry over too easily to the primary subject, even though there is no significant similarity between it and the analogue. You can see this transfer happening in the following argument, which was put forward in the seventeenth century by essayist Francis Bacon:

Nobody can be healthy without exercise, neither natural body nor politic; and certainly to a kingdom or estate, a just and honourable war is true exercise. A civil war, indeed, is like the heat of a fever, but a fever of war is like the heat of exercise, and serveth to keep the body in health; for in slothful peace, both courage will effeminate and manners corrupt.<sup>21</sup>

It is well known that the healthy human body requires exercise. Bacon exploits this common knowledge to try to show that the political organism also needs exercise, and then contends that war constitutes this exercise. There is at best a loose similarity between the primary subject and the analogue in this case. As in the case of the city, in the previous example, there is no clear standard of health for the state, which is the primary subject and for which Bacon is arguing that war is a necessary “form of exercise.” The argument is based on a far-fetched and faulty analogy. Nevertheless, the argument might mislead us because of the familiarity of the fact that human beings need exercise in order to retain their health.

## The Fallacy of Two Wrongs Make a Right

We have seen that there is a legitimate way of using analogies to push for consistency between relevantly similar cases. A rather common type of argument, easily confused with legitimate consistency arguments, amounts to a fallacy of reasoning. This is the **fallacy of two wrongs make a right**, often simply called the two-wrongs fallacy. This fallacy is committed when a person tries to defend something alleged to be wrong by pointing out that another thing, in some ways similar to it, has been accepted. In doing so, he is in effect reasoning that since we have allowed some wrong, we should (to be consistent) permit further wrongs. The following example shows this kind of misuse of analogy. The context is a discussion of a rock concert. A reviewer had criticized the performers for using offensive language and for encouraging fantasies of sex and drug use in the audience. A young rock fan, writing to defend the concert, said:

There's not a thing wrong with what Roth did in front of 15,000 people. After all, don't millions of people see worse stuff in front of the television every day?<sup>22</sup>

The writer draws an analogy between Roth's performance at the rock show and things that are shown on television. She is trying to reply to the suggestion that the performance is immoral, and she does that by claiming that Roth's performance was not wrong because it was not worse than something else.

This argument illustrates the fallacy that two wrongs make a right. There is an appeal to consistency here, but the argument differs from cogent consistency arguments in a subtle, though crucial, way. It twists consistency in an attempt to use one wrong to justify another. The writer says that on television there is "worse stuff"—thereby granting that some material on television is bad. If Roth's performance is relevantly similar to this material, then what follows is that Roth's performance is also bad. In general, if a practice alleged to be wrong is relevantly similar to a practice acknowledged to be wrong, the disputed practice really is wrong. Something does not become right because something similar to it is wrong.

Two-wrongs arguments are common in areas where abuses are spread across many institutions, countries, persons, and contexts. If someone attacks one instance of the abuse, claiming that it is wrong and that reform is necessary, he is often criticized by those who use two-wrongs arguments. For instance, when Greenpeace campaigned against the killing of baby seals for pelts, many people pointed out that the killing of baby seals is by no means the only instance when humans treat animals cruelly. Animals raised and slaughtered for food are often very cruelly treated, and this cruelty is tolerated. Critics in effect demanded consistency from Greenpeace, asking, "If you tolerate slaughter for food, why criticize killing animals for their pelts?" This demand for consistency is fair enough. But it is a mistake to infer from the social toleration of killing animals for food (which in the eyes of this critic is morally dubious) that killing animals for pelts (which is the practice in question, similar in several respects including the crucial one that animals are killed) should not be criticized. If one practice is wrong and another is relevantly similar to it, then a correct appeal to consistency will imply that the other is wrong too. Two wrongs do not make one right. Two wrongs make two wrongs. There is no ethical or logical justification for multiplying wrongs in the name of consistency. It may be argued that one instance of violence should be accepted because some other violence has not been opposed, or that one abuse of authority should not be attacked because some other abuse of authority has been left unchallenged.



Consider two practices: (a) and (b). If both are wrong in similar ways, then the ideal thing would be to oppose both. If this is not possible one may have to make a choice and oppose only one of them. Any such choice is, of course, open to criticism, and one may accept an obligation to defend the particular choice made. But it remains true that the existence of some wrongs is no reason to condone or tolerate others. Wrongs should not be multiplied in the name of consistency.

### The Fallacy of Slippery Assimilation

Perhaps you have heard of the so-called proof that no one is bald. It goes like this: consider a person with 50,000 hairs on his head. If you take away one of these hairs, that will not make him into a bald person. Now suppose you keep pulling out hairs, one at a time. Suppose you get the poor fellow down to the point where he has only 200 hairs left. He won't look very hairy at this point. But is he bald? How can he be? All you do is pull out one hair at a time, and no one hair will make the difference between being hairy and being bald. You are sliding along evenly from a state of hairiness toward a state of baldness. With no obvious stop along this slide, how do you stop calling the man hairy? If the first hair doesn't make the difference, neither does the second. Nor the third. Nor the fourth. Each hair is just like the one before it. It would surely be arbitrary to say that the 40,004th hair could make the difference when the first or the tenth could not. This argument seems to provide a proof that no one can be bald—consoling for older men, perhaps, but paradoxical for philosophers and logicians.

In fact, logicians have been puzzled about this kind of argument for several thousand years. It is sometimes referred to as the *sorites*, or paradox of the heap, because an early form of the argument was that you could never get a heap of grain from an accumulation of individual grains. No one grain would make the difference between having just a few separate grains and having a heap. Clearly, something has gone wrong with the argument. We indicate this fact by referring to an argument of this type as a **fallacy of slippery assimilation**. Let's take a more abstract look at this puzzling line of reasoning:

1. Case (a) differs from case (b) only by amount  $x$ .
  2. Case (b) differs from case (c) only by amount  $x$ .
  3. Case (c) differs from case (d) only by amount  $x$ .
  4. There is a whole series of cases (a) to (n ...).
  5. Within the series (a) to (n ...) each member differs from its immediate predecessor only by amount  $x$ .
  6. Amount  $x$  is a small, even trivial, amount.
  7. Case (a) is a clear case of  $W$ .
- Therefore,
8. All the other cases in the series, from (b) to (n ...) are also clear cases of  $W$ .

As for the baldness example, the series would be long indeed. Each member would have one less hair than the one before; the conclusion would be that no one is bald. (The absurdity of the argument can also be pointed out by the fact that you could use it in reverse to prove that everybody is bald. Start with a completely bald person and add one hair at a time. No one hair makes the difference between being bald and being nonbald. Hence, no matter how many more hairs a person has than the bald man, he will turn out still to be bald and never to be hairy.)

Such arguments urge us to *assimilate* all the members in the conceptual series to the first member. (To assimilate them means to gloss over, or blur over, the differences between them.) The reason for the assimilation is that the difference between a member and its successor is slight or trivial; if the first case is *W* and the second one differs from it only slightly, the second case is *W*—and so on for all the further cases. What is wrong with this argument is its reliance on the assumption that differences that are individually trivial are not trivial when many of them are taken together. The argument ignores the fact that differences that are separately insignificant can and often do *cumulate* to be significant. Pulling out one hair at a time is not significant, but the *cumulative* effect of pulling out 40,000 hairs surely will be. Think of the point in another context: gaining an ounce would not affect your appearance. But if you gain an ounce a day for 1,000 days, the cumulative effect (more than 60 pounds) will certainly be noticeable. Even if you were slim at the beginning of this process, by the end of it you would be round and plump. There is a difference between being hairy and being bald, and a difference between being slim and being plump, even though it is impossible to say that any one hair or ounce makes the difference.<sup>23</sup>

You probably have heard logically similar arguments in debates about abortion. The strategy is to insist that fetal development is gradual and that each stage of development differs only slightly from those preceding and succeeding it. It is alleged that because of this gradual development we cannot “draw a line.” (In fact, a clue to the presence of a slippery assimilation argument is the question “But where do you draw the line?”) It may seem arbitrary to select any single stage or moment in the nine months of development and say that at that precise point, the fetus becomes a human being. Many who argue against abortion infer from these facts that the fetus is a human person from the moment of conception. They contend that because we cannot pinpoint any single time or stage, all stages of development show the fetus to be a person; from conception, the entity in the womb is a person with a right to life, and *abortion is wrong at all stages*. One clue that something is wrong here is that we could construct a logically parallel argument for the very opposite conclusion. We could argue that because the shift from nonperson to person occurs at no one point, every stage of development is that of a nonperson, and *abortion should be permitted at every stage*. These two conclusions are contrary and cannot both be accepted. Both lines of argument involve the fallacy of slippery assimilation and are mistaken.

The tacit claim underlying the rhetorical question “But where can you draw the line?” is usually that you can’t reasonably draw a line. You can’t plausibly specify some one point at which a line can appropriately be drawn. In some contexts, that may be true. But it does not follow that no distinctions can be made. The mistake in the fallacy of slippery assimilation is one of ignoring the fact that differences that are separately trivial can *cumulate* to be significant. The argument from slippery assimilation indicates that it will be debatable where distinctions are made and suggests that there will be borderline cases. The existence of these borderline cases is an important phenomenon. It helps to acknowledge that many characteristics come in degrees. Being sensitive to the existence of borderline cases will help us avoid false dichotomies. But the fact that differences between cases may be small and that cases can be arranged in a spectrum of existence do not mean that distinctions should disappear.

## The Fallacy of Slippery Precedent

A related abuse of consistency reasoning comes when a specific case is considered in relation to a whole series of further cases, some of which are morally very different from the original one. In such arguments it is admitted that a particular action would, when considered by itself, be a good one to perform but it is argued that the action would, nevertheless, set a dangerous precedent, and for that reason, should not be performed. The idea behind the slippery precedent argument is that a good thing could be a precedent for one or more bad things, and for that reason the good thing is not good after all. This type of argument is based on a mistake. We shall call it the **fallacy of slippery precedent**. Slippery precedent arguments cite a series of cases and use it to argue for a conclusion about a first case in the series, alleging that a slippery path will make it easy to slide from one case to others.

Here is an example of this slippery use of precedent:

As a student whose parents are undergoing divorce, and who has suffered from mononucleosis this term, you clearly would deserve an extension on your deadline. However, even though it would be fine for me to allow you this extension, if I did that, I would be bound to give an extension to every student who asked for one. I would wind up giving extensions to students who were just disorganized or who had been out drinking at parties, and soon my deadline would be completely meaningless.

We can easily imagine the familiar scene in which a professor uses this argument to reply to a student's plea for an extension. The professor acknowledges that, considered by itself, the student's request is legitimate and would merit the extension. But he then insists that this legitimate extension would set a bad precedent, because it would provide a basis for further illegitimate extensions, which, for consistency, would have to be allowed. The professor ignores the possibility of considering the case on its own merits.

The same kind of reasoning is apparent in this next example, which moves up one level in the university hierarchy. (This one was used by a dean commenting on an action taken by a professor in his faculty.)

A faculty member has launched an appeal concerning his salary. He says that he did not, in the past, receive all the special merit increments to which he was entitled and he wants to receive back pay. In fact, this professor is disliked by the chairman of his department, who has admitted that not all deserved increments were given to the man. If you consider his appeal just on its own merits, you have to admit that this man has a good case. But the problem is, if he can appeal his salary and claim back pay as a result of a successful appeal, all the other professors with a wage complaint can do that too. To grant this one appeal will set the precedent that faculty members can squeal and protest whenever they don't get just what they want from the salary committee. If that precedent is set, we'll get a lot of appeals and we'll be committed to granting all of them, even when the grounds are weak. Our system will become completely unworkable. Therefore, even though this single appeal is well founded, it should not be granted because of the precedent it sets.

In slippery precedent arguments, it is inferred that the initial case should not be allowed on the grounds that it would set a bad precedent, setting grounds for allowing cases of no merit.

When we reflect on such arguments, we realize that something must be wrong with them. The problem here is that the premises are implicitly inconsistent; thus they cannot all be acceptable.<sup>24</sup> In short, slippery precedent arguments cannot satisfy the A condition

of argument cogency. If an initial case is legitimate and further cases are not legitimate, then these cases cannot be relevantly similar. There must be a relevant difference between them; there must be something about the first case that differentiates it from the others, and makes it legitimate when the others are not. Given this relevant difference, the first case cannot be a precedent for the others. The appeal to slippery precedent is a flawed argument because its premises are inconsistent.

To illustrate this point, look back at the example of the student and her deadline. If the student has serious family problems and has been ill during the term, then those factors distinguish her case from another one in which a student is pressed for time just because he was disorganized. If there are other students relevantly similar to her, they would have similarly serious problems not of their own making and on this basis they would also deserve extensions. Not all students requesting extensions have similarly serious problems. Granting such extensions will not make the structure of the deadline collapse. To allow an extension in a hardship case is not a precedent for allowing it in every case, provided we are clear about what the hardship is, and why the extension is being allowed. The allowable case cannot be a precedent for the further unallowable cases. Just to say that it is allowable and they are not is to say that there is some relevant difference between them. The difference in merit must be grounded on some other difference. Deserving cases must be relevantly different from undeserving cases, so the former cannot set a genuine precedent for the latter.

Precedent reasoning is legitimate in general, and it is profoundly important in legal, administrative, and moral contexts. However, in the slippery precedent arguments, this type of reasoning is abused; it is used incorrently. When an arguer admits that a case under consideration is legitimate, but urges that this legitimate case would set a bad or unmanageable precedent, something has gone wrong. Either the cases really are similar, in which case they should all be judged in the same way, or relevant differences have been ignored.



## EXERCISE SET

### EXERCISE 3

Of the following passages, first identify those that contain arguments by analogy. For each argument by analogy, identify the primary subject and the analogue, and comment on the merits of the argument. If any passage contains a fallacy such as two wrongs, slippery assimilation, or slippery precedent, point this out and explain how the fallacy is committed in that particular case. If a passage contains no analogy, or contains an analogy that is not used for the purpose of argument, say so and support your answer.

- \*1. “Consider this scenario of a crime. A man decides to rob a store and uses a handgun to carry out his intent. He pulls the trigger and wounds, perhaps kills, someone. A man, a gun, and a bullet are involved in the crime—two inanimate objects and a human being. All the laws in the world wouldn’t prevent that man from obtaining a weapon to carry out his intent. Laws do not stop heroin addicts from obtaining heroin; they do not stop motorists from speeding. It is illogical and foolish to think that restrictive handgun laws will prevent handgun crimes. We must focus our efforts on the people who commit crimes, instead of on the inanimate objects they abuse while breaking the law.”

(Cited in the *Informal Logic Newsletter*, July 1983, p. 43)

2. The altos and tenors in a choir are like the filling in a sandwich. When you first see a sandwich you notice the bread. And, of course, the taste of a sandwich depends very much on the taste of the bread. But what would a sandwich be without a filling of delicious roast beef, cheese, or peanut butter? Just nothing at all. And in the same way, the altos and tenors make a choir's music meaningful. Maybe you don't notice these middle parts as much as you notice the sopranos and basses, but without them, the performance would be empty. So the altos and tenors should take care to sing well.

(Choir director, Jim Monro, on the importance of alto and tenor parts in a choir)

- \*3. "It is of course quite true that the majority of women are kind to children and prefer their own to other people's. But exactly the same thing is true of the majority of men, who nevertheless do not consider that their proper sphere is the nursery. The case may be illustrated more grotesquely by the fact that the majority of women who have dogs are kind to them and prefer their own dogs to other people's. Yet it is not proposed that women should restrict their activities to the rearing of puppies."

(G. B. Shaw, "The Womanly Woman," in *Masculine/ Feminine*, edited by Betty Roszak and Theodore Roszak [New York: Harper & Row, 1969])

*Question:* Here Shaw is alleging that other people use a faulty argument if they submit that because women are kind to children, their proper sphere is in the nursery. Do you agree with him?

4. *Background:* This argument was advanced by a participant at a conference on peace research, in June 2003.

As to our obligation to make resources available to feed the hungry people of the world, you can easily see just how compelling this is if you consider a family situation. Suppose that you prepare a dinner for a family and set it all out on the dining room table. You would never consider it right to refuse to admit some members of the family to the dining room and give them nothing to eat. And in just the same way, it is wrong to deny food to hundreds of millions of hungry people in the world.

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6. *Background:* The following passage is excerpted from an article in which the author expresses concerns about the Alberta government's posting, on the Internet, of profiles and videos of children in foster care and hoping to be adopted.

Amazingly, in only four days, the website has attracted more than 190,000 "hits," and adoption proceedings have already begun for four children. Promising early results. But one still wants to ask: Are impulse adopters likely to make good parents to these needy children? Many readers will have seen bumper stickers with the message, "A puppy is forever," the purpose of which is to remind parents that, when they buy a pet for their children after seeing the cuddly critter in a shop window, they are then stuck in caring

for it long after the initial excitement has worn thin. The same applies, sure, but to an even greater degree, when one is deciding to adopt a child. If the number of adopting families is increased by recruiting parents whose commitment is shallow and poorly thought out, the fate of the adoptees could approximate the fate of those unwanted pets who end up at the city pound a few months after Christmas. One must wonder, therefore, whether the Alberta government has properly researched such important issues.

(Arthur Schafer, “Beware e-adoptions,” *Globe and Mail*, February 14, 2003)

7. You can see what’s wrong with permitting same-sex marriage if you think about the precedent it sets. Marriage has traditionally been between one man and one woman. If we alter the tradition so that one man can marry another man, and one woman can marry another woman, we are setting ourselves up for more and more modifications. We have a precedent for polygamy: why wouldn’t a man be able to marry two or three or four women? We will also have a precedent for marriage between human beings and animals. Why couldn’t a man marry his horse or his dog? We will even have a precedent for group marriage. Permitting the marriage of one man to another man with whom he is intimately connected is all right in itself, perhaps, but the precedents it sets are terrible. Therefore same-sex marriage should not be permitted.
- \*8. *Background*: The following letter appeared in the *Calgary Herald* for October 7, 1998, in response to a suggestion by Nelson Riis that the voting age in Canada be lowered from 18 years to 16 years.

Riis says there’s no reason why 16- and 17-year-olds shouldn’t be allowed to vote because in his experience that age group contains many bright, articulate people who have much to contribute to society. There’s no question his assessment of the talents of 16- and 17-year-olds is accurate: most we have met are intelligent and well-spoken, are already making a great contribution to society and will do so even more effectively when they grow up. For mature they must. What Riis and other self-styled progressives overlook are the consequences of their actions. If we were to accept that today’s generation is two years more mature than those previous and thus worthy of the vote, we must then accept that 16-year-olds should be allowed to go drinking in bars, that they should be jailed for life when they commit murder and that the age for driver’s license should be lowered from 16 to 14. And then, why not lower the already irresponsible legal age for consensual sex from 14 to 12? You see where this leads. That’s why Riis is wrong.

- \*9. *Background*: Here is a piece on the subject of the moral status of animals. It was written by Lewis Carroll, the author of *Alice in Wonderland*. Carroll was also a logician of considerable accomplishments. This passage is taken from his essay, “Some Popular Fallacies about Vivisection”:

In discussing the rights of animals, ... (t)he only question worth consideration is whether the killing of an animal is a real infringement of a right. Once grant this, and a *reductio ad absurdum* is imminent, unless we are illogical enough to assign rights to animals in proportion to their size. Never may we destroy, for our convenience, some of a litter of puppies, or open a score of oysters when nineteen would have sufficed, or light a candle in a summer evening for mere pleasure, lest some hapless moth should rush to an untimely end! Nay, we must not even take a walk, with the certainty of crushing many an insect in our path, unless for really important business! Surely all this is childish. In the absolute hopelessness of drawing a line anywhere, I conclude (and I believe that many, on considering the point, will agree with me) that man has an absolute right to inflict death on animals, without assigning any reason provided that it be a painless death. But any infliction of pain needs its special justification.

(Lewis Carroll, "Some Popular Fallacies about Vivisection," *The Complete Works of Lewis Carroll*, [New York: Random House, 1957])

10. *Background:* The following passage is taken from an essay discussing the feasibility of military intervention in the Sudan.

The bombing, the purpose of which is to terrorize the civilian population, is carried out by high-but-slow-flying turboprop aircraft, delivering crude bombs, sometimes simple drums of gasoline with a lighted wick, airborne Molotov cocktails kicked out of the tailgate. Declaring and enforcing a southern no-fly zone, with UN relief flights the only exception, would stop the bombing. A very few high-speed fighter/patrol aircraft could handle the enforcement. An immediate source of danger and terror to civilians in the south would be eliminated and the numbers of displaced radically reduced—in other words, the humanitarian payoff would be huge and immediate.

(Ernie Regehr, "Culpable Nonviolence: The Moral Ambiguity of Pacifism," *Voices Across Boundaries: A Multifaith Review of Current Events*, Volume 1, #1, Summer 2003)

- \*11. Saying that absence of state religion amounts to state atheism is just like saying that absence of religious feelings when one is asleep amounts to atheism during sleep. The second claim is obviously stupid, so you can see that the first one is false as well.
12. *Background:* The following passage is taken from a letter to the editor concerning legal penalties for possession of marijuana.
- How can any public prosecutor stand before a judge with a straight face and argue that, while possession of 15 grams of pot in a plastic bag is not a criminal offence, owning the same amount in plant form is? If simple possession for personal use is not a criminal act, common sense dictates that growing marijuana for personal use should be treated the same way. Isn't it time our government faced reality and treated marijuana the same as other social drugs such as alcohol and tobacco? License producers, regulate content and tax the proceeds, for the public good.
- (Chris Brads, *Globe and Mail*, May 24, 2003)
- \*13. *Background:* In 1974, Canadian Agriculture Minister Eugene Whelan was criticized because 27 million eggs had been allowed to spoil. He replied to criticism as follows:
- I wouldn't call that a surplus. It was only two days consumption for the whole province of Ontario. They think that's a lot, but how many billions, and I mean billions, of potatoes were dumped in Prince Edward Island years ago. Nothing was said about that.
- (Cited in Ralph H. Johnson and J. Anthony Blair, *Logical Self-Defense*, 2nd ed. [Toronto: McGraw-Hill-Ryerson, 1983], p. 105)
14. "If extraterrestrials of higher intelligence and greater power discovered that they enjoyed the delicacy of human rib roasts, that would not justify them in slaughtering us for their dining pleasure. So, since you think it would be wrong for the more powerful and intelligent extraterrestrials to place us in their factory farms, you must also conclude ... that it is wrong for humans to raise and slaughter animals as culinary luxuries."
- (Argument cited in Bruce N. Waller, "Classifying analogies," *Informal Logic* 21, Fall 2001, p. 215)

15. *Background*: Author Edward DeBono is discussing whether thinking can be taught:

If thinking is indeed a skill, how is it that we do not acquire this skill in the normal course of events? We develop skill in walking by practice.... We develop skill in talking by communication.... Surely we must develop skill in thinking by coping with the world around us? The answer is that we do. But we must distinguish between a ‘full’ skill and a two-finger skill. Many people who teach themselves to type early in life learn to type with two fingers. This is because they do not set out to learn typing as such but to use typing in their work. With two fingers they can more quickly acquire a more tolerable level of competence than if they tried to develop skill with all ten fingers.... They learn a two-finger skill. Yet a girl who trains to be a typist can, within a few weeks, develop a much higher degree of touch-typing skill, or what we call a ‘full’ skill. The two-finger journalist has acquired skill in the course of dealing with a limited situation and his skill is only just sufficient to cope with that situation.... Similarly the academic idiom taught at schools and refined in universities is a sort of two-finger skill. It is excellent at coping with closed situations where all the information is supplied, but it is very inefficient in dealing with open-ended situations where only part of the information is given, yet a decision still has to be made.

(Edward DeBono, *Teaching Thinking* [Harmondsworth, England: Penguin Books, 1984], p. 47)

## CHAPTER SUMMARY

*A priori* and inductive analogies are fundamental in human knowledge and decision making. *A priori* analogies depend on an appeal to consistency, a demand that relevantly similar cases should be treated similarly. They are important in logic, ethics, law, and administration and may be used to resolve important conceptual disputes. A refutation by logical analogy can provide a conclusive refutation of an argument if it shows that an argument has the same structure as another argument, which is known to be flawed.

Inductive analogies are indispensable in enabling us to bring known cases to bear on the unknown. Inductive analogies are used in ordinary life, in scientific reasoning, and in policy reasoning when historical cases are brought to bear on present problems.

Whereas an *a priori* analogy demands consistency in the handling of relevantly similar cases, an inductive analogy is used as the basis for predicting that an unknown case will be similar to a known one. With inductive analogies, the merits of the argument cannot be determined by reflection alone but must be assessed with consideration of the empirical features of the cases.

Some arguments are based on analogies so loose and remote that it is hard even to classify them as either *a priori* or inductive. These analogies, based on superficial similarities that do not touch on the important elements of the cases, are deemed to be fallacious. In fact, a special fallacy category, “faulty analogy,” has been defined to include them. Other faulty uses of analogy, such as the two-wrongs fallacy and the slippery uses of assimilation and precedent, involve more subtle abuses of the inherently legitimate case-by-case technique.

## REVIEW OF TERMS INTRODUCED

**Analogue** In an argument by analogy, the thing to which the primary subject is compared and on the basis of which the arguer reasons to the conclusion about the primary subject. Some arguments by analogy use several analogues.



**Analogy** A parallel or comparison between two or several cases. Analogies may be used as the basis for arguments when people reason from one or several cases to a conclusion about another case deemed to be similar to the first. In addition, analogies are used in explanations, or as illustrations, or in descriptions.

**Appeals to consistency** Arguments relying on analogy and urging that relevantly similar cases be treated similarly. If *A* is relevantly similar to *B*, and if *B* has been treated as *x* then, as a matter of consistency, *A* should also be treated as *x*. Appeals to consistency are especially common in logic, law, ethics, and administration.

***A priori* analogy** An argument by analogy in which there is an appeal to consistency and in which the analogue may be entirely hypothetical or fictitious without undermining the logical force of the argument.

**Conceptual issue** An issue in which the question at stake is how a concept should be applied or how it should be articulated.

**Counteranalogy** An analogy different from the one on which an argument is based, and leading plausibly to a conclusion contrary to that of the original argument. If the counteranalogy is as well founded as the original one, the argument based on counteranalogy will constitute a powerful criticism of the original argument.

**Fallacy of slippery assimilation** Argument based on the logical error of assuming that because cases can be arranged in a series, where the difference between successive members of the series is small, the cases should all be assimilated. This is a mistaken appeal to consistency. It ignores incorrectly the fact that small differences can cumulate to be significant.

**Fallacy of slippery precedent** Argument based on claiming that an action, though good, should not be permitted because it will set a precedent for further similar actions that are bad. Such arguments are flawed in that they use implicitly inconsistent premises. A good action cannot be relevantly similar to a bad action; there must be some relevant difference between them.

**Fallacy of two wrongs make a right** Mistake of inferring that because two wrong things are similar and one is tolerated, the other should be tolerated as well. This sort of argument misuses the appeal to consistency. This fallacy is often simply called two wrongs.

**Faulty analogy** Name for a fallacious argument in which the analogy is so loose and remote that there is virtually no support for the conclusion.

**Inductive analogy** An argument by analogy in which the conclusion is predicted on the basis of experience of one or several analogue cases deemed to be empirically similar to the primary case. The analogue must be a real case, and the factual features of the analogue and the primary subject are essential for determining the strength of the argument.

**Precedent** A relevantly similar case that has already been resolved. Reasoning by precedent is particularly common and important in law.

**Primary subject** In an argument by analogy, the topic that the conclusion is about.

**Refutation by logical analogy** The refutation of one argument by the construction of another that is parallel to it in reasoning and is clearly flawed.

## NOTES

1. C. S. Lewis, *Mere Christianity* (New York: Macmillan, 1952), p. 75.
2. Albert Einstein, as quoted by Jonathan Schell in *The Fate of the Earth* (New York: Knopf, 1982), p. 10.

3. Ralph Johnson, "Pollution: Coping with Surveys and Polls," in Trudy Govier, editor, *Selected Issues in Logic and Communication* (Belmont, CA: Wadsworth, 1988), p. 164.
4. *The Economist*, May 31, 2008, "Chicken or Kiev?," page 16.
5. *Ibid.*, page 58.
6. A truth table construction can be used to show that any statement of the form P.-P is false.
7. Reprinted in the *Informal Logic Newsletter*, Examples Supplement, 1979.
8. Nick Anderson, *The Louisville Courier-Journal*, reprinted in the *New York Times*, June 29, 2003.
9. Included in Joel Feinberg and Jules Coleman, editors, *Philosophy of Law*, 6th ed. (Belmont, CA: Wadsworth, 2000), pp. 326–329.
10. *Ibid.*, p. 329.
11. These analogies treat conceptual issues and the claims at stake are *a priori* in the sense defined in Chapter Five.
12. Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), pp. 169–170.
13. Letter to *Time*, April 10, 1989.
14. Alan Connery, *Calgary Herald*, July 6, 1979.
15. Jude Wellbarn, *Globe and Mail*, June 23, 2003.
16. Such analogies are sometimes called deductive analogies.
17. The use of inductive and *a priori* analogies by Hume in the "Dialogues" is clearly and interestingly discussed by Stephen F. Barker in "Reasoning by Analogy in Hume's Dialogues," *Informal Logic* XI (1989), pp. 173–184.
18. David Hume, "Dialogues Concerning Natural Religion," in *The Empiricists* (New York: Anchor Press, 1974), p. 467.
19. This conclusion is interestingly parallel to the pantheistic doctrine that God is in all things.
20. Letter to the *Calgary Herald*, March 12, 1976.
21. Francis Bacon, *The True Greatness of Kingdoms*, quoted by Susan Stebbing in *Thinking to Some Purpose* (London: Pelican books, 1983), p. 123.
22. Letter to the *Calgary Herald*, May 7, 1984.
23. The fallacies of slippery assimilation and slippery precedent are sometimes referred to as the slippery slope fallacy. What is called in Chapter Ten "causal slippery slope" is often similarly described. I have preserved the word *slippery* here in deference to this usage. However, I have distinguished between slippery assimilation, slippery precedent, and causal slippery slope because different problems are involved in each case. The first involves issues about the application of concepts to a sequence of individual cases, and vagueness; the second involves issues of precedent in decision-making; and the third involves causal claims and causal sequences. Many classic slippery slope arguments blend these aspects together, and the failure to distinguish them contributes to the persuasiveness of faulty arguments. My views on this topic may be found in "What's Wrong with Slippery Slope Arguments?" in Trudy Govier, *The Philosophy of Argument* (Newport News: Vale Press, 1999).
24. See the discussion of inconsistent premises in Chapter Five.