15. . . . The simplest form of the theological argument from design [was] once well known under the name “Paley’s watch.” Paley’s form of it was just this: “If we found by chance a watch or other piece of intricate mechanism we should infer that it had been made by someone. But all around us we do find intricate pieces of natural mechanism, and the processes of the universe are seen to move together in complex relations; we should therefore infer that these too have a Maker.”


11.4 Refutation by Logical Analogy

“You should say what you mean,” [said the March Hare, reproving Alice sharply.]
“I do,” Alice hastily replied; “at least—at least I mean what I say—that’s the same thing, you know.”
“Not the same thing a bit!” said the Hatter. “Why, you might just as well say that ‘I see what I eat’ is the same thing as ‘I eat what I see’!”
“You might just as well say,” added the March Hare, “that ‘I like what I get’ is the same thing as ‘I get what I like’!”
“You might just as well say,” added the Dormouse, which seemed to be talking in its sleep, “that ‘I breathe when I sleep’ is the same thing as ‘I sleep when I breathe’!”
“It is the same thing with you,” said the Hatter, and here the conversation dropped.

—Lewis Carroll, Alice’s Adventures in Wonderland

The Hare, the Hatter, and the Dormouse all seek to refute Alice’s claim—that meaning what you say is the same as saying what you mean—by using a logical analogy. The form of an argument, as distinct from its particular content, is the most important aspect of that argument from a logical point of view. Therefore, we often seek to demonstrate the weakness of a given argument by stating another argument, known to be erroneous, that has the same logical form.

In the realm of deduction, a refuting analogy for a given argument is an argument that has the same form as the given argument but whose premises are known to be true and whose conclusion is known to be false. The refuting analogy is therefore known to be invalid, and the argument under attack, because it has the same form, is thus shown to be invalid as well. This is the same principle that underlies the testing of categorical syllogisms explained in Section 6.2, and it also underlies the repeated emphasis on the centrality of logical form, as explained in Section 8.4.

In the realm of inductive argument, our present concern, the technique of refutation by logical analogy can also be used to great effect. Scientific, political,
or economic arguments, not purporting to be deductive, may be countered by presenting other arguments that have very similar designs, whose conclusions are known to be false or are generally believed to be improbable. Inductive arguments differ fundamentally from deductive arguments in the character of the support claimed to be given to the conclusion by the premises. All arguments, however, inductive as well as deductive, may be said to have some underlying form or pattern. If, when confronted by an inductive argument we wish to attack, we can present another inductive argument that has essentially the same form but is clearly flawed and whose conclusion is very doubtful, we throw similar doubt on the conclusion of the argument being examined.

Consider the following illustration. In two highly controversial cases before the U.S. Supreme Court in 2007, the central issue was the constitutionality of the consideration of race by school boards in the assignment of students to public schools. In an editorial, the New York Times supported the race-conscious systems as fair, and called the objections to it “an assault on local school control.” A prominent critic of the race-based systems wrote a critical response to that editorial, within which appeared the following passage:

You argue that the race-based system “is applied to students of all races” and “does not advantage or disadvantage any particular racial group.” But, of course, the same argument might have been made in defense of miscegenation statutes, which forbade blacks from marrying whites as well as whites from marrying blacks.9

The technique of refutation by logical analogy is here very keenly exemplified; the focus is on the form of the two arguments. The argument under attack has the same form as that of another argument whose unsatisfactoriness is now universally understood. We surely would not say that miscegenation statues are acceptable because they apply equally to all races. Some policies involving the use of race by the state are not acceptable (the critic argues) even when it is true that no particular racial group is disadvantaged by that use. By highlighting such unacceptability in some well-known settings (regulations governing marriage), he strikes a sharp blow against the argument in this setting that relies on the claim that no particular racial group is disadvantaged by the race-based policy under attack.

The presentation of a refutation by logical analogy is often signaled by the appearance of some revealing phrase: “You might just as well say,” or some other words having that same sense. In the example just given, the telltale phrase is “the same argument might have been made. . . .” In another context, the argument that because Islamic culture had been brought to the country of Chad from without, it is no more than an Islamic overlay, is attacked with the
refuting analogy of a scholar who introduces the refutation with a slightly different set of words: “One could as sensibly say that France has only a Christian overlay.”

When the point of the refuting analogy is manifest, no introductory phrases may be needed. The former governor of Mississippi, Kirk Fordice, argued that “It is a simple fact that the United States is a Christian nation” because “Christianity is the predominant religion in America.” Journalist Michael Kinsley, with whom Fordice was debating on television, responded with these telling analogies: “Women are a majority in this country. Does that make us a female country? Or does it make us a white country because most people in this country are white?”

A careless effort to refute an argument with an analogy can backfire when the allegedly refuting argument differs importantly from the target argument in ways that tend to reinforce the one that is under attack. This is illustrated by a recent exchange on the highly controversial topic of global warming. Newspaper columnist John Tierney raised some serious questions about the wisdom of immediate large-scale efforts to combat an apparent but uncertain climate trend. A critic, Ray Sten, responded in this way:

John Tierney suggests that we not worry much about climate change because its consequences are uncertain and far in the future, and in the meantime somebody may discover a technological quick fix. That’s like telling a smoker not to worry because it’s not certain whether he’ll develop cancer, and besides, a cure may have been found by then. Call me a worry wart, but I’d quit smoking.

The immediate and large-scale steps whose wisdom Tierney questions are thus likened to quitting smoking. There is, however, an important contrast between those two. Quitting has no economic costs (and even some economic benefits), while industrial changes designed to cut greenhouse gases by reducing the use of fossil fuels will probably be very costly. In presenting an analogy intended to refute Tierney, Mr. Stern (whose position on global warming may well be correct) undermines his cause by indirectly calling attention to the costs of the change he seeks to advance.

Here, to conclude, is a letter to the editor from Jeff Weaver, published in The Ann Arbor (Mich.) News in July 2005:

I find it amusing that anyone would be offended by the name or appearance of a team mascot. But apparently there are people who are devastated that there are schools with team names such as the Hurons, Chippewas, Braves, Chiefs, Seminoles, etc.

I sympathize with their plight. I would also suggest that we change the name of the Pioneers of Ann Arbor Pioneer High School. My forefathers were pioneers and I’m sure they would be devastated that a school adopted their name as a team mascot. That name and mascot are a direct slap against my people.
While we are at it, we had better change the names of the Cowboys, Fighting Irish, Celtics, Hoosiers, Sooners, Boilermakers, Packers, Aggies, Oilers, Mountaineers, Friars, Patriots, Volunteers and Tar Heels, to name a few, because I’m sure those names are equally demeaning and degrading to those groups as well. . . .

Refutation by analogy when well designed can be exceedingly effective. If the argument presented as a refuting analogy is plainly rotten, and it does indeed have the same form as that of the argument under attack, that target argument must be seriously wounded.

**EXERCISES**

Each of the following is intended to be a refutation by logical analogy. Identify the argument being refuted in each and the refuting analogy, and decide whether they do indeed have the same argument form.

1. Steve Brill, founder of Court TV, has no doubt that cameras belong in the courtroom, and answers some critics in the following way: “Some lawyers and judges say that TV coverage makes the system look bad. They confuse the messenger with the message. If press coverage of something makes it look bad, that is a reason to have the press coverage. That criticism is like saying that because journalists were allowed to be with the troops in Vietnam, the Vietnam War was ruined.”


2. The whole history of bolshevism, both before and after the October revolution, is full of instances of maneuvering, temporizing and compromising with other parties, bourgeois parties included! To carry on a war for the overthrow of the international bourgeoisie, a war which is a hundred times more difficult, prolonged and complicated than the most stubborn of ordinary wars between states, and to refuse beforehand to maneuver, to utilize the conflict of interests (even though temporary) among one’s enemies, to refuse to temporize and compromise with possible (even though transitory, unstable, vacillating and conditional) allies—is this not ridiculous in the extreme? Is it not as though, when making a difficult ascent of an unexplored and hitherto inaccessible mountain, we were to refuse beforehand ever to move in zigzags, ever to retrace our steps, ever to abandon the course once selected to try others?

   —V. I. Lenin, “Left Wing” Communism: An Infantile Disorder, 1920

3. The distinguished naturalist E. O. Wilson argues that humans are no more than a biological species of a certain physical composition,
and that the human mind can have no characteristics attributable to nonphysical causes. This claim can no longer be disputed. “Virtually all contemporary scientists and philosophers expert on the subject agree [he writes] that the mind, which comprises consciousness and rational process, is the brain at work. . . . The brain and its satellite glands have now been probed to the point where no particular site remains that can reasonably be supposed to harbor a nonphysical mind. Stephen Barr presented the following counter-argument in the form of a logical analogy: “This [Wilson’s argument quoted above] is on a par with Nikita Krushchev’s announcement [aiming to support atheism] that Yuri Gagarin, the first human visitor to space, had failed to locate God. Does Wilson suppose that if there were an immaterial component to the mind it would show up in a brain scan?”

4. The argument against new highways is given forceful statement by three distinguished urban planners: the authors write: “The only long term solutions to traffic are public transit and coordinated land use.” New highways, they argue, bring “induced traffic.” So building more highways will only cause more traffic congestion, not less.

A highly critical reviewer responds to this argument as follows: “This is nonsense. . . . Long lines at a grocery store would not prompt anyone to say, “Well, we can’t build any more grocery stores. That would only bring out more customers.” Building more highways wouldn’t lure cars. The cars come anyway.”

5. America’s supply of timber has been increasing for decades, and the nation’s forests have three times more wood today than in 1920. “We’re not running out of wood, so why do we worry so much about recycling paper?” asks Jerry Taylor, the director of natural research studies at the Cato Institute. “Paper is an agricultural product, made from trees grown specifically for paper production. Acting to conserve trees by recycling paper is like acting to conserve cornstalks by cutting back on corn consumption.”


6. In 1996, heated controversy arose between the states of New Jersey and New York over formal possession of Ellis Island, located at the mouth of the Hudson River near the New Jersey shore, a tiny speck of land on which so many tens of thousands of immigrants to the United States first touched American soil. An essay defending New York’s claim to the historic island appeared in the New York Times on
23 July 1996. The following letter appeared in the same newspaper four days later:

Clyde Haberman is right that almost every immigrant who passed through Ellis Island was bound for New York, not New Jersey. But this fact does not determine where the island is. A significant number of passengers arriving at Newark International Airport are also on their way to New York, but it would be hard to argue that New York thus has a claim on the airport. Cincinnati International Airport is in Covington, Kentucky, and presumably, few travelers are on their way to sparsely populated northern Kentucky. Would Mr. Haberman suggest that the airport belongs to Ohio?

7. Edward Rothstein suggests that poverty and injustice cannot be considered among the root causes of Islamic terrorism because Osama bin Laden is a multimillionaire. By that logic, slavery could not have caused the Civil War because Abraham Lincoln was not a slave.


8. Each of the multitude of universes may have different laws of nature. Or different values of quantities that determine how they behave, such as the speed of light. Some may be suitable for life, and some may not. All those suitable for life may have life develop. Sometimes life will evolve only into dinosaurs rather than something more intelligent. We cannot attach any meaning to the fact that a life form which could ask anthropic questions [questions about the properties that are essential for intelligent life] did develop in at least one universe. It is very much like a lottery. If you win the lottery, you may feel very grateful, but someone had to win, and no one selected who that was, except randomly. Just because a universe has a unique set of laws and parameters should not lead one to wonder whether that set was designed.

—Gordon Kane, “Anthropic Questions,” Phi Kappa Phi Forum, Fall 2002

9. Artificial human minds will never be made (we are told) because “artificial intelligence investigation is based on advanced solidstate physics, whereas the humble human brain is a viable semiliquid system!” That is no more reassuring than the suggestion that automobiles could never replace horses because they are made of metal, while the humble horse is a viable organic system with legs of flesh and bone.

Modern political rhetoric [Ronald Dworkin argues] “is now extremely repetitive,” and a good bit of it could be dispensed with—by law. “Every European democracy does this,” the world’s most highly regarded legal philosopher points out, “and Europeans are amazed that we do not.”

Europeans are also amazed that we bathe as frequently as we do. What the hell kind of argument is that?


**SUMMARY**

In this chapter we began the analysis of induction. Section 11.1 reviewed the fundamental distinction between deductive arguments, which claim certainty for their conclusions, and inductive arguments, which make no such claim. The terms *validity* and *invalidity* do not apply to inductive arguments, whose conclusions can only have some degree of probability of being true.

In Section 11.2 we explained argument by analogy. An analogy is a likeness or comparison; we draw an analogy when we indicate one or more respects in which two or more entities are similar. An argument by analogy is an argument whose premises assert the similarity of two or more entities in
one or more respects, and whose conclusion is that those entities are similar in some further respect. Its conclusion, like that of every inductive argument, can be no more than probable.

In Section 11.3 we explained six criteria used in determining whether the premises of an analogical argument render its conclusion more or less probable. These criteria are

1. The number of entities between which the analogy is said to hold
2. The variety, or degree of dissimilarity, among those entities or instances mentioned only in the premises
3. The number of respects in which the entities involved are said to be analogous
4. The relevance of the respects mentioned in the premises to the further respect mentioned in the conclusion
5. The number and importance of disanalogies between the instances mentioned only in the premises and the instance mentioned in the conclusion
6. The modesty (or boldness) of the conclusion relative to the premises

In Section 11.4 we explained refutation by logical analogy. To show that a given argument (whether inductive or deductive) is mistaken, one effective method is to present another argument, which is plainly mistaken, and whose form is the same as that of the argument under attack.

End Notes

8Parents Involved in Community Schools v. Seattle School District No. 1 (No. 05-908); and Crystal D. Meredith, Custodial Parent v. Jefferson County (KY) Board of Education (No. 05-915)


