premise of the enthymematic argument. The unstated falsehood of the first component is the conclusion of the argument. To illustrate, the distinguished political philosopher John Rawls admired Abraham Lincoln as the president who most appreciated the moral equality of human beings. Rawls frequently quoted Lincoln’s enthymematic argument, “If slavery is not wrong, nothing is wrong.” It is of course wildly false to say that nothing is wrong—from which it follows that it is equally false to say that slavery is not wrong.*

1.4 Arguments and Explanations

Passages that appear to be arguments are sometimes not arguments but explanations. The appearance of words that are common indicators—such as “because,” “for,” and “therefore”—cannot settle the matter, because those words are used in both explanations and arguments.† We need to know the intention of the author. Compare the following two passages:

1. Lay up for yourselves treasures in heaven, where neither moth nor rust consumes and where thieves do not break in and steal. For where your treasure is, there will your heart be also.

—Matt. 7:19

2. Therefore is the name of it [the tower] called Babel; because the Lord did there confound the language of all the earth.

—Gen. 11:19

The first passage is clearly an argument. Its conclusion, that one ought to lay up treasures in heaven, is supported by the premise (here marked by the word “for”) that one’s heart will be where one’s treasure is laid up. The second passage, which uses the word “therefore” quite appropriately, is not an argument. It explains why the tower (whose construction is recounted in Genesis) is called Babel. The tower was given this name, we are told, because it is was the place where humankind, formerly speaking one language, became confounded by many languages.‡ The passage assumes that

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*Samuel Freeman, “John Rawls, Friend and Teacher,” Chronicle of Higher Education,” 13 December 2002. And Bruno Bettelheim, a survivor of the Nazi death camps at Dachau and Buchenwald (and a distinguished psychiatrist), wrote: “If all men are good, then there never was an Auschwitz.”

†The premise indicator “since” often has a temporal sense as well. Thus, in the lyric of the famous old song, “Stormy Weather,” the line “Since my man and I ain’t together, keeps rainin’ all the time,” is deliberately ambiguous, and richly suggestive. (Music by Harold Arlen, words by Ted Roehler, 1933.)

‡The name “Babel” is derived from the Hebrew word meaning “to confound”—that is, to confuse by mixing up or lumping together in an indiscriminate manner.
the reader knows that the tower had that name; the intention is to explain why that name was given to it. The phrase, “Therefore is the name called Babel,” is not a conclusion but a completion of the explanation of the naming. And the clause, “because the Lord did there confound the language of all the earth,” is not a premise; it could not serve as a reason for believing that Babel was the name of the tower, because the fact that that was the name is known by those to whom the passage is addressed. In this context, “because” indicates that what follows will explain the giving of that name, Babel, to that tower.

These two passages illustrate the fact that superficially similar passages may have very different functions. Whether some passage is an argument or an explanation depends on the purpose to be served by it. If our aim is to establish the truth of some proposition, Q, and we offer some evidence, P, in support of Q, we may appropriately say “Q because P.” In this case we are giving an argument for Q, and P is our premise. But suppose that Q is known to be true. In that case we don’t have to give any reasons to support its truth, but we may wish to give an account of why it is true. Here also we may say “Q because P”—but in this case we are giving not an argument for Q, but an explanation of Q.

In responding to a query about the apparent color of quasars (celestial objects lying far beyond our galaxy), one scientist wrote:

The most distant quasars look like intense points of infrared radiation. This is because space is scattered with hydrogen atoms (about two per cubic meter) that absorb blue light, and if you filter the blue from visible white light, red is what’s left. On its multibillion-light-year journey to earth quasar light loses so much blue that only infrared remains.23

The author is not seeking to convince his reader that quasars have the apparent color they do, but rather giving the causes of this fact; he is explaining, not arguing.

However, it may be difficult at times to determine whether an author intends to be explaining some state of affairs, or to be arguing for some conclusion that is critical in that explanation. Here, for example, is a passage that may be interpreted in either way.

I would like to highlight another property of water, unique but also vital to making life on Earth possible. As water cools, approaching its freezing point, its density suddenly decreases, reversing the usual “natural convection” patterns in which colder fluids sink. This reversal causes the coldest strata of water to rise to the top of an ocean or lake. These large bodies of water now freeze from the top down. Were it not for this unique property of water, the oceans and lakes would have long and completely frozen over from the bottom up with dire consequences for any life-sustaining liquid water on Earth.24
More than one conclusion may be inferred from the same premise, thus presenting two arguments. Similarly, more than one thing may be accounted for by the same fact, thus presenting two explanations. Here is an illustration:

The *Oxford English Dictionary* is a historical dictionary, providing citations meant to show the evolution of every word, beginning with the earliest known usage. So a key task, and a popular sport for thousands of volunteer word aficionados, is antedating: finding earlier citations than those already known.25

That antedating is a key task for the makers of that dictionary is accounted for by the fact that the *Oxford English Dictionary* is a *historical* dictionary. This same fact about the dictionary explains why, for word aficionados, antedating is a popular sport.

If an author writes “Q because P,” how can we tell whether he intends to explain or to persuade? We can ask: What is the status of Q in that context? Is Q a proposition whose truth needs to be established or confirmed? In that case, “because P” is probably offering a premise in its support; “Q because P” is in that instance an argument. Or is Q a proposition whose truth is known, or at least not in doubt in that context? In that case, “because P” is probably offering some account of why Q has come to be true; “Q because P” is in that instance an explanation.

In an explanation, one must distinguish *what* is being explained from what the explanation *is*. In the explanation from Genesis given at the beginning of this section, *what* is being explained is how the tower of Babel came to have that name; the explanation *is* that it was there that the Lord did confound the language of all the earth. In the astronomical example given subsequently, *what* is being explained is the fact that quasars appear to be red; the explanation *is* that as light travels from the very distant quasar to earth all the blue in that light is filtered out.

If we are sensitive to the context, we will usually be able to distinguish an explanation from an argument. However, there will always be some passages whose purpose is uncertain, and such passages may deserve to be given alternative, equally plausible “readings”—viewed as an argument when interpreted in one way and as an explanation when interpreted in another.

**EXERCISES**

Some of the following passages contain explanations, some contain arguments, and some may be interpreted as either an argument or an explanation. What is your judgment about the chief function of each passage? What would have to be the case for the passage in question to be an argument? To be an explanation? Where you find an argument, identify its premises and conclusion. Where you find an explanation, indicate what is being explained and what the explanation is.
EXAMPLE

1. Humans have varying skin colors as a consequence of the distance our ancestors lived from the Equator. It’s all about sun. Skin color is what regulates our body’s reaction to the sun and its rays. Dark skin evolved to protect the body from excessive sun rays. Light skin evolved when people migrated away from the Equator and needed to make vitamin D in their skin. To do that they had to lose pigment. Repeatedly over history, many people moved dark to light and light to dark. That shows that color is not a permanent trait.


SOLUTION

This is essentially an explanation. What is being explained is the fact that humans have varying skin colors. The explanation is that different skin colors evolved as humans came to live at different distances from the Equator and hence needed different degrees of protection from the rays of the sun. One might interpret the passage as an argument whose conclusion is that skin color is not a permanent trait of all humans. Under this interpretation, all the propositions preceding the final sentence of the passage serve as premises.

2. David Bernstein [in Only One Place of Redress: African Americans, Labor Regulations and the Courts, 2001] places labor laws at the center of the contemporary plight of black Americans. Many of these ostensibly neutral laws (e.g. licensing laws, minimum-wage laws, and collective bargaining laws) were either directly aimed at stymieing black economic and social advancement or, if not so aimed, were quickly turned to that use. A huge swath of the American labor market was handed over to labor unions from which blacks, with few exceptions, were totally excluded. The now longstanding gap between black and white unemployment rates dates precisely from the moment of government intervention on labor’s behalf. In short (Bernstein argues) the victories of American labor were the undoing of American blacks.


3. Animals born without traits that led to reproduction died out, whereas the ones that reproduced the most succeeded in conveying their genes to posterity. Crudely speaking, sex feels good because over evolutionary time the animals that liked having sex created more offspring than the animals that didn’t.

4. Changes are real. Now, changes are only possible in time, and therefore time must be something real.


5. The nursing shortage in the United States has turned into a full-blown crisis. Because fewer young people go into nursing, one third of registered nurses in the United States are now over 50 years of age, and that proportion is expected to rise to 40 percent over the next decade. Nurses currently practicing report high rates of job dissatisfaction, with one in five seriously considering leaving the profession within the next five years. . . . Hospitals routinely cancel or delay surgical cases because of a lack of nursing staff.

—Ronald Dworkin, “Where Have All the Nurses Gone?,” *The Public Interest*, Summer 2002

6. To name causes for a state of affairs is not to excuse it. Things are justified or condemned by their consequences, not by their antecedents.


7. One may be subject to laws made by another, but it is impossible to bind oneself in any matter which is the subject of one’s own free exercise of will. . . . It follows of necessity that the king cannot be subject to his own laws. For this reason [royal] edicts and ordinances conclude with the formula, “for such is our good pleasure.”


8. I like Wagner’s music better than anybody’s. It is so loud that one can talk the whole time without people hearing what one says.

—Oscar Wilde, *The Picture of Dorian Gray*, 1891

9. Three aspects of American society in recent decades make cheating more likely.

First, there is the rise of a market-drenched society, where monetary success is lauded above all else. Second, there is the decline of religious, communal, and family bonds and norms that encourage honesty. Finally, there is the absence of shame by those public figures who are caught in dishonest or immoral activities. No wonder so many young people see nothing wrong with cutting corners or worse.

10. Love looks not with the eyes but with the mind;
And therefore is wing’d Cupid painted blind.
—William Shakespeare, *A Midsummer Night’s Dream*,
act 1, scene 1

11. An article in *The New York Times*, “Why Humans and Their Fur Parted Ways,” suggested that the fact that women have less body hair than men is somehow related to greater sexual selection pressure on women. A reader responded with the following letter:

Here is an elaboration for which I have no evidence but it is consistent with what we think we know: sexual selection has probably strongly influenced numerous traits of both sexes.

Youthful appearance is more important to men when selecting a mate than it is to women. The longer a woman can look young, the longer she will be sexually attractive and the more opportunities she will have to bear offspring with desirable men. Hairlessness advertises youth.

Hence a greater sexual selection pressure on women to lose body hair.


12. MAD, mutually assured destruction, was effective in deterring nuclear attack right through the cold war. Both sides had nuclear weapons. Neither side used them, because both sides knew the other would retaliate in kind. This will not work with a religious fanatic [like Mahmoud Ahmadinejad, President of the Islamic Republic of Iran]. For him, mutual assured destruction is not a deterrent, it is an inducement. We know already that Iran’s leaders do not give a damn about killing their own people in great numbers. We have seen it again and again. In the final scenario, and this applies all the more strongly if they kill large numbers of their own people, they are doing them a favor. They are giving them a quick free pass to heaven and all its delights.

—Bernard Lewis, quoted in *Commentary*, June 2007

13. About a century ago, we discovered that planetary orbits are not stable in four or more dimensions, so if there were more than three space dimensions, planets would not orbit a sun long enough for life to originate. And in one or two space dimensions, neither blood flow nor large numbers of neuron connections can exist. Thus, interesting life can exist only in three dimensions.

—Gordon Kane, “Anthropic Questions,”
*Phi Kappa Phi Journal*, Fall 2002
14. Translators and interpreters who have helped United States troops and diplomats now want to resettle in the United States. They speak many strategically important languages of their region. The United States does not have an adequate number of interpreters and translators who are proficient in these languages. Therefore, we need them. Q.E.D.

—“Welcome the Translators,” Oswald Werner

15. The Treasury Department’s failure to design and issue paper currency that is readily distinguishable to blind and visually impaired individuals violates Section 504 of the Rehabilitation Act, which provides that no disabled person shall be “subjected to discrimination under any program or activity conducted by any Executive agency.”


16. Rightness [that is, acting so as to fulfill one’s duty] never guarantees moral goodness. For an act may be the act which the agent thinks to be his duty, and yet be done from an indifferent or bad motive, and therefore be morally indifferent or bad.


17. Man did not invent the circle or the square or mathematics or the laws of physics. He discovered them. They are immutable and eternal laws that could only have been created by a supreme mind: God. And since we have the ability to make such discoveries, man’s mind must possess an innate particle of the mind of God. To believe in God is not “beyond reason.”


18. Many of the celebratory rituals [of Christmas], as well as the timing of the holiday, have their origins outside of, and may predate, the Christian commemoration of the birth of Jesus. Those traditions, at their best, have much to do with celebrating human relationships and the enjoyment of the goods that this life has to offer. As an atheist I have no hesitation in embracing the holiday and joining with believers and nonbelievers alike to celebrate what we have in common.

19. All ethnic movements are two-edged swords. Beginning benignly, and sometimes necessary to repair injured collective psyches, they often end in tragedy, especially when they turn political, as illustrated by German history.


20. That all who are happy, are equally happy, is not true. A peasant and a philosopher may be equally satisfied, but not equally happy. Happiness consists in the multiplicity of agreeable consciousness. A peasant has not the capacity for having equal happiness with a philosopher.

—Samuel Johnson, in Boswell’s Life of Johnson, 1766

1.5 Deductive and Inductive Arguments

Every argument makes the claim that its premises provide grounds for the truth of its conclusion; that claim is the mark of an argument. However, there are two very different ways in which a conclusion may be supported by its premises, and thus there are two great classes of arguments: the deductive and the inductive. Understanding this distinction is essential in the study of logic.

A deductive argument makes the claim that its conclusion is supported by its premises conclusively. An inductive argument, in contrast, does not make such a claim. Therefore, if we judge that in some passage a claim for conclusiveness is being made, we treat the argument as deductive; if we judge that such a claim is not being made, we treat it as inductive. Because every argument either makes this claim of conclusiveness (explicitly or implicitly) or does not make it, every argument is either deductive or inductive.

When the claim is made that the premises of an argument (if true) provide incontrovertible grounds for the truth of its conclusion, that claim will be either correct or not correct. If it is correct, that argument is valid. If it is not correct (that is, if the premises when true fail to establish the conclusion irrefutably although claiming to do so), that argument is invalid.

For logicians the term validity is applicable only to deductive arguments. To say that a deductive argument is valid is to say that it is not possible for its conclusion to be false if its premises are true. Thus we define validity as follows: A deductive argument is valid when, if its premises are true, its conclusion must be true. In everyday speech, of course, the term valid is used much more loosely.

Although every deductive argument makes the claim that its premises guarantee the truth of its conclusion, not all deductive arguments live up to that claim. Deductive arguments that fail to do so are invalid.