

Introduction to Logic

Leonard Peikoff

INFORMAL FALLACIES

1. Until you are omniscient about yourself, you cannot know for sure whether or not some part of your motivation, presently unknown to you, is basically evil. For the present, you have no proof on this point either way. You must, therefore, admit that it is possible that you are, to some extent, basically evil.
2. John Stuart Mill, *Utilitarianism*: “. . . each person’s happiness is a good to that person, and the general happiness, therefore, a good to the aggregate of all persons.”
3. “Long hair is superior to short hair, as proved by the consensus of distinguished youth leaders.”
“How do you determine who is a distinguished youth leader?” “That’s easy. They all have long hair.”
4. Your arguments against Red China’s system of government are completely worthless, because you haven’t even been there.
5. The American people are fundamentally opposed to the tactics of violence and lawlessness. The Weathermen, therefore, being Americans, must be champions of law and order.
6. My friends, the only cure for the present energy crisis is the nationalization of all oil and coal companies. Once and for all, we must put an end to the diabolical conspiracy of the profit-mad, power-lusting vultures of Big Business. Don’t let the tycoons wrap their slimy tentacles around our nation’s economy, and squeeze it dry for their own aggrandizement. Don’t let them sink their blood-drenched claws into the helpless, exposed flesh of the American people.
7. “Every person acts at every moment to achieve the maximum personal pleasure. That is the sole human motivation.”
“What about Mr. X? He just went into the desert for 10 years to mortify the flesh and lie on a bed of nails.”
“That’s no argument against me. That’s *his* way of achieving personal pleasure.”
“How do you know that that’s his way of achieving pleasure?”
“Well, it’s obvious. After all, every person acts at every moment to achieve the maximum personal pleasure. That is the sole human motivation.”
8. Nobody is smarter than Einstein. You are smarter than nobody. Therefore, you are smarter than Einstein.
9. Croce, *Philosophy of the Practical*: “The Inquisition must have been justified and beneficial, if whole peoples invoked and defended it, if men of the loftiest souls founded and created it severally and impartially, and its very adversaries applied it on their own account, pyre answering to pyre.”
10. Are you a progressive who is in favor of basically changing the American political system, or are you one of those conservatives who believe that nothing in our present political system should be changed in any way?
11. Marshall Tito of Yugoslavia: “There really isn’t very much difference between the political systems of America and Yugoslavia; after all, America has two major political parties and Yugoslavia one, a difference of only one party.”
12. But this piece of music simply *must* be beautiful. There is not one ugly phrase in it from start to finish.

13. Smith will give you a number of arguments as to why you should vote for the Democratic candidate. Don't fall for them. Remember that Smith has been hired by the Democrats and that he himself votes Republican.
14. Obviously, hard work is undesirable. A poll has just been taken which shows that the great majority of people definitely dislike hard work.
15. My lawyer, Mr. Green, says that I should settle out of court and not prosecute, because the law in this case favors my opponent. Since Green has a law degree from Harvard, 30 years of experience in the field, and a large and successful legal practice, I guess he should know what he's talking about. The chances are that his advice is correct.
16. Of course, it's wrong to argue against conscription. You'll be drafted if you do.
17. My teacher tells me that we must be completely honest during the examination. My neighbor has just asked me to let him copy my entire examination. What can I do to resolve such a clash of interests except to let my neighbor copy just a part of my examination?
18. All men want love, no matter what they say—because man's need for love is universal.
19. "The best advice I can give you, in regard to your forthcoming job interview, is: Be yourself."
"That's ridiculous. How could I be anything else?"
"I mean: Be natural."
"That's foolish, too. I can hardly be supernatural."
20. Something cannot become nothing. The soul is something. Therefore, it cannot become nothing. Thus, the soul will always exist—i.e., it is immortal.
21. After the admiral read his young son a story, he was tucked into his crib with his favorite teddy bear.
22. Proposed subject for research project: Do the creatures who live in UFO's employ ESP?
23. If a young hoodlum heaves a brick through the window of a baker's shop, he creates business for some glazier. The glazier, with the money he will receive for fixing the window, will be able to buy, for instance, a suit—and thus he will create business for some tailor. And the tailor will be able to use the money he received to buy something from someone else. And so on. The smashed window will go on providing business indefinitely. We can only conclude that the man who broke the window actually helped the economy by doing so.
24. How can you possibly argue against the validity of socialized medicine? Every civilized country in the world either has it already or is moving rapidly to enact it. On this question, the facts are clear: the trend of history has rendered a decisive verdict.
25. I am completely unprejudiced. Go ahead and tell me your vicious argument in favor of modern art, and I'll judge whether it is valid or not.
26. You must sign the legislation raising price supports for farm products, Mr. President. It is a perfectly sound law. Remember that farm organizations in five states have announced that if you veto this bill, they will work for your opponent in the coming election.

27. From *The New York Times*: “[Supporters of Mr. Sandman, the 1973 Republican candidate for governor of New Jersey] are counting on logic. To this end they have constructed the following syllogism: A majority of the voters oppose an income tax. Mr. Sandman says he will save them from one. It follows, then, that a majority of the voters will vote for him.”
28. Genghis Khan must have been evil at birth because, after all, a man is born either fundamentally good or fundamentally evil, and Genghis Khan is clearly not in the former category.
29. You ask me to give you a valid argument to prove the truth of the Law of Contradiction? That’s simple. Whatever is presupposed by all knowledge must be true, and the Law of Contradiction is presupposed by all knowledge. Therefore, I infer that the Law of Contradiction must be true.
30. Communism means dictatorship; laissez-faire capitalism means dog-eat-dog competition. But we don’t have to accept either of these radical systems. Isn’t the wisest course to combine the advantages of each—i.e., to have a mixed economy?
31. There are no real differences among people; basically, they all want the same thing: strength. For instance, Napoleon wanted a strong army, Adam Smith wanted a strong economy, Aristotle admired strong arguments, and my Senator loves strong liquor.
32. You don’t believe in government regulation of the economy? But then you must be an anarchist.
33. Of course, this is an important news story. *The New York Times* gave it six columns on the front page.
34. Philosophers have tried for millenia to prove the existence of a supernatural dimension. I admit that all their arguments so far have been invalid. But no one has yet disproved their viewpoint, either. Maybe, therefore, they are right.
35. “Bill is a marvelous person. I always enjoy myself in his company.”
“I disagree. I think he’s awful. It depresses me just to be in the same room with him.”
36. The development of literature—both fiction and non-fiction—is a great milestone in the progress of civilization. *Mein Kampf* was one of the most widely read books in world literature. We must, therefore, give it due credit for its civilizing influence on the world.
37. Karl Marx and F. Engels, *The Communist Manifesto*: “But don’t wrangle with us so long as you apply, to our intended abolition of bourgeois property, the standard of your bourgeois notions of freedom, culture, law, etc. Your very ideas are but the outgrowth of your bourgeois production and bourgeois property just as your jurisprudence is but the will of your class made into a law for all, a will whose essential character and direction are determined by the economic conditions of existence of your class.”
38. More people now become ill from smallpox vaccination than from smallpox itself. This clearly demonstrates the futility of vaccination.
39. You say that man should aspire to perfection? That’s impossible. Of course, I don’t believe that one should be depraved, but isn’t moderation the best policy? You know, we’re all gray—nobody is morally black or white.

40. You argue that happiness is possible to man? Well, you're wrong. Wait until you've lived.
41. When I consider the massacres in Russia, I realize how evil slavery is. That's why I'm going to quit going to college. In college I'm a slave to the chronic routine of attending lectures, studying, taking exams, and so on. How much better it would be to be free!
42. Newspaper headlines:
 - (1) Mayor Attacks Obscenity at Junior League Tea.
 - (2) Master Chef Likes Dessert More than Wife.
43. Of course, it's a great movie. I loved it.
44. I don't care how powerful your reasoning is. You can't be certain of your conclusion on this (or any) question. Since man is fallible, how do you know that you didn't make a mistake?
45. Aristotle defined the laws of logic in ancient Greece. We are living in the twentieth century. Obviously, things have changed enormously since then, and his logic is now deficient.
46. Capitalism is the right system of government because it promotes the freedom of the individual. Individual freedom is good because it enhances the individual's ability to produce. And production is a good thing because, without it, we could never maintain the free enterprise system.
47. Material entities are made up, ultimately, of subatomic particles, each of which is rigorously determined in its action by scientific law. The human body, too, is made up of such particles. Consequently, a man's actions are rigorously determined. Free will is a myth.
48. There will never come a time when all men agree about everything; there are always going to be disputes and disagreements. For this reason, war can never be eradicated.
49. Professor, you must raise my grade in this course. Otherwise, I won't be able to graduate, and that means I'll lose my job—and then what will happen to my two sick children?
50. Obviously, machines cause unemployment. Every time a machine does a job that a man could be doing, the man is thrown out of work.
51. You can ignore his arguments against religion. As soon as he confronts his own weakness, he'll forget them himself. You know the old saying: There are no atheists in foxholes.
52. Watergate proves that the American system of government cannot survive if the President continues to have unlimited power. We must give that power to Congress.
53. How do you explain the telekinetic abilities demonstrated at Duke University?
54. If a person is in love, he wants to communicate with the person he loves. He hasn't telephoned me for two days. Therefore, he doesn't love me.
55. Pornography is disgusting. There should, therefore, be a law forbidding it.

56. "I want to see a movie downtown on Thursday."
"Do you have the money?"
"Yes."
"Do you intend to go to the theater and purchase the ticket?"
"Yes."
"Are you sure there is a movie playing downtown on Thursday?"
"Yes."
"Then I can only conclude that, barring some unforeseen circumstance or a change in your plans, you will see a movie on Thursday."
57. This man claims that he remembers his former life, in which he was the Pharaoh of Egypt. I believe him. And you can't prove that he wasn't.
58. Employee: "What is the reason for filling out these forms in triplicate?"
Employer: "You'll be fired if you don't."
59. If you don't believe in God, then you must believe that the order in the universe is a result of blind chance. But that is ridiculous. Therefore, there is a God.
60. Societies disagree profoundly with one another as to what constitutes good and evil. This shows that objective truth in ethics can never be known by man.
61. In a free country, men agree to abide by majority rule. The majority in this country regards abstract philosophy as a waste of time. Therefore, as a man dedicated to freedom, you must accept and abide by the majority's view on this question.

HYPOTHETICAL AND ALTERNATIVE ARGUMENTS

1. To get to Boston by the time the speech started, he would have had to drive at least 60 mph on the average. Obviously, therefore, he did make the speech on time, because he always drives over 70 mph.
2. Either the advocates of the Keynesian policies are ignorant of the facts of economics, or they are prejudiced in favor of statism. I know that these men are definitely prejudiced in favor of statism. It follows that at least they do know the facts of economics.
3. Thomas Aquinas, *Summa Theologica*: “There is no case known (neither is it, indeed, possible) in which a thing is found to be the efficient cause of itself; for so it would be prior to itself, which is impossible.”
4. Only if you are eligible for marriage are you not a child. If you are a child, then you don’t wear large-size clothing. If you’re tall, you wear large-size clothing. Hence, if you’re not eligible for marriage, you’re not tall.
5. Either you take a full lunch hour or you complete your letter today, but not both. You can’t, therefore, take a full lunch hour, because you must complete your letter today.
6. In today’s world, a man becomes an altruist unless he is an independent thinker. I can only conclude that John must be opposed to altruism, because no one is more intellectually independent than he.
7. If you are rich, then you are happy. If you are not rich, then you haven’t worked hard. Unless you are happy, you need a psychiatrist. Hence, if you have worked hard, you do not need a psychiatrist.
8. There are two possible explanations of the American Constitution: (a) The Founding Fathers were philosophically committed to the principle of individual rights; (b) The Founding Fathers were selfishly interested in protecting their own private property. There is no doubt that this latter is definitely true. Therefore, the Founding Fathers were not philosophically committed to the principle of individual rights.
9. Only were A a Q could G be a T. Thus G is not a T, since A is not a Q.
10. Given the premises: If you study, you learn the course material; only if you graduate with honors and get a well-paying job have you done well in the course; you will be truly happy provided that you graduate with honors and get a well-paying job; if you don’t do well in the course, you haven’t learned the course material. Can one validly conclude: If you study, you will be truly happy?

ILLUSTRATIVE MATERIAL FOR LECTURE 4

- | | |
|---|--|
| <p>1. If (this man has worked hard), then (he is tired).</p> | <p>$P \supset Q$</p> |
| <p style="text-align: center;">P</p> <p>(This man has worked hard).</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">Q</p> <p>Therefore, (he is tired).</p> | <p>P</p> <hr style="width: 50%; margin-left: 0;"/> <p>$\therefore Q$</p> |
| <p>2. If (this man has worked hard), then (he is tired).</p> | <p>$P \supset Q$</p> |
| <p style="text-align: center;">P^1</p> <p>(This man has not worked hard).</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">Q^1</p> <p>Therefore, (he is not tired).</p> | <p>P^1</p> <hr style="width: 50%; margin-left: 0;"/> <p>$\therefore Q^1$</p> |
| <p>3. If (a person is young), then (he is enthusiastic).</p> | <p>$P \supset Q$</p> |
| <p style="text-align: center;">Q</p> <p>If (he is enthusiastic), then (he is diligent).</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">P</p> <p>Therefore, if (a person is young), then (he is diligent).</p> | <p>$Q \supset R$</p> <hr style="width: 50%; margin-left: 0;"/> <p>$\therefore P \supset R$</p> |
| <p>4. If (a man is a doctor), then (he has been to school).</p> | <p>$P \supset Q$</p> |
| <p style="text-align: center;">Q^1</p> <p>If (a man has not been to school), then (he is ignorant).</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">P</p> <p>Therefore, if (a man is a doctor), then (he is ignorant).</p> | <p style="text-align: center;">R</p> <p>$Q^1 \supset R$</p> <hr style="width: 50%; margin-left: 0;"/> <p>$\therefore P \supset R$</p> |
| <p>5. Only if (you are not rich), (do you not pay high taxes).</p> | <p>Only $P \supset Q$</p> |
| <p style="text-align: center;">R</p> <p>If (you do not succeed), then (you are not persistent).</p> | <p style="text-align: center;">S</p> <p>$P \supset Q$</p> |
| <p style="text-align: center;">R^1</p> <p>If (you do succeed), then (you are rich).</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">S^1</p> <p>Therefore, if (you are persistent), then (you pay high taxes).</p> | <p style="text-align: center;">P^1</p> <p>$R^1 \supset P^1$</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">Q^1</p> <p>$\therefore S^1 \supset Q^1$</p> |
| <p>6. Either (he is bored) or (he is dense).</p> | <p>$P \vee Q$</p> |
| <p style="text-align: center;">P^1</p> <p>(He is not bored).</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">Q</p> <p>Therefore, (he is dense).</p> | <p>P^1</p> <hr style="width: 50%; margin-left: 0;"/> <p>$\therefore Q$</p> |
| <p>7. Either (he is still alive) or (he is dead).</p> | <p>$P \vee Q$</p> |
| <p style="text-align: center;">P</p> <p>(He is still alive.)</p> <hr style="width: 50%; margin-left: 0;"/> <p style="text-align: center;">Q^1</p> <p>Therefore, (he is not dead).</p> | <p>P</p> <hr style="width: 50%; margin-left: 0;"/> <p>$\therefore Q^1$</p> |

IMMEDIATE INFERENCE

1. Given that the statement “All thinkers are doers” is TRUE, state whether each of the following is True, False, or Undetermined:
 - a. Some non-doers are not non-thinkers.
 - b. No doers are non-thinkers.
 - c. No non-thinkers are non-doers.
 - d. All non-thinkers are non-doers.
2. Given that the statement “No mortals are happy” is FALSE, state whether each of the following is True, False, or Undetermined:
 - a. All mortals are unhappy.
 - b. All mortals are happy.
 - c. All happy beings are immortal.
 - d. Some happy beings are not immortal.

CATEGORICAL SYLLOGISMS

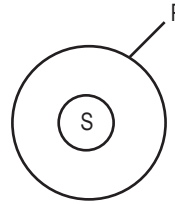
1. No baby is tall. Many babies are not healthy. Therefore, those who are healthy are tall.
2. All materialists are atheists. All communists are atheists. So all materialists are communists.
3. All dictators use propaganda. No mathematician uses propaganda. Hence, no mathematician is a dictator.
4. Since all intelligent men are creative, and all who are creative hold patents, it follows that all who hold patents are intelligent.
5. All conventional people are unhappy. All innovators are unconventional. Therefore, no innovators are unhappy.
6. Some attractive people are not lacking in energy, and all unpopular people are unattractive. Thus, some energetic people are popular.
7. People who deceive themselves are not students of logic. My proof of this is that most self-deceivers rationalize a great deal, and logic students never rationalize.
8. Samuel Johnson, *Life of Cowley*: “Because the father of poetry was right in denominating poetry . . . an imitative art, these [metaphysical poets] will, without great wrong, lose their right to the name of poets . . . for they copied neither nature nor life.”
9. Whatever is endorsed by science is objectively real. ESP, therefore, is obviously unreal, since it has no scientific credentials at all.
10. Those who eat a lot, gain weight; those who eat little, suffer; hence, those who gain weight do not suffer.
11. Everyone except for ecologists is concerned about the energy crisis. So Professor Smith, an avid ecologist, is not concerned about it.
12. Only chronic liars meet nothing but failure in life. And we know that all chronic liars are unintelligent. It follows that none of the people who meet only failure in life are intelligent.

13. There are a few men who cannot count to 20, and there are a great many men who have never been to college. So we may infer that some of the people who cannot count to 20 have never been to college.
14. Bishop Berkeley, *Three Dialogues Between Hylas and Philonous*: “. . . intense heat is nothing else but a particular kind of painful sensation; and pain cannot exist but in a perceiving being; it follows that no intense heat can really exist in an unperceiving corporeal substance.”
15. If he didn't cheat, why did he look so guilty when I asked him the question—which is just how cheaters always look in such circumstances.
16. All the club members are not healthy. But some of them at least are not diabetics, because only unhealthy people have diabetes.
17. There is no basis for the view that all businessmen are materialists. And you must admit that if a person is a materialist, then he doesn't believe in God. So you can't claim that no businessmen are atheists.
18. Schiller, *Don Carlos*: “King: That she was ardent-spirited—who can deny it? *I* could never give her love, yet—did she ever seem to feel the lack? Then it is proven, she is false.”
19. Sally didn't get her hair done yesterday, because she got up late, and she gets her hair done only when she gets up on time.
20. Down deep, all men really wish to be happy. The man who wishes to be happy, however, must make full, active use of his mind. Down deep, therefore, all men really make full, active use of their minds.
21. It is ridiculous to claim that any course on logic improves the student's thinking. I know, because I took a logic course once and my thinking was not only not improved, it positively deteriorated as a result.

ILLUSTRATIVE MATERIAL FOR LECTURE 5

1. (a) All (voters) are (citizens).

All S is P.



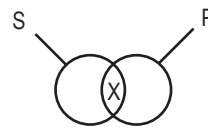
- (b) No (dogs) are (moralists).

No S is P.



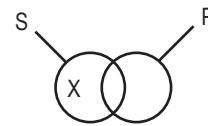
- (c) Some (men) are (six-footers).

Some S is P.



- (d) Some (women) are not (geniuses).

Some S is not P.



2. All (living beings) are (mortal).

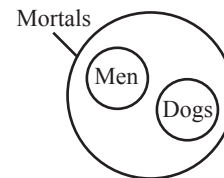
All (men) are (living beings).

Therefore, all (men) are (mortal).

$$\begin{array}{c} D \quad U \\ \text{All } M \text{ is } P \\ D \quad U \\ \text{All } S \text{ is } M \\ \hline D \quad U \\ \therefore \text{All } S \text{ is } P \end{array}$$

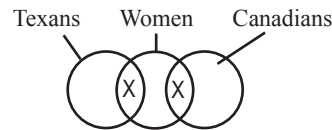
3. (a) All men are mortal.
All dogs are mortal.

Therefore, all men are dogs.



- (b) Some Texans are women.
Some women are Canadians.

Therefore, some Texans are Canadians.



4. (a) Some men are professors.
All professors are Ph.D.'s

Therefore, all men are Ph.D.'s.

- (b) All teachers are unionized.
Some women are not unionized.

Therefore, no teachers are women.

5. (a) No ideas are edible.
 No edibles are logical.

 Therefore, no ideas are logical.
- (b) No healthy men are invalids.
 Some invalids are not free of infection.

 Therefore, some healthy men are not free of infection.

6. (a) All Communists are revolutionists.
 Some Americans are not revolutionists.

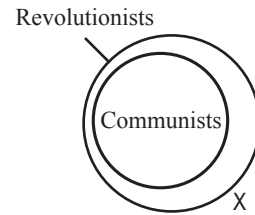
 Therefore, some Americans are Communists.

- (b) All humans are rational beings.
 All rational beings are responsible beings.

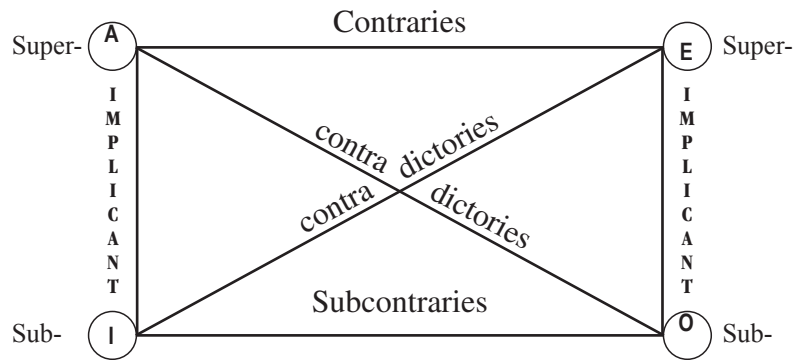
 Therefore, some responsible beings are not human.

7. No unhealthy beings are strong.
 No alcoholics are healthy.

 Therefore, no strong people are alcoholics.



ILLUSTRATIVE MATERIAL FOR LECTURE 6



DEFINITIONS

1. An editorial is an expression of opinion in a newspaper.
2. Science is any information acquired by the use of mathematical and/or experimental methods.
3. Independence is the characteristic of not needing other people.
4. Hypochondria is a condition where a person worries a great deal about his health.
5. Happiness is what you feel when you get what you want.
6. A poison is anything which is virulent in its action or effect upon a living creature.
7. Capitalism is the social system based on competition and the profit motive.
8. A revolution is a relatively swift change in the personnel and policies of a nation's government.
9. A piece of sculpture is a man-made object in a gallery or museum, which has three dimensions, reviews in the press, and no practical purpose.
10. *Random House Dictionary*, College Edition: A sacrifice is "the surrender or destruction of something of value for the sake of greater gain."
11. The spiritual element in man means the part which is non-material.
12. Plato: Time is "the moving image of eternity."

13. Anger is a wrathful, irate emotional state, often expressed in rage.
14. Fascism is a totalitarian system of government characterized by brutality, anti-Semitism, and private property.
15. Sleep is a loss of consciousness which occurs repeatedly, especially when one is in bed.
16. A cause is any agent or action which brings about a consequence or result.
17. Freedom is a state in which a man can do what he wants to do.
18. A Republican is an American interested in politics, who is not a Democrat or an Independent, does not favor capitalism or socialism, and tries to win elections.
19. Logic is man's method of knowledge—the one which, properly used, assures reliable conclusions.
20. Propaganda is any attempt to persuade other people to accept your ideas.
21. John Dewey: "Inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole."
22. A sandwich is bread surrounding another ingredient.
23. Certain means free from doubt.
24. God is an infinite, supernatural Being transcending time, space, and matter.
25. Education is any process of acquiring knowledge.
26. Garbage is what you throw out after a meal.
27. Chance is the fortuitous or accidental events in the world.
28. To read is to move one's eyes in order over a written or printed series of words in a language one knows.

MILL'S METHODS

1. The results of a scientific experiment, when all appropriate factors are symbolized, are as follows:

Case 1: Antecedent Factors: a, d, g, j, x . Effect E occurred.

Case 2: Antecedent Factors: a, d, g, j . Effect E did not occur.

Case 3: Antecedent Factors: b, d, g, j, x . Effect E occurred.

- (a) A scientist infers, from the above information, that neither a nor b is the cause of E. Which one of Mill's Methods is he using here?
 - (b) Assuming the complete irrelevance of a and b has now been established, what causal conclusion can the scientist come to? Which one of Mill's Methods is he using here?
2. Mr. Smith lost his glasses one morning, and used his wife's pair for the next several days. The first day, he had to read for six hours at work; that night he had a violent spell of dizziness. The next day, he read for four hours, and that night he had a dizzy spell that was not so intense. The next day, he read for only two hours, and at night he had only a mild sensation of dizziness.

A further series of facts: just before his first dizzy spell, Mr. Smith received some profoundly upsetting news. Just before his second, he received some moderately bad news. Just before his third, he received some slightly disturbing news. Given all the above, and assuming all other relevant factors remain constant, what causal conclusion would Mill's Methods permit one to draw?
 3. "Science and the Citizen," in *Scientific American*, Vol. 214, No. 2, February 1966: "A series of tests . . . has substantiated the common complaint of air travelers that swift transition through several time zones disturbs their bodily and even their mental functions. . . . The tests involved healthy male volunteers, who were carried by jet airplane from the U.S. to such cities as Tokyo, Manila, and Rome, passing through as many as 10 time zones. As a control to make sure that the effects resulted from changes of times and not merely from jet travel, there was a flight from Washington, D.C., to Santiago, Chile; it covered a long distance but was all in the same time zone. On the outbound flights that crossed a number of time zones, the passengers underwent physiological changes—in heart rate, temperature, and perspiration—that persisted for several days. They also showed a deterioration, for about a day, in mental acuity as indicated by difficulty in doing simple problems in arithmetic and by slowed responses to sensory stimuli. Similar effects appeared on the return trips but did not last as long. In contrast, the flight to Chile produced only a sense of fatigue."
 4. Violent movies cannot be the cause of moral degeneracy. What about all the degenerates who have never seen such movies?

5. G. Gore, *The Art of Scientific Discovery*: “In H. Davies’ experiments on the decomposition of water by galvanism, it was found that besides the two components of water, oxygen and hydrogen, an acid and an alkali were developed at opposite poles of the machine. Since the theory of the analysis of water did not give reason to expect these products, their presence constituted a problem. . . . Davies conjectured that there might be some hidden cause for this part of the effect—the glass might suffer decomposition, or some foreign matter might be in the water. He then proceeded to investigate whether or not the diminution or total elimination of possible causes would change or eliminate the effect in question. Substituting gold vessels for glass ones, he found no change in the effect and concluded that glass was not the cause. Using distilled water, he found a decrease in the quantity of acid and alkali involved, yet enough remained to show that the cause was still in operation. He inferred that impurity of the water was not the sole cause, but was a concurrent cause. He then suspected that perspiration from the hands might be the cause, as it would contain salt which would decompose into acid and alkali under electricity. By avoiding such contact, he reduced the quantity of the effect still further, till only slight traces remained. These might be due to some impurity of the atmosphere decomposed by the electricity. An experiment determined this. The machine was put under an exhausted receiver and when it was thus secured from atmospheric influences, no acid or alkali was produced.”
6. If poverty is the cause of crime, why doesn’t everyone who is poor become a criminal?
7. J. Dollard and N. E. Miller, *Personality and Psychotherapy*: “It is interesting to note that one of the frequent symptoms of extreme combat anxiety cases is an interference with speech that may run from complete muteness to hesitation and stuttering. Similarly, the sufferer from acute stage fright is unable to speak. Many animals tend to stop vocalizing when frightened, and it is obvious that this tendency is adaptive in preventing them from attracting the attention of their enemies. In the light of this evidence one might suspect that the drive of fear has an innate tendency to elicit the response of stopping vocal behavior.”
8. A refutation of astrology by Pliny the Elder: “If a man’s destiny is caused by the star under which he is born, then all men born under that star should have the same fortune. But masters and slaves, and kings and beggars are born under the same star at the same time.”
9. Bernard Jaffe, *Outposts of Science*: “For many years, there appeared to be some connection between body growth and the functioning of [the pituitary] gland. In 1783 John Hunter had bargained with an undertaker for the body of an Irish giant of eight feet, four inches—Charles O’Brien, who had died at the age of twenty-two. The physician finally bought the body for twenty-five hundred dollars, and found a pituitary almost as large as a hen’s egg. That of a normal adult man weighs hardly more than half a gram. A century later, *acromegaly*, an enlargement of the hands, feet, nose, lips, and jaw, was declared to be due to a tumor of the pituitary. The pituitary glands of dwarfs, some of them only eighteen inches high, all showed relatively small development or partial atrophy.”
10. Henry Hazlitt, *What You Should Know About Inflation*: “It is sometimes thought that it is ‘war’ that is responsible for all inflations. But . . . some of the most spectacular recent inflations have occurred in countries relatively untouched by the war. Between 1950 and the end of 1959, the money supply in Chile increased nineteen times, and the cost of living there increased twenty times. In Bolivia, between 1950 and 1959, the money supply was increased seventy times, and the cost of living there increased a hundred times. Similar records could be cited for other countries.”

ILLUSTRATIVE MATERIAL FOR LECTURE 9

1. AGREEMENT

Case	Antecedent Factors	Effect
1	abc (h)	E
2	abd (h)	E
3	ace (h)	E
4	bcf (h)	E

2. DIFFERENCE

Case	Antecedent Factors	Effect
1	abcde (f)	E
2	abcde	non-E

3. CONCOMITANT VARIATIONS

Case	Antecedent Factors	Effect
1	a (bcd)	E
2	a ⁺ (bcd)	E ⁺
3	a ⁺⁺ (bcd)	E ⁺⁺
4	a ⁻ (bcd)	E ⁻

INDUCTIVE FALLACIES

1. I agree with you that men should live by reason, not by force. That is why I believe in complete and immediate American disarmament. We should reason with the Russians, instead of building weapons to defend ourselves by force.
2. Isn't it obvious that a passionate love of anything leads to undesirable consequences? A passionate love of alcohol leads to alcoholism; a passionate love of food makes you overweight; a passionate love of rest leads to laziness. By the principle of induction, there's only one conclusion to draw.
3. In the past century, industrialization has developed enormously—and there have been more and more wars. It is clear, therefore, that there is only one way to achieve peace: Down with industry! Back to nature!
4. Economists have proved that controls necessarily lead to further controls. Once a country starts imposing economic controls, therefore, there is no ultimate escape from full dictatorship. The United States, therefore, is doomed; it's only a question of time until we have complete totalitarianism.
5. The children of wealthy men go on expensive vacations. So if you want to get rich, Dad, you should send me to Acapulco.
6. A man has no right to murder, to rob, to rape, and so on for a host of similar actions which the government validly prohibits and punishes. Clearly, therefore, there is no such thing as an absolute right to freedom. Freedom only means whatever the government happens to permit you to do.
7. Since independence is a major virtue, babies must be evil, because none of them are independent—either intellectually or financially.
8. For more than 50 years now, there has been a huge growth in government controls in this country—and during this same period, there has been a vast number of unprecedented new inventions. Obviously, therefore, if human creativity is to develop fully, complete dictatorship is necessary.
9. Samuel Grafton, in a 1940 campaign speech against Thomas E. Dewey, declared that Dewey “abounds in quaint comparisons between what it cost the government to do so-and-so in 1938 and what it cost in 1802 . . .” Then Grafton launched his counterattack. In 1864, he noted, there were only two cases of rape in New York City. “But for the year 1939, with Mr. Dewey as prosecutor, there were 73 rape cases in the courts. Why this appalling increase in rape under the administration of Mr. Dewey?”
10. The munitions makers are the real cause of wars. After all, you can't fight a war without weapons.
11. Why can't I condemn the law of gravitation, if I have serious objections to it? I thought man was supposed to use his mind and be critical of everything.
12. Healthy men have healthy sex lives. Be sure, therefore, that your sex life is all right—and your mental health will follow as a matter of course.
13. The Germans are an innately vicious people. Who started the war in 1870? Who started World War I? Who started World War II?

14. A man depends on his grocer for food, on his teachers for education, on his doctor for medical treatment, etc. Obviously, there is no such thing as independence. The individual depends on others for everything.
15. There is a high correlation between the intellectual development of a society and its industrial development. Therefore, the best way to raise the intellectual level of the world's primitive countries, is for the United States simply to ship to these countries vast quantities of American machinery.
16. A man has a right to use his own property in any way that he wants to. This is my hammer. Therefore, I have a right to crack you on the skull with it if I want to.

ANALOGIES

1. David Hume, *Dialogues Concerning Natural Religion*: "Look round the world, contemplate the whole and every part of it: you will find it to be nothing but one great machine. . . . The curious adapting of means to ends, throughout all nature, resembles exactly, though it much exceeds, the productions of human contrivance—of human design, thought, wisdom and intelligence. Since therefore the effects resemble each other, we are led to infer, by all the rules of analogy, that the causes also resemble and that the Author of nature is somewhat similar to the mind of man, though possessed of much larger faculties. . . ."
2. Why bother about the cause of mental illness? The important thing is to cure it. After all, as Dr. William Menninger has said, "One does not have to know the cause of a fire to put it out."
3. Plato, *Republic*: "Are dogs divided into hes and shes, or do they both share equally in hunting and in keeping watch, and in the other duties of dogs? Do we entrust to the males the entire and exclusive care of the flocks, while we leave the females at home, under the idea that the bearing and suckling of their puppies is labor enough for them? No, they share alike in the various duties, the only difference being one of strength. Then, since the difference between men and women consists only in the fact that men beget and women bear children, women ought to follow the same pursuits which men follow, and they ought to receive the same education and training."
4. George Jean Nathan, *Testament of a Critic*: "Any critic who goes to the trouble of explaining laboriously why a piece of out-and-out tripe is out-and-out tripe is not a critic so much as he is a pretentious and imbecile space-filler. All the constructive criticism this side of Beverly Hills, California, that concerned itself with *The Blue Ghost*, *Oh, Professor*, *House Afire* and a hundred other such doses of claptrap would not be of half the critical service and merit that the single exclamation 'Junk!' is. When a house has smallpox in it, the best and most sufficient thing to do is to tack up a card on it reading Smallpox. There is little sense or need to put up a three-sheet explaining in detail what smallpox is, its contagious quality . . . how the disease can be cured, the diet of the patient . . . etc."
5. "Government by the consent of the governed" is ridiculous. Should babies elect their own nursemaids? Do you think even college students have the ability to elect their own teachers?

6. Newell Dwight Hillis: “The canvas Raphael painted has endured for three centuries. But has God ordained that the canvas shall be preserved while the artist has fallen into dust? Is “In Memoriam” more than Tennyson? Is St. Paul’s Cathedral more than Sir Christopher Wren, its architect? Is the leaf to live, while the tree dies? Reason and conscience whisper, ‘It cannot be. If thoughts live, the thinker cannot die. To suppose that death ends all is intellectually as absurd as it is morally monstrous.’”
7. Determinism means the destruction of morality. Just as you cannot hold an animal, which has no power of choice, responsible for what it does—so, if man’s behavior is completely determined, you cannot hold him responsible for his actions.
8. Abraham Lincoln: “Gentlemen, I want to suppose a case for a moment. Suppose that all the property you were worth was in gold, and you had put it in the hands of Blondin, the famous rope walker, to carry across the Niagara Falls on a tight rope. Would you shake the rope while he was passing over it, or keep shouting to him, ‘Blondin, stoop a little more! Go a little faster!’ No, I am sure you would not. You would hold your breath as well as your tongue, and keep your hands off until he was safely over. Now the government is in the same position. It is carrying an immense weight across a stormy ocean. Untold treasures are in its hands. It is doing the best it can. Don’t badger it! Just keep still, and it will get you safely over.”

* * *

Copyright © 1974 by Leonard Peikoff
ISBN 1-56114-176-3
Published (2004) by Ayn Rand® Bookstore

For further information about Objectivism, and a current catalog of the most complete selection of Dr. Leonard Peikoff’s and Ayn Rand’s writings and lectures available—please contact the publisher:

The Ayn Rand Bookstore
c/o The Ayn Rand Institute
2121 Alton Parkway
Suite 250
Irvine, CA 92606

Telephone:
USA: 800-729-6149
All other countries: 011-949-222-6557
Fax:
1-949-222-1842

www.aynrand.org
www.aynrandbookstore.com