

Reason and Argument

Richard Feldman
Second Edition

Pearson New International Edition

Pearson Education Limited

Edinburgh Gate

Harlow

Essex CM20 2JE

England and Associated Companies throughout the world

Visit us on the World Wide Web at: www.pearsoned.co.uk

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ISBN 10: 1-292-04264-8

ISBN 13: 978-1-292-04264-0

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

Printed in the United States of America

Strong Arguments

determine if it is strong. Consider the premises. If it is not reasonable for you to believe all the premises, then reject the argument as weak. If all the premises are reasonable, then consider whether something else in your total evidence defeats the argument. If it does, then reject the argument as weak. If the premises are reasonable and the argument is not defeated, then it is a strong argument and you should accept it.

There is no counterpart to defeat in the case of valid arguments. Since the premises of a deductively valid argument *guarantee* the truth of the conclusion, it is impossible for you to have additional information that, when added to those premises, undermines the conclusion. If the premises are true, then the conclusion must be true, no matter what else is true.

By our definitions every argument that you evaluate is either deductively strong for you, inductively strong for you, or weak for you. It must fall into exactly one of these three categories. If an argument is valid and has justified premises, then it is deductively strong. If it is cogent, has justified premises, and is undefeated, then it is inductively strong. All other arguments are weak. (Notice that all ill-formed arguments count as weak.)

Inductive strength, like deductive strength, depends on an individual's evidence, and since this can vary from one person to another, the strength of an argument can vary from one person to another. The premises of an argument may be justified for one person but not another, and an argument may be defeated for one person but not another. The strength of the argument is not a matter of opinion or whim. Whether the premises are justified, and whether the argument is defeated, depends on what evidence one has and what that evidence supports.

We saw earlier in the chapter that there are degrees of deductive strength. The deductive strength of an argument depends on just how reasonable the argument's premises are. The argument counts as deductively strong provided the premises are more reasonable to believe than not. But some arguments just barely meet this condition, while other arguments are extremely strong because their premises are almost certain.

Inductive strength is somewhat more complicated. How inductively strong a cogent argument is depends on more than how reasonable the premises are: it depends upon how cogent the argument is.² The strength of a cogent argument also depends on a third factor: how close one's total evidence comes to defeating the argument. It could be that one's total evidence does not defeat an argument but it does weaken it somewhat. We will not attempt to come up with precise measure of how these three factors interact to determine the overall strength of an argument. It is enough to realize that all three factors are relevant.

When an argument is inductively strong for you, then it is reasonable for you to believe its conclusion and unreasonable for you to deny its conclusion. This point is of the utmost importance in argument analysis, and in rational thinking generally. Suppose that there is some proposition that you believe to be true. If you encounter

2. Recall that that cogency comes in degrees.

Strong Arguments

an argument against that proposition, then to continue being rational you must either find some basis for rejecting the argument or else abandon your original belief. It can never be reasonable for you to continue believing what you did and also to believe that there is a strong argument against that belief. To reject an argument as weak on a rational basis, you must have some reason to think that it has one of the flaws discussed in this chapter. Such judgments are always fallible, but, as always, the best we can do is to follow our evidence and believe what it indicates.

The following chart summarizes the characteristics of inductive strength.

Inductive Strength

1. Requires cogency, justified premises, and not being defeated by one's total evidence.
2. Can vary from one person to another, depending on the person's evidence.
3. Does not guarantee the truth of the conclusion.
4. Degree of inductive strength depends on how cogent the argument is, how reasonable the premises are, and the effects of total evidence on the argument.
5. When an argument is inductively strong for a person, then it is reasonable for the person to believe its conclusion.
6. Arguments that are not strong for a person are weak for that person.

EXERCISES AND STUDY QUESTIONS

- *1. State whether each statement is true or false. Briefly explain your answer.
 - a. All inductively strong arguments are cogent.
 - b. If an argument is deductively strong for you, then it is also inductively strong for you.
 - c. If an argument was inductively strong for you last week, then it must still be inductively strong for you now.
 - d. If you evaluate an argument and conclude that it is inductively strong for you, then it is unreasonable for you to reject (disbelieve) the conclusion of the argument.
2. An argument can be inductively strong for a person even though the argument has a conclusion that is actually false. How can this happen? (There are a few importantly different ways it can happen.)
- *3. Evaluate the following arguments, using the terms of argument evaluation.
 - a. 1. Most Americans cities get more than fifteen inches of rainfall each year.
2. Tucson is an American city.
3. Tucson gets more than fifteen inches of rainfall each year.

Strong Arguments

- b.**
 - 1.** Almost every state in New England gets more than two feet of snow each winter.
 - 2.** Massachusetts is a state in New England.
 - 3.** Massachusetts gets more than two feet of snow each winter.
- c.**
 - 1.** Blue is Blythe's favorite color.
 - 2.** Violets are blue.
 - 3.** Roses are red.
 - 4.** Blythe likes violets more than she likes roses.
(Assume that [1] is true.)
- d.**
 - 1.** Most Americans have not lived in the White House.
 - 2.** Bill Clinton is an American.
 - 3.** Bill Clinton has not lived in the White House.
- 4.** For many people, the following cogent arguments are defeated. State the information you have that defeats them.
 - a.**
 - 1.** In the 1996 presidential election, most women voters voted for Bill Clinton.
 - 2.** Elizabeth Dole is a woman who voted in the 1996 presidential election.
 - 3.** Elizabeth Dole voted for Clinton in the 1996 presidential election.
 - b.**
 - 1.** Most trees in this neighborhood are deciduous (shed their leaves in the fall).
 - 2.** This pine tree is in my neighborhood.
 - 3.** This tree is deciduous.
- 5.** Make up examples of arguments that fit the following descriptions. Your examples should be clear and simple, not highly controversial and overly complicated. Write the arguments out in standard form and state their patterns.
 - a.** An argument that is inductively strong for many ordinary people now but was weak for ordinary people years ago.
 - b.** An argument that is inductively weak for many ordinary people now but was strong for ordinary people years ago.

III. SUMMARY

When evaluating an argument, the first step is to determine whether the argument is well-formed or ill-formed. This trait is purely internal to the argument, depending only on the nature of the connection between the premises and conclusion of the argument. As we saw, there are two kinds of well-formed arguments: valid and cogent. Thus, the outcome of the first step of argument evaluation is a decision that the argument is valid or cogent or ill-formed. If you decide that it is ill-formed, then you can reject the argument. If it is well-formed, you go on to assess the argument for strength.

When we evaluate arguments, we must evaluate them on the basis of whatever information we have, and this yields an evaluation of arguments analogous to evalu-

Strong Arguments

ations of individual statements as reasonable or not. Arguments that are successful from this perspective are strong, and those that are unsuccessful are weak. Strength and weakness, like rationality, can vary from person to person and time to time, depending upon the person's evidence at the time. Of course, these characteristics of arguments are not determined by preference or taste. They depend upon what is actually supported by the evidence the person has at the time.

For a valid argument to be deductively strong for you, it must have premises that are reasonable for you to believe. If you can justifiably reject a premise of an argument, or if there is a premise about which it is reasonable for you to suspend judgment, then the argument is not deductively strong for you.

For a cogent argument to be inductively strong for you, it must be reasonable for you to believe the premises, and the argument must not be defeated (undermined) by the rest of your evidence. The argument is defeated when the premises of the argument combined with your total evidence fail to support the conclusion.

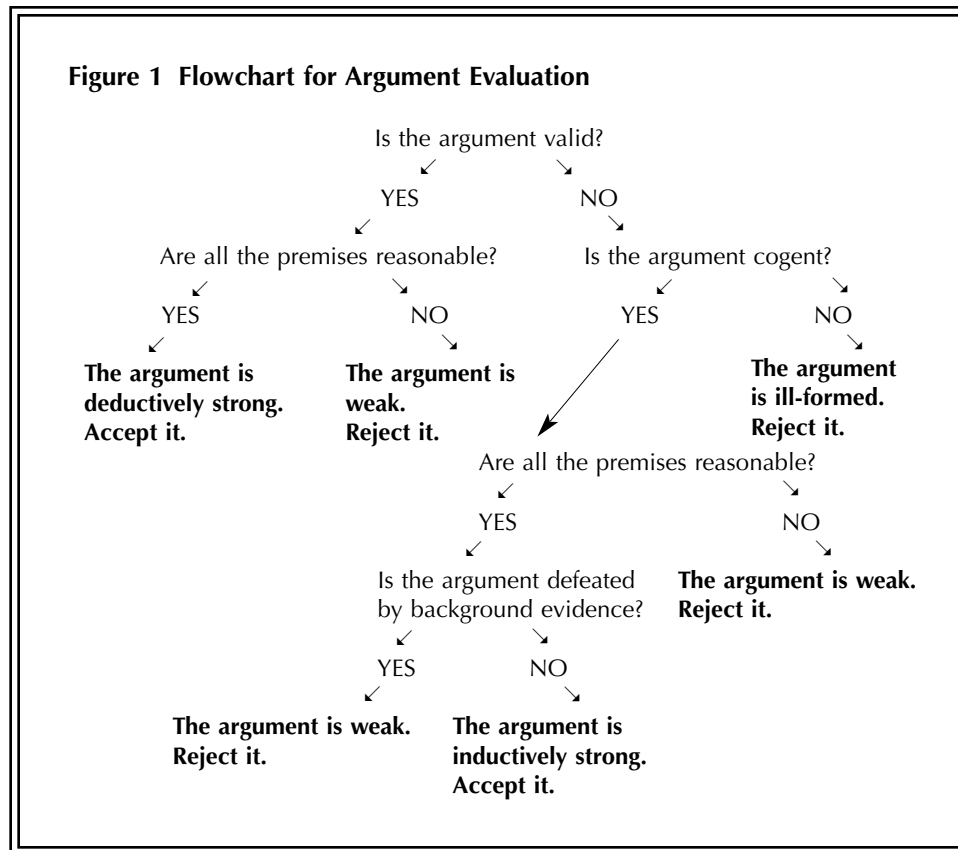
The precise definitions of deductive and inductive strength are as follows:

- D1:** An argument is *deductively strong* for a person if and only if
1. it is deductively valid, and
 2. it is reasonable for the person to believe all the argument's premises.
- D3:** An argument is *inductively strong* for a person if and only if
1. the argument is cogent;
 2. it is reasonable for the person to believe all the premises of the argument; and
 3. the argument is not defeated by the person's total evidence.

Any argument that does not satisfy the conditions for being deductively or inductively strong is weak.

All arguments that satisfy the conditions in (D1) or (D3) are strong. Some arguments are stronger than others, however. The degree of deductive strength of a valid argument depends on how reasonable the premises are. The degree of strength of a cogent argument depends on how reasonable the premises are, how cogent the argument is, and to what extent one's total evidence weakens (without defeating) the argument.

Our judgments about arguments are typically fallible, just as judgments about individual statements are. It is possible for a strong argument to have a false conclusion. However, the mere possibility of error does not provide any good reason to judge all arguments weak. The best we can do is to accept the strong arguments we encounter and reject the weak ones. Although we will sometimes reach false conclusions, this principle is our best guide to the truth. The flowchart in Figure 1 shows how to apply the concepts developed in this chapter.



CHECKLIST OF KEY TERMS

- strong argument
- deductively strong argument
- defeated argument
- inductively strong argument
- weak argument

CHAPTER EXERCISES

1. Discuss the following claims.
 - a. If two people evaluate the same argument, and one comes to the conclusion that it is strong and the other comes to the conclusion that it is weak, then one of the two people is being unreasonable.