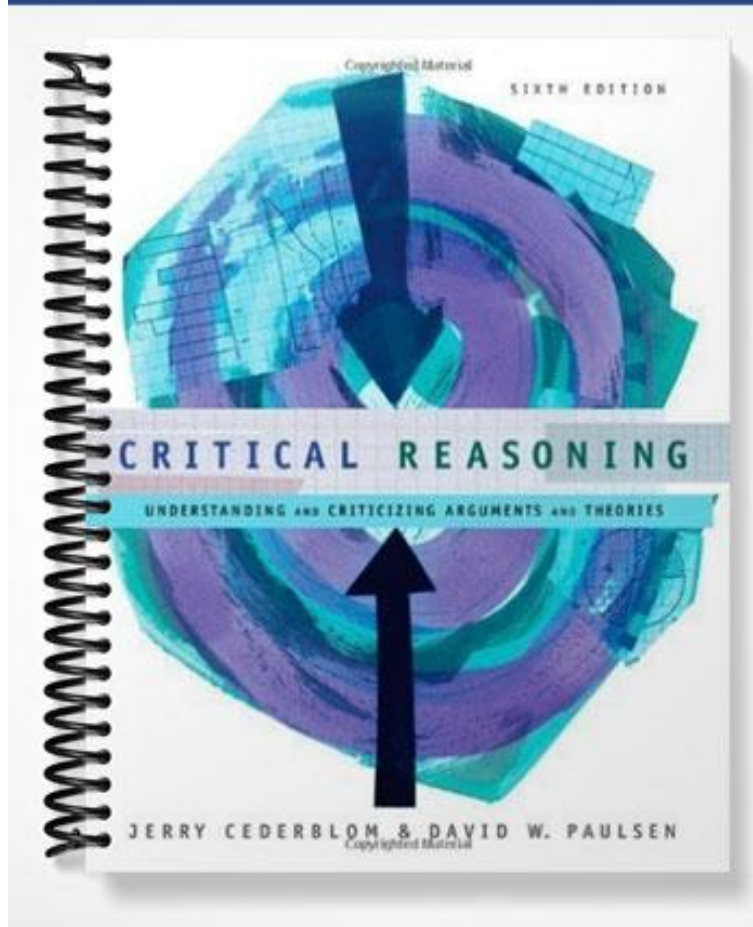


# SOLUTIONS MANUAL



## Chapter Two

### Anatomy of Arguments: Identifying Premises and Conclusions

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#### *TEACHING TIPS*

This chapter focuses on the structured anatomy of simple deductive arguments. It begins with a brief survey of various types of arguments, both deductive and nondeductive. It concentrates, however, on introducing the concepts of *premise* and *conclusion* and explains how these argument parts can be identified. Words that are typically followed by a premise or conclusion are listed, and some simple patterns of argument are introduced to help identify premises and conclusions in passages that have no indicator words.

When teaching the material on pp. 22-27, be attentive to the level of your students. Some will understand this material immediately, while others will have difficulties that you may not have anticipated. For example, some students will write the first premise of problem 7 in Exercise 2.1 as “If a murderer is wrong in killing his victim” and the second premise as “Then society is also wrong in killing the murderer” (not realizing that a premise must be a complete statement). Some will think that *if* is a premise indicator. We have found it helpful to dismiss most of the class early on the day this material is presented and to spend the remaining time answering the questions of students who are having difficulty.

It is important to emphasize at the outset of teaching Chapter 2 that there is a chart on pp. 34-35 that students should learn very well. This is not a matter of mere memorization but is a matter of learning to recognize the patterns anytime one sees them (or fragments of them) in arguments. We review the list of patterns at the beginning of several class sessions, asking students to state them and give their own examples of each of them without looking in their texts. Students who don’t learn the patterns early and well almost always have serious difficulty with the rest of the course.

The explanation of why the conclusion of a *modus tollens* argument follows from the premises (p. 33) will be difficult for some students to follow. Don't get bogged down in the explanation. Tell students you will come back to it after covering the subject of validity in Chapter 4. At this point, you want simply to introduce the idea of a conclusion following from premises and to give a few examples where the students can contrast an argument in which the conclusion does follow to an argument in which it does not.

### *ANSWERS TO EXERCISES*

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#### Exercise 2.1 (p. 25-27 )

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- \*1. (1) Any friend of mine deserves my respect.  
(2) Ed is a friend of mine.

---

∴ Ed deserves my respect.

- 2 . (1) Abortion involves the taking of a human life.  
(2) Anything that involves the taking of a human life raises serious moral questions.

---

∴ Abortion raises serious moral questions.

Students were directed to circle and label the premises and conclusions in problems 3-16, but we have put them into standard form.

- \*3. (1) If your mind were organized, your desk would be organized.  
(2) Your desk isn't organized.

---

∴ Your mind isn't organized.

4. (1) If a child has formed a strong bond with the family that adopted her, then the biological parents should not reclaim her.  
(2) Natalie has formed a strong bond with the family that adopted her.

---

∴ Her biological parents should not reclaim her.

- \*5. (1) An activity pays if the people who engage in it come out ahead economically more often than not.  
(2) The people who engage in many crimes come out ahead economically more often than not.

---

∴ Many crimes pay.

- 6 (1) All major technological advances alter society in many unpredictable ways.  
(2) The computer is a major technological advance.

---

∴ The computer will alter society in many unpredictable ways.

- \*7. (1) If a murderer is wrong in killing his victim, then society is also wrong in killing the murderer.  
(2) A murderer is wrong in killing his victim.

---

∴ It is wrong for society to kill a murderer.

8. (1) All pornography should be banned.  
(2) Anything that contains pictures of naked adults and children is pornographic.  
(3) *National Geographic* contains pictures of naked adults and children.

---

∴ 4 *National Geographic* should be banned.

- \*9. (1) If private enterprise does better than government at running businesses, then it will do better at running schools.  
(2) Private enterprise does better at running businesses.

---

∴ Private enterprise will do better at running schools.

10. (1) Any area of study that contributes to the field of medicine should be well supported.  
(2) Biology contributes to the field of medicine.
- 

∴ Biology should be well supported.

- \*11. (1) If privatizing schools would leave poorer, more-difficult-to-educate students at a disadvantage, then privatizing schools will only worsen the problems of the inner cities.  
(2) Privatizing would leave poorer, more-difficult-to-educate students at a disadvantage.
- 

∴ Privatizing schools will [only] worsen the problems of inner cities.

12. (1) If you have an irresponsible mate, then either you should avoid having a child or you should prepare yourself for the difficulties of single parenting.  
(2) You have an irresponsible mate.  
(3) You don't want to prepare yourself for the difficulties of single parenting.
- 

∴ You should avoid having a child.

- \*13. (1) A nonwhite murderer whose victim is white is much more likely to be executed than a white murderer whose victim is either white or nonwhite.  
(2) If that is the case, then either this kind of discrimination should be eliminated, or the death penalty should be abolished.  
(3) This kind of discrimination cannot be eliminated.
- 

∴ Capital punishment should be abolished.

14. (1) If capital punishment deters potential murderers, then if it is not inflicted, some innocent person will be murdered.  
(2) It is better for a murderer to be executed than for an innocent person to be murdered.
- 

∴ If capital punishment deters potential murderers, then it should be inflicted.

*(Note: in the previous reconstruction the argument is not treated as a simple deductively valid argument. It depends on inference involving values. See the text pp. 103-106 for a discussion of this type of inference.)*

- \*15. (1) Smoking is addictive.  
(2) If smoking is addictive, then cigarette companies are trafficking in addictive substances  
(3) If cigarette companies are trafficking in addictive substances, then production of cigarettes should be more tightly restricted.
- 
- ∴ Production of cigarettes should be more tightly restricted.
16. (1) Americans reject candidates for public office who propose to rein in spending on medicare and farm subsidies, then either we will suffer from a growing deficit or we will need to raise taxes.  
(2) Americans reject candidates for public office who propose to rein in spending on medicare and farm subsidies,  
(3) The public won't tolerate raising taxes.
- 
- ∴ We will suffer from a growing deficit.

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Exercise 2.2 (p. 29-30 )

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- \*1. (1) If you buy a fur coat, then you are supporting the fur industry.  
(2) If you are supporting the fur industry, then you are encouraging cruel treatment of animals.
- 
- ∴ If you buy a fur coat, then you are encouraging cruel treatment of animals.

2. (1) Either the government should protect children from abuse and neglect by their parents, or it should reinstitute orphanages.  
(2) The government will not protect children from abuse and neglect by their parents.

∴ The government should reinstitute orphanages.

- \*3. (1) Every person has the capacity to kill..  
(2) All those who have the capacity to kill should avoid keeping loaded guns around the house.

∴ Every person should avoid keeping loaded guns around the house.

4. (1) If you take too much pride in your physical appearance, you will dread growing older.  
(2) You take too much pride in your physical appearance.

∴ You will dread growing older.

- \*5. (1) Anyone who is overly ambitious will alienate her friends.  
(2) Sheila is overly ambitious.

∴ Sheila will alienate her friends.

6. (1) If you respected my opinion, then you would seek my advice.  
(2) You don't seek my advice.

∴ You don't respect my opinion.

- \*7. (1) Either the United States will tackle the real social ills that beset its cities, or it will lose the "war on drugs."  
(2) The United States will not tackle the real social ills that beset its cities.

∴ The United States will lose the "war on drugs."

8. (1) All restrictions on smoking are restrictions on personal freedom.  
(2) All restrictions on personal freedom are in need of strong justification.
- 

∴ All restrictions on smoking are in need of strong justification.

- \*9. (1) Any gun law gives advantage to law-breakers.  
(2) Anything that gives an advantage to law-breakers makes law-abiders less safe.
- 

∴ Any gun law makes law-abiders less safe.

10. (1) If we want to combat AIDS, then we must prevent drug users from sharing dirty needles.  
(2) If we must prevent the sharing of dirty needles, then the ban on selling needles should be lifted.  
(3) We do want to combat AIDS.
- 

∴ The ban on selling hypodermic needles should be lifted.

- \*11. (1) If capital punishment deterred murder better than life imprisonment, then states with capital punishment would have lower murder rates than comparable states with life imprisonment only.  
(2) States with capital punishment do not have lower murder rates than comparable states with life imprisonment only.
- 

∴ Capital punishment does not deter murder better than life imprisonment.

12. (1) Marriage takes a great adjustment.  
(2) If it takes a great adjustment, and the young find such adjustment difficult, they should be discouraged from marrying.  
(3) The young find adjustment to the demands of marriage difficult.
- 

∴ The young should be discouraged from marrying young.



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Exercise 2.3 (p. 35-38)

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1. Patterns for problems 1-12 in Exercise 2.2:

\*#1. (1) If A, then B.  
(2) If B, then C.

---

∴ If A, then C.

#2. (1) Either A or B.  
(2) Not A.

---

∴ B.

\*#3. (1) All P1's are P2's.  
(2) All P2's are P3's.

---

∴ All P1's are P3's.

#4. (1) If A, then B.  
(2) A.

---

∴ B.

\*#5. (1) All P1's are P2's.  
(2) m is a P1.

---

∴ m is a P2.

#6. (1) If A, then B.  
(2) Not B.

---

∴ Not A.

\*#7. (1) Either A or B.  
(2) Not A.

---

∴ B.

- #8. (1) All P1's are P2's.  
(2) All P2's are P3's.
- 

∴ All P1's are P3's.

- \*#9. (1) All P1's are P2's.  
(2) All P2's are P3's.
- 

∴ All P1's are P3's.

- #10. (1) If A, then B.  
(2) If B, then C.  
(3) A.
- 

∴ C.

*(This is pattern v, with the order of premises changed.)*

- \*#11. (1) If A, then B.  
(2) Not B.
- 

∴ Not A.

- #12. (1) A.  
(2) If A and B, then C.  
(3) B.
- 

∴ C.

*(This is a version of modus ponens with A and B as the antecedent)*

- \*2a. (1) All P1's are P2's.  
(2) m is a P1.
- 

∴ m is a P2.

- (1) Anyone who studies critical reasoning is bound to sharpen his argumentative skills.  
(2) John is studying critical reasoning.
- 

∴ John is bound to sharpen his argumentative skills.

2b. (1) If A, then B .  
(2) Not B.  

---

 $\therefore$  Not A.

(1) If your relationship with your spouse were based on fair exchanges then it would be stable.  
(2) It is not stable.  

---

$\therefore$  Your relationship with your spouse is not based on fair exchanges.

\*2c. (1) If A, then B.  
(2) A.  

---

 $\therefore$  B.

(1) If Paul can find the strength to resist Sheila's advances, then he will be able to salvage some measure of self-respect.  
(2) Paul will find this strength.  

---

$\therefore$  He will salvage some self respect.

2d. (1) All P1's are P2's.  
(2) All P2's are P3's.  

---

 $\therefore$  All P1's are P3's.

(1) Anyone who deceives others is manipulating their choices.  
(2) Anyone who manipulates the choices of others is guilty of a form of coercion.  

---

$\therefore$  Anyone who deceives others is guilty of a form of coercion.

\*2e. (1) If A, then B.  
(2) Not B  

---

 $\therefore$  Not A.

(1) If your car had fuel, it would have kept running.  
(2) It didn't keep running.  

---

$\therefore$  Your car doesn't have fuel.

- 2 f. (1) If A, then B.  
(2) Not B.

---

∴ Not A.

(1) If Alvin has fulfilled the graduation requirements, then he is eligible for graduation.

(2) Alvin is not eligible for graduation.

---

∴ Alvin has not fulfilled the graduation requirements.

- \*2g. (1) All P1's are P2's.  
(2) All P2's are P3's.

---

∴ All P1's are P3's.

(1) Any armed intervention has many innocent victims.

(2) Any activity that has many innocent victims should be entered only as a last resort.

---

∴ Any armed intervention should be entered only as a last resort.

- 2h. (1) Either A or B.  
(2) Not A.

---

∴ B.

(1) Either students will become more interested in learning for its own sake, or universities will become more vocationally oriented.

(2) Students will not become more interested in learning for its own sake.

---

∴ Universities will become more vocationally oriented.

*(The order of premises is changed to match the pattern.)*

- \*2i. (1) If A, then B.  
(2) If B, then C  

---

 $\therefore$  If A, then C.

- (1) If a human being is created at the moment of conception, then abortion always kills a human being.  
(2) If abortion always kills a human being, then it is never justified.

---

$\therefore$  If a human being is created at the moment of conception, then abortion is never justified.

- 2j. (1) A.  
(2) If A, then B.  
(3) If B, then C.  

---

 $\therefore$  C.

- (1) Some people can't find a partner who is willing to enter a serious relationship.  
(2) If (1), then casual sex is their only alternative to abstinence.  
(3) If casual sex is the only alternative to abstinence for some people, then casual sex is justifiable in some cases.

---

$\therefore$  Casual sex is justifiable in some cases.

- \*2k. (1) All P1's are P2's.  
(2) m is a P1.  

---

 $\therefore$  m is a P2.

- (1) Everyone who watches a lot of violent films eventually becomes desensitized to violence.  
(2) Roberta watches a lot of violent films.

---

$\therefore$  Roberta will eventually become desensitized to violence.

\*3a. (1) All P1's are P2's.

(2) m is not a P2.

---

∴ m is not a P1.

(1) All true conservatives resist spending for social programs.

(2) Our senator does not resist such spending.

---

∴ Our senator is not a true conservative.

3b. (1) If A, then B.

(2) If B, then C.

(3) Not C.

---

∴ Not A.

(1) If we abolish capital punishment, then prisons will become more crowded.

(2) If prisons become more crowded, then we will have to build more prisons.

(3) We don't want to build more prisons.

---

∴ We shouldn't abolish capital punishment.

*(Note that premise 3 is not precisely the denial of the consequent of premise 2. We are using "not C" to mean something broader than denial here.)*

\*3c. (1) All P1's are P2's.

(2) Some P3's are P1's.

---

∴ Some P3's are P2's.

(1) Anyone who has practiced law has been subjected to corrupting influences.

(2) Some judges have practiced law.

---

∴ Some judges have been subjected to corrupting influences.

- 3d. (1) If A, then B or C.  
(2) A.  
(3) Not C.
- 

∴ B.

- (1) If we limit welfare to a few years, then we must either guarantee health care to everyone, or we must be willing to let those taken off welfare go without health care.  
(2) We have limited welfare to a few years.  
(3) We are not willing to let those taken off welfare go without health care.
- 

∴ We must guarantee health care to everyone.

- \*3e. (1) Either A or B.  
(2) If B, then C.  
(3) Not C.
- 

∴ 4 A.

- (1) Either you should take control of your own life or trust the advice of a mentor.  
(2) If you trust the advice of a mentor, then you stand the risk of being used to fulfill the mentor's own dreams.  
(3) You should not take that risk.
- 

∴ 4 You should take control of your own life.

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### Exercise 2.4 (p. 40-42 )

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Note: There may be more than one acceptable reconstruction for each passage.)

- \*1. (1) If gun control is constitutional, then it is constitutional to restrict artistic expression.  
(2) It is not constitutional to restrict artistic expression.
- 

∴ Gun control is not constitutional.

2. (1) Rape is a terrible crime.
  - (2) If rape is a terrible crime, then the government has an obligation to control anything that promotes it.
  - (3) Pornography promotes rape.
- 

.∴ Government has an obligation to control pornography.

- \*3. (1) If gender testing becomes widely accessible, then people not be able to resist using it for sex selection.
  - (2) We will not be able to resist using gender testing for sex selection.
- 

.∴ We should not allow gender testing to become widely accessible.