THE SLEEP OF REASON BEGETS MONSTERS
## Critical Thinking

*Fourth Edition*

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TOM

SPOT

DICK

ZOÉ

MARÍA

SUZY

MANUEL

HARRY

DOCTOR "E"

PROFESSOR ZZYZZZX

LEE

PUFF

WANDA

FLO
You can read this book on your own. There are plenty of examples. The exercises illustrate the ideas you’re supposed to master. With some effort you can get a lot out of this text.

But you’ll miss the discussion and exchanges in class that make the ideas come alive. Many of the exercises are designed for discussion. That’s where your understanding will crystallize and you’ll find that you can begin to use the ideas and methods of critical thinking.

You’ll get the most out of discussions if you’ve worked through the material first. Read the chapter through once, with a pencil in hand. Get an overview. Mark the passages that are unclear. You need to understand what is said—not all the deep implications of the ideas, not all the subtleties, but the basic definitions. You should have a dictionary on your desk.

Once the words make sense and you see the general picture, you need to go back through the chapter paragraph by paragraph, either clarifying each part or marking it so you can ask questions in class. Then you’re ready to try the exercises.

Many of them will be easy applications of the material you’ve read. Others will require more thought. And some won’t make sense until you talk about them with your classmates and instructor. When you get stuck, look in the back where there are answers to many of them.

By the time you get to class, you should be on the verge of mastering the material. Some discussion, some more examples, a few exercises explained, and you’ve got it.

That pencil in your hand is crucial. Reading shouldn’t be a passive activity. You need to master this material. It’s essential if you want to write well. It’s essential in making good decisions in your life. If you can think critically, you can advance in your work. No matter where you start in your career, whether flipping hamburgers or behind a desk, when you show your employer that you’re not only responsible but can think well, can foresee consequences of what you and others do and say, you will go far. As much as the knowledge of this or that discipline, the ability to reason and communicate will speed you on your way. Those skills are what we hope to teach you here.
Preface to the Instructor

This textbook is designed to be the basis of classroom discussions. I’ve tried to write it so that lectures won’t be necessary, minimizing the jargon while retaining the ideas. The material is more challenging than in other texts, while, I hope, more accessible.

The chapters build on one another to the end. Rely on your students to read the material—quiz them orally in class, call on them for answers to the exercises, clear up their confusions. The exercises are meant to lead to discussion, encouraging students to compare ideas. Instead of spending lots of time grading the exercises, you can use the Quickie Exams from the Instructor’s Manual.

This course should be easy and fun to teach. If you enjoy it, your students will, too.

Overview of the material

The Fundamentals (Chapters 1–6) is all one piece. It’s the heart of the course. Here and throughout there is a lot of emphasis on learning the definitions. It’s best to go through this in a direct line.

The Structure of Arguments (Chapters 7 and 8) is important. Chapter 7 on compound claims—an informal version of propositional logic—is probably the hardest for most students. There’s a temptation to skip it and leave that material for a formal logic course. But some skills in reasoning with conditionals are essential. If you skip this chapter, you’ll end up having to explain the valid and invalid forms piecemeal when you deal with longer arguments. It’s the same for Chapter 8 on general claims—an informal introduction to quantifiers in reasoning—except that the material seems to be easier for students.

Avoiding Bad Arguments (Chapters 9–11) is fun. Slanters and fallacies give the students motive to look around and find examples from their own lives and from what they read and hear. For that reason many instructors like to put this material earlier. But if you do, you can only teach a hodge-podge of fallacies that won’t connect and won’t be retained. I’ve introduced the fallacies along with the good arguments they mock (for example, mistaking the person for the claim with a discussion of when it’s appropriate to accept an unsupported claim), so that Chapter 11 is a summary and overview. Covering this material here helps students unify the earlier material and gives them some breathing room after the work in Chapters 7 and 8.

It’s only at the end of this section, working through Short Arguments for Analysis, that students will begin to feel comfortable with the ideas from the earliest
chapters. You can conclude a course for the quarter system here. *Analyzing Complex Arguments* introduces more about the structure of arguments and how to analyze longer, more difficult examples.

*Reasoning About Our Experience* (Chapters 12–15), covers specific kinds of arguments: analogies, generalizations, and cause and effect. Chapter 13 on numerical claims could follow directly after Chapter 6.

*Making Decisions* places this material most directly in the lives of your students. Chapter 16 on evaluating risk requires students to use all the skills they’ve developed in the course. The final chapter on making decisions is an exhortation and a chance for students to look back on the course.

The text has more than a thousand exercises: in each section they build from routine ones—mostly recalling definitions—to fairly hard ones. There are generally enough easy exercises to help students build their confidence. This method helps them learn how to read, to pick out their confusions, to work on their own—in short, it teaches them how to learn. On the *CD for the Instructor’s Manual* all the exercise sets are available formatted so that students can answer them and turn in those sheets or send them back to you online. Those can be modified to delete some exercises or add any of the hundreds more we have in the *Instructor’s Manual*.

Writing Lessons are an integral part of this text, and there are enough here for courses that require a substantial writing component. The *Essay Writing Lessons* require the student to write an argument for or against a given issue, where the issue and the method of argument are tied to the material that’s just been presented. In the Instructor’s Manual there are suggestions for making the grading of these relatively easy. About midway through the course your students can read the section “Composing Good Arguments” which summarizes the lessons they should learn.

The *Cartoon Writing Lessons* present a situation or a series of actions in a cartoon, and require the student to write the best argument for a claim based on that. These lessons do more to teach students reasoning than any other type of exercise. Students have to distinguish between observation and inference; they have to judge whether a good argument is possible; they have to judge whether the claim is objective or subjective; they have to judge whether a strong argument or a valid argument is called for. These deserve class time for discussion.

Available free on our website <www.ARFbooks.org> are supplements that cover topics that expand on the material in the text:

*Legal Reasoning Supplement*
*Science Reasoning Supplement*
*Truth-Tables*
*Aristotelian Logic*
*Diagramming Arguments*
An Instructor’s Manual for this text contains:

- A sample syllabus, along with suggestions for how to get started on the first days of class.
- Suggestions for teaching each chapter.
- Answers to all the exercises.
- Suggestions and handouts for correcting the writing lessons.
- Sample exams.
- Hundreds more exercises that can be used for either classroom discussion or exam questions.
- Suggestions for how to teach the supplements, along with answers to all the exercises in those.
- Handouts that supplement the material in the text.

On the CD for the Instructor’s Manual you’ll find much of this material—for example, writing lesson handouts and exams—ready to be modified and distributed to your students.

**Special features of this text**

- The material is tied into a single whole, a one-semester course covering the basics. The text is meant to be read and studied from one end to the other.
  
  As an example of how the ideas fit together as one piece, the Principle of Rational Discussion and the Guide to Repairing Arguments (Chapter 5) play a central role in any argument analysis and are used continuously to give shape to the analyses. They serve to organize the fallacies (Chapter 11), so that fallacies are not just a confusing list.

- There are more than a thousand exercises and more than five hundred worked examples taken from daily life. Dialogues among cartoon characters sound like the reasoning students encounter every day. Examples from various media are focused on the ideas in the text and on what will interest students. Philosophical issues are raised in the context of dialogues that students can imagine hearing their friends say. The text relates theory to the needs of students to reason in their own lives.
  
  In each section the exercises move from stating a definition, to relating the various ideas, to applying the concepts. The most important ideas are reinforced with similar exercises in succeeding sections. Worked examples in the text help students see how to begin with their homework.

- Cartoons have been drawn especially for this book to reinforce the ideas, to show relationships of ideas, and to get students to convert nonverbal experience into arguments. The Cartoon Writing Lessons help students grasp the ideas much faster.
PREFACE to the Instructor

• The free supplements allow you to craft the course to specific needs that your school or students have.

• There is a CT Web Exchange on our website where students and faculty can exchange examples and exercises and engage in discussion about the material.

• There is a complete Instructor’s Manual with suggestions for teaching and answers to the exercises in the text. An accompanying CD for the Instructor’s Manual contains fifty-four sample exams, answers to those, more than five hundred additional examples, and additional material ready to modify and print.

• Definitions and key ideas are boxed. It’s easy to find the important material.

• A series of essays called The Fundamentals of Argument Analysis, also available from ARF, provides the intellectual background for the ideas and methods in this text. It’s also suitable as a text for an upper-division course to follow this one.

• The text is fun to read, yet challenges the very best student.

New to the Fourth Edition

• Michael Rooney, the editor of the CT Web Exchange, has collaborated in rewriting the material to make it easier to teach.

• A new section on analyzing arguments that involve prescriptive claims has been added to Chapter 5, following up on the discussion of the nature of prescriptive claims in Chapter 2.

• The chapter on counter-arguments is now included in the first section of the book on the fundamentals, allowing that part to be taught as a mini-course.

• A new chapter on evaluating risk has been added.

• There are more than 150 new exercises and more than 75 new worked examples, along with more cartoons.

• Supplements for legal reasoning, science reasoning, truth-tables, Aristotelian logic, and diagramming arguments are now available as free downloads from our website.

• The CT Web Exchange on our website allows students and faculty to share examples and exercises.

I’ve tried to steer between the Scylla of saying nonsense and the Charybdis of teaching only trivialities. I hope you find the journey memorable. The water is deep.
Acknowledgments

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- Carolyn Kernberger for her help and collaboration on the second and third editions.
- And my students, who provided me with many examples, whose quizzical looks made me rewrite, and whose delight in the material motivated me to finish this book.

I am grateful to them all. Much of what is good in this text comes from them. What is bad is mine, all mine.
The FUNDAMENTALS
A. Are You Convinced?

Everyone’s trying to convince you of something: You should go to bed early. You
should drop out of college. You should buy a Dodge Ram truck. You should study
early. And you spend a lot of time trying to decide what you should be doing, that is, trying to convince yourself: Should I take out a student loan? Is chocolate bad for my complexion? Should I really date someone who owns a cat?

Are you tired of being conned? Of falling for every pitch? Of making bad
decisions? Of fooling yourself? Or just being confused?

Thinking critically is a defense against a world of too much information
and too many people trying to convince us. But it is more. Reasoning is what
distinguishes us from beasts. Many of them can see better, can hear better, and
are stronger. But they cannot plan, they cannot think through, they cannot discuss
in the hopes of understanding better.

An older student was in the spring term of his senior year when he took this
course. He was majoring in anthropology and planned to do graduate work in the
fall. Late in the term he brought me a fifteen-page paper he’d written for an
anthropology class. He said he’d completed it, then he went over it again, analyzing
it as we would in class, after each paragraph asking “So?” He found that he couldn’t
justify his conclusion, so he changed it and cut the paper down to eleven pages. He
showed me the professor’s comments, which were roughly “Beautifully reasoned,
clear. A+.” He said it was the first A+ he’d ever gotten. I can’t promise that you’ll
get an A on all your term papers after taking this course. But you’ll be able to
comprehend better what you’re reading and write more clearly and convincingly.
Once in a while I’ll tune into a sports talk show on the radio. All kinds of people call in. Some of them talk nonsense, but more often the comments are clear and well reasoned. The callers know the details, the facts, and make serious projections about what might be the best strategy based on past experience. They comment on what caused a team to win or lose. They reason with great skill and reject bad arguments. I expect that you can too, at least on subjects you consider important. What we hope to do in this course is hone that skill, sharpen your judgment, and show you that the methods of evaluating reasoning apply to much in your life.

In trying to understand how to reason well, we’ll also study bad ways to convince, ways we wish to avoid, ways that misuse emotions or rely on deception. You could use that knowledge to become a bad trial lawyer or advertising writer, but I hope you will learn a love of reasoning well, for it is not just ethical to reason well; it is, as we shall see, more effective in the long run. Critical thinking is part of the study of philosophy: the love of wisdom. We might not reach the truth, but we can be searchers, lovers of wisdom, and treat others as if they are, too.

B. Claims
We’ll be studying the process of convincing. An attempt to convince depends on someone trying to do the convincing and someone who is supposed to be convinced.

- Someone tries to convince you.
- You try to convince someone else.
- You try to convince yourself.

Let’s call an attempt to convince an “argument.”

But, you say, an argument means someone yelling at someone else. When my mom yells at me and I yell back, that’s an argument. Yes, perhaps it is. But so, by our definition, is you and your friend sitting down to talk about your college finances to decide whether you need to get a job. We need a term that will cover our attempts to convince. The word “argument” has become pretty standard.
Still, that isn’t right. Suppose the school bully comes up to Flo and says, “Hand over your candy bar.” Flo won’t. She hits Flo on the head with a stick. Flo gives up her candy bar. Flo’s been convinced. But that’s no argument.

The kind of attempts to convince we’ll be studying here are ones that are or can be put into language. That is, they are a bunch of sentences that we can think about. But what kind of sentences?

When we say an argument is an attempt to convince, what exactly is it we’re supposed to be convinced of? To do something? If we are to try to reason using arguments, the point is that something is true. And what is that something? A sentence, for it’s sentences that are true or false. And only certain kinds of sentences: not threats, not commands, not questions, not prayers. An attempt to convince, in order to be classified as an argument, should be couched in plain language that is true or false: declarative sentences.

You should already know what a declarative sentence is. For example:

This course is a delight.
The author of this book sure writes well.
Intelligent beings once lived on Mars.
Everyone should brush their teeth at least once every day.
Nobody knows the troubles I’ve seen.

The following are not declarative sentences:

Shut that door!
How often do I have to tell you to wipe your feet before you come into the house?
Dear God, let me be a millionaire instead of a starving student.

Still, not every declarative sentence is true or false: “Green dreams ride donkeys” is a declarative sentence, but it’s nonsense. Let’s give a name to those sentences that are true or false, that is, that have a truth-value.

Claim A claim is a declarative sentence used in such a way that it is true or false, but not both.

For a sentence to be a claim we don’t have to agree to view it as true nor agree to view it as false. We just have to agree that it is used in such a way that it is one or the other, though we might not know which.

One of the most important steps in trying to understand new ideas or new ways of talking is to look at lots of examples.
Examples

Are the following claims?

Example 1  Your instructor for this course is male.

Analysis  This is a claim. It’s either true or false.

Example 2  Your instructor is short.

Analysis  Is this a claim? What does “short” mean? We’ll consider problems with vagueness in Chapter 2.

Example 3  Cats are nasty.

Analysis  If when you read this you disagreed, then you are implicitly accepting the example as a claim. You can’t disagree unless you think it has a truth-value.

Example 4  $2 + 2 = 4$

Analysis  This is a claim, though no one is going to disagree with you about it.

Example 5  I wish I could get a job.

Analysis  How is this being used? If Maria, who’s been trying to get a job for three weeks, says it to herself late at night, then it’s not a claim. It’s more like a prayer or an extended sigh.

But if Dick’s parents are berating him for not getting a job, he might say, “It’s not that I’m not trying. I wish I could get a job.” That might be true, but it also might be false, so “I wish I could get a job” would be a claim.

Example 6  How can anyone be so dumb as to believe that cats can think?

Analysis  As it stands this is not a claim; it’s a question. But in some contexts we might rewrite it as “Someone must be dumb to think that cats can think,” or perhaps “Cats can’t think.” The process of rewriting and reinterpreting is something we’ll consider throughout this course.

Example 7  Cada cachorro pode latir.

Analysis  Is this a claim? If you don’t understand Portuguese, you better say you’re not prepared to accept it as one. You can’t reason with it if you don’t understand it.

Example 8  Every mollusk can contract myxomatosis.

Analysis  If you don’t know what these words mean, you shouldn’t try to reason with this as a claim. But that doesn’t mean you should just dismiss any attempt to convince that uses language you don’t understand. A dictionary is an important tool of a good reasoner.

Example 9  Something is rotten in the state of Denmark.

Analysis  This is from Hamlet. That’s fiction and isn’t intended to be true or false. This isn’t a claim.
C. Arguments

We’re trying to define “argument.” We said it was an attempt using language to convince someone that a claim is true. The only language we should allow in an argument, then, should be sentences that are true or false.

**Arguments**  An argument is an attempt to convince someone (possibly yourself) that a particular claim, called the **conclusion**, is true. The rest of the argument is a collection of claims called **premises** which are given as the reasons for believing the conclusion is true.

The point of an argument is to convince someone that a claim—the conclusion—is true. The conclusion is sometimes called the **issue** that’s being debated. **Critical thinking** is evaluating whether we should be convinced that some claim is true or some argument is good, as well as formulating good arguments.

**Examples**  Are the following arguments?

**Example 10**

![Cartoon of a nurse and a doctor discussing a patient in cardiac arrest.]

**Analysis**  The nurse is making an argument. She’s trying to convince the doctor that “Your patient in Room 47 is dying” is true. She offers the premise: “He’s in cardiac arrest.” Sounds pretty convincing.

**Example 11**

![Cartoon of a man discussing an accident with a police officer.]

**Analysis**  Dick is making an argument, trying to convince the police officer that the following claim is true: “The accident was not my fault” (reworded a bit). He uses
two premises: “She hit me from the rear” and “Anytime you get rear-ended it’s not your fault.”

**Example 12** Out? Out? I was safe by a mile. Are you blind? He didn’t even touch me with his glove!

*Analysis* This was spoken at a baseball game by a runner who’d just been called out. He was trying to convince the umpire to believe “I was safe.” He used only one premise: “He didn’t even touch me with his glove.” The rest is just noise.

**Example 13** Give me that *$!#&* wrench.

*Analysis* I can remember who said this to me. He was trying to convince me. But it was no argument, just a series of commands and threats. And what he was trying to convince me of wasn’t the truth of some claim.

**Example 14** Follow the directions provided by your doctor for using this medicine. This medicine may be taken on an empty stomach or with food. Store this medicine at room temperature, away from heat and light.

*Analysis* This is not an argument. Instructions, explanations, and descriptions, though they may use declarative sentences, aren’t arguments. They’re not intended to convince you that some claim is true.

**Example 15**

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How come you don't call me? What's wrong? You don't love your mother? Where did I go wrong? ...
```

*Analysis* Zoe’s mother is attempting to convince her, but not of the truth of a claim. So there’s no argument. Perhaps we could interpret what’s being said as having an unstated conclusion “You should feel guilty for not calling your mother,” and premises (disguised as questions) “Anyone who doesn’t call her mother doesn’t love her mother” and “If you don’t love your mother, then your mother did something wrong.” But it would be the interpretation that is an argument, not the original. And we would have to consider whether the interpretation is faithful to what Zoe’s mother intended. We’ll consider re-interpreting what’s said in Chapter 5.

**Example 16** You see a chimpanzee trying to get some termites out of a hole. She can’t manage it because the hole is too small for her finger. So she gets a stick and tries to pull the termites out. No success. She licks the end of the stick and puts it in the hole and pulls it out with a termite stuck to it. She eats the termite, and repeats the process. Is she convincing herself by means of an argument?
Analysis  There’s no argument here. Whatever the chimpanzee is doing, she’s not using claims to convince herself that a particular claim is true.

  But isn’t she reasoning? That’s a hard question you can study in philosophy and psychology courses.

Summary  We said that this course will be about attempts to convince. But that’s too much for one course. We narrowed the topic to attempts to convince that use language. That was still too broad. An argument, we decided, should mean an attempt to convince someone that a sentence is true. We defined a claim as a declarative sentence used in such a way that it is true or false. Arguments, then, are attempts to convince that use only claims.

  Now we’ll begin to look at methods and make distinctions. Because your reasoning can be sharpened, you can understand more, you can avoid being duped. And, we can hope, you will reason well with those you love and work with and need to convince, and you will make better decisions. But whether you will do so depends not just on method, not just on the tools of reasoning, but on your goals, your ends. And that depends on virtue.

Key Words

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<tr>
<th></th>
<th>truth-value</th>
<th>conclusion</th>
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<tr>
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<td>true</td>
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<td>argument</td>
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Exercises for Chapter 1

These exercises are meant to help you become familiar with the basic ideas we’ve seen in this chapter. They should raise enough worries about the nature of claims and arguments that you’ll be glad to see how we clarify those in the next few chapters.

1. What is this course about?

2. How did I try to convince you that this course is important? Pick out at least two places where I tried to convince you and decide whether they are arguments.

3. Explain how to divide up all attempts to convince in terms of who is trying to convince whom.

4. Which of the following are claims?
   a. Justin Timberlake is a woman.
   b. I am 2 meters tall.
   c. College is really expensive now.
   d. Pass the salt please.
e. Bill Gates founded Apple.
f. Your instructor believes that Bill Gates founded Apple.
g. Is any teacher capable of writing a good exam?
h. Power corrupts.
i. Feed Spot.
j. Did you feed Spot?
k. A friend in need is a friend indeed.
l. No se puede vivir sin amar.
m. Whenever Spot barks, Zoe gets mad.
n. The Dodgers aren’t going to win a World Series for at least another ten years.
o. If you don’t pay your taxes on time, you’ll have to pay more to the government.
p. $2 + 2 = 5$
q. I feel cold today.
r. There is an odd number of stars in the universe.

5. Write down five sentences, four of which are claims and one of which is not. Exchange with a classmate and see if he or she can spot which are the claims.

6. What is an argument?

7. What is the point of making an argument?

8. What is a premise? What is a conclusion?

9. Why isn’t every attempt to convince an argument? Give an example.

10. Bring in an example of an argument you heard or read in the last two days.

11. Bring in a short article from the front page of a newspaper. Are all the sentences used in it claims? Is it an argument?

12. Your friend goes outside, looks up at the sky, and sees it’s cloudy. She goes back inside and gets her raincoat and umbrella. Is she making an argument? Explain.

13. Bring an advertisement to class that uses an argument. State the premises and the conclusion.

Here are two exercises done by Tom, along with Dr. E’s comments.

<table>
<thead>
<tr>
<th>Tom Wyzeczyk</th>
<th>Critical Thinking</th>
<th>Section 4</th>
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Sheep are the dumbest animals. If the one in front walks off a cliff, all the rest will follow it. And if they get rolled over on their backs, they can’t right themselves.

Argument? (yes/no) Yes.

Conclusion: Sheep are the dumbest animals.
Premises:
If a sheep walks off a cliff, all the rest will follow it.
If a sheep gets rolled over on its back, it can’t right itself.

This is good work, Tom.

How can you go to the movies with Sarah and not me? Don’t you remember I helped you fix your car last week?

Argument? (yes/no) Yes.

Conclusion: You should go to the movies with me.

Premises: I helped you fix your car last week.

Is what you are given an argument? No. There are just two questions, and questions aren’t claims. So it can’t be an argument. And if there’s no argument, there are no premises and no conclusion. Sure, it seems that we ought to interpret what’s said as an argument—as you have done. But before we go putting words in someone’s mouth, we ought to have rules and a better understanding of when that’s justified.

For each of Exercises 14–27 fill in the following:

Argument? (yes or no)

Premises:

Conclusion:

Remember: Fill in the last two only if it’s an argument.

14. You shouldn’t eat at Zee-Zee Frap’s restaurant. I heard they did really badly on their health inspection last week.

15. You liked that movie? Boy, are you dumb. I guess you just can’t distinguish bad acting from good. And the photography was lousy. What a stupid ending, too.

16. If it’s O.K. to buy white mice to feed a pet boa constrictor, why isn’t it O.K. to buy white mice for your cat to play with?

17. If you don’t take a course on critical thinking, you’ll always end up being conned, a dupe for any fast-talker, an easy mark for politicians. So you should take a course on critical thinking. You’d be especially wise to take one from the instructor you’ve got now—he [she] is a great teacher.

18. Whatever you do, you should drop the critical thinking course from the instructor you’ve got now. He [she] is a really tough grader, much more demanding than the other professors that teach that course. You could end up getting a bad grade.

19. Flo: She pulled my hair and stepped on my hand and wrecked my toy. I hate her.

20. (Advertisement) The bigger the burgers, the better the burgers, the burgers are bigger at Burger King.
21. I would not live forever, because we should not live forever, because if we were supposed to live forever, then we would live forever, but we cannot live forever, which is why I would not live forever.

   (A contestant’s response to the question “If you could live forever, would you and why?” in the 1994 Miss USA contest.)


23. Flo has always wanted a dog, but she’s never been very responsible. She had a fish once, but it died after a week. She forgot to water her mother’s plants, and they died. She stepped on a neighbor’s turtle and killed it.

24. Maria: Ah-choo.
   Lee: Gesundheit.
   Maria: I’m just miserable. Stuffy head and trouble breathing.
   Lee: Sounds like the allergies I get.
   Maria: No, it’s the flu. I’m running a fever.

25. You may own stocks or securities which are selling at a lower price than when purchased. Tax considerations might call for a sale of such securities in order to create a currently deductible tax loss. However, if it is desired to still own the securities while producing a tax loss, you can’t just sell securities at a loss and then buy them right back. Any purchase of the same securities within 30 days before or after the sale negates any losses. To get around this restriction, you can purchase similar but not identical securities to the ones sold. Or, in the case of bonds, you can achieve the same result by making a swap through a brokerage house. 1994 Tax Guide for College Teachers

26. The light bulb is located in the upper left corner of the oven. Before replacing the bulb, disconnect electric power to the range at the main fuse or circuit breaker panel or unplug the range from the electric outlet. Let the bulb cool completely before removing it. Do not touch a hot bulb with a damp cloth as the bulb will break.

   To remove: Hold hand under lamp bulb cover so it doesn’t fall when released. With fingers of same hand, firmly push down wire bail until it clears cover. Lift off cover. Do not remove any screws to remove this cover. Replace bulb with a 40-watt home appliance bulb. How to get the best from your range, Hotpoint

27. Dick: You shouldn’t dock your dog’s tail because it will hurt her, it’ll make her insecure, and she won’t be able to express her feelings.

28. In order to choose good courses of action in our lives, we need not only knowledge of the world and the ability to reason well, but what else?

   Further Study There’s much more to learn about the nature of claims and truth and the relation of language to our experience. We’ll touch on some of those in the next chapter. An introductory philosophy course goes much deeper.
Attempts to convince that use language but aren’t arguments, such as fables and examples, are studied in courses in rhetoric. Courses in marketing, advertising, and psychology study both verbal and nonverbal ways to convince that aren’t arguments. Convincing that uses body language is at the heart of acting classes.

A place to begin reading about whether animals can reason is *The Animal Mind*, by James and Carol Gould, Scientific American Library.
Write an argument either for or against the following:

*Student athletes should be given special leniency when the instructor assigns course marks.*

Your argument should be at most one page long.
We want to arrive at truths from our reasoning. So we need to be able to recognize whether a sentence is true or false—or whether it’s just nonsense.

A. Vague Sentences

1. Too vague?

Zoe heard a radio advertisement that said “Snappy detergent gets clothes whiter.” So when she went to the supermarket she bought a box. She’s not very happy.
Some sentences may look like claims, or people try to pass them off as claims, but they’re worthless for reasoning. If we can’t don’t know what someone’s saying, we can’t investigate whether it’s true or false.

**Vague sentence**  A sentence is too vague to be a claim if there are different ways to understand it, and we can’t settle on one of those without the speaker making it clearer.

We hear vague sentences all the time:

You can win a lot playing blackjack.

Public education is not very good in this state.

Freedom is worth fighting for.

They sound plausible, yet how can anyone tell whether they’re true?

But isn’t everything we say somewhat vague? After all, no two people have identical perceptions, and since the way we understand words depends on our experience, we all understand words a little differently. There has to be some wiggle room in the meaning of words and sentences for us to be able to communicate. You say, “My English professor showed up late for class on Tuesday.” Which Tuesday? Who’s your English professor? What do you mean by late? 5 minutes? 30 seconds? How do you determine when she showed up? When she walked through the door? At exactly what point? When her nose crossed the threshold?

That’s silly. We all know “what you meant,” and the sentence isn’t too vague for us to agree that it has a truth-value. The issue isn’t whether a sentence is vague, but whether it’s *too vague*, given the context, for us to be justified in saying it that it is true or false.

**Examples**  Are the following too vague to be taken as claims?

**Example 1**  Men are stronger than women.

*Analysis*  Don’t bother to argue about this one until you clarify it, even though it may seem plausible. What’s meant? Stronger for their body weight? Stronger in that the “average man” (whoever that is) can lift more than the “average woman”? Stronger emotionally?

**Example 2**  On the whole, people are much more conservative than they were 30 years ago.

*Analysis*  We get into disagreements about sentences like this and make decisions based on them. But the example is too vague to be true or false. What does “people” mean? All adults? What does “conservative” mean? That’s really vague. Is Mitt Romney conservative? Ron Paul? Rush Limbaugh?

**Example 3**  Aquarius: What you thought would be a quick dance is turning out to be a long slog. What makes this so cumbersome is all of the baggage you have to carry.

*Horoscopes by Holiday, February 2, 2012*
**Analysis**  Ever notice how vague horoscopes are? How could you tell if this horoscope was false? There’s no claim here.

**Example 4** Susan Shank, J.D., has joined Zia Trust Inc. as Senior Trust Officer. Shank has 20 years’ experience in the financial services industry including 13 years’ experience as a trust officer and seven years’ experience as a wealth strategist.

*Albuquerque Journal,* 4/29/10 and the Zia Trust website

**Analysis** “Wealth strategist” looks very impressive. But when I called Ms. Shank and asked her what it meant, she said, “It can have many meanings, whatever the person wants it to mean.” This is vagueness used to try to convince you she’s doing something important.

**Example 5** City officials in Murfreesboro, Tenn.—about 30 miles south of Nashville—say one smelly employee is responsible for a new policy that requires all city employees to smell nice at work.

“No employee shall have an odor generally offensive to others when reporting to work. An offensive odor may result from lack of good hygiene, from an excessive application of a fragrant aftershave or cologne or from other cause.”

The definition of body odor was left intentionally vague.

“We’ll know it when we smell it,” said City Councilman Toby Gilley.

*Knoxville News-Sentinel,* August 26, 2003

**Analysis** Sometimes it isn’t possible to make a precise distinction, yet that doesn’t mean we’re being too vague in the intended context.

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In a very large auditorium lit by a single candle at one end, there is no place where we can say it stops being light and starts being dark. But that doesn’t mean there’s no difference between light and dark. That we cannot draw a line does not mean there is no obvious difference in the extremes.

---

Throughout this text we’ll often point out a common mistake in reasoning and label it a fallacy.

**Drawing the line fallacy** It’s bad reasoning to argue that if you can’t make the difference precise, then there’s no difference.
2. Ambiguous sentences

A special case of vagueness is when there are just two, or a very few, obvious ways that a sentence could be understood as a claim. In that case we say the sentence is *ambiguous*.

It’s not always easy to see that ambiguity is infecting an argument:

Saying that having a gun in the home is an accident waiting to happen is like saying that people who buy life insurance are waiting to die. We should be allowed to protect ourselves.

The speaker is trading on two ways to understand “protect”: physically protect vs. emotionally or financially protect. It’s easy to get confused and accept unreasonable conclusions when an ambiguous sentence is used as a premise. We can tolerate some vagueness, but we should never tolerate ambiguity in reasoning.

**Examples** Is there any ambiguity in these passages?

**Example 6** There is a reason I haven’t talked to Robert [my ex-lover] in seventeen years (beyond the fact that I’ve been married to a very sexy man whom I’ve loved for two-thirds of that time). Laura Berman, *Ladies’ Home Journal*, June, 1996

**Analysis** The rest of the time she just put up with him?

**Example 7** Your mother says you shouldn’t argue with your elders. Your instructor is older than you, and he says that this course is about arguing. How can you possibly pass this course and still be a good son or daughter?

**Analysis** Don’t drop this course! Your mother is saying you shouldn’t disagree in a rude manner with your elders, while your professor is trying to teach you how to reason. There’s the colloquial understanding of “argue,” and the way we understand that word in critical thinking and English composition.

**Example 8** Dr. E’s dogs eat over 10 pounds of meat every week.

**Analysis** Is this true or false? It depends on whether it means: “Each of Dr. E’s dogs eats over 10 pounds of meat every week” (big dogs!), or “Dr. E’s dogs altogether eat over 10 pounds of meat every week.” It’s ambiguous whether the individual or the group is meant.

**Example 9** Homosexuality can’t be hereditary: Homosexual couples can’t reproduce, so genes for homosexuality would have died out long ago.

**Analysis** The argument appears good but only because “Homosexual couples can’t reproduce” is ambiguous. It’s true if understood as “Homosexuals can’t reproduce as a couple,” but it’s false in the sense needed to make the argument good: “Homosexuals, who happen to be in couples, each can’t reproduce.” Again there’s ambiguity between the individual and the group.
Exercises for Section A

1. Give an example of a vague sentence that someone tried to pass off to you as a claim.

2. Which of the following are too vague to be considered claims?
   (You may have to suggest a context in which the sentence is spoken.)
   a. Manuel: Maria is a better cook than Lee.
   b. Lee: Manuel looks like he has a cold today.
   c. Public animal shelters should be allowed to sell unclaimed animals to laboratories for experimentation.
   d. Tuition at state universities does not cover the entire cost to the university of a student’s education.
   e. All unnatural sex acts should be prohibited by law.
   f. All citizens should have equal rights.
   g. People with disabilities are just as good as people who are not disabled.
   h. Boy, are you lucky to get a date with Jane—on a scale of 1 to 10, she’s at least a 9.
   i. Zoe has beautiful eyes.
   j. Dog food is cheaper at Furr’s grocery store than at Smith’s grocery.
   k. Alpo in cans is cheaper at Furr’s grocery store than at Smith’s grocery.
   l. Spot is a big dog.
   m. Cholesterol is bad for you.
   n. Parents should be held responsible for crimes their children commit.
   o. Obama is too liberal.
   p. There’s a good chance of rain tomorrow.
   q. There’s a 70% chance of rain tomorrow.

3. Find an advertisement that treats a vague sentence as if it were a claim.

4. What’s wrong with the following attempt to convince?
   Look, officer, if I were going 36 in this 35 m.p.h. zone, you wouldn’t have given me a ticket, right? What about 37? But at 45 you would? Well, isn’t that saying that the posted speed limit is just a suggestion? Or do you write the law on what’s speeding?

5. a. Can a claim be ambiguous?
   b. Can a claim be vague?

6. How much ambiguity can we tolerate in an argument?

7. Decide whether each of the following sentences is a claim. If it is ambiguous, give at least two sentences corresponding to the ways it could be understood.
   a. Zoe saw the waiter with the glasses.
   b. “U.S. pays $50,000 per killing to massacre families” *San Francisco Chronicle*, 3/26/2012
   c. Americans bicycle thousands of miles every year.
   d. If someone is under 18 years old, then he cannot vote in this country.
   e. I am over 6 feet tall.
f. Zoe is cold.
g. The players on the basketball team had a B average in their courses.
h. All men are created equal.
i. It is better to be rich than famous.
j. “VA Reaches Out To Blind Vets” (Albuquerque Journal, headline, 8/18/09)
k. “We use nearly twice the ingredients of many normal lagers & brew for over twice as long as many quality beers. Slow brewed for exceptionally smooth flavor.”
   On the outside of a twelve-pack carton of Steel Reserve beer, 2011
l. Cats are a species of reptile.
m. “I remember meeting a mother of a child who was abducted by the North Koreans right here in the Oval Office.” George W. Bush, 6/26/2008
n. “BMW. The Ultimate Driving Machine.” (advertisement)
o. Public education in California is on the decline.
p. He gave her cat food..

8. Give an example of an ambiguous sentence you’ve heard recently.

9. The following argument depends on ambiguity or vagueness to sound convincing. Rewrite at least one of the sentences in each to eliminate the ambiguity.

Dick to Zoe: Anything that’s valuable should be protected. Good abdominal muscles are valuable—you can tell because everyone is trying to get them. A layer of fat will protect my abs. So I should continue to be 11 pounds overweight.

B. Subjective and Objective Claims

Sometimes the problem with a sentence that appears to be vague is that we’re not clear what standards are being used. Suppose Dick hears Harry say,

“New cars today are really expensive.”

Harry might have some clear standards for what “expensive” means, perhaps that the average price of a new car today is more than 50% of what the average person earns in a year.

Or Harry might just mean that new cars cost too much for him to be comfortable buying one. That is, Harry has standards, but they’re personal, not necessarily shared by anyone else. They’re how he thinks or believes or feels.

Or Harry might have no standards at all. He’s never thought very hard about what it means for a car to be expensive.

It’s convenient to have terms for these different possibilities.

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<tr>
<th><strong>Subjective claim</strong></th>
<th>A claim is subjective if whether it is true or false depends on what someone (or some thing or some group) thinks, believes, or feels.</th>
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<tbody>
<tr>
<td><strong>Objective claim</strong></td>
<td>A claim is objective if it’s not subjective.</td>
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So Harry might have objective standards for what it means for a car to be expensive; or he might have subjective standards; or he might have no standards at all. Until we know what he meant, we shouldn’t accept what he said as a claim.

An example of an objective claim is “Every car made by Volkswagen has a gasoline engine.” It’s false, and it doesn’t depend on whether anyone thinks or believes that. But when Dick says, “Steak tastes better than spaghetti,” that’s subjective. Whether it’s true depends on whether Dick believes or thinks that steak tastes better than spaghetti; its truth-value is relative to a personal standard.

If I say, “It’s cold outside,” is that objective or subjective? If it’s meant as shorthand for “I feel cold when outdoors,” then it’s subjective, and it’s a claim. But if it’s meant as objective, that is, I mean to assert that it’s cold independently of me or anyone, then it’s too vague for us to consider it to have a truth-value. A sentence that’s too vague to be an objective claim might be perfectly all right as a subjective one if that’s what the speaker intended. After all, we don’t have very precise ways to describe our feelings.

But what if it’s so cold that everyone agrees that it’s cold outside—is “It’s cold” still subjective? Yes: whether it’s true or false depends on what a lot of people think—no standard independent of people has been put forward. We can, however, say that subjective claims which (nearly) everyone agrees on are intersubjective.

Examples  Are the following objective or subjective claims, or not claims at all?

Example 10  Wanda weighs 195 pounds.
Analysis  This is an objective claim. Whether it’s true or false doesn’t depend on what anyone thinks or believes.

Example 11  Wanda is overweight.
Analysis  If Wanda’s doctor says this, he’s probably thinking of some standard for being overweight, and he intends it as an objective claim. If you or I say it, it’s probably subjective, just as if we were to say someone is ugly or handsome.

Example 12  Wanda is fat.
Analysis  “Fat” isn’t a technical term of a doctor. It’s a term we use to classify people as unattractive or attractive, like “beautiful.” The claim is subjective. If Wanda is so obese that (we suspect) everyone will agree she’s fat, we could classify the example as an intersubjective claim.
**Example 13**  Lee: I felt sick yesterday, and that’s why I didn’t come to work.

*Analysis*  Lee didn’t feel sick yesterday—he left his critical thinking writing assignment to the last minute and had to finish it before class. So this is a false subjective claim.

**Example 14**  Dick: Spot eats canned dog food right away, but when we give him dry dog food, he doesn’t finish it until half the day is over.

  Zoe: So Spot likes canned dog food better than dry.

*Analysis*  Dick makes some objective claims: They are about how Spot acts. Zoe infers from them a subjective claim about what Spot thinks or feels.

**Example 15**  Nurse: Dr. E, tell me on a scale of 1 to 10 how much your back hurts.

  Dr. E: It’s about a 7.

*Analysis*  Even if this is a precise scale but one that only Dr. E knows. His claim is subjective.  *precise ≠ objective*

**Example 16**

*Analysis*  Sure, “too loud” is vague. It’s subjective, too. But it serves its purpose here. We understand what he means.

**Example 17**  There is an even number of stars in the sky.

*Analysis*  You might think it’s easier to know whether objective claims are true compared to subjective ones. But this example is objective and no one has any idea how to go about finding out whether it’s true.

**Example 18**  It’s well below freezing outside, it’s snowing, and Spot is wet. He’s whining and shivering. Dick says: “Spot feels cold.”

*Analysis*  This is subjective, but we can be sure it’s true.

Whether a claim is subjective or objective doesn’t depend on whether it’s true or false, nor on whether someone knows if it’s true or false, nor on how much disagreement there is about whether it’s true or false.

**Subjectivist fallacy**  It’s a mistake to argue that because there is a lot of disagreement about whether a claim is true, it’s therefore subjective.
Example 19  There’s enough oil available for extraction by current means to fulfill the world’s needs for the next forty-seven years at the current rate of use.

Analysis  This is objective. People disagree about it because there’s not enough evidence one way or the other.

Example 20  Zoe (to Dick): Tom loves Suzy.
   Dick: I don’t think so.

Analysis  Dick and Zoe disagree about whether this subjective claim is true, but it’s not for lack of evidence. There’s plenty; the problem is how to interpret it.

   The subjectivist fallacy is just a version of the common mistake of confusing objective with subjective claims.

Example 21  Lee: I deserve a higher mark in this course.
   Dr. E: No, you don’t. Here’s the record of your exams and papers.
   You earned a C.
   Lee: That’s just your opinion.

Analysis  Lee is treating the claim, “I deserve a higher mark in this course” as if it were subjective. But if it really were subjective, there’d be no point in arguing about it with Dr. E any more than arguing about whether Dr. E feels cold.

Example 22  

Analysis  What are Dick and Zoe arguing about? He likes the tie; she doesn’t. Treating a subjective claim as objective is also a mistake.

   Often it’s reasonable to question whether a claim is really objective. But sometimes it’s just a confusion. All too often people insist that a claim is subjective (“That’s just your opinion”) when they are unwilling to examine their beliefs or engage in dialogue.

Exercises for Section B

1. a. What is a subjective claim?
   b. What is an objective claim?
   c. Are there any claims that are neither objective nor subjective?
2. a. Give an example of a true objective claim.
b. Give an example of a false objective claim.
c. Give an example of a true subjective claim.
d. Give an example of a false subjective claim.

3. Explain why a sentence that is too vague to be taken as an objective claim might be acceptable as a subjective claim.

4. Make up a list of five claims for your classmates to classify as objective or subjective.

5. State whether each of the following is objective, or subjective, or not a claim at all. In some cases you’ll have to imagine who’s saying it and the context. Where possible, explain your answer in terms of the standards being used.
   a. Wool insulates better than rayon.
   b. Silk feels better on your skin than rayon.
   c. Pablo Picasso painted more oil paintings than Norman Rockwell.
   d. Bald men are more handsome.
   e. All ravens are black.
   f. You intend to do your very best work in this course.
   g. He’s sick! How could someone say something like that?
   h. He’s sick; he’s got the flu.
   i. Cats enjoy killing birds.
   j. Murder is wrong.
   k. Your answer to Exercise 3 in Chapter 1 of this book is wrong.
   l. Demons caused me to kill my brother.
   m. (In a court of law, said by the defense attorney) The defendant is insane.
   n. Zoe is more intelligent than Dick.
   o. Zoe gets better grades in all her courses than Dick.
   p. Suzy believes that the moon does not rise and set.
   q. Dick’s dog Spot ran to his bowl and drooled when Dick got his dog food.
   r. Dick’s dog Spot is hungry.
   s. Fifty-four percent of women responding to a recent Gallup Poll said they do not think that women have equal employment opportunities with men.
   t. Fifty-four percent of women think that women have equal employment opportunities with men.
   u
   v. God exists.
6. Bring to class two advertisements, one that uses only subjective claims and another that uses only objective claims.

7. a. Give an example of someone treating a subjective claim as if it were objective.
   b. Give an example of someone treating an objective claim as if it were subjective.

8. Explain any objective-subjective confusion in these.
   a. Tom: It is more likely for a teenage girl to get into an automobile accident than a boy.
      Zoe: That’s a sexist remark!
   b. Zoe: I’m so tired.
      Dick: C’mon. You can’t be tired, you just got 12 hours of sleep.
   c. Tom: I’m going out for a run now.
      Dick: You’re crazy, it’s way too hot for a run.
      Tom: No it isn’t. It’s just right.

9. Is Zoe right? How should Dick respond?

C. Prescriptive Claims and Value Judgments
Suppose Tom says to Suzy, “Abortion is wrong.” It’s clear that Tom thinks “wrong” means no one should do it. Tom isn’t speaking about how the world is, but how it should be.

Descriptive and prescriptive claims
A claim is descriptive if it say what is. A claim is prescriptive if it says what should be.

Every claim is either descriptive or prescriptive.

Examples
Are the following prescriptive or descriptive claims?

Example 23 Drunken drivers kill more people than sober drivers do.
Analysis This is a descriptive claim.

Example 24 There should be a law against drunken driving.
Analysis This is a prescriptive claim.
Example 25  Selling cocaine is against the law.
Analysis  This is a descriptive claim.

Example 26  Larry shouldn’t sell cocaine.
Analysis  This is a prescriptive claim.

Example 27  Dick:  I’m hot.
Zoe:  You should take your sweater off.
Analysis  Dick has made a descriptive claim.  Zoe responds with a prescriptive one.

Example 28  The government must not legalize marijuana.
Analysis  This is a prescriptive claim where “must” is meant as a stronger idea of “should.”

Often when someone says that something is “good,” “better,” “best,” “bad,” “worse,” “worst,” or makes some other value judgment, it’s meant as prescriptive in the sense that we shouldn’t do what is bad/wrong/worse, and that we should do or choose what is good/better/best.

Example 29  Drinking and driving is bad.
Analysis  This is prescriptive, carrying with it the unstated assumption that we should not do what’s bad.

Example 30  Dr. E:  It’s just plain wrong to cheat on an exam.
Analysis  This is prescriptive, for by “wrong” Dr. E means as well that his students shouldn’t do it.

Example 31  Physician to Professor Zzyzzx:  You should see some improvement in your chest pains by the end of the week.
Analysis  Sometimes people use “should” to mean that they think it’s probable.  There’s no prescriptive claim here.

Example 32  Dick:  Cats are really disagreeable animals.
Analysis  Here Dick is making a value judgment, but there’s no “should” in it or implied by it.  Not every value judgment is prescriptive.

What appears to be a moral claim or value judgment, though, is often too vague to be a claim.  For example, when Tom says “Abortion is wrong” what standard is he invoking?  In disagreement with the commands of the Bible?  In disagreement with what a priest said?  In disagreement with the Koran?  In disagreement with moral principles that are not codified but are well-known?  Until he and Suzy are clear about the standard, there’s nothing to debate.

On the other hand, Suzy might say, “Maybe abortion is wrong to you, but it’s O.K. to me.”  No further standard is needed then, for she views “Abortion is wrong” as a subjective claim—the standard is personal.  But then there’s nothing to debate.
Prescriptive claims and standards  A prescriptive claim either asserts a standard—this is what should be, and there’s nothing more fundamental to say than that—or else it assumes another prescriptive claim as standard.

Example 33  Achmed: Eating dogs is bad.

Analysis  This is a prescriptive claim, since it carries with it the assertion that we should not eat dogs.

Zoe agreed with Achmed when he said this to her, but did she really know what standard Achmed had in mind? Perhaps he’s a vegetarian and believes:

You should treat all animals humanely, and butchering animals is inhumane.

Or Achmed might believe just:

Dogs taste bad and you shouldn’t eat anything that tastes bad.

Or perhaps Achmed believes:

We should not eat anything forbidden by the standard interpretation of the Koran, and it is forbidden to eat carnivores.

Or Achmed might just believe what almost all Americans believe:

Dogs should be treated as companions to people and not as food.

Until Zoe knows what Achmed means by “bad,” she has no reason to view what he’s said as a claim.

Example 34  Harry: The Federal Reserve Board ought to lower interest rates.

Analysis  This is a prescriptive claim. Zoe’s mother disagrees with Harry, since she wants to see her savings account earn more interest. Harry says the standard he’s assuming is “The Federal Reserve Board should help the economy grow,” which is what he and Zoe’s mom should debate.

Example 35  Zoe: That’s enough ice cream for you, Dick.

Dick: What do you mean? There’s no such thing as too much ice cream.

Analysis  Zoe is making a prescriptive claim: when she says “That’s enough” she means that Dick should stop eating. Dick challenges her unstated standard.

Example 36  It’s wrong to kill people.

Analysis  This is a prescriptive claim. It’s usually taken as a standard rather than assuming another standard.

People who believe that all prescriptive claims are subjective are called relativists. They think that all standards—for beauty, morality, and every other value—are relative to what some person or group of people believe. Most people, though, believe that at least some prescriptive claims are objective, such as “You shouldn’t torture dogs.”
Often when you challenge someone to make their standard explicit, they’ll say, “I just mean it’s wrong (right) to me.” Yet when you press them, it turns out they’re not so happy that you disagree. What they really mean is “I have a right to believe that.” Of course they do. But do they have a good reason to believe the claim? It’s rare that people intend their moral views to be taken as subjective.

*I’ve got a right to believe this.* ≠ *I have a good reason to believe this.*

**Example 37**  
[The author cites various conflicting standards on which to base economic policy.] The problem with all these criteria is that the choice among them seems entirely arbitrary. . . . I suspect though that the choice of a normative [prescriptive] criterion is ultimately a matter of taste.  

Stephen Landsburg, *The Armchair Economist*  

**Analysis**  
This author seems to be a relativist. But he might just be committing the subjectivist fallacy, mistaking lack of agreement for subjectivity.

**Example 38**  
Almost all economists believe that rent control adversely affects the availability and quality of housing and is a very costly way of helping the most needy members of society. Nonetheless, many city governments choose to ignore the advice of economists and place ceilings on the rents that landlords may charge their tenants.  

Gregory Mankiw, *Principles of Economics*  

**Analysis**  
That “nonetheless” slips in a value judgment that city governments shouldn’t adopt a policy that adversely affects availability and quality of housing and is a costly way of helping the most needy members of society. You may agree, but you need to be aware that in doing so you’re accepting a prescriptive standard.

**Exercises for Section C**

1. What is a prescriptive claim? A descriptive claim?

For each of the exercise below explain why you understand it as prescriptive or descriptive, providing a standard to make it clear enough to be a claim if necessary, filling in the following:

<table>
<thead>
<tr>
<th>Prescriptive or descriptive?</th>
<th>Standard needed?</th>
</tr>
</thead>
</table>

2. Dissecting monkeys without anesthetic is cruel and immoral.

3. Dissecting monkeys without anesthetic is prohibited by the National Science Foundation funding guidelines.

4. Larry shouldn’t marry his sister.

5. Employees must wash hands before returning to work.

6. Downloading a pirated copy of this textbook is wrong.

7. It’s better to conserve energy than to heat a room above 68\(^{\circ}\).

8. Risking a prison term is the wrong thing for a father to do.
9. It’s about time that the government stop bailing out the bankers.
10. Dick and Zoe have a dog named “Spot.”
11. It’s wrong to tax the rich at the same rate as the poor.
12. This school should require students to take critical thinking their first year so that they can improve their comprehension in all their other courses.
13. Dogs are good and cats are bad.

D. Definitions

We’ve seen that we can get into problems, waste our time, and generally irritate each other through misunderstandings. It’s always reasonable and usually wise to ask people we are reasoning with to be clear enough that we can agree on what it is we are discussing.

Two general methods of making clear what we say are:
1. Replace the entire sentence by another that is not vague or ambiguous.
2. Use a definition to make a specific word or phrase precise.

**Definition** A definition explains or stipulates how to use a word or phrase.

“Dog” means “domestic canine.”

Puce is the color of a flea, purple-brown or brownish-purple.

“Puerile” means boyish or childish, immature, trivial.

There are several ways we can make a definition. One way, as with the definition of “dog,” is to give a synonym, a word or phrase that means the same and that could be substituted for “dog” wherever that’s used.

Another way is to describe: A lorgnette is a kind of eyeglass that is held in the hand, usually with a long handle.

Or we can explain, as when we say a loophole is a means of escaping or evading something unpleasant.
Or we can point:

![Image](image_url)

Even though pointing isn’t part of language, it serves to make our language clear.

\[
\text{A definition is not a claim. A definition is not true or false but good or bad, apt or wrong. Definitions tell us what we’re talking about.}
\]

People often use an apparent definition to hide a claim that should be debated. For example, if someone defines “abortion” as “the murder of unborn children,” she’s made it impossible to have a reasoned discussion about whether abortion is murder and whether a fetus is a person. A **persuasive or self-serving definition** is a claim that should be argued for, masquerading as a definition.

If you call a tail a leg, how many legs has a dog? Five?
No, calling a tail a leg don’t make it a leg.

—attributed to Abraham Lincoln

**Examples**  Which of the following are definitions? Persuasive definitions?

**Example 39** A dog is mammals.

*Analysis*  This is not a definition. We can’t use “mammal” in place of “dog” in our reasoning. It doesn’t tell us how to use the word “dog”; it tells us something about dogs. Not every sentence with “is” in it is a definition.

**Example 40** “Exogenous” means “developing from without.”

*Analysis*  This is a definition, not a claim. It’s an explanation of how to use the word “exogenous.”

**Example 41** Getting good marks in school means that you are intelligent.

*Analysis*  Getting good marks in school is not what “intelligent” means. Here “means” is used as in “If you get good marks in school, then you’re intelligent.”

**Example 42** Fasting and very low calorie diets (diets below 500 calories) cause a loss of nitrogen and potassium in the body, a loss which is believed to trigger a mechanism in the body that causes us to hold on to our fat stores and to turn to muscle protein for energy instead.

*Jane Fonda’s New Workout and Weight Loss Program*
Analysis  Definitions aren’t always labeled but are often made in passing, as with this definition of “very low calorie diet.”

Example 43  Meyer Friedman and Ray Rosenman . . . identified a cluster of behavioral characteristics—constant hurriedness, free-floating hostility, and intense competitiveness—that seemed to be present in most of their patients with coronary disease. They coined the term Type A to describe this behavior pattern; Type B describes people who do not display these qualities.  Daniel Goleman and Joel Gurin, Mind Body Medicine

Analysis  Here the definitions are embedded in a text, too. But these definitions are too vague unless some standards are given for what is meant by “constant hurriedness,” “free-floating hostility,” and “intense competitiveness” (none were given in the text). How could you determine whether someone you know is Type A or Type B from this definition? A good definition must use words that are clearer and better understood than the word being defined.

Example 44  —Maria’s so rich, she can afford to pay for your dinner.
—What do you mean by “rich”?
—She’s got a Mercedes.

Analysis  This is not a definition, since by “rich” we don’t mean “has a Mercedes.” There are lots of people who are rich who don’t have a Mercedes, and some people who own a Mercedes aren’t rich. This is an argument: “Maria has a Mercedes” is given as evidence that Maria is rich; “means” is used in the sense of “therefore.”

I just tried to convince you that “has a Mercedes” is not a good definition of “rich.” How? I pointed out that someone could own a Mercedes and not be rich, or be rich and not own a Mercedes.

Example 45  Microscope: an instrument consisting essentially of a lens or combination of lenses, for making very small objects, as microorganisms, look larger so that they can be seen and studied.  Webster’s New World Dictionary

Analysis  This is from a dictionary, so it’s got to be a good definition. But if you’re trying to convince someone that what she sees through a microscope is actually there—that it’s not in the lens or inside the microscope like a kaleidoscope—then this definition won’t do. “See, there really are microorganisms. After all, it’s part of the definition of a microscope that it’s just enlarging what’s there.” What counts as a persuasive definition can depend on the context.

Example 46  Pluto is not a planet.

Analysis  There was a lot of heated debate about this in 2006 when astronomers re-classified Pluto using a new and what they considered better definition of “planet.” But really the only issue was whether that was a better or worse definition.

Example 47  According to the U.S. Supreme Court, to be obscene, material must meet a three-prong test:
(1) an average person, applying contemporary community standards, must find that the material, as a whole, appeals to the prurient interest (i.e., material having a tendency to excite lustful thoughts); (2) the material must depict or describe, in a patently offensive way, sexual conduct specifically defined by applicable law; and (3) the material, taken as a whole, must lack serious literary, artistic, political, or scientific value. From the FCC.gov website

**Analysis** This is the definition the Federal Communications Commission uses to determine whether speech broadcast on public airwaves is obscene—in which case it is not protected by the First Amendment and may be punishable by multi-million dollar fines. However, saying some expression is unserious, patently offensive, and prurient to a hypothetical “average person” is not any clearer than saying it’s “obscene.”

> After inviting us in, Bee told us that SuicideGirls isn’t actually porn, just women posing naked, sometimes together. I felt incredibly lucky to have moved to a city where women posing naked together isn’t pornography.  
> Joel Stein, Los Angeles Times, 6/26/2005

**Example 48** Intuition is perception via the unconscious. Carl G. Jung

**Analysis** This is a definition, but a bad one. The words doing the defining are no clearer than what’s being defined.

**Example 49** Dogs are domesticated canines that obey humans.

**Analysis** This is a bad definition because it’s too narrow: it doesn’t cover cases it should, like feral dogs.

**Example 50** A car is a vehicle with a motor that can carry people.

**Analysis** This is a bad definition because it’s too broad: it covers cases that it shouldn’t, like a golf cart. So we can’t use the words doing the defining in place of the word being defined.

**Good definition** A good definition satisfies both:

- The words doing the defining are clear and better understood than the word or phrase being defined.
- The words being defined and the defining phrase can be used interchangeably. That is, it’s correct to use the one exactly when it’s correct to use the other.

The key to making a good definition is to look for examples where the definition does or does not apply, in order to make sure that it is not too broad or too narrow. For example, suppose we want to define “school cafeteria.” That’s
something a lawmaker might need in order to write a law to disburse funds for a food program. As a first go, we might try “A place in a school where students eat.” But that’s too broad, since that would include just a room where students can take their meals. So we might try “A place in a school where students can buy a meal.” But that’s too broad, too, since that would include a room where you could buy a sandwich from a vending machine. How about “A room in a school where students can buy a hot meal that is served on a tray”? But if there’s a fast-food restaurant like Burger King at the school, that would qualify. So it looks like we need “A room in a school where students can buy a hot meal that is served on a tray, and the school is responsible for the preparation and selling of the food.” This looks better, though if adopted as a definition in a law, it might keep schools that want money from the legislature from contracting out the preparation of their food. Whether that’s too narrow will depend on how the lawmakers intend the money to be spent.

Steps in making a good definition

• Show the need for a definition.
• State the definition.
• Make sure the words make sense.
• Give examples where the definition applies.
• Give examples where the definition does not apply.
• If necessary, contrast it with other likely definitions.
• Possibly revise your definition.

Exercises for Section D

1. Classify each of the following as a definition, a persuasive definition, or neither. If it is a definition, state why you think it is good or bad.
   a. “Dog” means “a canine creature that brings love and warmth to a human family.”
   b. Domestic violence is any violent act by a spouse or lover directed against his or her partner within the confines of the home of both.
   c. A feminist is someone who thinks that women are better than men.
   d. A conservative, in politics, is one who believes that we should conserve the political structure and laws as they are as much as possible, avoiding change.
   e. A liberal is someone who wants to use your taxes to pay for what he thinks will do others the most good.
   f. Love is blind.
   g. Sexual intercourse is when a man and a woman couple sexually with the intent of producing offspring.
   h. Less-developed countries (LDCs) The economies of Asia, Africa, and Latin America. (From an economics textbook)
i. A killer whale has a sleek, streamlined, fusiform (tapered at both ends) body shape.

j. When a biological agent causes disease, it’s called a pathogen.

Paula Simmons and Carol Ekarius, *Storey’s Guide to Raising Sheep*

2. For each of the following, give both a definition and a persuasive definition:
   a. Homeless person.
   b. Spouse.
   c. School bus.

3. For each of the following, replace “believes in” with other words that mean the same:
   a. Zoe believes in free love.
   b. Dick believes in God.
   c. Zoe believes in the Constitution.
   d. Zoe believes in herself.

4. What is required of a good definition?

5. Why should we avoid persuasive definitions?

6. Bring in an example of a definition used in one of your other courses. Is it good?

7. Sometimes we can make an apparently subjective claim objective by making a definition. For example, “Harry is intelligent” can be objective if we define “intelligent” to mean “has a B average or better in university courses.” Give definitions that make the following subjective claims objective.
   a. It’s hot outside.
   b. Eating a lot of fat every day is unhealthy.

8. In the following passages pick out any word or term that is being defined and state the definition explicitly.
   a. Recent data confirms that more than 9 out of 10 Americans want to know where their food comes from, with nearly 80% saying they are purchasing locally produced products. The majority of this group defines local as grown in America.
      *The Culinarian*, July 2009
   
   b. Yeasts and fungi don’t often cause problems for shepherds, though they can cause some skin problems, respiratory infections, and mastitis (that is, an infection in the ewe’s udder). Yeast and fungi infections often follow extensive use of antibiotics.
      Paula Simmons and Carol Ekarius, *Storey’s Guide to Raising Sheep*
   
   c. What was the specific content of the liberal-bourgeois and anti-imperialist reforms which the zapatistas sought? Before answering this question it would be well to clarify that the characteristic features of “liberal-bourgeois” or “bourgeois-democratic” thought are emphasis upon a wide distribution of property ownership, upon representative government with separation of powers, and upon individual guarantees; a liberal or bourgeois democracy is a democracy of small property owners. Imperialism, as used here, refers to the policy or practice of imposing one nation’s or people’s economic or political control upon another nation or people.
      Robert P. Millon, *Zapata: The ideology or a peasant revolutionary*
9. Verify whether the presentation of the definition of “claim” in Chapter 1 follows the steps in making a good definition.

10. Find the definition of “Hispanic” from the U.S. Census Bureau. Compare it to the definition of “Latino.”

**Summary**  In Chapter 1 we learned that arguments are attempts to convince using claims. So we need to be able to distinguish different kinds of claims and be aware of sentences that look like claims but aren’t.

A sentence is vague if it’s unclear what the speaker intended. We can learn to recognize when a sentence is too vague to use in our reasoning. It’s a bad argument, though, to say that just because we can’t draw a precise line, there’s never any clear meaning to a word. An ambiguous sentence is vague in a bad way, for it has two or more clear interpretations. Ambiguous sentences should never be taken as claims.

Often the problem with a vague sentence is to determine what standards are being assumed. They could be objective—indeed independent of what anyone or anything thinks/believes/feels; or they could be subjective; or there might not be any standard at all. A sentence that’s too vague to be an objective claim might be all right as a subjective claim.

Considering whether a claim is objective or subjective can save us a lot of heartache: We won’t debate someone else’s feelings. Confusing subjective and objective claims leads to bad arguments.

Often we make prescriptive claims about what should be, not just what is. Moral claims usually are meant as prescriptive and objective, though often people retreat to say they’re subjective when they can’t defend their views.

We need to eliminate ambiguity and excessive vagueness if we are to reason together. We can do so by rewriting our arguments or speaking more precisely. Or we can define the words that are causing the problem. A definition isn’t a claim, though; it’s something added to an argument to clarify. Definitions shouldn’t prejudge the issue by being self-serving.

**Key Words**  vague sentence  prescriptive claim
drawing the line fallacy  descriptive claim
ambiguous sentence  value judgment
objective claim  definition
subjective claim  persuasive (self-serving) definition
intersubjective claim  good definition
subjectivist fallacy  confusing objective with subjective
Exercises for Chapter 2

Here are a few of Tom’s attempts to do exercises that use the ideas we’ve learned in this chapter, along with Dr. E’s comments. Tom’s supposed to underline the terms that apply.

<table>
<thead>
<tr>
<th>Dogs bark.</th>
<th>claim</th>
<th>subjective</th>
<th>ambiguous or too vague</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not claim</td>
<td>objective</td>
<td>definition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>persuasive definition</td>
<td></td>
</tr>
<tr>
<td>Yes, it’s a claim. But if it’s a claim, then it has to be either objective or subjective.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cats are nasty.</th>
<th>claim</th>
<th>subjective</th>
<th>ambiguous or too vague</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not claim</td>
<td>objective</td>
<td>definition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>persuasive definition</td>
<td></td>
</tr>
<tr>
<td>No— if it’s ambiguous or too vague, then it’s not a claim. This is an example of a subjective claim.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rabbits are the principal source of protein for dogs in the wild.</th>
<th>claim</th>
<th>subjective</th>
<th>ambiguous or too vague</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not claim</td>
<td>objective</td>
<td>definition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>persuasive definition</td>
<td></td>
</tr>
<tr>
<td>No— if it’s a definition, it’s not a claim. And this is not a definition—what word is it defining? Certainly not “rabbit.”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dogs are canines that bring warmth and love to a family.</th>
<th>claim</th>
<th>subjective</th>
<th>ambiguous or too vague</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not claim</td>
<td>objective</td>
<td>definition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>persuasive definition</td>
<td></td>
</tr>
<tr>
<td>No. If it’s a persuasive definition, then it’s a claim—just masquerading as a definition.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. State which of the following can together apply to a single sentence.

| claim | subjective | ambiguous or too vague | not claim | objective | definition | persuasive definition |

For each of the following, indicate which of the terms from Exercise 1 apply. If you think your instructor might disagree, provide an explanation.

2. Donkeys can breed with other equines.

3. The manifest content of a dream is what a dream appears to be about to the dreamer.

4. A grade of A in this course means you know how to parrot what the professor said.

5. Public Health Is the Greatest Good for the Most Numbers
   (on the logo of the New Mexico Department of Health)

6. Too much TV is bad for children.

7. China has the largest land mass of any single country.

8. I’ve already heard the new album by Britney Spears.

9. There are five countries in North America.
10. I’m going to throw up.

11. “We [the United States] are the leader of the free world.”

12. Science, when well digested, is nothing but good sense and reason.

13. Remember loved ones lost through Christmas concert.
    Headline, The Spectrum, December 4, 1998

14. If America shows uncertainty and weakness in this decade, the world will drift
toward tragedy.

15. Buying low cost property and renting it out is a great way to create wealth and constant
    cash flow. (from an extension course description)

16. I can’t take it anymore!

17. That test was easy. (Tom to Suzy after Dr. E’s last critical thinking exam)

There are two English words for which there are no rhymes: “orange” and “month.”
If we make it part of the definition of “rhymes” that “orange” rhymes with “month,”
then there will be no words in English that do not have a rhyme.

Further Study  Much of philosophy is concerned with attempts to give criteria that
will turn apparently subjective claims into objective ones. A course on ethics will
study whether claims about what’s wrong or right can be made objective. A course
on aesthetics will analyze whether all claims about what is beautiful are subjective.
And a course on the philosophy of law or criminal justice will introduce the methods
the law uses to give objective criteria for determining what is right or wrong.

Some people believe that all there is to a claim being objective is that it is
believed by enough people. That is, objectivity is just intersubjectivity. Philosophy
courses deal with that debate.

Courses in nursing discuss how to deal with subjective claims by patients and
vague instructions by doctors.

For a fuller discussion of prescriptive claims and how to reason with them see
my book Prescriptive Reasoning, also published by ARF.

Some courses in English composition or rhetoric deal with definitions,
particularly the correct forms and uses of definitions. Courses on the philosophy of
language or linguistics study the nature of definitions, ways in which definitions can
be made, and misuses of definitions. Ambiguity and vagueness are also covered in
English composition and rhetoric courses.

Be sure to see the free download Legal Reasoning Supplement at
<www.ARFbooks.org> for more examples and exercises on definitions.
We know that before we begin deliberating we should make the issue precise enough that someone can agree or disagree.

Make the following sentence sufficiently precise that you could debate it:

*Student athletes should be given special leniency when the instructor assigns course marks.*

Your definition or explanation should be at most one page long. (At most one page, not at least or exactly one page.)

To give you a better idea of what you’re expected to do, here is the homework on another topic from Tom and Mary Ellen, along with Dr. E’s comments.

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**Tom Wyzyczy**  
Critical Thinking  
Section 4  
Writing Lesson 2

“All unnatural sex acts should be prohibited by law.”

Before we can debate this we have to say what it means. I think that “unnatural sex act” should mean any kind of sexual activity that most people think is unnatural. And “prohibited by law” should mean there’s a law against it.

You’ve got the idea, but your answer is really no improvement. You can delete the first sentence. And you can delete “I think,” We can guess that, because you wrote the paper.

Your proposed definition of “unnatural sex act” is too vague. It’s reminiscent of the standard the U.S. Supreme Court uses to define obscenity: prevailing community standards. In particular, what do you mean by “sexual activity”? Does staring at a woman’s breasts count? And who are “people”? The people in your church? Your neighborhood? Your city? Your state? Your country? The world? Of course, “prohibited by law” means there’s a law against it. But what kind of law? A fine? A prison sentence? A penalty depending on severity of the offense? How do you determine the severity?
“All unnatural sex acts should be prohibited by law.”

By “unnatural sex act” I shall mean any sexual activity involving genitals, consensual or not, except between a man and a woman who are both over sixteen and in a way that could lead to procreation if they wanted it to and which is unobserved by others.

By “prohibited by law” I shall mean it would be a misdemeanor comparable to getting a traffic ticket.

I don’t really think that everything else is unnatural, but I couldn’t figure out any other way to make it precise. Is that what we’re supposed to do?

Mary Ellen

You did just fine. Really, the burden to make it precise would be on the person suggesting that the sentence be taken as a claim. Most attempts are going to seem like a persuasive definition. But at least you now have a claim you could debate. If the other person thinks it’s the wrong definition, that would be a good place to begin your discussions.
A. Good Reason to Believe

What makes an argument good? We don’t want to say a good argument is one that actually convinces someone. Who’s being convinced? Me? You? Maybe you’re in a bad mood and nothing would convince you, or your friend is drunk and you can’t convince her. Does that mean the argument is bad?

No, a good argument is one in which the premises give good reason to believe the conclusion is true. But what is “good reason”?

Certainly if we don’t have good reason to believe the premises, the premises won’t give us good reason to believe the conclusion. After all, from a false premise we can prove anything at all. For example:

All books are written by women.
So the author of this book is a woman. *False premise, false conclusion*

All books are written by women.
All women are human beings.
So the author of this book is a human being. *False premise, true conclusion*

**Plausible claims** A claim is plausible if we have good reason to believe it is true. It is less plausible the less reason we have to believe it is true. It is *implausible* or *dubious* if we have no good reason to believe it.

*An argument is no better than its least plausible premise.*
In the next chapter we’ll look at what counts as good reason to accept a premise. But it’s not just that the premises have to be plausible. They need to be more plausible than the conclusion, for otherwise we’d have no more reason to believe the conclusion than we had before we heard the argument.

**Example 1** Suzy: Dr. E is mean.  
Wanda: Why do you say that?  
Suzy: Because he’s not nice.  

*Analysis* “He’s not nice” isn’t more plausible than “Dr. E is mean.” So Suzy’s not given good reason for Wanda to believe that Dr. E is mean.

**Example 2** Dogs have souls. So you should treat dogs humanely.  
*Analysis* Even if you agree that the premise is plausible, it’s less plausible than the conclusion, so it does not give us good reason to believe the conclusion.

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**Begging the question** An argument begs the question if one of its premises is no more plausible than the conclusion.  

An argument that begs the question is bad.

**B. The Conclusion Follows From the Premises**

Dr. E teaches critical thinking.  
Dr. E is over six feet tall.  
So Dr. E is bald.  

The conclusion doesn’t follow from the premises here—there’s no connection. For the premises to give us good reason to believe the conclusion they have to lead to, support, or somehow establish the conclusion.

**Example 3** Every student at this school has paid tuition. Suzy is a student at this school. So Suzy has paid tuition.  
*Analysis* It’s impossible for the premises to be true and the conclusion false. We don’t need to know whether the premises are actually true to see that. So if we have good reason to believe the premises, we have good reason to believe the conclusion.

---

**Valid argument** An argument is valid if there is no possible way for its premises to be true and its conclusion false (at the same time). An argument that is not valid is called invalid.

**Example 4** Every elected official in the United States is under thirty-four years old. So the President of the United States is under thirty-four years old.
Analysis This argument is valid: there’s no way the premise could be true and conclusion false at the same time. Were the premise true—say if tomorrow the laws were changed and enforced to prohibit people older than thirty-four from holding elective office—then it would be impossible for the president to be older than thirty-four. But the argument is bad. It has a false conclusion, and that’s because the premise is false.

Valid ≠ Good

So some valid arguments are bad. But is every good argument valid? Does the idea of validity fully capture what we want “follows from” to mean?

Example 5 Dick heard this morning that there are parakeets for sale down at the mall. He knows that his neighbor has a birdcage in her garage, and he wonders if it will be big enough for one of those parakeets. He makes the following argument:

All parakeets anyone I know has ever seen, or heard, or read about are under 2 feet tall.

Therefore, the parakeets on sale at the mall are under 2 feet tall.

Analysis Surveying all the ways the premise could be true, Dick thinks that, yes, a new supergrow bird food could have been formulated and the parakeets at the local mall are really 3 feet tall, he just hasn’t heard about it. Or a rare giant parakeet from the Amazon forest could have been discovered and brought here. Or a UFO might have abducted a parakeet by mistake, hit it with growing rays, and it’s now gigantic.

All of these ways that the premise could be true and the conclusion false are so very unlikely that Dick would have very good reason to believe the conclusion, even though it’s still possible that the conclusion is false. The conclusion does follow from the premises, though the argument isn’t valid, and the argument is good.

Strong and weak arguments An argument is strong if there is some way, some possibility, for its premises to be true and its conclusion false (at the same time), but every such possibility is extremely unlikely.

An argument is weak if its possible and not unlikely for its premises to be true and conclusion false (at the same time)

Example 6 Dick is a student. So Dick doesn’t drive a motorcycle.

Analysis We don’t know much about Dick, but we do know that it’s not unlikely he could own a motorcycle—lots of students do, and even if he doesn’t, he could have borrowed one last week to use this semester. The argument is weak: the conclusion doesn’t follow from the premises. This is a bad argument.

Every weak argument is bad.

Valid and strong arguments are the ones in which the conclusion follows.
The conclusion follows from the premises means that the argument is valid or strong.

An argument is either valid or it isn’t; there are no degrees to it, no judgment involved. But evaluating the strength of an argument does involve judgment, for it depends on how likely certain possibilities appear. The strength of an argument is a matter of degree, and we classify invalid arguments on a scale from strong to weak.

To evaluate an argument, you have to imagine possible ways the premises could be true. You have to be creative. Imagine the possibilities. Here are some basic points you need to remember.
C. The Tests for an Argument to Be Good

We have three tests for an argument to be good.

<table>
<thead>
<tr>
<th>Tests for an argument to be good</th>
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<tr>
<td>• The premises are plausible.</td>
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<tr>
<td>• The premises are more plausible than the conclusion.</td>
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<tr>
<td>• The argument is valid or strong.</td>
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Each of these tests is independent of the others: Each can fail while the other two hold. So in evaluating whether an argument is good, we can start with whichever of them is easiest to determine.

But why should we be interested in whether the argument is valid or strong if we don’t know whether the premises are true? Compare that to applying for a home loan. A couple goes in and fills out all the forms. The loan officer looks at their answers. She might tell them right then that they don’t qualify. That is, even though she doesn’t know if the claims they made about their income and assets are true, she can see that even if they are true, they won’t qualify for a loan. So why bother to investigate whether what they said is true? On the other hand, she could tell them that they’ll qualify if those claims are true. Then she goes out and makes phone calls, checks credit references, and so on, and finds out if they were telling the truth.
With an argument that is valid or strong you can say about the premises: Grant me this and the conclusion follows. Good reasoning is concerned with what follows from what, as well as with what is true.

Evaluating whether an argument passes these tests requires skills, which is what this course is meant to teach you. But evaluating whether an argument is good also depends on your knowledge, for as you know more you become better at evaluating whether premises are plausible and whether possibilities are likely.

Examples Are the following arguments valid? If not valid, where on the scale from strong to weak does the example lie? If the argument is valid or strong, is it a good argument?

Example 7 All dogs bark. Ralph is a dog. Therefore, Ralph barks.
Analysis This is a valid argument: there’s no way for the premises to be true and conclusion false at the same time. But the argument is bad because the first premise is false: Basenjis can’t bark, and some dogs have had their vocal cords cut. Whether an argument is valid or strong depends on the relation between the premises and conclusion, not on whether the premises happen to be true.

Example 8 Dr. E is a philosophy professor. All philosophy professors are bald. So Dr. E is bald.
Analysis The argument is valid: There is no possible way the premises could be true and the conclusion false at the same time. The conclusion is true, too. But it’s a bad argument, because the second premise is false. We have no more reason to believe the conclusion than we did before we heard the argument.

Example 9 Maria (to her supervisor): I was told that I would earn a bonus if I put in 100 hours of overtime and had a perfect attendance record for two months. I have since put in 110 hours of overtime and have a perfect attendance record for the last ten weeks. So I’m entitled to a bonus.
Analysis This is a valid argument. It’s not possible for the premises to be true and the conclusion false. But we don’t know if the argument is good because we don’t know if the premises are true.

Example 10 Student athletes should not be given special leniency in assigning their course marks, because that wouldn’t be treating all students equally.
Analysis This is how Maria answered her first writing lesson. But what does “treating all students equally” mean? It means “treat everyone the same way.” So her argument is: You shouldn’t treat athletes differently, because you should treat everyone the same way. The premise may be true, but it’s just a restatement of the conclusion. The argument begs the question, so it’s bad.
**Example 11**  Good teachers give fair exams, and Dr. E gives fair exams.  
So Dr. E is a good teacher.  

*Analysis*  The premises of the argument are true. And the conclusion is true, too.  
But is it a good argument? Is there a way in which the premises could be true and the conclusion false? Yes: Dr. E might bore his students to tears and just copy fair exams from the instructor’s manual of the textbook. After all, the premise doesn’t say that *only* good teachers give fair exams. The argument is weak and hence bad.

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**Example 12**  Maria’s hair is naturally black. Today Maria’s hair is red. So Maria dyed her hair.  

*Analysis*  Could the premises be true and the conclusion false? Perhaps: Maria might be taking a new medication that has a strong effect, or she might have gotten too close to the machinery when they were painting her car, or . . . . These are all extremely unlikely, but still possible. So the argument is strong, not valid. Since we know that Maria’s hair is naturally black, it’s a good argument.

**Example 13**  Harry: Every time I can remember eating eggs the last couple of weeks I’ve broken out in a rash. It couldn’t be the butter or oil they’re fried in, ’cause I remember it happening when I had hard-boiled eggs, too. I must have developed an allergy to eggs.  

*Analysis*  This is a strong argument, and we can trust that Harry isn’t lying. So it’s a good argument. But it’s not valid: there could be a strange new virus that Harry caught whose only symptom is that it makes him sick when he eats eggs. In a week or two he might be fine.

**Example 14**  John: Lula just walked in from outside, and she’s dusted with snow.  
    Roderigo: Gee, so it must be snowing outside.  

*Analysis*  If John, Lula, and Roderigo are in Philadelphia in January, this is a strong argument, though not valid. If they live in Los Angeles and it’s July, it’s a weak argument. Arguments are either valid or invalid regardless of the situation, but how strong an argument is depends on the context.

**Example 15**  Prosecuting attorney: The defendant intended to kill Louise. He bought a gun three days before he shot her. He practiced shooting at a target that had her name written across it. He staked out her home for two nights. He shot her twice.  

*Analysis*  The argument is strong. If there’s good reason to believe the premises, then the argument is good and establishes beyond a reasonable doubt “The defendant
intended to kill Louise.” But it’s not valid: We don’t know the defendant’s thoughts, and the conclusion might be false.

Example 16

Analysis: The defendant may be telling the truth. All he says may be true, yet the argument is weak, and hence bad. What he says shouldn’t create reasonable doubt.

Example 17

Tom: You didn’t have eggs in the house this morning, did you?
Dick: No. Why?
Tom: Well, you’ve got some in the refrigerator now.
Dick: Zoe must have bought eggs, since she knew we were out.

Analysis: This isn’t valid. Zoe’s mom could have brought over the eggs; when they were out, the landlord might have brought them over; a guest who was staying with them might have bought them; . . . . There are so many likely possibilities for the premises to be true and the conclusion false that the argument is weak.

Example 18

Tom: You didn’t have eggs in the house this morning, did you?
Dick: No. Why?
Tom: Well, you’ve got some in the refrigerator now.
Dick: Zoe must have bought eggs, since she knew we were out.
Tom: Are you sure?
Dick: Sure. No one else has a key to the apartment. And Zoe didn’t plan to have any guests over today.

Analysis: This argument is stronger than the last one, because some of the possible ways the premises could be true and the conclusion false have been ruled out. But it’s still not very strong.

Example 19

Tom: You didn’t have eggs in the house this morning, did you?
Dick: No. Why?
Tom: Well, you’ve got some in the refrigerator now.
Dick: Zoe must have bought eggs, since she knew we were out.
Tom: Are you sure?
Dick: Sure. No one else has a key to the apartment. And we never let anyone else in.
Tom: But didn’t your neighbor Mrs. Zzyzzx say she had some eggs from her cousins’ farm?

Dick: Yes, but Zoe said we should only bring food into the house that we’d purchased ourselves at the health-food store. And she always keeps her word.

**Analysis**  This argument is a lot stronger because so many of the ways in which the premises could be true and the conclusion false have been ruled out. Still, it’s not valid: The landlord could have gotten a locksmith to open the door, and then before he went out put eggs in the refrigerator; or a burglar could have broken in and left some eggs behind; or Zoe could have bought a chicken and left it in the refrigerator and it laid eggs there; or . . . . These are possible ways that the premises could be true and the conclusion false, but they are all so unlikely that the argument is strong. And since we can trust Dick’s word, it is good. So Tom and Dick have good reason to believe that Zoe bought the eggs.

Though we can’t say exactly where Example 18 lies on the scale from strong to weak, we can say that Example 17 is weak, and Example 19 is strong. But if we can’t say exactly how strong an argument is, isn’t the whole business of classifying arguments worthless? That would be a drawing the line fallacy. There may be some fuzziness in the middle, but we can distinguish strong arguments from weak ones.

We’ve seen good arguments and we’ve seen bad arguments. A good argument gives us good reason to believe the conclusion. **A bad argument tells us nothing about whether the conclusion is true or false.** If we encounter a bad argument, we have no more reason to believe or disbelieve the conclusion than we had before we heard it. **A bad argument does not show that the conclusion is false or even doubtful.**

**Exercises for Sections A–C**

1. What is an argument?
2. What does it mean to say an argument is valid?
3. What does it mean to say an argument is strong?

4. If an argument is valid or strong, does that mean it’s a good argument? Explain.

5. a. How can you show that an argument is not valid?
   b. How can you show that an argument is weak?

6. If an argument is valid and its premises are true, is its conclusion true, too? Explain.

7. If an argument is bad, what does that show about its conclusion?

8. If an argument is strong and its premises are true, is its conclusion true, too? Explain.

9. To be classified as good, an argument must pass three tests. What are they?

10. What does it mean to say the three tests for an argument to be good are independent?

11. a. Make up an example of an argument that is valid and good.
    b. Make up an example of an argument that is valid and bad.

12. a. Make up an example of an argument that is strong and good.
    b. Make up an example of an argument that is strong and bad.

13. Make up an example of an argument that is weak. Is it good?

14. Can we show that an argument is not valid by showing that its conclusion is false?
    Give an example or explanation.

15. To decide whether an argument is good, does it depend on whether it convinced anyone?

16. Can an argument be both valid and strong?

17. What do we call an argument with a clearly false premise?

For Exercises 18–23, select the claim that makes the argument valid. You’re not supposed to judge whether the claim is plausible, just whether it makes the argument valid. These examples may seem artificial, but we need simple practice on the definition of “validity.”

18. The dogs are drinking a lot of water today. It must be hot.
    a. Dogs always drink when they are hot.
    b. Every dog will drink when the weather is hot.
    c. Hot weather means dogs will drink.
    d. Only on hot days do dogs drink a lot of water.
    e. None of the above.

19. Every Yangakuchi monitor I’ve had either was defective and had to be returned, or else burned out in less than a year. So you’d be foolish to buy a Yangakuchi monitor.
    a. You should do what I tell you to do.
    b. Every Yangakuchi monitor will be defective or go bad.
    c. All monitors that are reliable are not Yangakuchi.
    d. None of the above.

20. Puff is a cat. So Puff meows.
    a. Anything that meows is a cat.
    b. Dogs don’t meow.
c. All cats meow.
d. Most cats meow.
e. None of the above.

21. Suzy is a cheerleader. So Suzy goes to all the football games.
   a. Cheerleaders get in free to the football games.
   b. Cheerleaders are expected to attend all football games.
   c. Suzy is dating Tom, who is the football captain.
   d. All cheerleaders attend all football games.
   e. None of the above.

22. If Spot gets into the garbage, Dick will hit him with a newspaper. So Dick will hit Spot.
   a. The garbage is a bad thing for Spot to get into.
   b. Whenever Spot gets into the garbage, Dick hits him.
   c. Whenever Dick hits Spot, Spot was in the garbage.
   d. Spot got into the garbage.
   e. None of the above.

23. The President is on every channel on television. So he must be making an important speech.
   a. Only Presidents make important speeches on television.
   b. When the President makes an important speech on television, he’s on every channel.
   c. When the President is on every channel on TV, he’s making an important speech.
   d. Presidents only make important speeches.
   e. None of the above.

D. **Strong vs. Valid Arguments**

Last week Lee told Maria:

> Every garbage can issued by this city that I’ve seen or anyone else I know has seen is blue. So all city-issued garbage cans in this city are blue.

This is a good strong argument. Compare it to a valid argument with the same conclusion:

> This city issues only blue garbage cans.

Therefore, all city-issued garbage cans in this city are blue.

This one begs the question.

> A strong argument with true premises is sometimes better than a valid one with the same conclusion.

Folks often indicate when they make an argument that they think that it’s valid or that it’s strong. For example:
Manuel says he visited Mexico.
He speaks Spanish and he described the towns he visited.
So Manuel really visited Mexico.

Manuel says he visited Mexico.
He speaks Spanish and he described the towns he visited.
So maybe Manuel visited Mexico.

These are the same argument: They have the same premises, and the conclusion of both is “Manuel visited Mexico.” The words “maybe” and “really” just tell us the speaker’s attitude toward the argument: “so really” instead of “so maybe” lets us know the speaker thinks the argument is valid or strong, but that doesn’t make the argument valid or strong. You can’t make an argument valid by calling it valid any more than Zoe can make Dick a pig by calling him a pig. These words are a comment on a claim, not part of the claim.

Whether an argument is valid or strong does not depend on:
• Whether the premises are true.
• Whether we know the premises are true.
• Whether the person making the argument thinks that the argument is valid or strong.

Summary  We said a good argument is one that gives good reason to believe that the conclusion is true. But we needed a standard for “good reason.”

We saw that if we have no good reason to believe the premises of an argument, or one of the premises is no more plausible than the conclusion, the argument is bad.

For a good argument the conclusion of the argument follows from the premises. We saw that meant that the argument is valid or strong: Either there’s no possible way for the premises to be true and the conclusion false, or only very unlikely ones.

In all, then, there are three tests an argument must pass to be good: There should be good reason to believe its premises; it must be valid or strong; the premises must be more plausible than its conclusion.

Depending on the conclusion we’re trying to prove and the evidence we have, we have to decide whether it’s best to make a valid argument or a strong argument.

Key Words   good argument  valid argument
plausible claim  strong argument
dubious (implausible) claim  weak argument
begging the question  tests for an argument to be good

Be sure to see the free download of Legal Reasoning Supplement at <www.ARFbooks.org> for more examples and exercises on the distinction between valid, strong, and weak arguments.
Exercises for Chapter 3

1. If an argument is bad, what does that tell us about the conclusion?

2. Consider the strong argument that Dick gave, which we saw above:

   All parakeets anyone I know has ever seen, or heard, or read about are under 2 feet tall.

   Therefore, the parakeets on sale at the mall are under 2 feet tall.

   Explain why this is better or worse than the valid argument:

   All parakeets are under 2 feet tall.

   Therefore, the parakeets on sale at the mall are under 2 feet tall.

3. If we want to give a good argument with a subjective claim as its conclusion, would it be better for it to be valid or strong? Explain.

4. To prove an objective claim, should we always give an argument that is valid? Explain or give an example.

5. Which subjects in your school would employ only valid arguments? Which would employ primarily strong arguments? Which would rely on a mix of the two?

Here are some of Tom’s answers to exercises that require all the ideas we’ve learned in this chapter. He’s supposed to fill in the italicized parts. Dr. E has corrected his work.

**Ralph is a dog. So Ralph barks.**

*Argument? (yes or no) Yes.*

*Conclusion:* Ralph barks.

*Premises:* Ralph is a dog.

*Classify:* valid strong ———— weak

*If not valid, show why:*

*Good argument? (Choose one)*

- It’s good (passes the three tests). ✓
- It’s bad because a premise is false.
- It’s bad because it’s weak.
- It’s bad because it begs the question.
- It’s valid or strong, but you don’t know if the premises are true, so you can’t say if it’s good or bad.

*No! This isn’t valid. Ralph might be a basenji (a kind of dog that doesn’t bark). But it’s strong, so it’s a good argument if the premise is true—which you don’t know for sure.*

**Whenever Spot barks, there’s a cat outside. Since he’s barking now, there must be a cat outside.**

*Argument? (yes or no) Yes.*

*Conclusion:* Whenever Spot barks, there’s a cat outside.

*Premises:* Spot’s barking now. There must be a cat outside.

*Classify:* valid strong ————X weak

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If not valid, show why: Maybe he’s barking at the garbageman outside.

Good argument? (Choose one)
- It’s good (passes the three tests).
- It’s bad because a premise is false.
- It’s bad because it’s weak. ✓
- It’s bad because it begs the question.
- It’s valid or strong, but you don’t know if the premises are true, so you can’t say if it’s good or bad.

No. The conclusion is “There is a cat outside.” Ask yourself where you could put “therefore” in the argument. Which claims are evidence for which others? The argument is valid but bad: The premise “Whenever Spot barks, there’s a cat outside” is implausible. As you point out, what about the garbageman? So it’s not good.

Alison is Kim’s sister, right? So Alison and Kim have the same mother and father.

Argument? (yes or no) Yes.
Conclusion: Alison and Kim have the same mother and father.
Premises: Alison is Kim’s sister.
Classify: valid strong ——— X— weak
If not valid, show why: They might be half sisters, or stepsisters, or adopted. It depends on what the speaker means by “sister.”

Good argument? (Choose one)
- It’s good (passes the three tests).
- It’s bad because a premise is false.
- It’s bad because it’s weak. ✓
- It’s bad because it begs the question.
- It’s valid or strong, but you don’t know if the premises are true, so you can’t say if it’s good or bad. Good work!

Bob has worked as a car mechanic for twenty years. Anyone who works that long at a job must enjoy it. So Bob enjoys being a car mechanic.

Argument? (yes or no) Yes.
Conclusion: Bob enjoys being a car mechanic.
Premises: Bob has worked as a car mechanic for twenty years. Anyone who works that long at a job enjoys it.
Classify: valid strong ——— X— weak
If not valid, show why: Bob might not be able to get any other job.

Good argument? (Choose one)
- It’s good (passes the three tests).
- It’s bad because a premise is false.
- It’s bad because it’s weak. ✓
- It’s bad because it begs the question.
- It’s valid or strong, but you don’t know if the premises are true, so you can’t say if it’s good or bad.

Wrong! The argument is valid. What you showed is that the second premise is false or at least very dubious. So the argument is bad, but not for the reason you gave.
For the exercises below answer the following questions:

*Argument?* (yes or no)
*Conclusion:
*Premises:
*Classify: valid strong weak
*If not valid, show why:
*Good argument?* (choose one)
  - It’s good (passes the three tests).
  - It’s bad because a premise is false.
  - It’s bad because it’s weak.
  - It’s bad because it begs the question.
  - It’s valid or strong, but you don’t know if the premises are true, so you can’t say if it’s good or bad.

6. Flo’s hair was long. Now it’s short. So Flo must have gotten a haircut.
8. All cats meow. Puff is a cat. So Puff meows.
9. All licensed drivers in California have taken a driver’s test. Lemuel has taken a driver’s test in California. So Lemuel is a licensed driver in California.
10. No dog meows. Puff meows. So Puff is not a dog.
11. Lee: I didn’t get mail today and neither did Manuel or Maria. So there must not have been any mail deliveries today.
15. What do you want to eat for dinner? Well, we had fish yesterday and pasta the other day. We haven’t eaten chicken for a while. How about some chicken with potatoes?
16. I got sick after eating at the school cafeteria this week. Me too. What happened? Runs and dizziness. You know, the same thing happened to me last week. Exactly the same for me. It must be the food at the school cafeteria that’s making us sick.
17. Maria: Almost all the professors I’ve met at this school are liberals.
   Manuel: So to get a teaching job here it must help to be a liberal.
18. Suzy: Every student who has ever taken a course from Professor Zzzyzzx has passed. So if I take his composition course, I’ll pass, too.

19. Dick missed almost every basket he shot in the game. He couldn’t run, he couldn’t jump. He should give up basketball.

Dick: He must have got out under the fence.
Zoe: No way he got out under the fence. There’s no sign of new digging.

Dick: He must have got out under the fence.
Zoe: No way he got out under the fence. There’s no sign of new digging. And we blocked all the old ways he used to get out under the fence.

22. Zoe: Spot got out of the yard somehow.
Dick: He must have got out under the fence.
Zoe: No way he got out under the fence. There’s no sign of new digging. And we blocked all the old ways he used to get out under the fence.
Dick: But he pulled down that chicken wire last week.
Zoe: (later) I checked—all the wire and rocks we put up are still there, and there’s no sign that the fence has been disturbed at the bottom.
Dick: I hope he hasn’t learned how to jump over the fence.

23. Some students don’t have enough money for college. Anyone who wants an education but can’t afford it should be given financial aid. So students should receive financial aid.

24. Tom: If Louie bought a new car, then he must have had more money than I thought.
Harry: Well, look, there’s the new hatchback he bought.
Tom: So Louie must have had more money than I thought.

25. Dick: Whenever the garbage gets picked up, the trash bins end up away from the curb.
Lee: The bins haven’t been moved away from curb. So the garbage hasn’t been picked up.

26. Suzy: Tom hasn’t called in a week. So he doesn’t want to see me anymore.

27. All cats shed fur. There’s fur on his couch. So a cat’s been on his couch.

28. There are 30 seconds left in the football game. The 49ers have 35 points. The Dolphins have 7 points. So the 49ers will win.
Writing Lesson 3

We’ve been learning how to analyze arguments. Now it’s time to try to write one.

You know what tests a good argument must pass. It must be composed of claims, and claims only. It shouldn’t contain any ambiguous or excessively vague sentences. It must be valid or strong. And the premises should be plausible, more plausible than the conclusion.

Write an argument in OUTLINE FORM either for or against the following:

Everyone should use a bicycle as his or her main form of transportation.

• Just list the premises and the conclusion. You can include definitions, too.
  Nothing more.
• Your argument should be at most one page long.
• Check whether your instructor has chosen a different topic for this assignment.

It doesn’t matter if you never thought about the subject or whether you think it’s terribly important. This is an exercise, a chance for you to sharpen your skills in writing arguments. It’s the process of writing an argument that should be your focus.

If you have trouble coming up with an argument, think how you would respond if you heard a friend say the claim. Make two lists: pro and con. Then write the strongest argument you can.

Don’t get carried away. You’re not expected to spin a one-page argument into three pages. You can’t use any of the literary devices that you’ve been taught are good fillers. List the premises and conclusion—that’s all. And remember, premises and conclusion don’t have those words “therefore” or “I think” or “because” attached. Once you can write an argument in outline form, you can worry about making your arguments sound pretty. It’s clarity we want first.

To give you a better idea of what you’re expected to do, I’ve included Tom’s argument on a different topic.
Issue: Students should be required to take a course on critical thinking.

Definition: I’ll understand the issue as “College students should be required to take a course on critical thinking before graduating.”

Premises:
1. A critical thinking course will help students to write better in their other courses.
2. A critical thinking course will help students to read assignments in all their other courses.
3. A critical thinking course will make students become better informed voters.
4. Most students who take a critical thinking course appreciate it.
5. Professors will be able to teach their subjects better if they can assume their students know how to reason.
6. Critical thinking is a basic skill and should be required, like Freshman Composition.

Conclusion: College students should be required to take a course on critical thinking before graduating.

Tom, it’s good that you began by making the issue precise. Even better is that you realized the definition wasn’t a premise. You’ve learned a lot from the last assignment.

Your argument is pretty good. You’ve used claims for your premises. Some of them are a bit vague. But only the fourth is so vague you should delete it or make it more precise. All of your premises support your conclusion. But the argument’s not strong as stated. You’re missing some glue, something to fill the gap. You’re piling up evidence, but to what end? To your third premise, I’d just say “SO?” We really don’t know what standard you have in mind for that “should.” And you never used in your argument that you’re talking about college students. Won’t your argument work just as well for high school? Is that what you want?

We’ll look at how to fill in what you’ve missed in the next chapter.
Cartoon Writing Lesson A

Here is a chance to reason as in your everyday life, drawing conclusions from what you see.

Imagine seeing the scene depicted in the cartoon. Do you believe the claim that accompanies the cartoon? Why? Or why not? How would you convince someone to agree with you who hasn’t witnessed the scene?

Here are the steps you can go through:

1. Write down what you see—nothing else.
   (Refer to the cast of characters at the front of the book.)
   We can assume that those claims are true.

2. Ask yourself whether it’s possible for everything you’ve listed to be true, yet the claim in question to be false.

3. If the answer is no, you’ve already got a valid argument for the claim in question. Since the premises are true, it’s also good.

4. If the answer is yes and such a possibility isn’t all that unlikely, you know that you can’t get a good argument for the claim in question. So just describe one or more such possibilities and say that no good argument can be made.

5. The last case is if each such possibility—where what you see is true but the claim in question is false—is very unlikely. Then look for a claim or claims that will rule out all or almost all such possibilities to get a valid or strong argument and add it. That’s the glue. But don’t make up a story; the claim(s) should be common knowledge, something we all know is true.

Steps (2)–(5) are exactly what’s pictured on p. 42 except here you can add the glue.

So for each cartoon write the best argument you can that has as its conclusion the claim that accompanies the cartoon. List only the premises and conclusion. If you believe there is no good argument, explain why by describing a likely way the conclusion could be false even if everything we see in the cartoon is true.

To give you a better idea of what to do, I’ve included on the next page an example of what Tom did with his homework.
The fellow stole the purse.

The guy is in the room and he spots a purse on the table.
He looks around pretty shiftily and thinks that he can get away with
taking the purse.
So he grabs it and goes.

This isn’t a course in creative writing! How do you know he thinks that he can get
away with it? That’s just making up a story. How do you know he grabbed it? You
didn’t see that. And what makes you say he looks around shiftily? You need to
distinguish what you see from what you deduce. If I didn’t have the cartoon in front
of me, I could never have imagined what you saw. You need to use the observation
that almost no time passed from the time he saw it to the time the purse was gone, and
that there was no one else around. Then you can conclude he took the purse.

Also, be sure to put in the conclusion. “So he grabs it and goes” is only a step along
the way. You need some glue to get from that to the conclusion “The fellow stole the
purse,” something like, “Almost anytime a guy looks around quickly and takes a purse,
he’s stealing it.” But that’s false: Maybe he just recognized that it belonged to his
girlfriend or his mother, and when he didn’t see her he decided to take it to her. It
looks like there is no good argument you can make for the conclusion.

This was your first try, and I’m sure that next time you’ll know better. Describe
what you saw, and try to get from that to the conclusion.
1. Spot chased a cat.

2. Professor Zzyzzx is cold.
3. Dick didn’t wash his hands properly.

4. Dick broke his leg skiing.
5. Flo isn’t really sick.

6. Dick should not drink the coffee.