

Chapter 5

Assumptions: What's Taken for Granted?



Wildt, Chris/CSL, CartoonStock Ltd

"Of course, we have to begin with certain assumptions.
Let's assume I'm right and you're wrong."

In this chapter, we take a fresh look at a familiar term, *assumption* in order to learn how deeply they affect our thinking. We will study types of assumptions, building on what we have already learned about observing, facts, and inferences. In short, we will continue to build the skills of critical thinking.

DISCOVERY EXERCISES

The following three exercises can be done with a partner or alone, depending on your instructor's directions.

Defining Assumption

Using at least two dictionaries, write your own definition of *assumption*.

The word **assume** comes from the Latin *assumere*—to take up. When we assume, we take up or accept something without sufficient proof of its truth or certainty. An assumption can be a false belief, inference or conclusion that affects our reasoning and causes us problems. Usually we are not aware of our assumptions when we make them.

Finding Assumptions in Stories

As you read the stories told in each of the following paragraphs, think how each depends on one or more false assumptions. In preparation for class discussion, write down the assumptions.

1. While driving around, a man noticed a sign on a lawn that said "Talking Dog for Sale." Curious, he stops, knocks on the door of the house and tells the owner he wants to see the dog. The owner takes him around to the backyard where a German shepherd is lying under a tree. The dog greets the man and starts telling him his story. "I am now retired, but I decided early that I wanted to serve my country. I easily got a government job as a spy since I could listen in on so many conversations without anyone suspecting. Many missions later I finally decided to settle down and have a family. So now here you have me." The man turned to the owner and asked, "How much do you want for this dog?" The owner said, "Ten dollars." "Why so little for a talking dog?" "Because he is a liar," the owner said. "He has never been out of the backyard." What assumption did the owner make?
2. In his struggles to receive backing for the voyage of his ships to the Far East by sailing west, Christopher Columbus once spent some hours trying to persuade a nobleman to lend his support. The nobleman maintained that he was trying to do the impossible, like making an egg stand on end. Then the nobleman called for an egg and handed it to Columbus, who was sitting across from him at a table. Taking up the challenge, Columbus tried wobbling the egg on one end and then the other, while the nobleman laughed in derision.

Then, picking up the egg, Columbus gently smashed its end on the table, allowing it to stand firmly in position, while its contents oozed out. What assumption about the problem did the nobleman make that Columbus did not?

3. In Oakland, California, a gang of teens—some as young as 13—were arrested in connection with sixty burglaries. All the teens were Asian Americans and the homes they robbed were all in Asian American neighborhoods. Two girls from the gang would knock at the doors. If someone came to the door, they would ask for someone who did not live there, then leave. If no one answered, the girls would signal to two boys, who would go around to the back of the house and break in. The police said, “They acted with impunity because they didn’t look out of place in the neighborhood. . . . At times they would wave at neighbors, who would wave back.” What assumptions are evident here?

Critical Thinking Hero: Will Allen

Born in 1949, Will Allen, the son of South Carolina sharecroppers, is a retired professional basketball player turned urban farmer with a remarkable mission: “to bring access to healthy safe affordable food to everyone regardless of economic means.” He is the founder of “Growing Power,” a unique facility located in a blighted section of Milwaukee that houses a teaching and distribution center, seven greenhouses, a kitchen, indoor and outdoor training gardens, an aquaculture system and food distribution facility. Here food is not only raised onsite, but also animals: worms, bees, goats, chickens, turkeys, and ducks. This is the place where city youth are trained in gardening skills, where food is raised to sell in local restaurants and small groceries. Will Allen was the first to tackle the problem of bringing fresh garden food to the urban poor long restricted to a diet of the fast food and convenience store fare available in their neighborhoods. Will Allen has received considerable recognition and support for his work including the MacArthur Genius award. You can learn more about him and the constantly expanding dimensions of his mission (including satellite training sites in five other states) by viewing the documentary film, *Fresh* as well as by visiting his website, <http://www.growingpower.org/index.htm>

Writing or Class Activity

1. List three or more assumptions that Will Allen exposed with the vision, design, and management of such an organization.
2. What critical thinking habits do his achievements exhibit?

Understanding Assumptions

Assumptions can be forgotten inferences.

Our study of inferences in Chapter 4 leads us naturally into assumptions. We use assumptions in our reasoning, like inferences, to help us bridge what we know with what we don't know. Usually when we infer, we are aware of our reasoning. We infer actively and consciously when we make plans, such as deciding what to pack when we go on a trip. We get into trouble when we make wrong assumptions, however, meaning that we draw some conclusions too hastily, lack some crucial information, or mistake some uncertainties for certainties. For example, it is easy to spot the tourists who visit San Francisco in the cool and foggy summer months. They are the people shivering on the streets dressed in light summer clothing. They only packed for warm weather because most places in North America are warm in July and California has a sunny weather reputation. They would not remember what they took for granted until faced with the fact of the cold damp fog typical of the northern coast's summer season. Thus, many San Francisco shops thrive on catering to tourists' needs for warm clothing because every year new tourists arrive having made the same wrong assumption.

Yet critical thinkers can learn from wrong assumptions by mulling them over. Exactly when and why did I think that? What else might I have considered? Not all assumptions can be prevented, of course, but taking some time out for reflection might prevent their reoccurrence:

- When did I assume my roommate would always pay his half of the rent?
- Why didn't I read the small print in my apartment lease?
- When I bought that car, why did I think I could do without air-conditioning?

Our ability to survive as a species depends on our ability to learn from wrong assumptions. We live on a collective foundation of hard-learned lessons. Each child has to be taught that humans can drown in water, that some mushrooms are poisonous, that we have to protect ourselves from too much heat or cold. Collectively, one reason that we watch the news each day is to learn about new wrong assumptions. Consider these examples:

- A demolition crew in Florida bashed in the roof of a house before learning not only that they had the wrong address but that a family was inside at the time having dinner.
- A woman allowed a longtime friendly neighbor to water her plants while she was on vacation. A year later the woman discovered she was the victim of identity theft. Her friendly neighbor had gone into her personal files and stolen the necessary private information.

- A Catholic university agreed to accept a donation of several million dollars from an anonymous donor who was vouched for by several board members. Because the money was promised within a year, the university went ahead to contract for some new buildings. A year later the university discovered it was caught in a complex scam with no donation and a large debt.

Discussion Break or Writing Questions

1. How might these situations have been prevented?
2. Write or describe to a classmate about a time you came to distrust something previously trusted. How was an assumption involved here?
3. Did you learn anything from making this wrong assumption?

Types of Assumptions

Assumptions can be conscious or unconscious, warranted or unwarranted.

The examples of assumptions discussed so far in this chapter have been **unconscious assumptions**. They were assumptions only recognized as such after circumstances revealed they were false. The demolition crew in Florida, the woman with the “friendly” neighbor, and the Catholic university all involved wrong assumptions not fully recognized until injury was done.

Yet assumptions need not always be made unconsciously; they can also be intentionally conceived in the form of **working assumptions**; these are theories designed to serve trial ideas or strategies that might further research. These assumptions are conscious in that it is clear from the outset that these ideas may not be true and may not succeed.

Working assumptions are theories assumed to be true for the purposes of decision making or more research and testing.

We make working assumptions in order to solve mechanical problems, although we may not always be aware of them. Suppose you bought a new computer with a new backup drive. You hook them up together, but

for some unknown reason, the backup drive keeps disconnecting itself, sometimes after an hour or many hours. Your first working assumption is that the backup drive is faulty. You return the hard drive to the store and get another one. Still the same problem persists. Then you form two working assumptions: either another type of hard drive is needed or there is some problem in the computer itself. And so the process continues until through trial, testing and elimination, the problem disappears and the final working assumption is thus proven correct.

Working assumptions, however, need not be reserved for solving complex problems; we all use them every day.

- You agree to meet your date in front of the local movie theater at 6:00. You arrive but she is not there. You wait until 6:15. You call her on her cell phone. She does not answer. You quickly decide to assume she is on her way. You decide to buy both tickets, save some seats in the theater, and return to wait outside.

Working assumptions help us plan our lives.

- You wonder whether you should pursue a career as a basketball star or a basketball coach. You decide to proceed on the assumption that you will become a basketball star. Then if you don't have what it takes, or get injured, you can always fall back on being a basketball coach. You have an intentional strategy.

Working assumptions help us make investments.

- In the year 2000, your parents decided to invest in Florida real estate, assuming that, in all probability, property values would continue to increase. They also recognized there was some risk that their working assumption would prove wrong. By the year 2010, with the Florida housing market collapse, they knew it was wrong.

The same factors operate in any area of life where people take action based on calculated risks. In mathematics, conscious assumptions are essential. For example, $2 + 2 = 4$ is not a fact but a conclusion or theorem based on axioms that are assumed to be fundamental. An axiom is defined as a statement assumed as a basis for the development of a subject. Usually, axioms are very acceptable assumptions—not outlandish ones—that can be applied to the real world. Sometimes, as in this case, they are said to be self-evident, but still they are assumptions. We will return in the chapter on Inductive Reasoning to the topic of creating working assumptions, or hypotheses.

*** Warranted and unwarranted assumptions** have some parallels to conscious and unconscious assumptions. A warranted assumption is based on some knowledge of pertinent standards, codes, customs, or agreements. These agreements make it possible for a group of people to

take certain things for granted, as we all must do, in order to proceed efficiently through life together. If a family invites you over to their house for dinner, you can assume that you will not pay for the meal. On the other hand, if you go to a restaurant, it would be unwarranted to expect a free meal. However, if your friends owned a restaurant and invited you over there for dinner, you might not be sure what to expect.

Because many situations can be equally uncertain, we need to stop sometimes to clarify expectations. In public life we form agreements, sometimes in the form of laws or regulations, to help us know what we can assume. Thus if you buy a carton of milk in a grocery store dated for use within one week, you can make a warranted assumption that it will not be sour when you open it. If you do find the milk to be sour, you can return it to the store for a refund. The same can be said, at least in the best of times, that the city buses will arrive and leave on schedule, that the post office will be open on weekdays but not holidays, and that gas and electricity will be available at the flick of a switch. When such events do not occur, citizens can complain to those responsible for their maintenance. Thus, warranted assumptions enable societies to proceed routinely through many activities. Nevertheless, some will always be unfamiliar with a standard, code, or agreement. To expect milk to remain fresh in your refrigerator for a month would be an unwarranted assumption. In some cities if you expect buses to arrive every half-hour after midnight, that would be unwarranted; and if you go to the post office expecting to mail a package on Christmas day, that assumption would be unwarranted. Yet all these examples assume times of peace, order, and safety. After some kind of disaster, many will have to cope with the disappearance of accustomed warranted assumptions.

Generally, our common safety depends upon warranted assumptions, such as that our pharmacies will not give us bogus medications, that the police will not rob us, that laws will be enforced, and that our own government will not harm us. Training in critical thinking can help us avoid making as many unconscious assumptions as well as unwarranted ones.

Discussion Break Question

1. Write down or explain to a classmate the difference between a conscious and an unconscious assumption and between a warranted and an unwarranted assumption. Give your own examples of each.

Identifying Hidden Assumptions in Reasoning

Hidden assumptions exert a powerful effect on our reasoning; however, identifying them is not always easy.

- If your friend is Japanese, she must be moody.
- He is a good candidate for mayor; he looks sincere.
- If you love her, you'll give her diamonds.

All of these statements contain hidden assumptions. The first statement hangs on a stereotype, assumed to be true, about the moodiness of all Japanese people. The second statement depends on two questionable assumptions: (1) that the appearance of sincerity is actual sincerity; (2) that sincerity is the best qualification for holding office. Finally, the third example is an advertising slogan designed to persuade consumers to accept many assumptions.

If we accept any of these statements, then, we must also swallow their hidden assumptions. When we think critically, we do not accept and believe statements that hinge upon unspoken, unproven ideas.

Learning how to identify hidden assumptions is a complex skill comparable to catching fish under water. The bait that brings the fish to the surface is the question "What would someone have to believe in order to come to this conclusion?" When we bring forth the wording of that belief, we bring the fish ashore so that its logic and truth can be tested.

Hidden assumptions are thoughts and beliefs that form the basis for a line of reasoning that may not be apparent to all concerned.

All three opening examples depend on hidden stereotypical assumptions. **Stereotypes** are **hasty generalizations** about life that are assumed to be true and cherished for further use. To return to two of the opening examples—the sincere mayor and the gift of diamonds—each also represents ideas based on stereotypical assumptions.

He is a good candidate for mayor; he looks sincere.

The claim assumes that people who appear sincere are honest people. Yet a person could be good at acting sincere or both sincere and deluded. Moreover, many other more substantial qualifications are needed to hold public office.

If you love her, you'll give her diamonds.

For more than a century, the diamond industry has succeeded in persuading millions to believe (1) that crystalline carbons are rare and deserve their high price and (2) that they are the perfect symbol of a pledge of love. The advertising slogan asks you to assume that (1) a gift of diamonds gives a woman proof of her worth and (2) men who don't give women diamonds don't love them. Thus the consumer might be left feeling guilty for not conforming to the expectations cultivated by such propaganda.

Discussion Break Questions

Identify and express in statements the hidden assumptions underlying each of the following statements or situations. Answers for the first two are provided as examples. *hidden underneath language.*

- I couldn't visit a Buddhist temple because they worship idols there.
(1) Depictions of Buddha and other saints in a temple are idols created for fetish worship. (2) It is wrong to worship idols.
- Man to woman in a bar: "What's a nice girl like you doing in a place like this?" (1) She is a nice girl. (2) This is a bad place. (3) I can offer her protection. (4) She will trust me. (5) She will fall for a pick-up line as old as this one.
- How can that marriage counselor help people if he himself is divorced?
- You go into a pharmacy and see a young woman standing behind the counter. You ask her if you can speak to the pharmacist. She tells you she is the pharmacist.
- In a television program about earthquake preparedness, an expert demonstrated his gas-driven generator. "In the event of a major disaster," he said, "this generator would run our children's television set so that they would have something to do."

Hidden Assumptions in Arguments

Good arguments are not based on assumptions.

The purpose of an **argument** is to be persuasive. A good argument consists of **claims** supported by reasoning, by facts, examples, and evidence.

Facts take the form of statistics, testimony, records, and verified information.

A **good argument** sets forth its reasoning and claims clearly and openly; it examines all its assumptions.

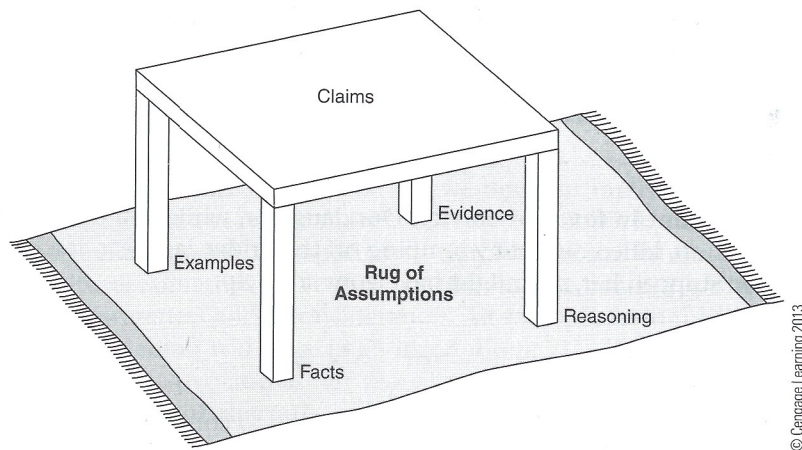


FIGURE 5.1 The Rug Test

Arguments, as the term is used in this text, are structures of reasoning designed to be persuasive. A good argument has a clear structure of claims supported through reasoning, facts, examples, and evidence. In addition, a good argument examines the assumptions upon which its structure rests. The easiest way for a clever debater to discredit an argument is to point out its hidden unexamined assumptions (see Figure 5.1). When critical thinkers compose an argument, they do their best to spot their own assumptions before others pull the rug out from under them.

DISCOVERY EXERCISE

Articulating Hidden Assumptions Underlying Arguments

Write down the hidden assumptions you find in the following quotations to share in a later class discussion. Answers are given for the first two.

1. I am sorry that I totaled your car, but it was just an accident, and accidents do happen.

Hidden assumptions

- a. An accident is an incident for which no person is responsible.
- b. If I can get you to agree it was only an accident, you will also have to agree that I need not feel guilty or responsible.

2. In 2008 there was a debate about erecting a suicide barrier on the Golden Gate Bridge. In that year 1,300 people had jumped off the bridge to their deaths since it was built in 1937. The cost for the barrier was estimated to be \$40 million. Arguments pro and con went as follows:

Argument in favor of barrier: Our daughter, while in a mood of depression, killed herself by jumping off the bridge last year. If a barrier had stopped her, she might have gone for help.

Hidden assumptions

- a. She would not have found another way to commit suicide.
- b. She would have benefited from help.
- c. The public has a responsibility to prevent suicides.

Argument opposed to barrier: It's a waste of money that would better be spent on suicide patrols. Also, barriers would ruin the design of its beautiful Art Deco architecture.

Hidden assumptions

- a. Suicide patrols would be effective and inexpensive.
 - b. Preserving the architectural beauty of the bridge is of primary importance.
 - c. Equally important is to economize in the use of public funds.
3. A senator, concerned about the high mortality rate of children shot by other children, introduced legislation that would require manufacturers to install childproof locks on all handguns.
 4. I can't lose weight because I can't stay on a diet.
 5. I can't keep your dog for you while you are away overnight; I have a cat.
 6. We can't get married; you do not have a job.
 7. The U.S. social security system is broken. It won't be there to protect future generations now forced by law to pay into the system. It would be far better for everyone to invest in the stock market so that they can retain control of their money and obtain even greater returns with which to fund their retirement.

Value or Belief Assumptions

Value assumptions are the core beliefs we take for granted. Although we may not be aware of their presence and influence, they greatly affect our reasoning.

Value assumptions are the core beliefs we never or rarely question, the beliefs we assume everyone shares. When first adopted, they may not have been examined at all, especially if they were absorbed through family or culture. Sometimes a visit to another culture can bring them into conscious awareness and reconsideration. An example from the life of the author Jean Liedloff will serve as an illustration.

Liedloff spent two-and-a-half years living with a Stone Age tribe, the Yequana Indians of the rain forests of Brazil. One thing that puzzled her was that the tribe did not have a word for *work*, nor did members distinguish work from other ways of spending time. She observed the women thoroughly enjoying the task of going down to a stream for water several times a day, even though they had to descend a steep bank with gourds on their heads and babies on their backs. Gradually the author came to realize that the idea that work is hard and leisure is fun is only a Western value assumption. She had to consider that this idea was not necessarily a truth about life, but a cultural attitude. This insight led her to re-examine other Western beliefs, such as the idea that progress is good and that a child belongs to its parents.

Other examples of cultural value assumptions emerged in a PBS "reality" series called *Frontier House* that depicted the lives of three families who had agreed to go back in time to 1883 Montana homesteading life for six months. They had to fell trees to build their own homes and furniture, raise their own food, brave a blizzard to care for livestock, wash their clothing in a creek, and barter for food and supplies. Many lost weight from hunger and there were fights over food hoarding. Yet in spite of all their hardships, video interviews made after their return to their modern lives revealed a sense of less vitality, less kinship with other family members, and more boredom and emptiness. Their common value assumption had been that modern city life, with all its comforts, possessions, and conveniences, offered the best possible life. Many were surprised to realize that they had found more satisfaction in a life requiring a lot of physical work together with communal activities directed toward common survival.

Discussion Break Question

1. What do you think about these two examples of value assumptions as they relate to work and the conveniences of modern life?