Why Reading Arguments Is Important for Writers

In the previous chapter we explained how argument is a social phenomenon in which communities search for the best answers to disputed questions. As you’ll see in this chapter, we live in an environment saturated with oral, visual, print, and hypertext arguments. When we enter an argumentative conversation, we need to position ourselves as inquirers as well as persuaders, listening attentively to alternative points of view. Doing so, we will often be compelled not only to protest an injustice or work for change but also to reexamine our values, assumptions, and behaviors, perhaps even to change our views. Rhetorician Wayne Booth proposes that when we enter an argumentative conversation we should first ask, “When should I change my mind?” rather than “How can I change your mind?” In this chapter, we focus on reading arguments as a process of inquiry. We present five strategies that will help you listen to the arguments you encounter, resist simplistic answers, delve into multiple views, and emerge from your intellectual wrestling with informed, deepened, and supportable solutions to problems.

Because argument begins in disagreements within a social community, you should examine any argument as if it were only one voice in a larger conversation. We therefore recommend the following sequence of strategies:

1. Read as a believer.
2. Read as a doubter.
3. Explore how the rhetorical context and genre are shaping the argument.
4. Consider alternative views and analyze sources of disagreement.
5. Use disagreement productively to prompt further investigation.

Let’s now examine each of these strategies in turn.

*Wayne Booth raised these questions in a featured session with Peter Elbow entitled “Blind Skepticism vs. the Rhetoric of Assent: Implications for Rhetoric, Argument, and Teaching” at CCCC Convention, Chicago, Illinois, March 2002.*
Strategy 1: Reading as a Believer

When you read an argument as a believer, you practice what psychologist Carl Rogers calls empathic listening. Empathic listening requires that you see the world through the author’s eyes, adopt temporarily the author’s beliefs and values, and suspend your skepticism and biases long enough to hear what the author is saying.

Because empathic listening is such a vital skill, we soon will invite you to practice it on a brief argument opposing the genetic engineering of food. Before we ask you to read the argument, however, we want to introduce you to this issue. Since 1994, when genetically modified foods first appeared in supermarkets, they have become increasingly more prevalent, but not without resistance from some consumers. Anti-biotechnology groups have labeled genetically modified foods “Frankenfoods” after the power-seeking scientist who created the monster in Mary Shelley’s novel Frankenstein. This catchy and shrewd word “Frankenfoods” connotes God-playing scientists whose work backfires into an uncontrollable destructive force. The proponents of biotechnology, in contrast, see genetic engineering as beneficial and progressive, offering ways to create disease-resistant plants, more environmentally friendly agricultural methods, and more promising ways to feed the world. With this background, you are now ready to examine for yourself some of the controversies surrounding genetic engineering of food.

For Class Discussion

1. Suppose you are thumbing through a magazine and come across the advocacy advertisement shown in Color Plate A. The ad is sponsored by three groups called “Citizens for Health,” the “Center for Food Safety,” and “Sustain.” Working as a whole class or in small groups, respond to the following questions:
   a. What is the claim of this ad? Whom or what is it arguing against?
   b. Does this ad make you nervous about eating genetically modified foods? What aspects of the ad are most effective in influencing your response? (Consider both the text of the ad and its visual elements.)

2. Now suppose you saw in the op-ed section of your local newspaper the political cartoon shown at the beginning of Part One of this text (p. 1).
   a. What is the claim of this cartoon? Whom or what is it arguing against?
   b. How does this cartoon speak back to the “Keep Nature Natural” ad in Color Plate A?

3. What is your current view of genetically modified foods? (If you buy your food from supermarkets, you are probably eating some genetically modified ingredients. According to some sources, 33 percent of corn, 50 percent of soy, and 50 percent of cotton crops are genetically modified.)
4. Based on the “Keep Nature Natural” ad and the political cartoon, what do you think are the major arguments for and against genetically modified foods?

Now that you have done some thinking about genetic modification of food, read carefully the following article, which appeared in a health food magazine called Better Nutrition in June 2000.

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**Playing with Our Food**

*Genetic Engineering and Irradiation*

*Lisa Turner*

1. It used to be that getting clean food wasn’t so hard. A trip to the local health food store and a quick scan of food labels, and you could fill your ‘fridge with whole, healthy foods. Now, even tofu is likely to be tainted with genetically modified organisms, and your favorite natural tabouli mix may contain irradiated herbs and spices. Is nothing sacred? Not in the brave new world of “biotech” foods.

**GENETIC ENGINEERING WEIRD SCIENCE**

2. Flounder genes in your pasta sauce? Insect genes in your mashed potatoes? Welcome to the high-tech process of artificially shuffling genes from one organism to another. Proponents of genetic engineering say it’s a sure way to boost food supply, reduce pesticide use and possibly breed super-foods with extraordinary nutritional profiles. The problem is, no one really knows the long-term effects of such complex genetic manipulation—and the potential dangers to humans and the environment are substantial.

3. Don’t think that genetic engineering is merely a stepped-up version of traditional cross-breeding techniques. It’s a new, weird science that allows the insertion of genes from any plant or animal into any other organism. One example: an “anti-freeze” gene that allows flounder to survive in very cold water is inserted into tomatoes to boost their tolerance to frost. Or insect-killing genes from bacteria may be inserted into corn or potatoes to up their defenses against pests.

4. Shuffling genes between species raises plenty of scary possibilities. The technology is new enough to be frighteningly imprecise, with generally uncertain outcomes. And because no long-term safety tests have been conducted, no one really knows the full scope of potential health risks. According to an editorial in a 1996 issue of the New England Journal of Medicine, “Questions of safety vex federal regulators and industry as well as the public. The transfer of genes from microbes, plants
or animals into foods raises issues about the unintended consequences of such manipulations.

Some of these consequences include the production of new allergens in foods and unexpected mutations in an organism, which can create new and higher levels of toxins. One example: in 1993, 37 people died and more than 1,500 people suffered partial paralysis from a disease called eosinophilia-myalgia, which was eventually linked to a tryptophan supplement made with genetically engineered bacteria.

Another worrisome possibility is that insects, birds and the wind can carry genetically altered seeds into neighboring fields and beyond, where they can cross-pollinate, threatening the future of wild crops, genetically natural crops and organic foods.

And once genetically modified organisms are introduced into the food supply, they can’t be recalled. “Unlike pesticide use, genetic engineering introduces living organisms that will be replicated in other living organisms,” says Susan Haeger, president/CEO of Citizens for Health, a non-profit consumer advocacy group based in Boulder, Colorado. “Once they’re in the environment, there’s no way to bring them back.”

IRRADIATION: ZAPPING OUR FOOD

What happens when you cross a potato with 10,000 rads of ionizing radiation—more than 2,500,000 times the dose of a chest X-ray? Better find out before you eat your next order of french fries. Irradiation, used to extend shelf life and kill microorganisms in food, can also lower nutritional value, create environmental hazards, promote the growth of toxins and produce compounds called unique radiolytic products, which have been associated with a variety of biological abnormalities.

Food irradiation was proposed by the Atomic Energy Commission in the early 1950s as a way of dealing with a formidable nuclear waste problem from the manufacture of nuclear weapons, according to Michael Colby, editor of the Food & Water Journal. In the mid-1980s, the FDA began to approve a huge range of foodstuffs for irradiation, including meat, poultry, produce, herbs and spices. Since then, permissible levels of radiation have been dramatically increased, and the amount now allowed is substantial.

Proponents say irradiation destroys harmful microorganisms and may reduce outbreaks of salmonella and trichinosis from meat. It is also said that irradiation increases shelf life of various foods and can reduce the use of toxic chemicals as post-harvest fumigants. Absurd, say irradiation opponents. “Irradiation is destroying our food supply,” says Gary Gibbs, D.O., author of The Food That Would Last Forever. “It is nothing more than a toxic band-aid approach to the problems.”

Adequate cooking, sanitary handling and preparation and hygienic processing methods are better ways to reduce illness from microorganisms in meat. Shelf life is an unfounded concern in the United States, and the cost of irradiation in less-developed countries would usually offset savings from extended shelf life. As for the argument that irradiation would reduce the need for post-harvest chemical fumigants, some say that irradiated foods are more prone to infection by certain fungi.
The FDA and irradiation proponents claim the process is safe, but compelling evidence to the contrary says otherwise. Meanwhile, considerable controversy exists regarding safety studies. Although 441 studies have been conducted on food irradiation, the FDA based their toxicity evaluation on only five animal studies, according to Gibbs. Of these five studies, two were found to be methodologically flawed, one suggested that irradiated food could have adverse effects on older animals and two investigated foods irradiated at doses well below FDA-approved levels.

Few human trials exist, because of obvious ethical considerations, but some small studies have raised concerns, suggesting that food irradiation can cause chromosomal abnormalities.

Irradiation of food can lead to cardiac disease, cancer, kidney disease, fetal malformations and a dramatic shortening of the life span, according to Gibbs. “A lot of studies have shown problems with the heart, specifically that irradiation causes bleeding in the heart,” he says. “Also, when food is irradiated, it creates benzene and formaldehyde, which are known mutagens and suspected carcinogens.”

Irradiation also appears to cause significant nutrient loss in foods, especially of vitamins A, B, C and E. Generally, the higher the amount of radiation, the greater the nutrient loss. Add to that environmental concerns, including hazards in transporting and handling radioactive isotopes, danger of exposure to workers and possible security problems at irradiation facilities. Right now, there are about 50 irradiation facilities in the United States, says Colby, but a huge increase is expected if irradiation is embraced in the marketplace. The result: a substantial increase in potential environmental disasters.

**WHAT TO DO**

Because biotech foods are still new, the core issues are safety testing and consumer awareness. “It may be that there are some positive aspects to biotech food,” says Haeger. “We don’t know. Our concern is that the commercialization of biotech foods and their integration in the food system is outpacing the science and is being promoted without the awareness of the public.”

More stringent safety testing is critical, as are more comprehensive labeling requirements. Under current laws, irradiated foods must be labeled as such, with a written notice and a “radura”—the international irradiation symbol—but processed foods and foods prepared for restaurants, hospitals or school cafeterias are exempt from such labeling. Additionally, no labeling requirements exist for genetically engineered foods.

Some say genetic engineering and food irradiation should be banned. “This is beyond labeling considerations,” says Gibbs. “It should be completely outlawed. We shouldn’t even have to have conversations about labeling.” In the meantime, the primary thrust is toward public awareness.

“Our main concern is for consumers to be aware of food manipulation,” says Haeger. “We want to ensure that they are informed and have adequate information on what they’re purchasing, so they can make their own choices.”
Summary Writing as a Way of Reading to Believe

Now that you have finished the article, ask yourself how well you “listened” to it. If you listened well, you should be able to write a summary of Turner’s argument in your own words. A summary (also called an abstract, a précis, or a synopsis) presents only a text’s major points and eliminates supporting details. Writers often incorporate summaries of other writers’ views into their own arguments, either to support their own claims or to represent alternative views that they intend to address. Summaries can be any length, depending on the writer’s purposes, but usually they range from several sentences to one or two paragraphs.

Practicing the following steps should help you be a better summary writer:

**Step 1:** Read the argument first for general meaning. Don’t judge it; put your objections aside; just follow the writer’s meaning, trying to see the issue from the writer’s perspective. Try to adopt the writer’s values and belief system. Walk in the writer’s shoes.

**Step 2:** Read the argument slowly a second and a third time, writing in the margins brief does and says statements for each paragraph (or group of closely connected paragraphs). A does statement identifies a paragraph’s function, such as “summarizes an opposing view,” “introduces a supporting reason,” ”gives an example,” or “uses statistics to support the previous point.” A says statement summarizes a paragraph’s content.

Your challenge in writing says statements is to identify the main point in each paragraph. This process may actually be easier with an academic article that
uses long block paragraphs headed by topic sentences than it is for more informal journalistic articles like Turner’s that use a string of shorter, less developed paragraphs. What follows are the does and says statements for the first six paragraphs of Turner’s article.

DOES/SAYS ANALYSIS OF TURNER’S ARTICLE

**Paragraph 1:**  *Does:* Introduces the problem of “the brave new world of ’biotech’ foods.” *Says:* It is becoming difficult today to find foods that have not been irradiated or genetically modified.

**Paragraph 2:**  *Does:* Briefly sketches the benefits of genetic engineering and shifts to the potential dangers. *Says:* Advocates claim that biotechnology can increase the food supply, reduce the use of pesticides, and increase the nutritional value of foods, but no one knows the long-term effects of genetic engineering on humans or the environment.

**Paragraph 3:**  *Does:* Elaborates on how genetic engineering works with some specific examples. *Says:* Genetic engineering alters plants and animals far beyond crossbreeding.

**Paragraph 4:**  *Does:* Elaborates on the potential dangers of genetic engineering. *Says:* Imprecision and unpredictable long-term consequences make this biotechnology frightening.

**Paragraph 5:**  *Does:* Offers examples of some of the dangerous consequences so far. *Says:* Genetic engineering created toxins that caused deaths and partial paralysis in 1993.

**Paragraph 6:**  *Does:* States another problem of genetic engineering. *Says:* Cross-pollination can contaminate wild or organic plants.

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*For Class Discussion*

Working individually or in groups, write does and says statements for the remaining paragraphs of Turner’s article.

**Step 3:**  Examine your does and says statements to determine the major sections of the argument, and create a list of major points and subpoints. If you are visually oriented, you may prefer to make a diagram, flowchart, or scratch outline of the sections of Turner’s argument.

**Step 4:**  Turn your list, outline, flowchart, or diagram into a prose summary. Typically, writers do this in one of two ways. Some start by joining all their says statements into a lengthy paragraph-by-paragraph summary and then prune it and streamline. They combine ideas into sentences and then revise those sentences to make them clearer and more tightly structured. Others start with a one-sentence summary of the argument’s thesis and major supporting reasons and then flesh it out with more supporting ideas. Your
goal is to be as neutral and as objective as possible by keeping your own responses to the writer’s ideas out of your summary. To be fair to the writer, you also need to cover all the writer’s main points and give them the same emphasis as in the original article.

**Step 5:** Revise your summary until it is the desired length and is sufficiently clear, concise, and complete. When you incorporate a summary of someone else’s argument into your own essay, you must distinguish that author’s words and ideas from your own by using *attributive tags* (expressions like “Turner says,” “according to Turner,” or “Turner further explains”), by putting any directly borrowed language in quotation marks, and by citing the original author using appropriate conventions for documenting sources.

As illustration, we will show our summaries of Turner’s article—a one-paragraph version and a single-sentence version. In the one-paragraph version, we illustrate the MLA documentation system in which page numbers for direct quotations are placed in parentheses after the quotation and complete bibliographic information is placed in a Works Cited list at the end of the paper. See Chapter 17 for a complete explanation of the MLA and APA documentation systems.

**ONE PARAGRAPH SUMMARY OF TURNER’S ARGUMENT**

In an article entitled “Playing with Our Food” from the magazine *Better Nutrition*, health food advocate Lisa Turner warns readers that much of our food today is genetically modified or irradiated. She describes genetic engineering as artificial gene shuffling that differs completely from “traditional cross-breeding” (24). She argues that the potential, unforeseen, harmful consequences of this “new, weird science” (24) offset the possible benefits of increasing the food supply, reducing the use of pesticides, and boosting the nutritional value of foods. Turner asserts that genetic engineering is imprecise, untested, unpredictable, irreversible, and also uncontrollable due to animals, insects, and winds. She also objects to the use of irradiation to enable foods to stay fresh longer and to kill harmful microorganisms. Claiming that the FDA has not tested irradiation at the levels that it allows, she suggests that irradiation has many harmful effects: depleting vitamins in foods, causing cancer and cardiac problems, and increasing amounts of radioactive material in the environment. Turner concludes by saying that the marketing of these products has proceeded much more quickly than scientific knowledge about them warrants. If we don’t ban genetic engineering and irradiation completely (a course that some people propose), Turner argues that at the very least more safety testing and labeling are needed. We consumers must know how our food has been manipulated. (220 words)
ONE-SENTENCE SUMMARY OF TURNER’S ARGUMENT

In her article in *Better Nutrition*, health food writer Lisa Turner warns readers of the prevalence, risk, and potential health and environmental dangers of genetic modification and irradiation of food, arguing that these products should undergo more stringent testing for safety and should be labeled for consumer protection.

Whether you write a very short summary or a more detailed one, your goal should be to come as close as possible to a fair, accurate, and balanced condensation of the author’s argument and to represent the relationships among the parts fairly and accurately. We don’t want to pretend that summary writing is easy; often it’s not, especially if the argument is complex and if the author doesn’t explicitly highlight his or her thesis and main supporting reasons. Nonetheless, being able to summarize the arguments of others in your own words is an important skill for arguers.

**Suspending Doubt: Willing Your Own Belief in the Writer’s Views**

Summarizing an argument is only the first step in your effort to believe it. You must also suspend doubt and will yourself to adopt the writer’s view. Suspending doubt is easy if you already agree with the author. But if an author’s views affront your own values, then “believing” can be a hard but valuable exercise. By struggling to believe strange, threatening, or unfamiliar views, we can grow as learners and thinkers.

To believe an author, search your mind for personal experiences, values, and beliefs that affirm his or her argument. Here is how one student wrote a journal entry trying to believe Turner’s article.

**JOURNAL ENTRY SHOWING STUDENT’S ATTEMPT TO BELIEVE TURNER**

Although I had heard of genetic modification of plants and of hormones given to cows to produce more milk, I never thought about how I might be affected. Turner’s article made me worry about how many of the things I eat have been produced by artificial genetic processes and how many have been treated with radiation. How much do scientists actually know about long-term effects of growing and eating biotech food? I know of lots of cases where scientists have tried to fix environmental problems, and their intervention has had disastrous results. My biology teacher told us about a failed scientific intervention involving cane toads brought into Australia to eat the beetles and grubs plaguing the sugar cane. The natural cycles of the grubs, beetles, and toads
didn’t match. Now the cane toads have proliferated out of control because they have no native predators. What’s worse, they are poisonous! Ten years from now will genetic engineering be failed science in the category of “it seemed like a great idea at the time”? As it is, every year we read studies that say vitamin C or some food that we thought was good for us is actually harmful. Turner’s article has made me want to know how the government is regulating what biotech foods are sold. Maybe I should spend more time reading the labels on all the food I buy. How much more will I have to pay to avoid foods that have been genetically modified or treated with radiation?

Strategy 2: Reading as a Doubter

Reading as a believer is an important part of being a powerful reader, but you must also learn to read as a doubter by raising objections, asking questions, expressing skepticism, and withholding your assent. When you read as a doubter, you also question what is not in the argument. What is glossed over, unexplained, or left out? In the margins of the text you add a new layer of notes demanding proof, doubting evidence, challenging the author’s assumptions and values, and so forth. Because writing marginal notes helps you read a text actively—to follow the author’s argument and speak back to it in your own voice—we show you an example of one reader’s marginal notes for a section of Turner’s text (Figure 2.1). Note how it is a mixture of believing and doubting commentary.

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**FIGURE 2.1** Believing and doubting notes for Turner article

Some of these consequences include the production of new allergens in foods and unexpected mutations in an organism, which can create new and higher levels of toxins. One example: in 1993, 37 people died and more than 1,500 people suffered partial paralysis from a disease called eosinophilia-myalgia, which was eventually linked to a tryptophan supplement made with genetically engineered bacteria. [5]

Another worrisome possibility is that insects, birds and the wind carry genetically altered seeds into neighboring fields and beyond, where they can cross-pollinate, threatening the future of wild crops, genetically natural crops and organic foods. [6]

And once genetically modified organisms are introduced into the food supply, they can’t be recalled. “Unlike pesticide use, genetic engineering introduces living organisms that will be replicated in other living organisms,” says Susan Haeger, president/CEO of Citizens for Health, a non-profit consumer advocacy group based in Boulder, Colorado. “Once they’re in the environment, there’s no way to bring them back.” [7]

This “eventual link” sounds weak. I need more explanation. Where did this case occur? What food was involved? What is a “tryptophan supplement”?

Seems like a strong point. Supports what I’ve read about cross-pollination and organic forms.

This quote not from scientist. Would scientists agree about dangers to the environment?
For Class Discussion

Return now to Turner’s article, reading skeptically. Raise questions, offer objections, and express doubts. Then, working as a class or in small groups, list all the doubts you have about Turner’s argument.

Now that you have doubted Turner’s article, compare your doubts to some raised by our students.

- In the third sentence of her article, Turner says that tofu is “likely to be tainted with genetically modified organisms.” Her word “taint” suggests a strong bias against technology right from the start.
- She mentions the possible advantages of genetic engineering in only one sentence—boosting food supply, reducing needs for pesticides, and so forth. These seem like major advantages that should be investigated. How successful has biotechnology been at achieving its stated goals? What scientific breakthroughs has genetic engineering made? What good has it done so far?
- She gives no sources for her claim that an antifreeze gene from flounders is inserted into tomatoes. We would like to learn if this claim is true and see how scientists describe the purpose and results. There may be another side to this story.
- She doesn’t claim that biotech foods are not safe. She just claims that they haven’t been tested enough. The only negative evidence she provides is the 37 persons killed by a disease that was “linked” to genetically engineered bacteria. Why the weak word “linked”? Did scientists prove that the disease was caused by genetic engineering? Is this case exceptional? Is it good evidence to show that all genetically engineered foods are potentially harmful?
- The case against irradiation is not supported by evidence but by testimony from Gary Gibbs and Susan Haeger, whose scientific credentials aren’t clearly stated. Turner claims that “compelling evidence” refutes the claim of the FDA that irradiation is safe. She doesn’t provide or document this compelling evidence. She makes numerous frightening claims about irradiation without any evidence that the claims are true.

These are only some of the objections that might be raised against Turner’s argument. Perhaps you and your classmates have other objections that are equally important. Our point is that you should practice “doubting” an argument as well as “believing” it. Both skills are essential. Believing helps you expand your view of the world or modify your arguments and beliefs in response to others. Doubting helps protect you from becoming overpowered by others’ arguments and teaches you to stand back, consider, and weigh points carefully.
Strategy 3: Exploring How Rhetorical Context and Genre Shape the Argument

The strategies of believing and doubting an argument urge you toward further exploration and inquiry. In the next stage of analysis, you should consider the rhetorical context of the argument as well as its genre. In this section we’ll explain these concepts and show you why they are important.

Understanding the Genres of Argument

Knowing the genre of an argument helps you understand how the writer’s purpose, intended audience, and angle of vision or bias have shaped the argument. A “genre” is a recurring type or pattern of argument such as a letter to the editor, a scholarly journal article, or the home page of an advocacy Web site. Genres are often categorized by format, purpose, or type of publication; as we’ll see, they place on writers certain demands (such as the need for a particular tone or kind of evidence) and constraints (such as limits on length).

When you read arguments anthologized in a textbook such as this one, you lose clues about the argument’s original genre. (You should therefore note the information about genre provided in our introductions to readings.) You can also lose clues about genre when you download articles from the Internet or from licensed databases such as LexisNexis or ProQuest. (See Chapter 16 for explanations of these research tools.) When you do your own research, you therefore need to be aware of the original genre of what you are reading: Is this piece a newspaper editorial, an article from a magazine, an organizational white paper, an academic argument in a peer-reviewed journal, a student paper posted to a Web site, or something else?

In the following list, we identify most of the genres of argument through which readers and writers carry on the conversations of a democracy.

- **Personal correspondence.** This category includes letters or e-mail messages sent to specific decision makers in order to achieve the writer’s purpose (complaint letter, request for a certain action). The style can range from a formal business letter to an informal note. The tone depends on purpose and audience.

- **Letters to the editor.** Letters to the editor provide an excellent forum for ordinary citizens to voice their views on public issues. Published in newspapers and some public affairs magazines, letters are aimed at the readers of the publication to influence opinion on recently discussed issues. They are very short (fewer than three hundred words) and time sensitive. They can sometimes be summaries of longer arguments, but often focus in “sound bite” style on one point. Their perspective or bias can vary widely since editors seek a wide range of opinions.
Newspaper editorials and op-ed columns. Often written in response to a recent occurrence, political event, or social problem in the news, editorials and op-ed pieces are widely read, influential types of arguments. Editorials, which appear on the editorial page of a newspaper and promote the views of the editors, are short (usually fewer than five hundred words), and are written in a journalistic style, often without detailed evidence. They can range from conservative to liberal, depending on the political bias of the editors (see p. 377 in Chapter 16). Op-ed columns appear “opposite the editorial page” (hence the abbreviation “op-ed”) and are usually written by syndicated columnists who are professional writers ranging in bias from ultraconservative to socialist (see p. 377 in Chapter 16). Op-ed columns typically average 500–1000 words and can vary from explicit thesis-driven arguments to implicit arguments with stylistic flair. Newspapers also publish “guest op-ed pieces” by local writers on a one-time or occasional basis when a person has particular expertise on an issue. Sometimes an especially good but overly long letter to the editor is published as an op-ed piece.

Public affairs or niche magazine articles. Public affairs magazines such as National Review, New Republic, Atlantic Monthly, or The Progressive are outlets for in-depth studies of current issues. Written by staff writers or freelancers, articles in public affairs magazines usually reflect the political bias of the magazine (see p. 361 in Chapter 16). The articles often have a journalistic style with informal documentation, and they frequently include narrative elements rather than explicit thesis-and-reasons organization. Many of the best articles give well-researched coverage of various perspectives on a public issue. In contrast to public affairs magazines, niche magazines advocate for the interests of a particular profession or target audience. Niche magazines include trade publications such as Automotive Week or Construction Marketing Today, arts and entertainment magazines such as Rolling Stone or Cinema, and culture and society magazines aimed at particular audiences, such as The Advocate (gay and lesbian issues) or Minority Business Entrepreneur.

Scholarly journals. Scholarly journals are nonprofit magazines subsidized by universities or scholarly societies. They publish academic articles that have been reviewed by scholars in the field. Although scholars try scrupulously to collect evidence in an unbiased way and analyze it objectively, their work necessarily reflects the biases, methods, and strategies associated with a specific school of thought or theory within a discipline. Scholarly articles usually employ a formal academic style and include academic documentation and bibliographies. When scholars write to influence public opinion on the basis of their research, they often use a more popular style and may seek outlets other than scholarly journals, such as a public affairs magazine or an academic Web site. (Student papers in an argument class often fit this genre—academic argument aimed at a popular audience on a public issue.)

Organizational white papers. This is perhaps the most common genre of argument in an organizational or professional setting. White papers are in-house
documents written by individuals or committees to influence organization decisions or policies or to give informed advice to clients. Sometimes they are written for external audiences to influence public opinion favorable to the organization, in which case they reflect the organization’s bias and perspective (external white papers are often posted on Web sites or sent to legislators). They are usually desktop published for use within an organization and written in a utilitarian style with thesis-and-reasons organization and formal documentation. They often include graphics and other visuals. They can vary in style from the dully bureaucratic (satirized in Dilbert cartoons) to the cogent and persuasive.

- **Proposals.** Typed or desktop published, proposals identify a problem, propose a specific solution, and support the solution with a justifying argument. Proposals focus on the needs of the targeted audience, using the audience’s values and desires to justify the writer’s proposed solution. They are often used to seek grant funding or secure contracts with clients. Proposals are the lifeblood of organizations that depend on meeting the needs of clients for their livelihood.

- **Legal briefs and court decisions.** Legal briefs are written by attorneys to support the position of one of the parties in a trial or judicial review. “Friends of the court” briefs are written by stakeholders in a case to influence appeals courts such as the U.S. Supreme Court. Briefs are usually written in legalese, but use a logical, well-organized reasons-and-evidence structure. Friends of the court briefs are serious reasons-and-evidence position papers reflecting the bias or perspective of the writer. Once a judge or court makes a decision, the “court decision” is often published to explain the judge’s reasoning. Court decisions—particularly those of the U.S. Supreme Court—make fascinating reading; they reveal the complexities of the issue and the intricacies of the judges’ thinking. They also include minority arguments if the decision was not unanimous.

- **Public affairs advocacy advertisements.** Published as posters, fliers, Web pages, or paid advertisements, these condensed arguments try to influence public opinion on civic issues. Using a succinct “sound bite” style, these ads often employ document design, bulleted lists, and visual elements such as graphics, photographs, or drawings for rhetorical effect. They have an explicit bias and often ignore the complexities of an issue by focusing strongly on one view. During periods of civic debate, advocacy groups often purchase full-page newspaper ads to influence public opinion.

- **Advocacy Web sites.** Often identified by the extension “.org” in the Web site address, advocacy Web sites support the views of the site owner on civic issues. Web sites by well-financed advocacy groups such as the NRA (National Rifle Association) or PETA (People for the Ethical Treatment of Animals) are professionally designed with extensive links to other sites supporting the same views. Well-designed sites use visuals and hyperlinked texts aimed at creating an immediate visceral response favorable to the site owner’s views. Advocacy sites reflect the bias of the site owner; ethically responsible sites explicitly announce
their bias and purpose in an “about us” link on the home page. (For further discussion of reading and evaluating Web sites, see Chapter 16, pp. 378–381.)

- **Posting to chat rooms, MOOs, electronic bulletin boards.** These postings are written in truncated, informal style often using the jargon and code words of a particular audience. They are posted by individuals to influence opinions of other participants in an online discussion. They usually reflect a wide range of perspectives and are excellent places to try out ideas-in-progress.

- **Visual arguments.** Although seldom appearing by themselves without some accompanying text, photographs, drawings, political cartoons, and graphics can have an intense rhetorical impact (see Chapter 9). Visuals make strong emotional appeals, often reducing complex issues to one powerful perspective.

- **Speeches.** Many of the important arguments in our culture, including those in print, begin initially as speeches—either formal speeches such as a presidential address or a keynote speech at a professional meeting, or more informal speeches such as presentations at hearings or interviews on talk shows. Often transcriptions of speeches are printed in newspapers or made available on the Web.

Now that you have a brief overview of the genres of argument, we can apply this knowledge to the issue we have been examining—the genetic engineering of food. As we did our own research on this issue, we found letters to editors, newspaper editorials, op-ed pieces, magazine articles in public affairs and niche magazines, scholarly academic articles, professional and scientific proposals, political speeches, advocacy ads and posters, and white papers presenting the views of organizations, advocacy groups, and governmental agencies. The public debate about genetic engineering of foods is thus being carried on across the total spectrum of argument genres.

**Analyzing Rhetorical Context and Genre**

Besides understanding an argument’s genre, you need to reconstruct its rhetorical context—that is, learn more about the conversation the writer is joining and about the writer’s credentials, purpose, audience, and motivation. Awareness of genre and rhetorical context can help you determine how much influence an argument should have on your own thinking about an issue. To explore the rhetorical context of an argument, you can use the following guide questions:

**Questions about Rhetorical Context and Genre**

1. Who is the author? What are the author’s credentials and what is his/her investment in the issue?
2. What audience is he or she writing for?
3. What motivating occasion prompted this writing? What is the author’s purpose?
4. What genre of argument is this? How do the conventions of that genre help determine the depth, complexity, and even appearance of the argument?

5. What information about the publication or source (magazine, newspaper, advocacy Web site) explains the angle of vision that shapes the argument?

Consider how we applied these questions to Lisa Turner’s article “Playing with Our Food.” We began by investigating the identity of the author and the kind of publication. Checking on Lisa Turner’s background (by keyboarding her name into a Web search engine), we discovered that she specializes in alternative health therapies and has training in naturopathy, Chinese herbal medicine, yoga, and meditation techniques. She has written five books on nutrition and health published by presses associated with alternative medicine, regularly appears on talk shows to promote natural health, teaches cooking classes at Whole Foods Market (one of the biggest organic food chains), and owns a catering company called “The Healthy Gourmet.” We learned that Better Nutrition is a niche magazine about consumer health and alternative therapies distributed primarily at health food stores. It is indexed in CINAHL, the main nursing index, but not in MEDLINE, one of the main medical indexes. (Its absence from MEDLINE means that mainstream medical researchers, who value the scientific method, don’t regard the magazine as an outlet for serious scholarship.)

When we returned to the article “Playing with Our Food” and analyzed it rhetorically, we saw more clearly how Turner’s background, the type of magazine, and her sense of audience shaped her argument. She is strongly biased toward organic foods and alternative approaches to medicine and health. Because Better Nutrition is a natural health magazine, Turner assumes that her audience will share her opposition to scientific intervention in farming and food processing. Although this article does include references, they are not the most current or the most exact. The two sources that she quotes directly—the CEO of the advocacy group Citizens for Health and the author of the book The Food That Would Last Forever—do not appear in her list of references. Her alarmist tone and vehement language as well as the scarcity of specific examples suggest that she is writing to an audience who may be uninformed but who nevertheless share her bias. We decided that this article represents a “health foods” point of view in the biotech foods controversy but provides only a starting point for inquiry into this complex issue.

Strategy 4: Seeking out Alternative Views and Analyzing Sources of Disagreement

When you analyze an argument, you shouldn’t isolate it from the general conversation of differing views that form its context. If you were an arbitrator, you wouldn’t think of settling a dispute between A and B on the basis of A’s testimony.
You would also insist on hearing B’s side of the story (and perhaps also C’s and D’s if they are stakeholders in the dispute). In analyzing an argument, therefore, you should try to seek out the views of those who disagree with the author to appreciate the full context of the issue.

As you listen to differing views, try to identify sources of disagreement, which often fall into two categories: (1) disagreement about the facts or reality of the case and (2) disagreement about underlying beliefs, values, or assumptions, including assumptions about definitions or appropriate analogies. Let’s look at each in turn.

Disagreement about Facts or Their Relevance

Often disputants in an argument disagree about facts in a case or about the relevance of certain facts. Consider the controversies over global warming. Although the majority of scientists believe that the earth is getting hotter and that at least some portion of this increase is caused by the emission of greenhouse gases, scientists have factual disputes about the rate of global warming, about its causes (How much is natural? How much is human-caused?), and about its environmental effects. Additionally, disputants can disagree on the significance or relevance of a fact. For example, global warming activists often cite the dramatic shrinking of the glacial ice cap on Africa’s Mount Kilimanjaro as evidence of human-caused global warming. But some climatologists, who agree that Kilimanjaro’s ice cap is shrinking, argue that nonhuman causes such as changes in solar output or natural climate variability may be the primary factors. In this case, a fact that urges one person to propose political action to combat global warming leaves another person unmoved. Other examples of disagreements about facts or reality include the following:

- In arguing whether silver-mercury amalgam tooth fillings should be banned, dental researchers disagree on the amount of mercury vapor released by older fillings; they also disagree on how much mercury vapor has to be present before it is harmful.
- In arguing about the legalization of drugs, writers disagree about the degree to which Prohibition reduced alcohol consumption; they also disagree on whether crack cocaine is “crimogenic” (has chemical properties that induce violent behavior).

Disagreement about Values, Beliefs, or Assumptions

A second source of disagreement concerns differences in values, beliefs, or assumptions. Here are some examples:

- Persons A and B might agree that a huge tax on gasoline would cut down on the consumption of petroleum. They might agree further that the world’s supply of petroleum will eventually run out. Thus Persons A and B agree at the
level of facts. But they might disagree about whether the United States should enact a huge gas tax. Person A might support the law in order to conserve oil. Person B might oppose it, perhaps because B believes that scientists will find alternative energy sources before the petroleum runs out or because B believes the short-term harm of such a tax outweighs distant benefits.

- Person A and Person B might agree that capital punishment deters potential murderers (an agreement on facts). Person A supports capital punishment for this reason, but Person B opposes it, believing that the taking of a human life is always wrong in principle even if the state does it legally (a disagreement about basic beliefs).

Sometimes differing beliefs or values present themselves as disagreements about definitions or appropriate analogies.

- Social Theorist A and Social Theorist B disagree about whether the covers of some women’s magazines like *Cosmopolitan* are pornographic. This disagreement turns on the definition of *pornography*, with different definitions reflecting different underlying values and beliefs.

- In supporting a Texas law forbidding flag burning, Chief Justice William Rehnquist argued that desecration of a flag in the name of free speech is similar to desecrating the Washington Monument. He thus makes this analogy: Just as we would forbid desecration of a national monument, so should we forbid desecration of the flag. Opposing justices did not think the analogy was valid.

- Person A and Person B disagree on whether it is ethically acceptable to have Down’s syndrome children undergo plastic surgery to correct some of the facial abnormalities associated with this genetic condition. Person A supports the surgery, arguing that it is analogous to any other cosmetic surgeries done to improve appearance. Person B argues against such surgery, saying it is analogous to the racial self-hatred of some minority persons who have tried to change their ethnic appearance and become lily white. (The latter analogy argues that Down’s syndrome is nothing to be ashamed of and that persons should take pride in their difference.)

We now invite you to consider a different view of biotechnology. Examine Color Plate B, which is an advocacy advertisement sponsored by the Council for Biotechnology Information. This ad, promoting biotech soybeans, appeared in a July 2002 issue of *Time* magazine. A similar ad, also by the Council for Biotechnology Information, appeared in an April 2002 issue of *Atlantic Monthly*. Then read this same organization’s argument opposing consumer labels for genetically engineered foods. (We found the argument on the Council’s Web site.) These pro-biotech arguments—in conversation with Turner’s article and the “Keep Nature Natural” ad (Color Plate A)—vividly exemplify the differing values and beliefs that compete for our allegiance in a pluralistic world.
Consumers want food product labels with clear, meaningful information. A grocery shopper, for example, finds a wealth of factual information on labels, whether it’s about nutrient and caloric content or specific health aspects of a food product.

Should that same shopper also be able to read on the label whether those corn chips or that bottle of cooking oil contains biotech ingredients? Some say yes. Given the concerns raised by a few about biotech safety, there’s an important “right to know,” they contend.

Others say there’s no need to label foods with biotech ingredients that are the same as foods with ingredients from conventional crops. Requiring a label for biotech ingredients, they say, would confuse consumers, not inform them.

The U.S. Food and Drug Administration (FDA), which oversees food safety issues in the United States, takes the second view. The agency performs exhaustive safety tests on every biotech food entering the marketplace, and requires special labeling only when the new food product is significantly different from its conventional counterpart.

TESTED FOR SAFETY

Before they reach a farmer’s field, biotech corn, soybeans and other genetically enhanced foods undergo years of review by researchers, university scientists, farmers and other government agencies in addition to the FDA.

The results are unambiguous. Biotech crops are safe to eat. No studies or test results have said otherwise. There hasn’t been a single documented case of an illness caused by biotech foods.¹ A report issued in 2000 by the National Academy of Sciences, an independent group of scientists and scholars, confirmed that all approved biotech products are as safe as their conventional counterparts.²

So safety is not at issue in labeling biotech food. Instead, the FDA considers whether a biotech orange, for example, is “substantially equivalent” to a traditional orange. Does it produce the same nutrients? If it does, there’s no need for a label. If it doesn’t—if the orange has a higher or lower level of vitamin C—then the FDA requires a label.

Under this line of thinking, labeling all biotech foods would make a distinction without a difference. Rather than communicating relevant health or safety information, it would merely explain the process by which the food was developed. And in so doing it could sow confusion among consumers. Ninety-two percent of food industry leaders, for example, believe that mandatory biotech food labeling—which proponents often position simply as an informational tool—will instead be perceived as a “warning” by at least some consumers.³
The American Medical Association (AMA) has stated that “there is no scientific justification for special labeling of genetically modified foods, as a class.”

Statistics show that the current FDA policy—labeling biotech foods when there’s a meaningful reason to do so—is what consumers want. When surveyed for their opinions, two-thirds to three-quarters consistently approve of the existing system once it’s explained that biotech foods have been reviewed and found safe by experts, and would be specially labeled if the nutritional content has been significantly changed.

When asked in an open-ended way what information they’d like more of on product labels, only 1 percent of consumers mentioned biotechnology. Three percent said ingredients, four percent nutrition and 75 percent said they wanted no additional information.

COSTLY AND CONFUSING

Countries and trading blocs that want to require labels have had to develop a long list of exemptions and loopholes. That’s the case in Europe, which enacted labeling requirements and other restrictions. An article in the Wall Street Journal pointed out that the European system has “confused consumers” and “spawned a bewildering array of marketing claims, counterclaims and outright contradictions that only a food scientist possibly could unravel.”

Labeling requirements also increase costs. Keeping biotech commodity crops separate from traditional ones requires new expenses in the agricultural supply chain—in added handling measures, testing requirements, and so on—that inevitably will be passed on to consumers.

A Canadian study estimated that mandatory labeling would cost that country’s consumers $700 million to $950 million annually—arguably, a food tax on the majority to pay for the labeling demands of a few.

An alternative is the voluntary labeling guidelines for biotech and nonbiotech products currently being developed by the FDA. Under this system, manufacturers can let consumers know if a food was developed using biotechnology to have a beneficial trait such as reduced saturated fat—or, conversely, if biotech ingredients were not used in making a food.

Professor Thomas Hoban, director of the Center for Biotechnology in Global Society at North Carolina State University, points out that voluntary labeling can provide choice “without imposing costs on . . . the majority of consumers who support or have no objection to biotechnology.”

FOCUSING DEBATE

Biotechnology is a fast-changing science that’s raising environmental, economic and ethical issues. Given the importance of food in a fast-growing world where about 840 million people go hungry, those issues deserve to be considered on their merits.
By raising questionable concerns in the minds of consumers, and introducing unnecessary costs, mandatory labeling requirements may only distract from what’s truly important: a rational, fact-informed debate about the risks of biotechnology, balanced against the benefits it offers.

Notes

2 Woo, Robin Y., “No Room for Politics on Food Labels,” Des Moines Register, May 11, 2000, reprinted at <index.asp?id=1226&redirect=con508mid17%2Ehtml>.

For Class Discussion

Working as a whole class or in small groups, respond to the following questions about the readings and visual arguments you have just considered.

1. What claims about biotech foods does the soybean ad (Color Plate B) make?
2. Consider this ad in dialogue with Turner and the “Keep Nature Natural” ad (Color Plate A). How does this ad try to allay the fears and answer the objections of the opponents of genetically engineered foods?
3. The genre of the advocacy ad requires brevity and strong, clear, audience-based appeals to a target audience. Why did the Council for Biotechnology Information choose to publish its ads in Time and Atlantic Monthly? What audiences is it trying to reach?
4. What does this advocacy ad do to establish its authority and credibility?
5. Now consider the Council’s policy argument on biotech labeling. To what extent do Lisa Turner and the Council disagree about the basic facts concerning genetically engineered foods?

6. To what extent do Turner and the Council disagree about values, beliefs, and underlying assumptions?

Writing an Analysis of a Disagreement

A common writing assignment in argument courses asks students to analyze the sources of disagreement between two or more writers who take different positions on an issue. In writing such an analysis, you need to determine whether the writers disagree primarily about facts/reality or values (or both). Specifically, you should pose the following questions:

1. Where do the writers disagree about facts and/or the interpretation of facts?
2. Where do the writers disagree about underlying beliefs, values, or assumptions?
3. Where do the writers disagree about key definitions or about appropriate analogies? How do these differences imply differences in values, beliefs, or assumptions?

To illustrate how these three questions can help you write an analysis, we’ve constructed the following model: our own brief analysis of the disagreement between Turner and the Council for Biotechnology Information written as a short formal essay.

An Analysis of the Sources of Disagreement between Lisa Turner and the Council for Biotechnology Information

Lisa Turner and the Council for Biotechnology Information clash about facts and values in their arguments over the genetic engineering of food. Turner stresses the dangers of biotechnology while the Council stresses the value of scientific advancement.

At the heart of their controversy is disagreement about facts. Have genetically engineered foods been appropriately tested for safety? “No,” says Turner; “yes,” says the Council. These antithetical views determine the stand each source takes on the need for biotech labeling. Turner argues that biotech foods are risky. Her strategy is to raise doubts about the safety of genetically engineered food, mainly by suggesting frightening hypothetical scenarios. She emphasizes the experimental quality of these
modifications, arguing that they are imprecise, uncontrollable, and irreversible because they alter living things that pass on genetic modifications when they propagate and affect natural cycles that involve other plants and animals. She mentions the creation of new allergens that could provoke dangerous allergic reactions. She cites one example of deaths and paralysis in 1993, but she does not explain what food product caused this response. (The Council states that no death or disease has ever resulted from biotech foods.) Her main point is that scientists, farmers, and marketers are foisting these entirely experimental foods on an uninformed public. In contrast, the Council for Biotechnology Information assumes the safety of genetically engineered foods. It has confidence in the U.S. Food and Drug Administration’s declaration that biotech foods are safe and agrees with the FDA rule that labels are needed only when a biotech food substantially differs from its natural counterpart. The Council asserts that these biotech foods have undergone rigorous tests “by researchers, university scientists, farmers, and other government agencies in addition to the FDA” (paragraph 6). However, in the conclusion of the article, the Council does mention that “[b]iotechnology is a fast-changing science” (paragraph 18) and there is a need for “a rational, fact-informed debate about the risks of biotechnology” (paragraph 19).

The “facts” in these two arguments derive from the authors’ dramatically different values and assumptions. Turner’s article appeared in a health food magazine, and she writes to an audience who shares her distrust of technology. Turner reveals her angle of vision as a health and natural foods practitioner in her strong alarmist tone and her antagonism to genetic engineering, which come through her choice of language. Words such as “nothing sacred,” “brave new world of ‘biotech foods,’” “artificially shuffling genes,” and “new, weird science” express her antitechnology bias (paragraphs 1-3). Clearly, she believes that plants, animals, and foods in their natural state are superior to anything that is artificially created.

In contrast, the Council for Biotechnology Information makes an effort to sound balanced, rational, and knowledgeable, but this article also reveals its underlying values. The Council, which is an advocacy organization for the biotechnology industry, believes that biotechnology is a beneficent force that uses human ingenuity to improve nature. Its slogan “Good ideas are growing” (found on its Web site home page) encodes the idea that progress results when humans can manipulate natural processes. This article enhances its credibility by citing the American Medical Association’s endorsement of the safety of genetically engineered foods and documenting its reputable sources. However, under the guise of concern for cost to consumers, the Council hides its pro-big business and pro-government bias. The hidden reality here is that the creation and marketing of genetically modified foods are highly profitable enterprises. It also assumes that the FDA and other government regulatory agencies are completely neutral and have consumers’ well-being foremost in mind. Thus while Turner sees the labeling of biotech ingredients as a needed warning to consumers, the Council sees its costs as a tax on food brought about by a small minority.

These arguments sketch out in bold strokes two alternative views of genetically engineered foods, demonstrating how different values cause persons to perceive different realities and construct different facts.
Strategy 5: Using Disagreement Productively to Prompt Further Investigation

Our fifth strategy—using disagreement productively to prompt further investigation—is both a powerful strategy for reading arguments and a bridge toward constructing your own arguments. Our goal is to suggest ways to help you proceed when the experts disagree. Encountering divergent points of view, such as the disagreement between Turner and the Council, can create intense intellectual pressure. Inexperienced arguers sometimes opt for easy escape routes. Either they throw up their hands, claim that “everyone has a right to his own opinion,” and leave the argumentative arena, or they latch on to one of the competing claims, defend it against all comers, and shut off opportunity for growth and change. What our fifth strategy invites you to do is stay in the argumentative arena. It urges you to become an active questioner and thinker—to seek answers where possible to disputed questions of fact and value and to articulate and justify your own beliefs and assumptions, which will ultimately inform the positions you take on issues.

As you sort through conflicting viewpoints, your goal is not to identify one of them as “correct” but to ask what is the best solution to the problems being debated here. You may eventually decide that one of the current viewpoints is indeed the best solution. Or you may develop a synthesis that combines strengths from several divergent viewpoints. In either case, you will emerge from the process with an enlarged, informed understanding. You will have developed the ability to remain intellectually flexible while listening to alternative viewpoints. Most important, you will have learned how to avoid falling into a valueless relativism. Responding productively to disagreement thus becomes part of your preparation for writing ethically responsible arguments.

To illustrate the process of responding to disagreements, we now show you how we responded to the disagreement between Turner and the Council for Biotechnology Information over genetically engineered food.

Accepting Ambiguity and Uncertainty

When confronted with conflicting positions, you must learn to cope with ambiguity. If there were no disagreements, of course, there would be no need for argument. It is important to realize that experts can look at the same data, can analyze
the same arguments, can listen to the same authorities, and still reach different conclusions. Seldom will one expert’s argument triumph over another’s in a field of dissenting claims. More often, one expert’s argument will modify another’s and in turn will be modified by yet another. Accepting ambiguity is a way of suspending judgment as you enter the complexity of an issue. A willingness to live with ambiguity enables you to delve deeply into an issue and to resist easy answers.

Seeking Sources of Facts and More Complete Versions of Alternative Views

After analyzing the sources of disagreement between Turner and the Council for Biotechnology Information (see our essay on pp. 43–45), we pondered how we would continue our search for personal clarity on the issue. We decided to seek out alternative views through library and online research (see Part Four for instruction on research strategies), particularly exploring these questions:

- Are genetically engineered foods safe? What kinds of tests are currently used to verify short-term and long-term safety? How rigorous are they? How accurate are Turner’s claims that these foods are potentially dangerous?
- What are the current regulations on the sale and labeling of genetically engineered crops and food? What legislation is being proposed?
- Among disinterested scientists who don’t have contracts with the biotech industry, what is the view of the potential benefits and dangers of genetically modified foods? What is the view of the dangers and benefits to the environment?
- What are the achievements of genetic engineering of food so far? How extensive is genetic engineering? Have there been any catastrophes or near catastrophes?
- What is the feasibility and practicality of labeling foods with biotech ingredients?
- What are alternatives to using biotechnology?

When we began our research, we found major disagreement among scientists. For example, the Union of Concerned Scientists (www.ucsusa.org) gives a detailed list of the specific crops that have been modified, the corporations or companies that control the modification, and the traits that genetic engineers are trying to create. This organization raises questions about the safety of these food products, proposing a slower investigative process—basically calling for more science and less business in the whole biotech movement. On the other hand, the American Council on Science and Health (www.asch.org), consisting of physicians, scientists, and policy advisers, actively campaigns for further implementation of what it considers to be highly advantageous and beneficial scientific processes. We discovered that other scientific groups such as the American Medical Association (www.ama-assn.org) take a middle position, praising current advances in genetic
engineering of foods but recommending closer monitoring of these crops and more scientifically sound criteria for testing them.

The range of views on testing and labeling of genetically modified foods revealed to us the complexity of this issue. The arguments we found most useful acknowledged the potential value of genetic engineering of foods while realistically confronting the risks and calling for more pre-market testing. We were also drawn to arguments that exposed the profit-making motives driving much of the experimentation with biotech foods. Finally, we welcomed discussions of the real challenges of accurately and helpfully labeling these food products.

Determining What Values Are at Stake for You and Articulating Your Own Values

In responding to disagreement, you need to articulate your own values and try to justify them by explaining the reasons you hold them. The authors of this text, for instance, support the pursuit of scientific knowledge but often question the motives and actions of big business. We believe in the value of strong oversight of scientific experimentation—both from peer review by disinterested scientists and from government regulatory agencies that represent the common good. We like the idea of health food stores, of organic farming, of small family farms, and of less commercialism, but we also appreciate inexpensive food and the convenience of supermarkets. Additionally, we are drawn to technologies that might help feed the world’s poor. Therefore, we are trying to stake out our own positions within the complex middle ground on genetic engineering.

Considering Ways to Synthesize Alternative Views

As a final step in your evaluation of conflicting sources, you should consider what you have gained from the different perspectives. How do alternative views modify each other or otherwise “speak to each other”? How might we synthesize the apparently polarized views on genetic engineering of food?

Environmentalists and organic food supporters like Lisa Turner teach us the need for long-range thinking. They prompt us to be more active in exploring alternative solutions to agricultural problems. They advise society to weigh human health and well-being against profits, and they exhort us to be responsible, proactive citizens and knowledgeable, assertive consumers. At the same time, the Council for Biotechnology Information shows us that the “science as bad guy” view is much too simplistic and that science and technology may help us solve otherwise intractable problems. In trying to synthesize these divergent perspectives, we would look for ways to combine sensible caution and rigorous science.

When you try to synthesize points from conflicting views, as we begin to do here, you tap into the dialectical nature of argument, carefully reflecting when you should change your mind, questioning and modifying positions in response
to new perspectives. Your ultimate goal is to find a position that is reasonable and responsible in light of the available facts and your own values.

Conclusion

This chapter has explained why reading arguments is crucially important to writers of arguments and has offered five main strategies for deep reading: (1) Read as a believer. (2) Read as a doubter. (3) Explore how rhetorical context and genre shape an argument. (4) Consider alternative views and analyze sources of disagreement. (5) Use disagreement productively to prompt further investigation. This chapter has also shown you how to summarize an article and incorporate summaries into your own writing through the use of attributive tags. It has explained who writes arguments and how writer, purpose, audience, and the genre of the argument are closely connected and must be considered in any thoughtful response to an argument.

In the next chapter we turn from the reading of arguments to the writing of arguments, suggesting ways that you can generate ideas for arguments, structure your arguments, and improve your own writing processes.