

*Technology and Society*

## GETTING STARTED

Discuss the following questions with your classmates.

- ▶ What aspects of our society have changed the most during the past fifty years?
- ▶ What is one important cause of social change?
- ▶ In what ways are societies today better or worse than they were 300 years ago? Give some examples.

## TARGET WORDS—Assessing Your Vocabulary Knowledge

When you study vocabulary, it is important to notice both the number of new words you are learning and how much your knowledge of previously studied words is increasing. Use the following scale to determine your knowledge of the academic words in this chapter.

- 1 I don't know this word.
- 2 I have seen this word before, but I am not sure of the meaning.
- 3 I understand the word when I see it or hear it in a sentence, but I don't know how to use it in my own speaking and writing.
- 4 I know this word and can use it in my own speaking and writing.

Look at each of the target words in the box. Use the scale to give yourself a score for each word. After you finish the chapter, score yourself again to check your improvement.

## TARGET WORDS

___ capacity	___ diverse	___ evidence	___ item
___ complex	___ element	___ evolve	___ manipulate
___ consequences	___ encounter	___ furthermore	___ neutral
___ contemporary	___ environment	___ generation	___ source
___ contrast	___ estimate	___ global	___ symbolize
___ decline	___ eventually	___ interact	___ transform

The following passage is adapted from an introductory textbook on sociology. The passage introduces the concept of society and societal change. As you read, pay special attention to the target vocabulary words in **bold**.

## HUMAN SOCIETIES—FROM THE ICEMAN TO US

1 *“I thought at first it was a doll’s head,” said Helmut Simon, a German tourist who, in 1991, made one of the scientific finds of the century. Simon was hiking across a huge glacier in southwest Austria near the Italian border when he stumbled upon a familiar shape protruding from the melting ice. He soon realized that it was not a doll but a human body: the so-called “Iceman,” who died some 5,300 years ago, making him the oldest member of our species to be discovered essentially intact.*

2 Imagine you were born some 300 years ago, in the year 1700. Although this is very recent in terms of the billions of years of the existence of Planet Earth, you would still have been living in a remarkably different world. You would never have been to a shopping mall. You would never have **encountered** the world of cars, railways, airplanes, telephones, cameras, computers, and televisions. And more than this, the idea of voting for your government, going to college, choosing your religion, or even choosing your identity would all have been rare. Welcome to the modern world!

3 Life has certainly changed in 300 years, and sociology was born out of a concern with this rapidly changing character of the modern, industrial world: with where we have come from and where we are heading. For sociologists, the term *society* means “all the people who **interact** in a defined space and share culture.” In this sense, both a continent like Europe and specific individual countries such as Norway or Japan may be seen as societies.

4 Even humans living thousands of years ago were members of early human societies. **Evidence** of this comes from the discovery of the Iceman. Examining the Iceman’s clothes, scientists were astonished at how advanced this “caveman’s” society was. The Iceman’s hair was neatly cut, and his body had numerous tattoos that probably **symbolized** his standing in the community. He wore a skillfully sewn leather coat over which a grass cape provided even



**The Austrian Iceman**

greater protection from the weather. His shoes, also made of leather, were stuffed with grass for comfort and warmth. He carried with him an axe, a wood-handled knife, and a bow that shot feathered arrows with stone points. A primitive backpack held additional tools and personal **items**, including natural medicines made from plants. It is **estimated** that he died some 5,300 years ago—before a great empire existed in Egypt, before the flowering of culture in ancient Greece, and before any society in Europe built a single city. As people who take for granted rapid transportation and instant **global** communication, we can look on this ancestor as a connection to our distant past.

5 Sociologists have identified great differences among societies that have flourished and **declined** throughout human history. They have observed how societies change over centuries as the people in them gain greater ability to **manipulate** their natural **environment**. Societies with basic technology can support only a small number of people who enjoy few choices about how to live. Technologically **complex** societies—while not necessarily “better” in any absolute sense—develop large populations; people in these societies are likely to lead **diverse**, highly specialized lives.

- 6 The greater the amount of technological skill and knowledge a society has, the faster the rate at which the society changes. Technologically simple societies, then, change very slowly. Take, for example, some of the clothing worn by the Austrian Iceman. It differs only slightly from clothes used by shepherds in the same area of the world early in the twentieth century. In **contrast** to simpler societies, industrial, technologically advanced societies change so quickly that people witness remarkable **transformations** within their lifetimes. Again, consider some familiar **elements of contemporary** culture that would probably puzzle, delight, and possibly frighten people who lived just a few **generations** ago: fast food, faxes, mobile phones, computer games, artificial hearts, fiber optics, test-tube babies, and many, many others. Indeed it is a strange modern world we live in—even when compared with the world of the recent past.
- 7 Consider also the countless **consequences** of technological change. When our ancestors first harnessed the power of the wind by using a sail, they set the stage for the invention of kites, sailing ships, windmills, and, **eventually**, airplanes. We are only now beginning to see how our modern lives are being changed by recent technologies like atomic energy or the computer.
- 8 Sociologists divide societies into five types according to their technologies: (1) hunting and gathering societies, (2) horticultural and pastoral societies, (3) agrarian societies, (4) industrial societies, and (5) post-industrial societies. *Hunting and gathering societies* use simple technologies to gather food from nature, such as hunting animals and picking berries. *Horticultural and pastoral societies* grow their own plants and raise animals to eat. *Agrarian societies*—which first appeared

around the time of the Iceman—use technologies such as animal-drawn plows to farm on a larger scale. Agrarian societies were also the first to develop such technological innovations as irrigation, the wheel, writing, numbers, and expanded uses for metals. *Industrial societies* use technology that powers sophisticated machinery with advanced **sources** of energy. Before the industrial era, the major **source** of energy was the muscle power of humans and animals. In industrial societies, people learn mechanical skills so that they can operate the machinery needed to produce material goods. These societies **transformed** themselves more in a century than previous societies had in thousands of years. *Post-industrial societies*—like the ones many of us live in today—have developed technologies that support an information-based economy. People in these societies create, process, store, and apply information through the use of computers, fax machines, satellites, and other forms of communication technology.

- 9 Technology has a big impact on a society, but in itself it is **neutral**. People are the ones who decide how to use technology and whether it is used for good or bad purposes. Armed with the **capacity** to reshape the world, human societies must understand both the social benefits and problems caused by the desire for technological change. **Furthermore**, it is important to note that the five types of societies described above do not **evolve** from one type to another in an automatic process. In fact, in modern times, all of these societies may be said to coexist.

Adapted from Macionis, J. J. and Plummer, K. (1997). *Sociology: A Global Introduction*. New York: Prentice Hall Europe, pp. 64–75.

## UNDERSTANDING THE READING

Respond to the following in writing. Base your responses on the reading and your own personal experiences.

1. What do sociologists mean by the term *society*? Do you agree with this definition? Why or why not?
2. Describe three technological advances in recent years that have changed the society you live in.
3. How are technologically advanced societies different from societies with simpler technologies? Give an example of how they differ.

WORD MEANING

This book presents a variety of strategies for learning and remembering the meanings of academic words. Sometimes you will be able to find clues to a word's meaning in the sentence in which the word appears. In other cases, the sentence will not contain clear clues to word meaning. You may need to reread the section in which the word appears and think about the ideas presented in the text. If you still are unsure of the correct definition, you may need to look the word up in a dictionary. For more help in finding the right meaning of a word, read the *Using Your Dictionary* section on page 31 of Chapter 4.

Match the words with their definitions. If you are unsure about a word's meaning, try to figure it out from the context by rereading the passage on pages 3–4. Then check your dictionary. The first one has been done for you.

**Set 1**

- |                    |  |
|--------------------|--|
| <u>c</u> 1. source | a. having many closely related parts or details                    |
| ___ 2. diverse     | b. not supporting one purpose or cause above another               |
| ___ 3. estimate    | c. a thing, place, activity, etc. that something comes from        |
| ___ 4. encounter   | d. different or varied   |
| ___ 5. complex     | e. a single thing in a set, group, or list                         |
| ___ 6. neutral     | f. to judge an amount partly by calculating and partly by guessing |
| ___ 7. item        | g. to meet someone or experience something without planning to     |

**Set 2**

- |                     |   |
|---------------------|---|
| ___ 1. interact     | a. the average period of time between the birth of a person and the birth of that person's children |
| ___ 2. element      | b. a basic or important part of something   |
| ___ 3. contemporary | c. to talk or work together with others   |
| ___ 4. generation   | d. to skillfully handle, control, or use something  |
| ___ 5. consequences | e. a difference   |
| ___ 6. manipulate   | f. the results of a particular action or situation  |
| ___ 7. contrast     | g. belonging to the present time; modern  |

Read the row of words and phrases below each numbered word. One word or phrase in each list is *not* a synonym (word or phrase with a similar meaning) for the numbered word. Cross it out. The first one has been done for you.

- |                  |               |                    |           |
|------------------|---------------|--------------------|-----------|
| <b>1. evolve</b> |               |                    |           |
| develop          | change        | <del>correct</del> | grow      |
| <b>2. global</b> |               |                    |           |
| limited          | international | overall            | worldwide |

<b>3. environment</b>	setting	pollution	surroundings	situation
<b>4. evidence</b>	facts	information	proof	belief
<b>5. symbolize</b>	be an emblem of	change	stand for	represent
<b>6. transform</b>	change	make over	succeed	alter
<b>7. furthermore</b>	in addition	on the other hand	also	moreover
<b>8. eventually</b>	finally	sooner or later	in the end	in a short time
<b>9. decline</b>	go down	improve	weaken	fall
<b>10. capacity</b>	ability	power	progress	competence

### WORD TIP

- ▶ The word **generation** often becomes a label for a specific group of people.  
Examples:  
*Baby Boom Generation* refers to people born after World War II up to 1964.  
*Generation X* is used to describe people born during the late 1960s and 1970s in the United States.  
*Generation 1.5* is a label for young people who have had much of their schooling in the United States though they were born elsewhere.
- ▶ When part of a title or label, **generation** may be capitalized.

### WORD FAMILIES

Most words belong to a “family” of words with a shared meaning. For example, the word forms *serious* (an adjective), *seriousness* (a noun), and *seriously* (an adverb) are related to one another. To know which form to use, you must figure out the word’s part of speech in a sentence. In the reading “Human Societies,” forms of the word *technology* appear seventeen times. The differences in the spelling indicate different parts of speech as shown below.

Verb	Noun	Adjective	Adverb
X = no form	technology	technological	technologically

Notice the endings for *technological* and *technologically*. These spelling patterns are common at the end of certain adjective and adverb forms. If you aren’t sure of the form of a word, you can look the word up in a dictionary. If you need more help in finding the correct word form, read the *Using Your Dictionary* section on page 31 of Chapter 4.

The table below contains word families for some of the target words in the reading. Complete the chart. An X indicates that there is no form or that the form is not common. Sometimes there may be more than one form possible. If you are unsure about a form, check your dictionary.

Verb	Noun	Adjective	Adverb
X		complex	X
diversify	1. diversity 2. diversification	diverse	diversely
estimate	1. estimate 2. estimation	estimated	X
X	eventuality		eventually
evolve		evolving	X
X	1. globe 2. globalization	global	globally
interact	interaction	interactive	interactively
symbolize	1. symbol 2.	symbolic	symbolically
transform	transformation		X

Choose the correct form of the word in **bold** in sentence **a** to complete sentence **b**. Use the word families table you just completed as a guide. The first one has been done for you.

- a.** Communication is one area in which there have been amazing developments in **technology**.

**b.** Technologically advanced methods of growing food have still not prevented hunger in some parts of the world.
- a.** Visitors to a new country are encouraged to **interact** with the local people to learn more about their culture.

**b.** Social \_\_\_\_\_ is an important part of childhood development.
- a.** Environmentalists work to save endangered plants and animals in part to protect biological **diversity** in the natural world.

**b.** Major soft drink companies have \_\_\_\_\_ their product lines by adding bottled water as a new product.
- a.** The **estimation** that one-fifth of Americans are seriously overweight is shocking.

**b.** Historians \_\_\_\_\_ that among the more than 1,500 people who died on the *Titanic*, class, age, and sex played a key role in who lived and who died.

5. a. The worldwide popularity of products like the Walkman is an example of **globalization**.  
 b. Governments and environmental groups use the phrase “Think \_\_\_\_\_, act locally” to encourage people to think of ways to save resources every day.
6. a. Both a red cross and a red crescent are used to **symbolize** the international organization whose aim is to protect and provide assistance to victims of war.  
 b. Being overweight was at one time a \_\_\_\_\_ of wealth because it showed that you had enough money to eat well.
7. a. Many people feel that the job of being a parent today is much more **complex** than it was in the past.  
 b. The \_\_\_\_\_ of the relationship between technological development and environmental change is still not fully understood.
8. a. Since the fall of the Berlin Wall in 1989, many Eastern European Communist parties have **transformed** themselves into Socialist parties.  
 b. The newly \_\_\_\_\_ factory now houses forty young professionals living in luxury apartments.
9. a. The **eventual** end of the strike occurred after long discussions between union leaders and the employer.  
 b. One purpose of insurance is to protect people from \_\_\_\_\_ that they cannot otherwise prepare for in advance.
10. a. Languages as diverse as Danish and Chinese have influenced the **evolution** of the English language.  
 b. Because medical technology is always \_\_\_\_\_, doctors must regularly attend training programs.

## COLLOCATION

When you look at words in context, you can see patterns in the way they are used. These patterns are not based on rules of grammar, but on traditions of use by native speakers. Certain words tend to occur together, and this is called *collocation*.

For example, we say: *tall girl, tall building* and *high wall, high point*  
 But we do not say: *high girl, high building* or *tall wall, tall point*

Sometimes the link between word partners and their meaning is clear and unsurprising, for example, in the collocations *bright light* or *heavy load*. Other times, the link may be unexpected, as when we say *bright child* or *heavy heart*.

Here are some typical collocation patterns:

noun + verb	<i>birds sing</i>
verb + noun	<i>deliver babies</i>
adjective + noun	<i>specific information</i>
verb + adverb	<i>breathe heavily</i>
noun + noun	<i>bear market</i>

Because collocations are not based on rules of grammar, the patterns for each word are one of a kind. Therefore, you must build up your knowledge of collocations one at a time. This section introduces a sample of the patterns you need to know in your academic reading and writing. Apply your growing understanding of collocations to new words and words you already know.

The following exercise asks you to use collocations in sentences of your own. Study the way the collocations are used in the example sentences. Pay close attention to the words around the collocations, particularly articles and prepositions. For example, in item 1 below, notice the prepositions *for* and *of* after **damaging consequences**. *For* indicates the receiver of **damaging consequences**. *Of* indicates the creator (cause) of the **damaging consequences**. Imitate the patterns you observe when you use the collocations in your own sentences.

Each item below contains three sentences with the same collocation. Write a fourth sentence of your own using the same word partners. The first one has been done for you.

1.
  - a. The news report resulted in **damaging consequences** for the company.
  - b. Pollution in the oceans can have very **damaging consequences** for ocean life.
  - c. The **damaging consequences** of unemployment affect all levels of society.
  - d. The failure of the bank will have **damaging consequences** for its customers.
2.
  - a. The **rapid decline** in housing prices had a negative effect on the economy.
  - b. The team's failure to win any games led to a **rapid decline** in fan support.
  - c. Because of the **rapid decline** in the patient's health, the doctor had to perform an emergency operation.
  - d. \_\_\_\_\_
3.
  - a. There is **mounting evidence** that some types of fish will disappear completely from the North Sea if overfishing is not stopped.
  - b. The education department has **mounting evidence** that the newly introduced tests are not leading to higher standards of teaching and learning.
  - c. There is **mounting scientific evidence** that global warming is damaging the earth's atmosphere.
  - d. \_\_\_\_\_
4.
  - a. University **sources confirmed** that tuition prices would rise next year.
  - b. Government **sources confirmed** that the president would travel to the Far East in early spring.
  - c. Media **sources confirmed** that fighting had restarted in the war zone.
  - d. \_\_\_\_\_
5.
  - a. The **basic elements** of an enjoyable movie are a good story and interesting characters.
  - b. Soy products are a **basic element** of many Chinese and Japanese recipes.
  - c. A **basic element** of the new economic plan was a reduction in taxes for the poor and elderly.
  - d. \_\_\_\_\_

6.
  - a. The United Nations issued a resolution to **protect** the **environment**.
  - b. Every country needs to do its part to **protect** the **environment**.
  - c. We can **protect** the **environment** by using nonpolluting sources of energy, such as wind power.
  - d. \_\_\_\_\_
  
7.
  - a. The **earning capacity** of a woman in her lifetime is generally much less than that of a man.
  - b. Government officials argue that the cost of tuition for college students is offset by increased **earning capacity** after graduation.
  - c. Variations in the **earning capacity** of stocks and bonds are related to rises and falls in the market.
  - d. \_\_\_\_\_
  
8.
  - a. There is often a **marked contrast** between the cost of living in cities and the cost of living in rural areas.
  - b. Voters observed a **marked contrast** between the politician's pre-election promises and his voting record in Congress.
  - c. Teachers have noticed a **marked contrast** in behavior between children who do not have breakfast before school and those who do.
  - d. \_\_\_\_\_

## EXPANSION

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An important part of academic study is forming and supporting opinions about the topic you are studying. Read the statements below and indicate whether you agree (**A**) or disagree (**D**). Then discuss your opinions and reasoning with a partner.

- \_\_\_\_\_ 1. The **globalization** of **contemporary** culture will **eventually** destroy the uniqueness of **diverse** societies.
- \_\_\_\_\_ 2. It is no longer realistic for the members of one **generation** to expect their standard of living to be significantly better than that of the previous generation.
- \_\_\_\_\_ 3. All governments should cut back on military spending. **Furthermore**, the money saved should be used to support the neediest members of society.
- \_\_\_\_\_ 4. Governments should charge higher taxes on luxury **items** so that necessities such as heating oil and clothing can be sold tax free.
- \_\_\_\_\_ 5. There is not enough **interaction** between teenagers and their parents these days.
- \_\_\_\_\_ 6. Taking a position of **neutrality** in times of disagreement is a sign of weakness.
- \_\_\_\_\_ 7. Newspapers unfairly **manipulate** public opinion by printing one-sided news stories.
- \_\_\_\_\_ 8. Young people today are likely to **encounter** more difficulties in their lives than their parents did **a generation** ago.



Now choose one of the statements above and write a personal essay about it. Express your opinions and reasoning, and be sure to provide support for your opinions.